FINDINGS AND RECOMMENDATIONS FOR ISSUANCE OF SECTION 10(a)(1)(A) ENHANCEMENT OF SURVIVAL PERMIT (TE 208532-0) ASSOCIATED WITH THE WILLAMETTE VALLEY NATIVE PRAIRIE HABITAT PROGRAMMATIC SAFE HARBOR AGREEMENT FOR THE FENDER'S BLUE BUTTERFLY

I. DESCRIPTION OF THE PROPOSED ACTION

The Fish and Wildlife Service (Service) proposes to issue an enhancement of survival permit (permit) to itself under the authority of section 10(a)(1)(A) and section 10(a)(2) of the Endangered Species Act (ESA), as amended, and the Service's Final Policy for Safe Harbor Agreements (64 FR 32717, June 17, 1999). The permit would be in effect for a period of 25 years. Documents used in the preparation of this statement of Findings and Recommendations include the Willamette Valley Native Prairie Habitat Programmatic Safe Harbor Agreement (Agreement) (U.S. Fish and Wildlife Service 2009a), associated environmental action statement (U.S. Fish and Wildlife Service 2009b), and the Service's biological opinion on the issuance of the permit (U.S. Fish and Wildlife Service 2009c). All of these documents are incorporated by reference as described in 40 CFR § 1508.13.

The Service is requesting a permit for the Fender's blue butterfly (*Icaricia icarioides fenderi*) which was listed as endangered, without critical habitat, on January 25, 2000 (65 FR 3875). Critical habitat for the Fender's blue butterfly was designated on October 6, 2006 (71 FR 63862). The permit would authorize the incidental take of the Fender's blue butterfly (FBB) that are above the "baseline" of the Cooperators enrolled properties. Baseline represents the number of butterflies or the acres of occupied habitat that are present on a given piece of property at the time a permit or Certificate of Inclusion is issued. Take would occur in association with certain management activities that may occur on private lands within Benton, Lane, Linn, Marion, Polk and Yamhill Counties of the Willamette Valley, Oregon. The Service will seek out Cooperators who are willing to voluntarily undertake restoration and management activities on their properties. Under the permit, the Service would provide incidental take authorization to Cooperators who enroll all or portions of their property under the Agreement through the issuance of Certificates of Inclusion for certain covered activities as identified in the Agreement. Certificates of Inclusion require that a site-specific plan be developed for each property prior to enrollment. The site-specific plan will include at a minimum: a property description including a description of the existing baseline, implementation plan, and, monitoring and reporting provisions. The non-federal Cooperators would receive assurances under the Service's regulations for Safe Harbor Agreements [50 CFR § 17.32(c)(5)] by signing the Certificate of Inclusion.

Habitat requirements for Fender's blue butterfly include lupine host plants Kincaid's lupine (*Lupinus sulphureus* ssp. *kincaidii*) or spur lupine (*L. arbustus*), and occasionally sickle-keeled lupine (*L. albicaulis*) for larval food and oviposition sites, and native wildflowers for adult nectar food sources. Kincaid's lupine was federally-listed as threatened, without critical habitat,

concurrently with the Fender's blue butterfly (65 FR 3875). Critical habitat was also later concurrently designated but each species had their own individual units that did not entirely overlap (71 FR 63862).

Nectar sources used most frequently by the Fender's blue butterfly include *Allium amplectens*, *Calochortus tolmiei*, *Sidalcea malviflora* ssp. *virgata*, *Eriophyllum lanatum* and *Geranium oreganum* (Wilson *et al.* 1997, York 2002, Schultz *et al.* 2003). Non-native vetches (*Vicia sativa* and *V. hirsuta*) are also frequently used as nectar sources, although they are inferior to the native nectar sources (Schultz *et al.* 2003). Population size of Fender's blue butterfly has been found to correlate directly with the abundance of native nectar sources (Schultz *et al.* 2003). At least 5 ha (12 acres) of high quality habitat are necessary to support a population of Fender's blue butterflies (Crone and Schultz 2003, Schultz and Hammond 2003); most prairies in the region are degraded and of low quality, and thus a much larger area is likely required to support a viable butterfly population.

