



Terrestrial Resources Technical Working Group Meeting

Date:

Time:

Location:

Directions

Agenda

Attendees

Summary

Handouts, Attachments & Presentations

Directions to SMUD's Customer Service Center

SMUD has two four-story buildings located adjacent to Highway 50 on the north side, between 59th Street exit and 65th Street exit. The Customer Service Center (CSC) is the newer building of the two located at 6301 S Street, and houses the Rubicon Room, Forestview 1,2, & 3, Sequoia 1,2,& 3, Timberline 1,2, & 3, and the HRL Conference Room located on the third floor (Northwest wing). The Headquarters building is located at 6201 S Street, directly west of the CSC. It houses the Headquarters' Customer Center (HCC), the Auditorium and several other conference rooms.

The Field Reporting Facility (aka FRF) is located behind the SMUD Headquarters building: go under the Light Rail overpass, then to the left about 150 yards.

Directions:

Heading East: From downtown Sacramento, head east on Highway 50, exit at **59th Street**. This exit will take you up-and-over Highway 50. Go straight at the first intersection, travel about a half mile. On your left (north) is the SMUD Headquarters building, the next building is the Customer Service Center.

Heading West: From Placerville, take Highway 50 to Sacramento and exit at **65th Street**. Go straight about one block after the first intersection. The Customer Service Center is the four-story building on your right (north).

You should be able to find parking spaces for visitors located in the area between the two buildings. There is also parking available in a parking lot on Folsom Blvd. behind the SMUD complex.

If you need assistance to find the Rubicon Room, Timberline 1,2,& 3, Sequoia 1,2,& 3, Forestview 1,2, & 3, and the Hydro Relicensing's Conference Room located on the third floor of the Northwest wing, see the guard at the lobby desk. The Headquarters Customer Center (HCC) room is located in the Headquarters building opposite the board of directors Auditorium in the first floor. Drive Safely.

Note: *Downloadable maps can be found at hydrorelicensing.smud.org/meetings/meet_loc.htm*

UARP Hydro Relicensing**Terrestrial Resources Technical Working Group**

Initials	Name	AffiliationName	Email
_____	Beth Paulson	U.S. Forest Service	bapaulson@fs.fed.us
_____	Carol Szuch	Sacramento Municipal Utility District	cszuch@smud.org
<i>CC</i>	Carson Cox	California Department of Fish & Game	ccox@dfg.ca.gov
_____	Catherine Fonseca	Shingle Springs Band of Miwok Indians	cfonseca@ca.lhs.gov
_____	Charles Bertolette	Citizen	charlosb@cal.net
_____	Chris Shutes	Citizen	blancapaloma@msn.com
_____	Craig Thomas	Center for Sierra Nevada Conservation	cthomas@innercite.com
_____	David Hanson	Sacramento Municipal Utility District	dhanson@smud.org
<i>DM</i>	Devin Malkin	Devine Tarbell & Associates Incorporated	devin.malkin@devinetarbell.com
<i>by phone</i>	Don Yasuda (am)	U.S. Forest Service	dyasuda@fs.fed.us
_____	Ed Horton	Placer County Water Agency	ed@hortonfarm.com
_____	Einar Maisch	Placer County Water Agency	planning@pcwa.net
_____	Jane Valerius	Jane Valerius Environmental Consulting	jvalerius@earthlink.net
_____	Jeff Horn	U.S. Bureau of Land Management	jhorn@ca.blm.gov
_____	Jerry Mensch	California Sportfishing Protection Alliance	jerrymen@sbcglobal.net
_____	Jim Elcher	U.S. Bureau of Land Management	jeicher@ca.blm.gov
_____	Jim Lynch	Devine Tarbell & Associates Incorporated	james.lynch@devinetarbell.com
_____	Judy Mathat	El Dorado County Republican Central Committee	mathat@cwnet.com
<i>JK</i>	Justin Klaurens	Devine Tarbell & Associates Incorporated	justin.klaurens@devinetarbell.com
_____	Karen Smith	Sacramento Municipal Utility District	ksmith@smud.org
<i>LM</i>	Lonn Maier	Sacramento Municipal Utility District	lmaier@smud.org

