SACRAMENTO MUNICIPAL UTILITY DISTRICT
UPPER AMERICAN RIVER PROJECT
(FERC NO. 2101)

VALLEY ELDERBERRY LONGHORN BEETLE
TECHNICAL REPORT

Prepared by:
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Sacramento, California

Prepared for:
Sacramento Municipal Utility District
Sacramento, California

JULY 2004
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### 6.11 Valley Elderberry Longhorn Beetle Study Plan

#### 6.11.1 Pertinent Issue Questions

The valley elderberry longhorn beetle (VELB) study addresses Terrestrial Resource Issue Question:

32. What is the distribution of the valley elderberry longhorn beetle (VELB), what are the known factors (limiting and beneficial) affecting the VELB, and how are these factors influenced by Project operations?

#### 6.11.2 Background

The VELB, a federally listed threatened species, ranged historically throughout the Central Valley, extending up river canyons in the Sierra Nevada foothills to an elevation of about 3,000 feet. VELB are obligate-users of elderberry (*Sambucus mexicana*) plants during their larval stage. Project construction (e.g., new developments), operation (e.g., altered flows), maintenance (e.g., road repair, transmission line maintenance), and associated activities (e.g., recreation) could have direct or indirect effects on elderberries that support VELB. The beetle's use of elderberries is not readily apparent; often the only exterior evidence is an exit hole created by the larvae just prior to pupation. The life cycle takes one or two years to complete with most of that time spent as larvae living within the stems of the plant. Adults generally emerge from late March through June, and adults are short-lived. Flow releases, facility operation/maintenance activities, and vegetation management programs have the potential to affect elderberry plants if present. The U.S. Fish and Wildlife Service (USFWS) has issued specific conservation guidelines for the VELB that include survey protocols and measures for avoiding, protecting, restoring, and monitoring impacted VELB habitat (USFWS 1999). These guidelines apply to elderberry plants with one or more stems measuring 1.0-inch or greater in diameter at ground level that may be directly or indirectly impacted by the construction or operation of a project. All elderberry plants with stems that meet the 1.0-inch-diameter threshold on, or adjacent to, a project site must be thoroughly searched for beetle exit holes and the number of stems tallied by diameter size class for determination of compensation ratios. Elderberry plants lacking stems 1.0-inch or greater in diameter at ground level are considered unsuitable for use by VELB and are not protected under the guidelines. Surveys are valid for a period of two years.

#### 6.11.3 Study Objectives

The objectives of the VELB study are: 1) to determine the distribution of elderberry plants within the study area; 2) to assess the potential for the Project to affect these plants; and 3) apply USFWS protection and/or compensation protocols (USFWS 1999) where direct or indirect adverse impacts to elderberry plants may occur as a result of Project construction, operation, or maintenance.

#### 6.11.4 Study Area and Sampling Sites

The VELB Study Area includes all areas where the Licensee has legal access (e.g., ownership/easement rights, public lands) on or adjacent to (i.e., within 100 feet as per USFWS Protocols for buffer zones) of Project features below 3,000-feet elevation that may be directly or indirectly affected by Project construction (e.g., facility development or expansion, road construction), operation (e.g., recreational developments), and maintenance (e.g., vegetation clearing). These Project features are shown in the table below. Stream reaches below Project facilities are not included in the study area because elderberry plants growing along foothill streams generally occur above the high water mark unlike willow and cottonwood (Personal Communication, R. Arnold, Entomologist, April 19, 2002). As a result, elderberry plants are not likely to occur in stream fluctuation zones and will not be affected by Project operations. However, it is understood that additional study areas (e.g., the developed and dispersed recreation areas being identified by the Recreation TWG and the Project roads being identified through the Project Sources of Sediment Study in coordination with the Recreation and Aquatic TWGs) will be added to this study area where appropriate.
### Project Feature Approx. Elevations (feet)

<table>
<thead>
<tr>
<th>Project Feature</th>
<th>Approx. Elevations (feet)</th>
</tr>
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<tbody>
<tr>
<td>Jaybird Powerhouse and Switchyard</td>
<td>3,000</td>
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<tr>
<td>Union Valley-Camino T/L (areas below 3,000 ft. elev. from Jaybird Switchyard to Camino Switchyard)</td>
<td>1,800-3,000</td>
</tr>
<tr>
<td>Jaybird-White Rock T/L (from Jaybird Switchyard to White Rock Switchyard)</td>
<td>993-3,000</td>
</tr>
<tr>
<td>Camino Reservoir and Dam</td>
<td>2,915 – 2,918</td>
</tr>
<tr>
<td>Camino Penstock (0.3 mile from Camino Tunnel to Camino Powerhouse)</td>
<td>1,950 – 2,800</td>
</tr>
<tr>
<td>Brush Creek Reservoir and Dam</td>
<td>2,915 – 2,923</td>
</tr>
<tr>
<td>Camino Powerhouse and Switchyard</td>
<td>1,950</td>
</tr>
<tr>
<td>Camino-Lake T/L right-of-way (from Camino Switchyard to Folsom Junction)</td>
<td>400-1,950</td>
</tr>
<tr>
<td>Camino-White Rock T/L (from Camino Switchyard to White Rock Switchyard)</td>
<td>993-1,950</td>
</tr>
<tr>
<td>Slab Creek Reservoir and Dam</td>
<td>1,850-1,870</td>
</tr>
<tr>
<td>Slab Creek Powerhouse and Switchyard</td>
<td>1,620</td>
</tr>
<tr>
<td>White Rock Penstock (from White Rock Tunnel to White Rock Powerhouse)</td>
<td>993</td>
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<td>993</td>
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<tr>
<td>White Rock-Orangevale T/L (from White Rock Switchyard to Folsom Junction)</td>
<td>400-993</td>
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<tr>
<td>White Rock-Hedge T/L (from White Rock Switchyard to Folsom Junction)</td>
<td>400-993</td>
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<tr>
<td>Slab Creek 12 kV Tap Line (from Slab Creek PH to PG&amp;E's 12 kV dist. line)</td>
<td>1,620-1,650</td>
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<tr>
<td>Slab Creek Reservoir Boat Launch (south side of reservoir near dam)</td>
<td>1,850</td>
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#### 6.11.5 Information Needed From Other Studies

The locations of elderberry plants will be determined in-part by observations made by botanical field crews while performing rare plant surveys, riparian inventories, and invasive weed surveys. The location of recreation activities that may affect elderberries will be derived from the various recreation studies. Effects of transmission line right-of-way management and other land management activities on elderberries will be determined from the Project Lands Management Studies.

#### 6.11.6 Study Methods and Schedule

Ground surveys for elderberry plants will be performed by field crews during the spring/summer 2002 flowering season for the species. Plants will be located by surveyors on foot, in cars, and by boat, as appropriate to the terrain and within reasonable limits of safety. The locations of all elderberry plants observed will be recorded using Global Positioning System (GPS) units where satellite reception is adequate, or plotted on aerial photos or field maps where reception is inadequate (e.g., deep canyons). For each elderberry location a qualitative assessment will be made of potential threats to the plant, distinguishing between Project- and non-Project influences.

