

APPENDIX E

Field Forms and Instructions for Data Entry

This Appendix contains mollusk **General Survey** and **Species Location** field forms whose fields and values correspond to the Interagency Species Management System (ISMS) data entry screens. These field forms provide a permanent record that a survey was done to protocol, as well as documenting information for locations, habitat and collection information of species sites in the ISMS database. In order to make ISMS data entry easier, the data on the field form is arranged in sections with headings which correspond to the different ISMS tables used. Also included in Appendix E are definitions of values and directions for completing the forms and for transferring the data to ISMS. Use of these forms will help to increase data consistency and help to facilitate data transfer into the ISMS database. If you choose to modify these field forms for use by your local unit, remember that all of the required information on them and the field names and exact values used for each field must be contained in any local version of the form.

General Survey Field Form

Regardless of whether you use the form provided in this document or a modified version, one **General Survey Field Form** must be completed for each visit to survey a project area or strategic survey location, even if no target species are found. All required fields on this form must have data entered in them for the survey to be considered valid. Information on this field form represents the entire area surveyed during a visit, not specific locations within it. This form is separated into three portions with headings which correspond to three different tables in the ISMS General Survey data entry screen. The first portion contains information describing the survey area and includes a unique Survey Location ID, Admin Unit, number of acres in the survey area, average elevation and project name or description. The second and third portions of the field form contain information about the visit to that area such as survey type, method and date, number of acres searched, search time, surveyor name, soil and air temperature (at beginning and end of survey) and target mollusk species searched for and/or located. It is recommended that the Species Location ID for all sites of target species located during a survey visit (see Species Location Field Form, below) also be recorded on the General Survey Field Form for cross referencing.

- ISMS data entry

The information from this field form is entered into the ISMS database using the **ISMS Fauna General Survey Form**. All of the data on the field form from the first visit to a survey area (all three portions of the field form) is entered as a new record on this ISMS form. This General Survey Location record is linked to a polygon in GIS which includes the suitable habitat within the survey area. Small inclusions such as roads or other intervening areas adjacent to or between portions of a survey area may be included in the GIS polygon of this area, but large areas of non-habitat should not be included. Data from subsequent visits to the same survey area are entered by opening this original record (query for Survey Loc ID) and **inserting** the new visit information (the second and third portions of the field form) into the ISMS survey tables section of

this General Survey Location record. In other words, a survey area (typically suitable habitat within a project unit or other similar-sized area) is identified with a unique General Survey Loc ID and the location, size and physical description of that area is entered as a record in the ISMS General Survey Locations Table which appears in the upper half of the ISMS Fauna General Survey data entry screen. This is the information contained in the first portion of the **General Survey Field Form**. Data for each visit to a survey area (from the second and third portions of the field forms) is entered as separate survey records in the Surveys and Fauna Species Tables which appear in the lower half of the data entry screen. These survey visit records are subsets of the ISMS General Survey Location record.

One General Survey Location record in ISMS can therefore have multiple survey visit records attached to it, one for each visit to that area. These separate visit records are identified using a unique survey ID (typically the General Survey Loc ID plus the visit number). Because of this parent-child relationship between one General Survey Location record and multiple survey visit records, all General Survey Field Forms which record data from visits to the same survey area will contain the same information in the first portion of the field form describing the survey location. The information in the second and third portions of the field form will be different for different visits as the date, observer and results of the visit change.

Species Location Field Form

For each site within the survey area where target species are found, a **Species Location Field Form** is completed. All information on this form pertains to a specific site location (defined as an area which includes any locations within 30 feet of each other) rather than to the larger survey area in general. This form is divided into six portions, corresponding to different tables in the ISMS entry screens. Information describing the site, such as a unique Species Location ID, coordinates defining the geographic location, plant community, habitat information and environmental conditions at the site are contained in the first four portions of the field form. Information about each species located, such as observation type, microsite feature and collection information is contained in the fifth portion of the field form. The last portion of the field form contains information about the plant species found at the site location. Because mollusk habitat preferences seem to be defined at a much smaller scale than those of other larger taxa, the species of plants they are associated with may be important in describing the local microhabitat type.