Initials	Name	AffiliationName	Email
_____	Marie Davis	Placer County Water Agency	mledavis@hotmail.com
_____	Marie Rainwater	Rainwater & Associates, LLC	marie@rainwater-associates.com
_____	Mark Egbert	El Dorado County Resource Conservation District	Mark-Egbert@ca.nacdn.net.org
_____	Matt Johnson	U.S. Forest Service	mjohnson04@fs.fed.us
_____	Matt Paquette	Devine Tarbell & Associates Incorporated	matthew.paquette@devinetarbell.com
_____	Mike Henry	Federal Energy Regulatory Commission	mike.henry@ferc.gov
<u>PM</u>	Mike Taylor	U.S. Forest Service	mtaylor@fs.fed.us
_____	Peggy Cranston	U.S. Bureau of Land Management	pcransto@ca.blm.gov
_____	Peter Epanchin	U.S. Fish & Wildlife Service	peter_epanchin@fws.gov
_____	Rich Dwerkotte	EDAW	dwerkotter@edaw.com
<u>RW</u>	Richard "Rick" Williams	Devine Tarbell & Associates Incorporated	richard.williams@devinetarbell.com
_____	Ron Corso	Mead & Hunt, Incorporated	ron.corso@meadhunt.com
_____	Ron Stork	Friends of the River	rstork@friendsoftheriver.org
_____	Russ Kanz	State Water Resources Control Board	rkanz@waterrights.swrcb.ca.gov
_____	Sharon Stohrer	State Water Resources Control Board	sstohrer@waterrights.swrcb.ca.gov
_____	Stafford Lehr	California Department of Fish and Game	slehr@dfg.ca.gov
_____	Steve Barber	South Fork Dialogue Group	prdympgirm@earthlink.net
_____	Sue Britting	Citizen	britting@innercite.com

~~JK Justin Klauens Devine Tarbell & Ass~~

**Upper American River Project (UARP)
Terrestrial Resources Technical
Working Group (TWG) Meeting Summary**

October 23, 2003 9:00 a.m. to 4:00 p.m.

**Sacramento Municipal Utility District (SMUD)
Customer Service Center (CSC), Timberline 1
6301 "S" Street, Sacramento, California**

Summary

The Terrestrial Resources Technical Working Group (TWG) met on October 23, 2003 at SMUD's Customer Service Center (CSC). Participants included:

- Carson Cox, California Department of Fish and Game (CDFG)
- Devin Malkin, Devine, Tarbell and Associates (DTA)
- Don Yasuda, US Forest Service (USFS) (by phone; a.m. only)
- Justin Klaurens, DTA
- Lonn Maier, SMUD
- Mike Taylor, USFS
- Rick Williams, DTA

The Terrestrial TWG met to accomplish the following tasks:

1. Review and finalize the meeting agenda
2. Review and finalize the previous meeting summary
3. Present status summaries of approved wildlife and botanical studies
4. Review and approve select ("low-hanging fruit") wildlife and botanical study plans for the Iowa Hill Development.

All agenda items were accomplished. The meeting began with a telephone conference call to Don Yasuda since his availability was limited. Discussion with Don included the following:

- Additional areas that may need to be surveyed as determined by the Recreation TWG (yet unresolved).
- The "low hanging fruit" wildlife and botanical studies proposed for the Iowa Hill Development seem appropriate.
- Special status amphibian and reptile habitat (existing and created) should be evaluated for the Iowa Hill Development in the habitat characterization study plan as well as in the context of the Visual Encounter Surveys (VES) being conducted by SMUD.
- Special status plant and animal species near the proposed intake structure for the Iowa Hill Development should be evaluated.
- Bald eagle wintering habitat around Slab Creek Reservoir should be evaluated for the proposed Iowa Hill Development. Don Yasuda mentioned that the USFS has mapped suitable habitat for bald eagles around Slab Creek Reservoir.

- Waterfowl habitat at Slab Creek Reservoir should be assessed for the proposed Iowa Hill Development. Observations made during other UARP field studies suggest that waterfowl habitat at Slab Creek Reservoir are limited in quantity and quality.
- Mike Taylor will evaluate potential for noxious weeds and weed spread for the Iowa Hill Development.
- The USFS has not mapped mesocarnivore habitat in the Project vicinity as part of the Sierra Nevada Framework. The UARP Mesocarnivore Study was dependent in part on the availability of USFS maps. The absence of these maps will constrain a full evaluation of habitat distribution and habitat quality in the vicinity of the UARP.

Study status summaries

Devin Malkin, Rick Williams and Justin Klaurens from DTA presented updates on the studies being conducted on behalf of SMUD's relicensing of the UARP for the following studies:

- bald eagle/osprey
- bats
- bird/powerline associations
- black bear
- California spotted owl
- mesocarnivores
- mule deer
- northern goshawk
- valley elderberry longhorn beetle
- waterfowl nesting
- willow flycatcher
- riparian vegetation
- wetlands
- vegetation mapping
- special status plants
- noxious weeds

The presentation in its entirety can be found at the SMUD UARP Relicensing Bulletin Board located at <http://eureka.sw.sharepoint.bccentral.com/UARP/layouts/1033/viewlists.aspx?BaseType=1> under the "Terrestrial" tab. Following is a brief synopsis of each study. The study objectives and field methods are identical to those described in each corresponding study plan.

