



**NATIONAL FUEL GAS SUPPLY CORPORATION
AND EMPIRE PIPELINE, INC**

NORTHERN ACCESS 2016 PROJECT

**RESOURCE REPORT 3
Vegetation and Wildlife**

FERC Docket No. PF14-18-000

Submitted: March 16, 2015



SUMMARY OF REQUIRED FERC REPORT INFORMATION		
Topic	FERC Reference	Report Reference or Not Applicable
1. Classify the fishery type of each surface waterbody that would be crossed, including fisheries of special concern.	§380.12(e)(1)	Sections 3.1.1 and 3.1.2
2. Describe terrestrial and wetland wildlife and habitats that would be affected by the project.	§380.12(e)(2)	Sections 3.2 and 3.3
3. Describe the major vegetative cover types that would be crossed and provide the acreage of each vegetative cover type that would be affected by construction.	§380.12(e)(3)	Section 3.2, Table 3-2
4. Describe the effects of construction and operation procedure on the fishery resources and proposed mitigation measures.	380.12(e)(4)	Section 3.1.3
5. Evaluate the potential for short-term, long-term, and permanent impact on the wildlife resources and state-listed endangered or threatened species caused by construction and operation of the project and proposed mitigation measures.	§380.12(e)(4)	Sections 3.3.3 and 3.4.2
6. Identify all federally-listed or proposed endangered or threatened species that potentially occur in the vicinity of the project and discuss the results of the consultations with other agencies. Include survey reports as specified in §380.12(e)(5).	§380.12(e)(5)	Sections 3.4.1 and 3.4.2, Appendix 3-A and 3-B.
7. Identify all federally-listed essential fish habitat (EFH) that potentially occurs in the vicinity of the project and the results of abbreviated consultations with NMFS, and any resulting EFH assessment.	§380.12(e)(6)	Section 3.1.2
8. Describe any significant biological resources that would be affected. Describe impact and any mitigation proposed to avoid or minimize that impact.	§380.12(e)(4&7)	Sections 3.1.2, 3.1.3, 3.2, 3.3, and 3.4

Additional Information

1. Provide copies of correspondence from federal and state fish and wildlife agencies along with responses to their recommendations to avoid or limit impact on wildlife, fisheries, and vegetation.	Appendix 3-B
2. Provide a list of significant wildlife habitats crossed by the project. Specify locations by milepost, and include length and width of crossing at each significant wildlife habitat.	Sections 3.2.3 and 3.3.2

RESOURCE REPORT 3 – VEGETATION AND WILDLIFE

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LIST OF ACRONYMS

AL	Allegany County, New York
ATW	Approved Trout Water
ATWS	additional temporary workspace
BMPs	best management practices
CA	Cattaraugus County, New York
Cm	centimeter(s)
CWF	cold water fishes
Dth/D	dekatherms per day
EFH	essential fisheries habitat
Empire	Empire Pipeline, Inc.
ER	Erie County, New York
ESCAMP	Erosion and Sediment Control and Agricultural Mitigation Plan
FERC	Federal Energy Regulatory Commission
FERC's Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
FERC's Procedures	FERC Wetland and Waterbody Construction and Mitigation Procedures
GIS	geographic information systems
HDD	horizontal directional drilling
HQ-CWF	high quality waters and cold water fisheries
IMAP	Important Mammal Areas Project
IPaC	Information, Planning, and Conservation application
MBTA	Migratory Bird Treaty Act
MC	McKean County, Pennsylvania
MF	migratory fishes
MLV	mainline valve
MP	Milepost
n/a	not applicable
National Fuel	National Fuel Gas Supply Company and Empire Pipeline, Inc., collectively known as
NI	Niagara County, New York
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NYFO	U.S. Fish and Wildlife Service, New York Field Office
NYNHP	New York Natural Heritage Program
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York Department of Environmental Conservation
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
PAFBC	Pennsylvania Fish & Boat Commission
PAFO	U.S. Fish and Wildlife Service, Pennsylvania Field Office
PAGC	Pennsylvania Game Commission
PASDA	Pennsylvania Spatial Data Access
PNHP	Pennsylvania Natural Heritage Program
PIF	Partners in Flight

LIST OF ACRONYMS (continued)

Project	Northern Access 2016 Project
ROW	Right-of-Way
SIR	Species Impact Review
STS	Stocked Trout Stream (by Pennsylvania Fish and Boat Commission)
Supply	National Fuel Gas Supply Company
SWPPP	Storm Water Pollution Prevention Plan
TSF	Trout Stocked Fishery
UNT	Unnamed Tributary to
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WWF	Warm Water Fishes

RESOURCE REPORT 3 – VEGETATION AND WILDLIFE

3.0 INTRODUCTION

National Fuel Gas Supply Corporation (“Supply”) and Empire Pipeline, Inc. (“Empire”), both subsidiaries of National Fuel Gas Company, are seeking authorization from the Federal Energy Regulatory Commission (“FERC”) pursuant to Section 7(c) of the Natural Gas Act to construct and operate the proposed Northern Access 2016 Expansion Project (“Project”). Through this proposed Project, Supply and Empire (collectively known as “National Fuel”) jointly propose to expand the Supply pipeline system to provide approximately 497,000 dekatherms per day (“Dth/d”) of new firm natural gas transportation capacity, and the Empire pipeline system to provide approximately 350,000 dekatherms per day (“Dth/d”) of new firm natural gas transportation capacity.

The proposed Project consists of the following Supply components:

- construction of approximately 96.65 miles of new 24-inch-diameter pipeline (“Mainline Pipeline”), from Sergeant Township, McKean County, Pennsylvania, to an interconnection with Supply’s existing Line X-North, near Supply’s existing Porterville Compressor Station in the Town of Elma, Erie County, New York;
- addition of approximately 5,350 horsepower to Porterville Compressor Station;
- construction of an interconnection with Tennessee Gas Pipeline’s 200 Line in the Town of Wales, Erie County, New York;
- addition of interconnect/tie-in facilities at Clermont (McKean County, Pennsylvania), Hinsdale Compressor Station (Cattaraugus County, New York), and X-North Pipeline (Erie County, New York);
- addition of a meter and regulator (“M&R”)/pressure reduction station near the tie-in to X-North Pipeline;
- addition of 13 mainline valve (MLV) sites; and,
- cathodic protection facilities.

The proposed Project also consists of the following Empire components:

- construction of a 24-inch pipeline segment of approximately 3.05 miles, replacing 3.05 miles of existing 16-inch Supply pipeline (“Replacement Pipeline”) in the towns of Wheatfield and Pendleton, Niagara County, New York;
- modification of tie-in facilities at the south end of the Replacement Pipeline (tie-in to Line X-North) and approximately 1 mile north of Replacement Pipeline MP 3.05 (tie-in to Empire Pipeline);

- construction of a new, approximately 22,214 horsepower compressor station in the Town of Pendleton, Niagara County, New York;
- construction of a new natural gas dehydration facility in the Town of Wheatfield, Niagara County, New York; and,
- removal of an existing meter station in the Town of Pendleton, Niagara County with relocation/reuse of certain metering equipment at the proposed Pendleton Compressor Station.

A list and mapping of Project components and their locations is provided in Resource Report 1 – Project Description.

Resource Report 3 describes existing fish and wildlife resources, plant communities, sensitive species, and habitats that may be directly or indirectly affected by the Project. It considers anticipated impacts related to facility construction and operation, along with mitigation measures designed to minimize these impacts. The report is divided into five sections. Section 3.1 describes fisheries resources in the waterbodies crossed by the proposed pipeline and access roads. Section 3.2 discusses characteristic vegetation community types in the Project area. Section 3.3 discusses wildlife resources in the Project area. Section 3.4 presents information on state and federally listed endangered and threatened species in the Project area. Section 3.5 provides a list of references used in the preparation of this report.

Information was derived from three principal sources: Project-specific communication with federal and state agencies; published and unpublished natural resources data pertaining to the regional Project area; and field surveys. Field surveys involved concurrent wetland delineation and habitat survey within the proposed Project area. Field surveys were conducted during August, September, and October 2014 within an approximate 300-foot survey corridor for the Mainline Pipeline. The proposed construction limit of disturbance varies from 75 to 100 feet wide; waterbody and wetland resource impacts are reported herein for Project area. National Fuel's Aquatic Resource Report is contained in Appendix 2-A.

Note that due to timing constraints (i.e. growing season ending) and property access constraints, approximately 61 miles of the 96.65 miles (63%) of pipeline right-of-way (ROW) have been surveyed on the ground for habitats and aquatic resources as of the end of growing season 2014. Surveys will continue in the growing season in April 2015. Additionally, the compressor station, dehydration facility, access roads (Project wide), and Replacement Pipeline in Niagara County have not been surveyed, but surveys are planned for spring 2015. In general, access roads are existing farm lanes, trails, driveways, or existing roads. Habitats, wildlife, vegetation, and streams adjacent to these areas are similar and proportionate to the surveyed mainline pipeline corridor.

3.1 FISHERIES RESOURCES

As described in Resource Report 2, the proposed Project will cross 179 surveyed streams. Surveys identified that 54 of these streams are perennial, 68 are intermittent, 55 are ephemeral, and two are considered dry ditches. Desktop analysis using Pennsylvania's Designated Use Geographic Information Systems (GIS) layer (Pennsylvania State University [PSU] 2013) and New York State Department of Environmental Conservation's (NYSDEC's) water classification layer (NYSDEC 2013) reveals there are approximately 22 (nine in Pennsylvania and 13 in New York) additional crossings that are mapped but not yet surveyed for this Project. Most waterbodies associated with the Project have the capacity to support some type of aquatic wildlife, such as invertebrates, fish, amphibians, and waterfowl. According to background research of United States Geological Survey (USGS) topographic maps and aerial imagery, the unsurveyed portions of the Project area are expected to have similar findings in terms of number of Aquatic Resources. No known or mapped significant fishery resources remain unsurveyed. Table 3-1 below lists the waterbodies traversed by the Project and fisheries classifications of each. The streams are currently organized by county, and will be organized from south to north for the next submission of this Resource Report.

Table 3-1. Stream Water Quality and Fisheries of Special Concern Crossed by the Project

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
Mainline Pipeline ROW											
<i>Pennsylvania</i>											
1.62	S005	MC	Bloomster Hollow	Intermittent	0.55	5	162	n/a	CFW	TNR, Drains to ATW, STS	Dry
5.01	S007b	MC	UNT to Irons Hollow	Intermittent	0.1	14	150	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
5.01	S008	MC	UNT to Irons Hollow	Intermittent	0.1	4	7	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
5.05	S011	MC	UNT to Irons Hollow	Perennial	0.17	4	217	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
5.08	S012	MC	UNT to Irons Hollow	Perennial	0.25	12	133	n/a	CFW	Drains to ATW, TNR, STS	Dry
5.12	S013	MC	UNT to Irons Hollow	Ephemeral	0.1	2	104	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
5.12	S014	MC	UNT to Irons Hollow	Ephemeral	0	2	56	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
5.58	S015	MC	UNT to Irons Hollow	Perennial	0.5	5	99	n/a	CFW	Drains to ATW, TNR, STS	Dry
7.06	S132	MC	Marvin Creek	Perennial	0	25	66	n/a	CFW	ATW, STS	Dry
8.69	S031	MC	Blacksmith Run	Perennial	1	32	152	n/a	CFW	TNR, Drains to ATW, STS	TBD
9.20	S032	MC	UNT to Blacksmith Run	Intermittent	0.25	10	39	n/a	Drains to CWF	Drains to ATW, TNR, STS	Dry
12.01	S63a	MC	UNT to Potato Creek	Intermittent	0.333	6	78	n/a	Drains to CWF	no classification	Dry
12.73	S70a	MC	UNT to Potato Creek	Intermittent	0.167	4	139	n/a	Drains to TSF	no classification	Dry
12.76	S62a	MC	Potato Creek	Perennial	2	80	56	n/a	TSF	no classification	TBD
14.76	S044	MC	UNT to Cloverlot Hollow	Ephemeral	0	4	59	n/a	Drains to CWF	no classification	Dry
14.76	S045	MC	UNT to Cloverlot Hollow	Ephemeral	0	4	72	n/a	Drains to CWF	no classification	Dry
14.80	S046	MC	UNT to Cloverlot Hollow	Ephemeral	0	4	13	n/a	Drains to CWF	no classification	Dry
15.39	S048	MC	UNT to Kent Hollow	Ephemeral	0	6	233	n/a	Drains to CWF	no classification	Dry
15.40	S047	MC	UNT to Kent Hollow	Ephemeral	0	3	178	n/a	Drains to CWF	no classification	Dry
15.40	S050	MC	UNT to Kent Hollow	Ephemeral	0	4	39	n/a	Drains to CWF	no classification	Dry
15.66	S051	MC	Kent Hollow	Perennial	0.5	25	84	n/a	CFW	no classification	TBD
15.83	S30a	MC	UNT to Kent Hollow	Ephemeral	0	2	152	n/a	Drains to CWF	no classification	Dry

