Pre-Construction Nesting Bird Surveys and Protective Measures

for the

Eight Mile Valley Sediment Reduction and Habitat Enhancement Project

Prepared for:

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Abbreviations and Acronyms

BLM	Bureau of Land Management
CDFW	California Dept. of Fish and Wildlife
EIR	Environmental Impact Report
ESA	Environmentally Sensitive Area
LCRCD	Lake County Resource Conservation District
MBTA	Migratory Bird Treaty Act
NSO	Northern Spotted Owl
T&E	Threatened and Endangered Species
USFWS	U.S. Fish & Wildlife Service

Introduction

Project Identification

The Eightmile Valley Sediment Reduction and Habitat Enhancement Project, Phase I is designed to reduce sediment transport to Clear Lake, stabilize and restore channel geomorphology, and enhance/restore habitat value to the degraded meadow/riparian ecosystem. This will be accomplished through realignment and stabilization of existing stream channels, stream bank stabilization with the use of biocontrol plantings, revegetation, and erosion control Management Practices. This will be accomplished with heavy equipment cutting and filling the existing channel and constructing grade control structures with rock to slow water, trap sediment and protect the stream bed. This work has the potential to disrupt wildlife in the areas where the work will be performed.

The Lake County Resource Conservation District is responsible for the implementation of this plan.

Pre-construction nesting bird surveys will be conducted for migratory birds and raptors within the construction footprint of the project. The survey area for active bird nests will include areas where vegetation removal and disturbance are necessary. When an active nest of a protected species is detected, a "buffer" area (100 feet for non-raptors and 1,320 feet for raptors) will be designated until the nestlings have fledged. In addition, survey coverage will include a search of suitable nesting habitats within a buffer zone (100 feet for non-raptors and 1,320 feet for raptors) directly adjacent to project boundaries. Any active nest of a protected species detected within the project footprint or its adjacent buffer will receive a protective buffer radius around the nest tree as per consultation guidelines described in the Measures Undertaken for Active Bird Nests Section of this document. Nesting Bird Surveys will be conducted prior to the commencement and during project construction beginning February 2018.

Surveys were conducted in April and July, 2018 and again in May and August 2019. No active nests were observed directly in the areas slated for construction in Eight Mile Valley.

Construction will be performed after September 16, 2019 following the end of nesting season.

Regulatory Setting and Monitoring Methodology

Regulations Protecting Nesting Birds

The Federal Migratory Bird Treaty Act (16 USC §703-711.), 50 CFR 10, and Fish & Game Code §3503, §3513, and §3800, protect migratory and nongame birds, their occupied nests, and their eggs. The Federal Endangered Species Act of 1973 (16 USC §1531, §1543) and California Endangered Species Act (Fish & Game Code §2050-§2115.5) prohibit the take of listed species and protect occupied and unoccupied nests of threatened and endangered bird species. The Bald Eagle Protection Act (16 USC §668) prohibits the destruction of bald and golden eagles occupied and unoccupied nests.

California Fish and Game Code 3503 - It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

California Fish and Game Code 3513 - It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act.

Environmental Permits Documents Required for the Project

CDFG 1602, Condition 2.8 - To avoid disturbance to nesting white-tailed kites and other raptors, a qualified biologist shall conduct pre-construction field surveys during the courtship period (February) to identify nesting territories within ¼ mile of the Project alignment. If active nests are identified within ¼ mile of the alignment, a no-construction buffer will be established around the nest until the young have successfully fledged. No take of white-tailed kites or other raptors, including their nests, eggs, or young is authorized by this Agreement.

USFWS, Biological Opinion Conservation Measure 6 - Nesting or attempted nesting by migratory birds is anticipated to occur but is not limited to February 1 through September 15. Tree felling, as part of vegetation removal, shall be restricted to between September 16 and March 31 to the greatest extent feasible. Actual removal of down logs and vegetation is likely to occur outside of the primary rainy season.

