

Programmatic Candidate Conservation Agreement with
Assurances for the Island Marble Butterfly
(*Euchloe ausonides insulanus*) in
San Juan County, Washington

Between the
Washington Department of Fish and Wildlife
and the
United States Fish and Wildlife Service

July 2019

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1.0 INTRODUCTION AND PURPOSE

The island marble butterfly (*Euchloe ausonides insulanus*) is currently located on San Juan Island in San Juan County, Washington. On April 5, 2016, the U.S. Fish and Wildlife Service (USFWS or Service) published a 12-month finding stating that the island marble butterfly was warranted for listing under the Endangered Species Act of 1973 as amended (ESA), but its listing was precluded by higher-priority listing actions (81 FR 19527). However, on April 12, 2018, the island marble butterfly was proposed for federal listing as an endangered species (83 FR 15900).

1.1 PURPOSE

This document is a Programmatic Candidate Conservation Agreement with Assurances (CCAA) for the island marble butterfly on San Juan Island and Lopez Island in San Juan County, Washington. A CCAA is a voluntary agreement whereby landowners (including state, tribal, non-federal publicly owned, or privately owned lands) agree to manage their lands, or portion thereof, to both remove or reduce threats to affected covered species that may become listed under the Endangered Species Act of 1973, as amended (ESA)(87 Stat. 884; 16 U.S.C. 1531 *et seq.*) and, per Service' regulations, are expected to provide a net conservation benefit to affected covered species (50 C.F.R. 17.22). In return for managing their lands to provide a net conservation benefit to covered species, enrolled landowners receive assurances that they can implement covered activities identified in the agreement (see Section 4.0) with no risk of violating the ESA by inadvertently taking (i.e., killing, injuring, etc.) the covered species if it becomes listed as threatened or endangered under the ESA so long as the CCAA remains in place and is being fully implemented. This CCAA is designed to create new habitat in locations that are not currently occupied by the island marble butterfly, to also protect existing island marble butterfly habitat, and to ameliorate potential threats.

The programmatic design of this CCAA streamlines the process for CCAA participation. The Washington Department of Fish and Wildlife (WDFW) is applying to the USFWS for an enhancement of survival permit (Permit)(50 CFR 17.22(d) and 17.32(d)) pursuant to Section 10(a)(1)(A) of the ESA for a proposed 15-year period covering the enrolled properties that fully implement the terms and conditions of the CCAA.

The WDFW, in coordination with the USFWS, will enroll willing landowners or their designees in the CCAA by issuing Certificates of Inclusion (Appendix I) for coverage under the Permit. A landowner or their designee(s) is referred to hereafter as an "enrollee." Certificates of Inclusion will include site specific information describing enrolled lands. While the Conservation Measures within the CCAA will be implemented upon enrollment, the Permit will go into effect if and when the island marble butterfly is listed under the ESA.

In this CCAA, enrollees must implement the applicable Conservation Measures on enrolled lands. Because enrollment in the CCAA is voluntary, participating enrollees may choose to discontinue their participation at any point. Electing to end participation in the CCAA would terminate any assurances and incidental take coverage¹ otherwise provided under the Permit.

This programmatic CCAA has been developed to achieve three goals:

¹ Incidental take is take "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity". See Section 8.0 for information regarding anticipated and authorized incidental take under this CCAA.

- 1) Promote Conservation Measures that reduce or remove threats to the island marble butterfly;
- 2) Provide a program of voluntary proactive recovery efforts that deliver the CCAA standard of providing a net conservation benefit to the island marble butterfly; and
- 3) Provide enrollees assurances that they will be covered for any incidental take of the island marble butterfly if it becomes listed under the ESA, provided that the CCAA is fully and completely implemented. Additionally, enrollees will have assurances related to the terms of the CCAA as described in Section 9.0.

As noted above, this species is currently only proposed for listing as an endangered species under the ESA. Therefore, there are no ESA regulations or take prohibitions related to the island marble butterfly currently affecting non-federal lands. The WDFW is seeking to utilize the CCAA to facilitate continued successful voluntary partnerships with landowners for island marble butterfly habitat management and threat reduction within the context of a potential future listing of the species under the ESA. Interested landowners may enroll in this CCAA so long as the CCAA remains in effect and the island marble butterfly is not listed as threatened or endangered under the ESA.

The WDFW developed this Programmatic CCAA with the input of non-federal landowners to address threats to the island marble butterfly in the State of Washington. This CCAA outlines Conservation Measures that enrollees will voluntarily implement to create, maintain, manage, and protect habitat, and ameliorate threats to improve the covered species' status.

1.2 CCAA AUTHORITY AND PERMIT ISSUANCE CRITERIA

Section 2 of the ESA "[encourages] the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants." Section 2 also states that "the purposes of this Act are to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of...treaties and conventions...".

Section 4 of the ESA outlines guidelines for identifying species that are threatened or endangered. Section 4(h)(3) requires that the USFWS establish a ranking system to assist in identifying species that should receive priority review for listing. To fulfill their responsibilities, the USFWS developed a program to identify species that warrant protection under the ESA (termed "candidates" or "candidate species") and to monitor and conserve those species for which protection is deemed appropriate until listing can proceed.

Section 6 of the ESA provides for cooperation between the USFWS and the States in threatened and endangered species conservation. The development of CCAAs requires collaborative stewardship recognizing the statutory role of State agencies, their traditional conservation responsibilities, and authorities for resident species.

Section 7 of the ESA requires the USFWS to review programs it administers and to utilize those programs to further the purposes of the ESA.

The USFWS utilizes its Candidate Conservation Program to further the conservation of fish and wildlife. By providing assurances to non-federal landowners who will voluntarily conserve species and their habitats, the USFWS is helping to conserve the ecosystems upon which endangered and threatened species depend.

Section 10(a)(1)(A) of the ESA allows the USFWS to issue permits through CCAAs for acts that would otherwise be prohibited by Section 9 of the ESA if such acts are expected to enhance the propagation or survival of the affected covered species.

Issuance of a Permit requires that the USFWS comply with Federal regulatory requirements. Issuance of a Permit is a "Federal action" subject to compliance with the National Environmental Policy Act of 1970 (NEPA), and constitutes an "undertaking" subject to the requirements of Section 106 of the National Historic Preservation Act (NHPA). Permit issuance also requires compliance with the ESA through intra-agency consultation under Section 7 and a determination that issuance criteria for a CCAA have been met.

The USFWS will prepare a Conference Opinion in accordance with the requirements of Section 7 of the ESA on the CCAA to evaluate whether implementation of the CCAA, taken together with direct, indirect and cumulative effects, is: (1) likely to jeopardize the continued existence of the affected covered species; or (2) result in the destruction or adverse modification of proposed critical habitat (50 CFR 402).

Upon receiving a complete application for the CCAA, the USFWS Director will decide whether or not to issue the permit. The USFWS Director shall consider the general issuance criteria (see 50 CFR 17.22(d)(2)) and may issue the permit if he or she finds:

- (i) The take will be incidental to an otherwise lawful activity and will be in accordance with the terms of the CCAA;
- (ii) The implementation of the terms of the CCAA is reasonably expected to provide a net conservation benefit to the affected covered species by contributing to the conservation of the species included in the permit, and the CCAA otherwise complies with the Candidate Conservation Agreement with Assurances policy available from the USFWS;
- (iii) 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;
- (iv) Implementation of the terms of the CCAA is consistent with applicable Federal, State, and Tribal laws and regulations;
- (v) Implementation of the terms of the CCAA will not be in conflict with any ongoing conservation programs for species covered by the permit; and
- (vi) The applicant has shown capability for and commitment to implementing all of the terms of the CCAA.

Pursuant to 50 C.F.R. 13.25(d), "any person who is under the direct control of the permittee ... may carry out the activity authorized by the permit." "In the case of permits issued under [§ 17.22 (d)...to a State or local governmental entity, a person is under the direct control of the permittee where: (1) The person is under the jurisdiction of the permittee and the permit provides that such person(s) may carry out the authorized activity; or (2) The person has been issued a permit by the governmental entity or has executed a written instrument with the governmental entity, pursuant to the terms of the implementing agreement.

1.3 ASSURANCES PROVIDED

Enrollees who are in full compliance with the terms of this CCAA receive the assurance that, while participating in the CCAA, the USFWS will not require additional land, water, or financial compensation (i.e., conservation measures) or any additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the CCAA (see Section 9.0). These assurances become effective if the island marble butterfly is listed as a threatened or endangered species under the ESA during the term of the requested Permit, provided that the Conservation Measures and the terms and conditions of the Permit are being properly and fully implemented. Unless otherwise stated, these assurances will be authorized with the issuance of a Section 10(a)(1)(A) Permit to the WDFW. Non-federal landowners receive assurances by enrolling in the program, agreeing to implement the Conservation Measures described in the CCAA, and executing a Certificate of Inclusion with the WDFW.

1.4 ADDITIONAL ACTIONS

Nothing will be construed to limit or constrain the Director, any Federal, State, local or Tribal government agency, or a private entity, from taking additional actions at its own expense to protect or conserve the covered species included in this CCAA.

