United States Department of the Interior

FISH AND WILDLIFE SERVICE
1387 S. Vinnell Way, Ste 368
Boise, ID 83709

In Reply Refer to:
FWS/R1

March 31, 2020

Mr. Brad Newbry
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Idaho State Office
9118 West Blackeagle Dr.
Boise, ID 83709-1572

Subject: APHIS 2020 Grasshopper and Mormon Cricket Suppression Program for Southern Idaho. In Reply Refer To: 01EIFW00-2020-I-0654

Dear Mr. Newbry,

In a letter dated January 27, 2020, the Idaho office of the Animal and Plant Health Inspection Service (APHIS) provided an overview of their 2020 grasshopper and Mormon cricket suppression program (Program) to the Idaho office of the Fish and Wildlife Service (Service). The APHIS letter included a request for informal consultation and concurrence on their determinations for 13 listed species, or candidate for listing, under the Endangered Species Act of 1973, as amended (Act). APHIS has identified four different pesticides that can be applied at different concentrations and coverages. APHIS will preferentially use a reduced agent area treatment (RAAT) except under more intensive or damaging infestations under which approved, conventional concentrations and coverage may be used. In your letter, APHIS requested Service concurrence on their determinations for 13 federally listed, candidate, or proposed species. The proposed action includes the application of insecticides as spray or baits, to suppress Mormon cricket (or cricket) and grasshopper outbreaks on Federal rangelands of southern Idaho. The proposed action is to take place from April 1, 2020 to September 30, 2020, and may occur in portions of Cassia, Adams, Twin Falls, Minidoka, Jerome, Lincoln, Bear Lake, Bingham, Blaine, Clark, Fremont, Custer, Caribou, Jefferson, Bonneville, Madison, Butte, Washington, Valley, Payette, Gem, Boise, Ada, Elmore, Owyhee, Camas, Gooding, Power, Teton, Oneida, and Bannock counties of Idaho. This letter provides the Service's concurrence and non-concurrence for the APHIS 2020 Program.

In your letter, APHIS has provided determinations that the proposed action will not affect the grizzly bear (*Ursus arctos horribilis*, threatened), North American wolverine (*Gulo gulo luscus*, proposed threatened), Canada lynx (*Lynx canadensis*, threatened) or the whitebark pine (*Pinus albicaulus*, candidate). These species typically occur in habitats outside of the areas treated under the Program, and the Service acknowledges these determinations.

Under the proposed action, APHIS has determined that the Program may effect, but is not likely to adversely affect (NLAA) the northern Idaho ground squirrel (*Spermophilus brunneus brunneus*, threatened), bull trout (*Salvelinus confluentus*, threatened), Ute ladies'-tresses (*Spiranthes diluvialis*, threatened), Snake River physa snail (*Haitia (Physa) natricina*, endangered), Bliss Rapids snail (*Taylorconcha serpenticola*, threatened), Banbury Springs limpet (*Idaholanx fresti*, formerly *Lanx sp*., endangered), Bruneau hot springsnail (*Pyrgulopsis bruneauensis*, endangered), the western yellow-billed cuckoo (*Coccyzus americanus*, threatened, western distinct population segment), and slickspot peppergrass (*Lepidium papilliferum*, threatened). These determinations are based on the identified avoidance measures (treatment buffer areas around known occurrences) APHIS has identified in carrying out the Program. APHIS has also concluded the effects of the proposed action will not adversely modify designated critical habitat for the bull trout or proposed critical habitat for the yellow-billed cuckoo or slickspot peppergrass, given the proposed treatment buffers assured around the designated and proposed critical habitat. For all species and critical habitat designations other than northern Idaho ground squirrel, this letter transmits the Service's concurrence on the above identified determinations for the Program as proposed. The Service does not concur with APHIS's "not likely to adversely affect" determination for the threatened northern Idaho ground squirrel since no protective or avoidance measures are provided in the proposed action. As described in the Assessment and proposed action, consultation for northern Idaho ground squirrels will be conducted on a case by case basis as needed. Please be advised that APHIS will need to allow for sufficient review time for any such consultation in advance of control activities to be conducted in or adjacent to (est. 300 meters, 984 ft) areas containing known northern Idaho ground squirrel locations.