EIR (BIO-14) - Migratory Bird Treaty Act: To comply with the provisions of the Migratory Bird Treaty Act, vegetation required for removal will be removed or trimmed during the fall and/or winter months, to the extent possible, to avoid impacts to nesting birds. If vegetation cannot be removed during the non-breeding season, BLM will arrange to have a qualified biologist conduct preconstruction surveys of impact areas to check for nesting activity of all bird species. If nesting activity is detected, BLM/LRCD will, if possible, establish a Final Pre-Construction Nest Bird Protocol buffer around the nest(s). The buffer width would be determined through consultation with USFWS and CDFG. The buffer will be maintained and construction activities will avoid nest sites until the biologist determines that the young have fledged or nesting activity has ceased. The United States Department of the Interior, USFWS issued a policy guidance document (The Migratory Bird Permit Memorandum, April 15, 2003) to clarify the definition of „take" relative to nests protected under the Migratory Bird Treaty Act .The document states that, "The MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction." By definition, this would allow for the removal of partially constructed or unoccupied nests.

Monitoring Methodology in the Project Footprint and 100 ft Buffer

For construction activities that occur during the bird nesting season (February 1 – September 15) a CDFW approved biologist will survey the anticipated construction work areas including a 100 foot buffer. Surveys will be conducted prior to any construction activity and within three calendar days of the commencement of such activity. Prior to surveys, a comprehensive list of bird species with potential to nest in the area will be reviewed (see Table 1, Appendix A). This list identifies the specific and preferred habitats where nesting is generally expected to occur and categorized by the following nesting habitats: grassland (ground nesting), shrubland, tree, and structure (cavity). Surveys will consist of walking transects as well as a Sit and Scope (survey station) component that will be spaced accordingly to allow complete visual coverage of all habitats including: open fields, barren areas, manmade structures (e.g., bridges), riparian corridors, wooded areas and brush dominated ground cover within, and adjacent to, the project area that could support nesting birds. Appropriate spacing

will ultimately be determined by the biologist in the field, but the following guidelines will be implemented to ensure adequate coverage of habitats:

* 100-300 Feet for open grasslands

* <25-50 Feet for areas with dense brush or shrubs

<25 Feet as needed for a dense stand of trees or very dense vegetation

The biologist will spend 5-10 minutes at each survey station recording all birds seen and heard, including flyovers (flyovers should be noted as such).

When breeding or nesting activities are suspected or observed, the surveyor will spend additional time watching the activity (with the aid of binoculars when appropriate) to determine the status of the observed activity. The following behaviors are indicators that an active nest may be present:

1. Carrying material to build nests within the survey area
2. Copulations
3. Carrying food or feeding young
4. Carrying fecal sacks away from nest
5. Mate-feeding; repeated “bee-line” flying to likely nest site
6. Observation of nest
7. Observation of chicks
8. Females giving call or chip notes alerting their mate that they are off the nest
9. Auditory evidence of chicks

When conducting walking transects between survey stations an “Active Nest Search" component will be implemented and would consist of a thorough walk-through documented search of all vegetation including trees, shrubs, grasslands, down trees as well as standing snags for active nests in the proposed disturbance area. This will also include actively searching for low-level, ground, cavity and tree nests in the vegetation proposed for disturbance. For example, cavity nesting "Active Nest Searches" would include searching/inspecting all relevant local features: barns and structures, suitable tree holes and cavities and may require an extension pole with mirror to make a determination. If any nests are discovered, it will quickly be determined whether they are actively being used or not. If there is inconclusive evidence to determine whether the nest is being actively utilized, it may be necessary to conduct additional surveys. Up to three additional survey events of the nest itself, up to 2 hours each, will be conducted to document the nest is not active.

