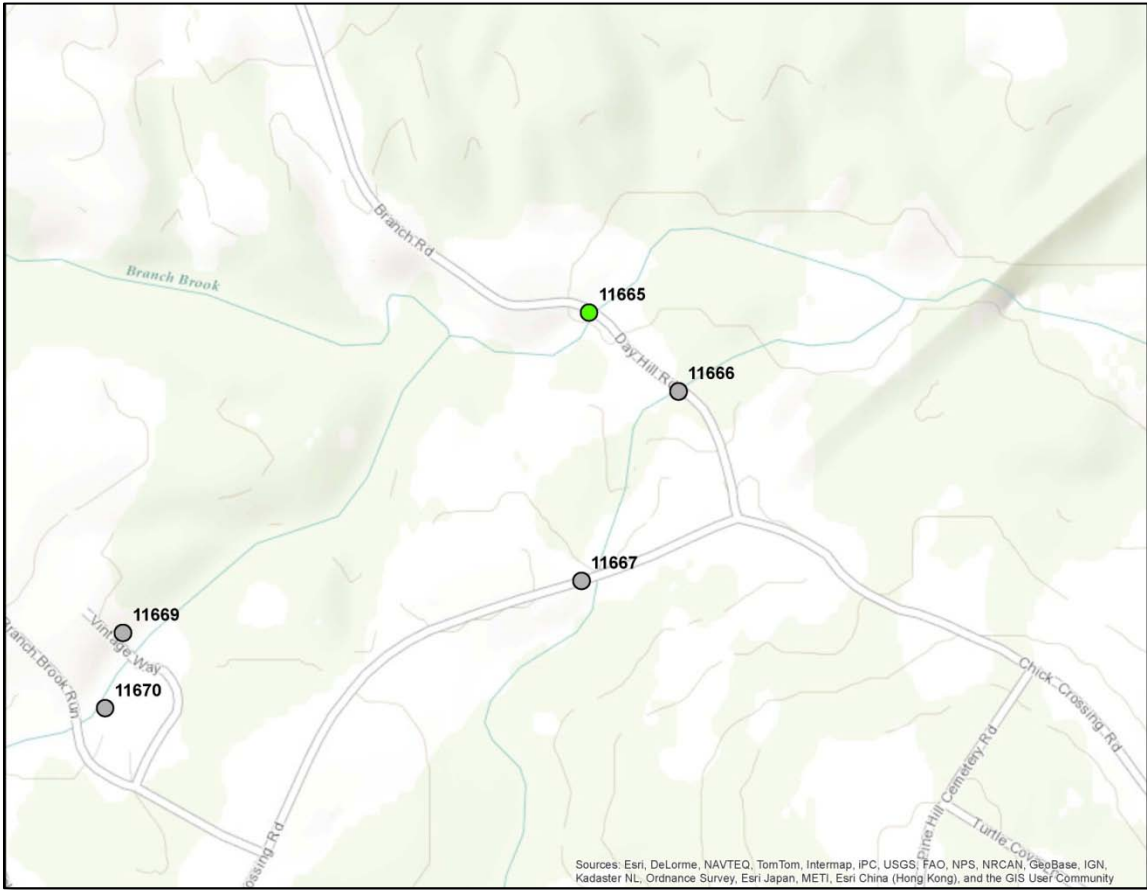


# Stream Barrier Inventory



Jacob Aman

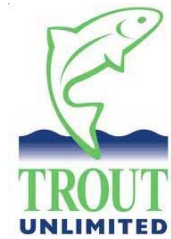
Wells National Estuarine Research Reserve

2013



This inventory of stream barriers was compiled by the Wells National Estuarine Research Reserve (WNERR) with help from numerous volunteers and partners, and was funded by WNERR and the Maine Outdoor Heritage Fund. Thank you to all those individuals and organizations that have made this work possible.

### Partner Organizations



Maine Outdoor Heritage Fund

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## Introduction

This inventory is intended to serve as a quick reference guide to stream barriers in the many small coastal watersheds of York County, south of the Saco River. Surveying of stream barriers in these watersheds is an ongoing effort. This document will be updated as new barrier data becomes available.

Stream barriers created by road crossings fragment stream habitat and prevent free movement by fish and other aquatic organisms. This can often be detrimental for resident species that must move within a river system to reproduce, find food, escape predation, and cope with changing environmental conditions. Fish species that migrate into rivers from the ocean to reproduce are particularly vulnerable to the effects of stream barriers. For them, a single barrier near the mouth of the river can prevent access to the entire watershed.

Stream crossing structures that create barriers are typically undersized, and can be vulnerable to failure in large rain events. As storm events increase in frequency and magnitude,

undersized culverts may fail more often, and create increased strain on road maintenance budgets.

By working collaboratively road managers and habitat restoration practitioners can begin to address these issues. Annual road crossing maintenance is a great opportunity to remove stream barriers. We encourage road managers in these coastal watersheds to use this inventory as a reference to sites where there is greatest ecological benefit from upgrading a crossing structure, particularly those that may already be in line for replacement. The Wells Reserve is interested in partnering with towns, MDOT, MTA, and private land owners to remove these stream barriers and we encourage road managers to contact us if one of these crossings is due for replacement.

The inventory is arranged by town and includes a map of all documented barriers in the town, barriers tables, and priority site profiles. Priority sites are those where there is a higher need for replacement due to a number of factors including significant upstream habitat, severity of barrier, difficulty and cost of replacement, and benefit to aquatic species. Sites with the greatest priority are not always the easiest to fix. We have included all other documented barriers so that they can be considered for replacement as opportunities present themselves.

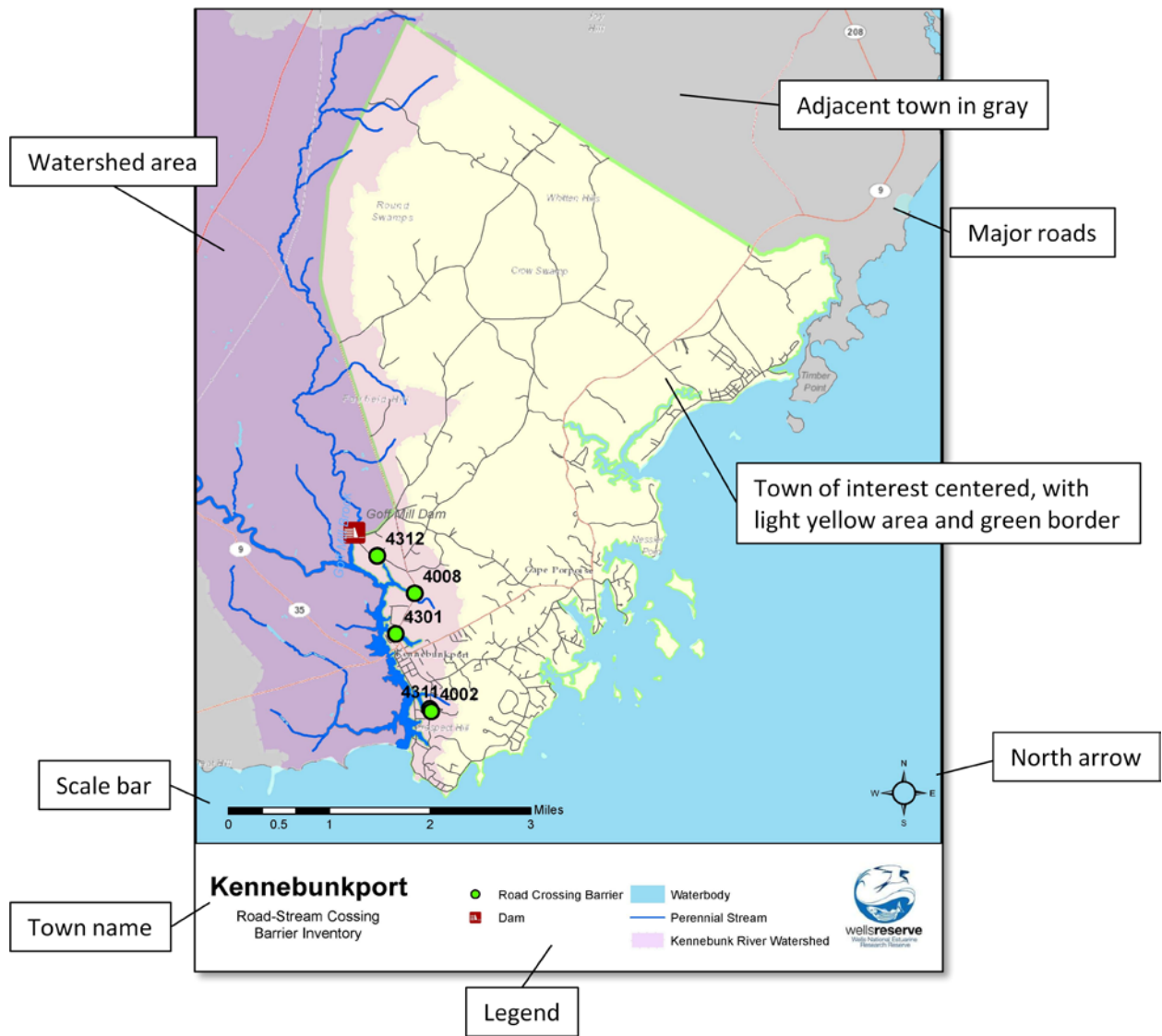
For questions about this inventory or other stream barrier related inquiries please contact:

Jacob Aman

207-646-1555

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# Guide to Town Maps



## Towns Included

Arundel  
Eliot  
Kennebunk

Kennebunkport  
Lyman  
Sanford

South Berwick  
Wells

# Guide to Priority Site Profiles

**Road and town name** → Sinnott Road, Arundel

**Barrier location map enlargement** →

**Barrier Information**

**Site ID:** 4015  
**Road:** Sinnott Road  
**Stream:** Goff Mill Brook  
**Ownership:** Town of Arundel  
**Crossing Structure:** Pipe Arch Culve  
**Barrier Status:** Barrier, Perched Outlet, Blocked Outlet

**Barrier photo** →

**Barrier Description**

**Description:**  
Factors that contribute this barrier include a perched outlet with a 0.1 meter drop, and rip rap partially blocking the outlet.

**Recommended action**

**Recommendation:**  
Rip rap should be removed from the outlet by hand. If replacement of the crossing structure is not feasible, the outlet of the culvert should be modified by bending it if possible to reduce or eliminate the drop.