Bald eagle/osprey - Literature surveys and consultation with Eldorado National Forest was initiated in early 2002. Field surveys began in May 2002. Incidental observations of ten (eight active) osprey nests were recorded in 2002 at various sites around Union Valley and Ice House Reservoirs. In 2003, incidental observations of up to five nests were made, with four nests at Union Valley Reservoir and one active nest at Ice House Reservoir.

The Santa Cruz Predatory Bird Research Group began monitoring bald eagle nesting in 2002 at Union Valley Reservoir. No successful bald eagle nesting was observed in 2002, however a number of eagles have been observed at Granlees Point on Union Valley Reservoir and elsewhere in the study area. Populations observed to date are what biologists expect in the area. Attempts to trap the resident nesting pair at Union Valley Reservoir were initiated in January 2003. A non-resident adult male eagle was captured inadvertently on January 9, but signal was lost shortly thereafter. Attempts to capture the resident pair were not successful. The resident pair abandoned the nest in mid-May, 2003, likely due to late winter storms in the area. Subsequently, researchers observed a potential nest on the south shore of Loon Lake Reservoir but this nest appeared to be inactive.

Pending bald eagle/osprey work includes continued habitat mapping, literature reviews, mapping potential disturbances, information collection from fishery and recreation studies, and continued monitoring (direct observation and possible telemetry).

Bats – Trapping/roost inspections were done at 17 facilities over 11 days. Bridge surveys were conducted in July 2003. Surveys were conducted typically within a 0.25-mile of project facilities. During July 15 – 25, 2002, 64 bats were captured and released at 5 of 17 trapping locations. Captured species included *Myotis yumanensis*, *Tadarida brasiliensis*, *Myotis californicus* and *Myotis thysanodes*. Highest numbers captured were at Slab Creek powerhouse and White Rock powerhouse. Roosting bats were identified under bridges spanning South Fork Silver Creek, Jones Fork Silver Creek, Big Silver Creek and Tells Creek on Ice House Road. Two Project tunnel adits were also surveyed in 2003, with small numbers of captures. This effort completes the fieldwork for bats.

California spotted owl – Three complete first-year surveys were conducted from June 18 to July 23, 2002 at 18 call points approved by Eldorado National Forest staff. Vocal responses were heard on two different occasions (June 18 and July 23) south of Long Canyon Creek and on the access road to Camino powerhouse, however no active nests were located.

Three complete second-year surveys were conducted from June 17 – 18, July 16 – 17, and August 13 – 14, 2003. A spotted owl pair was detected again by call response in the Long Canyon Creek area south of the access road to Camino powerhouse on July 16. A possible second male was detected on August 13, just north of Independence Ridge on Forebay Road. An owl pair and two juveniles were detected near Union Valley Reservoir dam, and are believed to be part of existing and documented Protected Activity Center (PAC). This effort completes the fieldwork for California spotted owl.

Mesocarnivores – This survey is a habitat assessment-based effort, with an objective to determine spatial relationships of known habitats to new or ongoing

project operations and maintenance activities. Work done so far includes literature reviews and some limited information received from USFS. Aerial photography has been completed as a partial basis for vegetation typing and habitat mapping. Ground truthing has also been completed for the vegetation mapping effort. Delineation of suitable habitat within 0.5-mile of project-related disturbances was to be derived using the vegetation maps and data from USFS. However, as indicated above the USFS has determined that the requested mesocarnivore habitat data is not available. In the absence of this data, SMUD proposes to base the habitat map on the known habitat requirements of mesocarnivores as reported in the literature relative to the distribution of plant communities/forest types developed during the Vegetation Mapping Study. A GIS (geographic information system) map will be prepared to identify project-related disturbances and determine which of these activities may be present during established limited operating periods (LOPs).

Pending 2003 work includes but is not limited to delineation of habitat and mapping sources of disturbance pending completion of vegetation mapping and results of recreation surveys.

Mule deer – Work done to date includes securing data and maps on significant habitats obtained from California Department of Fish and Game. Of particular interest to CDFG was the 1.9-mile Gerle Creek Canal, which is located between Gerle Creek Reservoir and Robbs Peak Reservoir. As of this writing, there have been no reports of deer carcasses being removed from the trash rack located at Robbs Peak Dam. In addition, numerous opportunities for deer escape at the Gerle Creek Canal as well as the Rubicon Tunnel outlet and Rubicon Rockbound channel were identified during field surveys in 2002. The Terrestrial TWG has agreed that the location and design of Gerle Creek Canal does not appear to pose a significant threat of drowning or entrapment to deer and other wildlife and therefore an earlier consideration for fencing of the canal was determined to be unwarranted.

