Exhibit 3.f

Habitat Management Plan

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MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS

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HABITAT MANAGEMENT PLAN

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1 INTRODUCTION

Grette Associates, LLC is under contract with Mustard Seed Legacy Development, LLC to prepare a Habitat Management Plan (Plan) in support of the proposed development project located off Steilacoom-DuPont Road SW and Barksdale Avenue in DuPont, Washington (Figure 1). The project site is located on Pierce County parcels 0119362039, 0119362009, 0119362012, and 0119362043.

The purpose of this Plan is to demonstrate compliance with the fish and wildlife habitat conservation area (FWHCAs) requirements of DuPont Municipal Code (DMC) 25.105.050(2)(i).

This Plan is prepared based on information provided in the 2019 Critical Areas Report (Grette Associates 2019) and the 2023 Buffer Mitigation Plan (Grette Associates 2023) that have been prepared in support of the proposed project.

2 PROJECT DESCRIPTION

2.1 Project Location

To access the project site from I-5, take Exit 119 and turn North. The first intersection in approximately 250 feet is Barksdale Avenue and DuPont-Steilacoom Road, which is the southern corner of the property.

The approximate location of the proposed project is identified by the red polygon as shown in Figure 1.

Figure 1. Vicinity map

2.2 Site Description

The subject property is largely undeveloped and is dominated by Bell Marsh (Grette Associates 2019). This wetland is approximately 20 acres in size and is classified as a Category II depressional feature.

The portion of the subject property that is not occupied by Bell Marsh largely consists of a mature forest predominantly consisting of Douglas-fir (*Pseudotsuga menziesii*), Oregon white oak (*Quercus garryana*), and big-leaf maple (*Acer macrophyllum*). The understory is currently inundated by invasive vegetation, particularly Himalayan blackberry (*Rubus bifrons*) and English ivy (*Hedera helix*). Other invasive species that are less prevalent include English holly (*Ilex aquifolium*), reed canarygrass (*Phalaris arundinacea*), and Scotch broom (*Cytisus scoparius*). While the Himalayan blackberry occurs in large dense thickets, the other invasive species exists among desirable native vegetation, including oceanspray (*Holodiscus discolor*), salal (*Gaultheria shallon*), beaked hazelnut (*Corylus cornuta*), and low Oregon grape (*Berberis nervosa*).

2.3 Proposed Project

Champions Centre, a Washington not-for profit corporation, is proposing to build a religious assembly and parking area primarily outside of the wetland buffer (Appendix A). The building is proposed to be approximately 26,000 square feet and will be located on the corner of Barksdale Avenue and DuPont-Steilacoom Road.

In addition to the actions summarized above, the proposed project will require the extension of an existing stormwater outfall associated with City of DuPont stormwater infrastructure along Dupont-Steilacoom Rd. that discharges into the project site. Currently this outfall is discharging within the eastern portion of the project site and allowing stormwater to sheet flow towards the critical areas identified within the subject property. The new stormwater outfall will be extended through the site and into the buffer, where it will discharge into a buried dispersion trench to avoid potential scouring or erosion (Appendix A). The dispersion trench will be backfilled and the disturbed area planted once construction of the outfall is complete.

3 CRITICAL AREAS SUMMARY

In 2019, Grette Associates Biologists visited the subject property to identify all wetlands and streams within 300 feet of the proposed project. One wetland (Bell Marsh) and one associated stream were identified during Grette Associates' 2019 assessment (Grette Associates 2019).

3.1 Wetlands

Bell Marsh is located throughout the subject property and extends near the northern boundary of the project site. This wetland is classified as a Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested wetland and is hydrogeomorphically classified as a depressional wetland. This feature was rated in accordance with DMC 25.105.050 and the Washington Department of Ecology's *Revised Washington State Wetland Rating System for Western Washington – 2014 Update* (Hruby 2014). The wetland scored a total of 20 points on the rating system, which makes the wetland Category II (Hruby 2014). According to DMC 25.105.050, Category II wetlands require a standard buffer of 100 feet. A summary of Wetland A is provided below in Table 1.

Table 1. Wetland Summary

Wetland ID	Cowardin Class[1]	HGM Class[2]	Size (approximate)	Wetland Category[2]	Buffer Width[3]
A	Palustrine Aquatic-Bed/Emergent/Scrub-Shrub/Forested	Depressional	20 acres	II	100 ft

[1] Classification of Wetlands and Deepwater Habitats of the United States (Cowardin 1979)
[2] Washington State Wetland Rating System for Western Washington – 2014 Update (Hruby 2014)
[3] DMC Chapter 25.105.050 (Critical areas)

3.2 Fish and Wildlife Habitat Conservation Areas

Per DMC 25.105.030(140), FWHCAs include those areas associated with state or federally listed species; habitats for Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and Species; tidelands and bedlands; and streams and waters of the state that support listed species, priority species, or game fish.

In addition to the stream associated with Bell Marsh, there is a small stand of large Oregon white oak (*Quercus garryana*) trees mapped within the northwest portion of the subject property (Grette Associates 2019). As this stand of oaks are more than 300 feet from the proposed project, the oak stand is no longer discussed in this document. However, there is an unmapped stand of oaks near the location of the proposed building (Appendix A). This stand of oaks will be preserved. Furthermore, 75 native oaks will be planted as part of the wetland and stream buffer enhancement conducted for this project.

Lastly, there no mapped federally-listed critical habitats in the vicinity of the project area (USFWS 2023a, NMFS 2023), and none of these types of habitats were observed during the 2019 site visit (Grette Associates 2019).

3.2.1 Streams

A fish-bearing stream was also identified during Grette Associates' 2019 assessment (Appednix A). This stream originates at a stormwater outfall that carries water from Joint Base Lewis-McChord (JBLM) and other developed areas through the southern portion of the wetland and towards the open-water areas of the wetland (Grette Associates 2019). According to DMC 25.105.050, all streams require a 100-foot buffer.

Table 2. Natural water feature identification summary

Feature	Water Type[1]	Buffer[2]
PS-1	F	100 ft.

[1] Natural water features were rated according to DMC 25.105.030 and WAC 222-16-030.
[2] Buffers are based on DMC 25.105.050

3.2.2 Resident Cutthroat Trout

Bell Marsh and the associated stream (PS-1) are mapped to support resident cutthroat trout (*Oncorhynchus clarki clarki*; WDFW 2023a, 2023b).

Coastal cutthroat trout are a species of salmonid that can have a variety of migration patterns, including resident, fluvial, and anadromous (Elliott 2008). The trout mapped to occur at the project site is the resident form (WDFW 2023a, 2023b, 2023c). These trout live in cool freshwaters including lakes and streams with complex habitat like large woody

debris, overhanging riparian vegetation, and pools (Machtinger 2007). They feed on invertebrates, fish, and plankton. They spawn in streams with loose gravel and winter in deep pools with plenty of cover (Machtinger 2007). Resident coastal cutthroat have declined in the past decades, most likely due to habitat degradation and invasive fish species (Machtinger 2007).

3.2.3 Waterfowl Concentrations

Bell Marsh is mapped by WDFW to support waterfowl concentrations (WDFW 2023a, 2023b).

Waterfowl are prominent game birds in Washington. Pierce County has over 40 species of waterfowl, including 15 common species (Washington Birder 2023). Freshwater wetlands provide waterfowl with habitat for feeding, nesting, and rearing, and these wetlands can also provide social interaction between birds (Stewart 2016).

4 MITIGATION SEQUENCING

Mitigation sequencing is a set of steps demonstrating how a project prevents and/or minimizes avoidable impacts to the environment for conformance with the requirements defined in DMC 25.105.030.215.

The Buffer Mitigation Plan (Grette Associates 2023) that was prepared in support of this project provides a detailed sequence of actions that were implemented during design to address mitigation sequencing. In summary, the proposed project has been designed to avoid direct impacts to the wetland and stream. While direct impacts to the wetland or stream have been avoided, there is no design alternative that would not require the use of an administrative buffer reduction, as defined in DMC 25.105.050(2)(g). In support of the proposed buffer reduction, 39,000 sq ft of wetland and stream buffer enhancement will be completed throughout the remaining buffer area in the vicinity of the proposed project to ensure no indirect impacts will occur.

