

Appendix 1 - 2007 Rangeland Grasshopper and Mormon Cricket Suppression Program, FONSI EA-OR-07-02 - revised

APHIS' response to April 19, 2007 comments submitted separately by Oregon Wild (formerly Oregon Natural Resources Council) and the Oregon Chapter Sierra Club to the Animal Plant Health Inspection Service's (APHIS) February 13, 2007 Site-Specific Environmental Assessment, Rangeland Grasshopper and Mormon Cricket Suppression Program, Klamath County, Oregon, EA Number: OR-07-02.

Comment: We also wish to include by reference the concerns included in our previous May 2, 2003 comments (20 pages) to Mr. Gary W. Brown, PPQ Officer submitted by Oregon Natural Resources Council, Sierra Club, Oregon Natural Desert Association, Audubon Society of Corvallis, Klamath Basin Audubon Society, Lane County Audubon, Salem Audubon Society, Umpqua Valley Audubon Society and Umpqua Watersheds on the Animal Plant Health Inspection Service's (APHIS) April 4, 2003 Site-Specific Environmental Assessment, Rangeland Grasshopper and Mormon Cricket Suppression Program Oregon EA Number: OR-03-01.

APHIS Response: APHIS responded to the May 2, 2003 comments in a letter to Wendell Wood, ONRC dated January 23, 2004. Those comments and APHIS' responses are included in this Appendix. APHIS stands by the responses previously provided, but would like to provide additional information to the following comments where new information has become available.

2003 Comment 1: ...no site-specific EA has been developed for the treatment of grasshoppers at the Klamath Marsh NWR.

APHIS Response: EA's are meant to be valid until circumstances change making a new or updated EA necessary. APHIS reviews its EAs annually to determine if a new, updated EA is called for. Beginning in 2004 APHIS chose to complete a separate EA specific to Klamath County, and another EA to cover the other 17 counties involved in the grasshopper program.

APHIS generally produces a new EA(s) for this program each year to incorporate the latest season's survey data, and to include any new information acquired or needed based on comments received. The current EA, OR-07-02, supersedes previous EAs for Klamath County. APHIS believes this EA adequately analyses the environmental effects from this program to the vertebrate and invertebrate species in Klamath County including the Klamath Marsh NWR.

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2003 Comment 3: Formal Section 7 Endangered Species Consultation is lacking...

APHIS Response: Formal Section 7 Consultation for the APHIS Rangeland Grasshopper and Mormon Cricket Suppression Program has been underway for several years. In order to comply with Section 7 requirements APHIS will conduct informal consultations with local branches of FWS, and NOAA Fisheries.

Local consultation was completed prior to undertaking any programs under the 2003 EA. For the current EA, APHIS initiated informal consultation with FWS, Oregon State Office and NOAA Fisheries, Portland Habitat Branch. These consultations have resulted in letters of concurrence from these agencies to APHIS' "no effect" or "not likely to adversely effect" determinations in the Biological Assessments (BA). Specific information about Endangered Species Act compliance and mitigation measures to protect listed species can be found in the EA section IV.B.7, page 42. The BA's, FWS and NOAA Fisheries letters of concurrence and related correspondence are included in EA Appendix 3, and can also be found on the ODA website at http://egov.oregon.gov/ODA/PLANT/IPPM/gh_ea07.shtml. This meets the requirements of the Endangered Species Act for this Program.

2003 Comment 4: Violations of the Clean Water Act (CWA) NPDES permit required

APHIS Response: A Final Rule signed by the Administrator of the Environmental Protection Agency on November 20, 2006 states that a pesticide applied in compliance with relevant requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) does not require a NPDES permit when applied to control pests over, including near, waters of the U.S. Under this rule, application of pesticides over or near water would not be a violation of the CWA if applied in accordance with FIFRA. More information on this ruling can be found at <http://www.epa.gov/npdes/agriculture>.

Comment: The stated purpose of this EA is to control a projected outbreak of the Clear-Winged Grasshopper, *Camnilla pellucida*. However, no evidence of the need to kill this grasshopper on the KMNWR has been presented. As the EA notes "Infestations in the Klamath Marsh National Wildlife Refuge, Klamath County, were relatively low compared with recent years." For this reason we urge that you adopt the no action alternative.

