

RED TREE VOLE SURVEY AREA DESCRIPTION & SUMMARY DATA FORM (FORM #1)

Data Form for Field Use & ISMS
Version 2.0 : 12/99:
Survey Date: ----/----/ ----

Observer(s) _____

Survey Method _____

Loc_id	Alt_Loc_ID	Survey ID		MAP_ACCURACY:
Admin_unit	SubAdmin_Unit	Project Name		Unit

SURVEY LOCATION:						UTM's of Population Site Center: Polygons Centroid		
GIS Poly #	Twnshp	Range	Section	1/4 Sec	1/16 Sec	Base Meridian W H MD	UTM-Easting	UTM-Northing
Site Elevation [median elevation in ft.]	Total transect length	Total acres in unit	Acres surveyed in unit		Plant Association Code	HUC5 NAME		

STAND INFORMATION						
Stand age	Over-story Size Class	Mid-story Size Class	Remnants Trees Present? Y N	Management History Code	Location's Habitat Condition	Site Status

SUMMARY OF THE NUMBER OF NEST TREE DETENTIONS						
# Confirmed RTV Nests --	# Confirmed Active RTV	# Confirmed inactive RTV nests	Total RTV nests	# Unconfirmed nests	# of Nest Trees Confirmed to Another Species	Total # of all nest Trees
Directions:						
Loc Notes:						
Survey Notes:						

RED TREE VOLE NEST TREE and NEST DATA FORM (FORM #3):
Data Form for Field Use & ISMS
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Survey Date: ___/___/___ Observer(s) _____

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Loc_id	Admin_unit	SubAdmin_Unit	Project Name	Project Unit #
Survey_ID	Transect #			

Nest Tree Information:								
Tree_Id:	UTM-East	UTM-North	Aspect @ tree	Slope @ tree	Nest Tree Species Code	Tree DBH (in.)	Nest Height	# of nests in tree

NEST DATA FIELDS:				
Confirmed RTV Nests Y N	How Confirmed? Resin Ducts Cuttings	Confirmed <u>Active</u> RTV Y N	Other confirmed RTV nests within 100 meters? Y N	Climbed? Y N
Date Confirmed	Confirmed by Whom?	How Confirmed Active?	NEST SUPPORT SB BW PBC MT FBC CAV	

Tree Obs. Notes:

RTV DATA SHEET FIELDS & DATA CODES

The red tree vole data sheets were developed to assure the collection and management of data collected during pre-project surveys for the red tree vole. This effort is an interagency effort spanning two agencies and two states, therefore, the data fields on the forms are an attempt to meet the data management requirements of this effort. Some fields on the data forms may seem unneeded at a local level but are necessary if this data is to be useful for regional analysis.

Three types of red tree vole data sheets are provided in this protocol. Two of the data sheets contain information that will be entered into the ISMS database. The third form is provided as a tracking form to use while conducting the surveys but this information will not be entered into ISMS. The three data forms consist of :

- 1. RED TREE VOLE SURVEY AREA DESCRIPTION & SUMMARY DATA FORM (Form #1):**
This form is used to ID the vole site or survey area if no confirmed vole nests are detected. The form contains general information about the survey site. Stand level data are to be collected for the median stand condition and represent the general characteristics of the area surveyed.
- 2. TRANSECT OBSERVATION DATA FORM (Form #2):**
The observation data form can be used to track nests, suspected nest, or other objects detected along each transect until a final confirmation is determined. This data form can be used to maintain an informal record of other arboreal rodent species nests detected along the transect route but this form will not be entered into ISMS.
- 3. RED TREE VOLE NEST TREE and NEST DATA FORM (Form #3):**
The nest tree data form is used to record ID's for confirmed RTV nests and record information measured on each confirmed red tree vole nest tree. A few items are recorded on nests detected in a confirmed nest tree but field crews do not have to record measurements on every nest observed in a confirmed RTV nest tree.

Each data sheet has a code sheet that describes the fields contained on the form and the appropriate values or ISMS codes for each field.

[M] = Indicates a mandatory data field for inclusion into ISMS database.

General Comments of ID Data Fields

Several ID fields are provided to keep track of the different red tree vole sites and surveys. In general we tried to use ISMS names for data fields. Some fields are repeated on each data form only as a header to keep track of your survey forms and effort.