The location of any confirmed active nest of a protected species will be included in the daily survey log and then flagged in the field. The survey log(s) and a map illustrating the location of the nest will be submitted to the BLM biologist and then sent to the CDFW staff for review. Daily survey logs will include:

1. Observer

2. Date of Survey

3. Survey Start and End times

4. Species observed

5. Weather conditions

6. Description of nests observed

7. Description of survey location

8. Description of vegetative habitat(s)

9. Map of survey station locations and active nest search routes

10. Description of the developmental stage of juvenile birds observed and the anticipated fledge date

The requirements of the pre-construction survey protocol consist of:

- Surveys shall be conducted no more than 3 days prior to vegetation clearing

- Survey areas will be defined by Construction Schedule and will be conducted prior to any ground disturbance, vegetation or tree removal activities that could result in take of migratory birds or raptors during the nesting season

- 3 surveys will be conducted to determine the presence of active nests within each designated construction area

- A survey within the boundaries of a designated area is defined as:

1. Occurring one-half hour before sunrise and for up to four hours after sunrise

2. Occurring within four hours before sunset and into the evening for a minimum of

one-half hour for owls

3. If a nest is located within the survey area, it will be surveyed up to three additional

2- hour surveys to determine whether it is being actively utilized

- Observation routes (or stations) will be placed in the best possible locations to hear or see bird activity

- Surveys will observe breeding behavior and activity of all bird species. Species that are anticipated to have some potential to occur within the survey area include those identified in Table 1, Appendix A.

Monitoring Methodology - Additional Raptor Surveys

Additional surveys for raptors will include the project foot print and a ¼ mile buffer, as deemed necessary by USFWS. This survey will be necessary to determine presence or absence of owl species and other raptors within the ¼ mile buffer.

Raptor Scan Surveys

Observation points for raptor scan surveys will be strategically placed at sites with an open view of the horizon including the project foot print and ¼ mile buffer, where habitat for breeding raptors has been identified. These surveys will include areas that are anticipated to receive impacts and the associated buffer. Surveys will be conducted in a manner to avoid entering private property unless permission has been granted by the property owner.

A species list will be generated during the surveys and will include mapped areas where raptors are observed landing in the project footprint and ¼ mile buffer.

Areas where raptors are observed landing within the project foot print and ¼ mile buffer, will require a follow-up stand search to determine if nests are present in the area.

Surveys shall not be conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather that individually or collectively reduces the likelihood of detection.

All nests will be observed for occupation status and species use, active nests will be flagged and protected accordingly. Active nests are nests that contain eggs and or chicks that haven't fledged

Owl Species

- Audible (calls) surveys will be conducted in the later part of the evening surveys for non-T&E listed species of owls, including:

1. Northern Pygmy Owl
2. Great Horned Owl
3. Long-eared Owl
4. Flammulated Owl

- All birds observed by the biologist(s) will be recorded each day.
- Surveys shall not be conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather that individually or collectively reduce the likelihood of detection.
- All detections will be further investigated for occupation status and species use, active nests will be flagged and protected accordingly. Active nests are nests that contain eggs and or chicks that haven't fledged

Pre-construction Nesting Bird Survey Reporting and Nest Protection

All field data will be submitted to BLM in a timely manner. LCRCD will provide BLM a copy of all field data including: the survey maps, field notes, and observation forms used during preconstruction bird surveys. LCRCD will transmit these results to BLM. BLM will then forward by 1 p.m. the preceding day's field data to CDFW for review. In locations where all 3 protocol surveys have been completed and no nests were found, LCRCD and the contractor may conduct vegetation or ground-disturbing activities beginning the following day unless CDFW responds to survey results before then.

In areas where nests are determined to be active by the above stated Monitoring Methodology, a Nest Protection Plan will be developed in consultation with the Department Environmental Liaison and CDFW. Nest Protection Plans will be submitted to CDFW for final approval.

Measures Undertaken for Active Bird Nests

A. The Department Environmental Liaison will be contacted within one business day of discovery of a nesting bird, as LCRCD may choose to initiate coordination with wildlife regulatory agencies, CDFW and/or USFWS.

B. If a bird is observed nesting within 100 feet (non-raptor) or 1,320 feet (raptor species) of the nearest (or projected) work site, the Biologist will prepare a Nest Protection Plan that will be reviewed by the Department Environmental Liaison and submitted to CDFW for view and approval.

