ENVIRONMENTAL ASSESSMENT

# 2011 Grasshopper Suppression

## DOI-BLM-WY-R010-0079-EA

BLM

Wind River/Bighorn Basin District, Wyoming

May 2011

The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

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## 1.0 Purpose and Need

Based on 2010 adult grasshopper surveys conducted by the Animal and Plant Health Inspection Service, Plant Protection and Quarantine (APHIS PPQ) personnel, several areas throughout the five counties within the Wind River/Bighorn Basin District (Cody, Lander and Worland Field Offices) could see grasshopper outbreaks in 2011 that exceed the economic threshold for treatment, The threshold is considered to be 15 or more grasshoppers per square yard. Where treatment areas are large (>10,000 acres) and have a significant amount of public land, APHIS PPQ conducts spray programs which are analyzed in *Environmental Assessment: Rangeland Grasshopper and Mormon Cricket Suppression Program,* EA# WY-11-01.

County weed and pest districts are responsible for grasshopper control on private lands in their respective counties, when landowners request their assistance. Since large grasshopper outbreaks are most efficiently treated by aerial spraying of large blocks, it is often necessary to include Bureau of Land Management (BLM) managed lands in the spray block either as a buffer or to link several privately-owned parcels together. These county-run spray programs were analyzed for 2010 in *Grasshopper and Mormon Cricket Suppression on Lands Administered by the Bureau of Land Management in Wyoming,* WY-030-EA10-239, to which this analysis tiers for 2011 spray programs.

If county weed and pest staff finds a grasshopper infestation of 15 or greater pest grasshoppers per square yard, and plans to apply treatment on BLM land, the weed and pest supervisor will contact the BLM and provide the appropriate field office (Cody, Lander or Worland) with a detailed map or shapefile of the area to be treated.

While fall grasshopper density counts are useful for indicating the likelihood of outbreaks, the final decision to begin chemical treatment typically does not occur until early-mid June after grasshoppers have hatched and actual densities are determined. Weather conditions and other factors can suppress grasshopper populations, eliminating the need to reduce numbers. Conversely, areas with populations in normal ranges can produce high densities the following year. Some areas with normal populations in 2010 were not treated, but are predicted to reach densities warranting treatment in 2011.

The purpose and need for the proposed action is similar to that described in Chapter 1 of WY-030-EA10-239. It differs in that the 2010 environmental assessment (EA) addressed treatment on BLM administered lands throughout the State of Wyoming, for potential outbreaks in that year. The purpose and need considered in this EA is limited to BLM lands administered by the Cody, Lander and Worland field offices for the year 2011.

Purpose: The purpose of this action is to prevent economic damage through crop and forage loss by suppressing large outbreaks of pest grasshopper species through aerial and ground treatments on public lands in the CYFO, LFO and WFO.

Need: The need for the action is the likelihood of additional large outbreaks of high density grasshopper populations throughout the Wind River/Bighorn Basin District in the late spring and early summer of 2011, which have potential to damage crop and rangeland. Actual area treated will be based on data collected in late May and early June 2011.

### Issues

The issues described in Chapter 1 of the 2010 EA are carried forward to this document. The issues differ in that:

- The 2010 EA analyzed the impacts of chemical treatment with diflubenzuron, carbaryl and malathion. Malathion will not be used on BLM lands treated in 2011. Carbaryl will only be used for ground-based treatment using bran bait.
- The 2010 EA analyzed the impacts of suppression of high populations of grasshoppers throughout the State of Wyoming. This document differs in that it is limited to analysis of suppression of high populations of grasshoppers on lands within the Cody, Lander and Worland field offices.
- The 2010 EA analyzed the potential impact to Greater Sage-grouse and Mountain Plover. It also analyzed the impacts of suppression of grasshopper population related to grasshoppers as a food base for those species. This document will consider cumulative impacts to these species as a result of multiple treatments.
- Within the Bighorn Basin, suppression treatments were completed on about 50,000 acres in 2010 by the counties, and approximately 300,000 acres by APHIS (including state and private lands). The majority of treatments occurred on lands managed by the WFO. All treatments used the RAATs method.

## 2.0 Description of Alternatives

### Alternative 1 - No Action

The No Action alternative is the same as described in Chapter 2 of WY-030-EA10-239, completed April 30, 2010.

### Alternative 2 - Proposed Action

The proposed action is similar to that described in Chapter 2 of WY-030-EA10-239, completed April 30, 2010.

- Alternative 2- Reduced Area and Agent Treatments (RAATS)
- Diflubenzuron will be the only chemical used for aerial treatment, and malathion will not be considered for use on BLM lands.
- Plus the following additional buffer from Alternative 3- RAATS with Additional Buffers.
    - No aerial or ground treatments would occur within 1 mile of known mountain plover nesting areas until after July 31.

- Active Bald Eagle nests will be buffered by 0.5 miles. BLM will provide a shapefile to the county weed and pest office prior to treatment.

Any agency planning on treating grasshoppers or Mormon crickets on public lands administered by the BLM will submit to the appropriate BLM field office a map/shape file indicating the proposed treatment area(s) and a pesticide use permit (PUP) prior to treatment. The PUP would be authorized for the specific area including any special stipulations for that area prior to treatment.

## 3.0 Affected Environment – Current Conditions

The affected environment is little changed from that described in Chapter 3 of WY-030-EA10-239, completed April 30, 2010. It differs from the 2010 EA as follows:

The 2010 EA analyzed the impacts of emergency grasshopper suppression on BLM lands throughout Wyoming, which includes approximately 18 million acres of land. In 2010 approximately 540,000 acres of BLM land were treated within Wyoming, including approximately 175,000 acres of BLM land in the Bighorn Basin.