2.0 DESCRIPTION OF RANGEWIDE STATUS AND THREATS

2.1 TAXONOMY AND SPECIES DESCRIPTION

The island marble butterfly (*Euchloe ausonides insulanus*) is a subspecies of the large marble butterfly (*E. ausonides*) in the Pieridae family, subfamily Pierinae, which primarily consists of yellow and white butterflies. The island marble butterfly was formally described in 2001, by Guppy and Shepard based on 14 specimens collected between 1859 and 1908 on or near Vancouver Island, British Columbia, Canada, and is geographically isolated from all other *E. ausonides* subspecies. The taxonomic status of the island marble butterfly is not in dispute. *Euchloe ausonides insulanus* is recognized as a valid subspecies by the Integrated Taxonomic Information System (ITIS 2015a, entire) based on the phenotypic differences documented in Guppy and Shepard 2001.

Island marble butterflies have a wingspan of approximately 1.75 inches (Pyle 2002, p. 142) and are differentiated from other subspecies of the large marble butterfly by their larger size and the expanded marbling pattern of yellow and green on the underside of the hindwings and forewings (Guppy and Shepard 2001, p. 160). Immature stages of the island marble butterfly have distinctly different coloration and markings from *Euchloe ausonides*; specifically, the third and fourth larval instars (instars are the larval stages between molting events) have a white spiracular stripe (a stripe that runs along the side of a caterpillar) subtended (bordered below) by a yellow-green subspiracular stripe and a green-yellow ventral area, which is different from the stripe colors and patterns described for *E. ausonides* (James and Nunnallee 2011, pp. 102–103; Lambert 2011, p. 15). The island marble butterfly is also behaviorally distinct; large marble butterflies pupate (enter the final stage of larval development before transforming into a butterfly) directly on their larval host plants, whereas island marble butterflies leave their host

plants to find a suitable pupation site up to 13 feet away from their larval host plants (Lambert 2011, p. 19).

2.2 HABITAT

The island marble butterfly has three known host plants, all in the mustard family (Brassicaceae). One is native, *Lepidium virginicum* var. *menziesii* (Menzies' pepperweed), and two are nonnative: *Brassica rapa* (no agreed-upon common name, but sometimes called field mustard; hereafter referred to as field mustard for the purposes of this document) (ITIS 2015b, entire), and *Sisymbrium altissimum* L. (tumble mustard) (Miskelly 2004, pp. 33, 38; Lambert 2011, p. 2).

All three larval host plants occur in open grass- and forb-dominated vegetation systems, but each species is most robust in one of three specific habitat types: Menzies' pepperweed at the edge of low-lying coastal lagoon habitat; field mustard in upland prairie habitat, disturbed fields, and disturbed soils, including soil piles from construction; and tumble mustard in sand dune habitat (Miskelly 2004, p. 33; Lambert 2011, pp. 24, 121–123). While each larval host plant can occur in the other habitat types, female island marble butterflies select specific host plants in each of the three habitat types referenced above, likely because certain host plants are more robust in each habitat type during the flight season (Miskelly 2004, p. 33; Lambert 2011, pp. 24, 41, 50, 54–57, 121–123).

Adults primarily nectar (forage) on their larval host plants (Potter 2015e, in litt.), but use a variety of other nectar plants including: *Abronia latifolia* (yellow sand verbena), *Achillea millefolium* (yarrow), *Amsinckia menziesii* (small-flowered fiddleneck), *Cakile edentula* (American sea rocket), *Cerastium arvense* (field chickweed), *Erodium cicutarium* (common stork's bill), *Geranium molle* (dovefoot geranium), *Hypochaeris radicata* (hairy cat's ear), *Lomatium utriculatum* (common lomatium), *Lupinus littoralis* (seashore lupine), *Myosotis discolor* (common forget-me-not), *Ranunculus californicus* (California buttercup), *Rubus ursinus* (trailing blackberry), *Taraxacum officinale* (dandelion), *Toxicoscordion venenosum* (death camas, formerly known as *Zigadenus venenosus*), and *Triteleia grandiflora* (Howell's brodiaea, formerly *Brodiaea howellii*) (Miskelly 2004, p. 33; Pyle 2004, pp. 23–26, 33; Miskelly and Potter 2005, p. 6; Lambert 2011, p. 120; Vernon and Weaver 2012, Appendix 12; Lambert 2015a, p. 2, Lambert 2015b, in litt.).

Of these additional nectar resources, the island marble butterfly is most frequently observed feeding on yellow sand verbena, small-flowered fiddleneck, and field chickweed (Potter 2015e, in litt.). Adults primarily use low-statured, white flowering plants such as field chickweed as mating sites (Lambert 2014b, p. 17).

2.3 LIFE CYCLE

The island marble butterfly life cycle comprises four distinct developmental phases: egg, larva, chrysalis, and butterfly. Development from egg to chrysalis takes approximately 38 days and includes five instars (phases of larval development between molts) (Lambert 2011, p. 7). Female island marble butterflies produce a single brood per year, and typically lay their eggs individually on the unopened terminal flower buds of their larval host plants (Lambert 2011, pp. 9, 48, 51). Gravid female butterflies appear to select plants with many tightly grouped flower buds over host plants with fewer buds, and they tend to avoid laying eggs on inflorescences (flower heads) where other island marble butterflies already have deposited eggs (Lambert 2011,

p. 51). However, the number of eggs laid on a single host plant has been observed to vary with the density and distribution of host plants and may also be affected by host plant robustness as well as the age of the individual female butterfly (Parker and Courtney 1984, entire; Lambert 2011, pp. 9, 53, 54).

First instar larvae are able to feed only on tender portions of the host plant, such as developing flower buds and new growth, and initially move no more than a few centimeters from where they hatch before they must feed; thus, larvae that hatch from eggs located more than a few centimeters from a host plant's flower heads often starve before reaching a suitable food source (Lambert 2011, pp. 12–13). The limited locomotion of newly hatched larvae and their reliance on tender flower buds as a food resource leads to a concentration of early-instar larvae near the tips of their larval host plants (Lambert 2011, p. 13). Larvae become more mobile in later instars, and their better developed mouthparts allow them to consume older, tougher plant material. Eventually, they may move to stems of other nearby host plants to forage (Lambert 2011, pp. 15–17).

Available information on immature island marble butterflies (e.g., caterpillars or larvae), indicates that the fifth (last) instar larvae “wander” through standing vegetation looking for a place to pupate (form a chrysalis) (Lambert 2011, p. 19). The larvae have not been observed touching the ground as they search for a pupation site (Lambert 2011, p. 20). The greatest distance a fifth instar larva has been observed to move from its final larval host plant was approximately 13 feet, but few observations exist (Lambert 2011, p. 19). Fifth instar larvae select slender dry stems in the lower canopy of moderately dense vegetation as sites for pupation and entering diapause, a state of suspended development (Lambert 2011, p. 21).

Island marble butterflies spend the largest portion of their annual life cycle in diapause as chrysalises. They enter diapause approximately 35–50 days after hatching and emerge as butterflies in the spring of the following year. One island marble chrysalis remained in diapause for 334 days (11 months) (Lambert 2011, p. 22). Extremely low survivorship at early life-history stages has been found in recent years (e.g., of 136 and 226 individual eggs tracked in 2014 and 2015, respectively, zero survived to pupation; Lambert 2015d, p. 13).

Island marble butterfly adults emerge from early April to mid-June and live an estimated 6 to 9 days (Lambert 2011, pp. 50, 180). Males typically emerge 4 to 7 days before females and patrol in search of mates (Lambert 2011, p. 47). Male island marble butterflies are attracted to white (ultraviolet-reflecting) objects that may resemble females and have been observed to investigate white flowers (e.g., field chickweed and yarrow), white picket fences, and white lines painted on the surface of roads (Lambert 2011, p. 47). When a male locates a receptive female, mating may occur hundreds of meters from the nearest larval host plant, increasing the potential extent of adult habitat to include a varied array of plants and vegetative structure (Lambert 2011, p. 48). The only available and limited dispersal study conducted for the island marble butterfly, suggests that individual island marble butterfly adults seldom disperse distances greater than 0.4 miles, with the greatest documented dispersal distance being 1.2 mi (1.9 km) (Peterson 2010, pp. 3, 12).

The island marble butterfly exhibits strong site fidelity and low dispersal capacity and, when considered on the whole, exist as a group of spatially separated populations that interact when individual members move from one occupied location to another (Miskelly and Potter 2009, p. 14; Lambert 2011, p. 147). For the island marble butterfly, a population is defined as a group of occupied sites close enough for routine genetic exchange between individuals. Thus, occupied

areas separated by distances greater than 3 miles with no intervening suitable habitat and a low likelihood of genetic exchange are considered to be separate populations (Miskelly and Potter 2009, p. 12). Five potential populations of the island marble butterfly were identified and described in detail in the USFWS 2006 12-month finding (71 FR 66292, November 14, 2006, p. 66294): American Camp and vicinity, San Juan Valley, Northwest San Juan Island, Central Lopez Island, and West Central Lopez Island. Since 2012, only the population at American Camp has been detected (April 2018; 83 FR 15900).

2.4 RANGEWIDE DISTRIBUTION

The island marble butterfly was historically known from just two areas along the southeast coast of Vancouver Island, British Columbia, Canada, based on 14 museum records: the Greater Victoria area at the southern end of Vancouver Island; and near Nanaimo and on adjacent Gabriola Island, approximately 56 miles north of Victoria. The last known specimen of the island marble butterfly from Canada was collected in 1908 on Gabriola Island, and the species is now considered extirpated from the province (COSEWIC 2010, p. 6). Reasons for its disappearance from Canada are unknown. Hypotheses include increased parasitoid loads (the number of individual deadly parasites within an individual caterpillar) associated with the introduction of the cabbage white butterfly (Guppy and Shepard 2001, p. 38) or, more likely, heavy grazing of natural meadows by cattle and sheep, which severely depressed its presumed larval food plant (SARA 2015).