This plan assumes that elderberries identified during this effort will be inspected for use by VELB prior to undertaking any Project-related actions (i.e., a "Project" as described in USFWS protocols) that may adversely affect the plant. As a result, inspections for the beetle and its exit holes will not be conducted during this initial survey effort. If, following analysis of the data (see Analysis section), a determination is made that ongoing Project operations and maintenance are likely to affect elderberries, or when a new Project-related action is proposed that may affect these plants, full USFWS protocols will be implemented. These protocols include: 1) a thorough inspection of the affected plants for beetle exit holes; 2) a complete count (tallied by diameter size class; Table 1 in USFWS protocols) of all stems one inch or greater in diameter at ground level on affected plants; and 3) noting if a plant lies in a riparian or non-riparian area. These data are used to determine the type and extent of compensation required including avoidance, protection, transplanting, and replacement planting of elderberry seedlings/cuttings and associated native riparian trees/shrubs.

#### 6.11.7 Analysis

Data collected in the study and proposed plans for Project-related construction, operation and maintenance will be used to determine the potential for direct or indirect impacts on elderberry plants located during field surveys. As stated above, USFWS protocols for VELB inspections and protection/compensation measures will be implemented for all plants determined to be adversely affected by the Project.
6.11.8  Study Output

Study results will be presented to the Terrestrial Resources Technical Working Group (TWG) and Plenary Group toward the end of 2002. However, the ultimate study output will be a written report that includes the issues addressed, objectives, study area, methods, analysis, results (elderberry locations to be plotted on a GIS-layer for overlay on the UARP vegetation map), discussion, and conclusions. The reports will be prepared in a format that allows the information to be inserted directly into the Licensee-prepared Draft Environmental Assessment that will be submitted to FERC with the Licensee's application for a new license.

6.11.9  Preliminary Estimated Study Cost

SMUD’s consultant estimates that this study will cost $29,000 ± 20 percent.

6.11.10  TWG and Plenary Group Endorsement

Terrestrial TWG representatives from the following agencies/organizations approved this study plan on December 21, 2001: California Department of Fish and Game, Eldorado National Forest, California Sport Fishing Alliance, and SMUD. The Plenary Group approved this study plan on February 6, 2002. The participants at the meeting who said they could “live with” the study plan were California Department of Fish and Game, California Native Plant Society, California Outdoors, California Sportfishing Protection Alliance, El Dorado County, El Dorado County Citizens for Water, Friends of El Dorado County, National Parks Service, Placer County Water Agency, Sacramento Municipal Utility District, State Water Resources Control Board, Taxpayers or El Dorado County, U.S Bureau of Land Management and Eldorado National Forest. None of the participants at the meeting said they could not “live with” the study plan though PG&E abstained since this study plan does not apply to the Chili Bar Project.

This study plan was directed back to the TWG for re-evaluation in light of the inclusion of Chili Bar in other studies. At the April 16, 2002 meeting, the Terrestrial TWG determined that the VELB study plan was not a flow-related study, and was referred back to the Plenary Group for approval. On May 1, 2002 the following participants gave Plenary Group approval to the plan: USFS, BLM, USFWS, Taxpayers of El Dorado County, Friends of El Dorado County, Camp Lotus, El Dorado County Water Agency, El Dorado County, Placer County Water Agency, California Department of Fish and Game, California State Water Resources Control Board, Pacific Gas and Electric and Friends of the River. None of the participants at the meeting said they could not “live with” this study plan.

6.11.11  Literature Cited


This technical report provides the results of surveys for elderberry (*Sambucus* sp.), host plant for the valley elderberry longhorn beetle (VELB) and a federally-listed threatened species, near Upper American River Project (UARP) facilities below 3,000 feet in elevation. Elderberry plants were not inspected for VELB or its exit holes as part of this study. Such inspections would be performed prior to undertaking any UARP-related actions (i.e., a “Project” as described in U.S. Fish and Wildlife Service protocols) that may adversely affect elderberry plants. Surveys were performed by helicopter, car, and on foot as appropriate to the terrain being searched. Elderberry plants or clumps were found at eight sites, all located along the UARP transmission line corridor. No plants were located near powerhouses, dams, or other UARP facilities. All plants located within the transmission line corridor are on privately-owned land upon which SMUD holds a right-of-way easement for purposes of accessing and performing vegetation management and maintenance of transmission line equipment. Transmission line maintenance and vegetation management activities include system inspections, identification of potential hazard trees or other plants, and treatment of such vegetation in compliance with laws and regulations designed to ensure public safety and continued operation of the system.

1.0 INTRODUCTION

This technical report is one in a series of reports prepared by Devine Tarbell & Associates, Inc., (DTA) for the Sacramento Municipal Utility District (SMUD) as an appendix to SMUD’s application to the Federal Energy Regulatory Commission (FERC) for a new license for the Upper American River Project (UARP or Project). The report addresses valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), a federally-listed threatened species, within the study area and includes the following sections:

- **BACKGROUND** – Summarizes the applicable study plan approved by the UARP Relicensing Plenary Group; a brief description of the issue questions addressed, in part, by the study plan; the objectives of the study plan; the study area, and agency information requests. In addition, requests by resource agencies for additions to this technical report are described in this section.
- **METHODS** – A description of the methods used in the study, including a listing of study sites.
- **RESULTS** – A description of the most important data. Copious raw data, photographs, and drawings, are provided by request in a separate compact disc (CD) for additional analysis and review by interested parties.
- **ANALYSIS** – An analysis of the results, where appropriate.
- **LITERATURE CITED** – A listing of all literature cited in the report.

This technical report does not include a detailed description of the UARP Alternative Licensing Process (ALP) or of the UARP, which can be found in the following sections of SMUD’s
application for a new license: The UARP Relicensing Process, Exhibit A (Project Description), Exhibit B (Project Operations), and Exhibit C (Construction).

Also, this technical report does not include a discussion of the effects of the UARP on VELB and related environmental resources, nor does the report include a discussion of appropriate protection, mitigation and enhancement (PM&E) measures. An impacts discussion regarding the UARP is included in the applicant-prepared preliminary draft environmental assessment (PDEA) document, which is part of SMUD’s application for a new license. Development of resource measures will occur in settlement discussions, which will commence in 2004, and will be reported in the PDEA.

2.0 BACKGROUND

2.1 Valley Elderberry Longhorn Beetle Study Plan

On August 8, 1980, the U.S. Fish and Wildlife Service (USFWS) listed the VELB as a threatened species and established critical habitat designations for the species (45 FR 52803-52807). In response to the status and protections afforded VELB under the federal Endangered Species Act, the UARP Terrestrial Resources Technical Working Group (TWG) developed the UARP Valley Elderberry Longhorn Beetle Study Plan. This plan was approved initially by the TWG on December 21, 2001 and forwarded to the UARP Plenary Group for their review. On February 6, 2002, the UARP Plenary Group directed the plan back to the TWG for consideration of flow-related issues associated with Pacific Gas and Electric Company’s Chili Bar Project. The TWG determined that the VELB study was not flow-related and therefore required no amendment. The study plan was referred back to the Plenary Group and was approved by the group on May 1, 2002. The study plan was designed to address, in part, the following issues questions developed by the Plenary Group:

Issue Question 32. What is the distribution of the valley elderberry longhorn beetle (VELB), what are the known factors (limiting and beneficial affecting the VELB, and how are these factors influenced by Project operations?

Based on a review and discussion of the initial issue question, the TWG developed the following study objectives:

- Determine the distribution of elderberry plants within the study area.
- Assess the potential for the UARP to affect these plants.
- Apply USFWS protection and/or compensation protocols (USFWS 1999) where direct or indirect adverse impacts to elderberry plants may occur as a result of UARP construction, operation, or maintenance.

