



LAND FUNCTION FIELD HANDBOOK

Field Assessment and Data Collection Guide

Document ID: LFS-FH-01

Version 1.0

LAND FUNCTION STANDARD™

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Title Page

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This handbook provides practical guidance for conducting field inspections under the Land Function Standard™. It summarizes key indicators used to evaluate terrain integrity, hydrologic function, and soil and vegetation response in reclaimed landscapes.

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This handbook supports implementation of the Land Function Standard™ and may be used by certified practitioners, environmental inspectors, reclamation specialists, and regulatory authorities conducting landscape assessments.

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Related Documents:

Land Function Technical Manual — LFS-TM-01

Land Function Standard Operating Procedures — LFS-SOP-01

Land Function Monitoring & Verification Protocol — LFS-MP-01

Land Function Reclamation Report — LFS-RR-01

Land Function Certification Guide — LFS-CG-01

Chapter 1

Purpose of the Field Handbook

1.1 Overview

The Land Function Field Handbook provides practitioners with a concise reference for conducting land function inspections in reclaimed landscapes.

The handbook summarizes the key environmental indicators used to evaluate landscape stability following disturbance. These indicators reflect the interaction between terrain structure, hydrologic processes, soil conditions, and vegetation development.

While the Technical Manual describes the scientific principles of land function and the Standard Operating Procedures define the operational assessment framework, the Field Handbook serves as a practical guide used directly during field inspections.

1.2 Field Application

This handbook may be used by:

- reclamation practitioners
- environmental inspectors
- regulatory agencies
- environmental auditors
- Land Function certification assessors

The handbook is designed to support rapid evaluation of landscape conditions while conducting site inspections.

Chapter 2

The Three Pillars of Land Function

Land Function assessments focus on three fundamental environmental systems.

Terrain Integrity

The structural stability of landforms reconstructed during reclamation.

Hydrologic Function

The movement and distribution of water across the landscape.

Soil and Vegetation Response

The development of biological and physical soil conditions that support vegetation growth.

These three systems interact through cause-and-effect relationships that determine overall landscape stability.

Chapter 3

Terrain Integrity Indicators

Terrain integrity indicators provide evidence of the physical stability of reconstructed landforms.

Key Terrain Observations

Inspect the following terrain features:

- slope gradients
- spoil pile stability
- surface roughness
- slope transitions
- erosion features

Stable Terrain Indicators

Terrain conditions suggesting stability include:

- slopes that appear well-graded and continuous
- minimal active erosion features
- stable spoil materials
- gradual transitions between terrain slopes
- distributed surface runoff patterns

Terrain Instability Indicators

Signs of terrain instability may include:

- slope failures or slumping
- expanding erosion channels
- exposed unstable materials
- concentrated runoff pathways
- abrupt terrain breaks

These indicators may suggest the need for corrective action.

Chapter 4

Hydrologic Function Indicators

Water movement strongly influences landscape stability.

Inspect drainage pathways and observe how water moves across the site.

Hydrologic Observations

Evaluate the following features:

- drainage channels
 - runoff pathways
 - sediment deposition zones
 - infiltration areas
 - channel stability
-

Functional Hydrologic Indicators

Evidence of stable hydrologic behavior includes:

- distributed drainage patterns
 - limited concentrated flow
 - stable drainage channels
 - minimal sediment transport
 - evidence of water infiltration
-

Hydrologic Instability Indicators

Signs of hydrologic imbalance may include:

- rapidly forming erosion channels
 - concentrated runoff pathways
 - sediment accumulation in unexpected areas
 - unstable drainage channels
 - standing water caused by poor drainage
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Chapter 5

Soil Indicators

Soil development supports vegetation growth and landscape stability.

Inspect soil surfaces and substrate conditions.

Soil Observations

Evaluate:

- soil structure

- soil aggregation
 - organic matter presence
 - compaction conditions
 - moisture retention
-

Healthy Soil Indicators

Signs of developing soil systems include:

- soil aggregation and crumb structure
 - organic matter accumulation
 - biological activity
 - root penetration into soil layers
 - stable soil surfaces
-

Degraded Soil Indicators

Indicators of poor soil conditions may include:

- compacted soil surfaces
 - lack of aggregation
 - minimal organic material
 - erosion of fine soil particles
 - poor moisture retention
-

Chapter 6

Vegetation Indicators

Vegetation provides evidence of biological recovery within reclaimed landscapes.

Inspect vegetation distribution and growth patterns across terrain features.

Vegetation Observations

Evaluate:

- plant density
 - species diversity
 - vegetation distribution
 - plant vigor
 - natural regeneration
-

Functional Vegetation Indicators

Healthy vegetation systems exhibit:

- consistent plant coverage
 - strong plant growth
 - species adapted to site conditions
 - root systems stabilizing soil
 - evidence of natural recruitment
-

Vegetation Instability Indicators

Signs of vegetation problems may include:

- sparse vegetation coverage

- poor plant vigor
 - erosion around plant bases
 - lack of species diversity
 - exposed soil between plants
-

Chapter 7

Field Inspection Workflow

The following workflow summarizes the recommended inspection process.

Step 1 — Landscape Overview

Observe the overall landscape condition and identify major terrain features.

Step 2 — Terrain Inspection

Evaluate slope stability, erosion features, and landform geometry.

Step 3 — Hydrologic Inspection

Observe drainage pathways and water flow patterns.

Step 4 — Soil Inspection

Examine soil structure and stability.

Step 5 — Vegetation Inspection

Assess plant establishment and growth.

Step 6 — Documentation

Record observations and photograph key site features.

Chapter 8

Field Documentation

Field documentation is essential for supporting Land Function assessments.

Required Documentation

Record the following information:

- site location
- observation date
- terrain observations
- hydrologic observations
- soil conditions
- vegetation conditions
- photographic records

Accurate documentation supports analytical interpretation and reporting.

Chapter 9

Rapid Field Assessment Checklist

Terrain

- Slopes appear stable
- Minimal erosion features
- Landforms appear continuous

Hydrology

- Drainage pathways intact
- No concentrated runoff erosion
- Sediment transport limited

Soil

- Soil aggregation present
- Organic matter visible
- Root penetration observed

Vegetation

- Vegetation density adequate
 - Plants appear vigorous
 - Evidence of natural regeneration
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Chapter 10

Summary

The Land Function Field Handbook provides a practical reference for evaluating reclaimed landscapes during site inspections.

By focusing on terrain integrity, hydrologic behavior, and biological recovery, practitioners can determine whether environmental processes are functioning effectively within the reclaimed landscape.

The indicators and procedures described in this handbook support the broader Land Function Standard™ framework and ensure that field assessments are conducted consistently across sites and practitioners.

End of Document

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