On October 2, 2015, the Service removed the greater sage-grouse (*Centrocercus urophasianus*) from its list of candidate species, citing the species' extensive distribution, secure population levels, and the implementation of long-term and proactive conservation activities by the Service and its conservation partners. For the 2020 Program, APHIS will continue to utilize the guidance provided in the Bureau of Land Management (BLM) Instruction Memorandum No. 2016-115 and avoidance areas and measures as identified in IB ID-2018-014 to ensure the proposed action will minimize potential impacts to greater sage-grouse and important habitat areas used by that species.

On October 8, 2015, the Service determined that three additional species previously identified as candidates for listing, be removed from consideration for listing. These species included: the Columbia spotted frog (*Rana luteiventris*, Great Basin population), Goose Creek milkvetch (*Astragalus anserinus*), and the southern Idaho ground squirrel (*Urocitellus endemicus*). These species were removed from the candidate list for multiple reasons, which included long-term and proactive conservation activities by the Service and its conservation partners. The avoidance measures implemented by APHIS in carrying out the 2020 Program (Assessment, Table 3) are included among those proactive conservation activities and continuation of these measures will help ensure that listing is not warranted in the future. As proposed in the 2020 Program, APHIS is continuing to provide previously established avoidance measures, helping to ensure the long-term conservation benefits to these species. APHIS has identified protective measures for an additional 46 sensitive species and subspecies that are not currently listed nor candidates for listing, and these conservation efforts will help reduce the need to list these species in the future (Assessment, Table 4).

For protection of the bald eagle, APHIS will abide by the National Bald Eagle Management Guidelines. The Service acknowledges and supports the incorporation of these conservation measures into the Action.

Background and Proposed Action:

As provided for by the Plant Protection Act, APHIS will conduct the Program on Federal rangeland in response to requests from the administering agency. Over the past two decades, most of the suppression in Idaho has been on lands administered by the Bureau of Land Management, with smaller amounts of National Forest Service lands. Over the previous 14 years APHIS has treated as much as 70,000 acres per year of Federal land for the suppression of grasshoppers and crickets in southern Idaho. From 2011 through 2018 total treatments were below 7,025 ac, but increased to greater than 46,000 ac in 2019. Under the 2020 Program, APHIS has included a new pesticide spray (Chlorantraniliprole/Prevathon®) and reinstituted the use of Carbaryl spray. The magnitude and location of outbreaks are not predictable, thus APHIS is providing assurances that its Program will not adversely affect federally listed species throughout the treatment area by providing no-treatment buffers around known occurrences or critical habitat. In the event that extreme outbreaks or other circumstances lead to consideration of treatment within the proposed buffers, this would result in an action not considered by the Service and would require reinitiation by APHIS to be covered under Section 7 of the Act.

The need for suppressing populations of crickets and grasshoppers are considered on a case-by-case basis. There is no specific population level that triggers APHIS participation. Minimum densities of three (3) crickets or eight (8) grasshoppers per square yard are required before a suppression action is considered. In response to a suppression request from land managers, APHIS determines if an outbreak has reached an economically or environmentally critical level. If so, an appropriate treatment is developed, taking into account additional site specific information.

Grasshopper treatments occur on rangeland within one mile of cropland. Past treatments of Mormon crickets have occurred up to ten miles from cropland. This extended range has been needed because the migratory propensity of Mormon crickets can lead to hazardous road conditions at a greater distance from cropland or other treatment areas. APHIS will only treat a treatment block once on an annual basis, repeat treatments are not conducted by APHIS during an outbreak season.