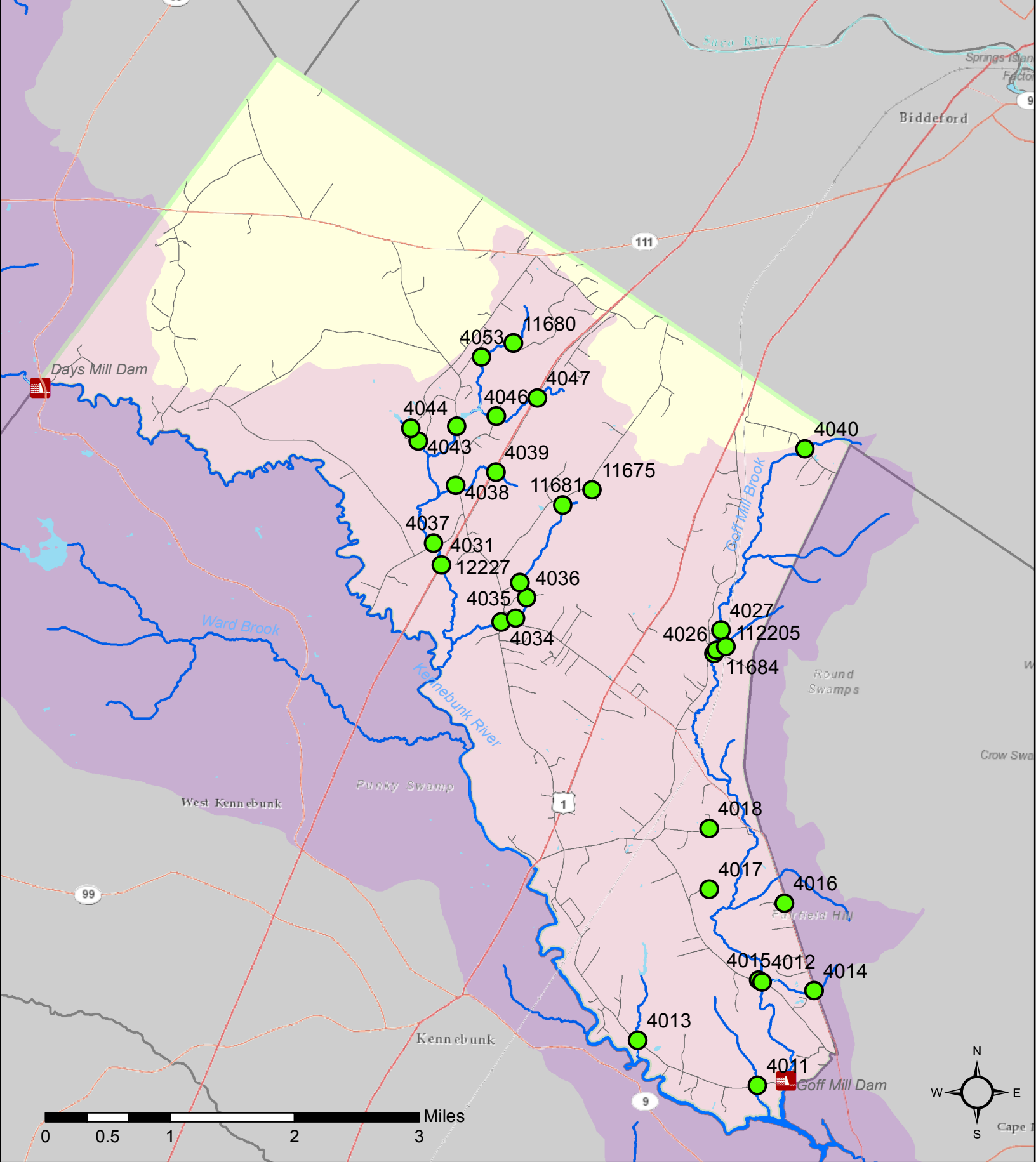


## Guide to Barrier Tables

Priority sites are shown in red.

<b>Site ID</b>	Unique identification number assigned to each stream barrier.
<b>Jurisdiction</b>	Identifies entity responsible for maintenance of crossing structure.
<b>Ranking</b>	Description of the relative severity of the barrier created by the crossing structure.
<b>Stream Name</b>	Identifies the waterway which is passed by the crossing structure.
<b>Road Name</b>	identifies the road on which the crossing structure is located.
<b>Road Type</b>	Description of the type of material used to make the road over the crossing structure, e.g. paved.
<b>Structure Type</b>	Type of crossing structure, e.g. round culvert.
<b>Material</b>	Material that the crossing structure is made of.
<b>Length (m)</b>	Length of crossing structure in meters.
<b>Outlet Condition</b>	Description of crossing structure outlet impairment, if present.
<b>Outlet Drop (m)</b>	Height in meters of distance from structure outlet to stream surface.
<b>Inlet Condition</b>	Description of crossing structure inlet impairment, if present.
<b>Inlet Blocked</b>	Percentage of crossing structure blocked, if any.
<b>Scour Pool</b>	Relative size of tail water scour pool associated with the crossing structure, if any.





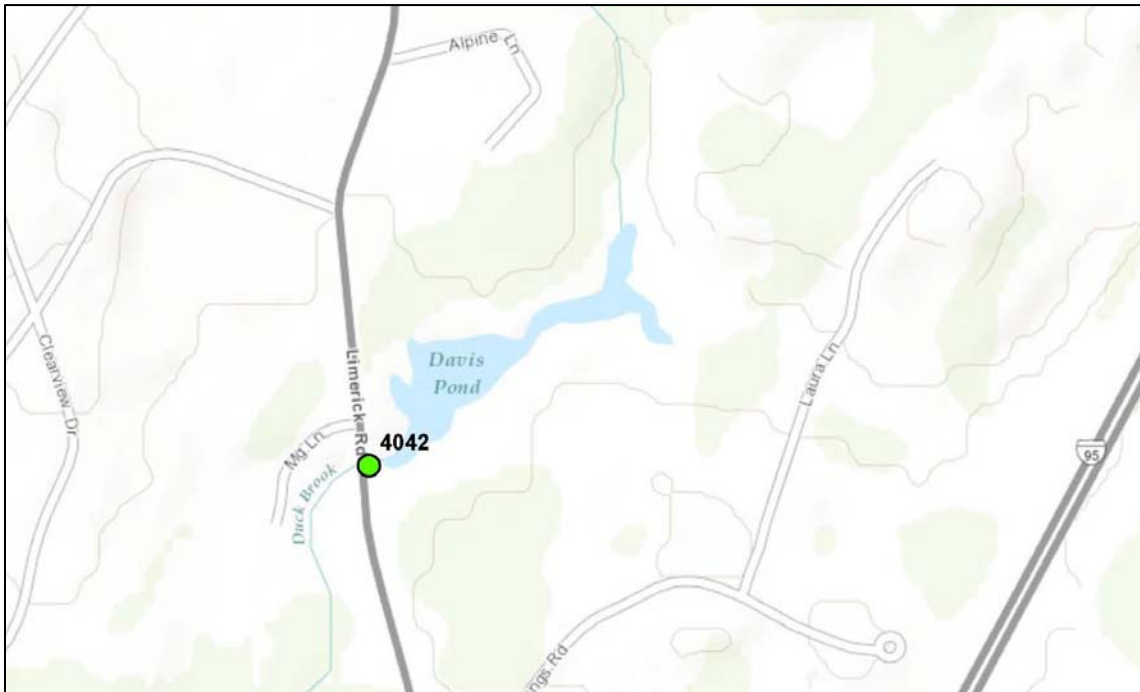
# Arundel

## Road-Stream Crossing Barrier Inventory

- Road Crossing Barrier
- Dam
- Perennial Stream
- Waterbody
- Kennebunk River Watershed



## Limerick Road, Arundel



**Site ID:** 4042  
**Road:** Limerick Road  
**Stream:** Duck Brook  
**Ownership:** Town of Arundel  
**Crossing Structure:** Round Culvert  
**Barrier Status:** Barrier, Perched Outlet



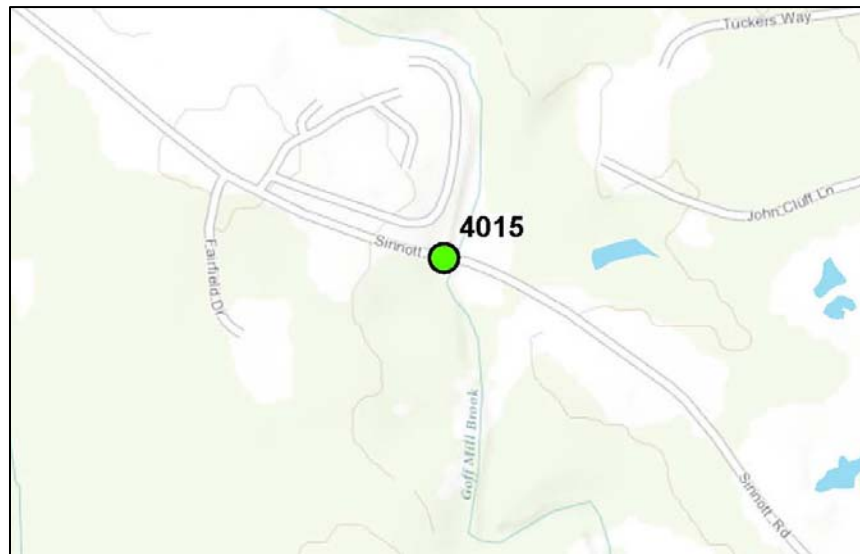
### Barrier Description:

Factors creating a barrier at this crossing include a perched outlet with a 0.13 meter drop, an inlet drop, and increased water velocity due to narrowing of the stream width through the crossing,

### Recommendation:

This crossing represents the only significant barrier between the Gulf of Maine and Davis Pond (4.3 acres). Ideally, it should be replaced with one that is set below stream grade and exceeds the normal channel width to eliminate the drops and reduce water velocity.

## Sinnott Road, Arundel



**Site ID:** 4015  
**Road:** Sinnott Road  
**Stream:** Goff Mill Brook  
**Ownership:** Town of Arundel  
**Crossing Structure:** Pipe Arch Culve  
**Barrier Status:** Barrier, Perched Outlet, Blocked Outlet



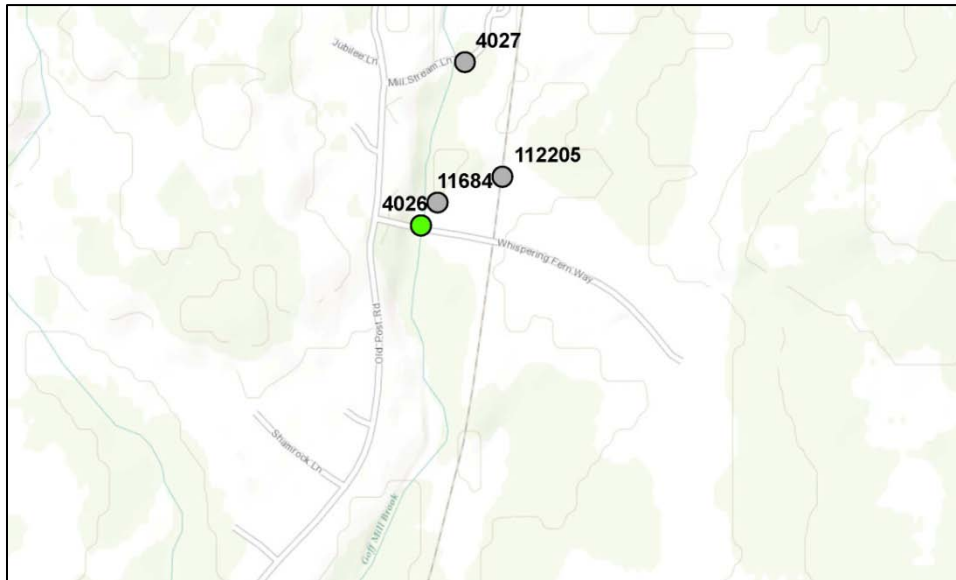
### Description:

Factors that contribute this barrier include a perched outlet with a 0.1 meter drop, and rip rap partially blocking the outlet.