Clearances along the Jones Fork Penstock were evaluated to determine adequacy for deer crossing. With a length of 1.6 miles, at least 6 crossings have a vertical distance of five feet. Most crossings occur at ephemeral streams and are evidenced by deer use. A majority of the penstock is more than 24 inches above the ground. Biologists have also observed deer crossing under the penstock on several occasions.

Deer fatalities on Ice House Road and other roads within the project boundary have been monitored. In 2002, 120 “road kill” survey cards were distributed to employees at Fresh Pond (SMUD’s UARP maintenance office) and USFS staff. To date at least two (perhaps three) fatalities were recorded on lower Ice House Road for 2002; three fatalities were recorded in 2003 on Ice House Road between Sunset/Fashoda campgrounds and Peavine Ridge. Road kill

monitoring will be continued for the remainder of the 2003 survey period. This effort will complete the fieldwork for mule deer.

Northern goshawk – Presence data was acquired from Eldorado National Forest on known Protected Activity Centers (PACs). Eighty-four call points were established in concurrence with ENF staff. First year of protocol surveys were conducted from June 10-14 and 26 and July 8-10 and 16. A single visual observation of an adult goshawk was made along Jaybird Canyon Road in a previously known PAC.

In 2003, second year protocol surveys were completed on June 2–5 and July 14–15 and 17th. A single visual observation of an adult goshawk was made within a known PAC along forest road 11N56. As a final task of this effort, an evaluation of goshawk nest locations with respect to proximity of project operations and maintenance will be made.

Valley elderberry longhorn beetle – Helicopter surveys of UARP transmission lines were conducted on May 29, 2002; 14 shrubs were observed at six sites along the transmission lines below the 3,000-foot upper elevation limit identified in the USFWS survey protocols.

Work in 2003 included ground surveys around all project facilities below 3,000 feet during the flowering season. This effort was supplemented by observations made during rare plant surveys. This survey yielded a number of shrubs within the transmission line right-of-way; no shrubs were located at any other project facility. A follow-up helicopter survey was conducted on July 14, 2003.

To conclude this effort, a GIS-based map will be prepared of all elderberry plant locations. A determination of potential project effects will be made; if any are determined, they will be mapped as well.

Waterfowl nesting habitat – Two UARP reservoirs (Union Valley and Gerle Creek) were surveyed every three to four weeks from April to July in 2002 and 2003. At each site, inspections have been made for evidence of waterfowl nesting and foraging activity. Estimates have been made for distribution, abundance and availability of waterfowl on all UARP reservoirs. Twelve species of waterfowl have been observed: ring-necked duck, common merganser, blue-winged teal, cinnamon teal, common goldeneye, lesser scaup, ring-necked duck, wood duck, mallard, ruddy duck tundra swan, and Canada goose. Other water-associated birds (common loon, grebe species, American white pelican, great blue heron, killdeer) were also sighted. The majority of waterfowl and best habitat was observed at several shallow coves along the north shore of Union Valley Reservoir. During spring and summer, birds concentrate in these areas to forage and nest, although fledging success is very low. Coyotes may prey on many birds in these locations.

Species diversity is higher in the fall/winter, but numbers of fowl are much greater in summer months. The common merganser is the most productive nesting species, followed by mallard and Canada goose. Work is continuing in analyzing the data (e.g., developing any relationship between variable habitat conditions and reservoir elevation). Fieldwork is complete for this effort.

Bird/powerline associations – Field observations and analysis of transmission line conductor configurations is completed. As noted in earlier presentations, bird/powerline associations can be identified as collision or electrocution effects or as a beneficial association (perching, roosting, etc.) SMUD has no records for bird-caused outages for the UARP transmission and distribution system. Typically, raptors will be impacted more from electrocutions than collision deaths, owing to their wide wingspan and generally excellent maneuverability in flight. SMUD's UARP transmission lines have conductor spacing that is adequate (and even exceeds) standards and guidelines for raptor protection from electrocution. The existing transmission line locations do not appear to cross any major flight paths for birds, thereby further reducing the risk of collision fatality.