Please refer to the submitted Buffer Mitigation Plan (Grette Associates 2023) for more details on the wetland buffer enhancement, and refer to Section 8.3 of this document for the stream buffer enhancement.

5 STREAM BUFFER IMPACTS

Per DMC 20.105.050(2)(g), a proposed stream buffer reduction may be approved through buffer enhancement as part of an approved habitat management plan. Under the current proposal, approximately 3,805 square feet of temporary (2,758 sq ft) and permanent (1,047 sq ft) stream buffer impacts would occur (Appendix A)

As noted above, a Buffer Mitigation Plan (Grette Associates 2023) has been prepared to address the proposed wetland and stream buffer reductions. This document includes a detailed buffer enhancement plan which includes a summary of the reductions, proposed planting schedule, and monitoring plan. Please refer to this plan for more details regarding the proposed buffer enhancement.

In addition to the information provided in the buffer mitigation plan, the impact analysis and habitat management plan sections summarized below are intended to demonstrate that the proposed project will not result in any adverse impacts to the stream and/or the functions the proposed buffer will provide.

6 STORMWATER INFRASTRUCTURE

Per DMC 25.105.050(2)(a), stormwater outfalls are permitted in stream buffers without additional mitigation. While this is not an allowed activity in wetland buffers under DMC 25.105.050(1)(c), it fits as an exception under DMC 25.105.070(2), which lists utilities as an acceptable use when it can "clearly be demonstrated that the project is needed for the benefit of the public; and no feasible alternative exists or to gain access to private property; and there is no feasible alternative to the proposed location; and the proposed location results in no net loss in a critical area's functional value." Stormwater utilities, including outfalls, are necessary to mitigate flooding, particularly in a developed area with ample impermeable surfaces including the busy roads adjacent to the wetland. Currently, the stormwater outfall pipe is located outside of the wetland buffer. However, it will need to be extended since the project design includes a parking lot at the current outfall location. The updated design of the stormwater outfall (Appendix A) is intended to result in a no net loss in the buffer's function. The new design now includes a dispersion trench to minimize the chance of scouring or erosion in the buffer. Before reaching the outfall, stormwater will filter through an oil-water separator and a filter sock to treat the water prior to discharge. This will assist the remaining buffer in filtering sediments and toxins. This design, in conjunction with the buffer enhancements outlined in the Buffer Mitigation Plan (Grette Associates 2023), will ensure the buffer and the wetland are not degraded by untreated stormwater discharge and will meet the no net loss requirement.

Other mitigation activities to comply with the regulations in DMC 25.105.050 can be found in the 2023 Buffer Mitigation Plan (Grette Associates 2023). These activities primarily consist of invasive species removal and native plant installations.

7 IMPACT ANALYSIS

This impact analysis is intended to summarize potential impacts that may occur as a result of the project and demonstrate that the proposed project will conform to the requirements defined in Chapter 25.105 of the DMC. Under the current project design, approximately 3,805 sq ft of temporary and permanent buffer impacts will occur within the 100-foot stream buffer (Appendix A).

7.1 Water Quality Impacts

According to the Washington Department of Ecology, the moderation of adverse effects of stormwater on wetland water quality is one of the most paramount values a wetland buffer provides (Castelle et al. 1992). Wetland buffers control fluctuating water levels; treat sediments, nutrients, and toxins; and prevent erosion by stabilizing soils (Castelle et al. 1992). However, the ability of buffers to provide these values depend strongly on the amount of time stormwater can spend in the buffer (Castelle et al. 1992). Potential impacts to the water quality from both extending the existing outfall pipe and reducing the width of the stream buffer include increased erosion leading to increased suspended sediments, flashy hydrological patterns, and increased pollution from untreated toxins and nutrients. However, as discussed in Section 6, the updated stormwater outfall design includes a buried dispersion trench to address erosion and scouring concerns, and as discussed in Section 5, the stream buffer will be enhanced as part of the wetland buffer mitigation requirements. These enhancements are designed to ensure the remaining buffer is able to provide valuable

ecological services to the aquatic resource, including stormwater treatment, to a similar or better capability than it currently is functioning at.

Any temporary water quality impacts resulting from construction activities will be addressed with construction Best Management Practices (BMPs), as outlined in the required Stormwater Pollution Prevention Plan and Temporary Erosion and Sediment Control Plan.

7.2 Aquatic Habitat and Buffer Impacts

7.2.1 Direct Impacts

No direct impacts to the wetland or stream will occur as a result of the project.

7.2.2 Indirect Impacts

Indirect effects, such as turbidity and pollution, may potentially occur during the construction of the proposed project. Enhancement activities in the Buffer Mitigation Plan (Grette Associates 2023) have been designed to minimize these impacts. Temporary impacts from construction can be mitigated by implementing applicable Best Management Practices (BMPs) such as silt fencing and mulching of disturbed soils.

7.2.3 Buffer Impacts

Temporary and permanent impacts to the reduced wetland and stream buffer are proposed. Temporary impacts including minor grading and filling and installation of the stormwater dispersion trench, will be addressed through immediate stabilization of the surface soils and replanting of the areas with native buffer vegetation. Permanent buffer impacts include areas where improvements are proposed for an existing access road that runs parallel to the wetland boundary. These impacts are described in the Buffer Mitigation Plan (Grette Associates 2023). These activities will be offset by the removal of invasive vegetation and installing native, woody, riparian plants within the remaining buffer to ensure no net loss of buffer function will occur as a result of the proposed project.

Both permanent and temporary impacts to the stream buffer total approximately 3,805 sq ft. This impact will be offset by the enhancement of 39,000 sq ft of remaining buffer.

7.3 Wildlife Impacts

Potential impacts to resident cutthroat trout and waterfowl concentrations, though unlikely, would primarily occur through water quality impacts described in Section 7.1. As addressed in Section 3.2, resident cutthroat trout require cool, clean water to thrive. No instream work is proposed, and stormwater from the site would not be directly discharged to the wetland or stream. The stormwater outfall design includes a buried dispersion trench to dissipate and infiltrate stormwater in a way that avoids erosion and scouring that can lead to increased sedimentation.

8 HABITAT MANAGEMENT PLAN

8.1 Effects on Fish and Wildlife Habitat Conservation Areas

8.1.1 Effects on Habitat

Several potential impacts could occur as a result of the proposed project, particularly the reduction in the stream buffer. Decreased water quality from the reduction of the stream buffer is very unlikely as the remaining buffer will be enhanced in a way that is designed

to counteract the effects of buffer reduction. However, the reduction of stream buffer area can affect the quality of riparian habitat and habitat of the stream itself as it may not adequately protect against human intrusion and noise.

It is unlikely that the stormwater outfall will affect the stream. As addressed in Section 6, a spreader trench will be installed to minimize erosion and scouring that can cause sedimentation, and the stormwater will be treated at a basic level to minimize the ecological necessity of the buffer to filter water.

8.1.2 Effects on Fish and Wildlife Species

Impacts to resident cutthroat trout and waterfowl concentrations will primarily result from the reduction in the stream buffer width, which would have a decreased ability to protect the habitat from human intrusion and noise. Waterfowl in particular can be flushed from the area if exposed to humans and loud city noises from adjacent roads.

Contamination of the habitat from the reduced stream buffer or stormwater outfall is very unlikely, considering the remaining buffer will be enhanced to counteract the adverse effects of buffer reduction and that stormwater will be treated before reaching the outfall.

While it is expected that the impacts associated with the project activities should be minor and limited to a relatively small area, to ensure that any unforeseen circumstances do not have the potential to affect the resident cutthroat trout or waterfowl concentrations, all applicable drainage and erosion control measures (i.e., BMPs) will be implemented. Please refer to the proposed mitigation measures in the Buffer Mitigation Plan (Grette Associates 2023) for details on mitigating construction activities, and Section 8.3 for details on buffer enhancement activities to mitigate impacts resulting from the stream buffer reduction.

