

United States Department of Agriculture	Forest Service	R-6 R-5	OR/WA CA	Bureau of Land Management	United States Department of Interior
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Reply Refer To: 1950 (FS)/1730 PFP(BLM) (OR-935) P

Date: December 8, 2003

FS-Memorandum

EMS TRANSMISSION 12/09/2003

BLM-Instruction Memorandum No. OR-2004-030

Expires: 09/30/2005

To: Bureau of Land Management District Managers: Coos Bay, Eugene, Lakeview, Medford, Roseburg, and Salem. BLM Field Managers: Klamath Falls and Tillamook, OR, and Arcata, Redding, and Ukiah, CA. Forest Service Forest Supervisors Within the Range of the Northern Spotted Owl in Region 6

Subject: Interagency Species Management System Data Clean-up

DD: 02/06/2004
04/30/2004

Program Area: Survey and Manage (S&M) Program, Interagency Species Management System (ISMS)

Purpose: The purpose of this Instruction Memorandum is to request that field units within the area of the Northwest Forest Plan correct spatial and tabular data errors in the ISMS database.

Background: ISMS is the official database supporting the Northwest Forest Plan S&M Program and is used jointly by the Forest Service (FS) and the Bureau of Land Management (BLM). ISMS stores data from pre-project surveys, strategic surveys, research, Known Sites Data Base, and any additional monitoring efforts undertaken on the S&M species. At a local level, the database provides information for pre-project planning, project management, the National Environmental Policy Act analysis, management plans, and population analysis. At a regional level, it provides the information for the Annual Species Review process, conservation planning, Management Recommendations and Survey Protocols, regional analyses, and the S&M Annual Report.

Complete and accurate data are essential to each of these activities. In order to prepare for the 2004 Annual Species Review scheduled to begin in January and provide high quality data for Management Recommendations and Surveys Protocols scheduled for completion this year, data errors in the ISMS database need to be corrected now. In addition, a revision of the ISMS database is also scheduled for this year, and data that do not meet quality assurance criteria will not successfully migrate to the new database.

Action: Each field unit will need to perform each of the actions listed in the Data Clean-up Checklist (Attachment 1) to identify and correct tabular and spatial data errors in the ISMS database. It will be the responsibility of the Data Stewards to prioritize and coordinate the data clean-up effort. Supervisors need to ensure that Data Stewards have the time and priority to meet these requirements. Data Stewards are requested to send a brief summary of data clean-up

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tasks performed to Kelli Van Norman, ISMS Regional Data Steward (kelli_vannorman@or.blm.gov).

Pertinent data quality resources (Attachment 2) and a list of useful queries (Attachment 3) are provided to assist field units in completing the assignment. Spatial data clean-up should begin prior to the final theme gathering week. All who enter ISMS data should use the ArcView Query Utility Extension, which duplicates the data quality tools that are in the Theme Gathering Extension, to error-check their ISMS shapefiles before theme gathering occurs.

Timeframe: The due dates for the data clean-up are a week after the data entry deadline and correspond to the field office shapefile merge deadlines (i.e., theme gather) for the 2004 Annual Species Review (Information Bulletin No. OR-2003-245). Due dates by species group are provided below:

- Group 1: Fungi, Bryophytes, Great Gray Owl, and Tree Voles - February 6, 2004
- Group 2: Fungi, Amphibians, Lichens, Mollusks, and Vascular Plants - April 30, 2004

Additional Support: ISMS has several levels of data stewards identified (see Information Bulletin No. OR-2003-037 available at <http://web.or.blm.gov/records/ib/2003/ib-or-2003-037.htm>). Local Data Stewards should be contacted with any questions that may arise among users during the clean-up effort. The ISMS Regional Data Stewards are also available to answer questions that the local data stewards are unable to answer. A list of all ISMS Data Stewards is available from http://isms.r6.fs.fed.us/Support/User_Help/uh_contacts.asp. The ISMS Regional Data Stewards are Kelli Van Norman (kelli_vannorman@or.blm.gov; 503-326-4325) and Stephanie Sprague (ssprague@or.blm.gov; 503-326-4327).