The same Survey ID recorded in the surveys table (second portion) of the **General Survey Field Form**, corresponding to the visit to the survey area in which the species site occurs, is also entered in the Species Location Survey Table (second portion) of the **Species Location Field Form**. Some of the information in this portion of the field form is identical to information in the General Survey Field Form, however it is useful to have that data on each form because it is required for ISMS data entry of both types of data.

Recording the time at which each specimen was found helps to document times between encountering species for a check for adequate surveys. If a specimen is found and a voucher specimen is collected, record the species code used on the field form along with the Location ID and the date on the

container in which specimens of these are collected, so that they can be referred back to the field notes or form.

Habitat information at known sites of Survey and Manage species is required. Good records of habitat characteristics are especially important since so little is known about these S&M species and their ecology. Plant community data and microsite feature associations are the key to future management on the landscape scale.

- ISMS Data Entry

This information is entered into the ISMS database using the **Fauna Species Locations Full Form**. Because of the structure of the ISMS database, several different ISMS screens and tables must be used to capture all of the information from a single **Species Location Field Form**. Some of these tables are not available using the ISMS Fauna Brief Form. **1)** In general, the ISMS Fauna Species Location Table contains information from the first portion of the field form about the spatial and physical description of the site. **2)** The ISMS Surveys Table is opened from this first screen using a button bar, and information from the second portion of the field form is entered into the Species Location Surveys Table on the second screen. **3)** Temperature conditions at the site location are entered into the Environmental Observations Table by using the Affiliate button on the Menu bar at the top of the screen. **4)** Information from the fourth portion of the field form about habitat is entered in the Community Observations Table. **5)** Data in the fifth portion of the field form contains information about each species found at the site and is entered in the Fauna Observations Table. The Feature Observations Table, the Observation Data Table and the affiliated Collections Table are subsets of the Fauna Observations Table. These tables contain additional information about each species observation and are on other screens within ISMS accessed via buttons in this table or on the main menu bar. **6)** Information about plant species at the site are entered in the Flora Observations Table, accessed using a toggle button on the Community Observations Table. Refer to the instructions in ISMS data entry manuals for complete directions on entering data using these tables. Refer to Figure 1. for a schematic diagram of the relationship of these tables to each other.

Data Management

Complete General Survey and Species Location field forms in the field, as the surveys are done. Attach copies of maps and/or aerial photographs, on which the survey areas, routes, sample areas and species locations are delineated, to the completed Mollusk Survey Field Forms. When target species are found, be sure that site locations of target species are clearly indicated on copies of the maps and/or aerial photographs. General Survey Field Forms should be kept together with the Species Location Field Forms that result from that survey visit. File these forms and maps in a secure location as appropriate for official documents. Enter the collected information into the ISMS database in a timely manner and maintain all documentation for future reference.