The VELB Study Area included all areas where the SMUD had legal access (e.g., ownership/easement rights, public lands) on or adjacent to (i.e., within 100 feet as per USFWS Protocols for buffer zones) of UARP features below 3,000-feet elevation that could be directly or
indirectly affected by UARP construction (e.g., facility development or expansion, road construction), operation (e.g., recreational developments), and maintenance (e.g., vegetation clearing). These UARP features are shown in Table 2.1-1. The search area along the transmission line corridor included the area within approximately 200 feet of the transmission line centerline (i.e., 400-feet total width; this includes the 200-feet defined right-of-way [ROW] plus the 100-feet wide buffer on each side of the ROW). Stream reaches below UARP facilities were not included in the study area because elderberry plants growing along foothill streams generally occur above the high water mark unlike willow and cottonwood (Personal Communication, R. Arnold, Entomologist, April 19, 2002). As a result, elderberry plants that support VELB are not likely to occur in stream fluctuation zones and are not likely to be affected by UARP operations.

| Table 2.1-1. Valley elderberry longhorn beetle study area for the Upper American River Project. |
|---------------------------------|---------------------------------|
| **UARP Feature** | **Approx. Elevations (feet)** |
| Jaybird Powerhouse and Switchyard | 3,000 |
| Union Valley-Camino T/L (areas below 3,000 ft. elev. from Jaybird Switchyard to Camino Switchyard) | 1,800-3,000 |
| Jaybird-White Rock T/L (from Jaybird Switchyard to White Rock Switchyard) | 993-3,000 |
| Camino Reservoir and Dam | 2,915-2,918 |
| Camino Penstock (0.3 mile from Camino Tunnel to Camino Powerhouse) | 1,950-2,800 |
| Brush Creek Reservoir and Dam | 2,915-2,923 |
| Camino Powerhouse and Switchyard | 1,950 |
| Camino-Lake T/L right-of-way (from Camino Switchyard to Folsom Junction) | 400-1,950 |
| Camino-White Rock T/L (from Camino Switchyard to White Rock Switchyard) | 993-1,950 |
| Slab Creek Reservoir and Dam | 1,850-1,870 |
| Slab Creek Powerhouse and Switchyard | 1,620 |
| White Rock Penstock (from White Rock Tunnel to White Rock Powerhouse) | 993 |
| White Rock Powerhouse and Switchyard | 993 |
| White Rock-Orangevale T/L (from White Rock Switchyard to Folsom Junction) | 400-993 |
| White Rock-Hedge T/L (from White Rock Switchyard to Folsom Junction) | 400-993 |
| Slab Creek 12 kV Tap Line (from Slab Creek PH to PG&E’s 12 kV dist. line) | 1,620-1,650 |
| Slab Creek Reservoir Boat Launch (south side of reservoir near dam) | 1,850 |

### 2.2 Agency Requested Information

In a letter dated December 17, 2003 to SMUD, the agencies identified, by study, information they believed they needed to begin settlement discussions, with the understanding that additional information might be requested. While the Valley Elderberry Longhorn Beetle Study was not specifically addressed, the agencies following general comment regarding terrestrial studies is pertinent:

- Shape files will need to include survey locations and positive sightings/responses.

Figure 4.1-1 (Appendix A) is a GIS map showing locations of elderberry plants within the UARP study area. Representative photos of elderberry plants are provided in Appendix B.
In a May 13, 2004 letter, the agencies stated in regards to the *Valley Elderberry Longhorn Technical Report* (February 2004) the following:

- The extent of elderberry shrubs suitable to support this species should be evaluated for Project-related activities, including dispersed camping and river recreation, below 3,000 feet elevation. An evaluation of elderberry presence at river access points should be conducted. SMUD should also consult with the US Fish and Wildlife Service to review this study report.

The distribution of elderberry plants located in the study area is presented in Section 4.0, Results and shown graphically on Figure 4.1-1 (Appendix A). An analysis of the potential effects of UARP operation and maintenance activities on elderberry plants and VELB is presented in Section 5.2. SMUD has provided this technical report to the USFWS for consideration in pending consultation under Section 7 of the federal Endangered Species Act.

The Terrestrial Resources TWG met on June 7, 2004 to consider “conclusions” relative to the VELB and to develop recommendations for consideration by the Settlement Negotiations Group. The TWG agreed on the following general conclusions:

1. The Issue Questions and Objectives stated in the VELB Study Plan are adequately addressed by the information provided in the *Valley Elderberry Longhorn Beetle Technical Report*.

2. Methods employed were adequate to address Issue Questions and Objectives.

3. Since the host plant for the VELB, elderberry (*Sambucus* sp.), is not necessarily a riparian species, surveys included areas around project facilities, within transmission line corridors and near stream reaches downstream of dams that have major access points on public lands, all below an elevation of 3,000 feet. This survey coverage is adequate to develop conclusions for the protection of VELB during the new license period.

### 3.0 METHODS

#### 3.1 Elderberry Surveys

Qualified biologists performed surveys for elderberry (*Sambucus* spp.), the VELB host plant, at all UARP facilities below 3,000-ft elevation during the May – July flowering season for the species in both 2002 and 2003 [Note: The USFWS Conservation Guidelines for the VELB identify the 3,000-ft elevation contour as being the known elevation limit for VELB in watersheds on the east side of the Central Valley]. Surveys were conducted either on foot or by using a car, boat, or helicopter as appropriate to the terrain being searched. Helicopter surveys were limited to the UARP transmission line corridor and involved flying at 200-300 feet above ground and at the slowest speed possible while observers searched for flowering elderberry plants. The locations of all elderberry plants observed were recorded using Global Positioning System (GPS) units where satellite reception was adequate, or plotted on aerial photos or field
maps where reception was lacking (e.g., deep canyons, under forest canopy). For each elderberry location a qualitative assessment was made of potential threats to the plant, distinguishing between UARP- and non-UARP influences.

As directed by the approved study plan, stream reaches below UARP facilities were not included in the study area because elderberry plants growing along foothill streams generally occur above the high water mark and are unlikely to be affected by UARP-related changes in flows. However, in response to the May 13, 2004 letter from the agencies (see Section 2.2), a survey for elderberry plants was performed on June 5, 2004 at primary recreation access points along the South Fork American River below 3,000 feet as identified by the Recreation TWG. These locations were:

- Via Forebay Road, SFAR shoreline from Camino Powerhouse to the high water mark of Slab Creek Reservoir;
- Via Chute Camp Road, lower end of Slab Creek Reservoir and SFAR extending approximately 0.25-mile below Slab Creek Dam;
- Via Mosquito Road, shoreline of SFAR extending roughly 200 meters above and below bridge crossing of SFAR; and
- Via Mosquito Road, Meadow Lane, and Holland Drive, the shoreline of SFAR extending roughly 200 meters below White Rock Powerhouse.

Note: The study plan assumes that elderberries identified during this effort would be inspected for use by VELB prior to undertaking any UARP-related actions (i.e., a "Project" as described in USFWS protocols) that may adversely affect the plant. As a result, inspections for the beetle and its exit holes were not conducted during these relicensing surveys. SMUD expects to apply full USFWS protocols if and when a new UARP-related action is proposed that may affect these plants. These protocols include: 1) a thorough inspection of the affected plants for beetle exit holes; 2) a complete count (tallied by diameter size class; Table 1 in USFWS protocols) of all stems one inch or greater in diameter at ground level on affected plants; and 3) noting if a plant lies in a riparian or non-riparian area. These data will be used to determine the type and extent of compensation required including avoidance, protection, transplanting, and replacement planting of elderberry seedlings/cuttings and associated native riparian trees/shrubs.