As described under the 2020 preferred action, the below identified pesticides will be applied at the Reduced Agent Area Treatment (RAAT) as treated bait (Carbaryl only) or via spray with active ingredient (a.i.). Representatives of the Idaho APHIS program have stated the RAAT coverage and concentrations would be used greater than 90 percent of the time. RAAT concentrations are as follows:

8.0 fluid ounces (0.25 lb a.i.) of Carbaryl ULV spray per acre;
10.0 pounds (0.20 lb a.i.) of 2% Carbaryl bait per acre;
4.0 fluid ounces (0.013 lb a.i.) Chlorantraniliprole spray per acre;
0.75 or 1.0 fluid ounce (0.012 lb a.i.) of Diflubenzuron (Dimilin) ULV spray per acre;
4.0 fluid ounces (0.31 lb a.i.) of Malathion ULV spray per acre.

While the above concentrations would be applied as the preferred alternative, APHIS is reserving the authority to utilize these pesticides at approved conventional rates and at full area coverage of an identified treatment block. These conventional concentrations and areas of application would be used under conditions of elevated infestation (undefined) and at the request of the land manager. The potential use of these conventional application rates provide flexibility for such infestations and are summarized below.

32.0 fluid ounces (0.5 lb a.i.) of Carbaryl ULV spray per acre;
10.0 pounds (0.5 lb a.i.) of 5% Carbaryl bait per acre;

32.0 fluid ounces (0.02 lb a.i.) of Chlorantraniliprole spray per acre;
31.0 fluid ounces (0.016 lb a.i.) of Diflubenzuron ULV spray per acre;
8.0 fluid ounces (0.62 lb a.i.) of Malathion ULV spray per acre.

Although 0.20 lb a.i. of Carbaryl bait is sufficient for suppression of some species of grasshoppers in some situations, the Mormon cricket populations encountered in past Idaho outbreaks have required the 0.50 lb a.i. rate of application to be effective. Ground applications of bait was typically (RAAT) made to no more than 75% of the land area within any specific treatment block. Ground applications are normally made to existing roadsides and trail sides, but might be made off-road or off-trail with the concurrence of land managers, and can include aerial application.

Under the RAAT preferred alternative all of the identified spray applications, Malathion, Carbaryl, Chlorantraniliprole, and Diflubenzuron, is reduced to concentrations below that approved for use per the pesticide labels or as described and analyzed in the APHIS 2019 Rangeland Grasshopper and Mormon Cricket Suppression Program, Final Environmental Impact Statement. In addition, under the preferred RAAT applications both baits and sprays will be made to no more than 75% of the land area within any specific treatment block. However, APHIS may periodically use applications of baits and sprays at conventional, non-RAAT, applications as detailed above.

Diflubenzuron (Dimilin) is a growth regulator of insect larvae. It disrupts the production of chitin and thus the molting/development process of insect larvae. Diflubenzuron remains the pesticide of choice for this program given its low toxicity to vertebrates. However, Diflubenzuron must be applied when target insects are in subadult life stages to be effective. By contrast, Malathion, Carbaryl, and Chlorantrantaniliprole target components of the central nervous system, and thus are not limited to the target species life history stage. Use of Malathion spray is the option of last resort, and was last used in the Idaho Program in 1999. The use of Carbaryl spray was discontinued as a preferred alternative prior to 2010, but is being reintroduced as a possible treatment in 2020. Chlorantraniliprole spray has never been used or proposed for use in Idaho previous to this 2020 Program proposal.

APHIS Directive 5640.1 commits APHIS to a policy of monitoring the effects of Federal programs on the environment. Environmental monitoring includes such activities as checking to make sure the insecticides are applied in accordance with the labels and that sensitive sites and organisms are protected. APHIS will conduct post-treatment assessments to determine if any non-target impacts may be attributed to the treatments. Observers will monitor wildlife, including migratory birds, to determine if any mortality or unusual behaviors are exhibited. To date, APHIS indicates that thirty years of post-treatment monitoring has identified some impacts to non-target insects. Impacts to other non-target species have not been identified.