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... no scientific evidence has been provided to support the supposition that grasshoppers hatched on KMNWR land actually disperse to adjacent private lands. Nor has any scientific evidence (data) been obtained and presented that would indicate that the number of grasshoppers that may be hatched from the limited acreage of KMNWR land proposed for insecticide treatment would be sufficient to cause economic damage to adjacent private pastures even if they dispersed from refuge land.

APHIS Response: The Environmental Assessment, OR-07-02, is intended to provide the necessary environmental analysis required to allow APHIS to respond to voluntary landowner/land manager requests to deal with grasshopper outbreaks that may occur anywhere in Klamath County.

Within Klamath County, the Klamath Marsh, which is partly comprised of the Klamath Marsh NWR, last experienced an eruptive outbreak of grasshoppers, consisting primarily of *C. pellucida*, between 2002 and 2004. Even though private ranchers were treating their lands to control grasshoppers, grasshoppers from untreated areas on the NWR migrated to re-infest treated areas, thus causing economic losses to the ranchers and resulting in calls for the FWS to assist with grasshopper control. Due to the fact that *C. pellucida* is a highly mobile species and able to migrate long distances in search of food and egg laying sites (Pfadt), control measures are ineffective unless the majority of an infestation is treated. APHIS has documented through observation and survey data that the first signs of a build-up portending an outbreak generally occur in the eastern and northern areas of the Klamath Marsh, most of which is under the control of the FWS and FS. APHIS feels there is ample documentation and observation of this species on the Klamath Marsh to conclude it does not recognize property boundaries when searching for food and habitat.

APHIS is recommending that the land managers (private and public) implement an intensive survey and hotspot treatment program. This will involve survey to locate hatching *C. pellucida* egg beds in early spring and then treatment of these dense concentrations of young grasshoppers if there is any sign of a build-up over previous years and/or they show potential to grow in size if left untreated. APHIS recommends using either Dimilin or carbaryl bait applied using RAATs technology, and if the area is small enough to use ground application methods before aerial.

The goal when treating in a timely and coordinated manner with the proper environmental safeguards is that the acres requiring treatment can be greatly reduced compared with the current practice of reacting to an outbreak already in progress.

Section 417 of the Plant Protection Act of 2000 (7 U.S.C. § 7717) directs APHIS to control actual or potential economic grasshopper and Mormon cricket outbreaks on Federal, State, or private lands. APHIS' participation is subject to

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available funds, and at the request of a State or Federal land manager. Should APHIS receive requests from landowners/managers in the Klamath Marsh, and funding is sufficient, APHIS will assist with this hotspot approach to the extent possible. Within determined environmental safeguards, this may include assisting with survey, application of chemicals if warranted, and environmental monitoring.

Comment: In general, pesticide treatment of a National Wildlife Refuge should be regarded as an extraordinary event that needs detailed evaluation of the cost/benefit risks, and full and detailed explanation of what advantages accrue to the National Wildlife Refuge by conducting a program to kill a native grasshopper species.

APHIS Response: *C. pellucida* is recorded as a severe pest to small grains and grasses and outbreaks on rangeland may devastate grass forage (Pfadt). A population with 20 adults/square yard will consume the entire available yield of forage grasses on rangeland of British Columbia (Pfadt). *C. pellucida* is a highly mobile species and able to migrate long distances in search of food and egg laying sites (Pfadt). APHIS experience with the past two outbreaks at the Klamath Marsh show that unless the majority of an outbreak is subjected to suppression measures, the untreated grasshoppers soon migrate to re-infest the treated areas thus negating any economic benefit from a partial treatment.

APHIS' recommendation to treat hatching *C. pellucida* eggbeds (hotspots) at the first sign of a population increase is designed to decrease the need for treatment when an outbreak is progress and large acreages are involved. On the Klamath Marsh such large infestations are difficult, if not impossible, to treat effectively due to environmental restrictions. Buffers required to protect water and endangered species remove large swaths of rangeland from consideration. Treating hotspots can significantly reduce the overall amount of pesticide used compared to treating an outbreak on a large scale. Ground bait treatment of *C. pellucida* egg beds in 1995 in Klamath County was determined to have applied 91% less insecticide, to 28% less area, when compared to aerial bait programs the preceding year.