3.2 Incidental Observations

Biologists engaged in these field surveys also recorded incidental observations of wildlife for purposes of generating a comprehensive species list for the UARP area. Data recorded for each observation generally included: species, date of observation, location, and any remarkable behavior or activity exhibited by the animals observed.
4.0 RESULTS

4.1 Elderberry Surveys

No federally-designated critical habitat for VELB occurs in the UARP vicinity and no elderberry plants were found adjacent to UARP facilities (i.e., dams, powerhouses, switchyards, appurtenant facilities) below 3,000 feet except along the UARP transmission line corridor. Elderberry shrubs or clumps were located at eight sites within the 400-feet wide search area (see description of Study Area in Section 2.1) along the transmission line corridor during 2002 and 2003 surveys (Table 4.1-1; Figure 4.1-1, Appendix A). Plants found at these locations were located directly beneath the transmission line or immediately adjacent to the line, and in one location (Point 007 on Figure 4.1-1) a large plant was growing entirely within the steel lattice cage of the support tower. No elderberry plants were located at any of the key recreation access points surveyed. Representative photographs of elderberry plants observed during helicopter surveys are provided in Appendix B.

4.2 Incidental Observations

Biologists recorded approximately 140 species of birds and mammals during UARP field studies including this VELB Study. These incidental observations are provided in Appendix C.

<table>
<thead>
<tr>
<th>Observation Date</th>
<th>Survey Method</th>
<th>Location (Way Point # UTM, NAD 83)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 001 671222mE; 4285627mN</td>
<td>Estimate of 5 shrubs on west side of Green Valley Road crossing.</td>
</tr>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 002 671268mE; 4285636mN</td>
<td>Plant found along Green Valley Rd. (1 shrub)</td>
</tr>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 003 671940mE; 4285838mN</td>
<td>East of Green Valley Road (1 shrub)</td>
</tr>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 004 684932mE; 4289324mN</td>
<td>West of Weber creek (5 shrubs)</td>
</tr>
<tr>
<td>06-14-2003</td>
<td>Ground</td>
<td>WP 005 689700mE; 4291800mN</td>
<td>Big Canyon E of Hwy 193 (numerous small shrubs)</td>
</tr>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 006 695844mE; 4292351mN</td>
<td>N of Lava Cap Winery (numerous small shrubs)</td>
</tr>
<tr>
<td>05-29-2002</td>
<td>Helicopter</td>
<td>WP 007 695912mE; 4292411mN</td>
<td>N of Lava Cap Winery (numerous shrubs one within T-line cage)</td>
</tr>
<tr>
<td>06-16-2003</td>
<td>Ground</td>
<td>WP 008 702772mE; 4293252mN</td>
<td>SSW of Iowa Hill along the T-line in Brushy Canyon (numerous small shrubs)</td>
</tr>
</tbody>
</table>

5.0 ANALYSIS

5.1 Known Threats to VELB Persistence

Documented threats to persistence of the VELB include habitat loss and fragmentation, pesticide and herbicide use, and egg predation by the exotic Argentine ant (*Linepithema humile*) (USFWS
1984, Huxel 2000, Collinge et al. 2001). Riparian forests, the primary habitat of VELB, have been severely depleted within the species’ range over the last two centuries as a result of expansive agricultural and urban development (Thompson 1977, Katibah 1984, USFWS 2003). There is no comparable information on loss of non-riparian VELB habitat such as elderberry savanna, mixed chaparral-woodlands, or grasslands adjacent to riparian habitat, which are more characteristic of elderberry locations along the UARP transmission line. However, urban and agricultural (e.g., vineyards, orchards) along the transmission line corridor have resulted in loss of native habitat that could have supported elderberry plants.

Barr (1991) found that small, isolated habitat remnants were less likely to be occupied by the VELB than larger patches suggesting that isolated elderberry shrubs do not typically provide long-term habitat for this species. Most of the elderberry plants located within the UARP transmission line corridor are single, isolated shrubs in upland habitats. As a result, occupancy of these shrubs by VELB, or at least long-term viability of any VELB subpopulations, is likely compromised by the species’ limited dispersal capabilities (Barr 1991, Huxel 2000, Collinge et al. 2001, USFWS 2003).

Elderberry shrubs currently located within or adjacent to the right-of-way are all located on private lands upon which SMUD holds a right-of-way easement for purposes of accessing and performing both routine and emergency maintenance on the transmission line and management of the vegetation within the corridor in a manner that will ensure safe operation of the line. As a result, elderberry plants identified during this study may be at risk from both UARP (i.e., vegetation management activities) and non-UARP (i.e., Private Landowner) actions.

5.2 Operation and Maintenance of the UARP Transmission Line

Operation and maintenance of the UARP transmission system are performed according to standard industry procedures and in accordance with the requirements of State of California law for public health and safety, including California Public Utilities Commission (CPUC) General Order 95, Rule 35, Public Resources Code 4293 (Tree Trimming and Removal), Public Resources Code 4292, and CPUC General Order 112-E, to keep facilities clear of trees and other fire hazards. Other governmental requirements specify maintenance practices to prioritize, inspect, and maintain overhead electrical transmission lines placed under the control of the California Independent System Operator.

Vegetation management activity includes routine inspections of linear facilities and identification of potential hazards/trees that may violate conductor clearance laws and requirements. The degree of needed vegetation management often depends upon voltage and the height of the conductors. Management of such vegetation may include cutting, trimming, pruning, or clearing vegetation by manual or mechanical means as well as directed herbicide applications or stump treatments to comply with state laws and requirements, protect the integrity of SMUD’s facilities, and/or maintain safe and reliable access to facilities for purposes of inspection and operation. In most situations, clearing of low-growing trees and shrubs such as elderberry is not needed to accomplish these safety and maintenance objectives.
Other routine maintenance activities associated with the UARP transmission line that have the potential to affect elderberry plants include, insulator replacement, cross arm replacement, and road maintenance (occasional blading of existing access roads). Emergency activities may be required in the event of disaster or "Acts of God" (50 CFR §402.05). Events such as fire, landslides and intense storms may disable electric transmission systems and appropriate emergency response actions must be taken to prevent or mitigate loss of, or damage to life, health, property, or essential public services.

6.0 LITERATURE CITED


APPENDIX A

FIGURE 4.1-1. LOCATIONS OF ELDERBERRY ALONG THE UPPER AMERICAN RIVER PROJECT TRANSMISSION LINE
Upper American River Project

Figure 4.1-1
Locations of Elderberry (sambucus sp.)
Below 3000ft Elevation Along the UARP Transmission Line, 2002-2003

- Valley Elderberry Location (sambucus sp)
- Transmission Line
- Divided Highway
- Other Highway
- County Roads
- Other Roads
- Penstock
- Tunnel


Scale 1:110,000
APPENDIX B

REPRESENTATIVE PHOTOGRAPHS OF ELDERBERRY PLANTS OBSERVED DURING HELICOPTER SURVEYS MAY 29, 2002

Note: elderberry plants in photographs have distinctive light yellow flowers
APPENDIX C

INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UPPER AMERICAN RIVER PROJECT RELICENSING STUDIES, 2002 AND 2003
## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date (YR-MO-DY)</th>
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<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tr>
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<td>American crow</td>
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<tr>
<td>N/A</td>
<td>Silver Creek</td>
<td>American dipper</td>
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<td>N/A</td>
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<td>American goldfinch</td>
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<td></td>
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<td>Various</td>
<td>Lower Transmission Line</td>
<td>American kestrel</td>
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<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>American pipit</td>
<td>1</td>
<td>Near Wolf Creek CG</td>
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<tr>
<td>05/14/02</td>
<td>Robbs Powerhouse</td>
<td>American robin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05/15/02</td>
<td>Jaybird Springs Road</td>
<td>American robin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06/10/02</td>
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<td>American robin</td>
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<tr>
<td>06/11/02</td>
<td>Various</td>
<td>American robin</td>
<td></td>
<td>Partially albino with all white tail feathers at Wolf Ck CG</td>
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<tr>
<td>06/12/02</td>
<td>Various</td>
<td>American robin</td>
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<td>06/13/02</td>
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<td>06/14/02</td>
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<td>American robin</td>
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<td>06/20/02</td>
<td>Union Valley Reservoir</td>
<td>American robin</td>
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<td>07/09/02</td>
<td>Union Valley Reservoir</td>
<td>American robin</td>
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<tr>
<td>04/08/03</td>
<td>Ice House Road</td>
<td>American robin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>American robin</td>
<td></td>
<td></td>
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<tr>
<td>05/06/03</td>
<td>Peavine Ridge Road</td>
<td>American robin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05/13/03</td>
<td>Iowa Hill</td>
<td>American robin</td>
<td></td>
<td></td>
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<tr>
<td>05/09/03</td>
<td>Union Valley Reservoir</td>
<td>American white pelican</td>
<td>8</td>
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<tr>
<td>05/13/03</td>
<td>Iowa Hill</td>
<td>Anna's hummingbird</td>
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<td>06/12/02</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
<td>Adults perched on tree across from Fashoda Beach</td>
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<tr>
<td>06/12/02</td>
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<td>Bald eagle</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>06/26/02</td>
<td>Loon Lake</td>
<td>Bald eagle</td>
<td>1</td>
<td>Perched on pine east of boat ramp</td>
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<td>08/28/02</td>
<td>Loon Lake</td>
<td>Bald eagle</td>
<td>1</td>
<td>Perched between Main and Auxiliary dams</td>
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<tr>
<td>10/01/02</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>1</td>
<td>On south shore across from Sunset Boat ramp</td>
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<td>Ice House Reservoir</td>
<td>Bald eagle</td>
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<td>Soaring above Strawberry CG</td>
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<td>10/28/02</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
<td>Pair in Granlee's Point nest stand</td>
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<tr>
<td>11/14/02</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>11/27/02</td>
<td>Ice House Reservoir</td>
<td>Bald eagle</td>
<td>3</td>
<td>2 adults and 1 juvenile at SFSC inlet</td>
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<tr>
<td>01/07/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>6</td>
<td>Adults and subadults</td>
</tr>
</tbody>
</table>
### APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tbody>
<tr>
<td>01/08/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
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<tr>
<td>01/09/03</td>
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<td>Bald eagle</td>
<td>1</td>
<td>Caught &quot;muk-luk&quot;, Adult non-resident bird</td>
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<tr>
<td>02/04/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>Several</td>
<td></td>
</tr>
<tr>
<td>02/06/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>02/14/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>03/27/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>Several</td>
<td>Copulation and territory defense</td>
</tr>
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<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>2</td>
<td>Adults incubating</td>
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<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>1</td>
<td>Incubating</td>
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<td>Bald eagle</td>
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<tr>
<td>05/07/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>1</td>
<td>On nest</td>
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<tr>
<td>05/19/03</td>
<td>Ice House Reservoir</td>
<td>Bald eagle</td>
<td>3</td>
<td>1 ad., 2 juv. Near boat ramp</td>
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<tr>
<td>05/20/03</td>
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<td>Bald eagle</td>
<td>1</td>
<td>Foraging</td>
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<td>06/17/03</td>
<td>Union Valley Reservoir</td>
<td>Bald eagle</td>
<td>1</td>
<td>Ad. On possible nest tree, subadult in Pleasant area</td>
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<td>06/24/03</td>
<td>Slab Creek Reservoir</td>
<td>Bald eagle</td>
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<tr>
<td>05/24/01</td>
<td>South Fork Silver Creek</td>
<td>Band-tailed pigeon</td>
<td>50-70</td>
<td>Observed during helicopter reconnaissance</td>
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<tr>
<td>06/26/02</td>
<td>Trail to Rubicon Reservoir</td>
<td>Band-tailed pigeon</td>
<td>20-30</td>
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<td>Gerle Creek Reservoir</td>
<td>Barn swallow</td>
<td>1</td>
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<tr>
<td>05/14/02</td>
<td>Gerle Canal</td>
<td>Barn swallow</td>
<td>Nesting under bridge</td>
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<td>Barn swallow</td>
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<tr>
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<td>Buck Island Reservoir</td>
<td>Beaver</td>
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<td>10/21/02</td>
<td>Chili Bar Reach</td>
<td>Belted kingfisher</td>
<td>Several</td>
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<tr>
<td>06/19/03</td>
<td>Loon Lake</td>
<td>Belted kingfisher</td>
<td>1</td>
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<tr>
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<td>4</td>
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<tr>
<td>07/10/02</td>
<td>Jaybird Springs Road</td>
<td>Black bear</td>
<td>1</td>
<td>Approximately 1 year old near Jaybird Tunnel Adit</td>
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<tr>
<td>04/08/03</td>
<td>Gerle Creek Canal</td>
<td>Black bear</td>
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<td>Tracks in snow appear to enter and exit canal</td>
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<td>Black bear</td>
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<td>Tracks on shoreline near Camino Cove</td>
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<td>05/15/02</td>
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<td>Black-headed grosbeak</td>
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<td>05/13/03</td>
<td>Iowa Hill</td>
<td>Black-headed grosbeak</td>
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<tr>
<td>04/09/03</td>
<td>Peavine Ridge Road</td>
<td>Black-tailed hare</td>
<td>1</td>
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<td>05/15/02</td>
<td>Jaybird Springs Road</td>
<td>Black-throated gray warbler</td>
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</tbody>
</table>
## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tr>
<td>05/13/03</td>
<td>Iowa Hill</td>
<td>Black-throated gray warbler</td>
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<td>Jaybird Springs Road</td>
<td>Blue grouse</td>
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<td>Blue grouse</td>
<td>2</td>
<td>Male-female pair</td>
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<td>Blue-winged teal</td>
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<td>Probable pair</td>
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<td>Blue-winged teal</td>
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<td></td>
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<tr>
<td>07/17/03</td>
<td>Ice House Road</td>
<td>Bobcat</td>
<td>1</td>
<td>Crossing road near Robbs Resort</td>
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<td>Bonaparte's gull</td>
<td>3</td>
<td>1 in adult plumage</td>
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<td>Various</td>
<td>Brazilian free-tailed bat</td>
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<td>1</td>
<td>Wench Creek Campground</td>
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<td>Brewer's blackbird</td>
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<td>Brown creeper</td>
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<tr>
<td>07/08/02</td>
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<td>06/12/02</td>
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<td>Wench Creek Campground</td>
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<td>Bufflehead</td>
<td>2</td>
<td>2 males</td>
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<td>Bufflehead Pond</td>
<td>Bufflehead</td>
<td>1</td>
<td>1 male</td>
</tr>
<tr>
<td>06/13/02</td>
<td>Ice House Reservoir</td>
<td>Bufflehead</td>
<td>3</td>
<td>1 male, 2 females</td>
</tr>
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<td>06/18/02</td>
<td>Bufflehead Pond</td>
<td>Bufflehead</td>
<td>2</td>
<td>2 females</td>
</tr>
<tr>
<td>07/16/02</td>
<td>Bufflehead Pond</td>
<td>Bufflehead</td>
<td>2</td>
<td>Females</td>
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<tr>
<td>10/28/02</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>6</td>
<td>1 male, 5 females</td>
</tr>
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<td>11/04/02</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>4</td>
<td>2 males, 2 females</td>
</tr>
<tr>
<td>11/18/02</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>3</td>
<td>Females</td>
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<td>Ice House Reservoir</td>
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<td>6</td>
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<td>Bufflehead</td>
<td>10</td>
<td>5 in Jones Fk; 4 m. &amp; 1 f. in Cam. Cove. In courtship flight</td>
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<td>02/06/03</td>
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<td>Bufflehead</td>
<td>Several</td>
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<tr>
<td>03/26/03</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>4</td>
<td>Courtship flight with 3 males</td>
</tr>
</tbody>
</table>

