Sidney, Maine WIN 25473.00



Prepared for:
Maine Department of Transportation

Prepared by: Stantec Consulting Services Inc. February 28, 2025

Project/File: 195603436

### **Table of Contents**

1	Introduction	1
2	Methodology	1
2.1	Wetland and Watercourse Delineation	1
2.2	Wetland and Watercourse Delineation  Monarch Habitat Assessment	2
3	Results	3
3.1	Wetland and Watercourse Delineation	3
3.2	Monarch Habitat Assessment	5
List of	Tables	
Table 1	. Summary of Delineated Wetlands	4
List of	Figures	
Figure 1	Wetland and Watercourse Delineation Map	7
List of	Appendices	
	dix A Representative Photographs dix B MaineDOT Wetland Data Forms	



#### 1 Introduction

The Maine Department of Transportation (MaineDOT) is proposing replacement of the Dinsmore Road Bridge over Interstate 95 (I-95) in Sidney, Maine (BR 5824; hereafter, Project). Wetland and watercourse delineations as well as a habitat assessment for monarch (*Danaus plexippus*) was conducted by Stantec Consulting Services Inc. on January 10, 2025, in support of design planning as well as state and federal permitting requirements. This report summarizes the methodology and results of the field investigations.

### 2 Methodology

The delineations and habitat assessments were conducted within approximately 100 feet of the existing bridge locations, including the bridge superstructure and approaches that were safely accessible at the time of the field work (Figure 1).

#### 2.1 Wetland and Watercourse Delineation

Wetland boundaries under potential federal and state jurisdiction were determined using the technical criteria described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual¹ and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement (Version 2.0).² Wetland boundaries were flagged with pink "WETLAND DELINEATION" flagging and labeled with a unique alpha-numeric code in accordance with MaineDOT nomenclatural conventions. Wetland flags were located using a Global Positioning System (GPS) receiver capable of achieving submeter horizontal accuracy. The GPS data were attributed in accordance with MaineDOT spatial data requirements. Field data were collected on dominant vegetation, evidence of wetland hydrology, hydric soil criteria (where possible), and wetland functions using MaineDOT's "Standard MaineDOT Information / F&V Form." The observed wetland functions and values were based on the USACE Highway Methodology Workbook Supplement: Wetland Functions and Values - A Descriptive Approach.³ Wetland classification was assigned based on the Classification of Wetlands and Deepwater Habitats of the United States.⁴ Wetlands of Special Significance (WoSS) were identified based on criteria in

<sup>&</sup>lt;sup>3</sup> Federal Geographic Data Committee. 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.



<sup>&</sup>lt;sup>1</sup> Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

<sup>&</sup>lt;sup>2</sup> U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-1. Vicksburg. MS: U.S. Army Engineer Research and Development Center.

<sup>&</sup>lt;sup>3</sup> US Army Corps of Engineers. 1999. Highway Methodology Workbook Supplement: Wetland Functions and Values - A Descriptive Approach. New England Division. Publication no. NAEEP-360-1-30a. November 1995. 32 pp

Chapter 310 of the Natural Resources Protection Act (NRPA)<sup>5</sup> and Chapter 335 Significant Wildlife Habitat.<sup>6</sup> Identification of WoSS was limited to observable conditions within the Project site. Representative photographs were taken as appropriate.

Concurrent with the wetland delineation, streams and other potential Waters of the United States were delineated, if observed. These resources were identified using the regulatory criteria established by the Maine Department of Environmental Protection<sup>7</sup> and the USACE.<sup>8</sup> Streams less than approximately 5 feet wide (from the top of the bank) were flagged with blue flagging along their approximate centerline; streams over approximately 5 feet wide were flagged at the observed top of bank or ordinary high water mark, whichever was more conservative. Each flag was labeled with a unique alpha-numeric code in accordance with MaineDOT's nomenclatural convention and located with the GPS receiver. Data were recorded on apparent flow regime, substrate, bankfull widths, ordinary high water mark widths, water depths, and presence of aquatic organisms and vegetation. Delineated streams were assessed using the "MaineDOT Stream Assessment Form." Representative photographs were taken as appropriate.