After 90 years without a documented occurrence, the island marble butterfly was rediscovered in 1998 on San Juan Island, San Juan County, Washington, at least 9 miles east of Victoria across the Haro Strait (Fleckenstein and Potter 1999). Subsequent surveys in suitable habitat across Southeast Vancouver Island and the Gulf Islands in Canada (see COSEWIC 2010, p. 5), as well as the San Juan Islands and six adjacent counties in the United States (Whatcom, Skagit, Snohomish, Jefferson, Clallam, and Island Counties) (Miskelly and Potter 2005; Miskelly and Fleckenstein 2007), revealed only two other occupied areas. One of these occupied areas was centered on San Juan Island and the other on Lopez Island, which is separated from San Juan Island by just over 0.5 miles at its closest point. These occupied areas were eventually determined to comprise five populations, as described in detail in the USFWS 2006 12-month finding (71 FR 66292, November 14, 2006). Since 2006, the number and distribution of populations has declined. Four of the five populations that once spanned San Juan and Lopez Islands have not been detected in recent years, and the species is now observed only in a single area centered on American Camp, a part of San Juan Island National Historical Park that is managed by the National Park Service (NPS). The island marble butterfly likely also uses the lands adjoining or near American Camp, as there have been at least two observations of the island marble butterflies flying along the boundaries of these adjoining lands in 2015 (Potter 2015a, in litt.).

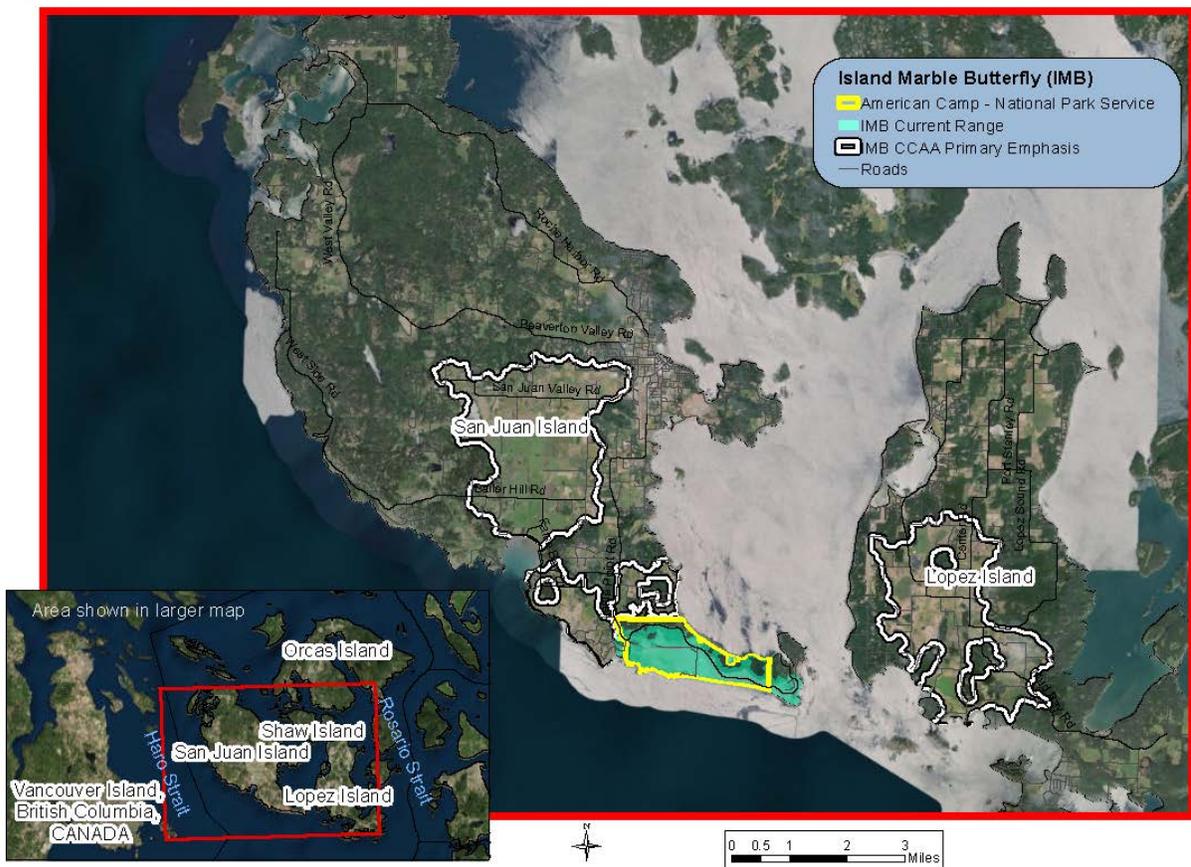
No recent records exist of any life-history stage of the island marble butterfly except at or near American Camp at San Juan Island National Historical Park. Therefore, only American Camp and the immediately adjacent areas were considered to be occupied at the time of drafting this CCAA (Figure 1). However, because the island marble butterfly is cryptic in nature and will disperse longer distances under certain conditions, the distribution of the island marble butterfly will always be somewhat uncertain. For those reasons, new information from the public regarding the island marble butterfly's distribution was sought in the USFWS 2018 proposed

rule to list the species as endangered. No new information on the island marble butterfly’s distribution was received by the USFWS during the proposed rule comment period.



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Figure 1. American Camp at San Juan Island National Historic Park, Washington



2.5 FACTORS AFFECTING THE SPECIES

When considering if a species is warranted for listing, the USFWS assesses the status and threats to a species based on five factors provided in Section 4(a)(1) of the ESA (16 U.S.C. 1533). These five factors were considered when the island marble butterfly was proposed as endangered in April 2018 (83 FR 15900). The island marble butterfly faces the following threats:

- Habitat loss and degradation from plant succession and invasion by plants that displace larval host plants; browsing by black-tailed deer, European rabbits, and brown garden snails; and storm surges;
- Predation by native spiders and nonnative wasps, and incidental predation by black-tailed deer; and
- Vulnerabilities associated with small population size and environmental and demographic stochasticity, and other chance events that increase mortality or reduce reproductive success.

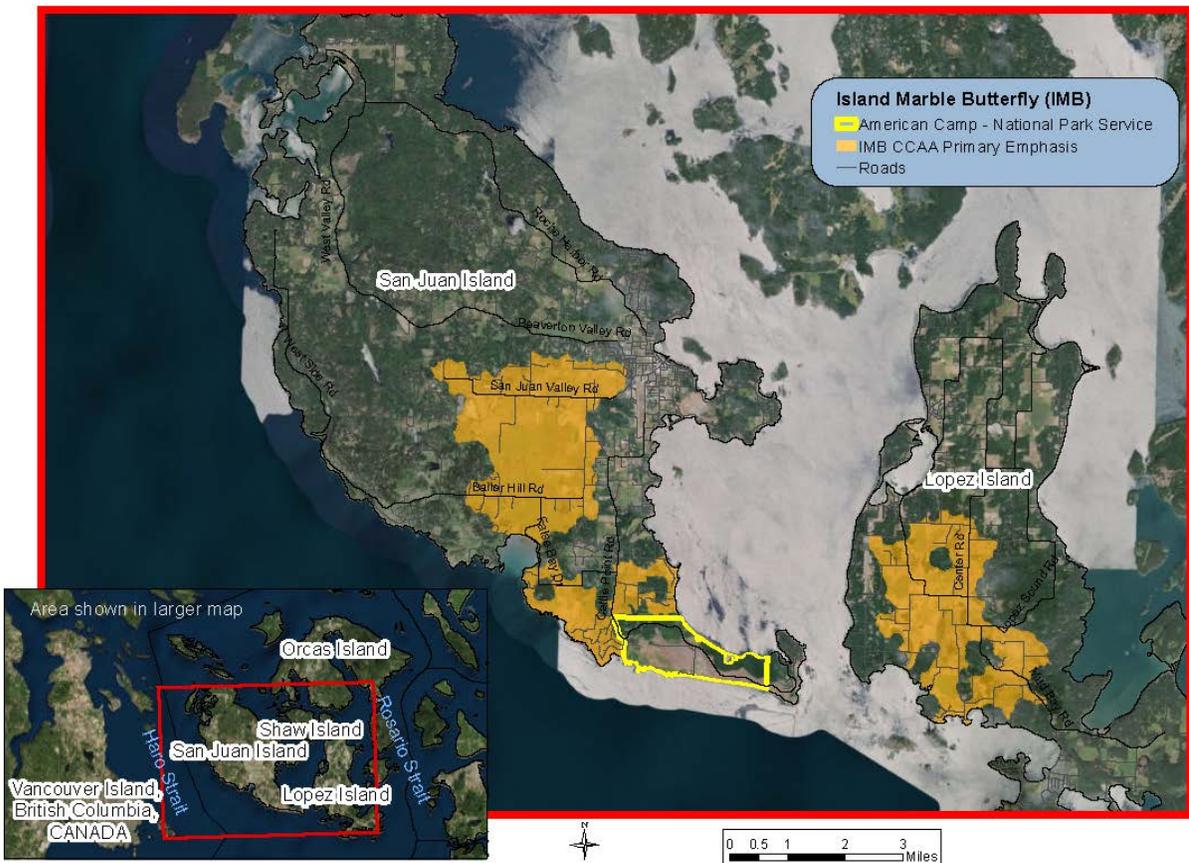
3.0 ENROLLED LANDS

Lands eligible for enrollment in this CCAA include state, tribal, non-federal publicly owned or privately owned lands on San Juan Island and Lopez Islands in Washington. Within San Juan and Lopez Islands, we are specifically seeking voluntary enrollment from landowners or their designees within the expansive, non-forested, open landscapes in the San Juan Valley and Lopez Island central valley that have the highest potential to develop closely connected habitat patches that could support the long-term conservation of the island marble butterfly (CCAA Emphasis Areas) (Figure 2). Lands on each island which lie outside of the CCAA Emphasis Areas may also be eligible for enrollment, if determined suitable for enrollment (has sufficient amount of non-forested open space San Juan Island or Lopez Island) by both the WDFW and the USFWS. Enrolled properties will be described in documentation incorporated into Certificates of Inclusions, and will include maps, figures, and/or legal descriptions as necessary to clearly delineate the precise boundaries of areas covered. The WDFW will maintain an inventory including descriptions of all enrolled properties and provide this information to the USFWS as one component of an Annual Report quantifying the amount and location of the enrolled properties.