Neither APHIS authority, the Plant Protection Act of 2000, nor NEPA require a cost/benefit analysis before taking an action under the Rangeland Grasshopper and Mormon Cricket Suppression Program.

Comment: As noted in the previous 2003 EA, in 1995 only 1,001 acres of refuge land were treated with carbaryl bran bait selectively applied to egg beds (oviposition sites). Significantly, as the intensive surveys to precisely locate egg beds promised in a IPM Plan negotiated with the U.S. Fish & Wildlife Service

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after 1995 treatments were not conducted, no justification was provided to account for APHIS's then proposed 6-fold increase in KMNWR land that had been proposed for insecticide treatment in 2003.

APHIS Response: Based on meetings between FWS, FS, APHIS, local ranchers, and the public a long range IPM plan to deal with grasshoppers on the Klamath Marsh was formulated. In 1995, as one part of this plan and at the request of the land owners/managers, APHIS undertook an intensive survey of the areas of the Klamath Marsh then experiencing an outbreak of *C. pellucida*. All hatching beds (oviposition sites) located were recorded, mapped, and treated using ground equipment.

Loss of funding to APHIS' Rangeland Grasshopper and Mormon Cricket Suppression Program from 1996 to 2002 did not allow APHIS to assist landowners/managers with the level of survey needed to identify low but increasing populations that might indicate an impending outbreak. During this time APHIS' survey was limited primarily to adult grasshoppers in late summer as a means of predicting potential problem areas the following year.

Adult survey in 2002 recorded signs of an outbreak beginning on the Klamath Marsh. With funding restored, APHIS was able to conduct a thorough nymphal survey of the area in the spring of 2003. APHIS infestation figure (area recommended for treatment) was based on survey observations at the time.

Comment: A significant detrimental impact for KMNWR is that the application of insecticides to refuge land to kill grasshoppers also will result in the killing of numerous species of non-target arthropod species, including many that are valuable food resources for birds and other wildlife, plus pollinating species and natural enemies of the Clear-Winged Grasshopper. The killing of wildlife food resources violates the establishment of this NWR as an inviolate sanctuary to protect natural resources. Killing valuable wildlife food resources is not compatible with the purpose of a NWR. U.S. Fish & Wildlife Service Policy 7RM14.1 states that it "allows" for (not requires) control of pest populations where damage to private property occurs and if the planned control program is compatible with refuge purposes....Also, the detrimental effects associated with the proposed insecticide treatment of the KMNWR have not been considered and assessed.

APHIS Response: APHIS cannot speak to the Policies of the FWS. However the FWS has adequately addressed the compatibility issue in their Compatibility Determination, 6-03-04.

Substantial evaluations of the treatments that APHIS uses have been conducted during the registration process. These evaluations are most often on allowed

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treatments that are much higher in active ingredient (AI) levels than those APHIS uses in its programs. APHIS programs use the lowest or lower rates than are recommended on the label for all of our treatments.

Some non target insect species may be affected but as with grasshoppers which are not completely controlled, future generations will rebuild and/or migrate into the treated area. The impact on other refuge wildlife due to reduced insect population levels for food should not be different than what occurs in normal years when populations of grasshoppers and other species are low naturally. Using RAATs technology of leaving untreated swaths within a treatment area provides refuges for the survival of non-targets with minimal effect to the treatment's efficacy against grasshoppers.

An analysis of the effects of each of the alternatives on each group of non-target organisms is addressed in the 2002 FEIS. It is not necessary to repeat those findings in the EA. If specific impacts to non-targets of special concern on the Klamath Marsh are not adequately addressed by the 2002 FEIS or this EA, APHIS will address them in a supplement to this EA. APHIS believes this EA adequately analyses the environmental effects from this program to the vertebrate and invertebrate species in Klamath County including the Klamath Marsh NWR.

