Route Monitoring Plan
West Mojave Planning Area
California Desert District

WEMO Route Monitoring Plan

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I. Introduction

The West Mojave planning area consists of approximately 3.2 million acres of public lands. The WEMO area is primarily within the jurisdiction of the Barstow and Ridgecrest Field Offices. However, both the South Coast/Palm Springs and Needles Field Offices each have a small amount of acreage included in the WEMO area. The small number of routes that are within the Needles and Palm Springs boundaries will be implemented by the Barstow Field Office staff. Approximately 5,098 miles of roads and trails make up the WEMO designated route system (aka WEMO routes, route network, or designated routes) within the California Desert Conservation Area.

Since the 2006 Record of Decision for the Final WEMO Plan, BLM has adjusted its signing strategy to reflect the updated route designation decisions. Existing staff were redirected and supplies were acquired to accomplish WEMO route signing needs. GPS, general field safety, and OHV and other equipment training has been conducted since 2006 to ensure consistency and data quality and accuracy of signing information as well as the safety of all field staff.

The 1982 Plan Amendments to the California Desert Plan describes monitoring as follows:

"A major component of the vehicle-access element is the monitoring of impacts resulting from vehicle use. The analysis of impacts and reassessment of management decisions in an integral part of the Bureau's response to the legislative mandate.

The primary objectives of the motorized-vehicle access monitoring program are to:

1. Identify and document when unacceptable levels and kinds of impacts occur on natural, cultural, and historic values.

2. Identify when impacts will preclude corrective or rehabilitative actions.

3. Identify the type of vehicle equipment and/or related use which is causing, or likely to cause, impacts.

4. Provide the information necessary to make immediate and long-range decisions on the use or prohibitions of vehicles on designated or existing access routes.

Recommendations of monitoring efforts must be specific to each individual area, taking into consideration such issues as access needs, use levels, user conflicts, and impacts to resources. Monitoring efforts may vary. Monitoring techniques include field observations, remote sensing, ground photographs, and environmental study plots.

Options to limit, designate, or close specific travel routes or areas will be available to the manager. These options will be invoked when monitoring reveals that Plan objectives are not being met because of identified adverse effects resulting from vehicle travel."

In response to the recent court order, BLM prepared this detailed written implementation plan for route monitoring in the WEMO area. This plan addresses the scope of monitoring to be done, the process that is being used including overall priorities, and specific strategies for each of the field offices affected by the order.

II. Monitoring Plan Summary

The WEMO route network is divided into sub-regions. The Route Monitoring Plan will monitor the route network developed and signed by the Barstow and Ridgecrest signing crews within these sub-regions. Monitoring of these sub-regions will be conducted by driving designated routes and documenting the condition of each route, documenting any unauthorized routes, and documenting the impacts that use of these unauthorized routes are having on the resources in each sub-regional area. As noted in the sign plan that was recently submitted to the court, these efforts will re-direct significant resources, including re-assigning staff from their respective duties to accomplish this expedited signing effort.

III. Priority Setting

The priority development and implementation strategy for the WEMO signing plan has been carried forward to this monitoring plan without change (see Appendix B). The field office sub-region priorities are listed in the tables below.

Barstow Field Office Sub-region Priorities

Sub-region	Biological	Wilderness	WSA	Cultural Resources	Proximity Urban Area	Degree of Readiness	Total
1.Afton Canyon	5	5	5	5	2	5	27
2.Joshua Tree	5	5	1	5	5	5	26
3.Calico Mountain	4	3	1	5	5	4	22
4.Cronese Lake	2	5	5	5	2	2	21
5.Ord Mountain	5	4	1	5	4	1	20
6.Newberry/Rodman	4	5	1	5	3	1	19
7.Black Mtn	3	5	1	5	3	1	18
8.Coolgardie	4	5	1	2	4	1	17
9.Pisgah Crater	4	4	1	5	1	1	16
10.Rattlesnake	3	5	1	3	2	2	16
11.Juniper Flats	3	1	1	4	4	2	15
12.Broadwell Lake	3	4	4	1	1	1	14
13.Harper Lake	1	5	1	2	4	1	14
14.Fremont Peak	3	3	1	2	3	1	13
15.Wonder Valley	2	5	1	1	3	1	13
16.El Mirage	3	1	1	2	4	1	12
17.Johnson Valley	3	4	1	1	2	1	12
18.Kramer Hills	4	1	1	2	2	1	11
19.Stoddard Valley	4	1	1	1	2	1	10
20.Mitchell Mountain	2	2	1	2	1	1	9
21.Iron Mountain	2	1	1	1	1	1	7

