

DELINEATION REPORT
West Street Stream Crossing
West Street, Pittsfield, Berkshire County, Massachusetts

Introduction

Guntlow & Associates, Inc. visited the assessment area located at a road-stream crossing associated with West Street in the City of Pittsfield, Berkshire County, Massachusetts. The approximate coordinates of this site are Latitude 42°, 27', 30.024" North and Longitude 73°, 19', 09.732" West. Boundaries of MA State jurisdictional wetland resource areas were delineated in early October of 2019. The delineation consisted of outlining MA State jurisdictional wetland resource areas within a proposed project area with pink and black striped flagging, numbered accordingly, picked up by survey crew and put into an existing conditions plan.

Methodology

The mean annual high-water line (MAHWL) delineation of the perennial May Brook was performed by identifying visible markings, changes in the character of soils and vegetation from prolonged presence of water, stain lines, changes in bank materials, and bank undercuts. The mean annual high-water line reaches these elevations at least once a year, on average.

Site Description

The assessment area consists of a portion of the perennial May Brook. This stream was dry on the upstream side of the culvert crossing during the assessment, although the most current USGS Topographical Map depicts this section as perennial. This stream is also mapped as a coldwater fisheries resource with a SARIS identification as 2106125. According to the MA Streamflow statistics, the watershed of this stream from a location immediately on the north side of the subject site is approximately 0.93 square miles with a flow at 0.0366 cfs at the 99% duration.

A limited amount of state jurisdictional bordering vegetated wetlands were identified onsite, most of which fringe along the bank of the May Brook and were flagged in the field. Adjacent to the May Brook road stream crossing, a culvert exists to the east, for access to the field on the north side of West Street. This culvert was determined to be jurisdictional, due to the wet swale containing hydrophytes along the north side of West street.



Figure 1.

A photograph looking through the May Brook road-stream crossing, consisting of a forty-eight (48) inch culvert located below West Street.

U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI)

<http://www.fws.gov/Wetlands/Data/Mapper.html>

According to the attached U.S. Fish and Wildlife Service's National Wetlands Inventory, wetlands are associated with the stream, on the south side of West Street, a short distance downstream, which are mapped as PSS1E.

Cold Water Fisheries Resources (CFR) Map

<http://www.mass.gov/eea/agencies/dfg/dfw/wildlife-habitat-conservation/coldwater-fish-resources-map.html>

May Brook is a mapped cold-water fisheries resources (CFR) with a SARIS identification of 2106125.

USDA NRCS Web Soil Survey (WSS)

<http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

The attached Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) has mapped the assessment area as Fredon Fine Sandy Loam soil with zero (0) to three (3) percent slopes (34A), and Pittsfield loam, with three (3) to eight (8) percent slopes, very stony (511B).

U.S. Geological Survey Topographical Map

http://maps.massgis.state.ma.us/map_ol/oliver.php

According to this map, May Brook is mapped as perennial stream. With this, MA State Jurisdictional two hundred (200) foot riverfront area is associated with this stream.

Massachusetts Endangered Species Act (MESA)

http://maps.massgis.state.ma.us/map_ol/oliver.php

No areas within the assessment site are mapped by the Massachusetts Natural Heritage and Endangered Species Program (NHESP), according to the most recent NHESP Atlas, 14th edition (August 1, 2017). With this, no areas within the assessment site are jurisdictional under the MA Endangered Species Act.

U.S. Fish & Wildlife Service's Information, Planning and Conservation System (IPaC)

<http://ecos.fws.gov/ipac/gettingStarted/map>

There are no federally listed threatened or endangered species or critical habitats associated with the subject site. This mapping is primarily used for potential U.S. Army Corps of Engineers MA General Permit purposes. Just as the entire Commonwealth of Massachusetts, the Northern long-eared Bat (NLEB) (*Myotis septentrionalis*) is a federally listed threatened species. Typically, trees consisting of three (3) inches in diameter and greater are desired by this bat species. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and dead trees. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. In general, if trees consisting of this size, as noted above, are proposed to be removed near or within a wetland or other waterbodies, there is an impact for this specific bat species.

According to the US Fish & Wildlife, there is a concern if impacts are proposed to occur within a quarter (0.25) mile radius of a winter hibernacula or within one hundred and fifty (150) feet of a summer roost site. When referring to

<https://masseoea.maps.arcgis.com/apps/Viewer/index.html?appid=de59364ebbb348a9b0de55f6febd52>, no NLEB winter hibernaculum's or summer roost sites are mapped within the City of Pittsfield, MA.