C. During the development of the monitoring plan, the nesting area and buffer area will be avoided. An ESA will be implemented immediately for the nesting site. The ESA will include the active nesting site and an additional buffer of 100 feet for non-raptor species or 1,320 feet for raptors, unless otherwise determined by the CDFW that this buffer can be decreased or increased to adequately protect the active nest. The adequacy of buffer widths varies with species discovered and circumstances of the construction area.

D. The ESA will not be entered until:

1. Department Environmental Liaison has agreed to the monitoring plan or

2. The Biologist has determined that the juvenile birds have fully fledged and left the area or,

3. The nest has failed and the area has been resurveyed to verify the absence of bird species involved in any process of the breeding cycle.

E. Avoidance and minimization measures may be adjusted only after consultation with Department Environmental Liaison (for all protected species).

F. The Biologist will monitor the construction of all ESAs to ensure proper placement and buffer area inclusion.

G. The Biologist will survey the ESAs weekly to ensure the integrity of the structures and their effectiveness in keeping people, vehicles, or equipment out of the sensitive area.

Indications of significant disturbance to nesting birds that fall within the ESA may generate further consultation with the Department Environmental Liaison. On a case-by-case basis, the adequacy of buffer widths will be

addressed with input from the Biologist. Buffer widths may be adjusted following consultation with the Department Environmental Liaison and/or CDFW/USFWS (for threatened or endangered species).

Construction Compliance Reporting

Prior to construction, all areas will be cleared and buffers will be in place to protect occupied nests, as required by the nest protection plan. Pre-construction nesting bird surveys will have been completed prior to the initiation of construction (see Preconstruction Nesting Bird Surveys Reporting and Nest Protection). Construction compliance reporting will be forwarded to the Department Environmental Liaison for review and to document compliance.

Reports will contain:

1. A list of dates during which monitoring activities were conducted.

2. Surveyors name(s), survey/monitoring date and time period, and areas

surveyed/monitored.

3. A summary of construction activity in the survey/monitoring area.

4. A summary of all bird avoidance and impact minimization measures implemented at the site(s), if applicable.

5. The location and status of observed nests, as well as activities that indicate possible or probable nesting.

6. An account of any disturbance or incidental take of threatened/endangered species/species of special concern during construction (take applies to threatened/endangered species only).

7. A list of potential compliance issues and the resolution or status of each issue.

LCRCD Construction Personnel Responsibilities

A. Construction personnel will be required to attend training that specifies their responsibilities regarding avoidance and minimization measures required for sensitive bird species or any nesting bird prior to starting work on the project.

B. Should the contractor's workers encounter an active bird nest in the construction area, they are required to notify the Biologist, or Supervisor before any action is taken that might impact the bird. Construction will commence only after the adequate protection measures have been implemented and the Biologist has given permission for the resumption of work.

C. Construction personnel immediately will notify the Biologist if any injured bird species are encountered. The Department Environmental Liaison will notify other responsible agencies (USFWS and/or CDFW) as necessary if any injured bird species are encountered.

D. The Superintendent may inform construction personnel that work must be halted to address restrictions necessary to prevent impacts to nesting birds.

E. Construction personnel may not enter established ESAs for any reason.

Appendix A

Potential Bird Species in Eight Mile Valley

Table # 1

Potential Bird Species in Eight Mile Valley

Table # 1 Potential Bird Species in the Little Lake Valley				
	Common Name	**Scientific Name**	**Preferred Nesting Habitat**	
AMBI	American bittern	*Botaurus lentiginosus*	Above waterline in dense cattail and bulrush marshes	
GBHE	Great blue heron	*Ardea herodias*	In a tree, snag, tall bush or marsh vegetation	
GRHE	Green heron	*Butorides virescens*	In a tree or shrub very close to water	
	Table # 1 **Potential Bird Species in the Eight Mile Valley**			
	Common Name	*Scientific Name*	Preferred Nesting Habitat	
WODU	Wood duck	*Aix sponsa*	In a natural hollow, tree cavity or nest box, 30' above the ground and near water	
EGWT	Green-winged teal	*Anas crecca*	Well concealed in tall vegetation	
MALL	Mallard	*Anas platyrhynchos*	Tall vegetation or under a bush, often near water	
NOPI	Northern pintail	*Anas acuta*	Small depression in vegetation, usually near water	
CITE	Cinnamon teal	*Anas cyanoptera*	Tall vegetation, occasionally far from water	
EUWI	Eurasian wigeon	*Anas penelope*	In Europe and Asia	
AMWI	American wigeon	*Anas americana*	On ground, far from water	
COGO	Common goldeneye	*Bucephala clangula*	In cavity at edge of water	