8.2 Proposed Stormwater Outfall Mitigation Measures

8.2.1 Stormwater Outfall Design

As addressed in Section 6, the updated stormwater outfall design contains two key elements to protect water quality and reduce the need for the buffer to filter toxins and sediments: a spreader trench and a filtering system. The spreader trench is meant to diffuse the stormwater exiting the outfall over a larger area to avoid erosion and scouring that can lead to sedimentation. The filtering system consists of an oil-water separator to remove oils from cars on the road, and a filter sock to further treat the water. A concern with extending the stormwater outfall into the buffer was that it would reduce the buffer's ability to remove sediments and toxins from stormwater. However, this stormwater treatment avoids the use of the wetland and stream buffer as a tool for water treatment, as discouraged by Best Management Practice (BMP) C102 in the Stormwater Management Manual for Western Washington (Washington State Department of Ecology Water Quality Program [WDOEWQP] 2019).

8.2.2 Stormwater Drainage Plan

The proposed stormwater outfall extension will adhere to all applicable drainage and erosion control methods defined in Chapter 22 of the DMC. These methods are intended to ensure a proposed project will meet the City's water quality standards.

8.2.3 Best Management Practices

At a minimum, the following BMPs from the Stormwater Management Manual for Western Washington (WDOEWQP 2019) will be utilized to counter the effects of the stormwater outfall extension:

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High-Visibility Fence
- BMP C105: Stabilized Construction Access
- At least one BMP addressing erosion control (e.g., BMP C122: Nets and Blankets)

8.3 Stream Buffer Enhancement

8.3.1 Mitigation Requirements

When a stream buffer is encroached by a development that is not an allowable activity, mitigation is required per DMC 25.105.050(2)(c)(i). The mitigation plan will show that:

A. The stream has been degraded and will not be further degraded by the enhancement, rehabilitation, or restoration activity;
B. The enhancement, rehabilitation, or restoration will reliably and demonstrably improve the water quality and fish and wildlife habitat of the stream;
C. The enhancement, rehabilitation, or restoration will have no lasting, significant, adverse impact on any stream functions; and
D. The enhancement, rehabilitation, or restoration will assist in stabilizing the stream channel.

As addressed in Section 3.2.1, the stormwater outfall carries water from nearby developed areas and currently discharges outside of the stream buffer onto the site near DuPont-Steilacoom Road. The outfall is proposed to be relocated into the stream buffer, discharging through a buried dispersion trench. No in-water work will occur as part of this project or buffer enhancement, so this project is unlikely to contribute to stream quality degradation. In addition, dense plantings of native vegetation are known to provide benefits to streams by stabilizing the banks and preventing erosion, increasing riparian habitat value, providing large woody debris when plants die and fall into the stream, providing shade to salmonids, and enhancing water quality by filtering sediments and toxins from stormwater prior to reaching the stream (Cramer et al. 2003). No adverse impact on stream functions is foreseeable from this enhancement project.

8.3.2 Invasive Species Removal

Invasive species control should focus on integrated pest management (IPM), a method that focuses on prevention and monitoring, and encourages the use of control strategies that are cost-effective and sustainable, often encompassing a combination of chemical, mechanical, manual, and biological removal (King County 2018). The goal is to tailor these strategies to the specific needs of the site. Each species has a Best Management Practices (BMP) document compiled by King County outlining different removal options, and should be consulted when controlling infestations in sensitive or hazardous areas like riparian environments and the public Right of Way. The following subsections are based on these documents.

After removal of invasive species, the area should be revegetated to shade out smaller invasive seedlings, and routinely monitored for re-establishment of invasive species. Immature plants are often easier and cheaper to remove than extensive, mature infestations, so it is advisable to remove reinvasions quickly. It is likely that it will take several years to completely control the infestations.

Himalayan blackberry

Methods on removing Himalayan blackberry differ based on the extent of the infestation. At the project site, there are some small patches of blackberry among native species, and some large monoculture infestations. In small patches among native species, manual removal should be the primary tool to ensure that broad herbicide use does not affect native vegetation (King County 2014). Branches can be lopped off with hand tools, and the root ball must be dug up in order to prevent re-establishment. If the root ball cannot be removed, an herbicide such as Glyphosate should be used on the cut stump. Revegetation should follow to prevent re-establishment of the blackberry, and the area should then be mulched. The mulch should not touch the trunks of trees and shrubs as this can cause the plants to rot (Chalker-Scott 2015).

In large, monoculture infestations, blackberry should be mowed and the branches removed. After this, the root balls can be dug up or, in large areas, herbicide can be used on cut stumps. Alternatively, herbicide may be applied to mature blackberry and the dead branches can be mowed. This is faster and less laborious, but may be less effective. The area must be revegetated and mulched to reduce re-establishment.

As discussed above, control will likely take several years, so the removal process will likely need to be repeated until regrowth no longer occurs. For full details on Himalayan blackberry removal, see the Best Management Practices by King County on this species (King County 2014).

English ivy

Like Himalayan blackberry, methods on removing English ivy differ based on the size and location of infestations. Where English ivy is in small patches, manual control can be sufficient (King County 2020a). This includes pulling roots fully from groundcover ivy and cutting vines from tree trunks from the base to about four feet high. The upper vines will die and dry out. Mulching the ground can be effective. However, the recommended depth of the mulching is eight inches to prevent regrowth, which can interfere with the establishment of planted native species.

In large patches of English ivy, a combination of manual and chemical removal is recommended (King County 2020a). Manual removal is more effective, but the size of some of the infestations at the project site may make this method cost-prohibitive. A combination approach will start with the manual removal of vines from trees as described above. Glyphosate with an appropriate surfactant can then be applied to ground ivy. Care will need to be taken to avoid impacting the desirable native vegetation.

For full details on English ivy removal and disposal, see the Best Management Practices by King County on this species (King County 2020a).

Reed canarygrass

The integrated pest management recommendations for reed canarygrass prioritizes shading out existing infestations (King County 2015). Existing plants should first be removed manually, mechanically, or chemically, depending on the extent of the infestation. The seed bank should be depleted by continuing to remove plants each time they resprout. Finally, the area should be replanted with shady species to create a full canopy. This creates a poor environment for reed canarygrass to grow, and will often prevent reinfestation (King County 2015).

English holly

Methods on removing English holly are determined based on the size of the plant. Small English holly seedlings should be pulled, along with their roots, and larger trees should be chemically treated with an EZ-Ject lance (King County 2020b).

Scotch broom

There are several methods that can be effective in removing Scotch broom. The infestation at the project site is a large monoculture. This type of invasion is effectively controlled by herbicide (King County 2008). There are two effective methods of herbicide application: foliar spraying, which requires the entire plant be saturated; and basal bark and cut stump application, which is more labor-intensive but less risky when spraying near desirable native species. After chemical treatment, native grasses should be planted. A healthy grassy area mixed with clover can reduce reinvasion of Scotch broom (King County 2008).

8.3.3 Native Plant Installation

The area of stream buffer encroachment (temporary and permanent) is approximately 3,805 square feet (Appendix A). To offset this indirect impact, the entire remaining stream and wetland buffer adjacent to the project will be enhanced through the removal of invasive species and planting of native species. This will total approximately 39,000 sq ft of enhancement.

According to Sound Native Plants' (SNP) Plant Quantity Calculator (SNP 2023), a 5,266 square foot restoration area with dense spacing can hold approximately 53 trees and 223 shrubs. Table 3 below specifies the selection of native plant species and their quantity. These species are adapted to grow within the planting areas based on moisture tolerances and available sunlight, as well as use in similar, previously approved buffer installations.

Table 3 is reproduced from the Buffer Mitigation Plan, and presents the proposed native species to be used to enhance the remaining wetland and stream buffers on the site.

Table 3. Planting Schedule for Buffer Enhancement Area

Scientific	Common Name	Size	Spacing[1]	Quantity[1]
Trees				
Acer macrophyllum	big leaf maple	2 gallon	15 feet	34
Pseudotsuga menziesii	Douglas-fir	2 gallon	15 feet	35
Quercus garryana	Oregon white oak	2 gallon	15 feet	70
Tsuga heterophylla[2]	Western hemlock	2 gallon	15 feet	34
Shrubs				
Symphoricarpos albus	common snowberry	1 gallon	6 feet	66
Holodiscus discolor	oceanspray	1-2 gallon	6 feet	66
Oemleria cerasiformis	osoberry	1-2 gallon	6 feet	65
Corylus cornuta	beaked hazelnut	1-2 gallon	6 feet	65
Berberis aquifolium	tall Oregon grape	1-2 gallon	6 feet	65
Rubus spectabilis[2]	salmonberry	1-2 gallon	6 feet	65
Amelanchier alnifolia	serviceberry	1-2 gallon	6 feet	65

[1] Spacing and quantities estimated based on the Sound Native Plants Plant Quantity Calculator (2023).