Kincaid's lupine is the preferred larval host plant at most known Fender's blue butterfly populations. At two sites, Coburg Ridge and Baskett Butte, Fender's blue butterfly feeds primarily on spur lupine, even though Kincaid's lupine is present (Schultz *et al.* 2003). Sickle-keeled lupine is used by Fender's blue butterfly where it occurs in poorer quality habitats (Schultz *et al.* 2003).

Habitat loss, encroachment into prairie habitats by shrubs and trees due to fire suppression, fragmentation, invasion by non-native plants and elimination of natural disturbance regimes all threaten the survival of Fender's blue butterfly. Few populations occur on protected lands; most occur on private lands which are not managed to maintain native prairie habitats. These populations are at high risk of loss to development or continuing habitat degradation (U.S. Fish and Wildlife Service 2000).

The prairies of western Oregon and southwestern Washington have been overtaken by non-native plants, which shade out or crowd out important native species. Fast growing non-native shrubs Armenian blackberry (*Rubus armeniacus*) and Scot's broom (*Cytisus scoparius*), non-native grasses such as tall oat grass (*Arrhenatherum elatius*), and non-native forbs, such as meadow knapweed (*Centaurea* x *pratensis*), can virtually take over the prairies, inhibiting the growth of the lupine larval host plants and native nectar sources (Hammond 1996, Schultz *et al.* 2003). When these highly invasive non-native plants become dominant, they can effectively preclude butterflies from using the native plant species they need to survive and reproduce (Hammond 1996). In the absence of a regular disturbance regime, native trees and shrubs also threaten to overtake prairie habitats; common native species found to encroach on undisturbed prairies include Douglas-fir (*Pseudotsuga menziesii*), Oregon white oak (*Quercus garryana*), Oregon ash (*Fraxinus latifolia*), black hawthorn (*Crataegus douglasii*) and poison oak (*Toxicodendron diversilobum*).

Habitat fragmentation has isolated the remaining populations of Fender's blue butterfly to such an extent that butterfly movement among suitable habitat patches may now occur only rarely, which is not expected to maintain the population over time (Schultz 1998). The rarity of host lupine patches and fragmentation of habitat are seen today as the major ecological factors

limiting reproduction, dispersal, and subsequent colonization of new habitat (Hammond and Wilson 1992, 1993, Hammond 1994, Schultz 1997, Schultz and Dlugosch 1999). Extirpation of remaining small populations is expected from localized events and probable low genetic diversity associated with small populations (Schultz and Hammond 2003). Refer to the Status of the Species section of the biological opinion (U.S. Fish and Wildlife Service 2009c) for more background information on the status and threats of the Fender's blue butterfly.

Baseline Determination

Prior to the enrollment of a Cooperator through a Certificate of Inclusion under this Agreement, a current baseline determination will be made for the covered species. The baseline will be established by mutual agreement, and, if greater than zero, will be described and mapped as occupied habitat in each site-specific plan. The current baseline on each property occupied by Fender's blue butterflies shall be described as occupied habitat based on the results of the botanical survey(s) for larval host plants or adult nectar plants and, the butterfly presence/absence survey and population census (if applicable). The locations of any occupied habitat areas will be delineated on a site map with associated square foot or acreage figures. Because some habitat exists in a degraded or low quality state (i.e. isolated plants or areas that lack adequate plant associations for breeding and feeding), site-specific baseline determinations may also include an assessment of habitat quality, at the option of the Parties. In these situations, baseline determinations may employ an estimate of the total or aggregated plant cover that contributes to butterfly habitat and will establish a baseline-level equivalent that considers both habitat quality and quantity for Fender's blue butterfly.

If Fender's blue butterfly occurrence on the property is unknown and it has been determined that a) the property supports or may support any of the host lupine species mentioned above, and/or b) the site is found to support nectar plant sources or potential stepping-stone habitat near natal lupine patches, a presence/absence survey should be done. The survey should consist of thorough field observations for adults during the flight period (mid-May to early July) and egg searches on host lupine plants (during the same period) throughout the area to be enrolled to determine whether or not the species occurs on site and to identify any occupied locations. The surveyor(s) must be deemed to be qualified by the Permittee.