The fields listed below are common header fields used on each data form:

- Loc_ID: Unique ID Number for the Area inclosing the tree vole populations (polygons around all nest trees a site)
- Alt_Loc_id: Alternate ID can be used to relate two or survey areas to each other as a "population or meta-population".
- Survey_ID: ID that can be used to track return surveys to the same area.
- Tree_ID: ID used to track individual nest trees within a survey area
- Admin_unit: Administrative Unit that manages location --- Use ISMS code list for data entry
- SubAdmin_unit: BLM District's Resource Area or National Forest's district conducting survey

**FORM #1 – RED TREE VOLE SURVEY AREA DESCRIPTION & SUMMARY DATA
FORM CODE SHEET**

Where possible field names on the RTV data sheet match appropriate ISMS data fields.

[M] = Indicates a mandatory data field for inclusion in ISMS database.

Loc_ID [M]: Unique ID Number for the Area inclosing the tree vole site (a polygons you draw around all nest trees at a site)

Alt_Loc_id: Alternate ID can be used to relate two or more survey areas to each other as a “population or meta-population”.

Survey_ID: ID that can be used to track return surveys to the same area.

Admin_unit [M]: Required; Administrative Unit that manages location (use ISMS codes).

SubAdmin_unit [M]: Required; Sub-Administrative Unit responsible for managing location (use ISMS codes)..

Project Name [M]: Timber Sale Name or other survey project identifier.

Project UNIT # [M]: Timber Sale Unit number or other survey project identifier number

GIS_POLY [M] Identification number(s) from the agency’s GIS coverage where site is located.

Next set of fields for the legal location : ISMS will accept down to 1/16 sec.

Twtnshp [M]	Township (example 25 S)
Range [M]	Range (example 4 E)
Section [M]	Section Number
1/4 Sec	Quarter Section
1/16 Sec	1/16 section

BASE_MERIDIAN [M]	Meridian system used to identify site legal locations
	W = Willamette
	H = Humbolt
	MD = Mount Diablo

UTM: Location should be recorded in UTM zone 10, using the NAD 27 datum.

UTM_East [M]	6 digits = UTM X axis
UTM_North [M]	7 digits = UTM Y axis

SITE ELEVATION [M]: Enter median elevation of site or survey area in feet.

TOTAL TRANSECT LENGTH (ft.) Total length of survey (if line transect or strip transect)

TOTAL ACRES IN UNIT [M]: Enter the total number of acres in unit.

SURVEY ACRES IN UNIT [M]: Enter total number of acres surveyed in project unit, survey area, or timber sale unit.

PLANT ASSOCIATION CODE [M]: See ISMS for list of codes: Enter standard ISMS Code for plant sub-series [Minimum] or plant association if known.

HUC5_NAME: 5th field watershed name or HUC5 numbers of site.

STAND AGE (in years) [M]: Enter the age or estimated age of stand (in years) when the survey was conducted.

OVER-STORY STAND SIZE CLASS [M]: See below

MID-STORY STAND SIZE CLASS [M]: See below

--- Size class codes for the above two fields:

Stand size	Code	Stand size description
Giant	5	Trees >= 32 in. d.b.h.
Large	4	Trees 21-31.9 in. d.b.h.
Medium	3	Trees 9-20.9 in. d.b.h.
Pole	2	Trees 5-8.9 in. d.b.h.
Sapling	1	Trees 1-4.9 in. d.b.h.
Seedling	0	Seedlings < 1 inches diameter
Unspecified	U	Unspecified stand tree size

REMNANT TREES PRESENT IN STAND? [M]: Yes No

STAND MANAGEMENT HISTORY CODE [M]:

- NS Natural stand, No past management of stand visible.
- RS Residual stand after partial cutting of mature stand (shelterwood).
- TH Stand has been thinned but has more stems per acre than a shelterwood cut.
- SL Minor salvage or single tree removed from stand.
- P Plantation or other planted stand.
- U Unspecified.

Location's Habitat Conditions (LOC_COND): Condition of the habitat needed to support the species at the location or site at the time of the survey

Code	location condition description
Excellent	Excellent habitat conditions
Fair	Fair habitat condition
Good	Good habitat condition
Poor	Poor habitat condition
Unknown	Unknown if habitat condition good for species.