The landscape contractor shall make a good faith effort to secure all species specified in this plan. Variations from the approved plan will require review and approval by the City of DuPont prior to installation.

Planting Schedule

In order to reduce mortality, a late fall planting installation (October – November) for container stock is preferred. Plants should not be installed during or immediately before freezing weather.

Plant installation will be performed in accordance with the specifications outlined in this plan. Any alterations to the planting plan due to site conditions will require prior approval from the project biologist and the City of DuPont.

All plant materials to be used on the site will be native to Western Washington and will consist of nursery grown stock and seeds from a reputable, local dealer. Only native species specified in the approved plant schedule are to be used; no hybrids will be allowed. Plant substitutions must be approved by the project biologist if specified species are not commercially available.

Container stock provided will be typical of their species or variety; they will exhibit normal, densely-developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects and all forms of infestation.

Preparation and Installation of Planting Materials

The landscape contractor shall verify the location of all elements of the landscape plan prior to installation. The project biologist and the City of DuPont may adjust the locations of landscape elements during the installation period as necessary.

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least twice the diameter of the root system, and the depth of the pit should accommodate the entire root system. The bottom of each pit will be scarified to a depth of 4 inches, and the pit should be thoroughly wetted prior to plant insertion to prevent capillary stress. The planting hole shall be amended with a mixture of topsoil and organic material if necessary to provide appropriate rooting media.

Broken roots should be pruned with a sharp instrument and rootballs should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling and add Agriform tablets as necessary. Water pits again upon completion of backfilling. No filling should occur around stems. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

After plant installation is complete, the landscape contractor should inspect the site to confirm that all planted material is installed as appropriate.

8.3.4 Maintenance Recommendations

Irrigation

Grette Associates strongly recommends irrigation for at least two years to increase the chance of survival. Several methods of irrigation are effective, including manual hand watering and above-ground systems (Alexander 2003). Hand watering can be a practical choice because a crew can water each plant according to its specific needs. However, the labor is expensive. Above-ground drip irrigation methods are cheaper, but often require more planning around where plants are installed (Alexander 2003). If an above-ground method is chosen, the irrigation system must be removed after two years to avoid roots growing around the piping.

Maintenance Activities

Recommended maintenance activities are designed to prevent current poor habitat conditions from returning after the initial mitigation process is complete. Every six months, all litter including paper, plastic, bottles, construction debris, yard debris, etc., will be removed, as well as all invasive and noxious vegetation. Invasive species will be removed according to recommendations in Section 8.3.2.

Maintenance activities will be logged and a summary of all maintenance conducted will be included in the annual monitoring report.

8.3.5 Monitoring and Contingency Plan

The following sections describe the planting plan's monitoring program. As described below, qualified professionals will monitor the site annually for a total of five years. For clarification, the year during which construction of the site is completed (including plant installation) will be Monitoring Year 0 (as-built).

All monitoring described below is consistent with the Buffer Mitigation Plan (Grette Associates 2023).

Post-Installation Inspections and Monitoring

Compliance monitoring will consist of evaluating the plantings immediately after construction to confirm the plan was followed and plants were installed appropriately. A walk-through survey will be conducted by a qualified biologist to verify that the installation conforms to the approved plan. Fixed points will be established within the restoration areas, with each point to be used for photo-point documentation during long-term monitoring. Following completion of the post-installation inspection, a memorandum will be prepared to verify that the restoration was correctly implemented and document any changes to the planting plan that may have occurred. The post-installation inspection will occur no later than 30 days after plants have been installed.

Long-Term Monitoring

Long-term monitoring will be conducted over a five-year period with observations conducted during years 1, 2, 3, 4, and 5, per DMC 25.105.100 (Table 4). The purpose of the long-term monitoring program is to evaluate the establishment and maintenance of the plant communities within the enhancement areas, and to determine if the goals and objectives of the plan have been met. Photographs will be taken at each photo point to document the development of the vegetation communities at the site.

Representative transects will be established during the post-installation inspection. These transects will be used for line-intercept sampling to document native plant coverage estimates to ensure canopy coverage development and success.

Performance Standards

Performance standards provide a clear means of evaluating the success of the restoration plan. The following performance standards (Table 4) have been developed to ensure the mitigation activities have the best chance of success and that any possible issues with the project are identified and rectified in a timely manner.

Table 4. Performance Standards

Restoration Goal	Functional Objective	Performance Standard	Year Inspected	Sampling Method
Enhance and restore stream buffer habitat and provide diverse native vegetation to improve buffer functions	1. Plant an assortment of native trees and shrubs within approx. 41,266 square feet of stream buffer.	1a. The stream buffer will be free of trash and dumping each monitoring year.	0, 1, 2, 3, 4, 5	As-built, visual walk-through
		1b. A minimum of 80% survival of planted vegetation each monitoring year[1].	0, 1, 2, 3, 4, 5	Plant census
		1c. A minimum 20% native vegetation cover at Year 1, 50% cover at Year 3, and 75% cover at Year 5.[2]	1, 3, 5	Line-intercept
		1c. A maximum of 20% invasive and noxious species coverage at Year 1, then maximum 10% throughout Years 2-5.[3]	0, 1, 2, 3, 4, 5	Visual walk through

[1] 100% percent survival during the post-installation inspection.

[2] Existing native vegetation can count toward canopy coverage requirement.

Monitoring Methods

Vegetation surveys will be conducted in accordance with the monitoring schedule to compare results against the performance standards described above. Inspection of the planted material to determine health and vigor of the installations will occur during each monitoring visit.

Vegetation monitoring will include collection of qualitative data during each monitoring visit. Survival will be evaluated by visually assessing the planted vegetation and recording any mortality that was observed. Survival will be compared against the total plant quantity installed within the restoration as defined in the as-built report.

Permanent photo-points will be established during the post-construction inspection in order to obtain representative photographs of the restoration areas. Photo-points will be established during the post construction inspection to document success of the vegetation and development over time. Photographs will be taken from the same locations (and facing the same direction) yearly to document the project's appearance and progress.

The project biologist will submit a monitoring report to the City of DuPont in a timely manner each year in which monitoring occurs detailing the results of that year's monitoring activities. The report will document site conditions, provide a summary of the maintenance actions conducted on the site, and describe any deviations from the monitoring protocols prescribed in this plan. The report will also describe any potential problems observed and recommend changes to the maintenance or monitoring protocols.

Contingency Plan

This contingency plan identifies a planning process for selecting appropriate actions to address failure of specific performance standards. In order to maintain the flexibility needed to respond effectively and appropriately to biological and/or physical conditions,

this plan does not present a specific list of actions that will be taken to remedy all specific types of failures at the restoration areas.

While the species selected for planting were chosen based on their ability to thrive in the wetland buffer, some mortality is to be expected. When this occurs, the following general approaches are anticipated:

- If the vegetation planted in the restoration area fails to meet the performance standards, additional planting may occur.
- If a specific species that was originally planted continues to have a high mortality rate over time, an approved substitute may be planted.

9 BIOLOGIST QUALIFICATIONS

9.1 Chad Wallin

Chad Wallin is a Biologist and Pierce County Qualified Wetland Specialist with extensive training in wetland science and ecology restoration. Chad also has professional experience in stream and fish restoration, marine monitoring, mitigation monitoring, and fish and wildlife assessments.

Chad has earned a Bachelor's of Arts degree in Environmental Studies from the University of Washington along with certificates in ecology restoration and wetland science and management. Chad is also a certified Professional Wetland Scientist through the Society of Wetland Scientists.

For a list of representative projects, please contact him at Grette Associates.

9.2 Terra Hauser

Terra Hauser is a Biologist with training in wetland science and management. Terra also has experience in wildlife biology and ecological restoration.