Types of Covered Activities

Activities proposed to be covered under the permit are otherwise lawful activities which are described in section 8 of the Agreement. Covered activities include restoration and management actions intended to benefit Fender's blue butterfly habitat. Such activities may be applied adaptively to each Cooperator's enrolled property, and will be detailed in the individual site-specific plans. Management action types to be covered include: 1) surveys and monitoring of butterflies and plants; 2) removal of invasive and non-native species through mechanical treatments such as hand-pulling and seasonally specific mowing, thatch raking, tilling, etc.; prescribed fire; herbicide application (specific herbicides with specific conditions prescribed; shade cloth placement; and infra-red radiation; 3) re-vegetation with native plants following treatments; and, 4) threat reduction through measures such as altering grazing regimes, installing fencing to control grazing, and altering landowner's existing pesticide use.

Potential incidental take of Fender's blue butterflies associated with restoration activities and/or a return to baseline conditions may occur and is the principle reason an enhancement of survival permit under section 10 is desired by the Service and the Cooperators.

Term of the Permit

The Agreement would be in effect for a period of 15 years and the permit will have a term of 25 years. In accordance with 50 CFR § 17.32(c)(8), we believe the duration of the permit is sufficient to provide a net conservation benefit to the Fender's blue butterfly by contributing to their recovery (see discussion below in part III.B).

Conservation Strategy

The conservation strategy of the Agreement involves the maintenance and restoration of adult and larval habitat for the Fender's blue butterfly. Most areas where restoration activities will occur are dominated by non-native plants (mostly grasses), woody invasives (e.g., Scot's broom, blackberry) or late successional species (e.g., Douglas' fir, Oregon ash, Oregon white oak, poison oak, black hawthorn) that shade out the native prairie grass and forb species. It is anticipated that the majority of enrolled lands will have a baseline of zero acres of occupied Fender's blue butterfly habitat such that initial management activities will not have any adverse effects to Fender's blue butterflies. Invasive plant species will be suppressed to encourage the establishment of native plants. These efforts will emphasize the establishment of the larval host plants and native nectar sources.

Cooperators must carry out habitat restoration and/or management activities that are consistent with the Agreement and are anticipated by the Parties to produce a net conservation benefit for the covered species. Work to be conducted on a Cooperator's enrolled lands will be described in a site-specific plan that must be approved by the Service and incorporated as part of the Certificate of Inclusion for the enrolled lands. The management considerations discussed in section 7 of the Agreement, summarized below, provide guidance and principles for designing site-specific plans.

Conserving existing Fender's blue butterfly populations and actively maintaining, enhancing, and expanding the size of existing butterfly habitat patches will be essential for recovery. In addition, reestablishing habitat connectivity by creating stepping stones of habitat between existing butterfly populations will improve the prospects for individuals to reach other suitable habitats for reproduction, dispersal and re-colonization. If a site is more than a few kilometers from an existing Fender's blue butterfly population, it will function independently and in isolation (Schultz 1998). It is estimated that at least 15 acres (6 hectares) of high quality habitat should be restored to begin a new, stable butterfly population.

Management of habitat requires maintaining an open, prairie structure that ensures the vigor of obligate lupine host plants and other native nectar plants, and which is conducive to butterfly flight in search of food and mates. Habitat management actions proposed under the Agreement,

such as mowing, removal of weeds or competing vegetation, and prescribed burning will directly benefit native prairie conditions and plant composition.

While the federally-listed Kincaid's lupine is not a covered species under this Agreement, it still will receive specific management attention since it's an important larval host plant and nectar source that is needed for the conservation and recovery of the Fender's blue butterfly. Therefore, actively restoring and managing butterfly habitat will typically involve actions designed to benefit both listed species as well as other native prairie species.

If Fender's blue butterflies are known or are believed to be present on a Cooperator's enrolled property and incidental take is reasonably expected to occur due to otherwise lawful activities (such as restoration and management activities or a returning to baseline conditions), then the Service will make a reasonable estimate of the number and status of the Fender's blue butterflies present, and assess whether the Fender's blue butterflies should be relocated. If warranted, the Service will recommend procedures (i.e. translocation of lupine plants and/or Fender's blue butterflies, if appropriate) the Cooperator can take, or allow to be taken by other parties including the Service, to avoid future incidental take based on incidental take described in past annual reports.