SITE STATUS (LOC_STATUS) Indicates presence or occupancy of species at this location.

CODE	Location status description
Extinct	The species no longer exists.
Extirpated	Species and habitat no longer exist at this site.
Occupied	Location occupied by species.
Undetected	Species not detected on this survey but "Unoccupied" <u>not</u> confirmed.
Unoccupied	Location confirmed not occupied by species.
Unknown	Not known if species is present.

Next 5 fields are summary counts of the number of nest tree detected in survey unit.

CONFIRMED RTV NEST(s) [M]: Number of confirmed RTV nests but not confirmed active (current status unknown).

CONFIRMED ACTIVE RTV NEST(s) [M]: Number of active or occupied red tree vole nests detected.

CONFIRMED INACTIVE RTV NEST(s) [M]: Number of Confirmed RTV nest tree(s) also confirmed to be not currently used by a RTV.

Total RTV_NESTS [M]: Total of RTV nests in survey area (sum of the above 3 fields above).

UNCONFIRMED NEST(S) [M]: Number of nest or nest like structure where survey could not determine if nest was a red tree vole or some unknown specie's nest.

OF OTHER SPECIES NEST(s) CONFIRMED [M]: Enter the number of arboreal nest confirmed to be another species.

TOTAL # OF ALL NEST TREES IN SURVEY [M]: Enter the sum of all above nest categories.

SURVEY_METHOD_CODE [M]: Required. Survey or specimen capture method (code) used to survey location for red tree vole specimens or nest trees.

Code	Method
MLT	Modified line transects (method used in the RTV protocol)
TLT	True line transects sampling methodology.
ICD	Incidental detection
TCW	Time constrained walk-about sampling
PFTS	Pitfall trapping site.
SNAP	Snap trapping collection site
ROAD	Road Surveys for nests.
RS	Research Site, Other capture methods
SCS	Specimen collected at site.
RTL	Nest tree detected as a result of radio telemetry locations

MAP_ACCURACY Describes the precision with which the ISMS recorded UTMS or lat/longs and the associated GIS digitized (electronic) point or polygon matches the actual ground site location. Use National Map Accuracy Standards as a guide. (Use the following ISMS codes)

MAP ACCURACY	Map Accuracy Description
<1.5 mile	Mapped within 1.5 mile
<1/2 mile	Mapped within 1/2 mile
<1/4 mile	Mapped within 1/4 mile
<1/8 mile	Mapped within 1/8 mile
<150 ft	Mapped within 150 feet
<1 mile	Mapped within 1 mile
<300 ft	Mapped within 300 feet
<30 ft	Mapped within 30 feet
<3 ft	Mapped within 3 feet
<5 mile	Mapped within 5 miles
>5 mile	Map accuracy beyond 5 miles
Questionable	Possible error

DIRECTIONS: Short note or information on direction to site.

LOC_NOTES: Optional notes on or about Locations.

SURVEY_NOTES: Optional notes on survey effort.

FORM # 2 – RED TREE VOLE NEST TREE SURVEYS TRANSECT OBSERVATION CODE SHEET

This optional data sheet will not be directly entered into the ISMS data base but is provided as a way to keep track of individual observations along a transect. The sheet should help you relocate objects along a transect and determine which trees may need to be climbed to confirm usage by a red tree vole.

Header Fields ---

Loc_ID [M]: Unique ID Number for the Area inclosing the tree vole site (polygon you draw around all nest trees).

Admin_unit [M]: **Required;** Administrative Unit that manages location (**use ISMS codes**)

SubAdmin_unit [M]: **Required;** Sub-Administrative Unit responsible for managing location. (use ISMS codes)

PROJECT NAME [M]: Timber Sale Name or other survey project identifier.

PROJECT UNIT # [M]: Timber Sale Unit number or other survey project identifier number

Date [M] Date transect was searched

Survey_ID: ID used to track return surveys to the same site.

Transect: Identify which set of transects this sheet is associated.

Transect Bearing: Transect bearing in degrees.

Observers: List the observers for this transect.

Data Fields ---

Transect: # Identify which transect line this record is associated.

Tree_ID [M]: All confirmed red tree vole nest trees should be assigned a unique tree ID and this id should also appear on the Nest Tree Data Form (Data form #3).