Black bear – This study was discussed at a previous TWG meeting, however is included here for reference. This study is a two-phased approach to addressing the issue of black bear populations and the UARP. A meeting (Phase 1) has been held with California Department of Fish and Game (CDFG) to determine if further work is warranted, based on discussions held with CDFG staff. It was agreed at that meeting that Phase 2 work is not warranted, however the issue of human/bear encounters in developed campgrounds related to inadequate garbage removal and food storage will be assessed. SMUD will keep participants apprised of this issue, which will be addressed by the Recreation TWG in consultation with the US Forest Service. Documentation of the outcome will be provided to the Terrestrial TWG for review. A possible outcome is that SMUD consider assisting the USFS in what is called "Triple Es" (Engineering, Education and Enhancement) programs within the USFS.

Willow flycatcher (WIFL) nesting habitat – This study was discussed at a previous TWG meeting, and is included here for reference. In consultation with Eldorado National Forest, potential habitat was identified and surveyed. Few areas in study area provided suitable habitat for WIFL. Seventy-three call points were established in meadows along the north shore of Union Valley Reservoir and then surveyed on June 20 and July 9 – 10. Rubicon Reservoir was evaluated on June 25, 2002 but habitat was determined to be unsuitable. No WIFLs were observed during the surveys. Brown-headed cowbird (a parasite of WIFL) was not found during surveys but has been recorded in the UARP area. Since surveys are complete there was no 2003 fieldwork, however field biologists will continue to record any incidental observations. Maps will be prepared and a data analysis completed.

Botanical studies – special status plants – Ten special status plants have been documented in the project area:

- *Ceanothus roderickii*
- *Chlorogalum grandiflorum*
- *Drosera rotundifolia*
- *Fremontodendron decumbens*
- *Helianthemum scoparium*
- *Phacelia stebbinsii*
- *Senecio layneae*
- *Taxus brevifolia*
- *Viola tomentosa*
- *Wyethia reticulata*

In addition, a potential occurrence of *Allium jepsonii* was documented in a serpentine outcrop under Project transmission lines. This occurrence is currently under taxonomic review.

A description of plant locations and potential threats to each may be found on the PowerPoint presentation available at the UARP bulletin board (web address below).

Botanical studies - noxious weeds Target species for noxious weed surveys were defined in consultation with Mike Taylor (USFS), and include all “A” listed species on the El Dorado National Forest noxious weed list. Seven target species were documented during surveys of the Project area:

- *Aegilops triuncialis*
- *Carduus pycnocephalus*
- *Centaurea solstitialis*
- *Chondrilla juncea*
- *Cytisus scoparius*
- *Genista monspellensus*
- *Taeniatherum caput-medusae*

Additional taxa (exotics) have been identified during the surveys, including

- *Ailanthus altissima*
- *Bromus diandrus*
- *Bromus tectorum*
- *Cirsium vulgare*
- *Hypericum perforatum*
- *Melilotus alba*
- *Rubus discolor*
- *Verbascum thapsus*

Some A-listed species (e.g., *Taeniatherum caput-medusae*, *Centaurea solstitialis*) are too common to effectively map in the lower transmission line corridor (west of White Rock powerhouse). During project reporting and

mapping, their populations will be assumed to occur in all developed habitats. Non-target exotics will be discussed during project reporting (but not mapped), with the exception of *Bromus diandrus* and *B. tectorum*, which will be mapped east of White Rock Powerhouse, per discussions with Mike Taylor of the USFS.

In the project area, weeds are more closely associated with development and/or agriculture than disturbances such as transmission line clearing and maintenance. Target species are generally found at elevations less than 2000 feet. No target species were observed during riparian or wetland studies.

Botanical studies – vegetation mapping Vegetation mapping will address for areas within 500 feet (below 3,000-foot elevation) and one-half mile (above 3,000-foot elevation) of the Project boundary. Maps (taken from project area aerials) are being prepared that delineate vegetation type polygons using the CalVeg classification system. One hundred twenty nine ground-truthing points were completed in support of this mapping, using the California Native Plant Society (CNPS) Rapid Assessment protocol. Additional observational data were collected during other botanical studies. Areas of interest (e.g., wetlands) will be also be mapped. This task will continue through 2003.

Botanical studies - riparian vegetation: Riparian vegetation is being mapped within the FERC project boundary, and within Project-affected diversion reaches. To date, about 75 percent of the riparian zones of the project-affected areas have been delineated in AutoCAD; these will be imported into GIS late in 2003. Information on the historic distribution and nature of riparian vegetation in the project area is limited; aerial photos from 1952 and 1976 have been examined but likely will not support empirical assessments. Mike Taylor noted that the FS also has 1991 photos that he would make available.