/s/ Charles E. Wassinger
for ELAINE M. BRONG
State Director, OR/WA
USDI Bureau of Land Management

/s/ Mike Ash
for LINDA GOODMAN
Regional Forester, Region 6
USDA Forest Service

/s/ Michael J. Pool
MICHAEL J. POOL
State Director, CA
USDI Bureau of Land Management

Authenticated by
Mary O'Leary
Management Assistant

3 Attachments

- 1 - [ISMS Data Clean-Up Checklist](#) (5 pp)
- 2 - [ISMS Data Quality Resources](#) (2 pp)
- 3 - [ISMS Data Quality "Canned" Queries](#) (3 pp)

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cc:

Region 5

Kathy Anderson, Paula Crumpton, Bob Mobley

Region 6

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ISMS Data Quality Resources

Resource Name	Description	Where to Find It
ISMS Data Stewardship Policy	Explains the duties of all levels of data stewardship.	Available in html or pdf file http://isms.r6.fs.fed.us/Support/Policy/pol_dir.asp dated November 27, 2003
ISMS Standards and Guides	Explains the underlying rules of the ISMS database and gives examples of how General Survey areas and Species Locations should be entered.	Pdf file at http://isms.r6.fs.fed.us/Support/Policy/pol_sgs.asp
ISMS Advanced Query User Guide	Explains and shows how to query the ISMS data using the Web Query Utility, the ISMS ArcView Query Extension, the MS Access ISMS.mdb, and ArcView and ArcGIS SQL Connect Queries.	Zipped file of Word documents at http://isms.r6.fs.fed.us/Support/Training/train_docs.asp
RTV-de Training Guide	Explains how to enter data and run queries of the red tree vole data in the RTV-de module (for RTV-de v. 1.0, but still relevant).	Document or pdf file at http://isms.r6.fs.fed.us/Support/Training/train_docs.asp
ISMS Online Data Dictionary	Describes the ISMS tables and “views” used to query ISMS. Includes the data fields for each table and view. – Use in conjunction with the other query tools such as the ISMS.mdb.	<ol style="list-style-type: none"> 1. ISMS table, view, and data field descriptions at http://isms.r6.fs.fed.us/Applications/ISMS/isms_dd.asp 2. RTV table and data field descriptions at http://isms.r6.fs.fed.us/Applications/Red_Tree_Vole/rtv_dd.asp

Resource Name	Description	Where to Find It
ISMS Web Query Utility	Runs queries on current ISMS tabular data from the ISMS web page. Includes several quality assurance queries.	Available at http://isms.r6.fs.fed.us/Tools/Web Query Utility/default.asp
ISMS ArcView Query Extension	Runs queries on current ISMS tabular data in Windows ArcView (outside gISMS) in conjunction with your current ISMS shapefiles or the corporate ISMS shapefiles. You may consider theme gathering shapefiles from your field unit and then running the error-checking tools available from the extension.	Available to download from http://isms.r6.fs.fed.us/Tools/GIS/gis_fsf.asp The extension does require initial set-up.
ISMS.mdb	An MS Access front-end to the ISMS Oracle database. Includes sample queries to get you going. Provides the most query flexibility and an easy way to create reports. – Use in conjunction with the ISMS Data Dictionary and the ISMS Advanced Query Guide.	Available to download from http://isms.r6.fs.fed.us/Tools/MS Access mdb/default.asp The extension does require initial set-up.
ISMS ArcView Theme Gathering Extension	Used in conjunction with the Corporate Shapefile Refresh this utility can flag records in the ISMS Locations table that have no corresponding shape in the Corporate Shapefile.	Available to download from http://isms.r6.fs.fed.us/Tools/GIS/gis_tge.asp The extension does require initial set-up and is used in Unix. NOTE: The QA/QC functions of the Theme Gathering Extension are duplicated by the ISMS ArcView Query Utility Extension, which is more user-friendly.

ISMS Data Quality “Canned” Queries as of November 2003

The following list of pre-made queries, or “canned” queries, were developed to help ISMS Data Stewards and ISMS Users find data entry and data integrity errors. The canned queries are not extensive. It is recommended that you also create your own ad-hoc queries using the ISMS.mdb to find data entry errors. Similar ad-hoc queries can be created in the RTV-de module since it is in MS Access.

In addition, the ISMS Team is creating new canned queries to help query for required data elements based on the tax-specific Survey Protocols. The queries should be ready in December. Information about the new queries will be posted on the ISMS web page and a notification message will be sent to all ISMS users.