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
16.16	S27a	MC	UNT to Champlin Hollow	Intermittent	0.083	4	98	n/a	Drains to CWF	no classification	Dry
16.16	S28a	MC	UNT to Champlin Hollow	Ephemeral	0	2	106	n/a	Drains to CWF	no classification	Dry
16.47	S26a	MC	Champlin Hollow	Intermittent	0	6	114	n/a	CWF	no classification	Dry
17.39	S31a	MC	Open Brook	Perennial	0.5	12	83	n/a	CWF	no classification	Dry
18.02	S32a	MC	Allegany River	Perennial	2	80	51	n/a	CWF	no classification	HDD
19.35	S3c	MC	UNT to Newell Creek	Intermittent	0.33	6	76	n/a	CWF	no classification	Dry
19.52	S2c	MC	UNT to Newell Creek	Intermittent	0	2	82	n/a	CWF	no classification	Dry
19.61	S1c	MC	UNT to Newell Creek	Ephemeral	0	3	94	n/a	CWF	no classification	Dry
19.69	S12c	MC	UNT to Newell Creek	Intermittent	0.167	3	80	n/a	Drains to CWF	no classification	Dry
20.01	S4c	MC	Newell Creek	Perennial	1	12	86	n/a	CWF	no classification	Dry
20.26	S10c	MC	UNT to Newell Creek	Ephemeral	0.08	4	85	n/a	Drains to CWF	no classification	Dry
20.51	S6c	MC	UNT to Newell Creek	Ephemeral	0	6	87	n/a	Drains to CWF	no classification	Dry
20.52	S7c	MC	UNT to Newell Creek	Intermittent	0.25	4	94	n/a	Drains to CWF	no classification	Dry
20.55	S8c	MC	UNT to Newell Creek	Intermittent	0.25	6	99	n/a	CWF	no classification	Dry
21.86	S67a	MC	UNT Newell Creek	Perennial	0.167	8	79	n/a	Drains to CWF	no classification	Dry
21.97	S052	MC	UNT to Newell Creek	Perennial	0.5	12	89	n/a	CWF	no classification	Dry
22.25	S053	MC	UNT to Newell Creek	Perennial	0.125	8	79	n/a	Drains to CWF	no classification	Dry
22.70	S054	MC	UNT to Newell Creek	Ephemeral	0	12	80	n/a	Drains to CWF	no classification	Dry
22.72	S055	MC	UNT to Newell Creek	Ephemeral	0	12	99	n/a	Drains to CWF	no classification	Dry
23.05	S056	MC	UNT to Newell Creek	Ephemeral	0	3	84	n/a	Drains to CWF	no classification	Dry
23.07	S057	MC	UNT to Newell Creek	Intermittent	0.1	10	80	n/a	Drains to CWF	no classification	Dry
23.07	S059	MC	UNT to Newell Creek	Ephemeral	0	12	70	n/a	Drains to CWF	no classification	Dry
23.12	S060	MC	UNT to Newell Creek	Perennial	0.33	8	87	n/a	CWF	no classification	Dry
23.15	S061	MC	UNT to Newell Creek	Ephemeral	0	4	349	n/a	Drains to CWF	no classification	Dry
23.67	S34a	MC	UNT to Barden Brook	Intermittent	0	5	5	n/a	CWF	no classification	Dry
23.71	S35a	MC	UNT to Barden Brook	Ephemeral	0	2	67	n/a	Drains to CWF	no classification	Dry
23.72	S36a	MC	UNT to Barden Brook	Ephemeral	0	2	55	n/a	Drains to CWF	no classification	Dry
23.86	S37a	MC	UNT to Barden Brook	Ephemeral	0	2	12	n/a	Drains to CWF	no classification	Dry
23.88	S39a	MC	UNT to Barden Brook	Ephemeral	0	2	55	n/a	Drains to CWF	no classification	Dry
23.89	S38a	MC	UNT to Barden Brook	Intermittent	0.083	4	86	n/a	Drains to CWF	no classification	Dry
23.98	S41a	MC	UNT to Barden Brook	Ephemeral	0	2	76	n/a	Drains to CWF	no classification	Dry
24.16	S57a2	MC	UNT to Barden Brook	Perennial	0.25	4	76	n/a	CWF	no classification	Dry
24.58	S58a	MC	UNT to Barden Brook	Ephemeral	0	2	51	n/a	Drains to CWF	no classification	Dry

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
24.71	S59a	MC	UNT to Barden Brook	Ephemeral	0	4	76	n/a	Drains to CWF	no classification	Dry
25.90	S25c	MC	UNT to McCrea Run	Ephemeral	0.08	1	6	n/a	Drains to CWF	no classification	Dry
25.92	S23c	MC	UNT to McCrea Run	Intermittent	0.08	4	14	n/a	Drains to CWF	no classification	Dry
25.92	S24c	MC	UNT to McCrea Run	Perennial	0.33	8	86	n/a	CWF	no classification	Dry
26.46	S21c	MC	UNT to McCrea Run	Intermittent	0.25	2	77	n/a	CWF	no classification	Dry
26.69	S19c	MC	UNT to McCrea Run	Ephemeral	0	3	105	n/a	Drains to CWF	no classification	Dry
26.98	S13c	MC	UNT to Oswayo Creek	Ephemeral	0	2	36	n/a	CWF	no classification	Dry
27.73	S064	MC	Oswayo Creek	Perennial	2	85	5	n/a	WWF	no classification	Coffer/Porta dam TBD
New York											
28.78	S3a	AL	UNT to Bells Brook	Intermittent	0.083	4	35	Drains to C, C	n/a	n/a	Dry
29.31	S2a	AL	UNT to Bells Brook	Intermittent	0.083	8	80	Drains to C, C	n/a	n/a	Dry
31.07	S121	AL	Narvoo Hollow	Perennial	0.33	14	171	C, C	n/a	n/a	Dry
31.14	S123	AL	UNT to Narvoo Hollow	Intermittent	0	5	77	Drains to C, C	n/a	n/a	Dry
31.82	S6a	AL	UNT to Deer Creek	Ephemeral	0	4	119	Drains to C, C	n/a	n/a	Dry
31.85	S7a	AL	Deer Creek	Perennial	0.5	10	108	C, C	n/a	n/a	Dry
32.30	S5a	AL	UNT to Deer Creek	Intermittent	0.083	1	77	Drains to C, C	n/a	n/a	Dry
32.32	S4a	AL	UNT to Deer Creek	Ephemeral	0	10	83	Drains to C, C	n/a	n/a	Dry
33.31	S065	AL	Dodge Creek	Perennial	0.66	38	80	C, C(T)	n/a	n/a	Dry
33.31	S066	AL	UNT to Dodge Creek	Ephemeral	0	2	26	Drains to C, C(T)	n/a	n/a	Dry
33.83	S072	AL	UNT to Wolf Creek	Perennial	0.66	28	163	C, C(T)	n/a	n/a	TBD
33.86	S070	AL	UNT to Wolf Creek	Intermittent	0.08	12	40	Drains to C, C	n/a	n/a	Dry
33.87	S069	AL	UNT to Wolf Creek	Perennial	0.5	9	240	C, C	n/a	n/a	Dry
34.47	S068	AL	UNT to Wolf Creek	Dry Ditch	0	2	163	Drains to C, C	n/a	n/a	Dry
34.76	S41b	AL	Wolf Creek	Perennial	0.5	20	72	C, C(T)	n/a	n/a	Dry
34.83	S40b	AL	UNT to Wolf Creek	Perennial	0.167	15	131	C, C	n/a	n/a	Dry
35.74	S39b	AL	UNT to Wolf Creek	Intermittent	0.167	6	121	C, C	n/a	n/a	Dry
37.30	S38b	CA	Wolf Run	Perennial	0.67	20	75	C, C	n/a	n/a	Dry
37.57	S37b1	CA	UNT to Wolf Run	Ephemeral	0	10	137	C, C	n/a	n/a	Dry
37.61	S37b	CA	UNT to Wolf Run	Ephemeral	0.08	10	136	Drains to C, C	n/a	n/a	Dry
38.04	S36b	CA	UNT to Haskell Creek	Perennial	0.25	5	70	Drains to C, C	n/a	n/a	Dry
38.07	S35b	CA	UNT to Haskell Creek	Perennial	0.167	10	80	C, C	n/a	n/a	Dry
38.89	S34b	CA	UNT to Haskell Creek	Intermittent	0.167	1	102	Drains to C, C(T)	n/a	n/a	Dry

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
39.12	S32b	CA	Haskell Creek	Perennial	5	20	70	C, C(T)	n/a	n/a	TBD
39.62	S31b	CA	UNT to Haskell Creek	Intermittent	0.167	5	66	Drains to C, C	n/a	n/a	Dry
39.65	S30b	CA	UNT to Haskell Creek	Perennial	0.33	20	90	C, C	n/a	n/a	Dry
42.22	S073	CA	UNT to Oil Creek	Ephemeral	0.02	3	123	Drains to A, A	n/a	n/a	Dry
42.48	S075	CA	Oil Creek	Perennial	1	70	151	A, A	n/a	n/a	Dry
43.49	S095	CA	UNT to Ischua Creek	Ephemeral	0.08	4	81	Drains to A, A	n/a	n/a	Dry
43.50	S094	CA	UNT to Ischua Creek	Perennial	0.5	5	76	Drains to A, A	n/a	n/a	Dry
43.57	S093	CA	UNT to Ischua Creek	Ephemeral	0.5	4	468	Drains to A, A	n/a	n/a	Dry
43.65	S091	CA	UNT to Ischua Creek	Ephemeral	0	3	45	Drains to A, A	n/a	n/a	Dry
43.67	S088	CA	UNT to Ischua Creek	Intermittent	0	12	146	Drains to A, A	n/a	n/a	Dry
43.74	S092	CA	UNT to Ischua Creek	Ephemeral	0	4	46	Drains to A, A	n/a	n/a	Dry
44.23	S087	CA	UNT to Gull Brook	Intermittent	0.08	4	42	Drains to A, A	n/a	n/a	Dry
44.60	S085	CA	UNT to Gull Brook	Intermittent	0.5	20	116	Drains to A, A	n/a	n/a	TBD
44.61	S084	CA	Gull Brook	Perennial	0.67	20	203	A, A	n/a	n/a	TBD
44.76	S1d	CA	UNT to Gull Brook	Intermittent	0.08	3	144	Drains to A, A	n/a	n/a	Dry
45.71	S6d	CA	UNT to Five Mile Creek	Perennial	0.25	2	100	Drains to C, C	n/a	n/a	Dry
45.75	S7d	CA	UNT to Five Mile Creek	Perennial	0.167	1	83	Drains to C, C	n/a	n/a	Dry
46.66	S119	CA	UNT to Five Mile Creek	Perennial	0.167	10	101	Drains to C, C	n/a	n/a	Dry
46.68	S120	CA	UNT to Five Mile Creek	Ephemeral	0.167	5	66	Drains to C, C	n/a	n/a	Dry
46.88	S096	CA	UNT to Five Mile Creek	Perennial	0.5	20	73	C, C	n/a	n/a	TBD
47.70	S9d	CA	UNT to Five Mile Creek	Intermittent	0.167	3	168	Drains to A, A	n/a	n/a	Dry
47.74	S099	CA	UNT to Five Mile Creek	Dry Ditch	0	1	18	Drains to A, A	n/a	n/a	Dry
47.76	S098	CA	Five Mile Creek	Perennial	1	12	95	A, A	n/a	n/a	Dry
47.90	S097	CA	UNT to Five Mile Creek	Ephemeral	0	3	121	Drains to A, A	n/a	n/a	Dry
49.71	S116	CA	UNT to Wright's Creek	Ephemeral	0	7	86	Drains to C, C	n/a	n/a	Dry
49.83	S100	CA	UNT to Wright's Creek	Intermittent	0.5	2	50	Drains to C, C	n/a	n/a	Dry
49.84	S101	CA	UNT to Wright's Creek	Intermittent	0	2	229	Drains to C, C	n/a	n/a	Dry
50.36	S106	CA	UNT to Ischua Creek	Intermittent	0.167	5	87	Drains to C, C	n/a	n/a	Dry
50.38	S107	CA	UNT to Ischua Creek	Perennial	0.167	7	109	Drains to C, C	n/a	n/a	Dry
50.44	S108	CA	UNT to Ischua Creek	Perennial	0.167	4	80	Drains to C, C	n/a	n/a	Dry
50.46	S109	CA	UNT to Ischua Creek	Perennial	0.5	5	79	Drains to C, C	n/a	n/a	Dry
51.23	S49a	CA	UNT to Ischua Creek	Perennial	0.25	12	80	C, C	n/a	n/a	Dry
51.25	S50a	CA	UNT to Ischua Creek	Ephemeral	0.083	1	62	Drains to C, C	n/a	n/a	Dry

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
51.44	S52a	CA	UNT to Ischua Creek	Ephemeral	0.083	2	15	Drains to C, C	n/a	n/a	Dry
51.49	S53a	CA	UNT to Ischua Creek	Perennial	0.25	18	109	Drains to C, C	n/a	n/a	Dry
51.55	S54a	CA	UNT to Ischua Creek	Intermittent	0.167	2	72	Drains to C, C	n/a	n/a	Dry
51.69	S55a	CA	UNT to Ischua Creek	Ephemeral	0	2	113	Drains to C, C	n/a	n/a	Dry
52.17	S57a	CA	UNT to Ischua Creek	Perennial	0.25	12	77	C, C	n/a	n/a	Dry
52.67	S124	CA	UNT to Ischua Creek	Intermittent	0	8	67	Drains to C, C	n/a	n/a	Dry
52.70	S126	CA	UNT to Ischua Creek	Perennial	0	12	77	C, C	n/a	n/a	Dry
52.75	S127	CA	UNT to Ischua Creek	Intermittent	0	10	142	Drains to C, C	n/a	n/a	Dry
52.80	S128	CA	UNT to Ischua Creek	Intermittent	0	6	146	Drains to C, C	n/a	n/a	Dry
54.59	S46a	CA	UNT to Storrs Creek	Intermittent	0.083	3	116	Drains to C, C	n/a	n/a	Dry
54.69	S47a	CA	UNT to Storrs Creek	Intermittent	0.083	6	78	Drains to C, C	n/a	n/a	Dry
54.80	S48a	CA	Storrs Creek	Perennial	0.5	40	75	C, C	n/a	n/a	TBD
55.84	S71a	CA	UNT to Boyce Run	Intermittent	0.083	4	49	Drains to C, C	n/a	n/a	Dry
55.89, 55.97, 55.99, 56.01, 56.05	S72a	CA	UNT to Boyce Run	Ephemeral	0	4	1,079	Drains to C, C	n/a	n/a	Dry
56.06	S73a	CA	UNT to Boyce Run	Intermittent	0.083	6	141	Drains to C, C	n/a	n/a	Dry
56.08	S75a	CA	UNT to Boyce Run	Perennial	0.417	20	138	C, C	n/a	n/a	Dry
56.15	S76a	CA	UNT to Boyce Run	Ephemeral	0	5	187	Drains to C, C	n/a	n/a	Dry
56.58	S16a	CA	Boyce Run	Perennial	0.25	24	77	C, C	n/a	n/a	Dry
56.58	S18a	CA	UNT to Boyce Run	Intermittent	0.083	2	32	Drains to C, C	n/a	n/a	Dry
56.59	S17a	CA	UNT to Boyce Run	Intermittent	0.083	1	139	Drains to C, C	n/a	n/a	Dry
59.37	S15b	CA	UNT to Ischua Creek	Perennial	1	15	96	Drains to C, C	n/a	n/a	Dry
60.70	S8a	CA	UNT to Gulf Creek	Intermittent	0.083	4	92	Drains to C, C	n/a	n/a	Dry
60.82	S10a	CA	UNT to Gulf Creek	Intermittent	0.083	1	110	Drains to C, C	n/a	n/a	Dry
61.07	S11a	CA	UNT to Ischua Creek	Intermittent	0.083	3	99	Drains to C, C(T)	n/a	n/a	Dry
62.00	S42a	CA	Ischua Creek	Perennial	1.5	40	75	C, C(T)	n/a	n/a	TBD
62.59	S19a	CA	UNT to Ischua Creek	Ephemeral	0	2	70	Drains to C, C	n/a	n/a	Dry
62.60	S20a	CA	UNT to Ischua Creek	Intermittent	0.167	10	108	C, C	n/a	n/a	Dry
62.89	S21a	CA	UNT to Ischua Creek	Intermittent	0.25	4	78	Drains to C, C	n/a	n/a	Dry
63.37	S24a	CA	UNT to Ischua Creek	Ephemeral	0.083	2	53	Drains to C, C(T)	n/a	n/a	Dry
66.11	S26b	CA	McKinstry Creek	Perennial	0.33	25	126	C, C(TS)	n/a	n/a	TBD