Intensive riparian assessments were conducted in 12 project-affected reaches, 10 of which were also included in the geomorphological study. These intensive sites included intensive mapping, measurement of tree and shrub ages, and measurement of channel profiles relative to discrete vegetation bands. Because most riparian vegetation in Project-affected reaches is young and does not extend far beyond the active channel, and virtually no large snags or large remnant trees were observed in any Project reach, it is inferred that historic stands of riparian vegetation likely did not differ substantially from those currently present.

To date, about 75 percent of the riparian zones of the project-affected areas have been delineated in AutoCAD.

Botanical studies – wetlands The wetland study addressed lands within the FERC Project boundary, including transmission line ROWs, penstocks, and other Project features. Wetlands described in the study include wet meadows, seeps and emergent wetlands; riparian areas are addressed separately (under the

riparian vegetation study). Documentation at each wetland included size, location, vegetation, observed hydrology, and potential for Project effects. In addition, elevation profiles of reservoir-associated wetlands were measured.

Project-created wetlands were found at three adits. Each was small (<0.1 acre) and largely weed-infested.

CDFG noted that there was the possibility that some areas inundated by seasonal flows would not be addressed by either the wetland or riparian studies, and expressed concern that these areas could “fall through the cracks” during PM&E development and future site-specific project planning. It was agreed that such areas exist as wet lodgepole pine forest in the upper Project area, and that they would be acknowledged during Project reporting. However, no site-specific actions were proposed.

Iowa Hill Pumped Storage project. Participants were asked if the table of “low-hanging fruit” study plans were appropriate to generally apply to the Iowa Hill Pumped Storage project. The participants agreed that all existing study plans could be applied to the Iowa Hill project. CDFG also stated that they could give provisional approval for the low-hanging fruit study plans until other CDFG staff were consulted, in which time they would respond by October 30, reserving the right to request additional studies as determined needed by the department. CDFG also stated that deer studies may need to be conducted, but there was no discussion as to the nature of the studies. A meeting will be convened to discuss sometime in November. Agencies will continue to provide input to SMUD in developing complete study requirements as project information becomes available.

Update on Action item: The project area boundary (geographical scope) still needs to be defined for any additional biological surveys that are required relative to recreation (including dispersed), roads and fuels management. SMUD is in discussion with the USFS to determine what potential obligations may exist to provide assistance in these three areas. Presently this issue cannot be settled amongst Recreation TWG participants. It has been determined by this TWG that arbitration (by the FERC) is needed. Hence, this information will be provided to the Terrestrial TWG following a determination by the FERC.

Future meetings and agenda. Final presentations for terrestrial resources are scheduled for the following dates:

- January 13, 2004
- February 10, 2004
- March 9, 2004
- April 13, 2004

These presentations will also include discussions on any Protection, Mitigation and Enhancement (PM&E) measures that might be considered for each resource discussed. A schedule of the resources being considered for each day will be issued later.

Meeting dates and locations may also be found on SMUD's web page at <http://www.smud.org/relicensing/index.html>

Ongoing commitments

- ⇒ Attachments will be placed on the SMUD UARP "Bulletin Board" located at <http://eurekasw.sharepoint.bcentral.com/uarp/>
- ⇒ Field schedules will be provided to the TWG on a monthly basis. The schedules are tentative. Contact Lon Maier if attendance is desired for any of the fieldwork underway.
- ⇒ SMUD will advise participants of any particular focus that an upcoming meeting may have, and develop an agenda for the meeting.
- ⇒ SMUD will commit to sending out draft study plans at least five working days before meeting to discuss the plans.

Attachments available with this summary:

- PowerPoint presentation of the wildlife and botanical information at <http://eurekasw.sharepoint.bcentral.com/UARP/layouts/1033/viewlsts.aspx?BaseType=1> .

If you would like copies of any past document, please e-mail hmaier@smud.org with your request or visit the SMUD relicensing web page at <http://hydrorelicensing.smud.org/default.htm> .

These summaries are not intended to be a transcript of the meeting, but only to serve as a brief synopsis. Please provide any comments you may have regarding these summaries to hmaier@smud.org.

UARP Relicensing

List of “Low-Hanging Fruit” Studies for Iowa Hill Development

At the October 1, 2003 Plenary Group meeting, the participants requested that for the November 5 Plenary Group meeting, Jim Lynch provide a list of existing study plans which Jim believed would, in general, only require adding the Iowa Hill Development area to the study area to implement the study plan (the “low-hanging fruit” study plans). The participants also asked that the appropriate TWG’s provide comments on this. The requested information is below.