ISMS Web Query Utility

Point and click queries from the ISMS web page that require no additional set-up.

There are several ISMS Web Query Utilities, some of which are specific QA/QC tools listed below. However, many of the other utilities can be used to become familiar with the data and identify potential data problems.

Quality Assurance & Checks

1. **Incorrect UTM Coordinates:** Finds General Survey or Species Locations where the UTM's do not have the correct number of characters for the NWFP area.
2. **No Species Related to Location:** Finds General Survey or Species Location records that were created, but have never had any species codes entered.

Red Tree Vole Query Utility

1. **Site Nest Counts GREATER than Survey Nest Counts:** Finds RTV Survey records that have fewer nests than the corresponding RTV Sites within a Survey area.

ISMS ArcView Query Extension

Point and click queries from Windows ArcView 3.2. Requires initial set-up.

QA/QC Tool (QA/QC = quality assurance/quality control)

1. **Null LOC_CN and LOC_ID Values:** Checks each record in the active shapefile and verifies that there is a value for the fields LOC_CN and LOC_ID. Null or blank values in these fields indicate that one or more records have not been linked to the ISMS tabular records.
2. **Duplicate Records:** a.) Checks for identical duplicates where the same LOC_CN appears in two different records of the active shapefile's attributes table and where the spatial coordinates are the same for each of those records. This can occur when the same

Attachment 3-1

polygon was linked to ISMS more than once. b.) Finds records in the active shapefile that have the same LOC_CN as another record in the active shapefiles' attributes table, but with different spatial coordinates. This can occur in merged shapefiles when multiple users have edited the same polygon.

3. **Mismatched LOC_IDs:** Compares the LOC_ID in the ISMS Oracle database to the LOC_ID in an active shapefile. Errors occur when a user edits the LOC_ID in the ISMS Oracle database and forgets to re-link the

polygon in order to update the corresponding LOC_ID in the shapefile. This query only works on gISMS records that have been linked to a record in the ISMS Oracle database.

4. **Multi-part Polygons and Polygon Slivers:** Finds where two or more polygons share the same attribute record in the active shapefile. The ISMS rule is only one polygon per ISMS location record.
5. **Polygon Size Errors:** Finds General Survey or Species Location polygons from the active shapefile where the polygon has less than a 9-meter radius. The ISMS rule is that all polygons must have at least a 9-meter radius.

Find Duplicate Records Tool: Finds duplicate Species Location records in the ISMS Oracle database based on those records having the same spatial coordinates and the same species observed. Results output in a table or shapefile that allows one to see where the duplicates occur and identify them so one of the records can be removed from the ISMS Oracle database.

Nearest Neighbor Analysis Tool: Finds Species Locations (i.e., Known Sites) in the ISMS Oracle database that are within the specified distance rules defining a single Species Location. The query is narrowly based on selecting an administrative unit and an individual species since it is an intensive comparison process. Species Locations that are within the specified distance may be allowed as exceptions if they are within different communities/habitats based on the biologist's professional opinion. Otherwise, the two or more Species Locations are errors and should be one record and polygon in the ISMS database.

Attachment 3-2

ISMS.mdb MS Access Front-end to ISMS Oracle Database

Ad-hoc queries and sample queries. Requires initial set-up and knowledge of MS Access querying (see the ISMS Advanced Query Guide). Search for most tabular data entry errors using the ISMS.mdb by creating your own queries (Very few canned queries, although sample queries with descriptions are provided such as the highly recommended qryISMS_sample_using_synonyms view)

Queries:

1. **qryISMS Null and Invalid UTM Coordinates by Data Source Code:** Finds General Survey or Species Locations where the UTM's do not have the correct number of characters for the NWFP area. Same query as performed by the ISMS web query utility.

ISMS ArcView Theme Gathering Extension

Used in conjunction with the Corporate Shapefile Refresh this utility works in a Unix environment and can flag records in the ISMS Locations table that have no corresponding shape in the Corporate Shapefile. Useful in determining discrepancies between Oracle ISMS and the Corporate Shapefile.

NOTE: The QA/QC functions of the Theme Gathering Extension are duplicated by the ISMS ArcView Query Utility Extension, which is more user-friendly. All who enter ISMS data should use the ArcView Query Utility Extension to error-check their ISMS shapefiles before theme gathering occurs.

Attachment 3-3