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**Response to comments on APHIS Site Specific Environmental Assessment
– OR-03-01 (provided to commenter on Jan. 23, 2004)**

ONRC, et.al. letter May 2, 2003

- 1) While the 2002 FEIS is intended to support grasshopper suppression programs that could occur in 17 Western States, no site-specific EA has been developed for the treatment of grasshoppers at the Klamath Marsh NWR.**

The environmental Assessment (EA) referenced here, OR-03-01 was developed to address site specific considerations for grasshopper (GH) suppression programs anywhere in the 18 counties where GH's historically have reached economic levels. The Klamath Marsh NWR is one political entity that manages rangeland in this area.

This EA describes the affected environment and consequences of the alternatives on human health, nontarget species, socioeconomic issues, and cultural resources. EA section I. C. "About This Process" describes how site-specific considerations are examined when an actual treatment request is received, and a treatment area defined. If during the examination of the treatment area, issues are found that are not addressed by this EA, a supplement will be prepared to address them. Otherwise an addendum is prepared stating that this EA is adequate for the proposed treatment at the specific location.

Many of the specific mitigation measures identified for a specific suppression location, if not mentioned in the EA, will be spelled out in the supplemental EA and the Finding of No Significant Impact (FONSI) issued before a treatment is undertaken at a specific location. This process will be applied to any project APHIS decides to undertake at the Klamath Marsh, or any other location.

- 2) Cumulative impacts are not discussed. EIS refers the reader to the EA, and the EA refer the reader to the EIS**

Cumulative impacts are addressed in the EA section VI. B. 1. As stated in the EA, label restrictions and program constraints limit project applications to one time per year. None of the chemical alternatives bioaccumulate, and in fact breakdown rapidly in the environment. Cumulative impacts are possible when an area is subject to repeat applications. Rangeland is not generally subject to large pest control operations. However the EA addresses this possibility as follows:

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“Use of pesticides by land managers for other pest control operations (ex. noxious weed control or mosquito control) in rangeland areas receiving grasshopper treatments may result in cumulative impacts. Such a scenario is unlikely due to differing application areas and modes of action. APHIS will consult with land managers to determine if herbicides or insecticides have been utilized within the past year on any proposed spray area within the proposed suppression area. APHIS will not apply any insecticide in a manner that conflicts with EPA requirements regarding multiple treatments or to an area known to have been treated recently with a pesticide known to have harmful cumulative effects with carbaryl, diflubenzuron or malathion”

3) Formal Section 7 Endangered Species Consultation is lacking both for the 2002 programmatic FEIS, and the recent April 2003 EA

ESA Section 7 consultation is required if a project may impact a listed or proposed species, or if critical habitat has been designated. There is no requirement for this consultation to be concluded before an EA is issued. It would however be required before a project could be undertaken in an area that contains, or is critical habitat for, a listed species.

Consultation is only required if an action is expected to adversely impact a listed species. Since listed species occur in the proposed area, Section 7 informal consultation has been undertaken, at the state level, to determine mitigative measures that will allow a determination of no effect or not likely to adversely affect. These consultations have since been completed and are incorporated into the EA Appendix 3.

National consultation is currently underway with US Fish and Wildlife Service and NOAA Fisheries.

4) Violations of the Clean Water Act (CWA) NPDES permit required

The determination by the 9th Circuit Court was issued in November 2002. APHIS is working with its Office of General Council on this issue.

5) Contrary to the EA's claims: Outbreaks of clear-winged grasshoppers, *Camnula pellucida*, at the Klamath Marsh NWR have been periodic and are for most part predictable.

Many studies have been undertaken to improve land managers' ability to predict when, where, and why GH's will reach economic outbreak levels. It is true that outbreaks may be associated with periods of drought. However, it is not possible to predict outbreaks with certainty because they depend greatly on climatic

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variables that cannot be predicted. "The intensity of grasshopper outbreaks depends largely on the rate of population increase the previous year and temperature and moisture conditions at the time of hatching and early nymphal development," EA, page 1.

APHIS provides annual adult GH survey results to land managers to assist with their decision making. This is followed up by nymphal GH survey the next spring to confirm predictions. Land managers are alerted if the potential for economically damaging GH levels are found to be likely.