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
66.31	S25b	CA	UNT to McKinsty Creek	Intermittent	0.08	30	112	Drains to C, C(TS)	n/a	n/a	TBD
66.98	S24b	CA	UNT to Lime Lake Outlet	Intermittent	0.08	15	130	C, C	n/a	n/a	Dry
67.59	S27b	CA	UNT to Lime Lake Outlet	Ephemeral	0.33	5	192	Drains to C, C	n/a	n/a	Dry
67.65	S28b	CA	UNT to Lime Lake Outlet	Intermittent	0.08	4	80	Drains to C, C	n/a	n/a	Dry
67.80	S29b	CA	UNT to Lime Lake Outlet	Perennial	0.25	15	76	Drains to C, C(T)	n/a	n/a	Dry
68.49	S42b	CA	UNT to Lime Lake Outlet	Intermittent	0.25	20	148	Drains to C, C(TS)	n/a	n/a	Dry
68.68	S43b	CA	UNT to Lime Lake Outlet	Intermittent	0.08	6	93	Drains to C, C(TS)	n/a	n/a	Dry
68.86	S44b	CA	UNT to Lime Lake Outlet	Intermittent	0.25	25	97	Drains to C, C(TS)	n/a	n/a	Dry
69.20	S45b	CA	UNT to Elton Creek	Intermittent	0.167	20	78	Drains to C, C(TS)	n/a	n/a	Dry
70.13	S81a	ER	Elton Creek	Perennial	1	100	81	C, C	n/a	n/a	Dry
70.14	S80a	ER	UNT to Elton Creek	Ephemeral	0.083	1	70	Drains to C, C	n/a	n/a	Dry
73.37	S13b	ER	UNT to Cattaraugus Creek	Perennial	0.33	25	105	Drains to C, C	n/a	n/a	TBD
73.56	S12b	ER	UNT to Cattaraugus Creek	Ephemeral	0	3	94	Drains to C, C	n/a	n/a	Dry
75.39	S11b	ER	UNT to Dresser Creek	Intermittent	2	12	92	Drains to C, C	n/a	n/a	Dry
75.44	S10b	ER	UNT to Dresser Creek	Intermittent	0.042	5	126	Drains to C, C	n/a	n/a	Dry
75.75	S9b	ER	UNT to Dresser Creek	Intermittent	0.08	25	76	Drains to C, C	n/a	n/a	TBD
76.06	S8b	ER	UNT to Dresser Creek	Intermittent	0.167	8	82	Drains to C, C	n/a	n/a	Dry
76.81	S7b	ER	UNT to Spencer Brook	Ephemeral	0.08	20	86	Drains to C, C	n/a	n/a	Dry
76.95	S6b	ER	UNT to Spencer Brook	Ephemeral	0.08	20	77	Drains to C, C	n/a	n/a	Dry
77.47	S5b	ER	UNT to Spencer Brook	Ephemeral	0	3	174	Drains to C, C	n/a	n/a	Dry
77.85	S4b	ER	UNT to Spencer Brook	Intermittent	0.25	8	35	C, C	n/a	n/a	Dry
78.39	S46b	ER	UNT to Sprague Brook	Intermittent	0.33	15	117	B, B	n/a	n/a	Dry
80.67	S22b	ER	UNT to Gears Gulf	Intermittent	0.25	20	82	Drains to B, B	n/a	n/a	Dry
81.04	S23b	ER	UNT to East Branch Cazenovia Creek	Intermittent	0.5	2	89	Drains to B, B	n/a	n/a	Dry
82.92	S3b	ER	UNT to Pipe Creek	Intermittent	0.167	25	133	Drains to A, A	n/a	n/a	TBD
83.44	S2b	ER	UNT to East Branch Cazenovia Creek	Intermittent	0.167	4	101	C, C	n/a	n/a	Dry
88.97	S83a	ER	UNT to Cazenovia Creek	Intermittent	0.083	2	145	Drains to C, C	n/a	n/a	Dry
89.09	S82a	ER	Cazenovia Creek	Perennial	1	80	56	C, C	n/a	n/a	HDD

Milepost	Stream ID	County ^a	Stream Name	Flow Regime	Water Depth (feet)	Crossing Width ^b (feet)	Length of Stream in ROW ^c (feet)	New York Water Standard ^d	PA Chapter 93 Classification ^e	PAFBC Stream Designation ^f	Proposed Crossing Method ^{g, h}
89.51	S79a	ER	UNT to Cazenovia Creek	Ephemeral	0	4	21	Drains to C, C	n/a	n/a	Dry
89.80	S78a	ER	UNT to Cazenovia Creek	Intermittent	0.083	7	118	Drains to C, C	n/a	n/a	Dry

Notes:

n/a = not applicable

no classification = stream is not classified by PAFBC

a MC – McKean County, Pennsylvania, AL – Allegany County, New York, CA – Cattaraugus County, New York, ER – Erie County, New York.

b Crossing width is bank-to-bank width at time of survey. Although FERC identifies water width as crossing width, USACE regulates ordinary high water (OHW), which is generally bank-to-bank. Additionally, the water width varies significantly depending on season and precipitation levels.

c The ROW will be 75 feet wide through waterbodies. Measurements over 75 feet are a result of sinuous waterbodies or non-perpendicular crossings.

d New York State Water Quality Classification and Standards (NYSDEC 2013).

e Pennsylvania Chapter 93 Designated Use (PSU 2013).

f Stocked Trout Streams (STS) and Approved Trout Waters (ATW) (PAFBC 2014a, and 2014b).

g Proposed Crossing Methods:

Open cut – in stream excavation allowing continuous flow through work zone. Only proposed for streams larger than 25 feet wide where dry crossing and HDD/bore methods are not feasible.

Dry – Streams with perceptible flow will be crossed using a dam and flume or dam and pump method, enabling bypass of flow through or around a relatively dry work zone during construction. Any stream with no perceptible flow at the time of construction will be open cut. Larger streams may provide option to use a dry coffer dam or portal dam crossing method.

HDD/Bore – streams will be crossed by Horizontal Directional Drill or conventional bore (i.e. under the stream with no impact to substrate)

h Time window for stream crossings will be based on state regulations and allowances.

Fisheries and other classifications include:

Drains to – the stream has no identified Existing or Designated Use in Pennsylvania, or, has no designated water quality classification or standard in New York, and represents the nearest downstream classification.

Pennsylvania:

CUF – Cold Water Fishes (designated use) – maintenance or propagation, or both, of fish species including the family Salmonidae and additional flora and fauna which are indigenous to a cold water habitat.

CUF – Warm Water Fishes (designated use) – surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying 25 PA Code §93.4b(a).

TSF – Trout Stocked Fisheries as classified by Pennsylvania Chapter 93 Designated Use

ATW – Approved Trout Waters; waters containing significant portions that are open to public fishing and are stocked with trout by PAFBC.

STS – Stocked Trout Streams as identified by PAFBC.

New York:

A – High quality water source that needs some additional treatment to meet New York State Department of Health drinking water standards.

B – Perennial waters that are best suited for recreation and fishing.

C(T) – Waters that are best suited for fishing and support trout populations.

C(TS) – Waters that are best suited for fishing and support trout spawning habitat.

C – Waters that are best suited for fishing.

D – Waters that are best suited for fishing but typically has low or intermittent flow.

3.1.1 Fisheries Classification

Under 25 Pennsylvania Code §93.3, surface waters are categorized into five protected use categories: aquatic life, water supply, recreation and fish consumption, special protection, and other (Commonwealth of Pennsylvania 2011). Surface waters classified under the aquatic life category are further divided into the following four subcategories:

- CWF – *Cold Water Fishes* — Maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna which are indigenous to cold water habitat.
- WWF – *Warm Water Fishes* — Maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.
- MF – *Migratory Fishes* — Passage, maintenance, and propagation of anadromous and catadromous fishes and other fishes that move to or from flowing waters to complete their life cycle in other waters.
- TSF – *Trout Stocking* — Maintenance of stocked trout from February 15 to July 31, and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat. Pennsylvania Fish & Boat Commission (PAFBC) refers to TSF streams as Approved Trout Waters.

Based on a review of available spatial data hosted by the Pennsylvania Spatial Data Access (PASDA) supplied by Pennsylvania Department of Environmental Protection (PADEP) and the Pennsylvania Fish and Boat Commission (PAFBC), protected water uses for waterbodies crossed by the Project include Cold Water Fishes (CWF) waters, Trout Stocked Fisheries (TSF), and warm water fisheries (WWF). The PAFBC also identifies Stocked Trout Streams (STS) and Approved Trout Waters (ATW). Twenty-one (21) of the 63 streams crossed by the Project in Pennsylvania are classified as CWF (Table 3-1). Thirty-nine (39) streams are classified as Drains to CWF, and one stream is classified as TSF (stream S62a – Potato Creek), seven streams drain to TSF, one stream (S70a – Unnamed Tributary to Potato Creek) is classified as “Drains to TSF”, and one stream (stream S064 – Oswayo Creek) is designated WWF. All stream quality classifications are Designated Use according to Chapter 93 of PA Code; as none of the streams crossed in Pennsylvania currently have a documented Existing Use that would qualify the stream for an upgrade in Designated Use.

Marvin Creek (stream S132) is designated as both ATW and STS. The PAFBC annually stocks PADEP-designated TSF streams and lakes in Pennsylvania with cold water trout species (i.e., brook trout [*Salvelinus fontinalis*], brown trout [*Salmo trutta*] and rainbow trout [*Oncorhynchus mykiss*]), and other coolwater, coolwater transition, and warm water fish species, such as muskellunge (*Esox masquinongy*), walleye (*Sander vitreus*), and flathead catfish (*Pylodictis olivaris*) throughout the year (PAFBC 2011a). PAFBC stocked Marvin Creek with both brown and rainbow trout in March 2014 (PAFBC 2014c).

According to PAFBC, all waters upstream of STS, ATW, or TNR areas are also protected as if they were classified ATW. There are two streams (S005 – Bloomster Hollow and S031 – Blacksmith Run) that are designated as Trout Natural Reproduction (TNR) by

PAFBC. These two streams also drain to ATW and STS classified waters. Eight additional streams drain to waters that are jointly classified as ATW, TNR, and STS.

In New York State, water classifications and standards are defined in Environmental Conservation Law, §§ 1-0101, 3-0301[2][m], 15-0313, 17-0101, 17-0301, 17-0303, and 17-0809. Water qualities are divided into three distinct categories: saline, groundwater, and freshwater. The freshwater category is further divided into eight additional classifications (NYSDEC 1993).

- Class AA-Special (AA-S): waterbodies best used for all activities, including drinking, food process, contact recreation, and fishing. These waters need minor disinfection treatment to remove natural impurities to meet New York State drinking water standards.
- Class A-Special (A-S): same quality standard as AA-S, but the waters are international.
- Class AA (AA): waters that are suitable for all activities, but need approved disinfection treatments to remove natural impurities to meet New York State drinking water standards.
- Class A (A): waters that are suitable for all activities, but need approved coagulation, sedimentation, filtration, and/or disinfection treatments to remove natural impurities to meet New York State drinking water standards.
- Class B (B): waters that are best suited to contact recreation and fishing.
- Class C (C): waters that are best suited for fishing, and may have limiting factors to contact recreation (typically low or intermittent flow).
- Class D (D): waters that are best suited for fishing and are unlikely to support fish propagation, and may have limiting factors to contact recreation.
- Class N (N): waterbodies where the best use is in its natural condition, and are heavily protected.

For each classification, there is a potential modifier for standards in order to identify those waters with known trout quality, when extra standards according to discharge are applicable. A (T) listed means that the water is known for trout use and a (TS) indicates that those waters are known for trout spawning.

According to New York Environmental Conservation Law, Title 5, Article 15, the NYSDEC Protection of Waters Program only extends to those features with a “C” classification or higher (i.e. Class D is not regulated by New York State).

Overall, the Mainline Pipeline intersects three streams (S075 – Oil Creek, S084 – Gull Brook, and S098 – Five Mile Creek) with an “A” classification, as well as 14 streams that drain to “A” quality waters. There is one (stream S46b – UNT to Sprague Brook) classified as “B”, two tributaries to “B” streams, 28 classified as “C”, and 68 tributaries to “C” streams.

The Project crosses five “C” streams with a (T) modifier (streams S065 – Dodge Creek, S072 – UNT to Wolf Creek, S42a – Ischua Creek, S32b – Haskell Creek, and S41b – Wolf

Creek), and an additional five that drain to a stream with that classification and standard. The Project also crosses one trout spawning water (stream S26b, McKinstry Creek) and an additional five streams that are tributary to a stream with that classification and standard.

Review of unsurveyed areas of the Project using Chapter 93 Designated Use and New York Surface Water Quality Standards GIS data indicates there are 12 additional mapped streams/drainages remaining to be field surveyed for the Project, and within these there are likely additional ephemeral and intermittent streams. The remaining not yet surveyed streams are summarized in Table 3-2 below.

Table 3-2. Unsurveyed Streams and Fisheries of Special Concern

Milepost	County	USGS Name	Estimated Crossing Width (feet)	New York Water Standard ^e	PA Chapter 93 Classification ^d	PAFBC Stream Designation ^e
Mainline Pipeline						
<i>Pennsylvania</i>						
5.80	MC	UNT to Irons Hollow (S020)	2	n/a	CWF	Drains to ATW, TNR, STS
9.06	MC	UNT to Blacksmith Run (S033)	9	n/a	CWF	Drains to ATW, TNR, STS
9.18	MC	UNT to Blacksmith Run	6	n/a	CWF	Drains to ATW, TNR, STS
9.79	MC	UNT to Blacksmith Run	3	n/a	CWF	Drains to ATW, TNR, STS
10.86	MC	UNT to Cole Creek	2	n/a	CWF	no classification
13.93	MC	Pierce Brook	8	n/a	CWF	no classification
21.39	MC	Newell Creek	2	n/a	CWF	no classification
24.95	MC	Barden Brook	15	n/a	CWF	no classification
27.84	MC	UNT to Oswayo Creek	2	n/a	CWF	no classification
<i>New York</i>						
40.59	CA	UNT to Haskell Creek	6	C	n/a	n/a
40.61	CA	UNT to Haskell Creek	6	C	n/a	n/a
42.94	CA	Ischua Creek (S077)	65	A	n/a	n/a
53.18	CA	UNT to Ischua Creek (S129)	20	C	n/a	n/a
55.39	CA	UNT to Storrs Creek	6	C	n/a	n/a
57.67	CA	Bear Creek	4	C	n/a	n/a
71.61	CA	Cattaraugus Creek	135	C(T)	n/a	n/a
71.97	ER	UNT to Cattaraugus Creek	15	C	n/a	n/a
81.27	ER	UNT to East Branch Cazenovia Creek	6	B	n/a	n/a
87.98	ER	UNT to Cazenovia Creek (S77a)	3	B	n/a	n/a
93.27	ER	Tannery Brook	6	C	n/a	n/a
94.46	ER	UNT to Buffalo Creek (S19b)	20	D	n/a	n/a
95.11	ER	Buffalo Creek (S17b)	75	A	n/a	n/a
XM 10 Replacement Line						
2.15	NI	Bull Creek	12	C	n/a	n/a
2.97	NI	Bull Creek	12	C	n/a	n/a
Access Roads						
<i>Pennsylvania</i>						
0.21	MC	UNT to Warner Brook	10	n/a	HQ-CWF	Drains to ATW, TNR, STS

2.58	MC	UNT to Robbins Brook	15	n/a	HQ-CWF	Drains to ATW, TNR, STS
2.65	MC	UNT to Robbins Brook	15	n/a	HQ-CWF	Drains to ATW, TNR, STS
3.77	MC	UNT to Robbins Brook	15	n/a	HQ-CWF	Drains to ATW, TNR, STS
14.15	MC	Cloverlot Hollow (S043)	5	n/a	CWF	no classification
22.25	MC	Newell Creek	20	n/a	CWF	no classification
22.25	MC	UNT to Newell Creek	5	n/a	CWF	no classification
23.85	MC	UNT to Barden Brook (S34a)	12	n/a	CWF	no classification
25.95	MC	UNT to McCrea Run (S25c)	8	n/a	CWF	no classification
26.18	MC	McCrea Run (S21c)	5	n/a	CWF	no classification
26.27	MC	McCrea Run (S21c)	5	n/a	CWF	no classification
26.45	MC	McCrea Run (S21c)	5	n/a	CWF	no classification
26.55	MC	UNT to McCrea Run (S19c)	6	n/a	CWF	no classification
New York						
31.90	AL	Deer Creek (S7a)	46	C	n/a	n/a
32.32	AL	UNT to Deer Creek (S4a)	10	C	n/a	n/a
32.44	AL	UNT to Deer Creek	5	C	n/a	n/a
35.75	AL	UNT to Wolf Creek	12	C	n/a	n/a
66.58	CA	UNT to Lime Lake Outlet	35	C (TS)	n/a	n/a
Dehydration Facility/Compressor Station/Pipeyards/Removed Metering Station						
No mapped streams present within boundary.						