Stantec identified potential vernal pools (PVP) within the Project area. As the delineation was conducted outside of the appropriate vernal pool survey season, PVPs were identified based on physical characteristics such as the presence of standing water or water marks within a confined basin. For planning purposes, PVPs identified during the delineation that were naturally occurring and met the physical characteristics of a vernal pool under Chapter 335 of the NRPA were classified as a potential Significant Vernal Pool (PSVP). If identified, the approximate boundaries of the PVPs were located with the GPS receiver and general data on their approximate size, origin, hydroperiod, and physical characteristics were collected.

#### 2.2 Monarch Habitat Assessment

During the delineation, Stantec assessed the existing habitats within the Project area relative to their potential to support monarch butterfly. The habitat assessment consisted primarily of a survey for milkweed (*Asclepias* spp.), the host plants for monarch larvae (caterpillars). Because the assessment was conducted outside of the growing season, observations of milkweed was limited to persistent remnants that remained identifiable at the time of the field assessment. Data were collected on approximate abundance and the spatial extent of the observed milkweed specimens was located with the GPS receiver. In addition, habitats within the Project area were characterized relative to their potential to support milkweed during normal growing season conditions based on observable associated vegetation, canopy cover, hydrology, and the

<sup>&</sup>lt;sup>8</sup> U.S. Army Corps of Engineers. 2025. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version. ERDC/CRREL TR-25-1, Vicksburg, MS: U.S. Army Corps of Engineers Engineer Research and Development Center.



<sup>&</sup>lt;sup>5</sup> Maine Department of Environmental Protection. 26 January 2009. Natural Resources Protection Act Chapter 310: Wetlands and Waterbodies Protection Rules. Bureau of Land and Water Quality, DEPLW0297-D2009.

<sup>&</sup>lt;sup>6</sup> Maine Department of Environmental Protection. 7 January 2014. Natural Resources Protection Act Chapter 335: Significant Wildlife Habitat.

<sup>&</sup>lt;sup>7</sup> Danielson, T. J. 2018. *Natural Resource Protection Act (NRPA) Streams, Rivers, and Brooks*. Maine Department of Environmental Protection, Augusta, ME.

type and approximate frequency of habitat disturbances (e.g., mowing). Representative photographs were taken to document existing conditions.

### 3 Results

#### 3.1 Wetland and Watercourse Delineation

The wetland and watercourse delineation was conducted on January 10, 2025. The ground was free of snow; however, the soil was frozen throughout most of the Project area. Accordingly, a verification of the wetland boundaries identified during this effort is recommended to be conducted during appropriate seasonal conditions in order to assess hydric soil characteristics in accordance with USACE wetland delineation methodology.

A total of 3 wetlands were delineated within the Project area (Figure 1); a fourth potential wetland was observed in the median approximately 50 feet north of the bridge location but was not accessible due to high traffic volume and safety concerns at the time of the delineation. A single PSVP (VP-01P) was also observed within the Project area in wetland VK-01N; VP-01P is a natural modified basin with likely ephemeral hydrology. No streams or other potential Waters of the United States were observed. Representative photographs are provided in Appendix A and Standard MaineDOT Information / F&V Forms are provided in Appendix B. Table 1 summarizes the delineated wetlands, including the observed PSVP.