The fact an outbreak was, or was not, accurately predicted, or that some action was taken, or not taken, by the land manager in an attempt to prevent a buildup does not change the need for economic relief when an outbreak does occur. APHIS is not a land manager, and has no control over the actions of land managers or their attempts to suppress GH population buildup on their land. APHIS' only requirement by the Plant Pest Act of 2000 (PPA) is to respond to requests for assistance from land managers.

6) APHIS's April 2003 EA ignores the IPM alternative selected in the prior adopted April 14, 1995 EA.

The 1995 EA was based on the 1987 Rangeland GH Cooperative Management Program FEIS. That FEIS was a collaborative effort between APHIS, BLM, FS, and FWS. It included an IPM alternative.

Based on this alternative, APHIS conducted the GH IPM Program from 1987-95 to research and demonstrate practices that land managers can implement to help keep GH populations below economic levels, while reducing adverse environmental effects of insecticides. The results of this project are published in the GH IPM User Manual which can be found on the internet at <http://www.sidney.ars.usda.gov/grasshopper/>. Many of the techniques published in this manual are currently being put to use by APHIS and land managers. The RAATs application system and the use of diflubenzuron, a chitin inhibitor, are a direct result of this IPM Program.

The 2002 FEIS, to which the 2003 EA is tiered, does not include an IPM alternative. The Plant Pest Act of 2000 (PPA) directs APHIS to "control actual or potential economic GH outbreaks on Federal, State, or private lands. APHIS' participation is subject to available funds, and at the request of a State or Federal land manager." It is the responsibility of the land manager to undertake any GH IPM related activities. APHIS can give advice on GH IPM, but is not the action agency for IPM.

With respect to the 1995 EA, APHIS did carry out its IPM obligation, within existing budget constraints. During the 1995 outbreak, the area was intensively

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surveyed, *Camnula* eggbeds were mapped using GPS, and treated by ground, with carbaryl bait and *Nosema* bait. Environmental monitoring was done in conjunction with this treatment. Nest boxes were erected to encourage avian predators of GH's on both refuge and private land. In addition, APHIS funded several research projects specific to concerns of *Camnula pellicida* on the Klamath Marsh:

- Augmentive Release of a Protozoan Parasite Found in *Camnula pellicida* from Klamath Marsh, Oregon 1995, Street, D.A., USDA ARS, Rangeland Insect Laboratory, Bozeman, MT
- Effects of *Beauveria bassiana* Baits on the Grasshopper *Camnula pellicida* (Scudder) on Rangeland, Foster, R. N., et. al., 1996, USDA APHIS PPQ, Methods Development Center, Phoenix, AZ
- Release of *Entomophaga grylli* Pathotype I in the Klamath Marsh NWR, Sanchez-Pena, S., et. al., 1996, USDA ARS, Biocontrol of Pests Research Unit, Weslaco, TX
- Rangeland-Marshland Ecosystem Management of Grasshoppers, Quinn, M. A., 1997, Dept. of Crop and Soil Science, WSU, Pullman, WA (funded by an EPA grant)

EA's are meant to be valid until circumstances change making a new or updated EA necessary. The purpose of the 2003 EA is to address NEPA requirements of GH suppression with respect to the current guidelines and environmental considerations, and supercedes any previous EA's. It will be reviewed annually to determine if a new, updated EA is called for.

7) APHIS's April 2003 EA needs to additionally address other commitments related to the treatment of GH's contained in the previously adopted April 14, 1995 EA

As stated in number 6 above, it is the responsibility of the land manager to implement any IPM measures designed to depress GH populations or increase the time interval between outbreaks. Management tools such as mechanical control, biological control, cultural control, and/or selective use of chemicals can be implemented by farmers, ranchers and land managers in an attempt to delay or avert economic grasshopper outbreaks, EA Section I.B.

However, grasshopper populations can build up to economic infestation levels despite even the best land management and other efforts to prevent outbreaks. At such a time, a rapid and effective response may be requested and needed to reduce the destruction of rangeland vegetation. In some cases, a response is also needed to prevent grasshopper migration to cropland adjacent to rangeland, EA Section I.B.