Table 3-1 lists the fisheries habitats, including flow regime, crossing width, water quality classification, the 25 Pennsylvania Code Chapter 93 classification, and proposed crossing method for each of the streams that will be crossed by the Project. Table 3-2 summarizes the additional mapped drainages not yet surveyed on the ground, but identified through desktop review. Additional details for waterbodies within the Project area are included in Resource Report 2 (Water Use and Quality), Section 2.2.1 and Appendix 2-A (Aquatic Resources Report).

3.1.2 Fisheries of Special Concern

Fisheries of special concern include fisheries with exceptional recreational value, waterbodies that provide habitat for federally- or state-listed threatened or endangered species, and waterbodies that support commercial fisheries that are maintained naturally or through stocking programs. Also included as fisheries of special concern, is federally-listed Essential Fish Habitat (EFH). Representative fish species known to occur within the project vicinity include members of the Catostomidae (suckers), Centrarchidae (sunfishes and basses), Cyprinidae (minnows), Percidae (darters, perches, walleyes, and saugers), Percopsidae (trout-perches), Petromyzontidae (lampreys), and Salmonidae (salmon, trout, whitefish) families. Many species common within the Project area are listed within Appendix 3-A4 (Burbot Survey Report).

National Fuel submitted letters to federal and state agencies requesting information on rare, threatened or endangered species, significant fish habitats or unique natural aquatic communities in or near the Project area. Requests for information were sent to PAFBC, Pennsylvania Game Commission (PAGC), Pennsylvania Department of Conservation and

Natural Resources (PADCNR), NYSDEC/New York Natural Heritage Program (NYNHP) on June 19, 2014. The same request for information was sent to both United States Fish and Wildlife Service (USFWS) – New York and Pennsylvania Field Offices (NYFO and PAFO, respectively) on August 1, 2014.

Responses from the USFWS PAFO (dated October 15, 2014), PADCNR (dated July 17, 2014), and PAGC (dated July 1, 2014) did not identify any federal threatened or endangered fish species within the Project area. However, the PAFBC response dated August 5, 2014 named the state-endangered burbot (*Lota lota*) and the state candidate Ohio lamprey (*Ichthyomyzon bdellium*). The burbot was identified in the Potato Creek (S62a) area between MP 12.00 and 13.00. No location was supplied for potential impacts to the Ohio lamprey. Additionally, the NYDEC/NYNHP response dated August 26, 2014 identified two species that are not currently protected, but are under consideration for future state listing: Ohio lamprey and silver shiner (*Notropis canadensis*). These species were identified in the Ischua Creek (S077) area close to MP 42.95. National Fuel is awaiting an official response from USFWS-NYFO; however informal communications have not identified any fish species or aquatic habitats of concern. Copies of agency correspondence received for the Project are included in Appendix 3-B.

Marvin Creek (stream S132) is classified as an ATW and STS. PAFBC describes ATW as waters containing significant portions that are open to public fishing and are stocked with trout by PAFBC, and STS as streams that have been stocked recently by PAFBC (PAFBC 2014b). The extended angling season for ATW and all waters downstream of approved trout waters allow trout fishing outside the regular season (April 16 – September 5; beginning date of the opening season varies from year to year), from January 1 – February 28 and September 6 – December 31. National Fuel will install the pipe with as little disruption as possible to anglers both during and outside of the angling season.

Other fishery designations that are applicable to waterbodies within the Project area can be viewed in Tables 3-1 and 3-2.

The National Marine Fisheries Service (NMFS) lists EFH, as required by the Magnuson-Stevens Fishery Conservation and Management Act (16 United States Code 1801 et seq.). The proposed Project will not impact offshore, nearshore, or estuarine areas and is not located within an EFH-designated grid; therefore, NMFS designated EFH does not exist within the Project area (National Oceanic and Atmospheric Administration [NOAA] 2014). Consequently, consultation with NMFS on this Project is not required.

3.1.3 Construction and Operation Impacts and Mitigation

3.1.3.1 Waterbody Crossing Impacts

The construction of the proposed Project across waterbodies would result in minor, short-term impacts. These impacts would occur as a result of in-stream construction activities or construction on slopes adjacent to stream channels. These activities could result in a temporary localized increase in turbidity levels and downstream sediment deposition.

Sedimentation and turbidity may occur as a result of in-stream construction, trench dewatering, and soil erosion along the construction ROW. In slack or slowly moving waters, increases in suspended sediment may increase the biochemical oxygen demand and reduce levels of dissolved oxygen in localized areas during construction. Motile organisms may avoid these areas, but sessile and planktonic organisms may be adversely affected. Suspended sediments would also alter the chemical and physical characteristics of the water column (e.g., color and clarity) on a short-term basis. However, no foreign sediments would be introduced as all dredged or fill material would consist of onsite sediments. Furthermore, erosion and sedimentation controls will be installed and maintained in accordance with National Fuel's construction best management practices (BMPs) to minimize impacts on wetlands and waterbodies.

Temporary impacts to aquatic life may occur at or downstream from the proposed construction sites. Impacts to fisheries resources and other aquatic communities from in-stream trenching can be both direct and indirect. They will depend primarily upon the selected construction method, physical characteristics of the streams (e.g., presence of water and flow, substrate, channel configuration), and time of year. Of these characteristics, the presence of water with perceptible flow is assumed in the following discussion.

Direct impacts include the direct disturbance to bottom substrate (benthic zone) in the trench zone and associated disturbances to fish, and aquatic vegetation and invertebrates. Direct short-term effects of in-stream trenching can include physical distress to individual fish and displacement of fish through local disturbances and suspension of sediment in the water. Some in-stream and shoreline vegetative cover will be removed at water crossing locations. Submergent and emergent vegetation, in-stream logs and rocks, and undercut banks provide important cover for fish and other aquatic biota. Fish that normally reside in these areas may be displaced. However, this habitat alteration or loss will be reduced because of the relatively small area affected at each crossing location. In addition, bank restoration will include seeding to promote regrowth of riparian vegetation.

Indirect effects of in-stream trenching involve alteration of habitat and food resources. Increased sediment load can smother aquatic insects, mussels, and other life; negatively impact fish spawning areas; and damage fish gills (USFWS 2008). Elevated suspended sediment levels can increase turbidity and consequently reduce primary photosynthetic production, flocculate plankton, decrease visibility and food availability, and produce effects that are aesthetically displeasing (USFWS 1982). Other aquatic biota that may be affected include submergent and emergent macrophytes, phytoplankton, zooplankton, and benthic invertebrates. The effects of disturbances on these organisms (as food sources for larger fish) could include reductions in fish species abundance and diversity.

Potential fuel or other petroleum product spills during equipment refueling and servicing could affect aquatic biota or their habitat. However, such impacts are not likely for this Project, because refueling and servicing activities will be prohibited within a minimum of 100 feet of all intermittent and perennial streams. As stated in National Fuel's ESCAMP, any accidental spill or equipment malfunction resulting in a spill will be promptly

contained and properly cleaned up. Spill kits will be required for all construction crews as a standard operating procedure. Environmental Inspectors will inspect the construction areas to ensure that leaks or spills have not occurred at the stream crossings.

During operation, fisheries resources are unlikely to be impacted by maintenance mowing or manual removal of woody vegetation along the pipeline ROW. Vegetation control will be conducted solely by mechanical means; no herbicides will be used within 100 feet of a waterbody or wetland, except as allowed by the appropriate land management agency or state agency.

Water used for hydrostatic testing will be withdrawn from sources where the drawdown will have minimal impact on aquatic life, including fish, mussels, and invertebrates. When the source waters are identified, National Fuel will work closely with the agencies to ensure that the water is withdrawn at a time of year when flow is not at its lowest, or the drawdown will not affect the water system. Hydrostatic test water will not be directly disposed into a waterway. National Fuel will identify suitable upland plots of well vegetated land to discharge test waters.

National Fuel has developed the preferred crossing method for each waterbody crossed by the proposed Project and the permitting agencies will review the methods and discuss changes as necessary when applications are filed. Minimization of impacts to aquatic resources, including fisheries, is integral to method selection. Table 3-1 indicates the proposed crossing method for each of the waterbodies within the Project areas.

3.1.3.2 Waterbody Crossing Mitigation

For initial siting of the Project, National Fuel was prudent in situating potential worksites to avoid waterbodies in general, to the extent practicable for the Project. Additionally, when creating the mandatory Stormwater Pollution Prevention Plans (SWPPP), National Fuel will ensure that controls and barriers are used to prevent any direct discharge of water in the construction areas from reaching a waterbody. This is also required as per FERC's Procedures.

To the greatest extent practicable, the construction method utilized for each waterbody crossing will be compatible with the environmental sensitivity and physical characteristics of each waterbody. Generally, all streams that exhibit flow at the time of construction will be crossed using dry ditch construction methods (e.g., dam and pump, dam and flume, coffer/porta dam, HDD, or conventional bore). Proper waterbody construction and restoration procedures will serve to minimize the short-term water quality impacts associated with construction of the waterbody crossings. National Fuel will consult with and maintain communication with federal and state agencies throughout the planning, permitting, and construction process, as warranted. National Fuel will also follow the FERC's Procedures and the industry-standard Spill Prevention Control and Countermeasures Plan contained in its ESCAMP.

For siting extra work areas, a buffer of 50 feet (from top of bank) on both sides of a stream will be maintained. If an extra work area is required with less than 50-foot setback from the water's edge, National Fuel will file for FERC's approval of a site-specific exception request, with an explanation of the reasoning for such request. Construction equipment will not be parked or stored in the buffer area. No fuel storage, fuel transfer, oil change or hydraulic fluid additions shall occur within 100 feet of any waterbody.

The proposed construction procedures are designed to ensure that potential impacts at stream crossings are minimized to the maximum extent practicable. National Fuel would implement procedures and waterbody protection measures as outlined in FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (FERC's Plan) and FERC's Procedures, and incorporated in National Fuel's ESCAMP, to further minimize impacts to waterbodies crossed by the proposed Project.

None of the 208 streams that will be crossed by the ROW are classified as High Quality-Cold Water Fishes (HQ-CWF), Exceptional Value (EV), or are designated as supporting Migratory Fishes (MF) (Table 3-1). Forty-four (44) streams are classified as CWF. These waterbodies will be crossed in accordance with the time windows for construction designated by the PAFBC and PADEP. The PAFBC places timing restrictions for crossing or instream work on streams, or tributaries to streams with crossings or instream work less than 0.5 miles from the confluence, with designations: ATW and STS, from March 1 to June 15, and TNR from October 1 through December 31. National Fuel will follow seasonal crossing restrictions required for permit applications in each state. If necessary, National Fuel will apply for seasonal restriction waivers for features that have logistic difficulties with the imposed seasonal restrictions.

Marvin Creek (stream S132) is designated as ATW and was stocked with rainbow and brown trout in 2014. ATW classification also further restricts construction activities in or near these streams between March 1 and June 15 when applying for a General Permit 5 in this location.

To limit the time required for construction of a stream crossing, the ROW will be prepared on either side of the stream prior to the construction of the actual crossing. Where construction will be through wooded stream banks, care will be taken to only remove existing trees within the construction ROW. Pipeline crossings will be perpendicular to the stream, to the extent practical. If necessary, the pipe used for stream crossings and in floodplains will be weighted to prevent flotation. The pipe will be welded together outside of the stream crossing itself and the 50 foot buffer areas. A backhoe, clam dredge, or similar equipment will be used for trench excavation. When the trench is ready, the pipeline is then carried or floated into place. After the pipe is lowered into the trench, previously excavated material will be returned to the trench line for backfill. Stream flow will be maintained at all waterbody crossings, and no alteration of the stream's capacity is anticipated as a result of pipeline construction.

After the completion of construction, streambeds will be restored to their former elevations and grades. Spoil, debris, pilings, cofferdams, construction materials, and any other

obstructions resulting from or used during construction of the pipeline will be removed to prevent interference with normal water flow and use. Any excavated material not used as backfill will be disposed of in a manner and at locations satisfactory to the agencies having jurisdiction. Following grading, all stream banks will be restored to prevent subsequent erosion, in accordance with permit requirements.

As a rule, the completion of all in stream construction activities should not exceed 24 hours at minor stream crossings (less than 10 feet wide) and 48 hours at intermediate stream crossings (between 10 and 100 feet wide).

As part of the permitting process in each state, National Fuel will continue consultation with the regulatory agencies regarding all components of the Project, including invasive species management. If waterbodies are identified that contained invasive flora or fauna, and transport of these organisms needed to be contained, many options are available to avoid transport of the invasive species. Possibilities include washing equipment or using new construction materials (e.g. bridges, dams, matting) in identified areas.

3.2 VEGETATION

3.2.1 Existing Resources

Descriptions of the Ecoregions of the United States (United States Department of Agriculture [USDA] 1995) describes a hierarchical classification system for ecological units on a national and regional scale. Areas of the country are described as being within a specific Domain, Division, Province, Section, Subsection, and Landscape. The Project is within the Humid Temperate Domain, Warm Continental Division and is located between the source regions of polar continental air masses to the north and maritime or continental tropical air masses to the south; thus, it is subject to strong seasonal contrasts in temperature as these air masses push back and forth across the continent (USDA 1995).