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## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/26/03</td>
<td>Union Valley Reservoir</td>
<td>Bufflehead</td>
<td>2</td>
<td>Male-female pair at Fashoda Beach</td>
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<tr>
<td>03/27/03</td>
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<td>Bufflehead</td>
<td>2</td>
<td>Male-female pair</td>
</tr>
<tr>
<td>04/08/03</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>20+</td>
<td>About equal numbers of both sexes and some pairs</td>
</tr>
<tr>
<td>04/08/03</td>
<td>Loon Lake</td>
<td>Bufflehead</td>
<td>Several</td>
<td></td>
</tr>
<tr>
<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>Bufflehead</td>
<td>13</td>
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<tr>
<td>04/22/03</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>7</td>
<td>3 males, 4 females</td>
</tr>
<tr>
<td>05/06/03</td>
<td>Union Valley Reservoir</td>
<td>Bufflehead</td>
<td>6</td>
<td>4 males, 2 females</td>
</tr>
<tr>
<td>05/07/03</td>
<td>Wood Duck Pond</td>
<td>Bufflehead</td>
<td>1</td>
<td>Male</td>
</tr>
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<td>Bufflehead</td>
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<td>Pairs</td>
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<td>Bufflehead</td>
<td>9</td>
<td>4 males, 5 females</td>
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<tr>
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<td>4</td>
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<tr>
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<td>Bufflehead</td>
<td>4</td>
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<td>Bufflehead</td>
<td>2</td>
<td>Males</td>
</tr>
<tr>
<td>06/03/03</td>
<td>Gerle Creek Reservoir</td>
<td>Bufflehead</td>
<td>1</td>
<td>Male</td>
</tr>
<tr>
<td>10/07/03</td>
<td>Union Valley Reservoir</td>
<td>Bufflehead</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>05/14/02</td>
<td>Robbs Powerhouse</td>
<td>California ground squirrel</td>
<td>1</td>
<td>Road kills</td>
</tr>
<tr>
<td>10/28/02</td>
<td>Ice House Road</td>
<td>California ground squirrel</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11/18/02</td>
<td>Ice House Road</td>
<td>California ground squirrel</td>
<td>1</td>
<td></td>
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<tr>
<td>02/04/03</td>
<td>Ice House Reservoir</td>
<td>California gull</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Various</td>
<td>Lower Transmission Line</td>
<td>California myotis</td>
<td>1</td>
<td>See Technical Report on Bats</td>
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<tr>
<td>Various</td>
<td>California quail</td>
<td>California spotted owl</td>
<td>3</td>
<td>Including 1 gosling</td>
</tr>
<tr>
<td>Various</td>
<td>California quail</td>
<td>California spotted owl</td>
<td>1</td>
<td>Swimmin in canal. Tracks on levee.</td>
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<tr>
<td>05/14/02</td>
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<td>Canada goose</td>
<td>3</td>
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<td>Canada goose</td>
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<td>Grazing in shallow water at Camino Cove</td>
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<td>Canada goose</td>
<td>65</td>
<td>Scat along Gerle Canal</td>
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<td>Canada goose</td>
<td>320</td>
<td>Granlee's Point Cove</td>
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<td>Canada goose</td>
<td>3</td>
<td>2 adults with 1 gosling</td>
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<tr>
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<td>Canada goose</td>
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<td>06/19/02</td>
<td>Gerle Creek Reservoir</td>
<td>Canada goose</td>
<td>3</td>
<td>Adults feeding in meadow east of Camino Cove CG</td>
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<td>Canada goose</td>
<td>60-70</td>
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<td>Gerle Creek Reservoir</td>
<td>Canada goose</td>
<td>5</td>
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Valley Elderberry Longhorn Beetle Technical Report
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## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tbody>
<tr>
<td>03/27/03</td>
<td>Union Valley Reservoir</td>
<td>Canada goose</td>
<td>5</td>
<td>2 pairs and a single</td>
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<td>04/08/03</td>
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<td>8</td>
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<tr>
<td>04/08/03</td>
<td>Ice House Reservoir</td>
<td>Canada goose</td>
<td>1</td>
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<tr>
<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>Canada goose</td>
<td>22+/−</td>
<td>Scattered around north shore coves</td>
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<td>Canada goose</td>
<td>Several</td>
<td>Heard only</td>
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<tr>
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<td>Canada goose</td>
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<td>Mostly pairs around Camino Cove</td>
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<td>Gerle Canal</td>
<td>Canada goose</td>
<td>2</td>
<td>Pair</td>
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<td>Loon Lake</td>
<td>Canada goose</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>05/07/03</td>
<td>Ice House Reservoir</td>
<td>Canada goose</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>05/20/03</td>
<td>Loon Lake</td>
<td>Canada goose</td>
<td>10</td>
<td>8 in Pleasant arm</td>
</tr>
<tr>
<td>05/21/03</td>
<td>Loon Lake</td>
<td>Canada goose</td>
<td>2</td>
<td></td>
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<td>Canada goose</td>
<td>4</td>
<td>2 pair</td>
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<td>Canada goose</td>
<td>303</td>
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<tr>
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<td>Ice House Reservoir</td>
<td>Canada goose</td>
<td>36</td>
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<td>Canada goose</td>
<td>53</td>
<td>Including 1 gosling</td>
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<tr>
<td>06/19/03</td>
<td>Gerle Creek Reservoir</td>
<td>Canada goose</td>
<td>4</td>
<td>Adults being fed by campers</td>
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<td>Canada goose</td>
<td>80</td>
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<td>Ice House Reservoir</td>
<td>Canada goose</td>
<td>24</td>
<td>Including 4 YOY</td>
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<td>Loon Lake</td>
<td>Canada goose</td>
<td>26</td>
<td></td>
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<td>Union Valley Reservoir</td>
<td>Canada goose</td>
<td>40</td>
<td>One with black on white neck collar #2/38</td>
</tr>
<tr>
<td>05/15/02</td>
<td>Jaybird Springs Road</td>
<td>Canyon wren</td>
<td>1</td>
<td></td>
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<tr>
<td>05/14/02</td>
<td>Robbs Powerhouse</td>
<td>Cassins finch</td>
<td>4</td>
<td>Non-breeding plumage</td>
</tr>
<tr>
<td>09/23/02</td>
<td>Ice House Road</td>
<td>Chipmunk sp</td>
<td></td>
<td>Road kills</td>
</tr>
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<td>Chipmunk sp</td>
<td></td>
<td></td>
</tr>
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<td>Chipping sparrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07/08/02</td>
<td>Various</td>
<td>Chipping sparrow</td>
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<td></td>
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<td>07/09/02</td>
<td>Union Valley Reservoir</td>
<td>Chipping sparrow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05/06/03</td>
<td>Peavine Ridge Road</td>
<td>Chipping sparrow</td>
<td></td>
<td></td>
</tr>
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<td>07/28/03</td>
<td>Union Valley Reservoir</td>
<td>Chipping sparrow</td>
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<td></td>
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<tr>
<td>06/17/03</td>
<td>Union Valley Reservoir</td>
<td>Cinnamon teal</td>
<td>2</td>
<td>Pair in cove east of Camino Cove</td>
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<tr>
<td>05/15/02</td>
<td>Jaybird Springs Road</td>
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<td>Nesting beneath crane facility</td>
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<tr>
<td>05/15/02</td>
<td>White Rock Powerhouse</td>
<td>Cliff swallow</td>
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</table>
## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date (YR-MO-DY)</th>
<th>General Location</th>
<th>Species</th>
<th>Number</th>
<th>Comments</th>
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<tr>
<td>07/10/02</td>
<td>Jaybird Springs Road</td>
<td>Common bushtit</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>02/04/03</td>
<td>Ice House Reservoir</td>
<td>Common goldeneye</td>
<td>3</td>
<td>Females</td>
</tr>
<tr>
<td>03/26/03</td>
<td>Gerle Creek Reservoir</td>
<td>Common goldeneye</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12/30/02</td>
<td>Union Valley Reservoir</td>
<td>Common loon</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>05/07/03</td>
<td>Loon Lake</td>
<td>Common loon</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>05/07/03</td>
<td>Ice House Reservoir</td>
<td>Common loon</td>
<td>1</td>
<td></td>
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<tr>
<td>05/14/02</td>
<td>Gerle Creek Reservoir</td>
<td>Common merganser</td>
<td>30-50</td>
<td></td>
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<tr>
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<td>Union Valley Reservoir</td>
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<td>1 female with 9 YOY</td>
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<td>2 females near dam</td>
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<td>1 female with 9 YOY</td>
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<tr>
<td>06/26/02</td>
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<tr>
<td>09/16/02</td>
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<td>Common merganser</td>
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<td></td>
</tr>
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<td>10/01/02</td>
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<td>Common merganser</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10/28/02</td>
<td>Loon Lake</td>
<td>Common merganser</td>
<td>2</td>
<td>Male-female pair</td>
</tr>
<tr>
<td>11/04/02</td>
<td>Loon Lake</td>
<td>Common merganser</td>
<td>2</td>
<td>Male-female pair</td>
</tr>
<tr>
<td>11/11/02</td>
<td>Loon Lake</td>
<td>Common merganser</td>
<td>2</td>
<td>Males</td>
</tr>
<tr>
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<td>Gerle Creek Reservoir</td>
<td>Common merganser</td>
<td>2</td>
<td>Males</td>
</tr>
<tr>
<td>11/18/02</td>
<td>Gerle Creek Reservoir</td>
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<td>1</td>
<td>Female perched on log boom then flew to north end</td>
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<td>11/18/02</td>
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<td>Common merganser</td>
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<td>Males</td>
</tr>
<tr>
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<td>Gerle Creek Reservoir</td>
<td>Common merganser</td>
<td>1</td>
<td>Male</td>
</tr>
<tr>
<td>12/30/02</td>
<td>Union Valley Reservoir</td>
<td>Common merganser</td>
<td>1</td>
<td>Female</td>
</tr>
<tr>
<td>02/04/03</td>
<td>Ice House Reservoir</td>
<td>Common merganser</td>
<td>1</td>
<td>Male</td>
</tr>
<tr>
<td>02/04/03</td>
<td>Union Valley Reservoir</td>
<td>Common merganser</td>
<td>5</td>
<td>Females</td>
</tr>
<tr>
<td>02/06/03</td>
<td>Union Valley Reservoir</td>
<td>Common merganser</td>
<td>Several</td>
<td></td>
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<tr>
<td>03/26/03</td>
<td>Gerle Creek Reservoir</td>
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<td>Females</td>
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<tr>
<td>04/08/03</td>
<td>Ice House Reservoir</td>
<td>Common merganser</td>
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<tr>
<td>04/09/03</td>
<td>Union Valley Reservoir</td>
<td>Common merganser</td>
<td>8</td>
<td>Scattered around north shore coves</td>
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<tr>
<td>05/06/03</td>
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<td>Common merganser</td>
<td>4</td>
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## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/07/03</td>
<td>Loon Lake</td>
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<td>Common merganser</td>
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<td>5 males, 5 females</td>
</tr>
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<td>2</td>
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<td>1</td>
<td>Female</td>
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<td>Common merganser</td>
<td>2</td>
<td>Females</td>
</tr>
<tr>
<td>06/17/03</td>
<td>Ice House Reservoir</td>
<td>Common merganser</td>
<td>11</td>
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<td>Common merganser</td>
<td>11</td>
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<td>07/17/03</td>
<td>Gerle Creek Canal</td>
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<td>7</td>
<td>1 female with 6 YOY about 300 yards n. of Forebay</td>
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<td>16</td>
<td>Including 10 YOY</td>
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<td>Common poornight</td>
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<tr>
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<td>Common raven</td>
<td>5</td>
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<tr>
<td>10/22/03</td>
<td>Iowa Hill</td>
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<td>20</td>
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<td>07/09/02</td>
<td>Union Valley Reservoir</td>
<td>Coyote</td>
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### APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
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<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tbody>
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<td>10/07/02</td>
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<td>Coyote</td>
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<td>Coyote</td>
<td></td>
<td>Tracks</td>
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<td>05/15/02</td>
<td>Jaybird Springs Road</td>
<td>Dark-eyed junco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06/10/02</td>
<td>Various</td>
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</tr>
<tr>
<td>06/12/02</td>
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<td>Dark-eyed junco</td>
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<td>07/08/02</td>
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<td>Nest with young in meadow east of Camino Cove CG</td>
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<td>Iowa Hill</td>
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<td>10/22/03</td>
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<td>Road kills</td>
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<td>2</td>
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<td>Douglas squirrel</td>
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<td>Douglas squirrel</td>
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<td>Duck sp.</td>
<td>12</td>
<td>Too distant to identify but probably Common mergansers</td>
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<td>Fox sparrow</td>
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# APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