Ridgecrest Field Office Sub-region Priorities

Sub-region	Biological	Wilderness	WSA	Cultural Resources	Proximity Urban Area	Degree of Readiness	Total
1.Sierras	4	3	0	5	3	5	21
2. Red Mtn	5	2	0	5	3	5	20
3.El Paso	4	1	0	5	5	5	20
4.Ridgecrest	4	0	0	3	5	5	17
5.Jawbone	4	2	0	5	1	5	17
6.S Searles	3	0	0	3	3	5	14
7.N Searles	3	1	1	3	3	3	14
8.Darwin	1	3	0	5	1	1	11
9.Middle Knob	4	0	0	3	1	1	9
10.Rands	5	0	0	3	1	3	12
11.Lancaster	1	0	0	3	1	1	6

IV. Process

A map of each sub-region has been developed containing the designated route system. This was accomplished by overlaying the Geographic Information System (GIS) mapping coverages of the WEMO designated route system and land ownership for each of the identified 32 sub-regions.

The Route Monitoring Plan involves staff driving on the trails, ensuring the proper open route signs are in place, and recording any new unauthorized routes. Sub-regions with higher incidence of OHV activity will be monitored more frequently than areas that receive lesser amounts of OHV activity.

Route Monitoring will be conducted by Law Enforcement Rangers, Park Rangers, Operations Staff, Specialists, and Volunteers. Many of these staff are currently signing the routes.

V. Route Monitoring Implementation

The monitoring teams will monitor 25% of the signed routes each quarter for the first year. In subsequent years a statistically valid portion of the network will be monitored for changes relative to the initial monitoring assessment.

The Route Monitoring Plan requires route monitoring teams to record any unauthorized routes observed when doing route monitoring. Unauthorized routes encountered during route monitoring will be recorded via GPS units, and OHV impacts evaluated, including; intensity of use, sensitivity of resources impacted, etc. Unauthorized routes will be evaluated. The unauthorized routes that pose a significant risk to sensitive resources will be scheduled for priority corrective action. Unauthorized routes that pose a lesser risk to resources will be scheduled for corrective action during routine field maintenance activities.

It may be that some of the unauthorized routes provide better desert access with fewer resource impacts than designated open routes. These considerations will be recorded and analyzed in the WEMO plan reassessment effort. Revisits to each unauthorized route will also evaluate the severity of impacts to resources from OHVs and other activities, and evaluate the significant change in unauthorized OHV use. These data will be recorded on the Sub-Region Observation Report Form (see Appendix C). These reports will be provided to and held by the Outdoor Recreation Planner.

The Outdoor Recreation Planner will then assimilate and analyze this data and make recommendations to the appropriate Field Manager. The Field Managers will determine the necessary follow up actions based on these recommendations. The assigned staff will then complete the recommended actions and enter the data into the quarterly report to be posted on

the BLM Webpage. This data will likewise be available to the BLM in its WEMO Plan reassessment effort[1].

VI. Route Monitoring to Insure Compliance at a Statistically Significant Level

The remedy order requires that:

> "Within 90 days of the Court's order, the BLM shall provide the Court with a monitoring plan to determine (a) compliance with route closures and (b) whether new illegal routes are being created. The monitoring plan should demonstrate that the effort will be adequate to determine compliance at a statistically significant level."

The monitoring teams will ground truth (verify in the field) the newly signed open routes to ensure the routes and the new maps agree. During the ground truthing effort, the teams will also record any unauthorized routes and rank them based on an Impact Class of one to three which would depict usage levels in the following manner: Impact Class 1: 1 to 10 vehicle tracks; Impact Class 2: 10 to 25 vehicle tracks; and Impact Class 3: more than 25 vehicle tracks. Monitoring teams will also assess the width of each unauthorized route. This will establish an updated assessment and document unauthorized routes at the time of monitoring.

After establishing the baseline, BLM will apply a Stratified Random Sample[2] methodology to identify any newly created routes. These subsets of the strata are then pooled to form a random sample. A Stratified Random Sample of the 32 sub-regions will be conducted to determine if any new routes have been created based upon the baseline established the year before. The teams will collect data on newly created routes, the impact class of vehicle use (1, 2, or 3), and the width of the route. By statistical analysis, the level of compliance with the designated route network will be determined, thereby meeting the Court's requirement of a statistically significant level of route compliance.

[1] This reassessment effort will be conducted for the revised WEMO Plan, scheduled for completion by 3/21/2014.
[2] A Stratified Random Sample is a method of sampling that involves the division of a population into smaller groups known as strata. In stratified random sampling, the strata are formed based on members' shared attributes or characteristics. A random sample from each stratum is taken in a number proportional to the stratum's size when compared to the population.

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