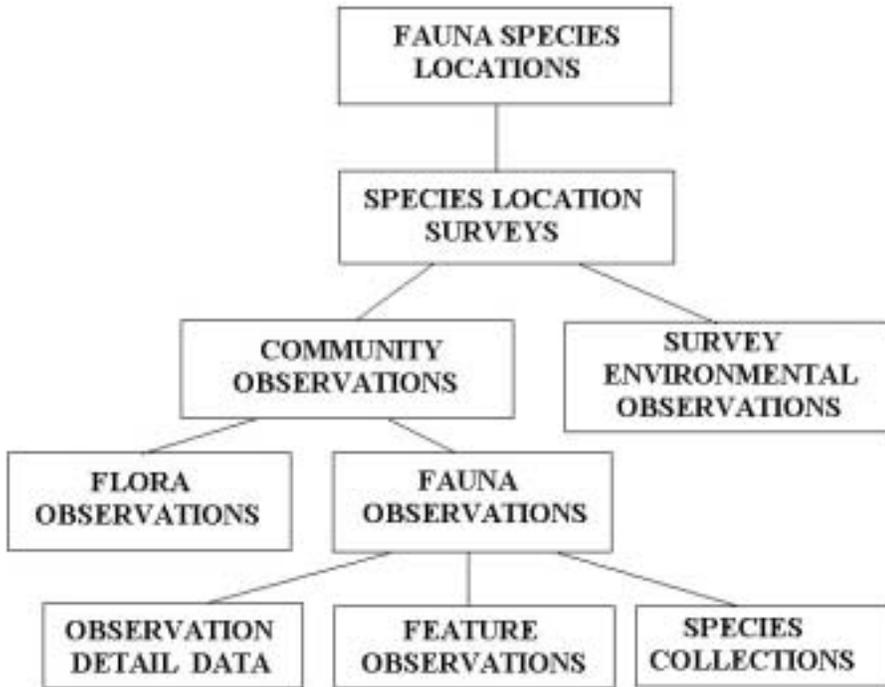


FIGURE 1. DIAGRAM OF ISMS TABLE RELATIONSHIPS

Terrestrial Mollusk
Species Locations Field Form

Please see Species Locations Field Form instructions for explanation on filling out forms.

Bolded denotes information that is required, an asterisk indicates a limited list of ISMS values required

Fauna Species Locations Table:

Species Location ID#: _____ **UTM_E:** |_|_|_|_|_|_|_|_|
(Project-Unit-Visit-Sample Area or Point Search #) **UTM_N:** |_|_|_|_|_|_|_|_|

***Admin Unit Code:** _____ ***Sub Admin Code:** _____

Slope ave. %: _____ *Slope Position: _____ Aspect(°): _____ **Elevation ave. (ft):** _____

*Soil: _____ *MoistureType: Dry, Moist, Wet, Standing water, Snow

*Map Source: _____ ***Map Accuracy:** <1.5mi,<1/2mi,<1/4mi,<1/8mi,<150ft

Species Location Surveys Table:

Survey ID: _____ ***Survey Type** _____
Project Unit Visit

***Method:** Key Feature/Sample Area, Incidental, Time Constrained, Area Constrained (Circle One)

Protocol: Y / N (circle one) **(Start) Date** _____ **(Start) Time** _____

Observer(s): _____ **Project** _____

Affiliated Table: Environmental Observations (condition at site location)

Air Temp (°F): |_|_|_| **Soil Temp (°F):** |_|_|_|

Community Observations Table (for species location)

***Cmty Classification:** Series or Association (Circle One) ***Cmty Code Name:** _____

***Canopy Structure:** Multiple, Single, Two (Circle one) **Community Age** _____ (years)

Seral Stage: Grass/Forb, Shrub, Pole, Early-mature, Mid-mature, Late- mature, Old Growth (Circle one)

Total Overscore Cover % ____ Total Underscore Cover % ____ **Total Canopy %** ____

(List only mollusk species found at this location)

Fauna Observations Table:				Obs. Data Table	Affiliated Collections Table:	Feature Observations Table:			
*Species Code	Total	*Obs. Reliability	*Obs. Type	Condition (Live/Dead)	Collection #	*Feature Type	*Feature Species	Decay Class	D.B.H.

Flora Observations Table: (enter the three most common plant species from tree, shrub and ground cover layers observed at the site location, if known). Entries of plant species and cover amounts are not required, but will help document community type.

	TREE SPECIES			SHRUB/UNDERScore			GROUND COVER		
	Species 1	Species 2	Species 3	Species 4	Species 5	Species 6	Species 7	Species 8	Species 9
*Species Code									
Total Cover %									

Location notes:

**Terrestrial Mollusk
General Survey Field Form**

Please refer to General Survey Field Form Instructions for an explanation on filling out this form
Bolded denotes information that is required, an asterisk indicates a limited list of ISMS values.