The Project area occurs within the Laurentian Mixed Forest Province (USFS 2014) which lies between the boreal forest and the broadleaf deciduous forest zones and vegetation is therefore transitional. The result is a mixed hardwood forest with smaller coniferous components. The area has a mosaic of pure deciduous forest in favorable habitats with good soils and pure coniferous forest in less favorable habitats with poor soils (USFS 2014). Land use within the Project area consists of forest land, agricultural land, open land, and (to a much smaller extent) assorted developed (e.g., residential, commercial, and industrial) covertypes.

The following provides a brief description of the different cover types and associated plant species composition located within the proposed Project area. Information for this section was obtained during field surveys and from aerial photograph interpretation based on the Project maps.

The vast majority of the project parallels other existing cleared ROW, and as such, a significant portion of impacted vegetation is “open” vegetation – successional field,

meadow, maintained, or agricultural covertypes. Mixed-forest habitats (but primarily hardwood), from early to late successional stage, are found Project-wide typically in vast extents. Agricultural lands increase in occurrence at the northern side of the Project, as terrain flattens and soils transition to the more fertile lands of Erie County, New York.

Overall, the topography can be characterized by moderate to steep slopes throughout McKean, Cattaraugus, and Allegany counties, with many stream drainages and glacial till interspersed. Larger streams and wetland complexes are found in the gentle slopes of Erie County. The dominant cover type is a mixed deciduous hardwood and conifer forest.

Vegetative cover types traversed by the limits of disturbance for the Project area consist of forested areas (537.782 acres), agricultural areas (202.095 acres) open areas (e.g., existing ROW, meadows, emergent wetlands) (208,874 acres), and developed areas (24.492 acres). The totals for vegetative impacts are summarized in Table 3-3. Note for the Porterville Compressor Station Expansion, the entirety of the acreage is Open Land.

Table 3-3. Vegetation Affected by Construction and Operation ROW for the Project

Facility	Vegetation Type	Distance Traversed		Construction ROW (acres) ^a	New Permanent ROW (acres) ^b
		Feet	Miles		
Northern Access 2016 Mainline Pipeline and MLV Stations	Open Land ^d	127,906	24.22	208.874	173.270
	Forest	268,917	50.93	537.782	293.760
	Developed Areas ^e	11,871	2.25	24.492	19.340
	Shrub-covered Land	20,645	3.92	37.869	22.583
	Agricultural Areas ^f	86,256	16.34	202.095	99.390
Replacement Pipeline	Open Land	14,512	2.75	17.250	17.250
	Forest	130	0.03	2.743	2.743
	Developed Areas	1,512	0.29	3.156	3.156
	Shrub-covered Land	0	0	n/a	n/a
	Agricultural Areas	0	0	1.259	1.259
Pendleton Compressor Station	Open Land	n/a	n/a	n/a	n/a
	Forest			n/a	7.254
	Developed Areas			n/a	n/a
	Shrub-covered Land			n/a	n/a
	Agricultural Areas			n/a	32.591
Wheatfield Dehydration Facility	Open Land	n/a	n/a	n/a	2.218
	Forest			n/a	n/a
	Developed Areas			n/a	n/a
	Shrub-covered Land			n/a	n/a
	Agricultural Areas			n/a	n/a
M&R Stations, Interconnects, tie-ins	Open Land	n/a	n/a	10.400	1.856
	Forest			3.554	2.150
	Developed Areas			0.507	0.507
	Shrub-covered Land			n/a	n/a
	Agricultural Areas			0.397	n/a
PROJECT TOTAL				1,050.378	679.327
Notes: n/a = Not Applicable.					

Facility	Vegetation Type	Distance Traversed		Construction ROW (acres) ^a	New Permanent ROW (acres) ^b
		Feet	Miles		
a	Consists of the 25-foot-wide temporary ROW and all ATWS workspaces disturbed during construction				
b	Consists of only the 50-foot-wide new permanently maintained land for the mainline pipeline, dehydration facility, and compressor station				
d	Open land areas consist of meadows, old (fallow) fields, and emergent wetlands				
e	Developed areas consist of lands associated with existing roads, residential, and industrial/commercial use				
f	Agricultural areas consist of farmed crop lands, hay fields, pasture, orchards, and vineyards				

Forested areas consist primarily of larger tracts of upland forests dominated by mid-successional and mature hardwood species such as black cherry (*Prunus serotina*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), white ash (*Fraxinus americana*), striped maple (*Acer pensylvanicum*), yellow birch (*Betula alleghaniensis*), and American hornbeam (*Carpinus caroliniana*). Evergreen species include eastern hemlock (*Tsuga canadensis*), and occasionally, white pine (*Pinus strobus*). Dead tree snags of varying species and sizes were found standing throughout the area and represent an important wildlife habitat component. Some of the forested areas have been managed by professional foresters or landowners, but much of the forested area at the southern end of the Project is likely to be regenerative forest from mining practices in the early 20th century. In most of the areas that seem to be reclaimed, thick emerging brambles and multiflora rose is present among many hardwood saplings and whips.

Open areas of the Project area consist primarily of meadow or fallow field habitat in the existing pipeline and electric line ROW. These areas vary from generally level to rolling to steep slopes. Existing ROW is periodically mowed (exclusively along existing pipeline ROW) or treated with herbicides (possibly by third party electric utility operators). Dominant vegetation includes multiflora rose (*Rosa multiflora*), assorted brambles (*Rubus* spp.), clover (*Trifolium* spp.), goldenrod (*Solidago* spp.), orchardgrass (*Dactylis glomerata*), timothy (*Phleum pratense*), and Queen Anne's lace (*Daucus carota*). Dominant emergent wetland species includes sedges (*Carex* spp.), soft rush (*Juncus effusus*), arrowleaf tearthumb (*Persicaria sagittatum*), panicgrass (*Panicum* spp.), and jewelweed (*Impatiens capensis*).

Agricultural areas are generally located on flat or gently sloping terrain. The surveys completed in summer 2014 identified most active croplands were planted with corn or soybeans. Other agricultural areas are pastureland for cattle.

Developed areas consist of roads, railroads, parking lots, residential lawns, and commercial lawns. Generally, if vegetation is present at these areas, they are mowed and maintained grasses and forbs.

3.2.2 Invasive Species

Several invasive plant species were identified in the Project area during field surveys. These include multiflora rose, mugwort (*Artemisia vulgaris*), Japanese knotweed (*Polygonum cuspidatum*), Japanese honeysuckle (*Lonicera japonica*), reed canary grass (*Phalaris arundinacea*), autumn olive (*Elaeagnus umbellata*), and barberry (*Berberis thunbergii*). Field surveys were completed outside the flowering season for most of these invasive species, therefore it is likely there are other species present. Most of the populations of invasive species identified within the Project area are located at road crossings. If consultations with regulatory agencies require invasive species management, National Fuel will create an Invasive Species Management Plan (ISMP) as part of the ESCAMP in order to minimize any spread of invasive species during construction and operation of the Project, and will be filed with FERC after development. This includes the use of approved seed mixes as outlined in PADEP's Bureau of Oil and Gas Managements ESCAMP for Oil and Gas Operations.

National Fuel will adhere to FERC’s Plan and FERC’s Procedures to aid in minimization of spread of invasive species. The New York State Department of Environmental Conservation (NYSDEC) has authority under ECL Article 9, Title 17 to regulate the spread of invasive species wherever practical at project sites regulated by the state.

To reduce the immediate threat and minimize the long-term potential of degradation, the species included on the “Invasive Plants in Pennsylvania” list provided by PADCNR (DCNR 2015) will not be included in planting mixes in the overall Project area. Consultations are ongoing with all regulatory agencies involved with invasive species control and management. Title 7, Section 110.1 of Pennsylvania Code grants PADCNR jurisdiction over noxious weeds (PA Code, 1989). DCNR has no other legal authority over invasive species management.

As part of the permitting process in each state, National Fuel will be in consultation with the regulatory agencies regarding all components of the Project, including invasive species management. In the case that special protection is required in certain watersheds or wetlands, National Fuel will develop a plan to minimize the transport possibility of invasive species. This plan may include such options as using new construction materials (e.g. bridges, flumes, matting) in these areas or washing equipment before entering or leaving the area. At this time, regulatory agencies have not identified any invasive species issues in the Project area.

3.2.3 Vegetation Communities of Special Concern

Communities of special concern include sensitive or protected vegetation types, natural areas, and plant communities. Only the NYSDEC/NYNHP responded with any vegetation communities of special concern in a letter dated August 26, 2014. NYSDEC/NYNHP identified two “Inland Poor Fen” communities in the vicinity of the proposed Pipeline as well as a “silver maple-ash swamp”.

Based on field observations, and correspondence received from the contacted agencies, the Project will avoid both of the “inland poor fen” communities with the current design. The first is at the Brewers Corners Bog area, near MP 65. No wetlands or streams were found in this area during surveys. The second inland poor fen community, called the “Route 62 Railroad Swamp” is being crossed near MP 62, however, the fen is approximately 1,700 feet east of the proposed pipeline. The original reviewed area of the Project is approximately 0.2 miles east of the currently proposed alignment. Five wetlands (wetlands W18a, W19a, W56a, W57a, and W58a) and two streams (streams S42a and S43a) were identified during field surveys in the new Project survey area. The identified wetlands may share a hydrological connection to the fen of concern. In general, the five wetlands identified in the Route 62 Railroad Swamp area do not meet the characteristics of a fen, due to the shrub and forested vegetated covertypes. Additionally, the pipeline at the railroad crossing is located within an active agricultural field and disturbed open land types. Due to the distance, normal disturbance of the area, and relatively minor impacts in this area during construction of the Project, the fen of concern will not be subject to any direct

or indirect impacts. No additional protections are planned for construction through this area.

The last community type mentioned in the NYSDEC/NYNHP response letter was a “silver maple-ash swamp” at the Hemstreet Road wetlands. The Project crosses this area at MP 96.20. Field surveys did reveal a wetland (wetland W37b) in this area, though no silver maple (*Acer saccharinum*) or ash (*Fraxinus*) species were identified in the wetland sample plots. Red maple (*Acer rubrum*) was the dominant tree species.

Response from the USFWS PAFO did not identify any National Wildlife Refuges or management areas, designated critical habitat, or significant habitats within or near the Project area. Response from PADCNR and PAFBC did not indicate any significant habitats in the vicinity of the Project area. PAGC originally reviewed the pipeline with a 400-foot buffer, and that buffer intersected State Game Lands 301, but upon further detailed review and after minor route variation, the State Game Lands is no longer abutting or intersecting the Project.

3.2.4 Construction and Operation Impacts and Mitigation

Construction of the Project facilities will result in long-term, short-term, and permanent impacts to vegetation. Impacts to vegetation associated with construction include the removal of surface vegetation from construction workspaces. The ground surface will be graded to facilitate pipeline installation and to allow safe operation of equipment. During grading, the root systems of herbs, shrubs, and small trees will be disturbed. Larger trees will be cut and their stumps left in place in wetlands, unless stumps are in the trench-line or constitute a hazard for the safe operation of equipment. In upland habitat, the tree stumps will be removed and stacked along the ROW, buried or disposed off-site, depending on landowner requests.

Abiotic edge effects along newly created ROWs in forested areas include increases in soil temperature and photosynthetically active radiation. Changes in light and temperature regimes may influence the species profile of plant communities within and adjacent to the ROW. Vegetation removal can also increase wind and water erosion of exposed soil. National Fuel will minimize soil erosion by adhering to industry standard construction BMPs, as well as the guidance provided in FERC’s Plan and FERC’s Procedures. All of the standards are included in National Fuel’s ESCAMP.

Most impacts to vegetation are expected to be minor and short-term. In open areas with herbaceous cover, recolonization of disturbed ground by annual and perennial species is characteristically rapid and occurs within one growing season. As part of the Project-specific erosion and sediment control plans prepared for permit applications (including SWPPP), National Fuel will develop restoration and revegetation plans that will provide specifications for appropriate seed mixes. These plans will be developed in early 2015 and submitted to FERC for review after necessary surveys are completed. They will include measures to prevent the introduction of nuisance, exotic, or invasive plant species and conducted in accordance with the revegetation guidelines provided in FERC’s Plan and

FERC's Procedures. National Fuel will also evaluate the PAGC requested seed mixtures for migratory birds when revegetating.

Clearing of woody shrubs and trees will have longer-term impacts because shrubs and trees take more time to re-establish than herbaceous vegetation. During recolonization, a shrub or tree-dominated community will evolve through several successional stages before assuming its preconstruction profile. Woody shrubs and trees will be allowed to revegetate in the temporary construction ROW and additional temporary workspace (ATWS) areas, but the permanent pipeline ROW corridor will be maintained in an herbaceous state, in accordance with the FERC's Plan and FERC's Procedures, to facilitate access, accommodate underground utilities in shared ROW, and comply with the safety requirements of 49 Code of Federal Regulations Part 192 - Transportation of Natural Gas and Other Gas by Pipeline.

Comments from the NYSDEC received during the scoping period identified forest fragmentation as an item of concern. The currently proposed alignment of the Mainline Pipeline is co-located, or located parallel to existing ROWs for approximately 79.65 miles of the 96.65 proposed miles (82%). Forest fragmentation has been minimized throughout the vast majority of the Project during siting of the Mainline Pipeline. Permanent ROW will be minimized to the extent practicable and all forested areas cleared for temporary construction will be allowed to revert to forested cover. Instead of fragmenting core forests, construction of the Project will expand current openings and create additional edge habitat for a variety of species, including many species of migratory songbirds.

Permanent impacts to vegetation will result from the new, permanent access roads, dehydration facility, MLVs, and compressor station. National Fuel will minimize permanent impacts through the design of its final restoration plans for above ground facilities and use of existing access roads where possible.

Table 3-3 shows the acreage of clearing required for each vegetation cover type (open land, forest, developed areas, shrub-covered land, and agricultural areas) within the proposed Project areas. A total of approximately 610.07 acres of vegetation is located within the new permanent ROW (i.e., located within the 50 feet of new permanent ROW). This includes approximately 293.760 acres of forest, 173.27 acres of open land, 22.583 acres of shrub-covered land, 19.34 acres of developed land, and 99.390 acres of agricultural areas. Acreage of wetland vegetation affected is provided separately in Resource Report 2 (Section 2.3.1, Table 2-8).

In agricultural land, topsoil will be segregated from underlying subsoil, stored separately along the ROW during construction, then replaced following installation of the pipeline. Impacts on agricultural vegetation from soil compaction will be minimized by testing for compaction, and if necessary, mitigating severely compacted soils by decompacting with deep tillage equipment. In pastureland, National Fuel will develop grazing deferment plans with willing landowners, if necessary, to minimize grazing disturbance of revegetation efforts. National Fuel's ESCAMP incorporates the provisions recommended by the New York State Department of Agriculture and Markets (NYSDAM) in "Pipeline ROW

Construction Projects, Agricultural Mitigation Through the Stages of Project Planning, Construction/Restoration, and Follow-Up Monitoring” (NYS DAM 2011).