Wetland Classification

The Cowardin et.al classification (1979) system was used to classify the following wetland resource area:

Cowardin Classification System

May Brook

System - Riverine (R)

Subsystem – Lower Perennial (2)

Class – Unconsolidated Bottom (UB)

Subclass - Cobble Gravel (1)

Water Regime – Non-tidal

Permanently Flooded (H)

MA State Jurisdictional Wetland Resource Areas

As shown in the existing condition plan, the mean annual high-water line of the perennial stream onsite has been outlined along with its associated 100' inner riparian zone and 200' outer riparian zone of Riverfront Area. Limited MA state jurisdictional bordering vegetated wetlands were identified within the assessment area, as defined in the Massachusetts 310 CMR 10.00 of the Wetlands Protection Act (WPA). The following state jurisdictional wetland resource areas are found within the subject site:

Riverfront Area- 10.58 – is the area of land between a perennial river's mean annual high-water line (MAHWL) measured horizontally outward from the river's bank and a parallel line located two hundred (200) feet away.

- Pink and black striped flags marking the river's mean annual high water line (MAHWL), which were labeled MBA1-MBA8.

Bordering Vegetated Wetlands- 10.55 – is land dominated with hydrophytes combined with hydric soils and wetland hydrology. A one hundred (100) foot buffer zone is associated with this flagging.

- Pink and black striped flags marking the wetland boundaries, which were labeled WA1-WA5, WB1-WB4, and WC1-WC4.



U.S. Fish and Wildlife Service, National Standards and Support Team,
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October 30, 2019

Wetlands

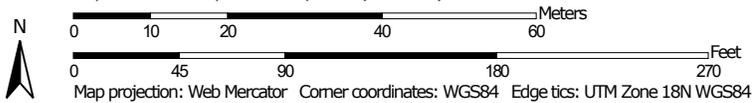
- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Soil Map—Berkshire County, Massachusetts
(West Street, Pittsfield, MA)



Map Scale: 1:975 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Berkshire County, Massachusetts

Survey Area Data: Version 14, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 2, 2015—Oct 5, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
34A	Fredon fine sandy loam, 0 to 3 percent slopes	2.0	51.6%
269A	Groton gravelly sandy loam, 0 to 3 percent slopes	0.8	21.3%
511B	Pittsfield loam, 3 to 8 percent slopes, very stony	1.0	27.0%
Totals for Area of Interest		3.9	100.0%