Terra has earned a Bachelor's of Arts and Sciences degree from Quest University Canada along with a certificate in Wetland Science and Management from the University of Washington.

For a list of representative projects, please contact her at Grette Associates.

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MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN

APPENDIX A: PROJECT PLANS

CHAMPIONS CENTRE
OVERALL SITE PLAN

A PORTION OF THE SE ¼ OF THE SW ¼ OF SECTION 25 AND NE ¼ OF SECTION 26, TOWNSHIP 19 N, RANGE4x E, W.M.
CITY OF DUPONT, PIERCE COUNTY, WASHINGTON

GRAPHIC SCALE
40 0 20 40 80 160
1 INCH = 40 FEET

LEGEND - STREAM BUFFER IMPACTS

- TEMPORARY BUFFER IMPACTS - 2,758 SQ FT
- PERMANENT BUFFER IMPACTS - 1,047 SQ FT
- BUFFER ENHANCEMENT - 39,000 SQ FT

PARCEL NUMBERS:
0119362039, 0119362009, 0119362012 & 0119362043

PARCEL AREA:
927,027 S.F. (21.28 AC)

DATUM:
WASHINGTON SOUTH ZONE NAVD 88

TOPOGRAPHY:
2 FOOT CONTOURS. TOPOGRAPHIC INFORMATION FROM AERIAL MAPPING BY PUGET SOUND LIDAR CONSORTIUM AND VERIFIED BY LS&E

SITE ADDRESS:
XXX BARKSDALE AVE.
DUPONT, WA 98237

PROPERTY OWNER:
MUSTARD SEED LEGACY DEV. LLC
32706 MOUNTAIN HWY E
EATONVILLE, WA 98328

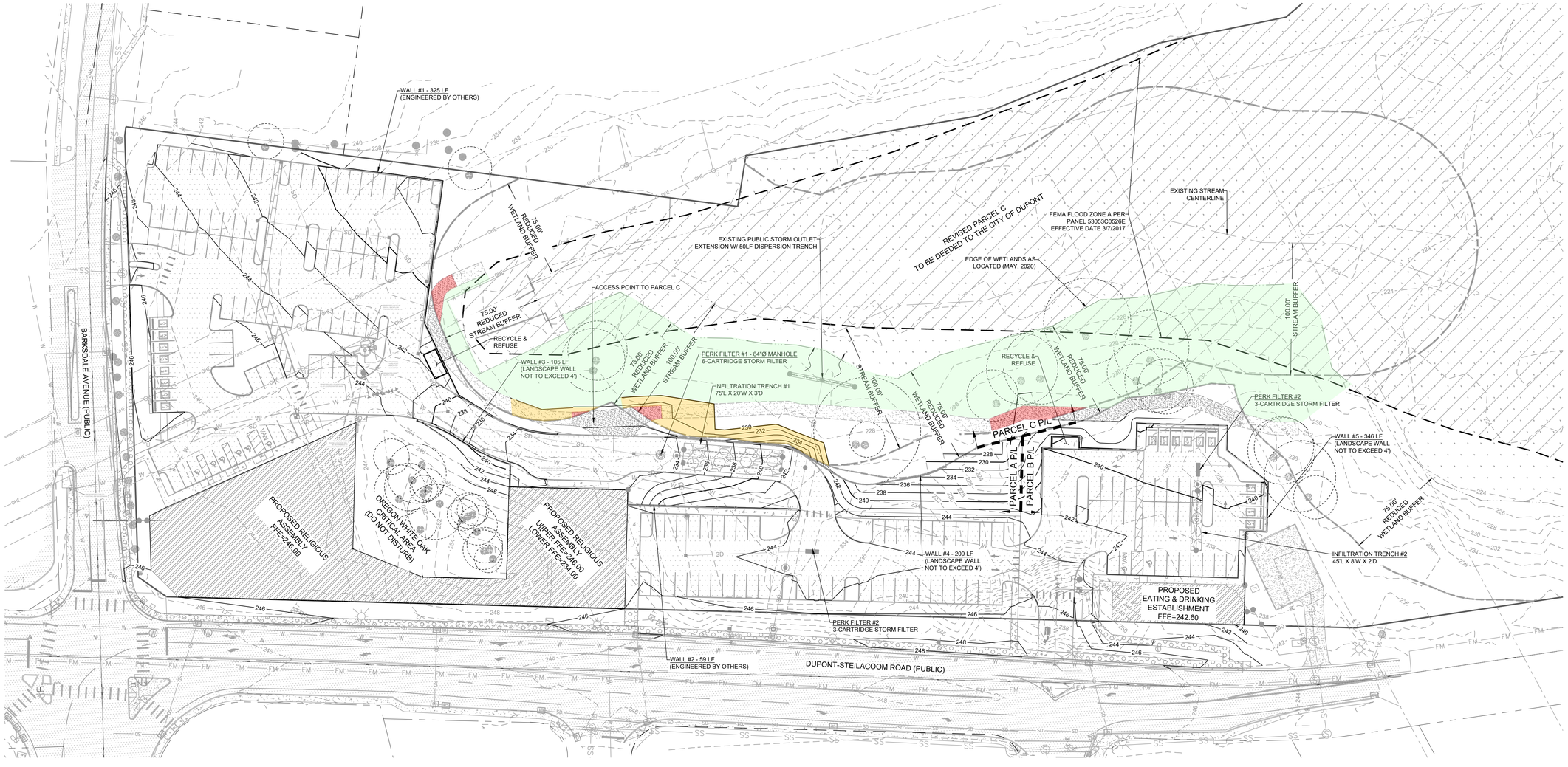
APPLICANT:
CHAMPIONS CENTRE
1819 E. 72ND ST.
TACOMA, WA 98404

ZONING:
COMM

WETLAND & WETLAND BUFFER AREA:
WETLAND AREA = 624,000 S.F.
100' WETLAND BUFFER = 150,401 S.F.
75' REDUCED WETLAND BUFFER = 123,714 S.F.

STREAM BUFFER AREA:
100' STREAM BUFFER = 154,201 S.F.
REDUCED STREAM BUFFER = 149,082 S.F.

SURVEY DISCLAIMER:
THIS IS NOT A BOUNDARY SURVEY



BEFORE ANY CONSTRUCTION CONTACT:
CALL BEFORE YOU DIG @ 1-800-424-5555

K:\Jobs\12695\AutoCAD\Dwg\02_Engineering\12695 - Champions Centre - Overall Site Plan.dwg LAST EDITED: 11/13/23 9:13AM BY: sgarrison

11/13/2023
STEVE THEODORE NELSON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

DATE:
REVISION
1 2 3 4 5 6 7 8 9 10

JOB NO. 12695
DATE: 11/13/2023
DESIGNED BY: WG
DRAWN BY: WG
CHECKED BY: SN
APPROVED BY: SN

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ENGINEERING
GEOLOGY
SEPTIC DESIGN
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www.lsenc.com

Overall Plan View

Champions Centre
Site Development Plans
David Yadon, Champions Centre
XXX Barksdale Ave.
DuPont, WA 98237
Phone: 253-606-9041
dave@cc.church

DRAWING
C1
SHEET 01
OF 01

MUSTARD SEED LEGACY DEVELOPMENT LLC

HABITAT MANAGEMENT PLAN

APPENDIX B: QUERIED DATABASE FIGURES

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pierce County, Washington

Local office

Washington Fish And Wildlife Office

(360) 753-9440
(360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
North American Wolverine *Gulo gulo luscus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark Eremophila alpestris strigata Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout Salvelinus confluentus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Taylor's (=whulge) Checkerspot Euphydryas editha taylori Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5907	Endangered

Flowering Plants

NAME	STATUS
Golden Paintbrush Castilleja levisecta Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7706	Threatened

Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Sep 30

Golden Eagle *Aquila chrysaetos* Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