### Recommendation:

Rip rap should be removed from the outlet by hand. If replacement of the crossing structure is not feasible, the outlet of the culvert should be modified by bending it if possible to reduce or eliminate the drop.

## Whispering Fern Way, Arundel



**Site ID:** 4026

**Road:** Whispering Fern Way

**Stream:** Goff Mill Brook

**Ownership:** Town of Arundel

**Crossing Structure:** Box Culvert

**Barrier Status:** Barrier, Perched Outlet

**Description:**



Factors that contribute this barrier include a perched outlet with a 0.03 meter drop and increased water velocity due to narrowing of the stream channel through the structure.

**Recommendation:**

The structure should be replaced with one that is set at or below stream grade and exceeds normal channel width to eliminate the drop and decrease water velocity.

### Arundel Road Crossing Barrier Status and Location

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
4014	MDOT	Barrier	Goff Mill Brook	Log Cabin Road	Paved
4016	MDOT	Moderate Barrier	Goff Mill Brook	Log Cabin Road	Paved
4047	MTPA	Barrier		I-95	Paved
4031	MTPA	Moderate Barrier	Duck Brook	I-95	Paved
4039	MTPA	Moderate Barrier		I-95	Paved
12227	Private	Barrier		Eastern Trail	Trail
11681	Private	Barrier		Hallczuk Road	Unpaved
11675	Private	Moderate Barrier		Hidden Meadows Drive	Unpaved
4046	Private	Barrier		Laura Lane	Unpaved
4027	Private	Moderate Barrier	Goff Mill Brook	Mill Stream Lane	Paved
4017	Private	Barrier	Goff Mill Brook	Milligans Way	Unpaved
11680	Private	Barrier	Duck Brook	off of Tamrox Drive.	Unpaved
11684	Private	Barrier		off of Whispering Fern Way	Unpaved
4053	Private	Moderate Barrier	Duck Brook	Porcupine Lane	Paved
112205	Private	Moderate Barrier			Railroad
4026	Private	Barrier	Goff Mill Brook	Whispering Fern Way	Unpaved
4035	Town	Moderate Barrier	Duck Brook	Campground Road	Paved
4043	Town	Moderate Barrier		Clearview Drive	Paved
4037	Town	Moderate Barrier	Duck Brook	Downing Road	Paved
4034	Town	Moderate Barrier	Duck Brook	Limerick Road	Paved
4042	Town	Barrier	Duck Brook	Limerick Road	Paved
4038	Town	Barrier		Limerick Road	Paved
4018	Town	Moderate Barrier	Goff Mill Brook	Lombard Road	Paved
4044	Town	Moderate Barrier		Maplewood Drive	Paved
4040	Town	Moderate Barrier	Goff Mill Brook	Proctor Road	Paved
4011	Town	Moderate Barrier		River Road	Paved
4013	Town	Moderate Barrier		River Road	Paved
4015	Town	Barrier	Goff Mill Brook	Sinnott Road	Paved
4012	Town	Barrier		Sinnott Road	Paved
4036	Town	Moderate Barrier	Duck Brook	Talbot Drive	Paved

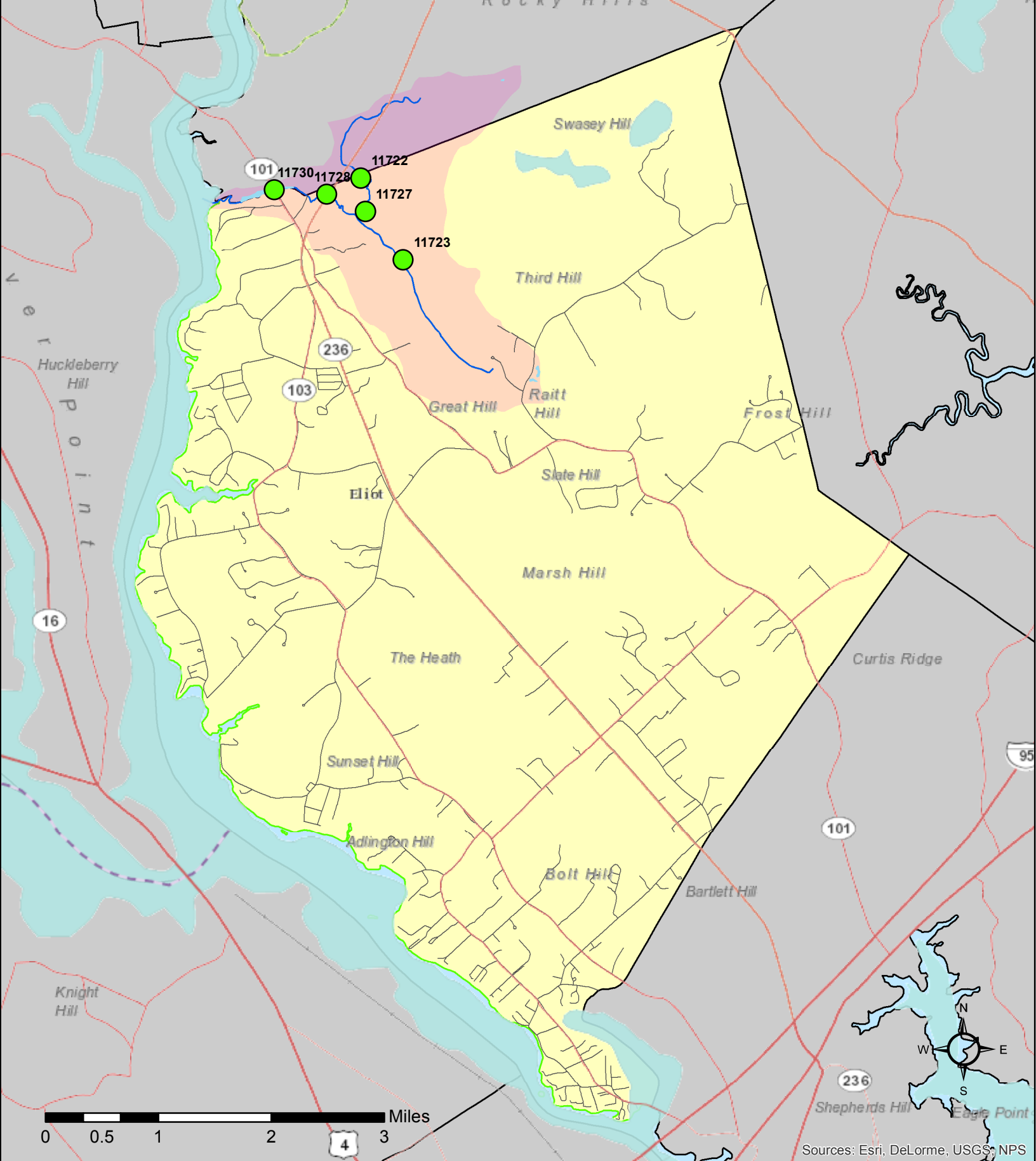


### Arundel Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4014	Round Culvert	Metal	14.320	Perched	0.150	Perched		Large
4016	Round Culvert	Metal	16.240				25%	Large
4047	Round Culvert	Concrete	55.720	Perched	0.040			Small
4031	Box Culvert	Concrete	56.260					Small
4039	Round Culvert	Concrete	46.380					
12227	Box Culvert	Concrete	14.630				50%	
11681	Round Culvert	Metal	12.101	Perched	0.091			Large
11675	Bottomless Box Culvert	Stone	11.521					Large
4046	Round Culvert	Concrete	17.300	Perched		Perched		
4027	Round Culvert	Concrete	3.090					Large
4017	Pipe Arch Culvert	Metal	10.800	Perched	0.250	Perched		Small
11680	Round Culvert	Concrete	17.252			Perched	75%	Large
11684	Round Culvert	Plastic	12.466	Perched	0.038			
4053	Round Culvert	Concrete	7.660					Large
112205	Open Bottom Arch	Concrete	26.518					Large
4026	Box Culvert	Concrete	7.320	Perched	0.030			
4035	Pipe Arch Culvert	Metal	18.620					Large
4043	Round Culvert	Concrete	21.600					
4037	Pipe Arch Culvert	Metal	16.570					
4034	Pipe Arch Culvert	Metal	18.400					Large
4042	Round Culvert	Metal	27.750	Perched		Inlet Drop		Large
4038	Round Culvert	Metal	16.250	Perched	0.045			Large

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4018	Round Culvert	Metal	9.140					
4044	Round Culvert	Metal	18.230					
4040	Round Culvert	Metal	13.720			Inlet Drop	100%	Small
4011	Round Culvert	Metal	16.640					Large
4013	Round Culvert	Metal	14.330					Large
4015	Pipe Arch Culvert	Metal	16.000	Perched	0.100			
4012	Round Culvert	Metal		Perched	0.100	Inlet Drop	25%	Large
4036	Round Culvert	Metal	15.350				25%	Small





Sources: Esri, DeLorme, USGS, NPS

# Eliot

## Road-Stream Crossing Barrier Inventory

- Road Crossing Barrier
- Perennial Stream
- Waterbody
- Shorey's Brook Watershed



## Route 101, Eliot



**Site ID:** 11730  
**Road:** Route 101  
**Stream:** Shorey's Brook  
**Ownership:** Town of Eliot  
**Crossing Structure:** Pipe Arch Culve  
**Barrier Status:** Barrier, Perched Outlet



### Description:

Factors that contribute this barrier include a perched outlet with a 0.49 meter drop and increased water velocity due to narrowing of the stream channel through the structure.