U.S. Fish & Wildlife Service

Figure 2. CCAA Emphasis Areas in San Juan Island and Lopez Island, Washington



3.1 DESCRIPTION OF EXISTING CONDITIONS WITHIN THE CCAA EMPHASIS AREA

Numerous surveys have been conducted for the island marble butterfly since its rediscovery in 1998 (Miskelly and Potter 2005; Miskelly and Fleckenstein 2007; Hanson et al. 2009; Hanson et al. 2010; Potter 2012, unpublished data; Potter 2013, unpublished data; Vernon 2015). Five populations were identified, four on San Juan Island and one on Lopez Island; however, all but one of these are now considered to be extirpated, as no individuals have been observed in recent years. The last known extant population is at American Camp on San Juan Island. Between 2004 and 2008, relative adult abundance of the island marble butterfly at American Camp declined from 270 to 63 individuals. In 2006, the USFWS estimated that there were “probably less than 500 butterflies, and possibly as low as 300 individuals” (71 FR 66292), but the number of extant sites has markedly decreased since 2006 and the population has declined at American Camp (83 FR 15903). “The available evidence suggests that the species has a very small population that has declined substantially since monitoring began in 2004” (83 FR 15904).

Island marble butterfly larval habitat in natural landscapes, such as that found at American Camp, is patchy at best, making it difficult to estimate the acreage of larval host plants. Additionally, larval host plants are early successional species that thrive in disturbed habitats. This can result in larval habitat patches that may be present one year and gone the next, depending on the level of disturbance present on the landscape.

The island marble butterfly has not been detected in the CCAA Emphasis Areas (Figure 2) since 2012, except in some areas of Eagle Cove. Therefore, the species may not be present in the Emphasis Areas until they fly there on their own or are reintroduced into suitable habitats.

4.0 COVERED ACTIVITIES

The term "covered activities" refers to those activities that may be carried out by landowners or their designees on enrolled lands that may result in incidental take of the island marble butterfly consistent with the CCAA and the Permit during the term of the Certificate of Inclusion. Covered activities must be performed in compliance with all applicable Federal, state, and local statutes and regulations and other agreement such as conservation easements. Except as otherwise limited by this CCAA, covered activities in this CCAA are the following currently on-going activities:

- Agricultural activities including, but not limited to, producing, breeding, or increasing agricultural products; allowing land used for agricultural activities to lie fallow or dormant; rotating and changing agricultural crops; conducting agricultural operations; maintaining and repairing agricultural equipment; maintaining and repairing agricultural facilities;
- Ranching activities including, but not limited to, ranch improvement, livestock grazing, and management;
- Recreation activities including, but not limited to, natural areas and parks areas usage, management, and maintenance;

- Transportation activities including but not limited to, use of roads, road repaving or reconstruction within the footprint of existing roads, operations, and maintenance activities; and
- Activities associated with enrollee occupancy (e.g., property management and maintenance) and use of enrolled lands;

Covered activities in this CCAA also include the following new activities:

- Implementation of Conservation Measures and changed circumstances measures described in this CCAA (see section 5.2 and section 9.0) performed by enrollees; and
- Monitoring and salvage/rescue activities identified in this CCAA.

The only activities covered in this CCAA are on-going (i.e., currently existing) activities, together with the conservation and monitoring activities specifically defined in this CCAA. Other activities that would directly or indirectly harm island marble butterflies were not considered in this CCAA, including but not limited to the application of the pesticide *Bacillus thuringiensis var. kurstaki*, and as such are not covered activities.

If ongoing activities not included above are occurring on lands to be enrolled, non-federal landowners or the WDFW can request that the USFWS determine if they are consistent with the programmatic CCAA and permit issuance criteria and whether additional NEPA analysis would be required before such activities could be covered. Procedures to modify the CCAA or amend the Permit are described in Section 13 and Section 14, respectively. Covered activities may be conducted by the enrolled landowner, their employees, contractors, agents, or other assigns as described in the Permit and the associated Certificate of Inclusion.

5.0 CONSERVATION GOALS AND MEASURES

5.1 CONSERVATION GOALS

1. Establish and maintain suitable habitat conditions on the landscape that could support additional populations of the island marble butterfly within the CCAA Emphasis Areas.
2. Create a mechanism to increase voluntary public participation in and support for effective conservation of the island marble butterfly.
3. Implement conservation goals #1 and #2 in a way that mimics the natural “patchy” habitat dynamic associated with this rare species and maximizes the operational flexibility needed on working lands.

5.2 CONSERVATION MEASURES

To qualify for take coverage, all enrollees must agree to make a good faith effort to implement the following Conservation Measures on enrolled lands. Subject to the availability of resources, and at an enrollee’s request, WDFW and the USFWS will work with enrollees on techniques to implement these Conservation Measures.

5.2.1 HABITAT PATCH ESTABLISHMENT/CREATION

Enrollees will create, maintain, and reseed as necessary, patches of host plant habitat for island marble butterfly adults to lay their eggs and for caterpillars to feed, mature, form a chrysalis (pupa), and emerge as adults. In the upland environment of the CCAA Emphasis Areas, research suggests that preferred island marble butterfly habitat is spring-blooming field mustard plants (note in some limited sandy soil conditions, typically sand dune environments, it will likely be preferable and acceptable to use tumble mustard) growing a density of less than 0.093 plants per square foot (1 plant per square meter) (Lambert 2011, 2014, *in* Lambert 2016, page 15). Habitat will be created on enrolled properties in ‘strips’, ‘blocks’, or other configurations. Habitat patches that are configured to the width of equipment may be easier to maintain long term. For example, strips of habitat will not need to be continuous. If adjacent strips will be refreshed (see Section 5.2.3) in different years, those strips should be spaced at least 10 feet apart to reduce the possibility of a caterpillar crawling from one row or habitat patch to the next. The size of the habitat, excluding the recommended buffer (see Section 5.2.6), is as follows:

- Less than ¼ acre of enrolled lands, then approximately 36 square feet of habitat.
- Greater than ¼ acre up to 1 acre of enrolled lands, then approximately 100 square feet of habitat.
- Greater than 1 acre of enrolled lands, then at least 50 square feet of habitat per acre of non-forested, open landscape.

The WDFW or the USFWS will assist landowners or their designees during the enrollment process in determining their habitat creation requirements and options for patch configurations. The following is a brief summary of the general steps enrollees may consider in the design of their habitat patch(es).

Requirements:

1. Choose a location for your habitat patch (ideally a location adjacent to an open, non-forested area that will generally have limited human, vehicle, or domestic animal use). Isolate that area from livestock, if applicable.
2. Disturb the soil. This could a combination of raking, tilling, mowing, solarization, herbicide, or other methods. Best done in the fall or winter.
3. Seed in field mustard. The WDFW and the USFWS currently suggest a low seeding rate of approximately 5 grams per hundred square feet. However, if field mustard is present in the seed bank, seeding may not be necessary to achieve the general target host plant density. The WDFW and the USFWS anticipate that seeding rates will be refined over time as we learn from enrollees’ efforts.

Recommended Options:

1. Consider fencing the patch to exclude deer, or qualifying enrollees may voluntarily choose to lethally manage deer (see Section 5.2.7 regarding associated reduction in patch creation requirement).

2. Consider buffering your patch (see Section 5.2.6). Vegetated buffers (maintained April 1 through July 1 the next year) provide additional protection for caterpillars and chrysalises.
3. In addition to field mustard, either allow non-shrubby vegetation (e.g., grasses, forbs) to naturally seed/grow within spaces between mustards, or alternatively consider seeding an optional cover crop that may deter the establishment of noxious weeds. Timing of planting and species planted are important considerations to ensure achieving desired density of host plants (i.e., field mustard).

5.2.2 HABITAT PATCH MAINTENANCE

In order to prevent host plants from being killed and to avoid significant death of any eggs or caterpillars within created habitat patches, enrollees agree to the following management.

- (a) Insecticides will not be used within or immediately adjacent (within 15 feet) to created or maintained patches.
- (b) Herbicide usage will be limited to spot spraying within patches and will avoid planted field mustard. Herbicide is best limited to refreshing periods (see section 5.2.3. below).
- (c) No livestock and/or grazing will occur within created or maintained patches.
- (d) Mowing or driving within created patches will not occur except during refreshing or relocation of habitat patches.
- (e) Walking will be minimized through created or maintained patches. Heavy amounts of walking (i.e., trampling) within a patch will be avoided.