BUFF	Bufflehead	*Bucephala albeola*	Usually in an abandoned woodpecker cavity, natural tree cavity or nest box near water	
HOME	Hooded merganser	*Lophodytes cucullatus*	In forested regions of northwestern U.S.	
COME	Common merganser	*Mergus merganser*	Often in tree cavity 15-20 ft. high; occasionally on the ground, under a bush or log, on a cliff ledge or in a large nest box	
RUDU	Ruddy duck	*Oxyura jamaicensis*	In cattails, bulrushes or other emergent vegetation; occasionally on a muskrat lodge or a log	

TUVU	Turkey vulture	*Cathartes aura*	Bare ground, among boulders, in hollow trees or on forest floor
OSPR	Osprey	*Pandion haliaetus*	Exsposed treetops, utility poles, transmission towers, beacons or pilings, 10-250 ft high. observed
WTKI	White-tailed kite	*Elanus leucurus*	In a tree, often an oak, well above the ground. observed
BAEA	Bald eagle	*Haliaeetus leucocephalus*	Usually in trees bordering lakes or large rivers. observed
NOHA	Northern harrier	*Circus cyaneus*	On the ground, often on a mound, usually in shrubs, cattails or tall vegetation. observed
SSHA	Sharp-shinned hawk	*Accipiter striatus*	Stick or twig nest is usually built each year, may remodel an abandoned crow nest. observed
COHA	Cooper's hawk	*Accipiter cooperii*	In the fork of a tree, often in outer branches
RSHA	Red-shouldered hawk	*Buteo lineatus*	Within the canopy of trees well above the ground

RTHA	Red-tailed hawk	*Buteo jamaicensis*	Usually in woodlands adjacent to open fields or shrublands; in a fork at the crown of a deciduous tree, or occasionally a coniferous tree or cliff
GOEA	Golden eagle	*Aquila chrysaetos*	On a cliff ledge or in a tall tree overlooking open hunting habitat
AMKE	American kestrel	*Falco sparverius*	In a natural cavity or an abandoned woodpecker cavity; may use old magpie or crow nest
MERL	Merlin	*Falco columbarius*	On cliff ledges and in cavities
PEFA	Peregrine falcon	*Falco peregrinus*	Usually on rocky cliffs or ridges; some use artificial nest sites on bridges and buildings. observed
PRFA	Prairie falcon	*Falco mexicanus*	On cliff ledge, in crevices or on rocky promontories; rarely in abandoned nests of other raptors or crows

	Common Name	Scientific Name	Preferred Nesting Habitat
RNEP	Ring-necked pheasant	*Phasianus colchicus*	On the ground; among grassor sparse vegetation or next to a log or other natural debris
WITU	Wild turkey	*Meleagris gallopavo*	On the ground; in open woods or along the edge of an opening
CAQU	California quail	*Callipepla californica*	On the ground; under a brush pile, shrub, log or debris
SORA	Sora	*Porzana carolina*	Usually over water, but occasionally in a wet meadow; under concealing vegetation
AMCO	American coot	*Fulica americana*	In emergent marsh vegetation; floating nest
KILL	Killdeer	*Charadrius vocijerus*	Usually on any piece of open ground, including shorelines, beaches, fields, and lightly traveled gravel roads
SPSA	Spotted sandpiper	*Actitis macularia*	Beaches and gravel bars along shores freshwater streams, lakes, ponds, and estuaries; also along margins of wet meadows
COSN	Common snipe	*Gallinago gallinago*	Usually in dry grass, often under vegetation
MODO	Mourning dove	*Zenaida macroura*	In the fork of a shrub or tre, or occasionally on the ground
WESO	Western screech-owl	*Otus kennicottii*	In abandoned woodpecker cavity, magpie nest, nest box or natural cavity
GHOW	Great homed owl	*Bubo virginianus*	Usually in a tree; also on cliffs in the abandoned stick nest of a hawk, crow, raven, eagle, or heron
NOPO	Northern pygmy-owl	*Glaucidium gnoma*	In an abandoned woodpecker cavity or natural tree hollow
SPOW	Spotted owl	*Strix occidentalis*	On a shallow scrape of a treehollow, broken top, abandoned stick nestor cave or cliff crevice. observed
VASW	Vaux's swift	*Chaetura vauxi*	In a natural tree cavity, burned out hollow or broken-off top; uses chimneys widely