APHIS will employ the measures listed in Table 1 of the Assessment (summarized in Table 1 below) to insure listed species are avoided. Additional assessments will be made of all potential treatment blocks and in conjunction with land managers. Where warranted, and in coordination with land managers, APHIS may impose more stringent protective measures based on information provided by land managers and the site-specific assessments of potential treatment blocks.

Identification of listed and sensitive species and habitats are accomplished prior to treatment using a combination of the Idaho Department of Fish and Game's, Idaho Fish and Wildlife Information System

(IFWIS); information from local BLM and Forest Service biologists; and information from pre-treatment field investigations by APHIS staff.

Table 1. Federally listed species and avoidance measures proposed under the Action for the 2020 APHIS Program, and Service rationale for concurrence. Abbreviations: T: threatened, P: proposed, E: endangered, C: candidate, NE: no effect, NLAA: not likely to adversely affect. Rationales: 1: avoidance of occupied habitat or critical habitat, 2: enter formal consultation as needed (see Concurrence section below), 3: Program activities not anticipated to occur in occupied habitat; Service acknowledgement of applicant's no effect determination.

Listed Species & Federal Status	APHIS Determination	Proposed Protective & Mitigation Measures	Rationale (above)
Grizzly bear T North American wolverine PT Whitebark pine C Canada lynx T	NE	APHIS Program will not be conducted in occupied habitat.	3
Ute ladies' tresses T Slickspot peppergrass T	NLAA	No aerial spraying of listed pesticides within 3 miles of known populations.	1, 2
Bull trout T Banbury Springs limpet E Bliss Rapids snail T Bruneau hot springsnail E Snake River physa E	NLAA	Employ 0.5-mile buffer around occupied habitat for the use of Carbaryl, Malathion, Diflubenzuron, or Chlorantraniliprole spray[1]; employ 500 ft buffer for application of Carbaryl baits.	1, 2
Northern Idaho ground squirrel T	NLAA	APHIS to consult as needed. No concurrence provided for this species for the 2020 Program.	3, 2
Yellow-billed cuckoo T	NLAA	Employ 500 ft treatment buffer from edge of riparian habitats if employing Carbaryl bait; employ 1,000 ft treatment buffer if employing Carbaryl, Diflubenzuron, Chlorantraniliprole, or Malathion spray.	1, 2
Bull trout critical habitat (designated)		Employ 0.5-mile buffer around designated critical habitat for the use of Malathion, Chlorantraniliprole, or Diflubenzuron Spray[1]; employ 500 ft buffer for application of Carbaryl baits.	1, 2
Yellow-billed cuckoo proposed critical habitat		Employ 500 ft treatment buffer from edge of riparian habitats if employing Carbaryl bait and 1,000 ft treatment buffer if employing Diflubenzuron, Chlorantraniliprole, or Malathion spray from edge of proposed critical habitats.	1, 2
Slickspot peppergrass proposed critical habitat		No aerial spraying within 3 miles of known populations.	1, 2

[1]: For all pesticide spray application, APHIS prescribes to the 2015 Treatment Guidelines which restricts application when: 1) wind velocity exceeds 10 mph, 2) during rain-fall or when rain imminent, 3) dew is present over large area of treatment block, 4) existing air turbulence could affect spray deposition, or 4) temperature inversions affect deposition onto the treated ground area.

Concurrence

For all species addressed in this consultation, APHIS will implement the following avoidance measures, as provided in their proposed action, to ensure the Action will not adversely affect listed, proposed, or candidate species or adversely modify their critical habitat. If APHIS determines there is a need to treat areas within the stated buffers or for species not specifically addressed in this consultation (e.g., northern Idaho ground squirrel), then they will enter into formal consultation with the Service prior to treatment. The below avoidance measures apply to all APHIS treatments for the Idaho Program at both conventional as well as RAAT applications.

APHIS has determined that Malathion and Carbaryl are moderately to very highly toxic to bull trout, Bliss Rapids snail, Banbury Springs limpet, Bruneau hot springsnail, and Snake River physa, while Chlorantraniliprole and Diflubenzuron are low to slightly toxic (respectively) to these species. Improper application could result in direct and indirect effects including mortality and harm, reduced prey availability, and lowered reproductive success. As proposed, APHIS will implement the following protective measures to avoid direct and indirect effects.