By improving the quality of their habitat, increasing the quantity, and targeting specific locations where there are large gaps in available habitat, it is hoped that existing habitats can be maintained or enhanced, functional dispersal corridors and habitat networks can be established, and new habitat areas can be created for Fender's blue butterflies. Increases in habitat availability with appropriate dispersal distances will encourage genetic interchange between populations. Successful establishment of habitat will require multiple years of habitat manipulation, depending on the habitat condition and degree of exotic plant invasion on each enrolled property. This process is expected to take at least two to three habitat management treatments and more than one season for each treated area. Some restoration and management activities not specifically described in the Agreement may occur; however, they will have to maintain the baseline conditions or enhance native prairie habitat, and not adversely affect the beneficial actions set forth in the Agreement.

Monitoring and Reporting

The Service will be responsible for making periodic site visits (every 1-3 years) to each enrolled property to ensure that agreed-upon conservation measures are being implemented as specified in the Agreement and in site-specific plans; to assess habitat and species presence in relation to the baseline to determine whether or not conditions are being maintained or are improving for the covered species; and, to determine whether or not take of covered species has occurred.

Habitat restoration activities will be followed by post-project monitoring. Site inspections will evaluate the successfulness of prairie habitat restoration efforts. Cooperators will allow access to the Service (or their designees) to monitor habitat conditions and to determine long-term success of such actions. The Service will implement compliance monitoring for management activities specified in each site-specific plan as well as take authorized by the permit. An annual report, due no later than December 31 of each year, will include the following: 1) status of the permit,

including the number, locations, and total acres of enrolled properties; 2) baseline conditions of newly enrolled properties; and 3) current status of enrolled properties, including: (i) management actions implemented and outcomes if known; (ii) description of activities undertaken pursuant to the Agreement or related to Fender's blue butterfly habitat management; and (iii) description of any activities that resulted in, or may have resulted in, incidental take of Fender's blue butterflies, such as habitat modification or destruction, burning, emergency actions taken to protect life or property, etc.

The Cooperators will notify the Service 60 days in advance of any otherwise lawful activities planned to be undertaken on enrolled properties that the Cooperators reasonably anticipate could result in the take of Fender's blue butterflies above the baseline determination. During such 60 day period, the Cooperator shall consult with the Service to attempt to minimize the effects of the planned activities on Fender's blue butterflies and will provide the Service the opportunity within such 60 day period to capture and/or relocate any potentially affected Fender's blue butterflies or lupine plants.

Cooperators will either directly or through a designated responsible party, submit an annual report to the Service no later than September 30th of each year. At a minimum, annual reports shall include a summary of significant activities and accomplishments for the period, including results and findings of any monitoring that has occurred on existing habitat conditions, potential changes in habitat conditions as a result of previous management activities, and butterfly surveys (see Appendix 7 of the Agreement for the Cooperator's reporting template).

II. PUBLIC COMMENT

A notice of availability was published in the Federal Register on October 6, 2008 (73 FR 58263). Public comments on the permit application, the proposed Agreement, and the Environmental Action Statement were requested to be received by November 5, 2008. Two individuals provided comments. The comments generally pertained to broader questions about the species and their habitats. Both commenter's remarked about connections to a recovery plan. While a Safe Harbor Agreement is intended to benefit a species and contribute to recovery, Safe Harbor Agreements are not required to implement recovery tasks. We also do not believe there is any conflict between the Agreement and the draft Willamette Valley Recovery Plan. One commenter suggested making changes to Service policies and statutory changes to the ESA which is beyond the scope of the proposed action. One commenter suggested that the Agreement placed additional restrictions on landowners beyond the ESA and we do not believe this is true. The Agreement is voluntary and it is up to the individual landowner to decide if they are interested in participating by enrolling their lands under the Agreement. One commenter compared the Agreement to a habitat conservation plan (HCP) that has mitigation requirements. HCPs are intended for proposed actions that may involve incidental take with commensurate mitigation requirements whereas Safe Harbor Agreements are intended for landowners who wish to voluntarily engage in activities that may create or improve habitat and/or increase the numbers of the listed species on their properties, but who may wish to incidentally take covered species above the initially established baseline conditions in the future. Mitigation is generally not an issue for Safe Harbor Agreements since the primary intention of a Safe Harbor Agreement is to