### Recommendation:

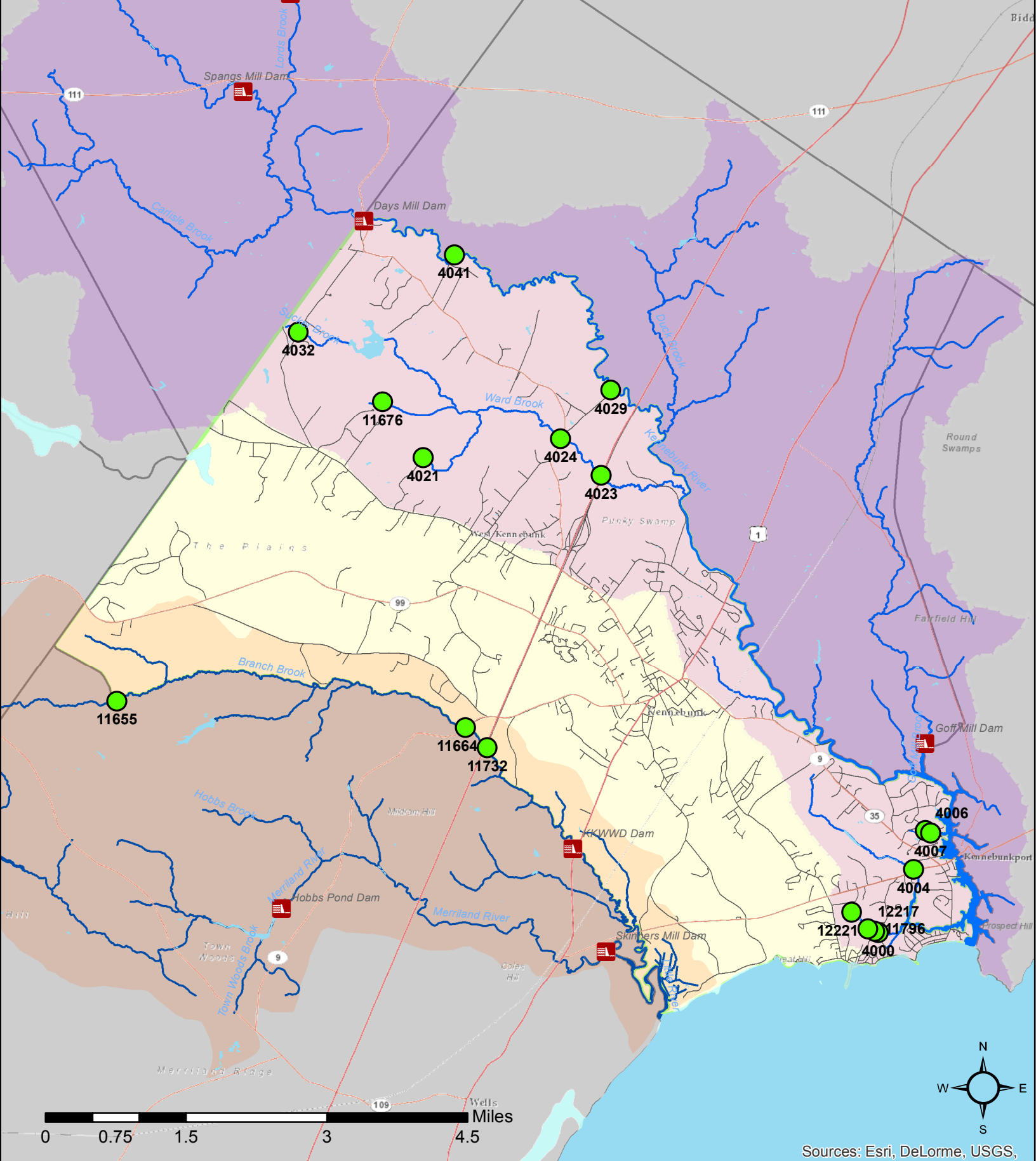
Replacement of this crossing is under consideration by Maine DOT due to ongoing failure of the culvert. Ideally, the culvert will be replaced with a bridge, which will eliminate the drop and reduce water velocity.

### Eliot Road Crossing Barrier Status and Location

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
11730	MDOT	Barrier	Shorey's Brook	Route 101	Paved
11728	MDOT	Moderate Barrier	Shorey's Brook	Route 236	Paved
11723	Private	Barrier	Shorey's Brook	off of Goodwin Road	Unpaved
11722	Private	Barrier	Lord's Brook	abandoned road	Unpaved
11727	Private	Moderate Barrier	Lord's Brook	off of Route 236	Paved

### Eliot Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
11730	Pipe Arch Culvert	Metal	22.007	Perched Above Cascade	0.488	Inlet Drop		Small
11728	Box Culvert	Concrete	26.609					Large
11723	Round Culvert	Metal	27.798				100%	
11722	Round Culvert	Metal	15.301				50%	Small
11727	Pipe Arch Culvert	Metal	27.706					Large



Sources: Esri, DeLorme, USGS,

# Kennebunk

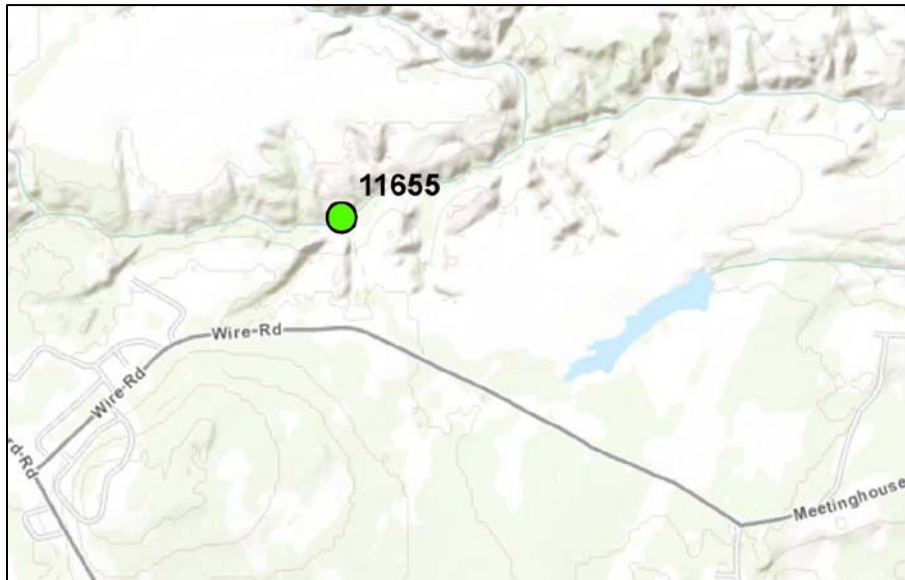
## Road-Stream Crossing Barrier Inventory

- Road Crossing Barrier
- Dam
- Waterbody
- Perennial Stream
- MBLR Watershed
- Kennebunk River Watershed





## Abandoned bridge near Wire Road, Kennebunk



**Site ID:** 11655

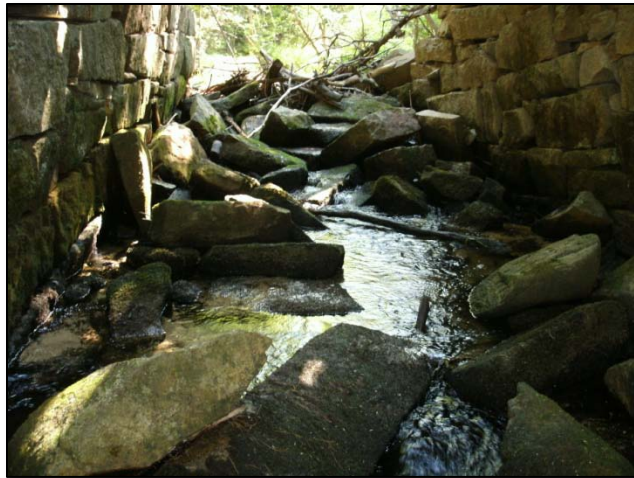
**Road:** Abandoned

**Stream:** Branch Brook

**Ownership:** KKWWD

**Crossing Structure:** Bridge

**Barrier Status:** Barrier, Blocked



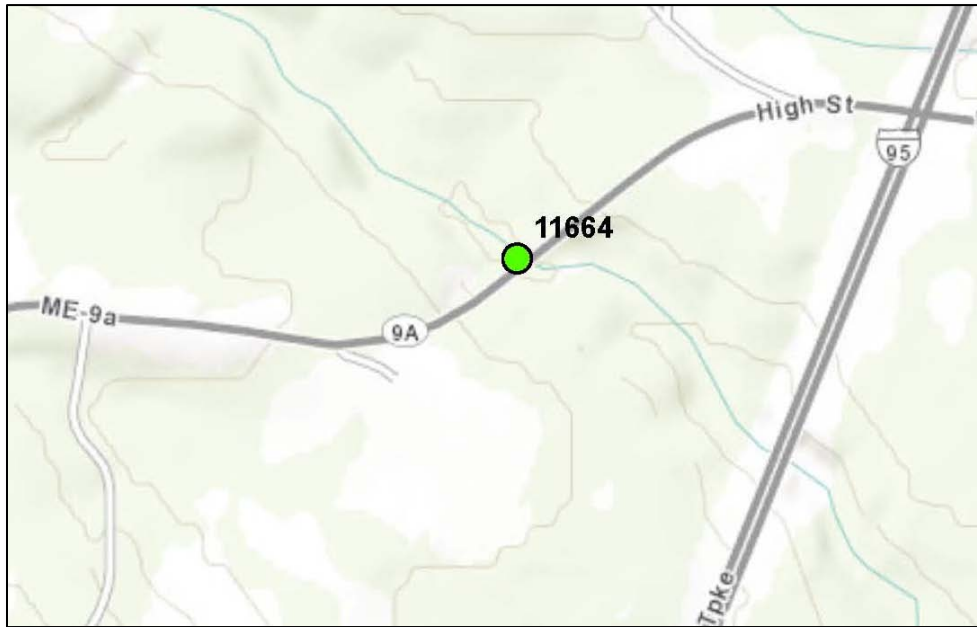
### Description:

This crossing appears to be an abandoned road or railway near Wire Road. It is located on a parcel owned by the KKW Water District. The stone bridge has partially collapsed and rocks and debris block the entire crossing. The crossing also restricts the channel, which would increase water velocity if the crossing were not also blocked.

### Recommendation:

This crossing constitutes a significant barrier on the main stem of Branch Brook. Debris and collapsed stones should be removed from the stream channel, and ideally the bridge should be completely or partially removed to restore full channel width and decrease high water velocity.

## Route 9A, Kennebunk



**Site ID:** 11664

**Road:** Route 9A

**Stream:** Branch Brook

**Ownership:** Maine DOT

**Crossing Structure:** Box Culvert

**Barrier Status:** Barrier, Perched Outlet



### Barrier Description:

Factors creating a barrier at this crossing include a perched outlet with a 0.27 meter drop and increased water velocity due to narrowing of the stream width through the crossing. This crossing includes a concrete pad at the outlet that creates a perch.

### Recommendation:

Due to the size and design of this structure, it seems unlikely that it will be replaced. However, modifications could be made to the outlet to eliminate the drop, and interior structures could be installed to reduce water velocity.