5.2.3 HABITAT PATCH MANAGEMENT

Enrollees will likely need to refresh their patches every two to four years to maintain habitat patch quality (i.e., the target field mustard/host plant density). Enrollees will also have the flexibility to relocate their created habitat patches over time, which is most efficiently completed during a patch refresh. Enrollees will use one of the three following options to refresh patches:

1. Alternate continuous habitat, allowing enrollee to compress their management activities and provide consistent habitat on their property. Enrollees will start to establish a second patch in the year before they start to remove host plants from the first patch (at least 10 feet away).
2. Re-establish in place, allowing enrollee to keep patch in same location. In the year of the replacement, the enrollee will hand-remove the field mustard in the spring (April 1 to June 10) to prevent recolonization, then till or prepare new site in the fall.
3. Re-establish in a new location, allowing enrollee to move patch around. In the year of the replacement, the enrollee will hand-remove the field mustard in the spring (April 1 to June 10) to prevent recolonization, then till or prepare new site in the fall.

5.2.4 AVOID DETRIMENTAL HABITAT

Detrimental habitat are patches or individual host plants that grow outside of intentionally created patches or outside of intentionally protected natural patches that will not remain undisturbed (except for light foot traffic and noxious weed control) throughout the island marble

butterfly's life cycle. These patches could attract island marble butterfly adults and egg laying by adults away from created patches. Unless maintained for the full life cycle of island marbled butterflies (approximately 1 year), detrimental habitat could result in loss of eggs, caterpillars, and chrysalises. Detrimental habitat is sometimes referred to as an "ecological trap" (Battin 2004). Enrollees must use good faith to avoid the establishment of detrimental habitat and work to remove it when it appears, per guidelines below. The WDFW and the USFWS will work with enrollees to avoid the creation of detrimental habitat, and to salvage island marble eggs and caterpillars from detrimental habitat that is inadvertently created, if necessary, as determined by WDFW and USFWS.

Field mustard plants that finish blooming before April 1 or starting blooming after June 10 (end of key part of flight season) are not considered detrimental habitat. However, in order to prevent these field mustard plants from blooming in the spring in future years, enrollees will remove the unwanted host plant(s) or patch(es) between June 10 and April 1. If a spring blooming field mustard, anticipated to bloom between April 1 and June 10, patch(es) sprouts up outside of the enrollees created patch(es), the enrollee will either:

- (a) Leave the patch(es) for at least a year - the time required for one full life cycle of the island marble butterfly;
- (b) Remove the vulnerable/unwanted patch(es) between June 10 and April 1, which will ensure removal before flowering stems emerge and have a chance to form flower buds; and/or
- (c) Remove the unwanted field mustard plants between April 1 and June 10 before stems form flower buds.

Similar to habitat patch creation, enrollees will be expected to make good-faith efforts in implementing these conservation measures.

5.2.5 ALLOW MONITORING AND SALVAGE/RESCUE OF THE ISLAND MARBLE BUTTERFLY

The WDFW or its agents will be allowed to access enrolled lands to perform the conservation monitoring and/or salvage/rescue activities described below. Access to property to conduct these actions will be coordinated through enrollee contact prior to site visits and with reasonable notice (at least 48 hours advanced notice). As needed, WDFW will:

- 1) Determine if there is egg laying by island marble in habitat patch(es). For many enrollees, these may only be infrequent spot checks of habitat patches for egg, larva, or butterfly presence, particularly if the island marble butterfly has not yet been detected or located in the general geographic area.
- 2) Conduct basic monitoring to evaluate and track the population/group (count abundance, track egg and caterpillar development) when it is determined that the island marble butterfly is present.
- 3) Salvage or rescue island marble butterfly eggs, caterpillars, and/or chrysalises if WDFW or USFWS determine they may be at risk due to unforeseen threats or habitat conditions, or are needed for captive rearing efforts.

The WDFW may request assistance from the USFWS in performing the conservation monitoring and/or salvage/rescue activities. In those instances, the USFWS will directly notify the enrollee of request to access lands and work cooperatively with the enrollee to arrange for access and perform monitoring and/or salvage/rescue activities.

5.2.6 BUFFER AROUND HABITAT PATCH (OPTIONAL)

Enrollees are strongly encouraged, but not required, to maintain a grassland/vegetative buffer around their created habitat patch(es). When patches become occupied, maintaining a buffer around a created habitat patch may increase productivity of island marble butterflies by minimizing the potential accidental killing of any caterpillars or chrysalises located both inside and outside the patch (the field mustard/host plant strip/block).

Observations of crawling island marble butterfly caterpillars (Lambert 2011) suggest a vegetative buffer of approximately 5-15 feet wide around the created patch would be a large enough footprint to protect most caterpillars or chrysalises outside of the patch. If the enrollee maintains a grassland/vegetative buffer around the patch, the buffer would not be mowed until after the flight season (July 1) of the following year to avoid accidentally killing any caterpillars or chrysalises. Should we learn more about the movement habits of the island marble butterfly we may be able to recommend additional or alternative buffer management techniques to minimize impacts to the island marble butterfly.

5.2.7 DEER MANAGEMENT (OPTIONAL)

Deer herbivory is a primary threat to the conservation of the island marble butterfly. Habitat strips and blocks for the island marble butterfly are more effective when isolated from deer browse. Accordingly, enrollees will have the option of creating and maintaining 33 percent less (1/3 less) habitat if that habitat patch is adequately fenced off from deer or deer are lethally removed. For example, an enrollee with 300 square feet of habitat could instead maintain 200 square feet of fenced habitat. Landowners that choose to exclude deer from their patch(es) must use a design/material that allows adult island marble butterflies to readily move into and out of the created habitat patches through the exclusion fencing. Lethal removal options may include the following:

- 1) Allow public hunting access, no-cost contracts; and
- 2) Qualifying landowners may work with WDFW conflict staff to obtain damage tags or kill permits, if appropriate.

Note that deer removal options are generally available only to enrollees with larger parcels, due to feasibility constraints. The WDFW will work with individual enrollees who may be interested in implementing lethal removal to determine if it is a viable option for their parcel(s).

6.0 APPLICATION AND ENROLLMENT PROCESS

As stated, the purpose of the CCAA is to implement conservation measures to benefit the island marble butterfly on non-federal lands on San Juan and Lopez Islands. These are the general steps for application and enrollment:

1. The WDFW and the USFWS biologists conduct outreach to eligible enrollees with lands located in open grassland habitats on San Juan and Lopez Islands that could support the island marble butterfly.
2. The landowner or their designee expresses an interest in participating and provides the following:
 - a) Aerial photos or map of the property; and
 - b) A brief description of current management and land use.
3. The landowner prepares a Certificate of Inclusion Application, with the assistance of the WDFW and/or the USFWS.
4. The WDFW reviews the Certificate of Inclusion Application and issues, issues with conditions, or denies the Certificate of Inclusion.
5. The CCAA is implemented by the participating enrollee, as written; including application of all conservation measures.

7.0 EXPECTED BENEFITS

The Conservation Measures identified in this CCAA are expected to benefit the covered species by creating habitat and increasing survival on enrolled lands. Habitat on enrolled lands, in concert with other future conservation projects for the island marble butterfly in the CCAA Emphasis Areas, are expected to support additional populations of the species during the term of the Permit. These additional populations may be established by a reintroduction program or through natural dispersal of individuals from the population in and adjacent to San Juan Island National Historical Park.

Assuming full enrollment in the CCAA Emphasis Areas, enrollees would grow more than 40,000 potential host plants. This estimation was based on the size of the combined Emphasis Areas (8,798 acres), a minimum habitat creation requirement of 50 square feet per acre, and a preference by the island marble butterfly to lay eggs in habitats that have field mustard plants at densities of less than 0.093 plants per square foot (Lambert 2011, 2014, *in* Lambert 2016, page 15). Even if enrollment in this CCAA is less than the total possible enrollment, the WDFW and the USFWS anticipate that the benefit to the species would be significant. Every piece of host plant habitat that would be created and maintained under the CCAA is more host plant habitat than would be on the landscape in absence of this conservation agreement.

Also, those actions implemented by enrollees to reduce sources of mortality through deterring incidental predation by deer and minimizing detrimental habitat would significantly improve the ability of wildlife managers to encourage the establishment of additional populations of the island marble butterfly in the CCAA Emphasis Areas. Additional populations are essential to the long-term conservation of the species. Enrollees outside of the CCAA Emphasis Areas may also be important. For example, enrollees adjacent to the American Camp population of the island marble butterfly would also contribute to the long-term conservation of the species by creating additional secure habitat for individuals at the periphery of the single currently extant population, and other areas outside of the CCAA Emphasis Areas which may become important in the future as the island marble butterfly is reestablished within the CCAA Emphasis Areas.

8.0 INCIDENTAL TAKE

8.1 ANTICIPATED INCIDENTAL TAKE

Take of island marble butterflies (all life stages) may occur incidental to implementation of the Conservation Measures or as a result of the covered activities. Incidental take is take "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity". The ESA states that "the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct". "Harm" is defined by regulation as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). "Harass" is defined by regulation as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering" (50 CFR 17.3).

The Conservation Measures in this CCAA are specifically designed to minimize the potential for incidental take of island marble butterflies. However, the small and cryptic nature of the species in all of its life stages will inevitably expose the species to impacts that could result in incidental take, especially in a future scenario where the island marble butterfly is more abundant on the landscape. The WDFW and the USFWS anticipate that incidental take will occur, but that the conservation benefits derived from the conservation measures will exceed the anticipated incidental effects on future populations in the CCAA Emphasis Areas.