Table 1. Summary of Delineated Wetlands

Wetland Identifier	Wetland Classification <sup>1</sup>	Dominant and Characteristic Vegetation Type	Hydric Soil Criteria	WoSS Notes	Evidence of Hydrology	Comments
VK-01M	PFO	Trees: red maple (Acer rubrum), gray birch (Betula populifolia), balsam fir (Abies balsamea)  Shrubs: common winterberry (Ilex verticillata), broad-lead meadowsweet (Spiraea latifolia), speckled alder (Alnus incana)  Herbs: sensitive fern (Onoclea sensibilis), northwest territory sedge (Carex utriculata)	Frozen – not assessed	No	Surface Water, Water Marks, Water Stained Leaves	Forested wetland continuing southwest of Project site
VK-01N	PFO	Trees: red maple, balsam fir, eastern hemlock ( <i>Tsuga canadensis</i> ) Shrubs: common winterberry	Frozen – not assessed	Potential (contains PSVP)	Surface Water, Water Marks, Water Stained Leaves, Microtopographic Relief	Forested depression; contains PSVP (VP-01P); a natural modified ephemeral basin with approximately 4 inches of surface water at the time of the delineation; PVP basin modified from past land use including road fill and vegetation clearing
VK-01O	PFO	Trees: red maple, American elm ( <i>Ulmus americana</i> ) Shrubs: red maple, balsam fir Herbs: sensitive fern	Frozen – not assessed	No	Water Marks, Surface Water	Depressional wetland at base of road embankments

<sup>&</sup>lt;sup>1</sup> Wetland classification follows Federal Geographic Data Committee (2013): PFO = Palustrine Forested



#### 3.2 Monarch Habitat Assessment

The Project area includes very limited potentially suitable monarch habitat. A single plant of common milkweed (*Asclepias syriaca*) was observed along the edge of Dinsmore Road to the west of the bridge. The associated habitat consists of a shrub-dominated road shoulder containing Morrow's honeysuckle (*Lonicera morrowii*) and Canadian goldenrod (*Solidago canadensis*). No other milkweed observations were made.

The road embankments of Dinsmore Road are dominated by trees and shrubs such as Morrow's honeysuckle, quaking aspen (*Populus tremuloides*), eastern hemlock (*Tsuga canadensis*), and staghorn sumac (*Rhus hirta*). Aggressive herbaceous plants including Canadian goldenrod (*Solidago canadensis*), wrinkle-leaf goldenrod (*Solidago rugosa*), false rye grass (*Schedonorus* spp.), and Japanese-knotweed (*Reynoutria japonica*) are common associates. The road embankments provide limited opportunity for milkweed species due to the current shrub density although small gaps and openings amongst the shrub growth could provide opportunity for milkweed plants. However, only a single remnant specimen was observed at the time of the survey.

Open field and meadow habitat areas beyond the edge of the I-95 pavement are maintained periodically through mowing by MaineDOT. Frequent mowing largely limits the potential for common milkweed establishment and for monarch larvae to complete their life cycle.

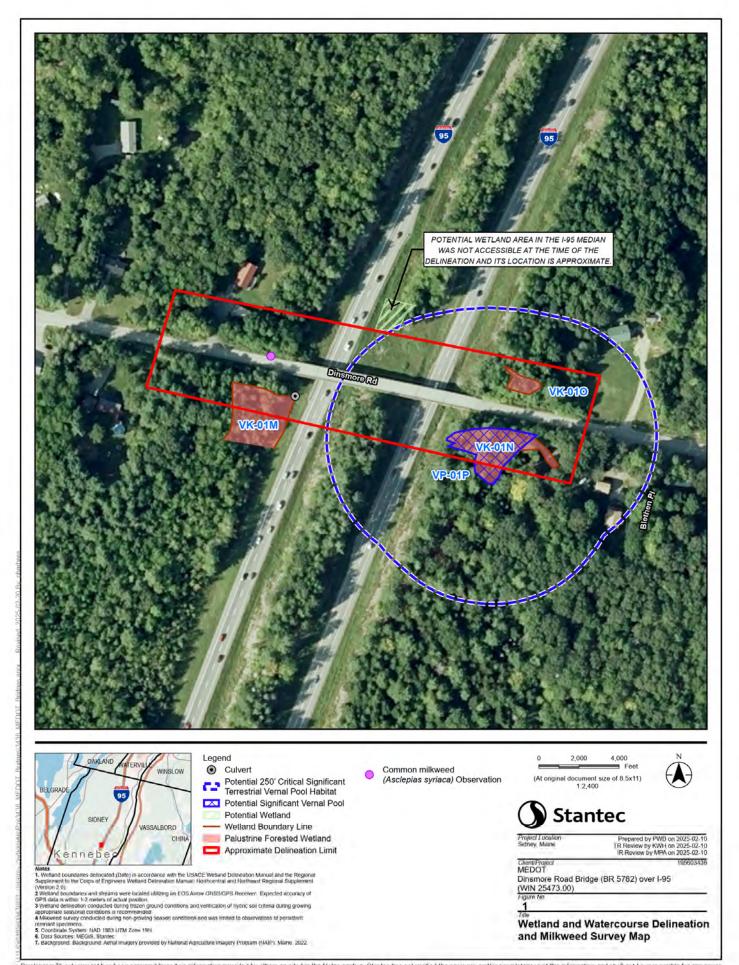
Mixed forested upland habitats continue beyond the road shoulder areas. These areas do not provide suitable habitat for milkweed due to their increased understory shading.

