National Resources Inventory Grazing Land On-Site Data Collection
Quality Assurance Plan

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The Natural Resources Conservation Service (NRCS) requires data collectors to be authorized before conducting data collection and data to be reviewed through a quality assurance (QA) process. The Grazing Land On-Site Data Collection Quality Assurance Plan describes the quality assurance measures to be implemented for the National Resources Inventory (NRI) grazing land on-site data collection for:

- Data collector authorization,
- Post-training calibration exercises,
- In-field reviews, and
- Post-collection data review.

1. Data collector authorization

All field data collectors must be authorized before collecting NRI grazing land on-site data for the current field season. Authorization is granted on an annual basis; previously authorized data collectors must be authorized for the current field season before they are permitted to collect data. There are two levels of authorization: (1) technical leader; and (2) crew member. Each field crew must have at least one authorized technical leader; all other crew members must have at least crew member level authorization. To become authorized at the crew member level, personnel must be trained in the field protocols, pass a written post training test, sign an NRI confidentiality certification agreement, and perform calibration exercises. In addition to the requirements for crew member level authorization, technical leader authorization requires that the candidate to pass a performance based post training test (See Appendix A, NRI Grazing Land On-Site Data Collection Protocol Performance Checklist).

The field supervisor will submit the names and authorization level of data collectors authorized to collect NRI grazing land on-site data for the current field season to the State NRI Resource Inventory Coordinator before data collection begins. Authorization may be rescinded by NRCS if quality standards are not met or fabrication is detected.

Training

State rangeland/grazing land specialists and State Resource Inventory Coordinators (SRIC) may provide training sessions in NRI grazing land on-site protocols or training may be provided at the regional/national level. The NRI Grazing Land On-Site Data Collection Training Syllabus (See Appendix B, NRI Grazing Land On-Site Data Collection Training Syllabus) is provided to standardize training sessions with both classroom and field components.

Classroom component:

- Review NRI Grazing Land On-Site Data Collection handbook of instructions
- Demonstrate NRI grazing land on-site data collection protocols
- Demonstrate use of data recording instruments and software (CASI)
- Deliver a written post-training test
- Field component:
- Demonstrate and practice use of GPS navigational instruments
- Practice use of data recording instruments and software (CASI)
- Demonstrate and practice data collection protocols
- Calibration exercises for data collection protocols

Performance-based post-training test
Trainers will observe trainees performing grazing land on-site data collection protocols and record the outcome on the NRI Grazing Land On-Site Data Collection Protocol Performance Checklist (See Appendix A). Trainers will work with the data collector to correct any misapplied techniques.

Calibration exercises
During the training session, all trainees will perform calibration exercises (See Appendix E, Quality Assurance Calibration for Grazing Land On-Site Quantitative Protocols, in the National Resources Inventory Handbook of Instructions for Rangeland Field Data Collection Data Collection) for:

- Soil stability,
- Line point intercept,
- Line intercept transects for canopy cover,
- Plant height, and

Species composition by weight (required only if double-sampling is used by crew). Calibration data collected by data collectors during the training sessions will be uploaded to the server at Iowa State University.

NRI confidentiality certification agreement
Each data collector must sign an NRI confidentiality certification agreement (Confidentiality Certification and Request for Access to National Resources Inventory (NRI) Data) before authorization at either the technical leader or crew member level is granted.

2. Post-training calibration exercises
In addition to the calibration exercises conducted during the training sessions, field supervisors or their designee(s) will schedule at least two calibration sessions with each field crew assigned to collect data for 15 or more segments. Field crews assigned fewer than 15 segments may attend only one calibration session. Multiple field crews may attend each scheduled calibration session. Calibration segments containing data collected during the calibration sessions shall be uploaded to the server at Iowa State University.

The calibration session will include protocol exercises (See Appendix E, Quality Assurance Calibration for Grazing Land On-Site Quantitative Protocols, in the NRI Grazing Land On-Site Data Collection handbook of instructions) for:

- Soil stability,
- Line point intercept,
- Line intercept transects for canopy cover,
- Plant height, and
- Species composition by weight (required only if double-sampling is used by crew).

In-field reviews: Field supervisors shall conduct in-field data reviews for each field crew during the field season. At least 5% of segments completed by each field crew will be reviewed in the field. If fewer than 20 segments are completed by a field crew, the field supervisor will perform an in-field review of at least one of those segments. For an in-field review, the field supervisor will visit the site either with the field crew present or within a few days of data collection. The field supervisor will review the data collected for the segment and complete the In-field Review Check List (See Appendix C).

3. Post-collection data review
Data review tables are used by the states to view sets of related grazing land on-site data elements for

segments and points in their corresponding states. State specialists make any necessary data corrections in the grazing land on-site data collection instrument (grazing land on-site CASI); alternately, the state specialists bring to the attention of the data collectors of any issues related to the quality and correctness of the collected data and the data collectors will make the necessary corrections on the CASI web application.

The password-protected grazing land on-site data review tables are posted on a website for states to download and review. The grazing land on-site review tables generally present groups of data to be viewed within the context of a single grazing land on-site protocol. The review tables are periodically updated with edited data.