

Entering Field Data

Contents

Entering Field Data.....	1
Line-point Intercept with Height.....	4
Plot-level Species Richness	8
Canopy Gap Intercept	10
Soil Stability.....	13
Rangeland Health Indicators.....	16
Up Next	18
Contacts	18

Entering Field Data

The process for entering data for any of the methods starts the same way: by selecting a plot and specifying the method for entering the data.

1. Click the **Enter/Edit Data** button to open the Enter/Edit Data page

The screenshot shows a web application window titled "Enter/Edit Data". At the top, there are "Help" and "Close" buttons. Below the title bar, there are two main sections: "Select Method" and "Select Site and Plot".

Select Method: A list box containing the following options: Gap Intercept, **Line-Point Intercept** (highlighted), Rangeland Health (Qual. Assess.), Soil Stability, and Species Richness.

Select Site and Plot: This section contains three dropdown menus: "Site:" with the value "NV-TEST", "Plot:" with the value "abcd1234", and "Line:" which is currently empty and labeled "(optional)". Below these is a "Reset" button.

Below the selection sections, there are three buttons: "New...", "Show Existing Data Forms (based on the above selections)", and "Show All Data Forms (for All Sites)".

At the bottom, there is a table with the following columns: **View**, Site, Plot, Line, Date, % Canopy, % Bare, and % Basal. The table is currently empty.

2. Select the **site** and **plot** you want to enter data for and select the **method** being used to collect the data. If you had a site and plot selected before clicking **Enter/Edit Data** it will already be selected here. The list at the bottom of the page will be blank if there are no data already collected for the method you selected. Once data have been collected at a plot, summaries of the data will be displayed.

Enter/Edit Data

Help | **Enter/Edit Data** | Close

Select Method

- Gap Intercept
- Line-Point Intercept**
- Rangeland Health (Qual. Assess.)
- Soil Stability
- Species Richness

Select Site and Plot

Site: NV-TEST

Plot: abcd1234

Line: (optional)

Reset

New... Show Existing Data Forms (based on the above selections) Show All Data Forms (for All Sites)

View	Site	Plot	Line	Date	% Canopy	% Bare	% Basal
<input type="checkbox"/>	NV-TEST	abcd1234	1	4/21/2011	71	0	0

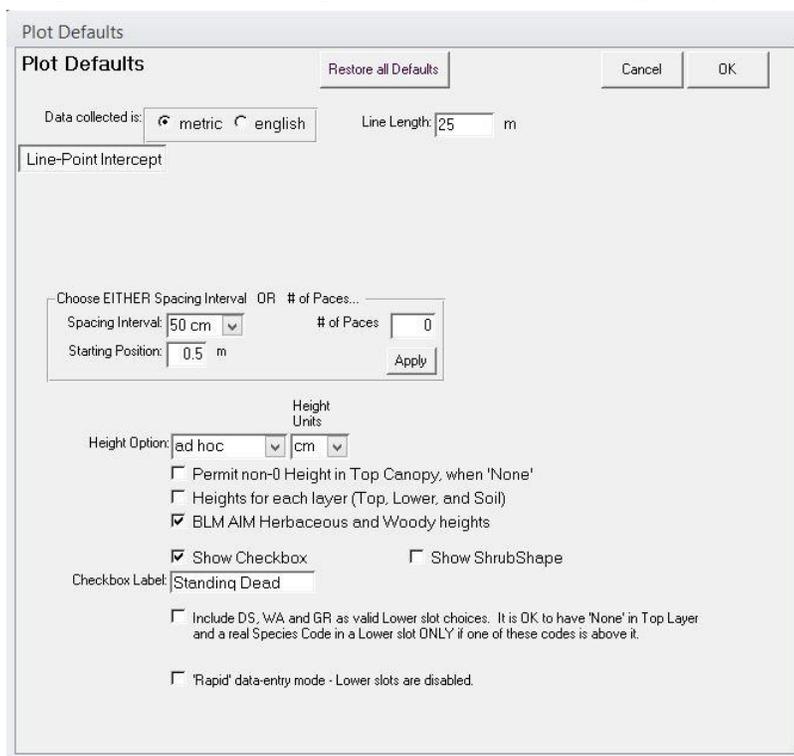
3. Click the **New** button to start collecting data for the selected method.

The following sections describe data entry for each method separately.

Line-point Intercept with Height

After selecting Line-Point Intercept method and clicking **New** in the **Enter/Edit Data** window, you must first specify the plot-default values for line-point intercept and then start entering the data.