8.2 AUTHORIZED INCIDENTAL TAKE

As described above, the island marble butterfly is not currently known to be present in the vast majority of the area covered by the CCAA Emphasis Areas on San Juan Island and Lopez Island, with the exception being American Camp within San Juan Island National Historic Park. We anticipate, however, that island marble butterfly populations will be established naturally or purposefully in the CCAA Emphasis Areas during the term of the proposed Permit. Incidental take is therefore reasonably certain to occur, and for the purposes of this analysis, the WDFW and the USFWS are considering a reasonable but conservatively large area (i.e., CCAA Emphasis Areas) to be occupied at least once during the next 15 years. Take of island marble butterflies is expected to occur incidental to engaging in covered activities on enrolled lands, even when these actions are performed in compliance with the CCAA conservation measures. Incidental take that is reasonably likely to occur includes, but is not limited to:

Spot-spray herbicide applications that will harm an unknown number of island marble butterflies (eggs and larvae) associated with up to 10 acres of established habitat strips and blocks. This area was calculated by assuming full enrollment within the CCAA Emphasis Areas (8,798 acres) and 50 square feet of created habitat per acre enrolled.

Mowing and fence construction and maintenance that will harm an unknown number of island marble butterflies (mostly eggs and larvae) associated with up to 50 acres at the periphery of established habitat strips and blocks. This area was calculated by assuming a 10-foot buffer on either side of a 4-foot wide habitat strip. Such an area would be five times larger than the strip itself, so 10 acres multiplied by 5 equals 50 acres.

Foot traffic that will harm an unknown number of island marble butterflies (mostly eggs and larvae) in up to 60 acres in and around established habitat strips and blocks.

Road use and road maintenance that will harm an unknown number of island marble butterflies (all life stages) associated with driveways, agricultural roads, and main roads.

Habitat maintenance and management, mowing, grazing, ranching, agriculture, herbicide use, recreation and recreation management, and foot traffic that will harm an unknown number of island marble butterflies (all life stages) associated with up to 8,798 acres of enrolled acres of open, primarily treeless landscape.

9.0 ASSURANCES PROVIDED IN CASE OF CHANGED OR UNFORESEEN CIRCUMSTANCES

The assurances listed below apply to the permit holder and participating enrollees. The assurances apply only where the CCAA, the Permit, and the associated Certificates of Inclusion are being properly implemented, and only with respect to the island marble butterfly.

9.1 CHANGED CIRCUMSTANCES

Changed circumstances provided for in the CCAA.

If unanticipated levels of take of the island marble butterfly occur over the duration of this CCAA, the WDFW will confer with the USFWS to determine the ongoing effectiveness of this CCAA. If after conducting reinitiated intra-service consultation, the USFWS determines that the amount of take or the impact of such take prevents this CCAA from achieving a net conservation benefit for the island marble butterfly, this CCAA may be modified, if appropriate, to ensure that a net conservation benefit standard will be achieved. The permittee and enrollees may choose to continue their participation under the modified CCAA or to discontinue their participation in the CCAA at any time. Depending on the cause of the take exceedance, remedies to substantially reduce take exposure and ensure a net conservation benefit would include relocation of habitat patches, construction of more robust habitat enclosures to reduce browse impacts, or other mutually agreed-to refinements. These types of actions fall within the scope of conservation measures outlined in section 5.2 of this CCAA and would not require CCAA modification.

Changed circumstances not provided for in the CCAA.

If additional conservation measures not provided for in the CCAA's voluntary, proactive conservation program are necessary to respond to changed circumstances, the USFWS will not require any conservation measures to benefit the island marble butterfly, in addition to those provided for in the CCAA, without the consent of the enrollee, provided the CCAA is being properly implemented.

9.2 UNFORSEEN CIRCUMSTANCES

If additional conservation measures are necessary to respond to unforeseen circumstances, the USFWS Director may require additional measures of the Permittee and enrollee(s) where the CCAA is being properly implemented, but only if such measures are limited to modifications within the CCAA's conservation strategy for the affected species, and only if those measures maintain the original terms of the CCAA to the maximum extent possible. Additional

conservation measures will not involve the commitment of additional land, water, or financial compensation, or additional restrictions on the use of land, water, or other natural resources available for development or use under the original terms of the CCAA without the consent of the Permittee and the enrollee(s).

The USFWS will have the burden of demonstrating that unforeseen circumstances exist, using the best scientific and commercial data available. These findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species. The USFWS will consider, but not be limited to, the following factors:

1. Size of the current range of the affected covered species;
2. Percentage of range adversely affected by the CCAA;
3. Percentage of range conserved by the CCAA;
4. Ecological significance of that portion of the range affected by the CCAA;
5. Level of knowledge about the affected covered species and the degree of specificity of the species' conservation program under the CCAA; and
6. Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

10.0 MONITORING PROVISIONS

Relative to implementation of the CCAA and fulfillment of its provisions, including implementation of agreed-upon conservation measures, the WDFW will be responsible for monitoring and reporting, as described in this section.

As specified in the Conservation Measures, WDFW and/or USFWS or their designees will coordinate with enrolled landowner and be provided with reasonable notice (at least 48 hours) in advance of any WDFW staff entering enrolled properties to perform site monitoring for island marble butterflies or to perform salvage/rescue of island marble butterflies when necessary (with the exception of periodic spot checks, monitoring will typically not be initiated until the island marble butterfly has been detected on or located in the general geographic area of an enrollee's property, nor will monitoring necessary occur annually at every site).

Issues of non-compliance (e.g., access not permitted to the WDFW or habitat patch(es) not appropriately managed/maintained) will be addressed through direct communication between the WDFW, the USFWS, and the individual enrollee to encourage compliance with the Certificate of Inclusions and CCAA. When possible, the WDFW and the USFWS will offer assistance to the enrollee to help meet compliance. Where compliance with the Certificate of Inclusion and CCAA cannot be achieved, the WDFW will suspend or revoke the enrollee's Certificate of Inclusion.

- a. Enrollees will provide the WDFW photographs of created habitat patch(es) taken in April, May, and June of each year and fill out and submit annually a checklist provided by WDFW indicating what CCAA conservation measures they implemented during that year.
- b. The WDFW will provide an Annual Report to the USFWS no later than March 31st each year. The Annual Report shall include the following components:

- A list of enrolled properties and documentation of the boundaries and descriptions of included lands;
- A running total of the acreage of the enrolled lands;
- Running totals of the quantity and size of strip(s), block(s), or other configurations of created habitat patch(es) of the enrolled lands;
- Summary of the quantity and size of habitat patch buffers;
- Summary of the quantity and size of habitat patches protected by deer fence;
- Summary of enrolled parcels/lands implementing active deer management (lethal removal); and
- Summary of all CCAA related monitoring activities for the island marble butterfly and their habitat over the previous year.

11.0 NOTIFICATION OF TAKE REQUIREMENT

All instances of known incidental take will be reported to the WDFW, and the USFWS as required by regulation. Incidental take will be avoided and minimized through implementation of conservation measures to protect habitat. Enrollees will provide the WDFW and the USFWS prompt notification and opportunity to salvage island marble butterflies prior to any activity that may detrimentally impact habitat known to be occupied by the island marble butterfly.

12.0 DURATION OF CCAA; PERMIT AND CERTIFICATE OF INCLUSION RENEWAL

12.1 WDFW CCAA AND PERMIT

Consistent with the WDFW's request, this CCAA shall be in effect for term of 15 years, unless earlier terminated in accordance with its terms or applicable law. The Permit issued with this CCAA will become effective if the island marble butterfly becomes listed, and will remain in effect for the duration of the CCAA.

The WDFW may seek to renew the CCAA and the Permit beyond the specified term of 15 years, or the WDFW can allow the CCAA and Permit to expire. If the WDFW chooses to renew the Permit, the WDFW will request permit renewal in accordance with the laws and USFWS regulations in existence at the time of the renewal request.

If the USFWS decides to renew the CCAA as requested by the WDFW, enrollees may request their participation under the WDFW permit in accordance with the WDFW procedures, and the laws and USFWS regulations at the time of permit renewal.

12.2 Certificates of Inclusion

The duration of each Certificate of Inclusion will be identified in that document, except that no Certificate of Inclusion may extend in duration beyond the term of the CCAA. Enrollees must notify the WDFW at least 90 days prior to expiration of their Certificate of Inclusion if they wish to request extension of the duration of their enrollment. Enrollees will notify the WDFW within 30 days following a sale or transfer of covered lands.

Participation in the CCAA and the Permit and access to the assurances they provide is only available to participating landowners who enroll lands under this CCAA through the issuance of a Certificate of Inclusion prior to any future effective ESA listing date of the covered species.

13.0 MODIFICATION OF CCAA

After approval of the CCAA, the USFWS may not impose any new requirements or conditions on, or modify any existing requirements or conditions applicable to, an enrollee, or successor in interest to the landowner (see 50 C.F.R. 13.24), to compensate for changes in the conditions or circumstances of any species or ecosystem, natural community, or habitat covered by the CCAA except (a) as stipulated in 50 CFR 17.22(d)(5) and 17.32(d)(5) without landowner agreement, and (b) in the case of Unforeseen Circumstances, as described in Section 9(3) of this CCAA.

WDFW and USFWS may propose modifications or amendments outside of the minimum requirements of the CCAA, by providing written notice to, and obtaining the written concurrence of, the WDFW and affected enrollee(s). Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The each of the USFWS, WDFW and enrollees will use their best efforts to respond to proposed modification in a timely manner.

