Appendix 24
Taunton River Watershed
Assessment and Listing Decision Summary

Final Massachusetts Integrated List of Waters for the Clean Water Act 2018/2020 Reporting Cycle

CN: 505.1

November 2021

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2018/20 Cycle Impairment Changes

Waterbody	AU_ID	2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Ames Long Pond	MA62001	5	5	(Fanwort*)		Added
Assonet River	MA62-19	2	4c	(Fish Passage Barrier*)		Added
Barrowsville Pond	MA62007	3	4c	(Water Chestnut*)		Added
Big Bearhole Pond	MA62011	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
Big Bearhole Pond	MA62011	5	5	(Fanwort*)		Added
Big Bearhole Pond	MA62011	5	5	(Non-Native Aquatic Plants*)		Removed
Brockton Reservoir	MA62023	4c	4c	(Fanwort*)		Added
Brockton Reservoir	MA62023	4c	4c	(Non-Native Aquatic Plants*)		Removed
Clear Pond	MA62041	3	4c	(Non-Native Aquatic Plants*)		Added
Cleveland Pond	MA62042	4c	4c	(Fanwort*)		Added
Cleveland Pond	MA62042	4c	4c	(Non-Native Aquatic Plants*)		Removed
Crocker Pond	MA62051	4c	4c	(Curly-leaf Pondweed*)		Added
Crocker Pond	MA62051	4c	4c	(Non-Native Aquatic Plants*)		Removed
Cushing Pond	MA62056	4c	4c	(Fanwort*)		Added
Cushing Pond	MA62056	4c	4c	(Non-Native Aquatic Plants*)		Removed
Fall Brook	MA62-72	--	4c	(Fish Passage Barrier*)		Added
Forge River	MA62-37	3	4c	(Fish Passage Barrier*)		Added
Furnace Brook	MA62-73	--	4c	(Fish Passage Barrier*)		Added
Glue Factory Pond	MA62078	5	3	Benthic Macroinvertebrates		Removed
Glue Factory Pond	MA62078	5	3	Fish Bioassessments		Removed
Glue Factory Pond	MA62078	5	3	(Physical substrate habitat alterations*)		Removed
Glue Factory Pond	MA62078	5	3	Sedimentation/Siltation		Removed
Gushee Pond	MA62084	4c	4c	(Fanwort*)		Added
Gushee Pond	MA62084	4c	4c	(Fish Passage Barrier*)		Added
Island Grove Pond	MA62094	5	5	(Fanwort*)		Added
Island Grove Pond	MA62094	5	5	(Non-Native Aquatic Plants*)		Removed
Kings Pond	MA62101	3	4c	(Fish Passage Barrier*)		Added
Lake Mirimichi	MA62118	4c	4c	(Fanwort*)		Added
Lake Mirimichi	MA62118	4c	4c	(Non-Native Aquatic Plants*)		Removed
Lake Nippenicket	MA62131	4a	4a	(Fanwort*)		Added
Lake Nippenicket	MA62131	4a	4a	(Non-Native Aquatic Plants*)		Removed
Lake Rico	MA62148	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added