1. Verify the correct values for the line-point intercept attributes (e.g., metric or English units, line length, point spacing interval).



2. Set the **Height Option** to “ad hoc” and check the box for “**BLM AIM Herbaceous and Woody heights**”. This will allow you to enter height information at whatever interval is appropriate for your sampling. If you are entering Assessment, Inventory, and Monitoring project data, you can instead set the **Height Option** to “every 5th”.

3. Click **OK** to proceed to the data entry screen.

The screenshot shows the 'Line-Point Intercept' data entry form. At the top, there are buttons for 'Unlock', 'Lock', 'Help on Codes', 'Delete Form', and 'Close'. Below these are several input fields: 'Site' (NV-TEST), 'Plot' (abcd1234), 'Line' (1), and 'Date' (4/21/2011). There are also fields for 'Direction' (0 degrees), 'Line Length' (50 m), 'Spacing Interval' (1 m), 'Height Option' (ad hoc), 'Recorder' (Jason Karl), 'Observer' (Jason Karl), 'Data Entry', and 'Error Check'. A 'Start Point' dropdown is set to 'first point'. A 'People...' button is located at the bottom of the form fields.

Pos	Top Layer	Lower Code 1	Lower Code 2	Lower Code 3	Lower Code 4	Soil Surface
1						
	Height (cm)					
2						
	Height (cm)					
3						
	Height (cm)					
4						
	Height (cm)					
5						
	Height (cm)					
6						
	Height (cm)					
7						
	Height (cm)					
8						
	Height (cm)					
9						
	Height (cm)					

4. Specify the **Line, Recorder, and Observer**. The data entry controls on this form will be locked until these three attributes are filled in.
5. You can enter LPI data directly in this screen by using the drop-down boxes that correspond to the point along the transect (Pos) and the canopy layer (e.g., Top, Lower Code 1, Soil Surface). Refer to the Monitoring Manual (Herrick et al. 2009) for details on how data should be collected and recorded. Heights for each canopy layer may be recorded as well. While this default form is convenient for viewing and quickly verifying LPI data, it is cumbersome for actually entering the data. The **Quick Data Entry** form works much better for entering LPI data in the field.
6. Click on the **Quick Data Entry** button to open the quick data editor. The quick data editor is organized very differently from

the standard LPI form. The page displayed on the Quick Data Editor corresponds to a single point along the transect. The point (position) number is displayed at the top-left of the page.

7. Click on plant species' codes to add them to the current point's data record. At a minimum, a **Top Layer** and **Soil Surface** must be specified. If plant canopies are encountered, a top canopy must be specified and then additional canopy layers in the order hit, from one to four.
8. Click **Next** to go to the next LPI point on the transect. Use the **Next**, **Previous**, and **Go to position #** controls to navigate to different points along the transect.
9. Record the height of the different canopy layers as specified in the AIM protocol.
10. Click on the **Modify Plot's Species List** button if you encounter a species that is not in the plant list. You can modify the plot species list and add new species encountered.

11. Click on **Help on Codes** for explanations of what the standard LPI codes (e.g., L, BR, S, R) are.
12. Click on the **square button** below each canopy layer data box to clear the data entry for that canopy layer.
13. Click **Close** when you have recorded data for all points along the transect. This will return you to the standard LPI form.
14. Click **Close** when you are done entering the LPI data for that transect to return to the Enter/Edit Data page.
15. Repeat these steps for the additional transects.

Plot-level Species Richness

The total list of species occurring on a plot is one of the core indicators of the AIM strategy. This is accomplished by a plot-level inventory after the LPI data have been collected.

1. Select the Species Richness method and the appropriate site and plot in the Enter/Edit Data page.
2. Click **New** to create a species richness record for the plot. This will open the richness Plot Defaults page.
3. Choose “AIM” from the **Method** drop-down list and set the **# of Sub-Plots** to “1”. Check the box under Container Sub-Plot, change the shape to circular, and set the radius of the plot according to your plot dimensions. These settings follow the AIM protocol recommendations.

Plot Defaults

Plot Defaults

Species Richness

Help

Sub-Plot	Container Sub-Plot	Shape	Side1 or Radius	Side2	Area [Sq m]
1	<input checked="" type="checkbox"/>	<input type="radio"/>	30		2827.4

Sub-Plot Sizes are:
Metric:
Method: AIM
of Sub-Plots: 1

4. Click **OK** to open the Richness data page.

5. Enter the **Recorder, Observer, and Line**. The data entry fields on the form will be locked until these are filled in. In the case of the AIM protocol, richness is estimated at the plot level, and not for individual transects. In this case, just choose line (transect) 1 for recording the richness data, but actually count species over the entire plot.