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The only measures available to APHIS are no action and the three chemicals addressed in the 2002 FEIS. Alternative pest control measures are not addressed in this EA because APHIS does not intend to undertake any. If requested APHIS will provide technical assistance to land managers who want to implement IPM for GHs, but APHIS does not perform the IPM activity.

8) The EA's assumption that it must suppress grasshoppers for agricultural needs, rather than fish and wildlife needs does not pertain to the Klamath Marsh National Wildlife refuge

Pfadt, 1994 states that *Camnula pellucida* adults may migrate long distances in huge flying swarms...but in recent years only small swarms in flights of short duration have been observed. Official survey records and observation by APHIS, ODA, and Refuge personnel document that the extremely high populations of grasshoppers that were left untreated on the refuge in 1993 migrated to the successfully treated private rangeland, thus negating any benefit that may have resulted from the APHIS GH aerial control program undertaken on private rangeland adjacent to the refuge. By the end of the summer of 1993 the entire area was again experiencing egg laying by economically significant populations of grasshoppers, official survey results.

A similar pattern followed the cooperative aerial treatment of both refuge and private rangeland in 1994. Almost 20,000 acres of private land were treated with malathion with 90+% mortality of grasshoppers. 3576 acres of refuge were treated with carbaryl bait with ~70% mortality, while another 3000+ acres of economic GH population on the refuge were not treated. The untreated area resulted from the expansion of the infestation that occurred during the delay caused by an ONRC lawsuit and temporary injunction. When the injunction was lifted, the F&WS was unable to amend the PUP to expand the originally agreed upon control area. GH's again reinvaded the treated areas from the untreated areas on the NWR. Although not as severe as in 1993, the entire treated area (private and refuge) had an economic infestation of egg-laying GHs by the seasons end, official survey record.

Therefore, it is shown that not treating Klamath NWR GH outbreaks can have a negative economic impact on neighboring rangeland as a result of migrating GHs.

While species that feed on GHs may benefit from an abundant food supply, the loss of forage consumed by GHs on the NWR can have a detrimental effect on species that compete with GHs for vegetation, or use vegetation for cover or nesting habitat. The refuge also has grazing leases and hay production that could be negatively impacted by GH outbreaks, limiting management alternatives.

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9) An alternative that builds on the requirement of the April 1995 EA needs to be developed in which non-chemical insecticides are used to better meet the specific wildlife objectives of the Klamath Marsh NWR

APHIS agrees that finding a non-chemical insecticide to use for GH control would be beneficial to our goal of suppressing GH outbreaks while providing maximum protection to the environment. However no such insecticide exists that is effective. We feel that we have presented a full range of alternatives to meet APHIS' obligations under the PPA, section 417.

The chemical diflubenzon which inhibits the formation of chitin only affects the immature stages of insects by preventing them from molting. This chemical has virtually no effect on birds, mammals, fish, amphibians, reptiles, and adult insects. Most GH parasites and predators are in the adult stage at the time GH treatments will be undertaken. APHIS suppression programs occur while the majority of GHs are still juvenile.

The RAATs application system can be used with any of the three available GH suppression chemicals. This system leaves untreated swaths which act as a refuge for the survival of GH parasites and predators. Nymphal GHs are one of the few forms of juvenile insects that are extremely mobile. Many young GHs will migrate from the untreated swaths into treated swaths thus exposing themselves to the control insecticide. Most other juvenile insects will remain unaffected in the untreated swaths. When they become adults they will quickly recolonize the treated areas.

10) The relationship between grazing and grasshoppers outbreaks needs to be clarified.

The relationship between grazing and grasshopper outbreaks has no bearing on our EA for GH suppression. While improved information about this relationship would be helpful to land managers, it has no bearing on APHIS' need to suppress GH outbreaks when they do occur, and a request for assistance is received. Studies that have addressed this issue are site specific and/or inconclusive.

Onsanger (2000) developed a twice over grazing system that effectively mitigated a localized GH outbreak in the northern great plains. However, this report states that this concept probably will not transfer to other ecosystems. Furthermore, according to Fielding and Brusven (1995) in the intermountain ecoregion and Capinera and Seachrist (1982), in the shortgrass prairie, reported higher GH densities at ungrazed sites than at grazed sites. Food abundance appeared to regulate GH densities.

