

## Oregon Grasshopper and Mormon Cricket Survey Summary for 2005

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La Grande, November 29, 2005

The 2005 grasshopper survey season started in early May and ended in early September. Adult survey data showed economic levels of more than 8 grasshoppers per square yard on 64,751 acres in 8 counties of Eastern Oregon. The counties with the highest infestation levels were Klamath with 22,384 acres, Morrow with 16,066 acres, Baker with 12,340 acres, Union with 5,610 acres, Wallowa with 5,393 acres and Umatilla with 2,640 acres. Areas with significant infestations were around the Umatilla Army Depot in Hermiston, the US Navy Bombing Range in Boardman and in the Fort Klamath Valley. Infestations in the Klamath Marsh National Wildlife Refuge (Klamath Marsh NWR) were relatively low compared with previous years. Adult surveys in early September in the Klamath Marsh NWR showed an area of 81 acres at the old Lane Ranch infested with economic levels. A relatively wet spring may have delayed or prevented outbreaks on the Refuge and adjacent private pastureland. Grasshoppers were observed hatching in late July. At the end of June, early-localized infestations of nymphs were treated with dimilin ground applications. In total, 276 acres on the Refuge were protected with dimilin using 50% ATV RAATs technique (138 acres treated). A 97% control rate was recorded for the dimilin applications. According to commercial pesticide applicators, approximately 1,800 acres of private land were sprayed in Eastern Oregon against grasshopper infestations with malathion and dimilin.

In 2005, economic grasshopper infestations were reported for several new areas that included the Umatilla Army Depot, the US Navy Bombing Range and the Fort Klamath Valley. An aerial malathion application at the Depot was approved and prepared by USDA-APHIS following a request by the US Army. Due to logistical complications with the Depot's weapons destruction program the aerial application was ultimately cancelled. However, private landowners adjacent to the Depot applied malathion to control the grasshopper outbreak. An economic infestation of *Camnula pellucida*, the clear winged grasshopper, was reported from Fort Klamath. An estimated 20,000 acres of private pastureland showed levels between 8 and 24 grasshoppers per square yard. In a public meeting on September 7 with representatives of the ranchers, the Bureau of Reclamation, NRCS, USDA-APHIS and ODA recommendations were presented and discussed how to control potential grasshopper outbreaks in 2006.

Economic levels of grasshoppers were also recorded in Baker, Union and Wallowa counties. Most infestations were observed on private pastureland with levels ranging between 8 and 45 grasshoppers per square yard. The dominant species in these counties were *Melanoplus sanguinipes*, *M. femurrubrum*, *M. packardi*, *Oedaleonotus enigma* and *Aulocara elliotti*.

Mormon crickets, *Anabrus simplex*, were recorded in areas south of Arlington (approx. 3,100 acres), Gilliam County, south of Enterprise (766 acres) and Lostine (843 acres) in Wallowa County, in Halfway (one female caught), Baker County and in the Jordan Valley (unknown acreage), Malheur County.

The table (see accompanying map) below represents an estimate of the acreages that had economic levels of grasshopper infestations in 2005 (>8 grasshoppers per square

yard) based on the 2005 adult sentinel site survey results. We cannot reliably predict where grasshopper outbreaks will occur because they depend greatly on climatic conditions at the time of hatch and early development, which cannot be accurately predicted. However, the areas of economic grasshoppers in 2005 serve as indicators of potential problem areas for 2006, and should be closely monitored in 2006.

**Table 1. Areas in Oregon found to have economic populations of grasshoppers or Mormon crickets in 2005.**

<u>County</u>	<u>Site</u>	<u>Acres infested</u>	<u>Ownership</u>
<b><u>Grasshopper</u></b>			
<b>Baker</b>	<b>Subtotal</b>	<b>12,340</b>	
	Keating	8,914	private
	Daly Creek	1,616	BLM
	Rye Valley	326	private
	Sparda south	300	private
	Glasgow Butte	255	private
	Richland	242	private
	Sparda north	240	private
	Others	447	private
<b>Harney</b>	<b>Subtotal</b>	<b>267</b>	
	Warm Springs Butte	267	private
<b>Klamath</b>	<b>Subtotal</b>	<b>22384</b>	
	Fort Klamath Valley	20,000	private
	Klamath Refuge	1,199	US F&WS
	Marend Ranch	1,029	private
	NW of Chiloquin	156	private
<b>Malheur</b>	<b>Subtotal</b>	<b>51</b>	
	Mormon Basin	51	private
<b>Morrow</b>	<b>Subtotal</b>	<b>16,066</b>	
	US Bombing range	16,066	US Navy
<b>Umatilla</b>	<b>Subtotal</b>	<b>2,640</b>	
	Umatilla Army Depot	1,975	US Army
	Cabbage Hill (NE)	428	Indian Reservation
	Cabbage Hill (SW)	237	Indian Reservation
<b>Union</b>	<b>Subtotal</b>	<b>5,610</b>	
	McIntyre Creek	2,629	private
	Limber Jim Creek	827	private
	Elgin	552	private
	Medical Springs south	514	private
	North Powder	290	private
	Medical Springs north	253	private
	Rondowa	241	private
	Union	218	private
	Others	86	private
<b>Wallowa</b>	<b>Subtotal</b>	<b>5,393</b>	
	Findley Buttes	1,293	private

	Wallowa Lake	1,127	private
	Elk Mountain	862	private
	Zumwalt south	672	private
	Zumwalt north	252	private
	Flora	165	private
	Sheep Creek Divide	128	private
	Others around Imnaha	894	private
<b>TOTAL</b>		<b>64,751 acres</b>	<b>Grasshoppers</b>
<b><u>Mormon cricket</u></b>			
<b>Wallowa</b>	Eagle Cap, Lostine	843	US Forest Service
	Chief Joseph Mt., Hurricane creek	766	US Forest Service
<b>Gilliam</b>	Arlington	3,100	private
<b>TOTAL</b>		<b>4,709 acres</b>	<b>Mormon crickets</b>