The screenshot shows the 'Species Richness' data entry form. The form is titled 'Species Richness' and has a sub-header 'Species Richness'. It includes several fields and buttons:

- Site:** 00011
- Plot:** Barclay_F1_Cy
- Line:** 1
- Date:** 11/29/2016
- Recorder:** Andy Daniels
- Observer:** Cindy Tusler
- # of Sub-Plots:** 1
- Sub-Plot sizes are:** Metric
- Timer:** 00 : 00
- Buttons:** Unlock, Lock, Delete Form, Close, Edit Species /Plot, People...
- Data Tab:** Abundance, Computations/Notes
- Sub-Plot#/Description:** 1
- Plot Species List (Canopy and Invasives):** A list of species codes including ACMI2, AF01, ARPU9, ARTRW8, BOGR2, BRJA, LIRI, LOAR5, NAVI4, OPPO, PASM, PEES, PLPA2, PSTE5, RACO3, SEDE2, SPC0, THLAS, and TRDU.
- Buttons:** Populate from LPI data, Delete SELECTED, Species Count: 0, Delete ALL, Help.
- Container:** Select Current Sub-Plot: 1, Current Sub-Plot, Shape: O, Radius: 50, Merge ALL species from other Sub-Plots into THIS Sub-Plot.
- Plot Species List Single-Click:** Add Species to Sub-Plot, Display Species Scientific/Common Name.

6. Click on species in the plot species list (center column) that you observe in the plot. The plant codes for these species will be recorded in the plot richness field at the left. You can also add species that you observed in LPI by clicking on the “Populate from LPI data” button.
7. Click **Close** when you are done recording species that occur in the plot.

Canopy Gap Intercept

Canopy Gap Intercept is also a core method of the AIM strategy. This method is implemented on the same transects as LPI and can be done quickly following LPI by reading the transect backwards (i.e., LPI starts from 0 and reads along increasing distances, gap intercepts starts at the maximum distance away from the origin and reads back down the tape toward the plot center).

1. Select the Gap Intercept method and the appropriate site and plot in the **Enter/Edit Data** window.
2. Click **New** to create a gap intercept record for the plot. This will open the gap intercept Plot Defaults page.



The screenshot shows a dialog box titled "Plot Defaults". At the top, there are buttons for "Restore all Defaults", "Cancel", and "OK". Below the title bar, there are two radio buttons for "Data collected is:" with "metric" selected and "english" unselected. To the right, there is a text input field for "Line Length" containing the value "50" followed by the unit "m". Further down, there is a text input field for "Minimum Gap" containing the value "20" followed by the unit "cm". At the bottom, there is a dropdown menu for "Data to be Collected" with "Canopy Gap only" selected.

3. Set the **Data to be Collected** drop-down box to “Canopy Gap only.”

- Click **OK** to go to the gap intercept data collection page.

Gap Intercept

Gap Intercept [Unlock] [Lock] [Delete Form] [Close]

Site: NV-TEST Edit Species /Plot Line Length: 50 m Recorder: Jason Karl

Plot: abcd1234 Minimum Gap: 20 cm Observer: Jason Karl People...

Line: 1 Date: 4/21/2011

Plants that stop a gap:

Perennial Plants Annual Forbs

Annual Grasses Other

Data Computations/Notes

Canopy Gap

Start	End	Gap Size
4950	4910	40
4875	4750	125

Canopy Gap data direction: High to Low

Basal Gap data direction: Low to High

- Enter the **transect number, observer, and recorder** to unlock the gap intercept form.
- Select perennial plants, annual grasses, and annual forbs for **Plants that stop a gap**
- Check the **Canopy Gap data direction** settings. If reading the transect backwards after reading LPI, set this to “High to Low.” This must be done before entering data or DIMA will flag your start and stop values as invalid
- Record the start and stop locations (i.e., distance from the origin of the transect) of canopy gaps in the form. Every time you enter values for a canopy gap a new row is added to the form.
- NOTE THAT THE CANOPY GAP FORM RECORDS GAPS IN **CENTIMETERS OR INCHES**.

10. Click **Computations/Notes** to check the data.

Gap Intercept

Unlock Lock Delete Form Close

Site: JM-Test Edit Species /Plot Line Length: 50 m Recorder: Genevieve Tucker
 Plot: 1 Minimum Gap: 20 cm Observer: Genevieve Tucker People...
 Line: 1 Plants that stop a gap: Data Entry: Error Check:
 Date: 1/28/2013 Perennial Plants Annual Forbs
 Annual Grasses Other

Data Computations/Notes

Calc Details Recalc now...