### Kennebunk Road Crossing Barrier Status and Location

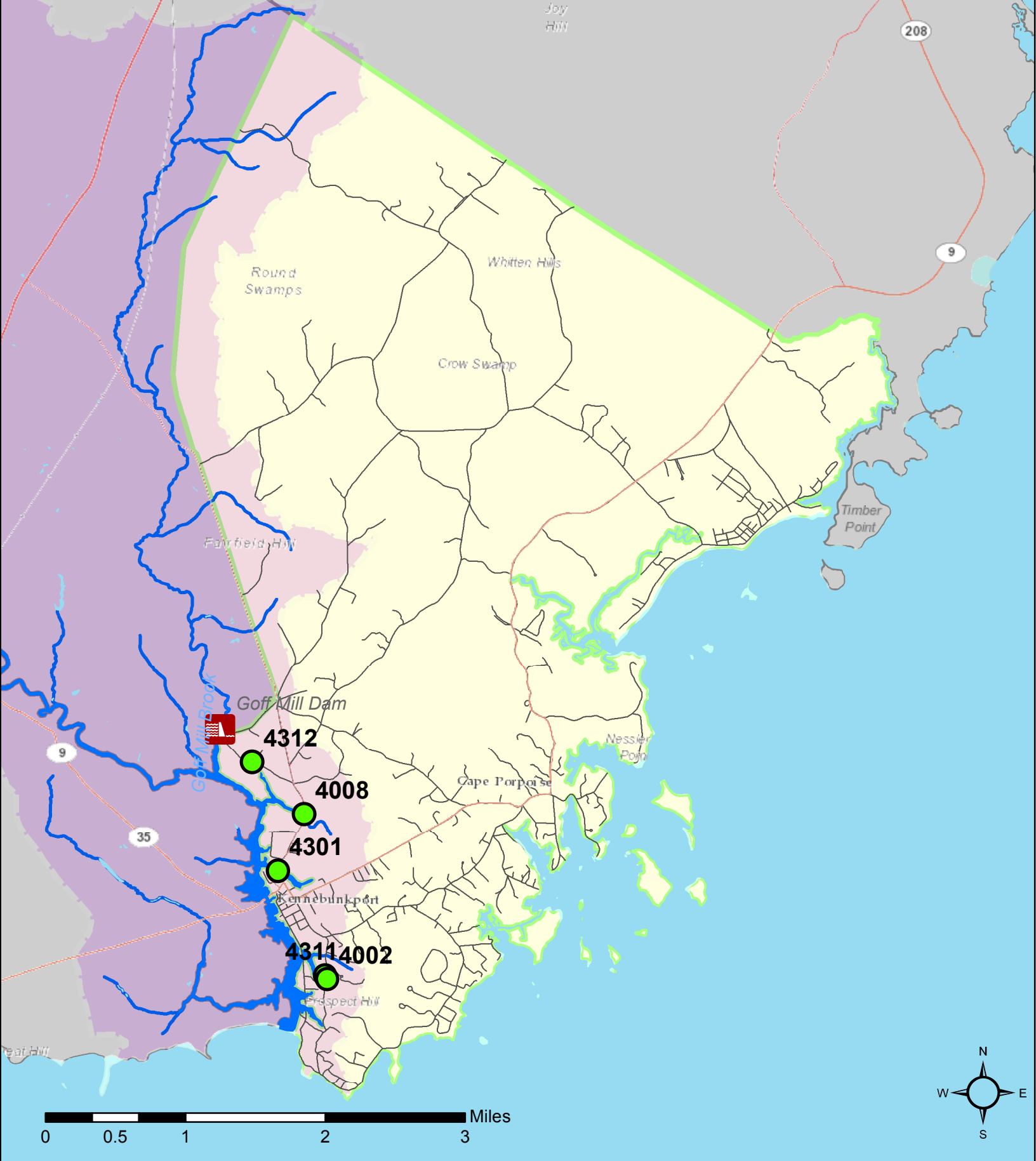
Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
4024	MDOT	Moderate Barrier	Ward Brook	Alewife Road	Paved
11664	MDOT	Barrier	Branch Brook	High St	Paved
4004	MDOT	Moderate Barrier		Route 9	Paved
4023	MTPA	Moderate Barrier	Ward Brook	I-95	Paved
11732	MTPA	Moderate Barrier	Branch Brook	I-95 N	Paved
11676	Private	Barrier		Blueberry Pines Extension	Unpaved
4006	Private	Barrier		Bufflehead Cove Lane	Unpaved
4021	Private	Moderate Barrier		Jefferey's Way	Unpaved
4007	Private	Moderate Barrier		Ship Locks Drive	Paved
11655	Private	Barrier	Branch Brook		Unpaved
4000	Town	Barrier		Boothby Ave	Paved
4032	Town	Moderate Barrier		Cole Road	Paved
4029	Town	Barrier	Kennebunk River	Downing Road	Paved
4041	Town	Moderate Barrier	Kennebunk River	Perkins Lane	Paved

### Kennebunk Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4024	Bridge with Abutments	Concrete	19.900					Small
11664	Box Culvert	Concrete	27.280	Perched	0.274	Perched		Large
4004	Round Culvert	Metal	15.850					
4023	Box Culvert	Concrete	57.800					
11732	Box Culvert	Concrete	73.396				25%	Large
11676	Round Culvert	Plastic	12.040	Perched	0.061			Small
4006	Round Culvert	Concrete	7.870	Perched	0.005			Small
4021	Round Culvert	Metal	6.930					Large
4007	Round Culvert	Metal	22.260			Inlet Drop		Large
11655	Bridge with Abutments	Wood/Stone					100%	Large
4000	Round Culvert	Metal	16.200	Perched	0.030			Large



Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4032	Round Culvert	Concrete	14.820					Small
4029	Open Bottom Arch	Metal	23.540	Cascade				Large
4041	Round Culvert	Metal	7.000					Large



# Kennebunkport

Road-Stream Crossing  
Barrier Inventory

- Road Crossing Barrier
- Dam
- Waterbody
- Perennial Stream
- Kennebunk River Watershed

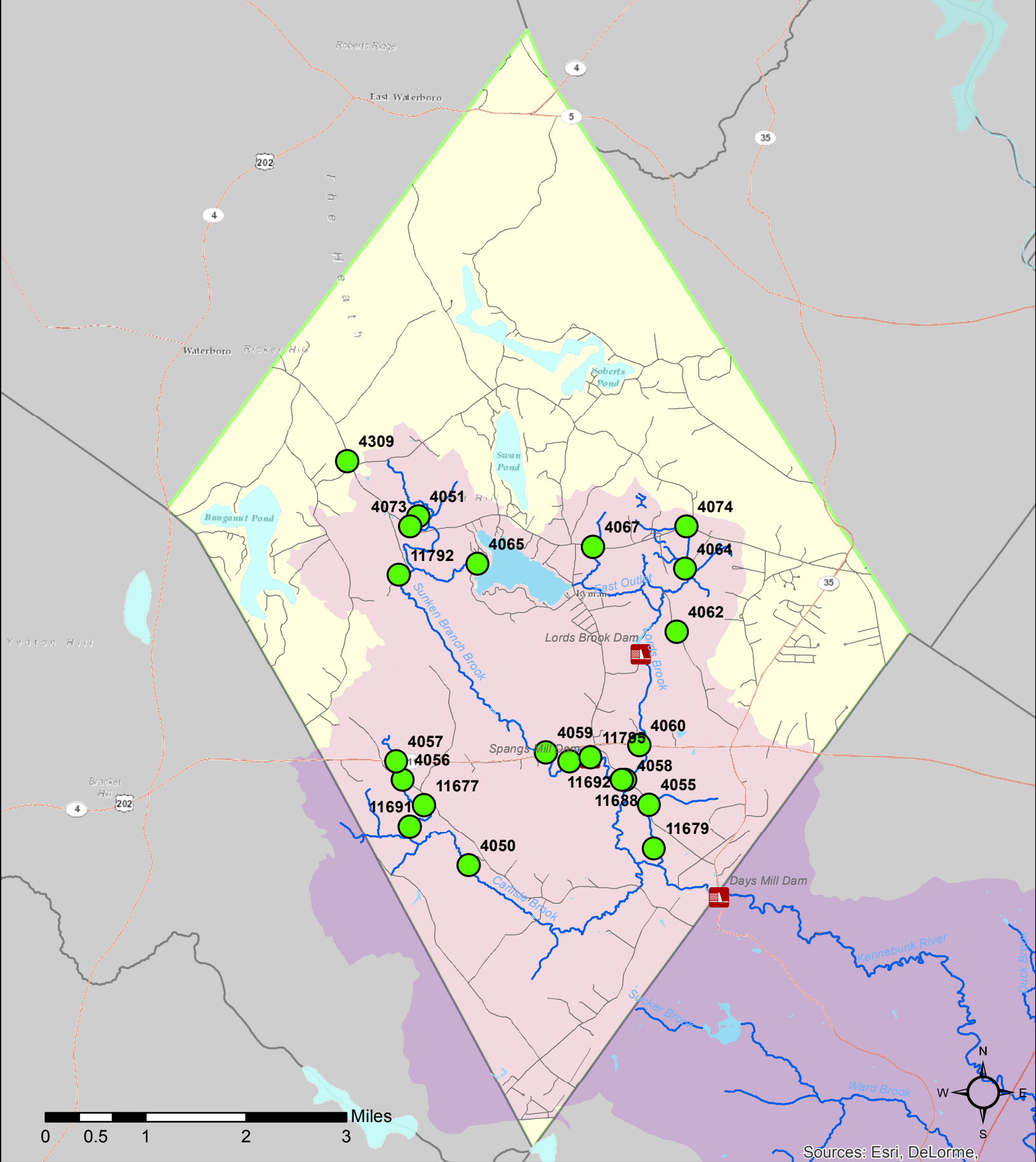


### Kennebunkport Road Crossing Barrier Status and Location

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
4301	MDOT	Moderate Barrier	Gristmill Pond Outlet	North Street	Paved
4008	MDOT	Barrier		North Street	Paved
4311	Private	Barrier		off of S. Main St.	Paved
11796	Private	Barrier			Trail
12217	Private	Moderate Barrier			Trail
12221	Private	Moderate Barrier			Trail
4312	Town	Barrier		River Road	Paved
4002	Town	Moderate Barrier		S. Main Street	Paved

### Kennebunkport Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4301	Pipe Arch Culvert	Metal	16.650					Large
4008	Round Culvert	Metal	18.700	Perched	0.220	Inlet Drop		Small
4311	Round Culvert	Metal	6.510	Perched	0.100			
11796	Bridge with Abutments	Stone	11.582	Perched	0.091	Inlet Drop		
12217	Round Culvert	Plastic	3.505					Large
12221	Round Culvert	Metal	3.719					
4312	Round Culvert	Plastic	12.250	Perched	0.060	Inlet Drop		Small
4002	Round Culvert	Concrete	12.320			Inlet Drop		Large