Representative habitat photographs are provided in Appendix A, and the locations of observed milkweed are indicated on Figure 1.



# **Figures**





# **Appendices**



Appendix A Representative Photographs

### **Appendix A Representative Photographs**





Photo 1. Wetland VK-01M. Stantec. January 10, 2025.



Photo 2. Wetland VK-01N and PSVP VP-01P. Stantec. January 10, 2025.



Appendix A Representative Photographs



Photo 3. Wetland VK-01O. Stantec. January 10, 2025.



Photo 4. Inaccessible potential wetland in median north of bridge. Stantec. January 10, 2025.



Appendix A Representative Photographs



Photo 5. Dinsmore Road shoulder and location of single common milkweed plant along western bridge approach. Stantec. January 10, 2025.



Photo 6. Dinsmore Road shrub-dominated embankment west of bridge. Stantec. January 10, 2025.



Appendix A Representative Photographs



Photo 7. Dinsmore Road bridge road shoulder habitat along I-95, view to the north. Stantec. January 10, 2025.



Photo 8. Dinsmore Road shrub-dominated road embankment to east of bridge. Stantec. January 10, 2025.



Appendix B MaineDOT Wetland Data Forms

## **Appendix B MaineDOT Wetland Data Forms**



#### Standard MaineDOT Information/F&V Form

MaineDOT Functional	Assessment:	
1. Town: Sidney	2. Dinsmore Road BR 5782	<b>3. WIN:</b> 25473.00
4. Wetland ID/ Line ID: 5. Cowardin Class: PFO		6. Stationing/Location
7. Dominant Vegetation: Abies balsamea, llex verticillata, S		8. Wetland Morphology HGM Type: Depressional wetland
Onoclea sensibilis, Carex utricula		
9. Wetland description in	icluding a soil description	on·

Forested wetland along I-95 and Dinsmore Rd, surface water present, continues SW off site Soil: Frozen- not assessed at time of delineation. USDA NRCS soil mapped as Ridgebury very stony fine sandy loam

10. FVA Table:

#### Whole Wetland:

F/V	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs	X			X		X		X					
Principal		X			X								

Impacted area: TBD

#### 11. Is this wetland part of larger complex?

#### 12. Impact Notes/Photos:

Impacts TBD, see report photos

#### **Attach applicable ACOE Form**

#### **Directions and Guidance**

- Town where project is located. 1.
- 2. Route.
- 3. Work Identification Number (WIN).
- Unique Identifier code for each wetland area. 4
- 5. Cowardin Classification Codes.
- Approximated stationing location. 6.
- List the typical vegetation found within this wetland type. List any vegetation that may support a 7. function of that wetland.
- This should describe the morphology of the wetland. Need to describe if the wetland is in a basin or on 8. a sloped area, whether it has a definite inlet or outlet and whether a stream is present in the wetland.
- 9. Notes any soils information, stream descriptions, habitat descriptions such as vernal pools or open aquatic areas.
- This is the wetland function discussion block. 10.
- Is this wetland in a complex associated with other streams or wetlands? 11.
- Also any include more detailed description of area to be affected by the project as opposed to notes of 12. the entire wetland, if known. Photos if applicable.