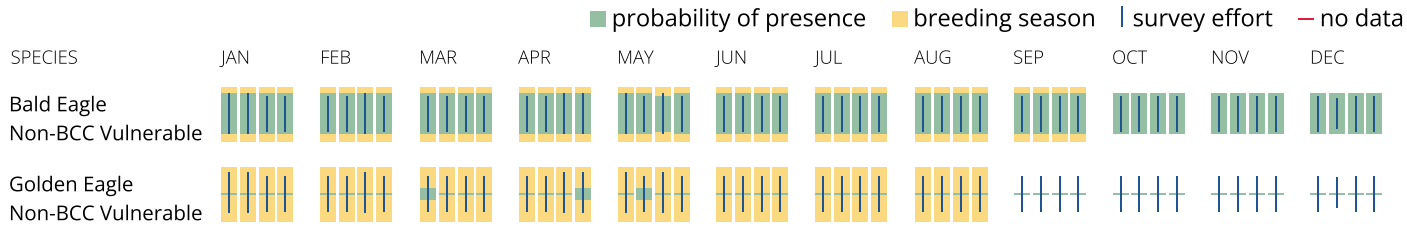
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Sep 30
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Cassin's Auklet *Ptychoramphus aleuticus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6967	Breeds Mar 21 to Sep 21
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in

week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

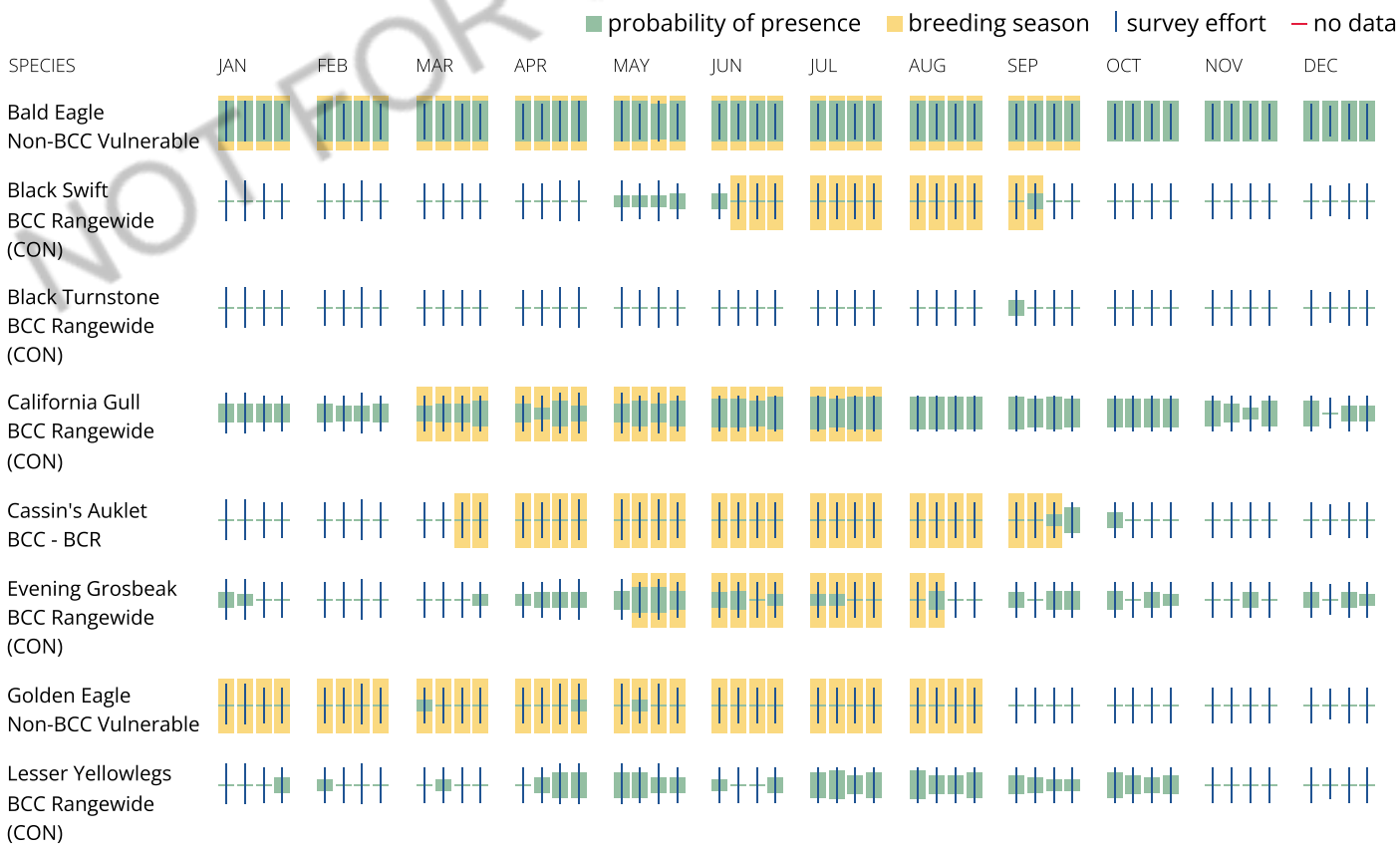
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

PSSC

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Critical Habitat for Threatened & Endangered Species [USFWS]

Final Polygon Features

Final Linear Features

Proposed Polygon Features

Proposed Linear Features

A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

National Flood Hazard Layer FIRMette

FEMA

122°37'48"W 47°6'4"N

122°37'10"W 47°5'39"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/3/2023 at 12:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NMFS ESA Critical Habitat Mapper

6/30/2023, 9:23:13 AM

1:9,028

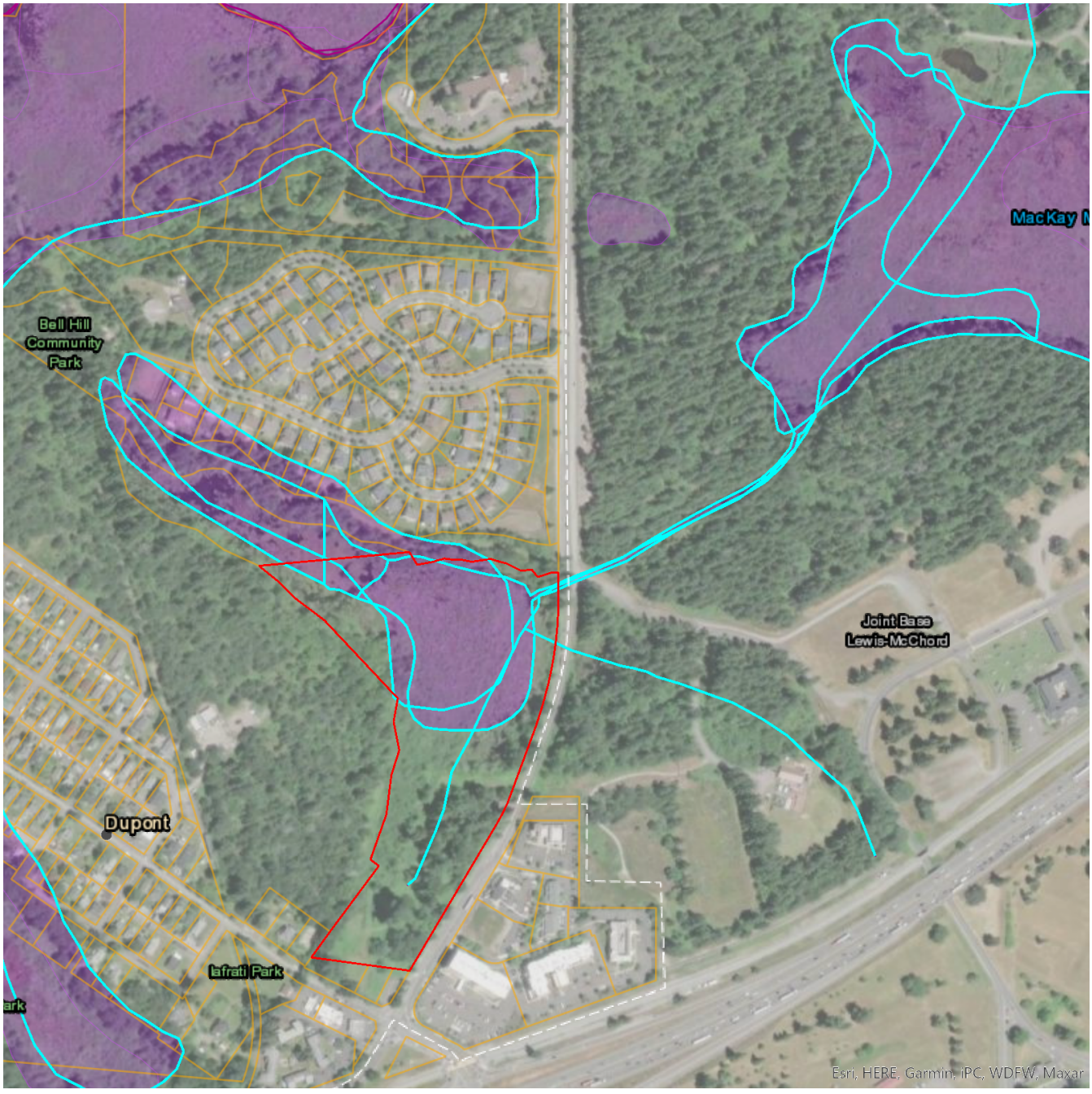
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