	Common Name	Scientific Name	Preferred Nesting Habitat
ANHU	Anna's hummingbird	*Calypte anna*	On a tree branch, or shrub, among vines or under sheltered eaves
RUHU	Rufous hummingbird	*Selasphorus rufus*	Saddled on a drooping conifer bough
ALHU	Allen's hummingbird	*Selasphorus sasin*	On a tree branch or shrub
BEKI	Belted kingfisher	*Ceryle alcyon*	In a cavity at the end of an earth burrow
ACWO	Acorn woodpecker	*Melanerpes formicivorus*	All members of the group help excavate a cavity in a dead tree or branch
RBSA	Red-breasted sapsucker	*Sphyrapicus ruber*	Excavates a cavity in a deciduous tree, where the heartwood has been softened by fungus
NUWO	Nuttall's woodpecker	*Picoides nuttalii*	In a cavity of live or dead tree, new cavity every year
DOWO	Downy woodpecker	*Picoides pubescens*	Pair excavates cavity in dying or decaying trunk or limb
HAWO	Hairy woodpecker	*Picoides villosus*	Pair excavates cavity in dying or decaying trunk or limb
NOFL	Northern flicker	*Colaptes auratus*	Pair excavates a cavity in a dead or dying decidous tree, may use nest box
PIWO	Pileated woodpecker	*Drycopus pileatus*	Pair excavates a cavity in a dead or dying tree-trunk
OSFL	Olive-sided flycatcher	*Contopus cooperi*	In a conifer; on a horizontal branch far from trunk
WEWP	Western wood-pewee	*Contopus sordidulus*	On a horizontal limb in a tree
WIFL	Willow flycatcher	*Empidonax traillii*	Small cup nest is built in a fork of a small shrub. migrant
DUFL	Dusky flycatcher	*Empidonax oberholseri*	In the fork of a small shrub
PSFL	Pacific-slope flycatcher	*Empidonax difficilis*	In a crevice, on a rocky stream-side ledge
BLPH	Black phoebe	*Sayornis nigricans*	On cliffs, bridges, buildings, and culverts
SAPH	Say's phoebe	*Sayornis saya*	In a niche on a cliff face or beneath an eave or bridge
ATFL	Ash-throated flycatcher	*Myiarchus cinerascens*	In a natural or artificial cavity
WEKI	Western kingbird	*Tyraimus verticalis*	On a branch near the trunk of a deciduous tree; frequently on barns or towers