Once the pipeline is installed and operational, mechanical methods will be used in upland areas to keep the permanent ROW clear of excessive woody vegetation in accordance with FERC’s Plan. Routine vegetation maintenance clearing (i.e. mowing) over the full width of the permanent ROW in uplands shall not be completed more frequently than every 3 years. However, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot-wide corridor in an herbaceous state.

3.3 WILDLIFE RESOURCES

Game and non-game wildlife species are regulated and protected under various federal legislation, including the Fish and Wildlife Conservation Act of 1980 (16 U.S.C. §§ 2901-2911), and the Fish and Wildlife Coordination Act of 1958 (16 U.S.C. § 661 et seq.). The Project will also be reviewed under Pennsylvania state programs by PAD CNR, PAFBC, PAGC, and under New York State programs by NYS DEC/NYNHP.

This section identifies and discusses the various wildlife species commonly associated with the vegetative cover types (identified in Section 3.2.1) including upland forest, open land, developed lands, and the aquatic areas within those cover type. It also identifies unique or significant habitats such as state game lands, wildlife refuges, and wildlife management areas.

3.3.1 Existing Resources

Wildlife species require adequate food, water, cover, and living space for the survival of individuals and maintenance of population viability. Significant wildlife habitats typically include state game refuges, wildlife management areas, National Wildlife Refuges, and other unique or sensitive areas. The various habitats within the Project area support a variety of mammals, birds, reptiles, amphibians, and invertebrates as described below.

National Fuel submitted letters on June 19, 2014, requesting information on unique communities and other natural landscape features that may be directly or indirectly impacted by the construction and operation of this Project to PAFBC, PAD CNR, PAGC, NYS DEC, and NYNHP. Similar request letters were submitted to USFWS PAFO and NYFO on August 22, 2014. In addition, National Fuel will submit a project specific habitat assessment report to FERC, USFWS PAFO, and NYFO in 2015.

Mammals

Wildlife habitats within the mainline pipeline survey area consist primarily of open land and forest. Developed, agricultural, and residential areas are also located within the Project area. Tracts of mid-successional and mature upland forests are distributed across varying terrain. Wetland and stream habitats are also located throughout the pipeline ROW, and

are described in more detail in Resource Report 2. Three wetland types were identified within the Project ROW, including palustrine scrub-shrub, palustrine emergent, and palustrine forested. Perennial, intermittent, and ephemeral streams are located in the pipeline ROW, as well as some dry ditches excavated by farmers or road crews.

Tree snags of varying diameter and species are commonly found throughout the forested habitat, a mostly northern hardwood forest community, which provides habitat and sources of food for a variety of wildlife, such as birds and bats. Mammal species, or their sign (e.g. scat, tracks, trails), observed in the Project area during field surveys include white-tailed deer (*Odocoileus virginianus*), American black bear (*Ursus americanus*), porcupine (*Erethizon dorsatum*), eastern chipmunk (*Tamias striatus*), groundhog (*Marmota monax*), cottontail rabbit (*Sylvilagus floridanus*), mouse (*Peromyscus* sp.), wild turkey (*Meleagris gallopavo*), and grey squirrel (*Sciurus carolinensis*).

Many species of wildlife thrive in northern hardwood forests. Other common mammalian species likely to occur within the forested habitat include raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), striped skunks (*Mephitis mephitis*), coyote (*Canis latrans*), northern short-tailed shrew (*Blarina brevicauda*), and several rodent species, including white-footed mouse (*Peromyscus leucopus*). Other mammal species that may occur throughout specific habitats of the Project include meadow vole (*Microtus pennsylvanicus*) (grasslands and meadows), fisher (*Martes pennanti*) (forest interiors), and muskrats (*Ondatra zibethicus*) (wetlands and streams).

Bats are common throughout the forested habitats the northeast, including all counties within the Project area, and are most often observed during the summer months foraging over open areas, especially existing ROWs. Several species of bats that occur throughout the Project, including small-footed myotis (*Myotis leibii*), little brown bat (*Myotis lucifugus*), big brown bat (*Eptesicus fuscus*), and eastern red bat (*Lasiurus borealis*). Some caves and mines exist near the Project, but no known hibernaculas will be affected.

The Pennsylvania Biological Survey, Mammal Technical Committee works with several biological, conservation, and sportsmen organizations to identify important mammal habitats throughout the state as part of the Important Mammal Areas Project (IMAP). The primary objective of IMAP is to help ensure the survival of Pennsylvania's wild mammals, both game and non-game species. Priority sites are those that contain federal and state species of special concern; however IMAP is also interested in identification of habitats that have high mammalian diversity, or those that offer exceptional educational value. The Project is not located within any conservation area identified in IMAP (PAGC 2013).

Birds

Based on the Project area habitat types and incidental bird observations recorded during 2014 field surveys, species of birds that are protected by the Migratory Bird Treaty Act of 1918 (MBTA) (16 United States Code §703-712) occur, or are likely to occur in Project areas. No breeding bird surveys have been completed at this time. USFWS PAFO and PAGC have requested that where feasible, National Fuel minimize impacts to breeding

bird habitats and during the breeding season. Details of these recommendations are available in agency response letters in Attachment 3-B.

Additionally, desktop review of the Audubon's Important Bird Areas of Pennsylvania and New York indicated that the project would pass through a portion of the Allegheny Forest Tract along the Pennsylvania/New York border (National Audubon Society 2013). The Allegheny Forest Tract is a globally recognized 195,008 acre area comprised of the Allegheny State Park and extensive surrounding forested lands. Approximately 95% of the site is forest habitat, with much of the remainder being open water (Allegheny Reservoir) (National Audubon Society 2013).

During preliminary review of species impacted by the Project, the Information, Planning, and Conservation (IPaC) application on the USFWS website was used to plan for any MBTA issues. Eight species were identified across the Project and are listed in Table 3-4.

Table 3-4. Migratory Birds Species of Concern in the Project Area and Their Typical Breeding Habitat

Common Name	Scientific Name	General Breeding Habitat (Nesting and Foraging)	Counties ^a
Black tern	<i>Chilidonias niger</i>	Shallow freshwater marshes with emergent vegetation, including prairie sloughs, margins of lakes, and occasionally river or island edges.	AL, CA, ER, NI
Canada warbler	<i>Wilsonia canadensis</i>	Wide range of deciduous and coniferous forests; most abundant in moist, mixed coniferous-deciduous forests with a well-developed understory.	AL, CA, ER, MC, NI
Cerulean warbler	<i>Dendroica cerulea</i>	Mature forests with tall, large trees of broad-leaved deciduous species.	AL, CA, ER, MC, NI
Common tern	<i>Sterna hirundo</i>	Near open water. Islands, barrier beaches, saltwater marshes, and freshwater marshes. Prefers sites with sand, gravel, shell or cobble substrates with scattered vegetation.	AL, CA, ER, NI
Golden-winged warbler	<i>Vermivora chrysoptera</i>	Areas with dense herbaceous cover and patches of shrubs, often adjacent to forest edges.	AL, CA, ER, MC, NI
Least bittern	<i>Ixobrychus exilis</i>	Freshwater and brackish marshes with dense, tall aquatic or semiaquatic vegetation interspersed with clumps of woody vegetation and open water.	AL, CA, ER, MC, NI
Wood thrush	<i>Hylocichla mustelina</i>	Interior and edges of deciduous and mixed forests, generally in cool, moist sites, often near water. Requires dense to moderate understory and shrub density with a lot of shade.	AL, CA, ER, MC, NI
Worm-eating warbler	<i>Helmitheros vermivorum</i>	Mature deciduous or mixed deciduous-coniferous forest with patches of dense understory, usually on steep hillside.	MC
^a MC – McKean County, Pennsylvania AL – Allegany County, New York CA – Cattaraugus County, New York ER – Erie County, New York NI – Niagara County, New York Data from IPaC module, USFWS 2014.			

Although the bald eagle was federally delisted in 2007, federal protection of this species is afforded by the Bald and Golden Eagle Protection Act (16 United States Code §§ 668-668c) (USFWS 2012a). It is known to occur in McKean County (as per response letter from USFWS PAFO) and is a state listed threatened species in New York and has been delisted in Pennsylvania (NYSDEC 2014a, PNHP 2014). USFWS PAFO reported a known nest near the Potato Creek crossing (stream S62a). This nest is approximately 3,000 feet from the Project area. The National Bald Eagle Management Guidelines provided by the USFWS provides if Project activities are less than 660 feet away and in the viewshed of nests, that construction timing restrictions are recommended. Since the Project ROW is greater than 660 feet away and activities are outside of the viewshed of the nest, National Fuel believes no special measures are necessary to protect the bald eagle nest. The signed USFWS Bald Eagle Project Screening Form is provided in Attachment 3-B. In various correspondences with the NYSDEC and USFWS-NYFO, no mention has been made of the possibility of bald eagles in the area (*Haliaeetus leucocephalus*) and they have not been identified as a species of concern.

PAGC is the only agency that provided any comments regarding songbirds (order Passeriformes). Although they did not mention any bird species by name, the species of concern are “area sensitive” special that require large expanses of relatively unfragmented habitat. In McKean County, some bird species in forest interior habitats include, but are not limited to, a variety of neo-tropical migrant landbirds including wood warblers (subfamily Parulinae), vireos (*Vireo* spp.), thrushes (family Turdidae), tanagers (family Thraupidae), and flycatchers (family Tyrannidae). Neo-tropical migrant landbirds breed in temperate North America and spend the non-breeding season primarily in South and Central America, the Caribbean Islands, and extreme southern sections of the United States. Forest interior habitat is defined as unbroken forest at least 200–300 feet from habitat edges and usually is related to size of a patch of forests (large patch size, more forest interior). Migrant birds that inhabit forest interior habitats usually avoid forest edges during nesting, and usually avoid nesting in smaller fragmented landscapes. When designing final construction schedules and developing the restoration and revegetation plans, National Fuel will evaluate and consider the recommendations present within the PAGC letter to minimize the Project’s impacts on migratory birds. During consultations with regulatory agencies and the permitting processes, clearing windows will likely be recommended for several species, as well as windows on stream and wetland crossings. National Fuel is waiting for further consultation and results for species surveys before committing to seasonal restrictions for clearing.

The following forest interior bird species occur in McKean County within large contiguous and diverse forests and wetlands habitats, with little fragmentation. Several of these species have been identified by the Partners in Flight (PIF) program as migratory species of concern due to documented declines in their populations. Although these species are not currently listed as threatened or endangered at the federal or state level, they are the subject of conservation and management actions that have been designed to prevent such listings. The following forest interior bird species are known to occur in McKean County and have been identified by PIF as species of conservation and management concern (PNHP 2008).

- Canada warbler (*Wilsonia canadensis*);
- Cerulean warbler (*Dendroica cerulea*);
- Golden-winged warbler (*Vermivora chrysoptera*);
- Louisiana waterthrush (*Oporornis formosus*);
- Olive-sided flycatcher (*Contopus cooperi*);
- Wood thrush (*Hylocichla mustelina*); and,
- Worm-eating warbler (*Helmitheros vermivorus*).

Reptiles and Amphibians

Amphibians observed in the Project area during field surveys include the blue-spotted salamander (*Ambystoma laterale*), spotted salamander (*Ambystoma maculatum*), eastern hellbender (*Cryptobranchus alleghaniensis*), Allegheny mountain dusky salamander (*Desmognathus ochrophaeus*), northern spring salamander (*Gyrinophilus porphyriticus*), mudpuppy (*Necturus maculosus*), red-spotted newt (*Notophthalmus viridescens*), eastern red-backed salamander (*Plethodon cinereus*), American toad (*Anaxyrus americanus*), green frog (*Lithobates clamitans*), northern leopard frog (*Lithobates pipiens*), spring peeper (*Pseudocris crucifer*), wood frog (*Lithobates sylvaticus*), and eastern garter snake (*Thamnophis sirtalis*) (Ruhe and Fiegel, 2014). Many of the above species are also expected to occur within the New York section of the Project.

American bullfrog (*Lithobates catesbeianus*), gray treefrog (*Hyla versicolor*) and pickerel frog (*Lithobates palustris*), and northern leopard frog (*Rana pipiens*) are also likely to occur throughout the New York section of the Project.

Painted turtle (*Chrysemys picta*), common snapping turtle (*Chelydra serpentina*), and wood turtle (*Glyptemys insculpta*) are the only turtle species expected within the Project area.

Northern water snake (*Nerodia sipedon*) can be expected in the New York section of the Project, and can be found hunting for amphibians and small fish along and within open waterways.

3.3.2 Wildlife Resources of Special Concern

Wildlife resources of special concern include significant or sensitive habitats that provide breeding, rearing, nesting or calving areas, migration routes, or overwintering cover or forage areas. These may include state game lands, designated wildlife management areas, scenic rivers, or National Wildlife Refuges. Based on review of available natural resources data no wildlife resources of special concern were identified within the Project area or vicinity. To confirm this, National Fuel submitted letters to PAFBC, PADCNR, PAGC, NYNHP and NYSDEC on June 19, 2014 requesting information on unique communities that may occur within the Project area. National Fuel also submitted a letter to the USFWS PAFO and NYFO on August 22, 2014 requesting assistance in identifying any National Wildlife Refuges/management areas, significant habitats, and other natural landscape features that may be directly or indirectly impacted by the construction and operation of

this Project. Responses have been received from PAFBC, PADCNr, NYSDEC/NYNHP, USFWS PAFO, and informal communications with NYFO did not identify any wildlife resources of special concern for the Project Area (Appendix 3-B). The response from PAGC identified that the review area (400-foot buffer) crossed PA State Game Lands 301, however, review of the more detailed and refined limits of disturbance, and after minor route revision, the Project does not cross that property.

3.3.3 Construction and Operation Impacts and Mitigation

The total acreage of impacts to wildlife habitats (vegetation cover types) is presented in Table 3-3. In general, construction of the Project will have minor, short-term, long-term, and permanent impacts on habitat, resulting in localized impacts to wildlife populations. During construction, the clearing and grading of the pipeline ROW and aboveground facility sites will result in a loss of vegetative cover and could result in some mortality to less mobile wildlife that are unable to avoid construction equipment/machinery (e.g., small rodents, reptiles, and amphibians).

Construction activities will temporarily displace more mobile wildlife species from the construction workspace and adjacent areas due to increased human activity and noise levels. Following construction, wildlife species are expected to resume their normal habits consistent with the availability of post-construction habitats.