create or manage habitat beyond what currently exists. One commenter mentioned that effects of climate change in relation to lupine in Douglas and Polk Counties was not addressed. The term of the Agreement is 15 years and the term of the permit is 25 years. While impacts of climate change are likely in the future, those impacts are not anticipated to be known or measurable in the specific area within 25 years in so far as any habitat changes concerning the covered species. One commenter raised questions about hybridization of Kincaid's lupine with other native lupines. The Agreement does not engage in activities that are likely to increase the likelihood of this natural occurrence. Natural hybrids have not been demonstrated to negatively affect Fender's blue butterflies. One commenter was concerned about the genetics of Kincaid's lupine plants used for planting and the success rate of plantings. The intended purpose of the Agreement is to maintain and establish Fender's blue butterfly habitat and it's lupine host plants. The best available information will be used in any decisions pertaining to lupine propagation, planting, and maintenance activities. This information is likely to change over the term of the permit and will be incorporated as needed.

III. INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS

The final Safe Harbor Agreement policy and associated regulations specifying the permit issuance criteria were published in the Federal Register on June 17, 1999 (*see* 64 FR 32706 and 32717). As set forth in this policy, the Agreement does include: the species and habitats covered; the agreed upon baseline condition criteria for the Fender's blue butterfly; management actions that will be undertaken to accomplish the expected net conservation benefit and the agreement term; the incidental take associated with management conditions; a notification requirement to provide the Service with a reasonable opportunity to rescue individuals of Fender's blue butterfly; and the activities that would be expected to return the property to baseline conditions and the associated incidental take; and, a monitoring schedule with identified responsible parties.

As set forth in 50 CFR § 17.32(c)(2), the Service finds that the section 10(a)(1)(A) permit issuance criteria for a safe harbor agreement are met as outlined below:

A. The taking will be incidental.

The Service finds that any take of Fender's blue butterflies under the Agreement will be incidental to, and not the purpose of, otherwise lawful activities. The activities for which incidental take coverage is sought under the permit include primarily land management activities associated with native prairie habitat restoration. They include commonly used agricultural practices such as planting, weed management, mowing, and prescribed-fire. A return to baseline conditions would involve vegetation management that eliminates lupine larval host plants and flowering plants used by adults for nectar, and/or a change in land use that would involve construction or associated activities. Any potential take of Fender's blue butterflies resulting from unlawful activities is not covered.

B. The implementation of the terms of the Agreement will provide a net conservation benefit to the affected species by contributing to their recovery.

By eliminating competition from invasive plant species, setting back succession, restoring native prairie vegetation, and planting adult nectar sources and larval host plants, suitable habitat acreage will increase as will the quality of any existing habitat. Newly available or higher quality habitat will increase the likelihood of Fender's blue butterfly movement across the landscape and hopefully establish new breeding sites that will increase the local population of Fender's blue butterflies. Restored areas between population sites will provide needed habitat connectivity that will make it easier for dispersing Fender's blue butterflies to find new habitats. Having additional populations will increase the likelihood of the species' persistence and provide an opportunity for a new source population, should a catastrophic event, poor weather conditions, or similar events result in the loss of the existing populations. A potentially larger population of Fender's blue butterflies will also increase the likelihood of successful colonization of sites since a larger number of Fender's blue butterflies are likely to reach and occupy nearby habitats. Improved connectivity should encourage the transfer of genetic material and reduce the likelihood of in-breeding depression that is a concern when relatively small populations are isolated for long periods of time from other gene pools.

The Agreement stipulates that written notice will be given prior to any activities that might incidentally take Fender's blue butterflies that are above the current baseline such that larval host plants or adult butterflies can be removed and placed into another site, if determined to be feasible and practicable. This will reduce the likelihood of the loss of some Fender's blue butterfly individuals and, hopefully preserve the larval host plants so that they may be used by other Fender's blue butterflies.