<i>Resource Area</i>	<i>Existing Study Plan</i>	<i>Field Study Period</i>	<i>Data Results Available</i>	<i>TWG Comment</i>
Botanical	Invasive/Noxious Weeds	October-April 2004	June 2004	
	Special Status Plants	April-June 2004	August 2004	
	Vegetation Mapping	October-November 2003	January 2004	
	Wetlands	October-November 2003	January 2004	
Wildlife	Valley Elderberry Longhorn Beetle	October-June 2004	August 2004	
	Bats	June-July 2004	August 2004	
	Northern Goshawk	May-July 2004 & 2005	August 2004 & 2005	
	California Spotted Owl	May-July 2004 & 2005	August 2004 & 2005	
Cultural	Surveys	October-November 2003	January 2004	
	Ethnographic/Ethnohistorical	October-April 2003	June 2004	

DRAFT-IOWA HILL HABITAT CHARACTERIZATION DATA SHEET

(Adopted from CNPS Vegetation Rapid Assessment Form and CWHRs Wooded Habitat Sampling Data Sheet; October 9, 2003)

Point #: _____ Air/orthophoto #: _____ Date: _____ Initials of surveyors: _____
 Photograph #: _____

Final vegetation type name:
 Alliance _____ Association _____

LOCATIONAL/ENVIRONMENTAL DESCRIPTION

UTM field reading: UTM zone: _____ UTME _____ UTMN _____
 Are GPS coordinates within stand? Yes / No
 Distance (note ft/m) and bearing from access point to sample point location _____ Elevation: _____ ft/m

Topography: flat ___ concave ___ convex ___ undulating ___ | bottom ___ lower ___ mid ___ upper ___ top ___

Soil Texture: _____ % Large Rock _____ % Small Rock _____ % Bare/Fines _____

Slope exposure (circle one and/or enter actual °): NE _____ SE _____ SW _____ NW _____ Flat ___ Variable ___

Slope steepness (circle one and enter actual °): 0° ___ 1-5° ___ 5-25° ___ > 25° ___ Upland or Wetland/Riparian (circle one)

Site history, stand age, and comments (if known): _____

Type / level of disturbance: _____

VEGETATION DESCRIPTION

Field-assessed vegetation alliance name: _____

Size of stand: <1 acre ___ 1-5 acres ___ >5 acres ___ Adjacent alliances: _____

Trees:

Standards For Tree Size					Standards For Canopy Closure		
CWHR Code	CWHR Size Class	Conifer Crown Diameter	Hardwood Crown Diameter	DBH	CWHR Code	CWHR Closure Class	Veg. Canopy Closure
1	Seedling tree	N/a	N/a	<1.0"	S	Sparse Cover	10.0-24.9%
2	Sapling tree	N/a	<15.0'	1.0"-5.9"	P	Open Cover	25.0-39.9%
3	Pole tree	<12.0'	15.0'-29.9'	6.0"-10.9"	M	Mod. Cover	40.0-59.9%
				11.0"-23.9"			
4	Small tree	12.0'-23.9'	30.0'-44.9'		D	Dense Cover	>60.0%
5	Med/large tree	>or =24.0'	>or=45.0'	>or=24.0"			
6	Multi-layered tree	A distinct layer of size class 5 trees over a distinct layer of size class 4 and/or 3 trees, and total tree canopy of the layers > 60% (layers must have > 10.0% canopy cover and distinctive height separation)			Uneven-structure = >3 CWHR size classes, or if only 2 classes present, then the classes must skip an intervening class (e.g. 5 and 3 present but not 4) with distinctive height separation. Plots are even-structured if they do not meet uneven-structure definition.		

If Tree, list 1-3 dominant overstory spp.: _____

Stem#	Species	Over/ under	Dbh (0.1 in)	Crown diam (ft.)	Ht. (ft.)	Pt-ctr ¼ quad quad	Stem #	Species	Over/ under	Dbh (0.1 in)	Crown diam (ft.)	Ht. (ft.)	Pt-ctr ¼ quad quad
1							14						
2							15						
3							16						
4							17						
5							18						
6							19						
7							20						
8							21						
9							22						
10							23						
11							24						
12							25						
13							26						

Overall point tree canopy cover (%): _____

Are oaks present (explain #, and size): _____

Shrubs list 1-3 dominant spp (S1 seedling (<3 yr. old), S2 young (<1% dead), S3 mature (1-25% dead), S4 decadent (>25% dead): _____

Overall point shrub canopy cover (%): _____

Overall herbaceous canopy cover (%): _____

OTHER POINT HABITAT CHARACTERISTICS

Presence of dead/downed wood? (explain, # and size): >1" _____ 1-2" _____ 2-4" _____ >4" _____