14.0 AMENDMENT OF THE PERMIT

The Permit may be amended to accommodate changed circumstances in accordance with all applicable legal requirements, including but not limited to the ESA, the National Environmental Policy Act, and the USFWS permit regulations (50 CFR 13 and 50 CFR 17). In addition, any proposed changes to covered activities that increases or material changes the incidental take under the CCAA as approved would require an amendment to the permit according to applicable regulations at that time. Permit changes may need to be made to reflect modifications to the CCAA as determined by the WDFW and the USFWS.

If proposing an amendment, the WDFW or the USFWS shall provide a statement describing the proposed amendment and the reasons for it to the other Parties to the CCAA. Enrollees will have the opportunity to comment on any modifications proposed by the WDFW or the USFWS.

15.0 TERMINATION OF AGREEMENTS

15.1 TERMINATION OF CERTIFICATES OF INCLUSIONS BY ENROLLEE

As provided for in Part 8 of the USFWS CCAA Policy (64 FR 32726, June 17, 1999), an enrollee may terminate implementation of a Certificate of Inclusion's voluntary management actions prior to the Certificate of Inclusion's expiration date, even if the expected benefits have not been realized. If an enrollee terminates his/her Certificate of Inclusion, the enrollee's take authorization (if the island marbled butterfly has become listed) and assurances granted by the Permit are forfeited. The enrollee is required to give 60 days written notice to the WDFW of its intent to terminate the Certificate of Inclusion, and must give the WDFW, the USFWS, or their agents the opportunity to potentially relocate affected island marbled butterflies within 60 days of the notice.

15.2 TERMINATION OF CERTIFICATES OF INCLUSION BY WDFW

The WDFW has the right to cancel any Certificate of Inclusion where the enrollee or his/her successor(s) is found to be in non-compliance with the terms and conditions of the CCAA. If an enrollee is found to be in non-compliance, the WDFW will issue a written letter of non-compliance to the enrollee. The enrollee shall have 60 days from receipt of the letter to rectify the non-compliance issue(s). If the issue(s) is not resolved to the satisfaction of the WDFW and the enrollee by mutual consent by the end of the 60-day period, the Certificate of Inclusion shall automatically terminate.

15.3 TERMINATION OF THE CCAA BY WDFW

The WDFW may terminate this CCAA prior to its expiration date by giving at least 90 days prior written notice to the USFWS and to all enrollees holding a Certificate of Inclusion. During this notice period the WDFW will make good faith efforts to pursue all appropriate options with the USFWS to either:

- a. Locate a suitable transferee to assume the rights and responsibilities of the WDFW under this CCAA and the Permit pursuant to 50 CFR 13.24(c), 13.25(c), or
- b. Assist all cooperating enrollees holding a Certificate of Inclusion who desire to do so in making applications for individual permits pursuant to 50 CFR 17.22(b), 17.32(b), 17.22(d), or 17.32(d), as appropriate.

16.0 PERMIT SUSPENSION OR REVOCATION

The USFWS may suspend the privileges of exercising some or all of the Permit authority at any time if the WDFW is not in compliance with the conditions of the permit, or with any applicable laws or regulations governing the conduct of the permitted activity, or as otherwise provided by Federal law. Suspension or revocation of the permit/license shall be done in accordance with applicable Federal regulations which may include, but are not limited to, 50 CFR 13.27 and 50 CFR 13.28.

17.0 FORMAL DISPUTE RESOLUTION

This CCAA is not intended to be a binding and legally enforceable contract. No party shall be liable in damages for any breach of this CCAA, for any performance or failure to perform an obligation under this CCAA, or for any other cause of action arising from this CCAA. This CCAA is an extension of USFWS regulatory authority provided under federal law, including the ESA and its implementing regulations. Venue for disputes arising in association with this CCAA shall be a federal court with appropriate jurisdiction.

18.0 INFORMAL DISPUTE RESOLUTION

The Parties recognize that disputes concerning implementation of, compliance with, or termination of this CCAA and associated Certificate of Inclusions, may arise from time to time. The Parties agree to work together in good faith to resolve such disputes, using the informal dispute resolution procedures set forth in this section, or such other procedures upon which the Parties may later agree. However, if at any time any party determines that circumstances so

warrant, it may seek any available remedy without waiting to complete informal dispute resolution.

The Parties may use the following process to attempt to resolve disputes informally:

- (a) The aggrieved party will notify the other Parties of the provision that may have been violated, the basis for contending that a violation has occurred, and the remedies it proposes to correct the alleged violation.
- (b) The party alleged to be in violation will have 30 days, or such other time as may be agreed, to respond. During this time, it may seek clarification of the information provided in the initial notice. The aggrieved party will use its best efforts to provide any information then available to it that may be responsive to such inquiries.
- (c) Within 30 days after such response was provided or was due, representatives of the Parties having authority to resolve the dispute will meet and negotiate in good faith toward a solution satisfactory to all Parties, or will establish a specific process and timetable to seek such a solution.
- (d) If any issues cannot be resolved through such negotiation, the Parties will consider non-binding mediation and other non-binding alternative dispute resolution processes and, if a dispute resolution process is agreed upon, will make good faith efforts to resolve all remaining issues through that process.

19.0 SUCCESSION AND TRANSFER

Certificates of Inclusion entered into pursuant to this CCAA shall be binding on and shall inure to the benefit of the enrollees and their participating successors and transferees (i.e., new owners) in accordance with applicable regulations (50 CFR 13.24 and 13.25). The rights and obligations under a Certificate of Inclusion may be transferred with the ownership of the enrolled property and are transferable to subsequent non-Federal landowners or their designees pursuant to 50 CFR 13.25. The Certificate of Inclusion issued to the enrollee is also transferable to the new owner(s) pursuant to 50 CFR 13.25. If a Certificate of Inclusion is transferred, the new owner(s) will have the same rights and obligations with respect to the enrolled property as the original owner. The new owner(s) also will have the option of receiving CCAA assurances by signing a new Certificate of Inclusion instead of assuming the existing one. Each Certificate of Inclusion shall require the enrollee to notify the WDFW in writing of any transfer of ownership within 30 days following a sale or transfer of covered lands, so that the WDFW can attempt to contact the new owner, explain the conservation measures applicable to the property and the assurances, and seek to interest the new owner in signing the existing Certificate of Inclusion or a new one. Assignment or transfer of the Certificate of Inclusion shall be governed by the USFWS regulations in force at the time.

20.0 AVAILABILITY OF FUNDS

Implementation of this CCAA is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this CCAA will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the USFWS will not be required under this CCAA to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

21.0 RELATIONSHIP OF OTHER AGREEMENTS AND INITIATIVES

21.1 AGREEMENTS AND INITIATIVES OUTSIDE OF THE SCOPE OF THE CCAA

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) has the potential to implement conservation practices under the Environmental Quality Incentives Program (EQIP) to address natural resource concerns on lands within San Juan County, Washington. Under EQIP, the NRCS provides its participants with technical assistance and payments to plan and apply needed conservation practices. These practices improve on-site resource conditions and produce offsite environmental benefits for the public. Practices include, but are not limited to, wildlife habitat conservation practices that increase wildlife habitat, enhance scenic value, and provide opportunities for recreation. Lands within the CCAA Emphasis Areas may be eligible for enrollment in EQIP. Other NRCS assistance programs may also be available to landowners or their designees who enter into this CCAA.

The NPS manages island marble butterfly habitat in American Camp in San Juan Island National Historic Park. The NPS is also implementing captive rearing efforts in cooperation with the WDFW and the USFWS.

21.2 OTHER AGREEMENTS AND INITIATIVES ON NON-FEDERAL LANDS

No habitat conservation plans (HCPs) have been developed for non-federal lands within the CCAA Emphasis Areas that specifically cover island marble butterfly habitat. However, the Washington Department of Natural Resources' 1997 HCP (which covers forested habitats) includes a North Puget Unit which does encompass island marble butterfly habitat in the Cattle Point Natural Resources Conservation Area. The USFWS has funded a partner, the San Juan Preservation Trust, to implement conservation actions for the island marble butterfly on other non-federal lands.

The CCAA will complement the conservation of habitats for the island marble butterfly provided by the San Juan Preservation Trust and NPS. We anticipate that CCAA Emphasis Areas adjacent to these habitats will enhance the conservation of the island marble butterfly in San Juan Island as they disperse to connected habitat patches.

22.0 NO THIRD-PARTY BENEFICIARIES

Nothing in it is intended to grant any legally enforceable rights or provide any benefits to any third-party.

23.0 NOTICES AND REPORTS

Any notices and reports required by this CCAA shall be delivered to the persons listed below as appropriate:

Director, WDFW
600 Capitol Way N.
Olympia, WA 98501

State Supervisor, USFWS

510 Desmond Drive SE, Suite 102
Lacey, WA 98503

This CCAA shall be implemented in conformance with all applicable laws and regulation of the United States and with all consistent laws and regulations of the State of Washington. If any provision of this CCAA shall be held unlawful, it may be severed and the remaining provisions will continue in force, consistent with the overall conservation purpose for the island marble butterfly.

This document constitutes the entire CCAA between the Parties and no modification shall be effective unless it is in writing and signed by the authorized representatives of both Parties. IN WITNESS THEREOF, THE PARTIES HERETO have, as of the last signature date below, executed this CCAA to be in effect as of the date that the USFWS issues the Permit. IN WITNESS WHEREOF, THE PARTIES HERETO have, as of the last signature date below, executed this Candidate Conservation Agreement with Assurances to be in effect as of the date that the USFWS issues the permit.