General Survey Locations Table:

Survey Loc. ID: _____ ***Admin. Unit:** _____
Project | Unit | Additional ***Sub Admin Unit:** _____

Survey Area (Acres): _____

Elevation: Min: _____ Max: _____ **Average Elevation (ft):** _____

T _____ **R** _____ **S** _____ **1/4** _____ **1/16** _____ **1/64** _____

Surveys Table:

(Survey) ***Type:** Incidental, Pre_Disturbance, Monitoring, Other (Circle one)

Survey ID: _____ (Project-Unit-Visit) **Date:** _____ (Day | Month |Year)

Project Name (and Unit #): _____ ***Protocol:** Yes or No

***Method:** Key Feature/Sample Area, Incidental, Time Constrained, Area Constrained (Circle One)

Observer(s): _____

Acres Surveyed Today: _____

Start Time: _____ **End Time:** _____ **Total Survey Time Hrs:** _____ **Mins:** _____

Air Temp (°F), Beginning: _____ **End:** _____ **Average Air Temp:** _____

Soil Temp (°F), Beginning: _____ **End:** _____ **Average Soil Temp:** _____

Fauna Species Table: (List mollusk species searched for or located within this Survey Area during this visit)

*Species Code	Presence	Total	Species Loc ID	*Species Code	Presence	Total	Species Loc ID

Terrestrial Mollusk
General Survey Field Form Instructions
2001

The Terrestrial Mollusk **General Survey Field Form** should be completed for documentation purposes for each visit to a survey area (generally defined as a project unit or other similar-sized area which is surveyed at one time). A separate form should be used for separate portions of a project area, such as different units or portions of a unit, that are not physically adjacent (eg. cannot be illustrated with a single polygon). A complete summary of the survey effort completed for one timber sale may, for instance, consist of several General Survey Field Forms, one for each visit to each unit, and possibly more if any unit requires multiple surveys to complete a single visit. The use of a regular format for the Survey Loc. ID (see below) will help to identify all records that pertain to a single project. This field form will need to be completed even if no target species are found in order to document that the survey effort was conducted to the correct protocol standards. Fields that require information are in bold. Some fields require the use of a limited set of values used by the ISMS database. These fields are indicated with an asterisk. Additional fields are included for organization and tracking. For each individual site where a target species is found, an additional form (**Species Locations Field Form**) is completed with information pertinent to that location. Complete the General Survey Field Form in the field as surveys are done.

Neat and clean handwriting cannot be stressed enough. Please take a couple of extra seconds to ensure that your handwriting is clear and that unique letters and numbers are discernable.

Information in the Fauna General Survey Locations Table captures the spatial and physical information which is used to identify and locate the survey area. This information is linked to the polygon in GIS which represents the survey area. Each visit to the same survey area should contain identical information in this section.

Survey Loc. ID- This is a unique ID# for the survey area being documented. This may be character and/or numeric. The suggested format is: two-letter abbreviations identifying the Forest/BLM District, ranger district/resource area, and project name; plus a 2-character value representing the unit (use zeros to fill in where needed, e.g. unit 5 would be 05) For example, Six Rivers National Forest, Mad River district, project Upper Mad, unit 5A is identified as SRMRUM05A.

***Admin.Unit-** Enter the Administrative Unit containing this survey area location. See ISMS codes sheet supplied with this field form.
Example: FS0510 = Forest Service, Region 5, Forest 10 (Six Rivers N.F.)

***Sub Admin-** Enter the name of the sub-unit where the survey area is located.
Example: Southriver = BLM, Roseburg District, Southriver Resource Area

SurveyArea - This field is used to record the total number of acres in the individual unit of a sale or other identified Survey Area being recorded (defined in the protocol as **the area of suitable habitat surveyed** in accordance to the terms of this protocol). Several days may be necessary to adequately survey one survey area. The number of acres entered in this field is usually equal to the area of the polygon in GIS to which this survey location description is linked. In some cases the GIS polygon may be slightly larger. Small areas outside of the actual survey area, such as roads or riparian areas, may be included in the GIS polygon if the resulting polygon more accurately represents the area documented during one complete survey. However, the number of acres entered in this field in ISMS should only include the suitable habitat within the survey area. The area entered in this field and the GIS polygon linked to the general survey location should **not** include large areas that were “cleared” (i.e., not actually surveyed) because they contained no suitable habitat. The number of acres in a survey area may be equal to or larger than the actual number of acres surveyed during any individual day, if several days are required to complete one visit to the survey area. (see Surveys Table portion of this field form).