Sources: Esri, DeLorme,

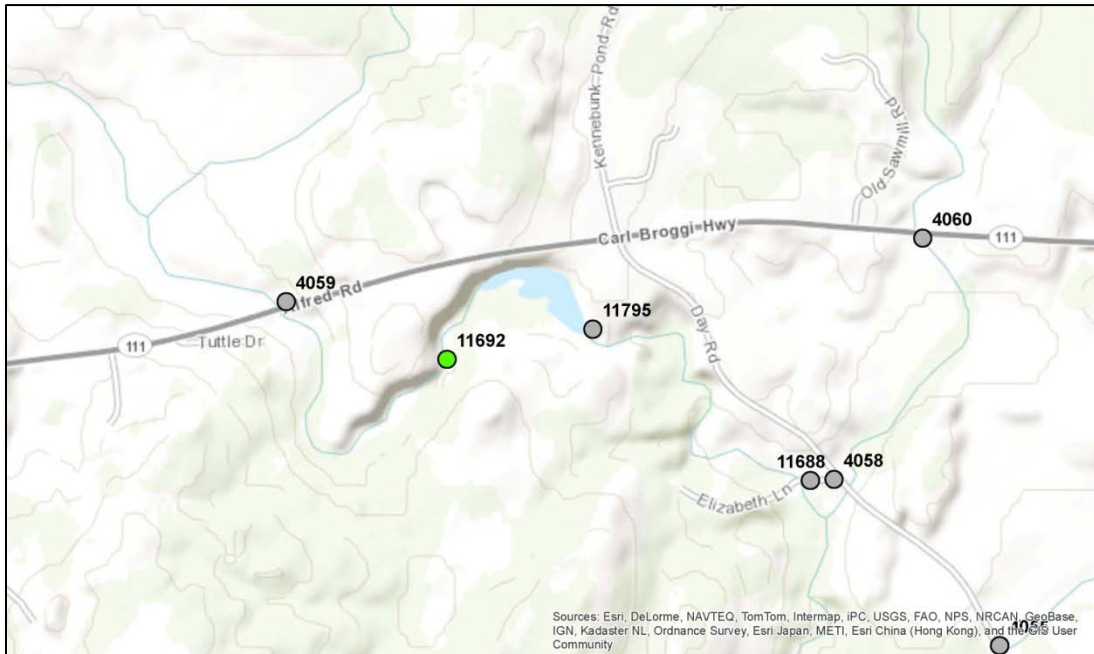
# Lyman

## Road-Stream Crossing Barrier Inventory

- Road Crossing Barrier
- Dam
- Waterbody
- Kennebunk River Watershed
- Perennial Stream



## ATV trail off of Route 111, Lyman



**Site ID:** 11692

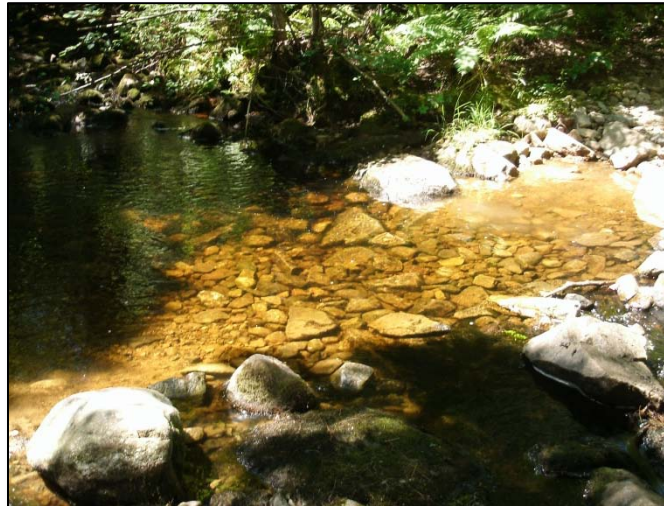
**Road:** ATV trail

**Stream:** Kennebunk River

**Ownership:** Private

**Crossing Structure:** Ford

**Barrier Status:** Moderate Barrier  
Blocked Outlet



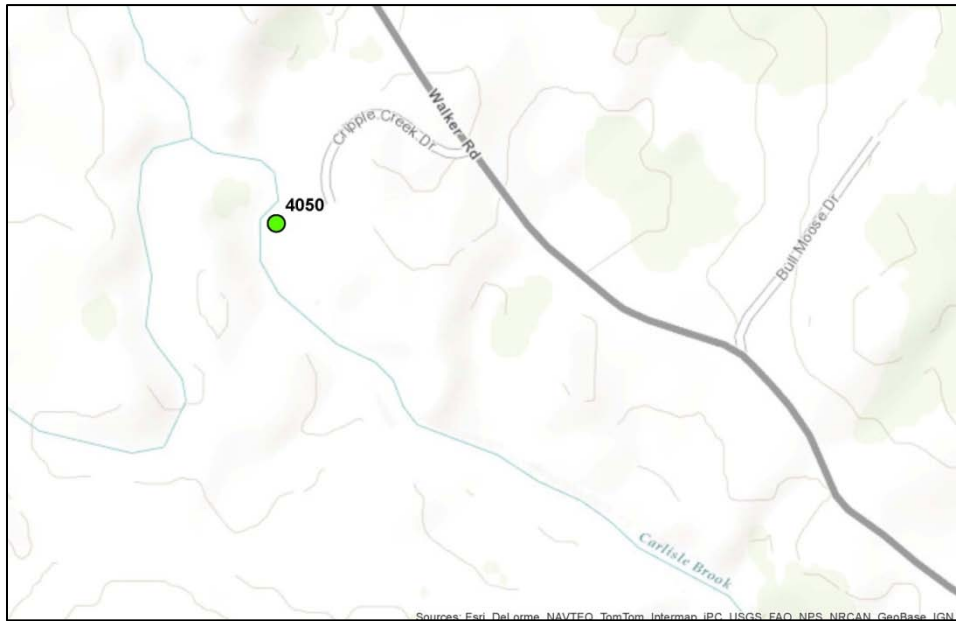
### Description:

Factors creating a barrier at this crossing include rip rap that has been placed in the stream, and rip rap and other debris, possibly from an old bridge, that partially block the outlet of the ford.

### Recommendation:

This crossing could be easily improved by installing a suitable alternative crossing structure, such as a timber frame bridge, as well as removing debris and rip rap from the outlet and stream channel.

## Cripple Creek Drive, Lyman



**Site ID:** 4050  
**Road:** Cripple Creek Drive  
**Stream:** Carlisle Brook  
**Ownership:** Private  
**Crossing Structure:** Round Culvert  
**Barrier Status:** Barrier, Outlet Perched Above Cascade



### Description:

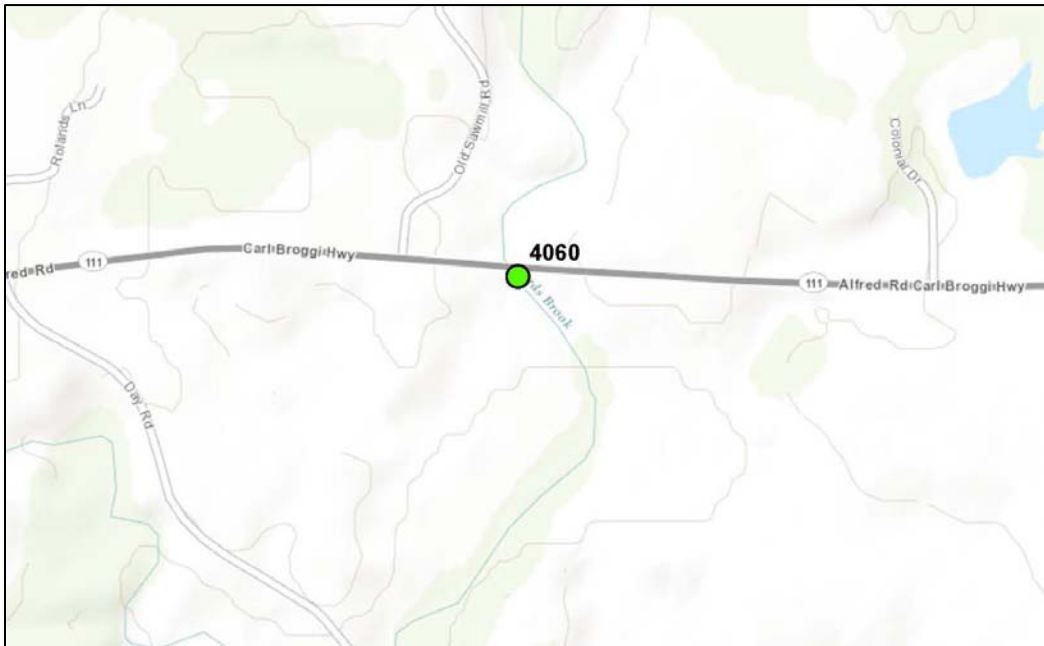
Factors that contribute to this barrier include an outlet perched above a cascade created by rip rap, and increased water velocity due to narrowing of the stream width through the crossing. There is also a secondary round culvert at this crossing, set at a higher elevation and also perched.

### Recommendation:

Both of these culverts should be replaced with a single structure that is at or below stream grade and exceeds the normal channel width to eliminate the drop and decrease water velocity.



## Route 111, Lyman



**Site ID:** 4060  
**Road:** Route 11  
**Stream:** Lord's Brook  
**Ownership:** Maine DOT  
**Crossing Structure:** Pipe Arch Culvert  
**Barrier Status:** Barrier, Perched Outlet  
**Barrier Description:**



Factors creating a barrier at this crossing include a perched outlet with a 0.17 meter drop, an inlet drop, and increased water velocity due to narrowing of the stream width through the crossing. It appears that this crossing has been modified to include weirs at the outlet and within the structure in an attempt to reduce water velocity through the crossing, which has created a large scour pool. The culvert appears to have been perched previously, and the modifications have increased the outlet drop by several inches.

### Recommendation:

Ideally, this crossing should be replaced with one that is at or below stream grade and exceeds the normal channel width to eliminate the drop and reduce water velocity.