	Common Name	Scientific Name	Preferred Nesting Habitat
TRES	Tree swallow	*Tachycineta bicolor*	In a tree cavity or nest box
VGSW	Violet-green swallow	*Tachycineta thalassina*	Semi-colonial at times; in a tree cavity, cliff crevice, nest box or a crack in a building
NRWS	Northern rough-winged swallow	*Stelgidopteryx serripennis*	In single pairs or occasionally in small colonies; at the end of a burrow lined with leaves and dry grass; sometimes reuses kingfisher and rodent burrows and other natural or artificial crevices
CLSW	Cliff swallow	*Hirundo pyrrhonota*	Colonial; under bridges and on cliffs, buildings and other similar sites
BARS	Barn swallow	*Hirundo rustica*	On a vertical or horizontal building structure under a suitable overhang; on a bridge or in a culvert or cave
STJA	Steller's jay	*Cyanocitta stelleri*	In the fork of a conifer;
WESJ	Scrub jay	*Aphelocoma californica*	In a small conifer or shrub;
AMCR	American crow	*Corvus brachyrhynchos*	In coniferous or deciduous trees
CORA	Common raven	*Corvus corax*	On steep cliffs, ledges, bluffs, power poles and tall conifers
CBCH	Chestnut-backed chickadee	*Parus rufescens*	Excavates a cavity in a soft, rotting tree-trunk or limb stub, or uses a natural cavity or abandoned woodpecker nest
PLTI	Plain titmouse	*Parus inornatus*	See Juniper T or Oak T
BUSH	Bushtit	*Psaltriparus minimus*	Pair builds a sock-like, hanging nest, woven with moss, lichens, cocoons, spider silk, fur and feathers
WBNU	White-breasted nuthatch	*Sitta carolinensis*	In a natural cavity or an abandoned woodpecker nest in a large deciduous tree
BRCR	Brown creeper	*Certhia americana*	Suspended under loose bark
BEWR	Bewick's wren	*Thryomanes bewickii*	Natural cavity; abandoned woodpecker nest; bird boxes
HOWR	House wren	*Troglodytes aedon*	Natural cavity, abandoned woodpecker nest; bird boxes, crevices

MAWR	Marsh wren	*Cistothorus palustris*	Globe-like nest is woven near water with cattails, tule, weeds & grass

	Common Name	Scientific Name	Preferred Nesting Habitat
GCKI	Golden-crowned kinglet	*Regulus satrapa*	Outer limbs of a conifer
RCKI	Ruby-crowned kinglet	*Regulus calendula*	Usually in a conifer
BGGN	Blue-gray gnatcatcher	*Polioptila caerulea*	On a limb or fork in a deciduous tree
WEBL	Western bluebird	*Sialia mexicana*	Abandoned woodpecker cavity, natural cavity or nest box
SWTH	Swainson's thrush	*Catharus ustulatus*	Usually in a shrub or small tree
HETH	Hermit thrush	*Catharus guttatus*	Small tree or shrub; occasionally on the ground
AMRO	American robin	*Turdus migratorius*	Coniferous or deciduous tree or shrub
WREN	Wrentit	*Chamaea fasciata*	Pair builds a compact, open cup of bark strips and spider webs
NOMO	Northern mockingbird	*Mimus polyglottos*	Small shrub or small tree
CEDW	Cedar waxwing	*Bombycilla cedrorum*	Coniferous or deciduous tree or shrub
EUST	European starling	*Sturnus vulgaris*	Abandoned woodpecker cavity, natural cavity, nest box or almost any other cavity
BHVI	Blue-headed vireo	*Vireo solitarius*	In a fork of small tree
HUVI	Hutton's vireo	*Vireo huttoni*	Well above the ground in the fork of an oak or conifer twig
WAVI	Warbling vireo	*Vireo gilvus*	In horizontal fork in deciduous tree or shrub
OCWA	Orange-crowned warbler	*Vermivora celata*	On the ground
NAWA	Nashville warbler	*Vermivora ruficapilla*	On the ground
YEWA	Yellow warbler	*Dendroica petechia*	Fork of deciduous tree or small shrub branch
YRWA	Yellow-rumped warbler	*Dendroica coronata*	In crotch or horizontal limb in conifer
BTYW	Black-throated gray warbler	*Dendroica nigrescens*	Usually in conifer, on a horizontal branch
TOWA	Townsend's warbler	*Dendroica townsendi*	From the mountains of Oregon and Northern Idaho to Alaska
HEWA	Hermit warbler	*Dendroica occidentalis*	Well away from trunk of high conifer branch
MGWA	MacGillivray's warbler	*Oporornis tolmiei*	Low trees or shrubs between vertical stems