Canopy Gap

25-50	51-100	101-200	>200	Gaps
345	496	512	212	- sum (cm) -
6.9	9.9	10.2	4.2	- % of line -

Notes:

11. Click **Close** to save your data and return to the Enter/Edit Data page when you have finished recording canopy gaps for the transect.

Soil Stability

The soil stability test is a contingent method for the AIM strategy and is only measured when there is reason to believe that erosion is a factor at the plot. This is assumed to be true for land within the contiguous 48 states. Refer to the Monitoring Manual (Herrick et al. 2009) for detailed instructions on implementing this method.

1. Select the Soil Stability method and the appropriate site and plot in the **Enter/Edit Data** window.
2. Click **New** to create a soil stability record for the plot. This will open the soil stability Plot Defaults page.

The screenshot shows a dialog box titled "Plot Defaults" with a "Soil Stability" tab. At the top, there is a "Restore all Defaults" button, a "Cancel" button, and an "OK" button. Below these, the "Data collected is:" section has radio buttons for "metric" (selected) and "english". To the right, "Line Length" is set to "25" with "m" as the unit. The "This Sample Contains:" section has radio buttons for "Surface Only" (selected) and "Surface/SubSurface". The "Interval" section has radio buttons for "15 seconds" (selected) and "30 seconds". At the bottom, there is a checkbox for "Show limited Veg codes (NC, C, M)" which is currently unchecked.

3. Verify that the settings are for “Surface Only” with an interval of 15 seconds.

4. Click **OK** to proceed to the data collection page.

Soil Stability

Soil Stability

Site: NV-TEST Edit Species /Plot Help for Rating Values... Recorder: Jason Karl

Plot: abcd1234 Date: 4/21/2011 Observer: Jason Karl Data Entry: Error Check: People...

Box #: 1 Checkboxes indicate 'Hydrophobic' sample

Line <input type="checkbox"/>					Line <input type="checkbox"/>					Line <input type="checkbox"/>					Line <input type="checkbox"/>				
Pos	Veg	In	Dip	#	Pos	Veg	In	Dip	#	Pos	Veg	In	Dip	#	Pos	Veg	In	Dip	#
		0:00	5:00				0:45	5:45				1:30	6:30						2
		0:15	5:15				1:00	6:00				1:45	6:45						2
		0:30	5:30				1:15	6:15				2:00	7:00						2

5. Specify the **Recorder and Observer** to unlock the form.
6. Prepare soil samples and record the position of each sample in the test kit and the type of vegetation from each sample. The data form provides the times at which samples should be submersed in water and dipped.
7. Begin the soil sampling and record the stability values for each sample in the **#** column drop-down boxes.

8. Click **Computations/Notes** to check the data.

Soil Stability

Soil Stability Unlock Lock Delete Form Close

Site: JM-Test Edit Species /Plot Recorder: Genevieve Tucker
 Plot: 1 Help for Rating Values... Observer: Genevieve Tucker People...
 Date: 1/28/2013 Data Entry: Error Check:

Data **Computations/Notes**

Calc Details Recalc now... **Average Stability**

	All Samples Taken Surface	Protected Samples Surface	Unprotected Samples Surface	No Veg Specified Surface
Plot Avg:	4.8	3.3	5.3	0.0
Line Avs:				
1	5.3	3.0	5.8	0.0
2	3.6	3.3	4.0	0.0
3	5.3	0.0	5.3	0.0

Plot Avg. Stability by Veg Class % of Samples = 6 Notes:

	Surface	Sub-surface
NC	5.3	
G	0.0	
F	0.0	
Sh	3.3	
T	3.0	

Recalc now... Surface 53%

9. Click **Close** when you are finished to return to the **Enter/Edit Data** window.

Rangeland Health Indicators

The 17 indicators described in Interpreting Indicators of Rangeland Health (Pellant et al. 2005) are a qualitative assessment technique. While they are not officially part of the AIM strategy core methods (but do consider some of the AIM strategy indicators in a qualitative sense), it is common for the Rangeland Health Indicators to be assessed at sites where the AIM Strategy quantitative monitoring is also taking place. The following steps illustrate how to record the rangeland health indicators in DIMA.

1. Select the **Rangeland Health (Qual. Assess.)** method and the appropriate site and plot in the **Enter/Edit Data** window.
2. Click **New** to create a Rangeland Health evaluation for the plot. This will open the Rangeland Health page.