Prairie restoration and Fender's blue butterfly translocation techniques are still being developed. Information gathered through the implementation of the Agreement will be valuable for future restoration efforts and would not likely occur without the assurances provided to Cooperators by the Agreement. Monitoring reports will provide details of restoration actions taken and the outcomes of those actions for all enrolled properties so that restoration techniques can be refined during the term of the Agreement.

The Agreement term of 15 years will provide adequate time for the Service to contact landowners, to conduct restoration activities, and to create or improve habitat conditions. There should also be sufficient time for Fender's blue butterflies to discover and use those new sites for many years until the end of the 25-year permit term.

Based upon the above, the Service believes a net conservation benefit will be achieved within the 15 year Agreement period. The cumulative impact of this Agreement and the activities it covers, which are facilitated by the authorized take, will provide a net conservation benefit to the species. The net conservation benefit will contribute, directly or indirectly, to recovery of the Fender's blue butterfly and to increasing knowledge of successful habitat management techniques which will be applicable to the management of other Fender's blue butterfly sites. Without this cooperative effort, these lands would not otherwise be utilized by Fender's blue butterflies in the foreseeable future. The Agreement is a mutually beneficial relationship to this endangered species and landowners.

C. The probable direct and indirect effects of any authorized take will not appreciably reduce the likelihood of survival and recovery in the wild of any species.

The Service finds that the taking to be authorized under the proposed permit will not appreciably reduce the likelihood of the survival and recovery of Fender's blue butterflies or Kincaid's lupine in the wild. The ESA's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "no jeopardy" pursuant to section 7(a)(2) of the ESA and the implementing regulations pertaining thereto (50 § CFR 402.02). The Service has reviewed the Agreement under the section 7 consultation provisions of the ESA. In our biological opinion (U.S. Fish and Wildlife Service 2009c), which is incorporated herein by reference, the Service has concluded that the issuance of the proposed permit is not likely to jeopardize the continued existence of the Fender's blue butterfly or Kincaid's lupine (nor adversely modify their critical habitat). This determination was based upon reviewing the current status of the species, the environmental baseline for the action area, and the direct and indirect effects of the proposed action.

D. Implementation of the terms of the Agreement is consistent with applicable Federal, State, and Tribal laws.

The Agreement does not preclude the need to comply with any Federal, State, local, or Tribal laws, but solely serves as an instrument to comply with certain provisions of the ESA under which an enhancement of survival permit is being sought. The Agreement involves many activities for which any legal compliance measures have not changed as a result of the Agreement. Continued operations and future operations will continue to be regulated by applicable laws.

E. Implementation of the terms of the Agreement will not be in conflict with any on-going conservation or recovery programs for the covered, listed species.

This Agreement is an extension of on-going efforts by the Service in the area to restore native prairie habitats. Safe Harbor Agreements are specifically intended to address situations like this one involving voluntary actions that encourage federally-listed species to occupy private lands. We are not aware of any other on-going conservation programs within the Covered Area, or involving the Fender's blue butterfly for which the Agreement might be in conflict.

F. The applicants have shown capability for and commitment to implementing all the terms of the Agreement.

The Service has shown the capability for, and commitment to, implementing all the terms of the Agreement through their work in the area and elsewhere with local national wildlife refuge staff and under the Partners for Fish and Wildlife Program. The Service has devoted many of our resources to habitat restoration activities and has experienced staff available to devise and carry out these activities with the assistance of other partners, as needed. The Service will likely at least partially fund some future work and/or seek additional conservation partners.

the issuance of the permit and approval of the Agreement, and do not have any disqualifying factor that we are aware of that would prevent the permit from being approved under current regulations.

V. RECOMMENDATION ON PERMIT ISSUANCE

Based on the foregoing findings with respect to the proposed action, I endorse the approval and issuance of an enhancement of survival permit (Permit Number TE 208532-0) to authorize the incidental take of the Fender's blue butterfly in accordance with the Agreement.

David J. Wesley
Deputy Regional Director

5/26/09
Date