National Fuel will adhere to the construction and mitigation methods identified in FERC's Plan and FERC's Procedures, which are incorporated into National Fuel's ESCAMP. National Fuel will restore vegetative cover, stabilize wetland and stream crossings and use site-specific procedures for constructing through sensitive habitats. Woodland vegetation removed from the temporary workspace and additional temporary workspace (ATWS) areas will be replaced initially by non-woody vegetation that may provide food and shelter for wildlife adapted to open habitats. Trees will be allowed to grow back on cleared workspace beyond the permanent pipeline ROW. After construction, wildlife is expected to return and colonize post-construction habitats.

Approximately 82% of National Fuel's proposed Mainline Pipeline ROW parallels existing ROW for other utilities; therefore, impacts to forest habitat will typically be limited to the new 50-foot wide ROW expansion area located adjacent to the existing cleared ROW. National Fuel anticipates that species diversity will remain near pre-construction conditions following restoration of the pipeline ROW.

The greatest risks for impacts to migratory birds from the proposed Project are associated with loss of forest and shrub habitat resulting from clearing in permanent and temporary workspaces, and risk to ground nesting species due to construction activity. Direct effects due to construction activities include destruction of nests and eggs, mortality of young, loss of habitat, and construction-related disturbance causing reduced nest attendance and foraging time of adults. Indirect effects include reduced nest success due to reduced nest attendance and foraging time, noise and construction activity disturbance causing fleeing behavior resulting in increased vulnerability to predators, and reduction of interior forest habitat area causing increased vulnerability and habitat unsuitability for interior forest

dependent species. Cumulative effects include loss of habitat alteration on a landscape scale potentially affecting local bird populations.

To support compliance with the MBTA, the USFWS has standard recommendations for projects to minimize impacts to birds protected by the MBTA. The recommendation most important to Project logistical planning for construction involves a seasonal restriction for construction and ROW maintenance: “Clearing or mowing of natural or semi-natural habitats such as forests, woodlots, reverting fields, fencerows, and shrubby areas should be conducted between September 1 and March 31,” which is outside the nesting season for most native bird species. This recommendation for “winter clearing” is intended to avoid take of most breeding birds, their nests, and their young (i.e., eggs, hatchlings). National Fuel will consider and implement this measure where feasible. However, in certain areas and circumstances, National Fuel advises that there are safety concerns related to conducting clearing activities in winter in this region, especially on particularly steep slopes in snowy/icy conditions. National Fuel will work with the USFWS to determine the prudent and necessary seasonal timing restrictions along the proposed Project as it coordinates with USFWS regarding the MBTA

Stream crossings will be completed as quickly as possible and stream habitats restored upon completion of construction. National Fuel will use construction procedures consistent with its ESCAMP (see Resource Report 1, Appendix 1-H) to minimize sedimentation, turbidity, and other impacts that may temporarily affect stream vegetation and wildlife.

National Fuel will continue to work with local, state, and federal agencies, landowners, and soil conservation authorities to ensure that construction and mitigation procedures are compatible with both site-specific and regional environmental protection objectives.

Construction and operation procedures will accommodate general and site specific protective measures for any significant and/or sensitive wildlife habitat identified during the course of constructing and operating the Project. Seasonal timing to account for reproductive and migratory patterns will be coordinated with state and federal agencies, as necessary.

3.4 ENDANGERED AND THREATENED SPECIES

The Endangered Species Act of 1973 (16 U.S.C §§ 1531-1543, P.L. 93-205) establishes legal protection for fish, wildlife, plants, and invertebrates that are federally-listed as endangered or threatened. National Fuel consulted with federal and state agencies regarding the potential occurrence of endangered, threatened, and rare species that may be affected by the Project. Copies of agency correspondence are provided in Appendix 3-B. In Pennsylvania, Chapter 75 (§ 75.1-4) of the Pennsylvania Code identifies and establishes protection for the state-listed endangered, threatened, or candidate species of the state. In New York, Environmental Conservation Law, § 11-0535 grants authority to Section 182, which identifies, classifies, manages threatened and endangered species in the animal kingdom. Federally-listed and state-listed species identified by agencies that may

potentially be affected by the Project are listed in Table 3-5 and are discussed in Sections 3.4.1.1 and 3.4.1.2, respectively.

3.4.1 Existing Resources

Based on agency correspondence and background research, federally-listed and/or state-listed wildlife and plants may occur in or near the Project area. The potential occurrence of high quality habitat along the proposed Project was investigated concurrently with National Fuel’s various field surveys conducted within the Project area in June through October, 2014. Overall habitat observations and documentation of vegetation communities and wildlife was conducted, with specific attention given to the presence of potential habitat for northern longear (=myotis) bat (*Myotis septentrionalis*), which is known to occur throughout the Project region. Northern longear bat is a candidate for federal listing.

Table 3-5. Endangered, Threatened, and Rare Species Potentially Affected by the Project

Species		Status ^a		Agency ^b
Common Name	Scientific Name	Federal	State	
Mammals				
Northern longear (=myotis)	<i>Myotis septentrionalis</i>	PE	SC	PADCNR, USFWS-NY/PA
Northern water shrew	<i>Sorex palustris albibarbis</i>	NL	N	PAGC
Birds				
Northern harrier	<i>Circus cyaneus</i>	NL	ST	NYSDEC/NYNHP
Bald eagle	<i>Haliaeetus leucocephalus</i>	D	N	USFWS-PA
Reptiles & Amphibians				
Blue-spotted salamander	<i>Ambystoma laterale</i>	NL	SE	PAFBC
Hellbender	<i>Cryptobranchus alleganiensis</i>	NL	SC	NYSDEC/NYNHP
Fish				
Burbot	<i>Lota lota</i>	NL	SE	PAFBC
Ohio lamprey	<i>Ichthyomuson bdellium</i>	NL	C/N	PAFBC, NYSDDEC/NYNHP
Silver shiner	<i>Notropis photogenis</i>	NL	N	NYSDEC/NYNHP
Aquatic Invertebrates				
Creek heelsplitter	<i>Lasmigona compressa</i>	NL	R	PAFBC
Round pigtoe	<i>Pleurobema sintoxia</i>	NL	R	PAFBC
Elktoe	<i>Alasmidonta marginata</i>	NL	R	PAFBC
Wavy-rayed lampmussel	<i>Lampsilis faciola</i>	NL	R	PAFBC
Rayed bean	<i>Villosa fabalis</i>	E	SE	NYSDEC/NYNHP
Pocketbook	<i>Lampsilis ovata</i>	NL	N	NYSDEC/NYNHP
Clubshell ^c	<i>Pleurobema clava</i>	E	NL	USFWS
Plants				
Stalked bulrush	<i>Scirpus pedicellatus</i>	NL	ST	PADCNR

Species		Status ^a		Agency ^b
Common Name	Scientific Name	Federal	State	
Queen of the prairie	<i>Filipendula rubra</i>	NL	N	PADCNR
Creeping sedge	<i>Carex chordorrhiza</i>	NL	ST	NYSDEC/NYNHP
False-hop sedge	<i>Carex lupuliformis</i>	NL	ST	NYSDEC/NYNHP
Schweinitz's sedge	<i>Carex schweinitzii</i>	NL	ST	NYSDEC/NYNHP
Notes:				
^a Listing status C = candidate rare (Pennsylvania) D = Delisted, protected under Bald and Golden Eagle Protection Act E = Endangered N = no current legal status; species under review for future listing NL = not listed PE = Proposed Endangered R = Pennsylvania rare SC = Special Concern SE = state-listed endangered ST = state-listed threatened				
^b = Identified in agency reviews and/or response letters: NYSDEC/NYNHP = New York State Department of Environmental Conservation and New York Natural Heritage Program PADCNR = Pennsylvania Department of Conservation and Natural Resources PAFBC = Pennsylvania Fish & Boat Commission PAGC = Pennsylvania Game Commission USFWS = United States Fish and Wildlife Service				
^c = Identified in informal agency phone conversation				

Both direct evidence (actual observations) and indirect evidence (e.g., burrows, scats, tracks) of wildlife were recorded during the initial field surveys. No threatened or endangered species were observed during the wetland delineation or general habitat surveys. No unique or exemplary natural communities that may support listed species were observed within or near the Project area.

Based on agency correspondence and the plant community and wildlife habitat information collected during the field surveys, surveys to determine the presence/absence of northern longear bat, blue-spotted salamander, mussels, and plants, surveys were recommended. Northern longear bat and Queen-of-the-prairie surveys began in summer 2014; these will resume and be completed in early summer 2015. Stalked bulrush, burbot, and blue-spotted salamander surveys were completed in fall of 2014. National Fuel will conduct mussel surveys on required streams in the spring of 2015, as well as any required plant surveys in New York.

3.4.1.1 Federally-Listed Species

National Fuel submitted Project specific introduction letters to the USFWS PAFO and NYFO on August 22, 2014, requesting identification of any federally-listed threatened, endangered, or other species of concern, National Wildlife Refuges/management areas,

significant habitats, and other natural landscape features that may be directly or indirectly impacted by construction and operation of the Project. The response letter from the PAFO identified the Project is within the range of one species proposed to be federally listed: northern longear bat. The USFWS PAFO response letter also identified the potential for the Project to impact birds protected under the MBTA and a bald eagle nest adjacent to the Project area. No other federally-listed species or designated significant habitat was identified by the USFWS PAFO for the Project (Appendix 3-B). Informal communications with NYFO resulted in identification of Project crossings of known habitats for two species of protected mussels: clubshell (*Pleurobema clava*) and rayed bean (*Villosa fabalis*). NYFO requested National Fuel to indicate its proposed crossing methods at three streams before issuing a formal response letter. National Fuel has supplied NYFO with that information and is waiting for the formal response and recommendations.

Northern Longear Bat

The northern longear is listed as a Pennsylvania species of special concern (PNHP 2014), and is considered a responsibility concern mammal species in the Pennsylvania Wildlife Action Plan (PAGC and PFBC 2005). It occurs in a widespread but uncommon pattern in forest habitat throughout most of its range, including Pennsylvania and New York, but has been found in relatively low numbers. National Fuel documented northern longear bats in McKean County during mist net surveys that took place in summer 2014. It was also confirmed in Cattaraugus County and Erie County using acoustic methods. Follow up mist net surveys at positive acoustic sites in New York are planned for early summer 2015. NYSDEC/NYNHP or USFWS-NYFO have discussed the existence of hibernacula within the Project area. The Akron mines (abandoned gypsum mines) is the only known hibernacula within the Project Counties, and is located approximately 15 miles north-northeast of the Mainline Pipeline terminus, near the towns of Clarence and Newstead, NY.

The northern longear spends the winter hibernating in caves and underground mines of the state and individuals may travel up to 35 miles from their summer habitat for hibernation. During the summer, it uses almost any forested habitat including adjacent open areas for foraging, and spends the day roosting in natural cavities and hollow trees (PNHP 2008). This species tends to be more opportunistic for roosting areas than many other bats. Summer roost habitat, including maternity roosts, includes tree cavities and exfoliating bark/snags in mature deciduous/mixed forests and also human structures (PGC and PFBC 2005). Northern longear forage at night over small ponds, in forest clearings, at tree top level and along forest edges in search of night-flying insects including caddisflies, moths, beetles, flies, and leafhoppers.

As the summer habitats for northern longear has not been well-defined by scientific research, most any forested areas will serve as foraging and roosting habitat. The species can forage over waterbodies (streams and pond features) as well as under canopy and along forest edges. Potential habitat for this species is present Project wide. There are no known winter habitats (hibernacula) in the vicinity of the Project area.

USFWS revealed in news releases in June 2014 that the northern long-ear would likely be listed threatened or endangered throughout the species range during the initial construction

and survey period for the Project. National Fuel began presence/absence surveys using the 2007 Indiana bat (*Myotis sodalis*) survey methods (USFWS 2007) as a guideline, Northern Long-eared Bat Interim Conference and Planning Guidance (USFWS 2014), and substantial communication with both PAFO and NYFO.

National Fuel completed almost the entirety of acoustic sites planned in New York, and approximately half of the mist net sites planned for Pennsylvania. Follow up acoustic surveys for sites in New York that had technical difficulties will be completed in early summer 2015. Mist net surveys to complete all sites in Pennsylvania and sample all northern longear-positive acoustic sites in New York will be completed in early summer 2015. Any additional sampling surveys required at that time (due to pipeline relocation and survey requirements) will also be surveyed at that time.

Preliminary results of the mist net surveys in Pennsylvania identified eight sites that captured the northern longear, between MP 3.40 and 14.70. As a result of those captures, seven bats were radiotracked to their roost every day until the transmitter failed. One of the identified 35 roost trees is within the additional temporary workspace planned for construction of the Project. National Fuel is reviewing the workspace to assess the need to clear that area.

Preliminary results of the acoustic sites in New York identified less than 10 northern longear bat positive sites, although approximately 15 sites are *Myotis* spp. positive. It is unlikely that these *Myotis* calls are northern longear, however, because the pulses known by the species are generally easy to identify. Approximately seven sites will need to be resampled in summer 2015 due to temperatures dropping below the level necessary for surveys or malfunctioning equipment.

Potential foraging habitat exists Project-wide for this species, although roosting habitat is only present in the forested areas. A full documentation of habitat use is not available at this time and will be available after surveys are finished and reports are compiled. Full reports on the species survey will be submitted to NYFO, PAFO, and PAGC upon completion of surveys. This is anticipated in mid- to late 2015.

Freshwater Mussels

The rayed bean and clubshell are both federally endangered mussels.

Rayed bean (*Villosa fabalis*): The rayed bean is a small mussel, usually less than 1.5 inches long. Generally, it is found in smaller, headwater creeks, but is sometimes found in large rivers and wave-washed areas of glacial lakes. The rayed bean prefers gravel or sand substrates, and is often found in and around roots of aquatic vegetation. Adults spend their entire lives partially or completely buried in substrate (USFWS 2012b).

Clubshell (*Pleurobema calva*): The clubshell mussel prefers clean, loose sand and gravel in medium to small rivers and streams. This mussel will bury itself in the bottom substrate to depths of up to four inches (USFWS 2013).

The range for both of these mussel species covers only the Cattaraugus County, New York portion of the pipeline (USFWS 2012b, 2013). Any perennial stream within that area, with suitable substrates and other habitat requirements, could potentially support the species.

3.4.1.2 State-Listed Species

National Fuel submitted letters on June 19, 2014, to the PADCNR, PAFBC, PAGC, NYNHP, and NYSDEC requesting assistance in identifying any state-listed threatened, endangered, or other species of concern, state wildlife refuges/management areas, significant habitats, and other natural landscape features that may be directly or indirectly impacted by the proposed activity. An August 26, 2014 response from NYSDEC/NYNHP identified several species of concern or significant wildlife habitat that would be impacted by the proposed Project (Table 3-5).