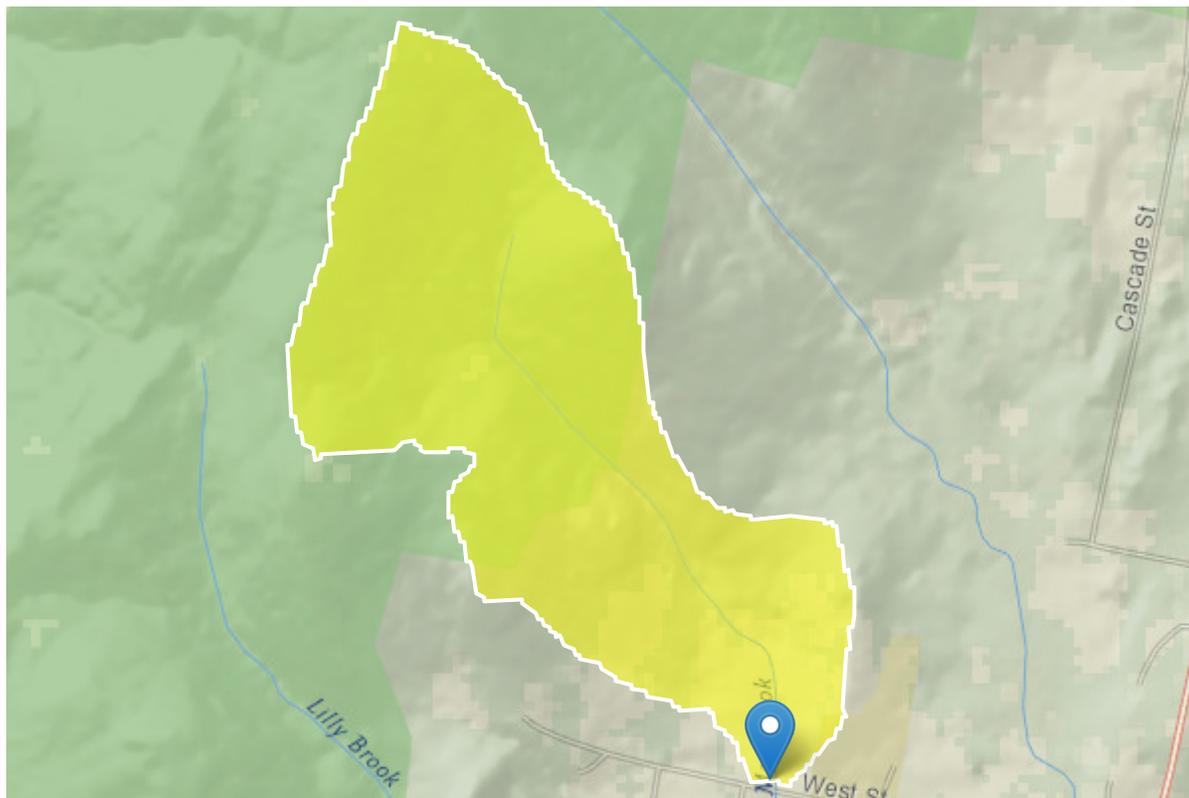
West StreamStats Report

Region ID: MA

Workspace ID: MA20191030092537230000

Clicked Point (Latitude, Longitude): 42.45863, -73.31935

Time: 2019-10-30 05:26:03 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.93	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	13.411	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM10M	Mean basin slope computed from 10 m DEM	18.622	percent
ELEV	Mean Basin Elevation	1570	feet

Parameter Code	Parameter Description	Value	Unit
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	0	percent
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	0	percent
FOREST	Percentage of area covered by forest	88.11	percent

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	13.411	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1

Low-Flow Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0708	ft ³ /s
7 Day 10 Year Low Flow	0.0336	ft ³ /s

Low-Flow Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

August Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	13.411	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1

August Flow-Duration Statistics Disclaimers^[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

August Flow-Duration Statistics Flow Report^[Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
August 50 Percent Duration	0.17	ft ³ /s

August Flow-Duration Statistics Citations

Ries, K.G., III, 2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (<http://pubs.usgs.gov/wri/wri004135/>)

Bankfull Statistics Parameters^[Bankfull Statewide SIR2013 5155]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	0.6	329
BSLDEM10M	Mean Basin Slope from 10m DEM	18.622	percent	2.2	23.9

Bankfull Statistics Flow Report^[Bankfull Statewide SIR2013 5155]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SEp
Bankfull Width	17.3	ft	21.3

Statistic	Value	Unit	SEp
Bankfull Depth	1.06	ft	19.8
Bankfull Area	18.1	ft ²	29
Bankfull Streamflow	73.3	ft ³ /s	55

Bankfull Statistics Citations

Bent, G.C., and Waite, A.M., 2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (<http://pubs.usgs.gov/sir/2013/5155/>)

Peak-Flow Statistics Parameters^[Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	0.16	512
ELEV	Mean Basin Elevation	1570	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	0	percent	0	32.3

Peak-Flow Statistics Flow Report^[Peak Statewide 2016 5156]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SEp
2 Year Peak Flood	77.2	ft ³ /s	36.4	164	42.3
5 Year Peak Flood	136	ft ³ /s	62.9	293	43.4
10 Year Peak Flood	187	ft ³ /s	83.9	415	44.7
25 Year Peak Flood	265	ft ³ /s	114	613	47.1
50 Year Peak Flood	332	ft ³ /s	138	800	49.4
100 Year Peak Flood	407	ft ³ /s	163	1020	51.8
200 Year Peak Flood	491	ft ³ /s	189	1270	54.1
500 Year Peak Flood	617	ft ³ /s	265	1440	57.6

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (<https://dx.doi.org/10.3133/sir20165156>)

Flow-Duration Statistics Parameters^[Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	13.411	percent	0.32	24.6

Flow-Duration Statistics Disclaimers^[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report^[Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
50 Percent Duration	0.887	ft ³ /s
60 Percent Duration	0.533	ft ³ /s
70 Percent Duration	0.326	ft ³ /s
75 Percent Duration	0.25	ft ³ /s
80 Percent Duration	0.218	ft ³ /s
85 Percent Duration	0.169	ft ³ /s
90 Percent Duration	0.127	ft ³ /s
95 Percent Duration	0.0802	ft ³ /s
98 Percent Duration	0.0513	ft ³ /s
99 Percent Duration	0.0366	ft ³ /s

Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p.

(<http://pubs.usgs.gov/wri/wri004135/>)

Probability Statistics Parameters^[Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.93	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel	0	percent	0	100
FOREST	Percent Forest	88.11	percent	0	100
MAREGION	Massachusetts Region	1	dimensionless	0	1

Probability Statistics Flow Report^[Perennial Flow Probability]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PC
Probability Stream Flowing Perennially	0.807	dim	71

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

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Application Version: 4.3.8