 7/31/19

Director Date
Washington Department of Fish and Wildlife

 8/1/2019

Acting State Supervisor Date
Washington Fish and Wildlife Office
U.S. Fish and Wildlife Service

24.0 LITERATURE CITED

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25.0 APPENDIX I. CERTIFICATE OF INCLUSION

Candidate Conservation Agreement with Assurances for the Island Marble Butterfly in the State of Washington Certificate of Inclusion

This certifies that the participating member of the property(ies) described below will be included within the scope of the Permit that will be issued to the Washington Department of Fish and Wildlife (WDFW) by the U.S. Fish and Wildlife Service under the authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended, 16 U.S.C. 1539(a)(1)(B). This permit will become effective if the island marble butterfly is listed under the ESA. Such permit will authorize incidental take of covered species as part of a Candidate Conservation Agreement with Assurances (CCAA). This incidental take will be allowed due to the application of applicable conservation measures outlined in the Programmatic CCAA on the enrolled property that will benefit the covered species and/or its habitats within their range in the CCAA coverage area. Pursuant to that Permit and this Certificate of Inclusion signed by the landowner (or their designee) and WDFW, the holder of this certificate will be authorized to engage in any otherwise lawful activity on the described property(ies) that may result in the incidental taking of the covered species, as appropriate, subject to the terms and conditions of the Permit and the CCAA. Permit authorization is subject to carrying out applicable conservation measures described in the CCAA and the terms and conditions of the Permit and the CCAA. By signing this Certification of Inclusion, the participating member agrees to carry out the conservation measures and other requirements described in the CCAA.

Participating Property(ies) Owner's Name and Address:

- Legal Description of Enrolled Property(ies) (attached)
- Brief Description of Primary Land Use on Enrolled Property(ies) (attached)
- Detailed Map(s) with Enrolled Property(ies) Identified (attached)
 - NOTE: Map(s) must clearly show property(ies) boundaries and other applicable important features.
- Total Acres of Enrolled Property(ies) (all properties covered by permit): _____ acres
- Estimated Acres of Non-forested, Open Areas (excluding roads, residences, and other infrastructure) for calculating CCAA habitat commitment: _____ acres
 - Minimum habitat commitment, if greater than 1 acre (estimated acres above x 50 square feet): _____ sq feet*
 - *Note: habitat commitment can be 1/3 less at the time a landowner chooses to implement applicable deer management option. If a landowner decides to stop implementing the deer management option some time during the term of the agreement, then the original minimum habitat commitment would resume at that point.

Duration of Certificate of Inclusion from date of last signature. Certificates of Inclusion will expire with the term of the CCAA unless renewed (i.e., a CI will not provide assurance beyond the duration of the agreement between WDFW and USFWS): 15 years

The participating member agrees to allow WDFW employees or its agents to enter the enrolled property(ies) to complete the periodic conservation monitoring for the island marble butterfly and/or to salvage/rescue island marble butterfly eggs, caterpillars, and/or chrysalises when necessary as described in the Programmatic CCAA.

Initial one of the following choices:
Member requests reasonable notice (i.e., at least 48 hrs) prior to entry: _____
Courtesy notice not required: _____

The participating member agrees to allow US Fish and Wildlife Service employees or its agents to enter the enrolled property(ies) as necessary, with prior coordination, to maintain or enforce the CCAA.

Initial one of the following choices:
Member requests reasonable notice (i.e., at least 48 hrs) prior to entry: _____
Courtesy notice not required: _____

The participating member agrees to give 60 days written notice to WDFW of their intent to terminate this Certificate of Inclusion, and will give the U.S. Fish and Wildlife Service an opportunity to relocate affected covered species within 30 days of the notice.

Enrolled landowners will notify WDFW within 30 days following a sale or transfer of covered lands. WDFW will offer the new owner the option of receiving conservation coverage by agreeing to implement all CCAA conservation measures and signing a new CI.

Participating Landowner

_____ Date _____
--- Participant Signature(s) ---

Landowner CCAA Designee (If Applicable)

_____ Date _____
--- Designee Signature(s) ---

Washington Department of Fish and Wildlife

_____ Date _____
Kelly Susewind - Director

26.0 APPENDIX II. SUMMARY OF CONSERVATION MEASURES

Habitat Patch Establishment/Creation Requirement			OPTIONAL: Buffer Around Created Patch
Purpose/Objectives: To create host plant (field mustard) habitat for butterflies to lay their eggs and for caterpillars to feed, mature, form a chrysalis ("pupa"), and emerge as adults.			Purpose/Objectives: To minimize accidental killing of any caterpillars and chrysalises that may be immediately outside of host plant patches.
Quantity and Scaling Equity	Strips (continuous or spaced) or Blocks (single or multiple)	...or other workable configuration*	Strongly encouraged, but not required
if <1/4 acre, then approx. 36 sq. ft.	approx. 4 f.t x 9 ft. strip OR pull field mustard	Approx. 6 ft. x 6 ft. OR pull field mustard	None specifically required Recommend maintaining approx. 5 to 15 ft. "grassland/vegetative" buffer around patch; the buffer should not be mowed or removed until after the flight season (July 1) the following year to protect any chrysalises.
if between 1/4 to 1 acre, then 100 sq. ft.	approx. 4 ft. x 25 ft. strip	Approx. 10 ft. x 10 ft.	
if > 1 acre, then 50 sq. ft. per acre	Strips approx. 4 ft. x length based on size of ownership. (If not a single continuous strip, multiple strips are spaced at least 10 ft apart)	Increase square size based on size of ownership. (if not a single block, space each block at least 10 ft apart)	

Avoid Detrimental Habitat		OPTIONAL: Address Deer Browse in Created Habitat Patches	Allow Monitoring and Salvage/Rescue of the Island Marble Butterfly	
<p>Purpose/Objectives: To protect butterflies from using habitat patches that may not persist over their complete life cycle and that could result in significant loss of eggs and caterpillars. Habitat of this nature is often referred to as an "ecological trap". Choose one of the following two options:</p>		<p>Purpose/Objectives: To minimize potential deer browse impacts to host plants, eggs, and caterpillars within created habitat patches.</p>	<p>Purpose/Objectives: <u>Monitoring</u> - To determine patch use by the butterfly and estimate the number of individuals.</p>	<p>Purpose/Objectives: <u>Salvage/Rescue</u> - To collect eggs, larvae, or chrysalises from habitat patches that cannot be maintained or that may be at risk due to unforeseen threats or habitat conditions.</p>
<p>A) Remove vulnerable/unwanted host plant patches outside of created patches</p>	<p>B) Leave volitional (volunteer) patches of host plants outside of created patches for at least a year</p>	<p>Discount for selecting at least one of the measures listed below (Only available to > 1 acre landowners; reduces habitat patch size commitment by a third)</p>	<p>Spot monitoring of patches by WDFW or USFWS will occur periodically to look for butterfly use. More frequent monitoring would only occur once a patch is found to be occupied, and may not occur every year.</p>	<p>WDFW and USFWS may need to salvage/rescue island marble butterflies (eggs, larvae, and/or chrysalises) on a participating landowner's property at some point during the CCAA agreement period. Salvaged or rescued butterflies would be relocated to other secure habitat patches and/or be used in captive rearing efforts.</p>
<p>Volitional (volunteer) patches or individual host plants could attract IMB away from created patches, and unless they are maintained for a full life cycle (~1 year) most IMB associated with these host plants could be</p>	<p>Volitional (volunteer) patch(es) are maintained for full life cycle of butterfly (at least until the next adult flight season), then can be removed after flight season (June 10). * Similar to created habitat</p>	<p>Adequate deer fence or lethal removal based on suitability. Lethal removal options may include: 1) Allow public hunting access, no-cost contracts; 2) Qualifying landowners may work with WDFW</p>	<p>Landowners can also contact either WDFW or USFWS if they think island marble butterfly are using their patch and want to have it confirmed. *WDFW or USFWS or their agents will coordinate with</p>	<p>Landowners should notify either WDFW or USFWS if they find they are no longer able to maintain a volunteer habitat patch or can no longer maintain their vegetative buffer around their created patch up to July 1, if they think it</p>

<p>inadvertently killed when the habitat is removed/redisturbed. Patches/host plants that will be subject to this situation should generally be removed.</p> <p>*Any removal of unwanted host plant patches (i.e., spring blooming mustard) can be safely removed anytime between June 10 to April 1. Mustards that bloom after June 10 (end of key part of flight season) are <u>not</u> a concern.</p>	<p>patches, light foot traffic and spot control of any noxious weeds within these patches is allowed.</p>	<p>conflict staff to obtain damage tags or kill permits, if appropriate.</p> <p>*Note that deer removal options are generally available only to enrollees with larger parcels, due to feasibility constraints. The WDFW will work with individual participating landowners who may be interested in implementing lethal removal to determine if it is a viable option for their parcel(s).</p>	<p>landowners and provide reasonable notice (i.e., at least 48 hrs) prior to biologists accessing a landowner's patch for monitoring (see Certificate of Inclusion).</p>	<p>might be occupied by the island marble butterfly.</p> <p>*WDFW or USFWS or their agents will coordinate with landowners and provide reasonable notice (i.e., at least 48 hrs) prior to biologists accessing a landowner's patch for salvage/rescue efforts (see Certificate of Inclusion).</p>
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