Confirmed RTV Nest Tree [M]: Enter code for sign (from below list) used to confirm nest was an RTV's.

Confirmed Active RTV Nest Tree [M]: Enter code for sign (from below list) used to confirm nest was an active RTV's.

Sign used for positive confirmation of red tree vole use or current activity

Code	Description
RD	Resin ducts present
FGRD	Fresh Green Resin Ducts found
C	Douglas-fir cuttings found
FC	Fresh Douglas-fir cuttings found.
SA	Saw animal leave nest.

Confirmed Inactive RTV nest tree [M]: Check if nest confirmed to be old inactive RTV nest.

Other species confirmed [M]: Enter species code when another species is confirmed as using a nest tree on survey

Unconfirmed: Check if nest tree is unconfirmed to species.

Next three fields are used to relocate nest along transect.

Distance along Transect: Enter the distance (in feet) perpendicular to detected nest tree.

Direction from Transect: Enter the direction (left or right) the detected nest is located relative to direction of travel on transect

Distance Off Transect: Enter the distance or estimated distance to the detected nest tree (in feet) from the transect line.

Notes on nest tree or objects: Enter notes or comments about this nest tree or object.

FORM # 3 – RED TREE VOLE NEST TREE AND NEST DATA FORM CODE SHEET

Where possible field name match appropriate ISMS data fields.

[M] = Indicates a mandatory Data field for inclusion into ISMS database.

Header Fields NOT re-entered into ISMS ---

Loc_ID [M]: Unique ID Number for the Area inclosing the tree vole site (a polygons you draw around all nest trees at a site).

Alt_Loc_id: Alternate ID can be used to relate two or more survey areas to each other as a “population or meta-population”.

Survey_ID: ID that can be used to track return surveys to the same area.

Admin_unit [M]: **Required;** Administrative Unit that manages location (See ISMS codes).

SubAdmin_unit [M]: **Required;** Sub-Administrative Unit responsible for managing location (See ISMS codes).

PROJECT NAME [M]: Timber Sale Name or other survey project identifier.

PROJECT UNIT # [M]: Timber Sale Unit number or other survey project identifier number

Nest Tree Data Fields ----

TREE_ID [M] Unique code for each nest tree found at site

UTM: Location should be recorded in UTM zone 10, using the NAD 27 datum.

UTM_East [M] 6 digits = UTM X axis

UTM_North [M] 7 digits = UTM Y axis

ASPECT (deg): Enter aspect at nest tree.

SLOPE (deg): Enter slope at nest tree.

NEST TREE SPECIES CODE: Enter standard 4 letter code for tree species (First 2 letters of genus plus first 2 letters of species name)

TREE DBF (in.): Enter the nest tree’s d.b.h. in inches.

NEST HEIGHT: Enter the nest’s height above ground. If more than one nest record the largest freshest nest detected.

of RTV NESTS IN TREE: Enter the number of confirmed Red tree vole nest found in tree.

NEST DATA FIELDS --

CONFIRMED RTV NEST [M]: YES or NO.

HOW CONFIRMED RTV [M]: Enter code for sign (from below list) used to confirm nest was a red tree vole's.

How Confirmed Active RTV Nest Tree [M]: Enter code for sign (from below list) used to confirm as active RTV.

Sign used for positive confirmation of red tree vole use or current activity

Code	Description
RD	Resin ducts present
FGRD	Fresh Green Resin Ducts found
C	Douglas-fir cuttings found
FC	Fresh Douglas-fir cuttings found.
SA	Survey saw animal.

OTHER CONFIRMED RTV NEST WITHIN 100 meters [M]: Yes or No.

CLIMBED? [M]: Was tree climbed? Yes or No.

DATE CONFIRMED: List date vole nest tree was confirmed. Could be different than survey date if tree had to be climbed before making final determination.

CONFIRMED BY WHOM: List the person who made the final determination of red tree vole usage.

NEST SUPPORT List type of structure support the red tree vole nest.

Code	Description
SB	Single large Branch
BW	Branch Whorl
PBC	Palmate Branch Cluster
MT	Mistletoe clump
FBC	Forked top
CAV	Tree Cavity

TREE OBSERVATIONS NOTES: Optional, notes on nest tree or nest(s) within this tree.