Elevation Min., Max., Average- The lowest and highest elevation (in feet) within the survey area being documented is optional data. The average elevation within the actual area for which this survey record is used is required data. Elevation can be obtained from topographical maps, or with calibrated altimeters

T, R, S, 1/4, 1/16- Using a topographical map determine the Township, Range, and Section, Quarter Section, and Sixteenth Section of the survey area being documented. If the area is in more than one Section, quarter section, etc., record the one which represents the largest portion. If detail to the sixteenth section is not appropriate, limit data entry to the best quarter township. This data may be used to check polygon locations in GIS.

Information in the Surveys Table captures data for each visit to the Survey Area Location described above.

(Survey) ***Type-** Circle the type of survey conducted, (ie. Pre-Disturbance, Purposive, etc.)

Survey ID- Enter a unique ID # for this survey visit. For tracking purposes, this should be the Survey Loc ID# of the area being surveyed (above) plus a “1” or “2” which indicates the first or second visit to that area. There is additional space for indexing if needed. For example, Six Rivers National Forest, Mad River district, project

Upper Mad, unit 5A, visit number one is identified as SRMRUM05A-1. Enter the same Survey ID as is used on the Species Locations Field Forms for this survey. In this way, information contained in either table can be used to describe a record and may be queried together for reports. It is imperative that similar numbers and letters be entered clearly.

- Date-** Enter the day, month (in 3 letter code, e.g. Jan), and year, (e.g.05/Oct/1999).
- Project Name-** Enter the name of the project and unit # within which this survey is being conducted. This name is designated by the local field unit, and may be character or numeric. This name can be used to cross-check with the Survey ID number and location information.
- *Protocol-** Circle Yes or No depending on whether the survey was done to protocol standards.
- *Method-** Circle one of the values that best corresponds to the method used for this survey. (eg. for most project clearance surveys, this would be Key Feature/Sample Area)
- Observer(s)-** Record each surveyors last name.

The remaining information in this portion of the field form is required documentation for protocol survey visits, but is not currently entered into ISMS in the Fauna General Survey Form. Future versions of ISMS may add these fields to the General Survey Table.

- Acres Surveyed-** Indicate the actual number of acres that were surveyed during this visit. This number should be equal to or less than ten times the number of hours spent surveying (recorded in Total Survey Time, below) if this was a protocol survey visit.
- Start Time-** Enter the time of day (24-hour clock) that the surveys for the day were started.
- End Time** Enter the time of day (24-hour clock) that the surveys for the day were completed.
- Total Survey Time-** Enter the total number of person-hours and -minutes spent surveying the acres documented by this survey form. In order to meet protocol standards, this number should be equal to or greater than one hour for every ten acres surveyed (recorded in the Acres Surveyed field, above).
- Air Temp: Begin, End, Average-** The air temperature (in degrees Fahrenheit) at the start and end of the recorded survey period is optional data, and the average temperature during the survey is required. This information is required to document that

a survey was done during appropriate weather conditions.

Soil Temp: Begin,
End, **Average-**

The soil temperature (in degrees Fahrenheit) at the start and end of the recorded survey period is optional data, and the average temperature during the survey is required. This information is required to document that a survey was done during appropriate weather conditions.

The Fauna Species Table records all mollusk species that were searched for and other species that were encountered during the course of a survey visit. This list includes all Survey and Manage target species and may also be used to document any other common species found during the survey. These additional species observations help to document that a survey was done during appropriate weather.

***Species Code:**

Enter the four to six digit alphanumeric code (as listed in the attached ISMS species code list) for any species of mollusk searched for or observed during the survey visit. This species list includes both Survey and Manage species for which surveys are required and other species. Standard format for specimens known only to the genus level is the first five letters of the species name, in capitals. For new species that have been recognized, the first two letters of the genus are used, followed by two Xs and the assigned new species number. For example, and unknown species of *Vespericola* may be recorded as VESPE, and a specimen of the *Fluminicola*, new species 2 would be FLXX2. Additional species may also be documented in the Survey Notes.