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The Quinn (1997) report that is quoted took place in a year of very low, sub economic GH densities. The highest mean densities were only “6.5 and 8.1/ m2.” APHIS survey results for that year recorded less than 3/yd² over the entire area. Depending on the quality of the range, we consider 18-24/yd² to be economic. This Quinn report also found that age structure indicated that hatching occurred over time, whereas during the outbreak years (1993-5) it appeared to occur over a short time interval. Quinn’s conclusions are that “because of the low population levels, results from the 1996 study are not directly applicable to other years when GHs are much more abundant.” During the outbreaks of 1993 and 1994, pretreatment counts were greater than 100/yd².

This agrees with the findings noted in #8 above, that GHs migrated from untreated areas to reinfest adjacent treated areas.

Another indication that altering grazing practices may not be effective in controlling or mitigating outbreaks of *Camnula pellucida* on the Klamath is the fact that the intensive survey in 1995 found an equal area of eggbeds on the refuge as on the private range.

Camnula pellucida adults lay eggs intensively in small areas or beds that may contain as many as 3000 –100,000 eggs per square foot, Pfadt, 1994. A visit to eggbeds on the Lane Ranch (NWR/FS) in early 2003 found 50 to >100 eggs per square inch, on dozens, perhaps even hundreds, of acres.

11) While the EA (pg 12) promises to take “protective measures...necessary to protect sensitive or threatened or endangered species” the EA does not disclose what those species are, or what those measures will be on the Klamath Marsh

As noted on page 6 of the EA “When the program receives a treatment request and determines that treatment is necessary, the specific treatment site within the proposed suppression area will be extensively examined to determine if environmental issues exist that were not covered in this EA. If no changes to the EA, or APHIS’ Guidelines for Treatment of Rangelands for Grasshopper and Mormon Crickets (treatment guidelines) (Appendix 1) are warranted, based on the comments received and examination of the treatment site, an addendum to the EA will be prepared stating this. If changes need to be made to the EA, or treatment guidelines, the program will prepare a supplement to the EA describing the changes and/or additional site-specific issues that were not covered in the EA.”

The 2003 EA was written to meet NEPA requirements for GH suppression in 18 Oregon counties. Should APHIS be requested to undertake a program at the

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Klamath Marsh, any site specific mitigation measures will need to be addressed in an addendum or supplement prior to issuing a FONSI.

Mitigation measures for listed species, which were determined through ESA Section 7 consultation, are listed in IV.B.7. of the EA.

12) The EA needs to disclose and discuss that clear-winged GHs are mainly grass feeders

Although it is true that *Camnula pellucida* feeds mainly on grasses. Pfadt (1994) indicates that they will feed on forbs and legumes as well. This report also states that swarms may invade vegetable crops and feed preferentially on onions, lettuce, cabbage, and peas. In addition, our observations in 2003 revealed that the infestation on the Klamath Marsh consumed virtually all vegetation over many hundreds of acres, where GH populations were 70 to over 100/yd².

When GH populations reach extremes and all preferred vegetation is consumed GHs will eat what ever food is available. At the Klamath Marsh in 2003, we documented severe feeding damage on bulrush and rabbitbrush which are not normally a food source of GHs.

Livestock grazing may have an impact on rangeland. However, it is not our purpose to analyze the impacts of livestock in this EA. We stand by our assessment of the negative impact that severe GH outbreaks can have on rare plant species, and animal habitat. Livestock grazing may have an effect on vegetation since they are also herbivores like GHs, but livestock can be managed to lessen or eliminate impacts. They can be fenced out of areas of concern. Livestock are rotated on range as available forage is consumed. They may graze certain types of plants back severely, but they are not normally allowed to consume all available vegetation. Once reaching outbreak populations, GHs cannot be controlled or managed by passive measures. "GHs consume green forage roughly eight times as fast in proportion to their weight as beef animals on good range," Wakeland, 1946. Many studies have been done on the relationship of livestock grazing and GH population buildup and the results are inconclusive. Since it is known that during outbreaks, GHs can consume virtually all available vegetation in an area, we disagree with your statement that only cattle and not GHs have ever succeeded in removing significant amounts of "nesting and plant cover habitat." Large areas of the Klamath Marsh in 2003 are proof.