NOAA National Marine Fisheries Service, Maxar, Esri Community Maps Contributors, WA State Parks GIS, © OpenStreetMap, Microsoft, Esri, HERE,

NOAA Fisheries

Priority Habitats and Species on the Web



Report Date: 06/30/2023, Parcel ID: 0119362043

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Resident Coastal Cutthroat	N/A	N/A	No
Wetlands	N/A	N/A	No
Waterfowl Concentrations	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No
Big brown bat	N/A	N/A	Yes
Little Brown Bat	N/A	N/A	Yes
Yuma myotis	N/A	N/A	Yes

PHS Species/Habitats Details:

Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226157471121, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	49349
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
Geometry Type	Lines

Resident Coastal Cutthroat	
Scientific Name	*Oncorhynchus clarki*
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1226220470981, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	49472
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm

Geometry Type	Lines

Wetlands	
Priority Area	Aquatic Habitat
Site Name	SEQUALICHEW CREEK WETLANDS
Accuracy	1/4 mile (Quarter Section)
Notes	WETLANDS ASSOCIATED WITH SEQUALICHEW CREEK DRAINAGE WHICH PROVIDE SIGNIFICANT WINTERING WATERFOWL HABITAT AND GENERAL WILDLIFE HABITAT.
Source Record	902594
Source Dataset	PHSREGION
Source Name	NAUER, DON, WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Waterfowl Concentrations	
Priority Area	Regular Concentration
Site Name	PIERCE COUNTY - NON FARM
Accuracy	1/4 mile (Quarter Section)
Notes	SMALL WATERFOWL CONCENTRATION AREAS, NON AGRICULTURAL.
Source Record	902564
Source Dataset	PHSREGION
Source Name	NAUER, DON WDW
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00026
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1/SSF
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSS/EM1F
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

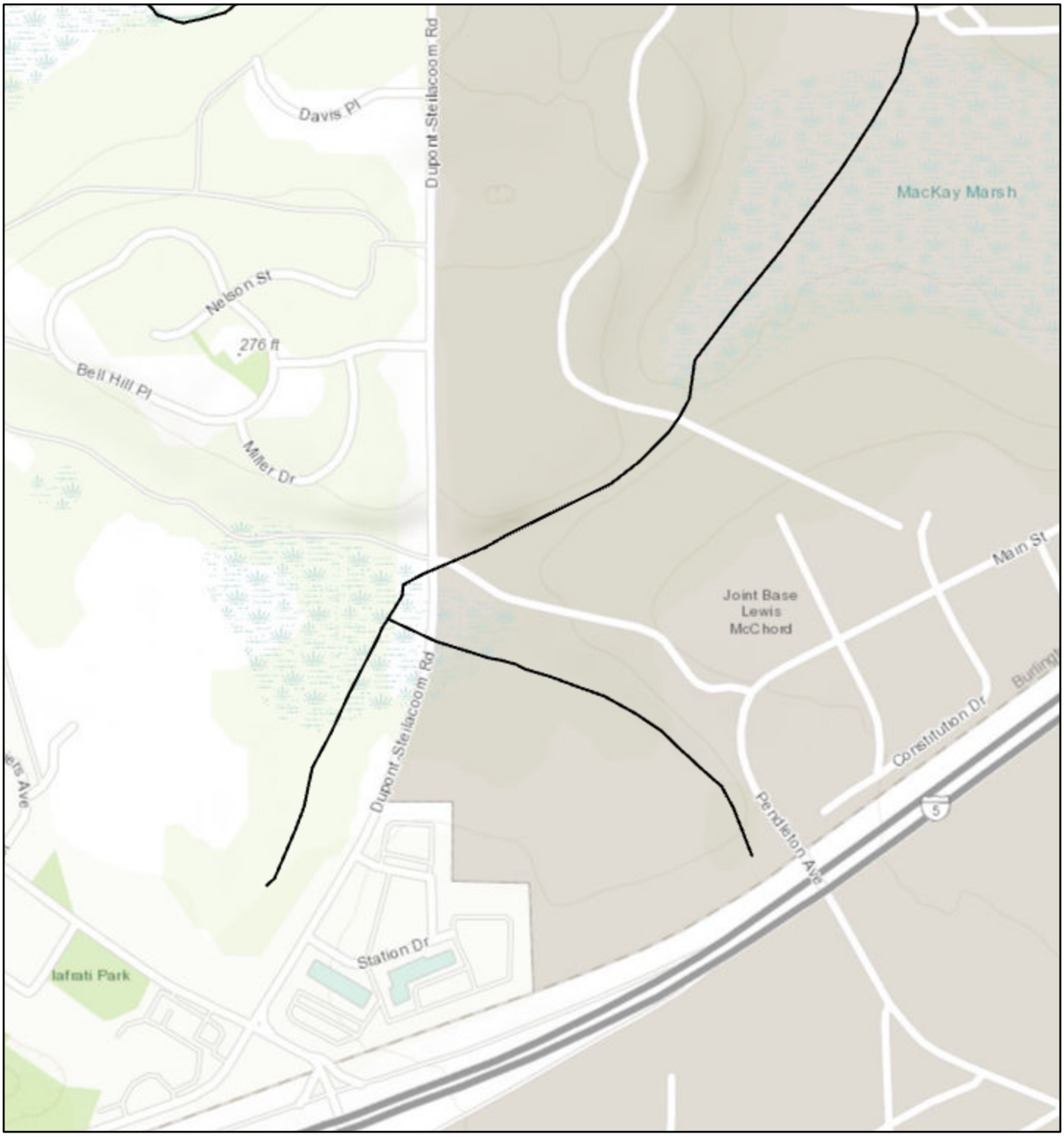
Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSSC
Source Dataset	NWIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html
Geometry Type	Polygons

Big brown bat	
Scientific Name	*Eptesicus fuscus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Little Brown Bat	
Scientific Name	*Myotis lucifugus*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Yuma myotis	
Scientific Name	*Myotis yumanensis*
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at phsproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Resident Coastal Cutthroat