This document only addresses potential treatments to those BLM managed lands in the CYFO, LFO and WFO that are likely to be applied through county aerial spray programs.

The 2010 grasshopper EA analyzed the impacts of emergency grasshopper suppression on BLM lands throughout Wyoming. From July 19 through October 2, 2010, APHIS conducted a survey of grasshoppers to determine population densities on private, state and federal lands. On treated areas within Wyoming, 92% of the samples showed densities of less than eight grasshoppers per square yard, indicating the potential statewide economic impacts were largely averted.

### Recreation

Big Cedar Ridge ACEC falls within the project area location. Big Cedar Ridge is on 264 acres of BLM- administered land, in an area of abundant paleontological resources, particularly fossilized plants. Fossilized plants were discovered in the Meeteetse formation in 1990, and the area contains a complete and well preserved late Cretaceous Period plant community. Sites with such in-place preservation are rare. Fossil collecting in this area is a popular recreational activity.

The West Slope SRMA is located within the project area. The west slope of the Bighorns is popular for dispersed recreational activities due to scenic qualities; a variety of recreational resources, activities, opportunities, and experiences; access to the Big Horn National Forest; and accessibility in the area. The area provides recreation opportunities such as hunting, fishing, camping, sightseeing, hiking, backpacking, horseback riding, driving for pleasure, and spelunking. This SRMA contains several caves rated as significant. The West Slope SRMA is approximately 373,755 acres.

## 4.0 Environmental Impacts

The environmental impacts are similar to those described in Chapter 4 of WY-030-EA10-239, completed April 30, 2010. The impacts differ as discussed below.

### Alternative 1-No Action

Potential for high densities of grasshoppers on range and cropland would remain, and the risk of forage and crop loss will continue to be high.

### Alternative 2-Proposed Action

The affects of chemical treatment are similar to WY-030-EA10-239, except that malathion will not be used.

#### Wildlife

Consistent with IM #'s 2010-012 and 2010-84, the seasonal stipulation for sage grouse nesting/early brood-rearing habitat inside Core Areas should be applied as follows; Surface disturbing and/or disruptive activities are prohibited or restricted from March 15–June 30. This restriction to suitable sage-grouse nesting and early brood-rearing habitat within Core Areas applies mainly to those blocks on the map that fall within the Nowater/Bluebank/Upper Nowood sage grouse Core Area. This is an important and well-populated habitat area for sage grouse. Low-flying aircraft involved in aerial pesticide application have potential to flush late-nesting sage grouse hens from their nests, increasing the vulnerability of unhatched eggs and nestlings to predation. There is also potential for hens and young broods to be flushed and scattered by the low-flying aircraft, increasing the vulnerability to predation and potentially reducing survivability of the hatchlings.

The prospect to mitigate and/or reduce the level of risk to sage grouse by the proposed activity exists in the form of applying the pesticide as late as possible in the season when a higher percentage of nests are likely to have completing hatching and broods will be more mature and less vulnerable to predation and the negative effects of being flushed and separated from the hen and other hatchlings by low-flying aircraft. Additional potential for mitigation of negative impacts to sage grouse might be the aerial application of pesticide in more widely spaced/separated swaths where relatively wide bands of habitat remain undisturbed.

The impacts of the Proposed Action on Greater Sage-grouse and Mountain Plover would be similar to those described in WY-030-EA10-239. Where grasshopper densities are reduced to levels below normal, both Mountain Plover and Greater Sage-grouse may experience higher than normal search times while foraging, potentially resulting in decreased fitness. This could be mitigated by the increased ease of capturing affected grasshoppers during the time they were unable to molt properly.

#### Recreation

If ground treatments are planned for locations that fall within the Upper Nowood Road Management Area, all travel restrictions would be followed. Any ground treatments will follow the restrictions for use limited to existing roads and trails or designated roads and trails.

## Economic Impacts

### Alternative 1-No Action

The risk for crop and forage loss in areas of high grasshopper density remains high with no action.

### Alternative 2-Proposed Action

Reducing grasshopper numbers through treatment can reduce the risk for crop and forage loss, and therefore lessen negative economic impacts to basin farmers and ranchers.

## Cumulative Impacts

The cumulative impacts would be similar to those described in the 2010 grasshopper EA. Those impacts are mitigated in the 2011 treatment year by:

1. The majority of proposed treatment areas for 2011 were not treated in 2010.
2. 2011 treatments will continue using the RAATs (Reduced Agent/Area Treatment) which does not cause 100% mortality to grasshoppers in the area, leaving some available as food for wildlife. Also, the chemical diflubenzuron is slow acting so the grasshopper population decreases slowly over a 30-day period.

Mountain Plover and insect dependent sage-grouse chicks consume varying amount of insect species from year to year based upon available insect species. Both consume varying amounts of grasshoppers, beetles, ants, and other insects. Long-term impacts would be minimal.

# APPENDICES

## APPENDIX A: List of Preparers

| NAME | TITLE | RESPONSIBLE FOR SECTION(S): |
|---|---|---|
| CJ Grimes | Invasive Species Coordinator | Project Lead |
| Destin Harrell | Wildlife Biologist | Wildlife buffers/stipulations |
| Ted Igleheart | Wildlife Biologist | Wildlife buffers/stipulations |
| Mike Peterson | Recreation Technician | Recreation |
| Jack Mononi | Supv. Range/Fuels Spec. | Input to proposed action |

**APPENDIX B: Maps (Attached)**