1) APHIS will not apply Diflubenzuron, Chlorantraniliprole, Carbaryl, or Malathion sprays within 0.5 miles of all known or potentially occupied habitats.
2) APHIS will not use Carbaryl bait within 500 feet of all known or potentially occupied habitats.

Based on these avoidance measures, any concentration of pesticides that may incidentally enter the buffer areas is anticipated to be so small as to have no measurable adverse effect. Given the proposed avoidance measures and likely insignificant effects, the Service concurs that the Program is not likely to adversely affect bull trout, Bliss Rapids snail, Banbury Springs limpet, Bruneau hot springsnail, or Snake River physa.

Given APHIS will provide the above buffers (0.5 miles for spray and 500 ft for baits) to all designated bull trout critical habitat, the Service has determined that designated critical habitat for bull trout will not be adversely modified.

APHIS has determined that Malathion has a high to moderate toxicity, Carbaryl has a moderate to low toxicity, and Chlorantraniliprole and Diflubenzuron have a low toxicity to the yellow-billed cuckoo. Improper application could result in direct as well as indirect effects including mortality and harm, reduced prey availability, and lowered reproductive success. As proposed, APHIS will implement the following protective measures to avoid direct and indirect effects.

1) APHIS will maintain a 500 ft treatment buffer from the edge of riparian zones containing cottonwood/willow habitats when applying Carbaryl bait, and a 1,000 ft treatment buffer when applying Diflubenzuron, Chlorantraniliprole, Carbaryl, or Malathion sprays;
2) For all yellow-billed cuckoo proposed critical habitat, APHIS will maintain a 500 ft treatment buffer when applying Carbaryl bait, and a 1,000 ft treatment buffer when applying Diflubenzuron, Chlorantraniliprole, Carbaryl, or Malathion sprays.

Based on these avoidance measures, any concentration of pesticides that may incidentally enter the buffered areas is anticipated to be so small as to have no measurable adverse effect. Given the proposed avoidance measures and likely insignificant effects, the Service concurs that the Program is not likely to adversely affect yellow-billed cuckoo. In addition, based on the proposed avoidance measures, the

Service has determined that proposed critical habitat for yellow-billed cuckoo will not be adversely modified.

APHIS has determined that Malathion, Carbaryl, Chlorantraniliprole, and Diflubenzuron all have low toxicity to Ute ladies' tresses and slickspot peppergrass. Improper application could result in indirect effects including loss of important pollinators. Therefore, APHIS will implement the following protective measures to avoid indirect effects to potential pollinators adjacent to occupied habitats.

1) To avoid exposing pollinators to aerial drift, APHIS will not conduct aerial spraying of Diflubenzuron, Chlorantraniliprole, Carbaryl, or Malathion sprays within three (3) miles of all known populations of Ute ladies' tresses or slickspot peppergrass;
2) For slickspot peppergrass, APHIS has also agreed to provide the above treatment buffer (3 miles) to all proposed critical habitat.

Based on this protective measure, any concentration of pesticides that may incidentally enter the buffer or adjacent areas is anticipated to be so small as to have no measurable adverse effect to non-target pollinators. Given the proposed avoidance measures and likely insignificant effects, the Service concurs that the Program is not likely to adversely affect the Ute ladies' tresses or the slickspot peppergrass. Based on the proposed buffer around proposed critical habitat for the slickspot peppergrass, the Service has determined that proposed critical habitat will not be adversely modified.

For the northern Idaho ground squirrel, APHIS has determined that Carbaryl and Malathion are moderately and highly toxic (respectively), while both Diflubenzuron and Chlorantraniliprole are of low toxicity. APHIS regards treatments under the Program as not likely to occur in areas occupied by this species, however it has not provided avoidance measures that would avoid or minimize impacts. Given this, the Service cannot concur with their determination of "not likely to adversely affect". However, APHIS has provided assurances in their Assessment that they will consult with the Service prior to any proposed suppression activities they conduct in or near areas that contain this species. Please be advised that APHIS will need to allow for sufficient review time for any such consultation in advance of control activities.