June 30, 2023

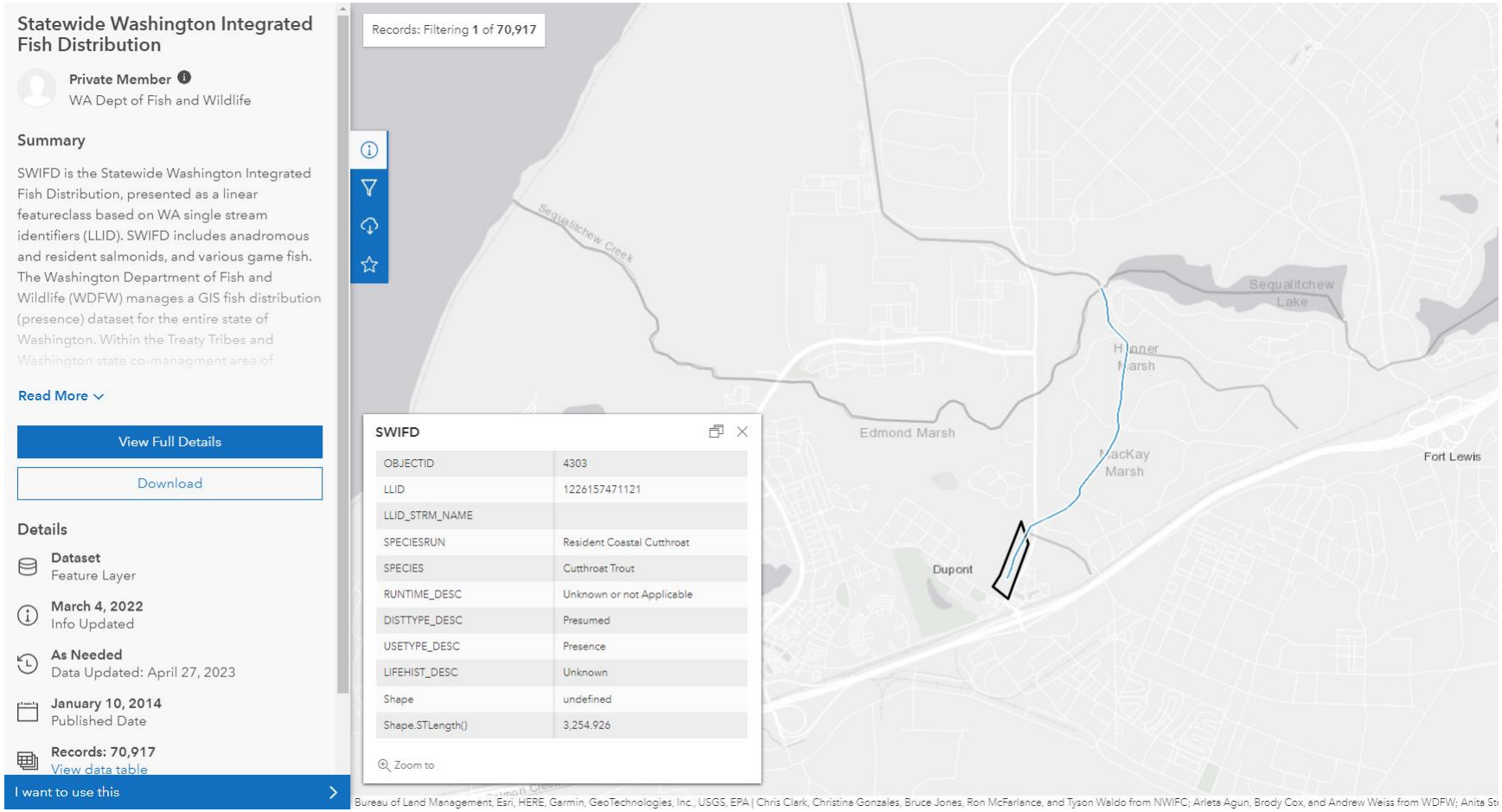
All SalmonScape Species

1:9,028

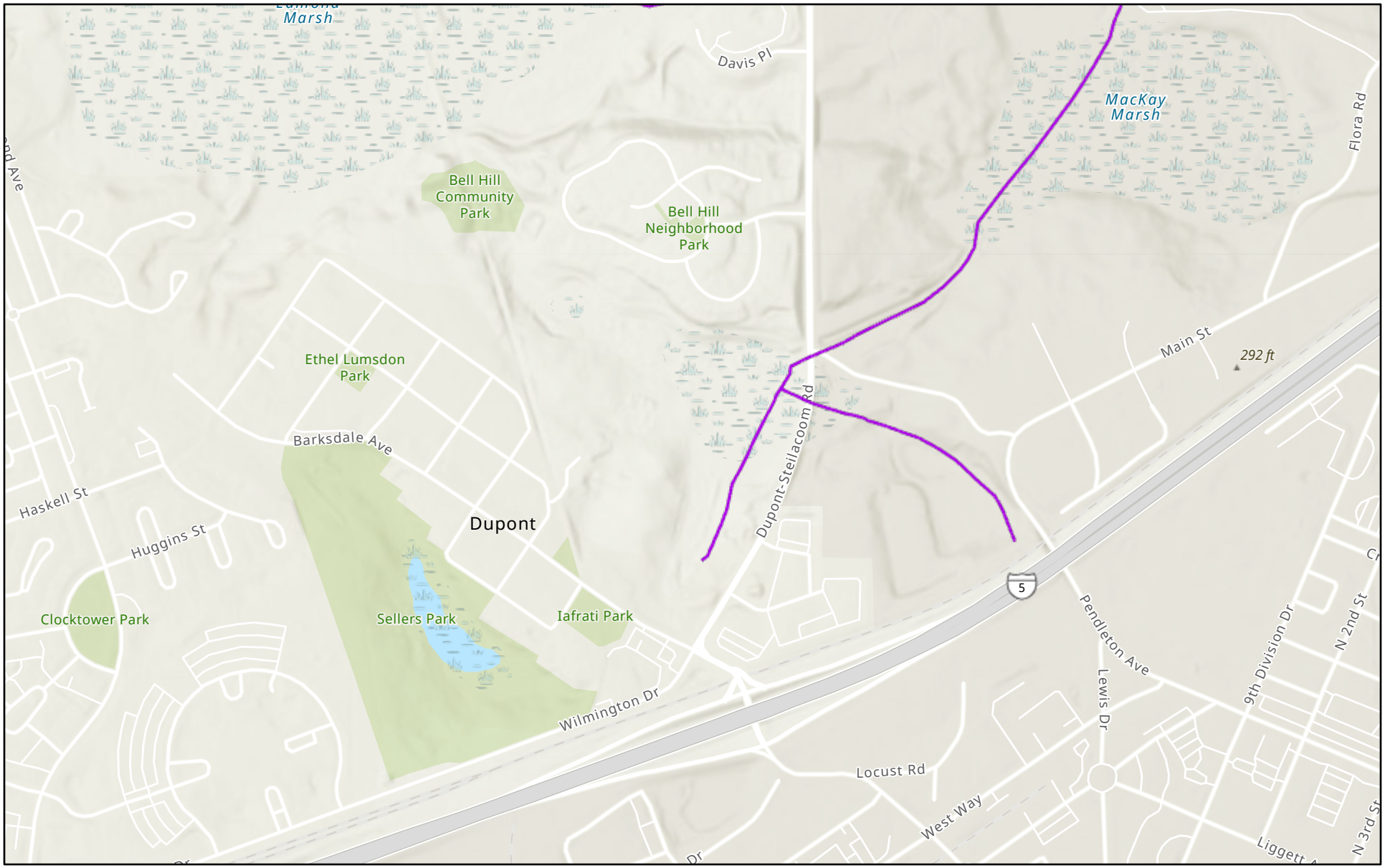
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA, WDFW


Statewide Washington Integrated Fish Distribution
Private Member
WA Dept of Fish and Wildlife
Summary
SWIFD is the Statewide Washington Integrated Fish Distribution, presented as a linear featureclass based on WA single stream identifiers (LLID). SWIFD includes anadromous and resident salmonids, and various game fish. The Washington Department of Fish and Wildlife (WDFW) manages a GIS fish distribution (presence) dataset for the entire state of Washington. Within the Treaty Tribes and Washington state co-managment area of
Read More
View Full Details
Download
Details
Dataset
Feature Layer
March 4, 2022
Info Updated
As Needed
Data Updated: April 27, 2023
January 10, 2014
Published Date
Records: 70,917
View data table
I want to use this
Records: Filtering 1 of 70,917
Sequalitchew Creek
Sequalitchew Lake
Edmond Marsh
MacKay Marsh
Fort Lewis
Dupont
SWIFD
OBJECTID 4303
LLID 1226157471121
LLID_STRM_NAME
SPECIESRUN Resident Coastal Cutthroat
SPECIES Cutthroat Trout
RUNTIME_DESC Unknown or not Applicable
DISTTYPE_DESC Presumed
USETYPE_DESC Presence
LIFEHIST_DESC Unknown
Shape undefined
Shape.STLength() 3,254.926
Zoom to
Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA | Chris Clark, Christina Gonzales, Bruce Jones, Ron McFarlance, and Tyson Waldo from NWIFC; Arleta Agun, Brody Cox, and Andrew Weiss from WDFW; Anita St

Mustard Seed HMP



7/11/2023

Fish Distribution

World Hillshade

1:13,738

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km