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<tr>
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<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tbody>
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<td>Various</td>
<td>Fringed myotis</td>
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<td>Golden-crowned kinglet</td>
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<td>Golden-mantled ground squirrel</td>
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<td>05/24/01</td>
<td>South Fork Silver Creek</td>
<td>Great blue heron</td>
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<td>Observed during helicopter reconnaissance</td>
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<td>Great blue heron</td>
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<td>Camino cove</td>
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<td>Great blue heron</td>
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<tr>
<td>10/21/02</td>
<td>Chili Bar Reach</td>
<td>Great blue heron</td>
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<td>Great blue heron</td>
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<td>07/28/03</td>
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<td>4</td>
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<td>Ice House Reservoir</td>
<td>Great blue heron</td>
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<td>On south shore</td>
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<td>Pleasant area</td>
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<td>Road 12N0XA</td>
<td>Hairy woodpecker</td>
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<td>Hermit thrush</td>
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<td>Union Valley Reservoir</td>
<td>Hermit warbler</td>
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<tr>
<td>Various</td>
<td>Lower Transmission Line</td>
<td>House finch</td>
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<td>05/06/03</td>
<td>Union Valley Reservoir</td>
<td>Killdeer</td>
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<td>06/19/03</td>
<td>Loon Lake</td>
<td>Killdeer</td>
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<td>Kinglet sp.</td>
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## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tbody>
<tr>
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<td>Kinglet sp.</td>
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<td>Lesser scaup</td>
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<td>Jones Fork arm</td>
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<tr>
<td>06/12/02</td>
<td>Various</td>
<td>Lewis' woodpecker</td>
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<td>MacGillvray's warbler</td>
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<td>MacGillvray's warbler</td>
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<td>Mallard</td>
<td></td>
<td>Several in eclipse plumage</td>
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<tr>
<td>06/17/02</td>
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<td>Mallard</td>
<td>25</td>
<td>Including 18 YOY</td>
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<tr>
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<td>Bufflehead Pond</td>
<td>Mallard</td>
<td>1</td>
<td>female</td>
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<td>1 male - 1 female</td>
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<td>Camino cove</td>
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<td>03/27/03</td>
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<td>Mallard</td>
<td>13</td>
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<td>Male</td>
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<td>04/09/03</td>
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<td>36</td>
<td>Many pairs and at least one flock of 27 flying</td>
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<td>Mallard</td>
<td>6</td>
<td>3 pairs</td>
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<td>23</td>
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<td>2</td>
<td>Pair</td>
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### APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tr>
<td>06/13/02</td>
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<td>Iowa Hill</td>
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<td>06/13/02</td>
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<td>Mule deer</td>
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<td>Adult crossed road 0.2 mi east of Loon Lake dump station</td>
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<td>11/25/02</td>
<td>Highway 50</td>
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<td>Road kill. Small buck with 2-in antlers in velvet</td>
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<td>Mule deer</td>
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<td>3-point buck near edge of clear-cut on NE side of area</td>
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<td>Iowa Hill</td>
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<td>05/06/03</td>
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<td>05/13/03</td>
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<td>10/22/03</td>
<td>Iowa Hill</td>
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<td>1</td>
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<td>Oak titmouse</td>
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<tr>
<td>05/14/02</td>
<td>Jones Fork Powerhouse</td>
<td>Osprey</td>
<td></td>
<td>Active nest about 150-200 m east of powerhouse</td>
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## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