Collaboration with State, Private, and Other Government Agencies

To help reduce impacts of grasshoppers and crickets on state and private lands, the Idaho State Department of Agriculture (ISDA) implements an independent suppression program. The ISDA suppression program includes distribution of Carbaryl baits to private land owners upon request, but with requirements that those parties utilize these pesticides in accordance with label restrictions. The distribution of these pesticides to second and third parties contributes to the Service's uncertainty that adequate precautions will be exercised in areas containing federally listed or sensitive species. For example, label instructions for Carbaryl baits do not provide for a buffer to aquatic habitats containing sensitive species, as are provided in the APHIS Program. Rather, label instructions only require that the pesticide not be applied directly to water. Such applications may cause adverse effects to protected aquatic species such as bull trout or sensitive species such as the Columbia spotted frog, which are highly sensitive to Carbaryl toxicity.

The concurrences provided in this consultation apply only to the proposed action conducted by APHIS as described. It does not cover similar grasshopper and/or cricket control or suppression efforts carried out by the State of Idaho, and no incidental take of federally listed species is provided for the State of Idaho control/suppression program. Only those activities carried out by APHIS, as described in your request for

informal consultation and concurrence, are covered in this informal section 7 consultation. Any associated activities funded, permitted, or carried out by entities other than APHIS have not been considered by the Service, and would be subject to section 9 of the Act if those activities result in the unauthorized take of a listed species. We recommend you evaluate the extent of your Federal nexus for section 7 consultation purposes associated with your support of control efforts with state and private parties and their lands. If, upon further review, you determine a Federal nexus extends to the support program or applicable actions on state and private lands, we recommend you update your project description and reinitiate consultation to ensure compliance under the Act is complete. We recommend that APHIS coordinate with the State of Idaho to discuss their individual control programs to ensure coordinated (and non-duplicative) control efforts occur on the ground. We also recommend that the State of Idaho adopt the measures identified by APHIS and the Service to minimize potential negative effects to listed species, migratory birds, and species of conservation concern. To avoid unauthorized take of listed species, we consider the measures provided by APHIS to be effective in avoiding impacts to listed and sensitive species. We recommend that these avoidance measures be adopted by other parties, both agency and private, to promote the conservation of listed and sensitive species when carrying out similar grasshopper and cricket control efforts.

As stated in your January 27 request for concurrence, APHIS has submitted a draft programmatic biological assessment (Programmatic Assessment) to the Service's national office that covers the APHIS suppression program collectively in 17 western states. Many of the proposed actions and mitigation efforts provided in the Programmatic Assessment are different from those covered in this informal consultation. The Idaho Fish and Wildlife Office request that the Idaho APHIS office keep us appraised of any changes that may occur as a result of the Programmatic Assessment currently under review so that we remain informed of any changed actions or mitigation measures that may come into effect during the 2020 season.

This concludes informal consultation on the 2020 APHIS Grasshopper and Mormon Cricket Suppression Program under section 7 of the Act. If the Action is modified, environmental conditions change, or additional information becomes available regarding potential effects to listed species, you should discuss such changes with the Service to verify that your conclusions are still valid. Thank you for your continued interest in the conservation of threatened, endangered, and sensitive species. Please contact Dave Hopper (208) 685-6957, of my staff if you have questions concerning the contents of this letter.

Sincerely,

KATHLEEN HENDRICKS

Digitally signed by KATHLEEN HENDRICKS
Date: 2020.03.31 10:56:44 -06'00'

Christopher Swanson
Acting State Supervisor

cc: USFWS-EIFO, Chubbuck (Fisher)
ISDA, Division of Plant Industries, Boise (Safford)
IDFG, McCall (Mack)
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APHIS, Boise (Marschman)