Snags Present? (explain, # and size): _____

Tree cavities present? (explain, # and size): _____

Denning sites available? (explain): _____

Presence of deer browse species (If yes, ID species): _____

Evidence of current browsing activity (explain): _____

Other important point data/information not captured by the data sheet: _____

1.0 DRAFT Iowa Hill Habitat Characterization Study Plan

1.1 Pertinent issue questions

This study addresses the following terrestrial resource questions identified in the Iowa Hill Initial Information Package:

- What forms of wildlife habitat would be lost due to the land disturbing activities associated with the construction of the upper reservoir, transmission line, intake structure, and appurtenant facilities?
- Would the development adversely affect the habitat of special status wildlife species including valley elderberry longhorn beetle (VELB), northern goshawk, California spotted owl, mesocarnivores, mule deer, and others?

Some of these questions are also addressed by other terrestrial studies.

1.2 Background

The proposed Iowa Hill pumped storage project includes over 200 acres of terrestrial habitats in the vicinity of the reservoir, intake structure, and appurtenant facilities, and at least two linear miles of transmission line corridor. The Iowa Hill Development would permanently alter a majority of these habitats. However, site-specific information regarding wildlife habitat and habitat values is lacking for this area. Such information is required in order to assess impacts to wildlife and to develop appropriate resource measures to compensate for impacts of the Iowa Hill pumped storage project.

1.3 Study objectives

The primary objectives of the Habitat Characterization study are 1) to delineate and characterize wildlife habitats in the Project Area and 2) based on these habitat assessments and an analysis using the California Wildlife Habitat Relationships (CWHR) system, generate a list of wildlife species with the potential to occur in the Project Area. In addition, the study will serve as initial reconnaissance for the wetlands, noxious weeds, special-status plants, and valley elderberry longhorn beetle (VELB) studies, scheduled for spring/summer 2004. Information derived from this study will be used to develop resource measures under the Vegetation and Wildlife Resources Plan.

1.4 Study area

The study area will include the preliminary project boundary as described in Figures 2 and 14 of the Iowa Hill IIP (SMUD 2003), including the area surrounding the proposed reservoir (Figure 2), and all transmission line routes proposed by the Licensee (Figure 14).

1.5 Information needed from other studies

Information from the vegetation mapping study may be useful in order to run CWHR models during the Habitat Characterization study. CalVeg types described during vegetation mapping will be converted to CWHR habitat types using CDFG's crosswalk between the two systems (CDFG 1998).

1.6 Study methods and schedule

Approximately 50 sampling points will be randomly selected within the study area, distributed among vegetation types observable on aerial photos. Dangerously steep slopes will be excluded from this process. UTM coordinates (NAD83 map datum) will be defined for each sampling point, and for a series of access points along existing roads. Because GPS units are expected to be unreliable under the existing forest canopy, compass bearings and distance will be defined (using Pathfinder or ArcGIS software) from these

known access points to each sampling point. Field biologists will follow these bearing routes to the vicinity of each point, or use handheld GPS units in areas in which a signal is available. California Wildlife Habitat Relations datasheets and Habitat Elements worksheets will be completed at each sampling point.

Additional sampling points may also be subjectively placed in habitats of particular interest (e.g., wetlands) should they be encountered during field work. At minimum, any such areas will be photographed, briefly described, and subsequently assessed during the 2004 Iowa Hill wetlands study. In addition, any noxious weeds, special-status plants, and elderberry plants observed during study efforts will be flagged, mapped, and (if possible) their coordinates recorded using a handheld GPS. Inspections of elderberry plants for evidence of valley elderberry longhorn beetle (VELB) will be conducted as described in the VELB Study Plan. Additional parameters will be recorded as shown on the attached field data sheet.

1.7 Analysis

Data collected during field work will be transcribed and used to run queries in CDFG's WHR software (version 8.0) to generate a list of wildlife species expected to occur in the Iowa Hill project area. In addition, estimates of specific habitat parameters will be compared to standards and guidelines, where available, for special status species.

1.8 Study Output

Initial study results will be presented to the UARP Plenary Group in early 2004. The final study output will be a written report that includes the issues addressed, objectives, study area, methods, analysis, results, discussion, and conclusions. The reports will be prepared in a format that allows the information to be inserted as a section in Exhibit E of SMUD's application for a new license for the UARP.

1.9 Literature Cited

CDFG (California Department of Fish and Game). 1998. CWHR wildlife habitats crosswalked with CalVeg.

SMUD (Sacramento Municipal Utility District). 2003. Iowa Hill pumped storage project initial information package, revision 1. Sacramento, CA.