Presence-

For each species recorded, indicate if it was present or not (ie. a target S&M species may have been searched for, but not found).

Total-

Record the total number of specimens found during the entire survey visit, including both live animals and shells.

Species Loc ID-

The Species Location ID (from the corresponding Species Location Field Form) can be recorded for Survey and Manage species as a cross reference to those location records.

Survey_Notes -

This is a memo field in which any additional information regarding this documented survey visit may be added, such as other species observations, directions or other comments. Information in this field is not available for query purposes.

Terrestrial Mollusk
Species Location Field Form Instructions
2001

Listed below are instructions for completing the Terrestrial Mollusk Species Location Field Form. The form must be completed for each location (farther than 30 feet from the next closest) where ROD mollusk species are detected. A geographic UTM co-ordinate is required to describe the location. This may be acquired directly with GPS units in the field or entered after the field visit by consulting aerial photographs, orth-quad maps or other maps. The map source field is used to document the method used to determine this coordinate pair. The center of a sample area may be used as the location coordinate when several species are located within a single sample area, so that all species can be recorded in a single location record. Required fields are in bold, and fields for which a limited set of ISMS values should be used are indicated with an asterisk. Note: Some specific types of **habitat information are now required** in this form for this version of the survey protocol. This information is vital for analysis of habitat associations and for the development of management strategies. This information is collected for the immediate area around the site, in an attempt to characterize the small-scale features of the habitat in which these species are found. For purposes of habitat description, it is considered the area within 100 ft. of the site.

Fauna Species Location information captures spatial and physical information which is used to identify and locate the site.

- SpeciesLocation ID-** Assign a **unique ID#** to each S&M site. A suggested format is a 2-character value for project name; a 3-character value representing the unit (use zeros to fill in where needed, e.g. unit 5 would be 005), followed by “S” (spring) or “F” (fall) to represent the season of the visit, a “1” or “2” which indicates the first or second visit, and ending with the SA, PS, or I, followed by the number or letter of the sample area/point search.
- Coordinates-** Record UTME and UTMN coordinates (to the nearest whole number). **This pair of coordinates must be entered for the record to be complete.**
- *Admin Unit-** Enter the ISMS code for the administrative unit responsible for managing this species location, (ie. Forest or BLM District). Refer to ISMS codes sheets or pick lists for values.
Example: FS0510 = Forest Service, Region 5, Forest 10 (Six Rivers N.F.)
- *Sub Admin-** Enter the administrative sub-unit responsible for managing this species location (ie. Ranger district or BLM resource area). Refer to ISMS codes sheets or pick lists for values.
Southriver = BLM, Roseburg District, Southriver Resource Area
- Slope ave-** Slope is determined using a clinometer, compass or visual estimate. Record % slope based on the general topography at the site.

- Slope Position- Circle the value that best describes the site position where the species observation was made.
- Aspect °- Aspect is recorded using a compass. It is determined by the direction the general slope is facing and is recorded in degrees.
- Elevation (ave) -** Record the elevation of the species location site in feet.
- *Soil- Record the soil type at the species location. Refer to ISMS pick list of values.
- *Moisture Type- Circle the value that best describes the available moisture at the site location where the recorded species were observed.
- *Map Source- Enter the source of the UTM coordinates or site mapping. Refer to ISMS pick lists for selection of sources.
- ***Map Accuracy-** Estimate how close you think the coordinate pair location is to the actual site on the ground. Circle the estimated accuracy.

Survey information: Due to the structure of the ISMS database, each location record must be able to stand alone, and provide its own documentation of some required survey information. Some of the following fields duplicate fields found in the General Survey Data Form.