#### Standard MaineDOT Information/F&V Form

MaineDOT Functional Assessment:										
1. Town: Sidney	2. Dinsmore Road BR 5782	<b>3. WIN:</b> 25473.00								
<b>4. Wetland ID/ Line ID:</b> VK-01N	5. Cowardin Class: PFO	6. Stationing/Location								
7. Dominant Vegetation:	Acer rubrum, Ilex verticillata	8. Wetland Morphology HGM Type: Depressional wetland								

#### 9. Wetland description including a soil description:

Forested wetland along Dinsmore Rd, surface water present. Potential Significant Vernal Pool present; ephemeral hydrology, natural-modified basin from past land use Soil: Frozen— not assessed at time of delineation. USDA NRCS soil mapped as Lyman-Tunbridge complex

#### 10. FVA Table:

#### Whole Wetland:

FΛ	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs	X	X			X	X		X					
Principal				X									

Impacted area: TBD

#### 11. Is this wetland part of larger complex?

Yes.

#### 12. Impact Notes/Photos:

Impacts TBD, see report photos

#### Attach applicable ACOE Form

#### **Directions and Guidance**

- 1. Town where project is located.
- 2. Route.
- 3. Work Identification Number (WIN).
- 4. Unique Identifier code for each wetland area.
- 5. Cowardin Classification Codes.
- 6. Approximated stationing location.
- 7. List the typical vegetation found within this wetland type. List any vegetation that may support a function of that wetland.
- 8. This should describe the morphology of the wetland. Need to describe if the wetland is in a basin or on a sloped area, whether it has a definite inlet or outlet and whether a stream is present in the wetland.
- 9. Notes any soils information, stream descriptions, habitat descriptions such as vernal pools or open aquatic areas.
- 10. This is the wetland function discussion block.
- 11. Is this wetland in a complex associated with other streams or wetlands?
- 12. Also any include more detailed description of area to be affected by the project as opposed to notes of the entire wetland, if known. Photos if applicable.

#### Standard MaineDOT Information/F&V Form

MaineDOT Functional Assessment:										
<b>1. Town:</b> Sidney <b>2. Dinsmore Road BR 3. WIN:</b> 25473.00 <b>5782</b>										
4. Wetland ID/ Line ID: VK-01O	5. Cowardin Class: PFO	6. Stationing/Location								
7. Dominant Vegetation: americana, Abies balsamea, Ono		8. Wetland Morphology HGM Type: Depressional wetland								
9 Wetland description in	cluding a soil description	on:								

#### Wetland description including a soil description:

Forested wetland along Dinsmore Rd, water marks and surface water present

Soil: Frozen- not assessed at time of delineation. USDA NRCS soil mapped as Lyman-Tunbridge complex

10. FVA Table:

#### Whole Wetland:

F/V	GRD	FFA	FSH	STR	NRRT	PE	SSS	WH	REC	ESV	U/H	VQA	ES
Occurs				X	X								
Principal													

Impacted area: TBD

#### 11. Is this wetland part of larger complex?

#### 12. Impact Notes/Photos:

Impacts TBD, see report photos

#### **Attach applicable ACOE Form**

#### **Directions and Guidance**

- Town where project is located. 1.
- 2. Route.
- 3. Work Identification Number (WIN).
- Unique Identifier code for each wetland area. 4
- 5. Cowardin Classification Codes.
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