**Lyman Road Crossing Barrier Status and Location**

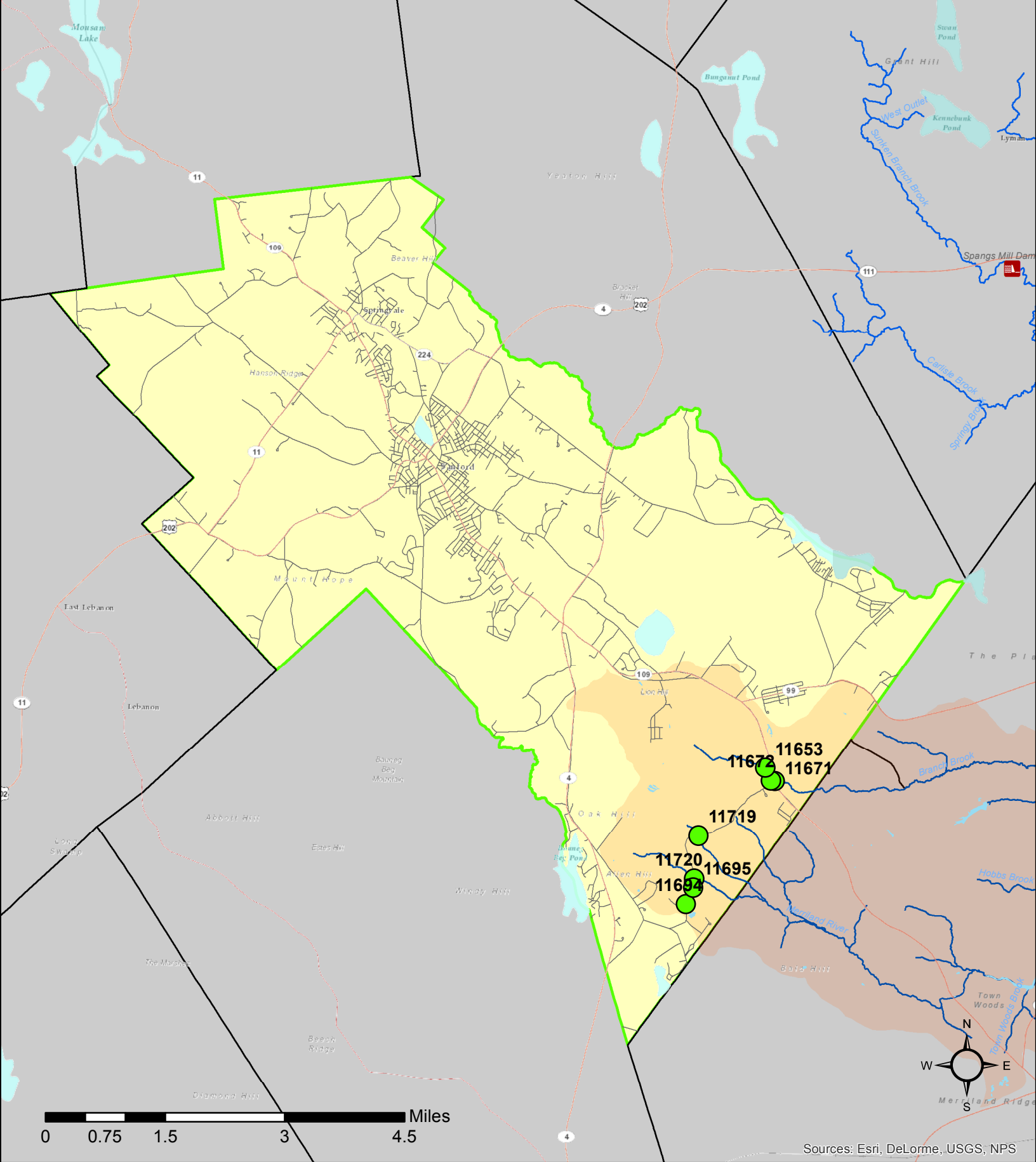
Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
4059	MDOT	Moderate Barrier	Kennebunk River	Alfred Road	Paved
4060	MDOT	Barrier	Lord's Brook	Alfred Road	Paved
4057	MDOT	Moderate Barrier		Alfred Road	Paved
4074	MDOT	Barrier	Lord's Brook	South Waterboro Road	Paved
4073	MDOT	Moderate Barrier	Sunken Brook	South Waterboro Road	Paved
4067	MDOT	Moderate Barrier		South Waterboro Road.	Paved
4309	MDOT	Barrier		South Waterboro Road	Paved
4051	Private	Barrier		Old Kennebunk Road	Paved
4050	Private	Barrier	Carlisle Brook	Cripple Creek	Unpaved
4062	Private	Moderate Barrier	Lord's Brook	Davis Road	Unpaved
11688	Private	Moderate Barrier		Elizabeth Lane	Unpaved
11792	Private	Barrier		Grant Hill Road.	Trail
4064	Private	Barrier	Lord's Brook	Notta Road	Unpaved
11692	Private	Barrier	Kennebunk River	off of Alfred Road	Trail
11679	Private	Barrier		off of Day Road	Unpaved
11795	Private	Barrier	Sunken Branch Brook	off of Day Road	Unpaved
11677	Private	Barrier		off of Walker Road	Unpaved
11691	Private	Barrier		off of Walker Road	Trail
4065	Private	Moderate Barrier	West Outlet	Wood Place	Unpaved
4055	Town	Moderate Barrier	Lord's Brook	Day Road	Paved
4058	Town	Moderate Barrier	Lord's Brook	Day Road	Paved

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
4056	Town	Barrier	Carlisle Brook	Walker Road	Paved

### Lyman Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4059	Box Culvert	Concrete	6.700		0.000			
4060	Pipe Arch Culvert	Metal	32.840	Perched	0.170			
4057	Round Culvert	Metal	25.610		0.000			
4074	Round Culvert	Metal	21.800	Perched	0.155	Perched		
4073	Round Culvert	Metal	27.410		0.000			Small
4067	Round Culvert	Metal	12.240		0.000			Large
4309	Round Culvert	Metal	9.950	Perched	0.040	Inlet Drop		Small
4051	Box Culvert	Concrete	14.800		0.000	Inlet Drop	50%	
4050	Round Culvert	Metal	8.400	Perched Above Cascade	0.000			
4062	Round Culvert	Plastic	7.090		0.000			
11688	Pipe Arch Culvert	Metal	10.058		0.000			Large
11792	Bridge with Side Slopes	Wood	2.286		0.000		75%	Large
4064	Round Culvert	Plastic	9.000	Perched	0.030		50%	
11692	Ford		0.000	Cascade	0.000			Small
11679	Round Culvert	Plastic	6.706		0.000	Perched		Small
11795	Round Culvert	Metal	7.498		0.000	Perched		Large
11677	Round Culvert	Concrete	8.534	Perched	0.152	Perched		Large
11691	Round Culvert	Plastic	6.096	Perched	0.253	Perched		Small
4065	Round Culvert	Metal	6.150		0.000			Large

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
4055	Round Culvert	Metal	12.000		0.000			Large
4058	Round Culvert	Metal	4.570		0.000			
4056	Round Culvert	Plastic	12.080	Perched	0.000	Perched		



# Sanford

## Road-Stream Crossing Barrier Inventory

- Road Crossing Barrier
- Waterbody
- Dam
- MBLR Watershed
- Perennial Stream

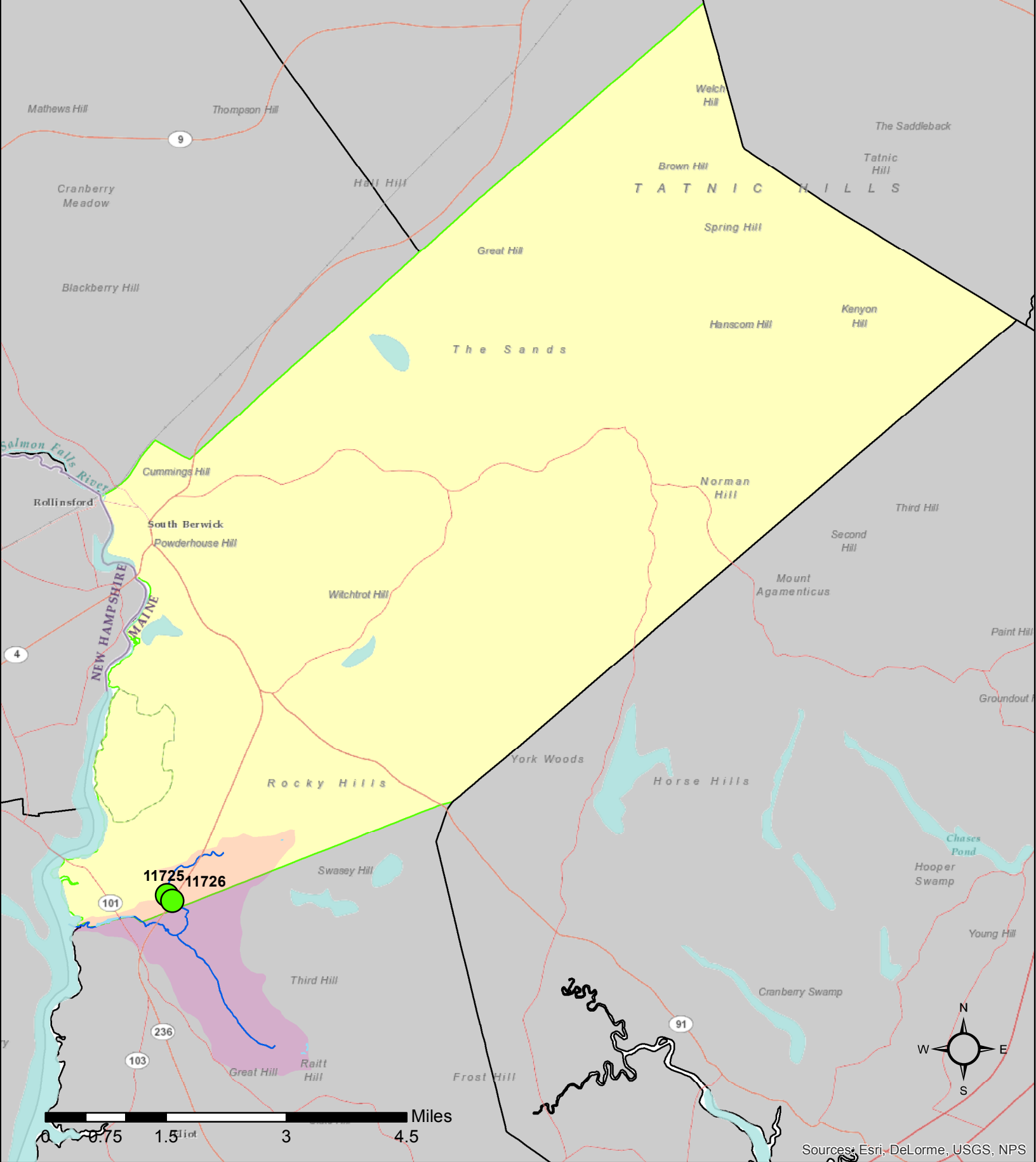


### Sanford Road Crossing Barrier Status and Location

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
11671	MDOT	Barrier	Branch Brook	Main St	Paved
11653	Private	Moderate Barrier	Branch Brook		Unpaved
11694	Town	Moderate Barrier		Sam Allen	Driveway
11719	Town	Barrier		Sam Allen	Paved
11672	Town	Barrier	Branch Brook	Sam Allen Road	Paved
11720	Town	Barrier	Merriland River	Sam Allen Road	Paved
11695	Town	Moderate Barrier		Sam Allen Road	Driveway