<table>
<thead>
<tr>
<th>Date</th>
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<td>Nests near Ice House Road and near end of road</td>
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<td>06/26/02</td>
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<tr>
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<td>Osprey</td>
<td>2</td>
<td>Near Pleasant CG</td>
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<tr>
<td>07/15/02</td>
<td>Loon Lake</td>
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<td>1</td>
<td>Foraging near PH and flying westward with fish</td>
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<td>Osprey</td>
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<td>Flying over big hill to the northeast</td>
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<tr>
<td>05/03/03</td>
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<td>Osprey</td>
<td>3</td>
<td>Pair in Jones Fork arm and 1 on Ice House Rd. nest</td>
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<td>Osprey</td>
<td>4</td>
<td>Nests at various locations</td>
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<td>2</td>
<td>Adding sticks to nest near road</td>
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<td>05/20/03</td>
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<td>Osprey</td>
<td>1</td>
<td>Foraging</td>
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<td>Incubating on nest along south shore in burn area</td>
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<td>Osprey</td>
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<td>06/19/03</td>
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<td>Osprey</td>
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<td>Osprey</td>
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<td>Several Nestlings in at least 2 nests</td>
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<td>Osprey</td>
<td></td>
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<td>07/29/03</td>
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<td>Osprey</td>
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<td>06/14/02</td>
<td>Jaybird Springs Road</td>
<td>Pacific-slope flycatcher</td>
<td>2</td>
<td>South shore near burn area and Sunset beach</td>
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<tr>
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<td>Jaybird Springs Road</td>
<td>Pacific-slope flycatcher</td>
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<td>Union Valley Reservoir</td>
<td>Pied-billed grebe</td>
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<td>South shore near burn area and Sunset beach</td>
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<td>Union Valley Reservoir</td>
<td>Pied-billed grebe</td>
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<tr>
<td>06/11/02</td>
<td>Gerle Dam Access Road</td>
<td>Pileated woodpecker</td>
<td>1</td>
<td>Responded in agitated manner to goshawk call</td>
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</table>
## APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

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<thead>
<tr>
<th>Date</th>
<th>General Location</th>
<th>Species</th>
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<td>Pileated woodpecker</td>
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<td>Jaybird Springs Road</td>
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<td>06/18/02</td>
<td>Wentworth Springs</td>
<td>Pine grosbeak</td>
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<td>Pygmy owl</td>
<td>Heard only</td>
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<td>Union Valley Reservoir</td>
<td>Raccoon</td>
<td>Tracks</td>
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<td>Red crossbill</td>
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<td>Red-breasted nuthatch</td>
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<td>04/08/03</td>
<td>Ice House Road</td>
<td>Red-breasted nuthatch</td>
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<td>Union Valley Reservoir</td>
<td>Red-breasted nuthatch</td>
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<td>11/25/03</td>
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<td>Red-breasted nuthatch</td>
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<tr>
<td>N/A</td>
<td>Ice House Road</td>
<td>Red-breasted sapsucker</td>
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<td>N/A</td>
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<td>Red-shouldered hawk</td>
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<td>06/11/02</td>
<td>Gerle Canal</td>
<td>Red-tailed hawk</td>
<td>2</td>
<td>Soaring above canal</td>
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<td>Red-tailed hawk</td>
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<td>Near Robbs Peak PH</td>
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<td>Red-tailed hawk</td>
<td>4</td>
<td>Juvenile near osprey nest in Dam Grove; 1 ad. In Camino</td>
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<td>Ring-necked duck</td>
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<td>11/11/02</td>
<td>Highway 50</td>
<td>Ringtail</td>
<td>1</td>
<td>Road kill on Hwy 50 1.7 miles west of Fresh Pond</td>
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<td>South Fork American River</td>
<td>River otter</td>
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<td>Camino Powerhouse</td>
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<td>Ruby-crowned kinglet</td>
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</tbody>
</table>
### APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

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<tr>
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<th>General Location</th>
<th>Species</th>
<th>Number Seen</th>
<th>Comments</th>
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<tr>
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<td>Gerle Creek Reservoir</td>
<td>Ruddy duck</td>
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<td>Near cleveland corral</td>
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<td>Snowshoe hare</td>
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<td>On road between Camino Cove and Wolf Creek CG</td>
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<th>Date</th>
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<tr>
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<td>Western gray squirrel</td>
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<td>Road kills</td>
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<td>Western kingbird</td>
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<td>Western meadowlark</td>
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</tr>
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<td>Various</td>
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<td></td>
<td></td>
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<td>Iowa Hill</td>
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<tr>
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<td>Various</td>
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<td>Wilson's warbler</td>
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<td>11/25/02</td>
<td>Union Valley Tunnel Adit</td>
<td>Winter wren</td>
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### APPENDIX C. INCIDENTAL OBSERVATIONS OF 140 +/- BIRDS AND MAMMALS DURING UARP RELICENSING STUDIES, 2002-2003

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<th>Date</th>
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<td>2</td>
<td>Male-female pair</td>
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<td>Wood duck</td>
<td>2</td>
<td>Male-female pair</td>
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<td>2</td>
<td>Pair</td>
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<td>Junction Reservoir</td>
<td>Wood duck</td>
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<td>Male in non-breeding plumage</td>
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<td>Yellow-headed blackbird</td>
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<td>Gerle Creek Reservoir</td>
<td>Yellow-rumped warbler</td>
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<td>Yuma myotis</td>
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