

Riverside East SEZ
Monitoring Plan Outline
Draft May 28, 2014

Executive Summary

1 Organization of This Volume

2 Adaptive Management: Rationale for Monitoring

3 Monitoring Objectives

3.1 BLM Assessment, Inventory, and Monitoring Program

3.2 Key Management Questions

3.3 Criteria and Process for Selecting Indicators

3.4 Formulation of Monitoring Objectives

3.5 Protocol Development

3.6 Cost and Efficiency

4 Public Involvement

4.1 DOE/BLM Public Outreach

4.2 Public Concerns and Input

4.3 DOE/BLM Response to Public Concerns and Input

5 The Role of Remote Sensing

5.1 Benefits of Remote Sensing

5.2 Aerial Remote Sensing

5.3. Ground-Based Remote Sensing

6 Terrestrial Monitoring Protocols

Note: Sections 6 through 10 will generally follow a single format. Terrestrial Monitoring is used as an example here.

6.1 Overview of Terrestrial Monitoring

6.2 Summary Table of Linkages between Selected Indicators, Monitoring Objectives, Management Questions, Management Objectives, Monitoring Methods, and Protocol Reference

6.3 Terrestrial Monitoring Indicator #1 (including indicator species)

6.3.1 Related Management Objective(s) and Question(s)

6.3.2 Exposure: Relevant "Stressor – Receptor" Interaction

6.3.3 Rationale for Monitoring the Indicator for the Stressor-Receptor Interaction

- review of scientific literature about the issue and impacts
- appropriateness and significance of indicator
- previous data collection efforts
- relevant policy

6.3.4 Monitoring Objective for the Indicator

6.3.5 Spatial Scale for the Indicator

6.3.6 Temporal Scale of the Indicator

- frequency of sampling
- constraints of seasonality
- Occurrence of major disturbance events (e.g., flash flood)

6.3.7 Special Environmental Considerations

6.3.8 Sampling Protocol

- sampling units for analysis (points, transects, plots, animals)
- criteria and methods for sample stratification
- description of the sampling strata
- sampling approach
- sample size to meet managers' objectives for confidence in sampling results
- data collection methodology or data processing algorithm (for GIS data)
- data dictionary
- required equipment

6.3.9 Training Plan

6.3.10 Data Analysis

6.3.11 Data Quality Control

- Data Entry
- Data Validation
- Data Certification

6.3.12 Estimated Costs and Budget Scenarios

6.3.13 Peer Review

6.3.14 History of Review and Revision

6.3.15 Literature Cited

****Repeat the Sequence 6.3.1 through 6.3.12 for Other Indicators****

Selected for Monitoring in Chapters 6, 7, 8, and 9

7 Atmospheric/Microclimatic Monitoring

8 Socioeconomic Monitoring

9 Cultural Resource Monitoring

10 Monitoring for Unanticipated Impacts

11 Data Organization and Management

11.1 Database Design

11.2 Data Entry Procedure

11.3 Geospatial Metadata Standards

11.4 Data Archival System

11.5 Data Security

11.6 Data Access

12 Reporting and Communications Plan

13 Monitoring Timeline

13.1 Training

13.2 Data collection

13.3 Data management

13.4 Analyses

13.5 Reporting

14 Personnel and Responsibilities

15 Safety Standard Operating Procedures

Appendices

Appendix A. Sample Point Shapefile Attributes

Appendix B. Sample Area Shapefile Attributes of Strata Used

Appendix C: Rationales for Not Selecting Other Indicators Considered

*Appendix D: Monitoring Activities for **[Insert Current Year]***

Appendix E: Monitoring in the Context of the Practice of Adaptive Management

Figure 1: Example of a Summary Table of Linkages for Section 6.2

Indicator	Monitoring Objective	Relevant Management Question(s)	Relevant Management Goal(s)	Sampling Method	Protocol Reference
Bare Ground				Line-Intercept	<i>Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Volume II</i>
Vegetation Composition					
Non-native species					
Vegetation height				Vegetation height	
Canopy gaps				Canopy gap intercept	
Plant species of mgmt concern				Species inventory	