- Survey ID- See notes for this field in the General Survey Field Form Instructions. This is not a required field, due to the possibility that some locations may be documented which are not the result of a survey. **For records that are the result of a survey, enter the same Survey ID # as used on the General Survey Field Form for this survey.** In this way, information contained in either table can be used to describe a record and may be queried together for reports. It is imperative that similar numbers and letters be entered clearly.
- ***Survey Type-** Enter one of the values that best corresponds to the type of survey being documented. (ie. Incidental, Pre_Disturbance)
- ***Method-** Enter the method used for this survey, (eg. For pre-disturbance surveys, the method would be key feature/sample area)
- Protocol-** Circle Y or N to indicate whether the survey which resulted in this location record was done to protocol standards.
- (Start) Date-** Enter the **day**, **month** (in 3 letter coder), and **year**, (e.g. 05 Oct 1999) when the location was found.
- (Start) Time-** Enter the time of day (24-hour clock) when the

recorded species observations were made at this location. Separate hours and minutes by a colon, e.g. 10:40.

Observers - Enter the last names of surveyors conducting the survey, separated by a forward slash, up to 50 character total.

Project- Enter the name of the project within which this survey was conducted. This name is designated by the local field unit, may be character and/or numeric.

Environmental Observations record the average temperature conditions at the site location, and are not individually recorded for each species. Accurate documentation in these fields is very important because protocol is temperature based.

Air Temp- Record the temperature in Fahrenheit degrees at the location site. Air temperature is taken 4 ft off the ground out of direct sun light.

Soil Temp- Record the soil temperature in Fahrenheit degrees at the location site. Use a thermometer designed to measure soil. Soil temperature is taken 4 inches or deeper into the ground or litter. Wait until the temperature reading stabilizes before entering the reading.

Community Observations are used to document the plant community found within 100 feet of the species location. If the plant community is significantly different closer to the actual site, conditions in this smaller area are described.

***City Classification-** Enter the selected classification level at which the plant community code (below) will be described (ie. Series, Association, etc.) Information at the plant association level is much more useful for habitat analysis.

***City Code Name-** Enter the name for the plant/vegetation series or association which best matches the local site. Use the standard ISMS pick list provided for plant series/subseries/association. The ISMS code for this community name will be automatically entered by the ISMS program, however you may record either name or code and the corresponding value will be entered.

***Canopy structure-** Circle the number of tree canopy layers present at the site location from the list given. (Multiple, Single, Two)

(Cmty) Age- Enter the age of the plant community within 100 feet of the site location. This is generally determined to be the age of the oldest trees present at the site.

Seral Stage- Circle the seral stage that best describes the average successional stage of the vegetation in the species location area. (Grass/Forb, Shrub, Pole, Early-mature, Mid-mature, Late-mature, Old Growth).

Total Overscore and Underscore Cover %-

Estimate the % cover for the Overscore and Underscore at the site, as separate percentages. Use the definition of underscore as saplings, suppressed trees and intermediate-sized trees. Other trees are to be considered as being in the overscore. Do not include shrub species when estimating this number. Ocular estimates or other instrumental estimates may be used. These figures represent canopies that may have considerable overlap when considering the total cover at the site.

Total Cover %-

Estimate, to the nearest 5 %, the total amount of canopy cover (both tree and shrub) that occurs within 100 feet of the specific site location. Any method including visual estimates or instrument measurements may be used to estimate this value. % recorded above.

Fauna Species Observations are recorded on individual rows of the field form table for each species located at a site. Additional information pertaining to each species is entered on the form in the same row. Explanations of these fields are given below.

***Species Code-**

Enter the four to six digit alphanumeric code for mollusks only as listed in the ISMS species codes list. Any mollusk species, including those which are not currently on the Survey and Manage list, but for which it may be important to keep records of known sites for future listing, may be recorded. Indicate subspecies by recording the five letter code which includes the species code plus the first letter of the subspecies (Eg. *Monadenia fidelis ochromphalus* is represented as MOFIO). If it is unknown what subspecies a specimen may be, an X may be added to the four letter species code. For example, a white variant of the species PRCO, which has no common name, would be recorded by entering the code PRCOX. Standard format for specimens known only to the genus level is the first five letters of the genus name, in capitals. For new species that have been recognized, the first two letters of the genus are used, followed by two Xs and the assigned new species number. For example, an unknown species of *Vespericola* may be recorded as VESPE, and a specimen of *Fluminicola*, new species 2 would be FLXX2. Common species may be recorded in the location notes memo field described above, or preferably in the fauna observations list on the General Survey Form for this site.