Although it is know that livestock can carry viable seed from place to place in their gut or on their fur, APHIS is unaware of studies indicating that livestock are the primary cause of nonnative plant species invasion, as you assert. There have been studies that show that disturbances which create bare soil, such as road construction, fire, intense grazing (by livestock or extreme GH populations), etc.

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are quickly invaded by non-native invasive weeds, if a nearby seed source exists. APHIS has no control over livestock grazing or its impacts on the environment, but APHIS is directed by the PPA to control outbreaks of GHs when requested. Therefore, an analysis of the impacts of grazing is not included in this EA.

The Klamath Marsh NWR suspended its grazing allotments on the refuge this year due to the GH outbreak. This provides the evidence you say does not exist that GHs decrease the availability of forage for cattle and sheep.

13) APHIS's 2003 EA does not disclose that GHs as well as "non-target" insects that would be killed are also species which comprise refuge wildlife.

Section I.B. explains that GHs are a natural and usually benign part, of the biota. However, GHs are known for occasional severe outbreaks that may require intervention to protect human and natural resources.

An analysis of the effects of each of the alternatives on each group of non-target organisms is addressed in the 2002 FEIS. It is not necessary to repeat those findings in the EA. If specific impacts to non-targets of special concern on the Klamath Marsh are not adequately addressed by the 2002 FEIS, APHIS will address them in a supplement to this EA.

14) Other APHIS 2003 EA deficiencies

Programs offered by other agencies are beyond the control of APHIS. APHIS' directive under the PPA of 2000 does not require that land managers consider other government programs before requesting assistance from APHIS for relief from GH outbreaks.

Rangeland does not fall under USDA Risk Management Agency's (RMA) crop insurance program. FSA's Noninsured Crop Assistance Program (NAP) is available for those crops not covered by RMA. Normally, grasshopper damage would not qualify for this program, because the disaster must be weather related. The sign-up for this program ends October of the year before coverage begins.

If APHIS becomes aware of additional programs available from other agencies APHIS will bring them to the attention of land managers. FSA will be invited to speak about their programs at any public meetings.

The small amount of carbaryl that was detected in one of the water samples taken after the 1994 aerial treatment occurred as a result of misapplication by the contractor. This deficiency was noted and the contractor was removed from

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future consideration. ODA Pesticide Division considered pursuing actions against this contractor, but APHIS does not know the outcome.

The environmental monitoring report from that program found that “residues from the carbaryl bran bait/*Nosema* mixture treatment areas suggest that risk to aquatic invertebrates would be extremely small. Surface and subsurface residues averaged between the detection limit and 2 ppb up to 2 days after spray. Residues were not detected 6 days after treatment. A half-life estimate for the pond is 2.6 days.”

Cultural resources and events specific to the Klamath Marsh, if any, will be addressed in a supplement to this EA, should APHIS decide to undertake a program on there.

APHIS believes it is not necessary to repeat information covered in the FEIS in site-specific EA's. This information is incorporated by reference.

• Request to incorporate by reference comments of April 11, 2003 made by Idaho Conservation League and Xerces Society on APHIS's site Specific EA in Idaho to Dave McNeal, SPHD, USDA APHIS, Boise, ID.

This office is not in possession of the above mentioned document, nor do we feel compelled to respond to comments on a project not taking place in Oregon.

• May 19, 2003 letter re: Grassland Reserve Program (GRP)

The GRP is a new USDA FSA program designed to reward good range stewardship. This program is for working range, not set aside. In other words livestock numbers would be reduced, but not eliminated. This program was not available to ranchers in 2003. If applicable, it will be mentioned in any 2004 EA(s), and FSA will be invited to explain their programs at any public meetings.

• May 8, 2003 letter to APHIS and Klamath Basin Refuges with comments on the Refuges draft Compatibility Determination.

This is an F&WS document that APHIS took no part in preparing. Therefore APHIS will not respond to questions about decisions made by F&WS.