The screenshot shows a web-based form for recording Rangeland Health data. The form is titled "Rangeland Health (Qual. Assess.)" and has a "Delete Form" and "Close" button in the top right. The form is divided into several sections:

- Header:** "Rangeland Health (Qual. Assess.)" with "Delete Form" and "Close" buttons.
- Form Fields:**
 - Site: 00011 (dropdown)
 - Plot: Barclay_FT_Dy (dropdown)
 - Date: 11/29/2016 (text)
 - Recorder: (dropdown)
 - Observer: (dropdown)
 - Ecol Site: R058AE002MT / Clayey (C) BRU 58A-E 10-14" p.z. (text)
 - Reference Sheet: (dropdown)
 - Open PDF... (button)
 - People... (text)
- Navigation:** "Evaluation Area", "Evaluation Sheet", "Attribute Ratings" (tabs)
- Evaluation Area Tab:**
 - Aerial Photo: (text input)
 - Site Photo Taken? (checkbox)
 - Evaluation Area Size: (text input)
 - Criteria used to select this particular evaluation area as REPRESENTATIVE: (text input)
 - Composition (indicators 10 and 12) based on:
 - Annual Production
 - Cover Produced During Current Year
 - Biomass

3. Enter in pertinent information on the **Evaluation Area** tab. The Ecological Site for the plot should have already been defined when you created the plot. If it was not, close this form and go back to the plot form and define the ecological site for the plot.

4. Click on the **Evaluation Sheet** tab.

Rangeland Health (Qual. Assess.)

Rangeland Health (Qual. Assess.) Delete Form Close

Site: NV-TEST Ecol Site: R023KYS010R / SHALLOW LOAM 16-25 PZ

Plot: abcd1234 Recorder: Jason Karl

Date: 4/21/2011 Observer: Jason Karl

Reference Sheet
Existing - downloaded from NRCS Open PDF...
Sheet Date: Author initials:

Evaluation Area **Evaluation Sheet** **Attribute Ratings**

Indicator	Rating	Comment
1 Rills	SM	
2 Water-flow Patterns	M	
3 Pedestals and/or Terracettes	M	
4 Bare Ground _____%	M	Estimated as 45% bare ground from step point method
5 Gullies		
6 Wind-scoured and/or Deposition Areas		
7 Litter Movement		
8 Soil Surface Resistance to Erosion		
9 Soil Surface Loss or Degradation		
10 Plant Community Composition		
11 Compaction Layer		
12 Functional/Structural Groups		
13 Plant Mortality/Decadence		
14 Litter Amount		
15 Annual Production		
16 Invasive Plants		
17 Reproductive Capability of Perennial Plants		

5. Fill in the ratings for the 17 indicators using the drop-down boxes. Provide adequate comments to document your rationale for the ratings you chose.
6. Click on the **Attribute Ratings** and click **Recalc Now** tab when you are finished to see the overall site ratings. Note that the recalculation will have errors if one of the indicators is left blank.

Rangeland Health (Qual. Assess.)

Rangeland Health (Qual. Assess.) Delete Form Close

Site: Rangeland Health Ecol Site: UNKNOWN

Plot: A-01 Recorder: Genevieve Tucker

Date: 1/23/2013 Observer: Genevieve Tucker Reference Sheet: Existing - downloaded from NRCS

Sheet Date: 1/23/2013 Author initials: GT

Evaluation Area **Evaluation Sheet** **Attribute Ratings**

Rating Descriptions: Average Ratings: Soil/Site Stability: NS Hydrologic Function: NS Biotic Integrity: NS

Final Ratings: Attribute Evaluation Method:

Comments:

Attribute Rating Justifications:

Soil/Site Stability					Hydrologic Function					Biotic Integrity				
ET	ME	M	SM	NS	ET	ME	M	SM	NS	ET	ME	M	SM	NS
				11					11					17
				9					10					16
				8					9					15
				7					8					13
				6					5					11
				5					4					9
				4					3					8
				3					2					14
				2					1					12
				1					14					8

Indicators

7. Assign final ratings and include comments for *each one* justifying the conclusions.
8. Click **Close** when finished to return to the Enter/Edit Data page.

Up Next

1. Importing Data from another Database
2. Merging Databases
3. Trouble Shooting DIMA
4. Loading Excel spreadsheets into DIMA
5. Core Indicator Reports
6. Create a shapefile from DIMA

Contacts

Sarah McCord at the Jornada Experimental Range (smccord@nmsu.edu)

Emily Kachergis at the National Operations Center (ekachergis@blm.gov)

Baili Foster (bfoster@blm.gov)