Total-

Enter the number of specimens described in this record. A separate record (new row) should be made for live specimens versus shells of the same species. The observations detail table (below) is used to capture the **condition** (live/shell) for each record.

***Obs.Reliability -** Select the value which best describes the level of confidence in the specimen identification for this record at the time of observation. This entry in ISMS may be edited after final verification has been made. For purposes of this database, use the following definitions for the selected values:

Excellent – Identified by taxa specialist (Hohenlohe, Roth or Frest)

Good - Identified by taxa team member or someone who has received advanced mollusk identification training

Fair - Identified by someone who has received basic mollusk identification training

Poor – Identified by untrained observer

Unknown – Unknown identification ability

Observation Type- Record the type of observation which corresponds to this record. For example, if one live specimen and one shell of a certain species was found at a site, and the shell was collected as a voucher while the live specimen was left at the site, Obs. Type = voucher would be listed for the shell record, while Obs. Type = visual observation would be recorded for the live specimen.

Observation Data information is useful when determining quality of the known site. Separate rows should be used for a single species if both live animals and shells were found.

Condition- Record whether the species located was a shell or live specimen.

Collection information is necessary for specimens collected at known sites for identification verification and to document the site. If the Observation Type entered for a species record was “Voucher”, complete the following field for that record to describe the collection information. Updates to the collections table in ISMS may be made at a later date after verification is done.

Collection # - Enter the identification number assigned to a voucher taken of this species. Usually this is the Species Location ID plus a sequential record indicator.

Feature Observations record information about microsite habitat for each species or record.

***Feature Type-** Determine the appropriate structure that best represents where the specimen was detected. For multiple detections of the same species, you may list the feature which describes the most common associated feature, or separate feature types for individual specimens. Select the feature type from the ISMS picklist or use one of the following:
Bark, Moss, Brush_pile, Needles, Cobble,

Deciduous_leaves, Rootwad, Duff, Shrub, Forb, Snag, Fungi, Soil, Gravel, Talus, Litter, Tree, Log, Woody_debris, other.

*Feature species - Enter the species code for the microsite feature species. For example, enter PSME when specimen is found associated with a Douglas-fir log. Use standard species code format for plants known only to the Genus level. For example, deciduous leaf litter composed of willow leaves would be identified with the species code SALIX.

Decay Class- If a mollusk is found in association with logs or woody_debris, list the appropriate decay class (Brown 1985).
0 = Not applicable. 1 = Log, recently fallen, bark intact or snag with fine limbs present. 2 = Log, bark intact, small twigs absent or snag with 50% loose bark. 3 = Log, trace of bark or snag with bole form intact. 4 = Log, bark absent or snag, losing bole shape. 5 = Log, decomposed or snag, form mostly gone.

D.B.H.- If a mollusk is found in association with a tree, snag, log or woody_debris feature, list the diameter at breast height (standing tree) or the largest diameter for down wood. This is an important indicator of late seral legacy association.

Flora Observations may include any plant species found at the site location. We recommend recording three species of trees, shrubs and ground cover to help document the plant association at the site. If plant community is not specified, these species lists become critical.

*Species Code- Enter the species code for plants found within 100 feet of the site location which help to define the plant association. Refer to the ISMS codes for species as described in Fauna Species observations, below.

Total Cover %- Enter the individual percent cover of each plant species as the actual % cover that is created by that species within a 100 feet of the site location. Example: PSME 60%, ABCO 40%, LIDE2 5%. The combined percents for all species do not necessarily equal 100% and may be greater than 100%.

Notes- Record pertinent comments and additional information on the bottom or reverse side of the form.