COYE	Common yellowthroat	*Geothlypis trichas*	Low to the ground, in a small shrub or among reeds, cattails, bulrushes or other emergent vegetation

	Common Name	Scientific Name	Preferred Nesting Habitat
WIWA	Wilson's warbler	*Wilsonia pusilla*	On the ground, sunken into soft substrate, or in a low shrub or thicket
YBCH	Yellow-breasted chat	*Icteria virens*	Low in a shrub or small tree
WETA	Western tanager	*Piranga ludoviciana*	In a fork or on a horizontal branch of a conifer, placed well out from the trunk
BHGR	Black-headed grosbeak	*Pheucticus melanocephalus*	In a tall shrub or deciduous tree, often near water
BLGR	Blue grosbeak	*Passerina caerulea*	In a shrub or low tree
LAZB	Luzuli bunting	*Passerina amoena*	In an upright crotch low in a shrubby tangle
SPTO	Spotted towhee	*Pipilo maculatus*	On or near the ground
CATO	California towhee	*Pipilo crissalis*	Low to ground in shrub or tree
CHSP	Chipping sparrow	*Spizella passerina*	Low to mid level in a coniferous tree or oak
LASP	Lark sparrow	*Chondestes grammacus*	On the ground or in a low bush
GRSP	Grasshopper sparrow	*Ammodramus savannarum*	In a shallow depression on the ground, under dome of bent grass
FOSP	Fox sparrow	*Passerella iliaca*	On the ground or low in a shrub or small tree
SOSP	Song sparrow	*Melospiza melodia*	On the ground or in a shrub or small tree
LISP	Lincoln's sparrow	*Melospiza lincolnii*	On the ground
GCSP	Golden-crowned sparrow	*Zonotrichia atricapilla*	From British Columbia and western Alberta to Alaska
EWCS	White-crowned sparrow	*Zonotrichia leucophrys*	On the ground or in a shrub or small coniferous tree
DEJU	Dark-eyed junco	*Junco hyemalis*	On the ground, or low in a shrub or tree
RWBL	Red-winged blackbird	*Agelaius phoeniceus*	In cattails or shoreline weeds and bushes
WEME	Western meadowlark	*Sturnella neglecta*	On the ground
BRBL	Brewer's blackbird	*Euphagus cyanocephalus*	On the ground or in a shrub or tree
BHCO	Brown-headed cowbird	*Molothrus ater*	No nest is built
BAOR	Northern oriole	*Icterus galbula*	High in deciduous tree, suspended from near the end of a branch

	Common Name	Scientific Name	Preferred Nesting Habitat
PUFI	Purple finch	*Carpodacus purpureus*	On a horizontal branch far from the trunk
HOFI	House finch	*Carpodacus mexicanus*	In a cavity, building, dense foliage or abandoned bird nest
PISI	Pine siskin	*Carduelis pinus*	On an outer branch in a conifer
LEGO	Lesser goldfinch	*Carduelis psaltria*	On the outer portion of limb in small tree or shrub
AMGO	American goldfinch	*Carduelis tristis*	In fork in a shrub or dense bush
HOSP	House sparrow	*Passer domesticus*	In natural or artificial cavity

Appendix A

Nesting Monitoring Log Template

NEST MONITORING LOG- Eight Mile Valley

Nest ID:_____ Date Discovered:_____
Biologist: _____ UTMs: _____E _____N
SPECIES
Scientific Name:_____ Common Name:_____
AOU 4-Letter Alpha Code:_____
NEST
Initial Status: *Active Inactive Undetermined*
Initial Nest Condition: *Good Fair Poor Remnants*
Behaviors/Circumstance observed: *Courtship Incubation Chicks/Chick Rearing*
Comments/Description of Nest / # of Eggs or Chicks Observed:
_____
_____
____
ACTION TAKEN: (include spatial buffer applied [in feet]):_____
_____
____
MONITORING LOG (no more than 3 days between monitoring events)
Date Biologist Nest Status* Comments
*Status Designations: Active, Inactive, Fledged, Failed, Undetermined