PADCNR provided a response on July 17, 2014, which identified one state-listed plant species (stalked bulrush – *Scirpus pedicellatus*) with the potential to be impacted by the proposed Project. PADCNR also identified queen-of-the-prairie (*Filipendula rubra*), which is a species of concern in Pennsylvania; this species does not have any current legal status and is currently under review for future listing. National Fuel completed field surveys for stalked bulrush in the survey area in late summer 2014. The species was identified in three areas near the Allegheny River crossing (S32a), between approximate MPs 18 and 19. The Carnegie Museum of Natural History positively verified the voucher specimens from this survey as stalked bulrush. National Fuel will submit a full botanical report to PADCNR in late 2014 or early 2015. Due to access restrictions, approximately half of the survey area for Queen-of-the-prairie was investigated. National Fuel plans to complete surveys for this species in summer 2015 as a voluntary action.

PAFBC provided a Species Impact Review (SIR) for the proposed Project on August 5, 2014 and identified the PA-endangered blue-spotted salamander and burbot (*Lota lota*). PAFBC also mentioned several rare and protected freshwater mussel species that could be impacted, and the candidate Ohio lamprey (*Ichthyomyso bdellium*) (Appendix 3-B). To complete the Project SIR, PAFBC requested National Fuel conduct a presence/absence survey for the blue spotted salamander and the burbot, and requested additional Project waterbody information to complete their assessment of potential impacts to rare and protected freshwater mussel species. National Fuel submitted a habitat assessment for mussels at certain streams in November 2014, and will submit survey reports for both the burbot survey (completed in November 2014) and the blue-spotted salamander survey (completed in October 2014), as well as a data response to PAFBC in early 2015.

PAGC provided an impacted response that listed no threatened or endangered species were identified in the Project review. PAGC however, did list two species of concern, including the northern longear bat and the northern water shrew. The northern longear bat is a candidate for federal listing; this species is discussed in Section 3.4.1.1.

The remainder of this subsection describes each threatened/endangered/rare species identified by state agencies, with its habitat preferences and natural history information.

Northern Water Shrew

Northern water shrew (*Sorex palustris albibarbis*) is a mammal species that is associated closely with headwater stream within McKean County, but is rarely observed. Northern water shrew is one of the largest shrew species and is unique in its propensity for swimming and diving in pools along smaller headwater streams. Its diet consists primarily of macroinvertebrates such as caddisflies (order Trichoptera), stoneflies (order Plecoptera), mayflies (order Ephemeroptera) and other aquatic insects, which are commonly associated with clean, high quality streams and wetlands (PNHP, 2008).

Northern Longear Bat

The northern longear bat is listed in Section 3.4.1.1 as it being treated as a federally-protected species.

Northern Harrier

Northern harrier (*Circus cyaneus*) is found in open field habitats in the northeast. The species tends to prefer wetland habitats in New York, and the only confirmed sightings in the Project area are in Niagara County, although there are unconfirmed records present in Cattaraugus, Alleghany, and Erie Counties. The species does migrate, but the Project is located in areas where year-round populations are identified. Recruitment is highly dependent on healthy vole (*Microtus* spp.) populations. In the winter, this species generally roosts on the ground (NYSDEC 2014b).

Bald Eagle

Bald eagle (*Haliaeetus leucocephalus*) is found near open water, nesting in supercanopy tree tops. Generally, this species feeds on fish, but is opportunistic in winter. The bald eagle is a very large bird species and is very territorial. Coloration changes every year for their first five years as the young mature. The species is sexually mature in its fifth year, and mates for life. The same nest is used each year, but is “decorated” and expanded each year. Nests are typically used until it is blown down or collapses. Females have a clutch of one or two eggs, but rarely three. Eggs are incubated for about seven weeks, though the egg failure rate is significantly high. Both parents care for the eggs and young. Hatchlings fledge at 3-4 months and can live in the wild for up to thirty years (Siciliana 2013).

Blue-spotted Salamander

The blue-spotted salamander (*Ambystoma laterale*) is a medium sized salamander species typically associated with floodplain forests with dense canopy. Woodland vernal pools that stay inundated for long periods of time are very important to this species, due to the temperature requirements of eggs and youth. Young transform in late summer and are sexually mature in their third year. The primary diet is both aquatic and upland mollusks and insects (Donato 2000).

Hellbender

In New York, the Eastern hellbender (*Cryptobranchus alleganiensis*) is found solely in the Susquehanna and Allegheny River drainages, including their associated tributaries. Hellbenders prefer swift running, well oxygenated, unpolluted streams and rivers. An important physical characteristic of these habitats is the presence of riffle areas and abundant large flat rocks, logs or boards which are used for cover and nesting sites (NYSDEC 2014c).

Burbot

Burbot (*Lota lota*) prefer deep, cold waters of lakes and rivers. During late winter and early spring they often migrate from lakes to tributary rivers. Young burbot can be found along rocky lake shores in weedy areas, or hiding between rocks in tributary streams. In Pennsylvania the only known populations occur in Lake Erie and the Allegheny River headwaters (PNHP 2007a).

Ohio Lamprey

The Ohio lamprey (*Ichthyomyzon bdellium*) is a nonanadromous, freshwater species inhabiting warmwater habitats in the Allegheny River and Ohio River watersheds. During its life cycle, the Ohio lamprey migrates between larval, juvenile, and adult habitats. Ammocoetes (larvae) prefer slow areas with soft substrates and high detrital content, typically found in the backwaters and pools of smaller streams and rivers. In the parasitic stage of the life cycle, sexually immature adults will migrate to medium to large river systems where host species occur; in this life-stage the host essentially is the habitat for the Ohio lamprey. Some larvae may stay near spawning areas and may complete the life cycle without ever migrating downstream. Sexually mature adults prefer runs and riffles of clean gravel/cobble in smaller streams and rivers for spawning (USFS 2005).

Silver Shiner

Silver shiners (*Notropis photogenis*) are found in moderate to large streams and rivers in both the Lake Erie and Ohio River drainage systems in Ohio. They are more common in the Ohio River drainage and are most often found in moderate to high gradient streams that stay relatively clear most of the year. They are typically found in or at the tail end of deep swift riffles of cobble and boulders. This species is usually found in deeper water, commonly in pools or eddies immediately below riffles. The preferred substrate is disputed; silver shiners have been documented to prefer gravel and boulder, pebble and cobble, and sand, mud and clay substrates. However, it is agreed that this species avoids areas with heavy vegetation and siltation (Carman 2001).

Freshwater Mussels

Several rare or protected freshwater mussel species are known from the vicinity of the Project area, and PAFBC requested an additional habitat report for several streams within

McKean County – streams S132, S62a, S32a, and S064 (Marvin Creek, Potato Creek, Allegheny River, and Oswayo Creek, respectively) which National Fuel submitted in November 2014. NYNHP/NYSDEC did not request information, but did name the pocketbook (*Lampsilis ovata*) as a species that could be impacted by the Project. The species identified in the state reviews are as follows:

- Elktoe (*Alasmidonta marginata*),
- Round pigtoe (*Pleurobema sintoxia*),
- Creek heelsplitter (*Lasmigona compressa*)
- Wavy-rayed lampmussel (*Lampsilis fasciola*), and
- Pocketbook (*Lampsilis ovata*)

The following five species are of state concern in New York and Pennsylvania. In New York, the creek heelsplitter is not protected. In Pennsylvania, the elktoe, round pigtoe, and wavy-rayed lampmussel are listed as rare. The pocketbook is unlisted in Pennsylvania.

Elktoe (*Alasmidonta marginata*) is found in small to large sized streams and small to medium rivers. It is a riffle species, preferring swifter currents over packed sand and gravel substrates. The elktoe is typically only found in clean, clear water (PNHP 2007b).

Round pigtoe (*Pleurobema sintoxia*) is found primarily in medium to large rivers but occasionally occurs in smaller rivers. Preferred habitats include fast current areas dominated by coarse sand and gravel substrate (MDNR 2014a).

Creek heelsplitter (*Lasmigona compressa*) typically occurs in creeks, small rivers, and the upstream portions of large rivers. Its preferred substrates are sand, fine gravel, and mud. It is noted that the creek heelsplitter most often colonizes areas downstream of riffles in small pools, and described the habitats used as characterized by swift currents and water depths ranging from 1 to 3 feet deep (MDNR 2014b).

Wavy-rayed lampmussel (*Lampsilis fasciola*) is found mainly in gravel or sand bottoms of riffle areas in clear, medium-sized streams. As it usually burrows into the substrate, it may be particularly sensitive to siltation (Fisheries and Oceans Canada 2013).

Pocketbook (*Lampsilis ovata*) is generalized in habitat preference, adapting well to both impoundment situations as well as free-flowing, shallow rivers. It may be found in big rivers (reservoirs) at depths of 15 to 20 feet and in small streams in less than two feet of water. Although usually found in moderate to strong currents, it can survive in standing water. The most suitable substrate consists of a mixture of gravel and coarse sand mixed with some silt or mud (NatureServe 2014).

Plants

Five plants that are either rare or protected were identified in response letters from state agencies. PADCNR identified one threatened species (stalked bulrush – *Scirpus pedicellatus*) and one species that is currently under review (Queen-of-the-prairie –

Filipendula rubra). New York identified three sedges that could exist within the Project area: Schweinitz's sedge (*Carex schweinitzii* – threatened), false hop sedge (*Carex lupuliformis* – threatened), and creeping sedge (*Carex chordoohiza* – threatened). A summary of these species follows.

Stalked bulrush (*Scirpus pedicellatus*) is a rhizomatous perennial herbaceous member of the sedge family (Cyperaceae). Members of this species tend to aggregate in dense tussocks and grow up to a height of two meters. The leaves are green or brownish, and can be flat or rolled in at the edges. The branched, drooping inflorescence occurs at the top of the plant, which appears in mid to late July. Achene fruits are hairy, scaled, and triangular to circular in cross-section (FNA 2003).

Queen-of-the-prairie (*Filipendula rubra*) is a member of the rose family (Rosaceae) that reproduces clonally by rhizomes, as well as reproducing sexually. Individuals can grow to a height of one to two meters; ramet clones may spread several square meters. Leaves are pinnately compound, with the terminal leaflet the largest, up to 20 centimeters (cm) wide, divided into five to nine palmate lobes, and coarsely toothed. Inflorescences are up to 20 cm wide, have five deeply pink petals, with a ring of long stamens surrounding a cluster of club-shaped pistils. This species occurs mainly in fens, but may also be found in wet woodlands and grassland seeps (PNHP 2011).

Creeping sedge (*Carex chordorrhiza*) occurs primarily in peat lands that often are at least somewhat minerotrophic including rich, medium, and poor fens. The habitat is usually open although it does occur where there are some shrubs present and also in openings in forested wetlands. Fens, bogs, floating mats on lakeshores, emergent sedge marshes, usually in very wet sites, often in shallow water. Found in very wet sphagnum bogs and lake-borders in calcareous districts (NYNHP 2013a).

False hop sedge (*Carex lupuliformis*) is found in silver maple-ash swamps, red maple hardwood swamps, floodplain forests, marshes, shrub swamps, and mucky soils. It is often associated with limy clay or other types of calcareous soils. Wet forests, especially in openings around forest ponds, riverine wetlands, marshes, wet thickets. In open marshes or along shores, sometimes in shallow water, or in very wet floodplain forests (NYNHP 2013b).

Schweinitz's sedge (*Carex schweinitzii*) grows in strongly calcareous, perennially wet, seepy habitats often in association with rich fens. It is commonly found on edges of fens. It also occurs in calcareous marshes, swamps, and shores. It does particularly well in and on the margins of rivulets and small drainage channels that have strongly calcareous water. This includes perennially wet roadside ditches which act as drainage channels. It does well in full sun but also occurs in more shaded environments. Adjacent vegetation is often low and moss cover is usually high although it can occur with taller species such as *Typha latifolia*. It frequently occurs in dense patches sometimes to the exclusion of other plants (NYNHP 2013c).

3.4.2 Construction and Operation Impacts and Mitigation

The general construction and operational impacts of the proposed Project, as discussed previously in this Resource Report, are also generally applicable to endangered and threatened species, if the location of proposed construction activities coincides with species locations. Due to the limited distribution and abundance of endangered and threatened species, any impact could adversely affect the size and viability of these populations. The primary limiting factor of many endangered or threatened species is habitat availability. Therefore, the loss or alteration, including habitat fragmentation, of suitable habitat could contribute to the decline of some species' populations.

Potential direct and indirect impacts to listed species are similar to those discussed in Section 3.3.3. Listed wildlife species that occur in or near the Project may be directly affected within the construction workspace (such as individuals unable to escape construction equipment); indirectly affected because of proximity to construction workspace (such as tree clearing that changes shade patterns off-ROW, or construction activity that obstructs cross-ROW movement); or cumulatively affected (such as from the incremental or additive effects of other projects).

Potential mitigation measures include seasonal restrictions on construction activity and the establishment of buffer areas around sensitive or important habitat. Some potential direct and indirect impacts to listed plants include loss of individuals or communities due to vegetation clearing, and compaction of soils associated with grading and other construction activities. Possible mitigation measures for protection of rare plants include avoidance or re-routing of the pipeline impact area, narrowing the ROW to avoid all or part of the plant community, or salvaging rare plants by transplanting individual plants (e.g., temporary nursery storage during construction with subsequent replanting in their original location following construction; Trettel et al. 2002), seed collection, topsoil segregation/replacement for re-establishment after construction, and use of timber mats to cover and protect populations from heavy equipment traffic (Fryer et al. 2002, Trettel et al. 2002). Salvage methods have been found to be successful but monitoring is necessary following site restoration to determine success. Implementation of industry-approved construction BMPs will minimize long- and short-term impacts to vegetation cover types. Further agency coordination and consultation will also be undertaken to prevent or mitigate any potential adverse impacts.

Species surveys for the blue-spotted salamander, burbot, and stalked bulrush were completed in fall 2014 and results will be sent in a report to the appropriate agency in early 2015. Field surveys for Queen-of-the-prairie began in fall 2014 and will be completed in early to midsummer 2015 (Appendix 3-A). Preliminary results and ongoing Project design adjustments indicate that the proposed Project is not likely to adversely affect these species. Survey locations and necessity will be discussed further with NYSDEC concerning the three sedge species. Mussel surveys also are scheduled within the Project area in 2015. Appropriate survey times for listed and rare species are known, but National Fuel will coordinate with the appropriate agencies prior to species surveys to confirm the dates and methodologies for surveys.

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APPENDIX 3-A

Field Survey Reports

- Appendix A-1: Mussel Habitat Survey Report
- Appendix A-2: Northern Myotis Bat Survey Report
- Appendix A-3: Blue-spotted Salamander Survey Report
- Appendix A-4: Burbot Survey Report
- Appendix A-5: Rare Plant Survey Report

**PRIVILEGED AND CONFIDENTIAL INFORMATION -
REPORTS ARE INCLUDED IN SEPARATE VOLUME
(NOT FOR RELEASE TO THE GENERAL PUBLIC)**

APPENDIX 3-B

Agency Correspondence

Note: Some agency letters contain specific information on locations of rare, threatened, or endangered species, and therefore are included in SEPARATE VOLUME – PRIVILEGED AND CONFIDENTIAL INFORMATION.