### Sanford Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
11671	Round Culvert	Plastic	14.935		0.000	Perched		
11653	Round Culvert	Concrete	9.906		0.000	Inlet Drop		
11694	Round Culvert	Metal	13.411		0.000			Small
11719	Round Culvert	Plastic	15.240	Perched	0.101			Large
11672	Bottomless Box Culvert	Concrete	8.839	Cascade	0.000			Small
11720	Round Culvert	Plastic	15.240	Perched	0.152			Large
11695	Round Culvert	Metal	9.144		0.000			Small



# South Berwick

Road-Stream Crossing  
Barrier Inventory

- Road Crossing Barrier
- Perennial Stream
- Waterbody
- Shorey's Brook Watershed



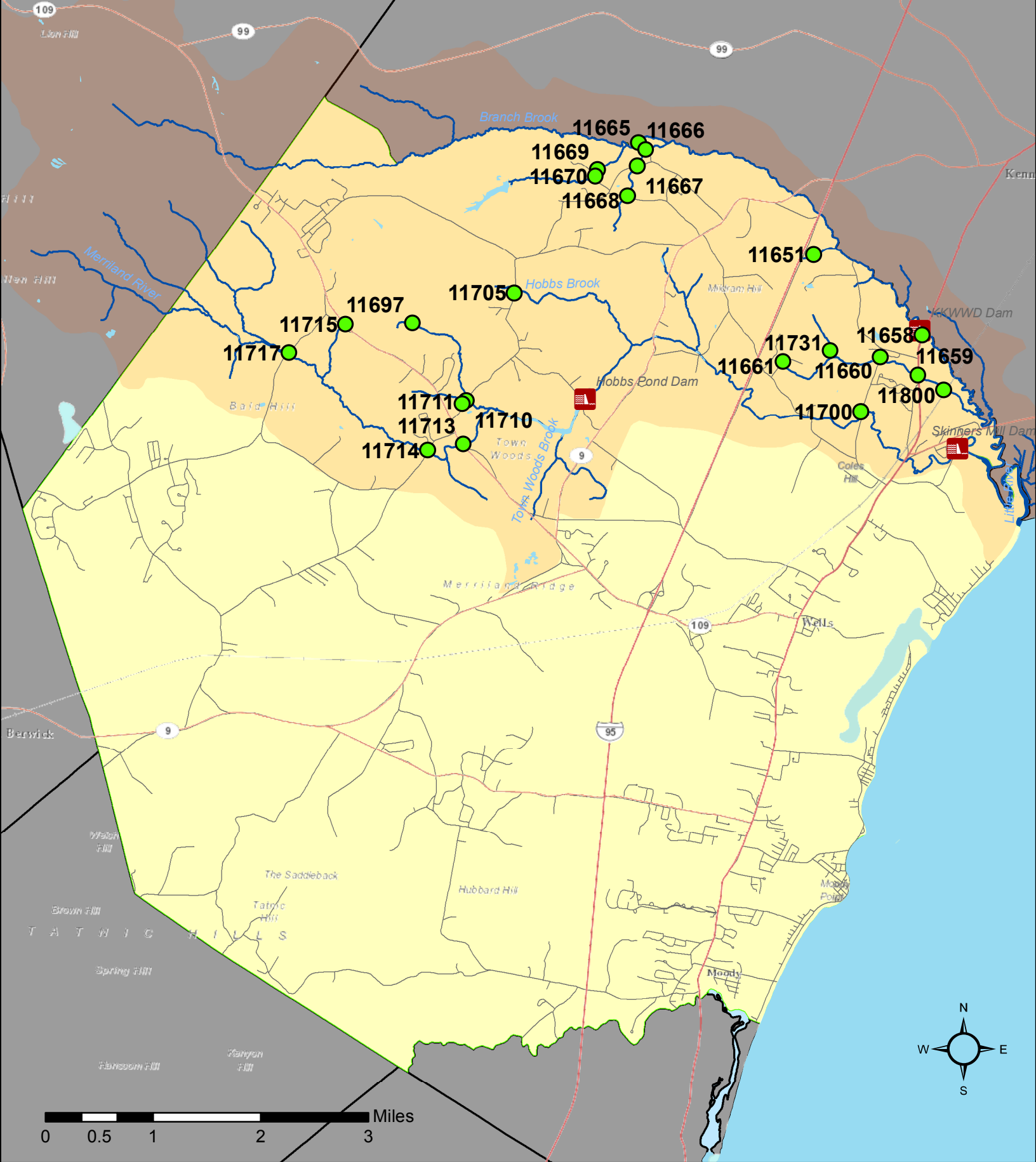
### South Berwick Road Crossing Barrier Status and Location

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
11726	MDOT	Barrier	Lord's Brook	Route 236	Paved
11725	Town	Barrier	Lord's Brook	Shorey Lane	Unpaved

### South Berwick Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
11726	Round Culvert	Metal	20.086		0.000		75%	Large
11725	Box Culvert	Concrete	4.389		0.000		100%	Small





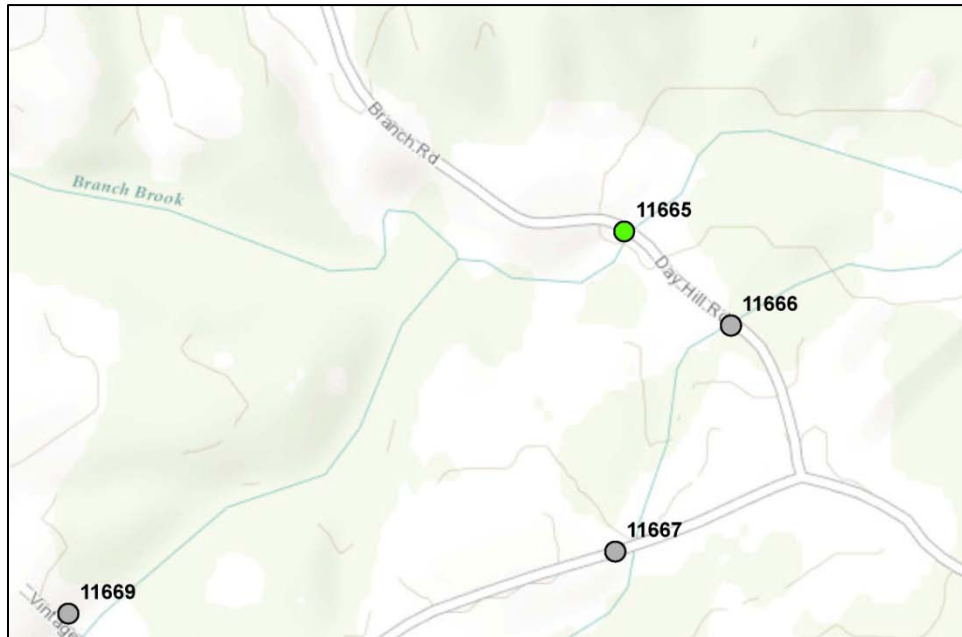
# Wells

Road-Stream Crossing  
Barrier Inventory

- Wells
- Dam
- Waterbody
- MBLR Watershed



## Day Hill Road, Wells



**Site ID:** 11665  
**Road:** Day Hill Road  
**Stream:** Branch Brook  
**Ownership:** Town of Wells  
**Crossing Structure:** Pipe Arch Culvert  
**Barrier Status:** Barrier, Perched Outlet



### Description:

Factors that contribute this barrier include a perched outlet with a 0.25 meter drop, and increased water velocity due to narrowing of the stream width through the crossing. The outlet of this structure has been bent so that the outlet drop is not completely vertical.

### Recommendation:

This structure should be replaced with one that is at or below stream grade and exceeds the normal channel width to eliminate the drop and decrease water velocity.

**Wells Road Crossing Barrier Status and Location**

Site ID	Jurisdiction	Ranking	Stream Name	Road Name	Road Type
11715	MDOT	Barrier		Highpine Loop	Paved
11659	MDOT	Barrier		Post Road	Paved
11658	MDOT	Moderate Barrier	Branch Brook	Route 1	Paved
11713	MDOT	Moderate Barrier	Merriland River	Sanford Road	Paved
11800	Private	Moderate Barrier		B&M Railroad	Railroad
11670	Private	Barrier		Branch Brook Run	Unpaved
11661	Private	Barrier		Dwight Drive	Paved
11731	Private	Barrier		Dorfield Lane	Unpaved
11651	Private	Moderate Barrier	Branch Brook	off of Jefferd's way	Trail
11697	Private	Moderate Barrier			Unpaved
11669	Private	Barrier		Vintage Way	Paved
11700	Private	Barrier	Merriland River	Willow Way	Unpaved
11717	Town	Moderate Barrier	Merriland River	Bald Hill Road	Paved
11714	Town	Moderate Barrier	Merriland River	Bragdon Road	Paved
11667	Town	Barrier		Chick Crossing Road	Paved
11668	Town	Barrier		Clark Road	Paved
11665	Town	Barrier	Branch Brook	Day Hill Road	Paved
11666	Town	Barrier		Day Hill Road	Paved
11705	Town	Moderate Barrier	Hobbs Brook	Meetinghouse Road	Paved
11710	Town	Barrier		Meetinghouse Road	Paved
11711	Town	Barrier		Meetinghouse Road	Paved
11660	Town	Moderate Barrier		Willow Way	Paved

### Wells Road Crossing Barrier Description

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
11715	Round Culvert	Metal	15.240	Perched	0.274		75%	Large
11659	Pipe Arch Culvert	Metal	47.488	Perched Above Cascade	0.396			Small
11658	Bridge with Abutments	Concrete	0.000		0.000			Small
11713	Box Culvert	Concrete	14.021		0.000	Inlet Drop		Small
11800	Open Bottom Arch	Concrete	22.250		0.000			Large
11670	Round Culvert	Metal	5.700	Perched	0.091	Perched		
11661	Round Culvert	Plastic	21.336	Perched	0.457			Small
11731	Round Culvert	Plastic	12.375	Perched	0.244			Small
11651	Round Culvert	Metal	15.210		0.000	Inlet Drop	25%	Large
11697	Round Culvert	Metal	6.096		0.000			Small
11669	Round Culvert	Plastic	18.197	Perched	0.091	Inlet Drop		Large
11700	Round Culvert	Plastic	6.187	Perched	0.091	Perched		Small
11717	Round Culvert	Metal	8.931		0.000			Small
11714	Pipe Arch Culvert	Metal	9.144		0.000			Large
11667	Round Culvert	Metal	24.994	Perched Above Cascade	0.762			
11668	Round Culvert	Metal	11.704	Perched	0.030		25%	Large
11665	Pipe Arch Culvert	Metal	17.892	Perched	0.253	Perched		
11666	Round Culvert	Metal	13.990	Perched	0.091			
11705	Pipe Arch Culvert	Metal	12.162		0.000			
11710	Round Culvert	Metal	12.802	Perched	0.305		25%	

Site ID	Structure Type	Material	Length (m)	Outlet Condition	Outlet Drop (m)	Inlet Condition	Inlet Blocked	Scour Pool
11711	Round Culvert	Metal	15.240	Perched	0.914			Small
11660	Round Culvert	Metal	9.235		0.000			