Waterbody	AU_ID	2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Lake Rico	MA62148	4c	4c	(Fanwort*)		Added
Lake Rico	MA62148	4c	4c	(Fish Passage Barrier*)		Added
Lake Rico	MA62148	4c	4c	(Non-Native Aquatic Plants*)		Removed
Lake Sabbatia	MA62166	5	5	(Fanwort*)		Added
Long Pond	MA62108	4c	4c	(Fanwort*)		Added
Lower Porter Pond	MA62111	4c	4c	(Fanwort*)		Added
Lower Porter Pond	MA62111	4c	4c	(Non-Native Aquatic Plants*)		Removed
Matfield River	MA62-32	5	5	Nutrient/Eutrophication Biological Indicators		Added
Meadow Brook	MA62-38	4a	4a	(Fish Passage Barrier*)		Added
Middle Pond	MA62115	4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
Middle Pond	MA62115	4c	4c	(Fanwort*)		Added
Middle Pond	MA62115	4c	4c	(Non-Native Aquatic Plants*)		Removed
Mill River	MA62-29	4c	5	(Fanwort*)		Added
Mill River	MA62-29	4c	5	(Non-Native Aquatic Plants*)		Removed
Mill River	MA62-29	4c	5	Temperature		Added
Monponsett Pond, East Basin	MA62218	5	5	(Curly-leaf Pondweed*)		Added
Monponsett Pond, East Basin	MA62218	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
Monponsett Pond, East Basin	MA62218	5	5	(Fanwort*)		Added
Monponsett Pond, East Basin	MA62218	5	5	Phosphorus, Total		Added
Monponsett Pond, West Basin	MA62119	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
Monponsett Pond, West Basin	MA62119	5	5	(Fanwort*)		Added
Monponsett Pond, West Basin	MA62119	5	5	(Non-Native Aquatic Plants*)		Removed
Mount Hope Mill Pond	MA62122	4c	4c	(Fanwort*)		Added
Mount Hope Mill Pond	MA62122	4c	4c	(Fish Passage Barrier*)		Added
Mount Hope Mill Pond	MA62122	4c	4c	(Non-Native Aquatic Plants*)		Removed
Muddy Cove Brook	MA62-51	4a	4a	(Fish Passage Barrier*)		Added
Muddy Cove Brook	MA62-59	3	4c	(Fish Passage Barrier*)		Added
Muddy Cove Brook Pond	MA62124	5	5	(Fish Passage Barrier*)		Added
Muddy Pond	MA62125	4c	4c	(Fanwort*)		Added
Muddy Pond	MA62125	4c	4c	(Non-Native Aquatic Plants*)		Removed

Waterbody	AU_ID	2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Nemasket River	MA62-25	2	5	Ambient Bioassays - Chronic Aquatic Toxicity		Added
Nemasket River	MA62-25	2	5	Dissolved Oxygen		Added
Nemasket River	MA62-25	2	5	Temperature		Added
New Pond	MA62130	4c	4c	(Fanwort*)		Added
New Pond	MA62130	4c	4c	(Non-Native Aquatic Plants*)		Removed
Norton Reservoir	MA62134	5	5	(Fanwort*)		Added
Oakland Pond	MA62136	3	4c	(Fish Passage Barrier*)		Added
Poquoy Brook	MA62-71	--	4c	(Fish Passage Barrier*)		Added
Poquoy Brook Pond	MA62146	--	4c	(Fish Passage Barrier*)		Added
Reservoir (White Oak Reservoir)	MA62157	5	5	(Fanwort*)		Added
Reservoir (White Oak Reservoir)	MA62157	5	5	Phosphorus, Total		Added
Richmond Pond	MA62159	4c	4c	(Fanwort*)		Added
Richmond Pond	MA62159	4c	4c	(Non-Native Aquatic Plants*)		Removed
Rumford River	MA62-62	5	4c	Benthic Macroinvertebrates		Removed
Rumford River	MA62-62	5	4c	Fish Bioassessments		Removed
Rumford River	MA62-62	5	4c	(Physical substrate habitat alterations*)		Removed
Rumford River	MA62-62	5	4c	Sedimentation/Siltation		Removed
Rumford River	MA62-63	5	5	(Curly-leaf Pondweed*)		Added
Rumford River	MA62-63	5	5	(Physical substrate habitat alterations*)		Removed
Rumford River	MA62-63	5	5	Sedimentation/Siltation		Removed
Salisbury Brook	MA62-08	5	5	Benthic Macroinvertebrates		Added
Salisbury Brook	MA62-08	5	5	(Non-Native Aquatic Plants*)		Added
Salisbury Brook	MA62-08	5	5	Trash		Changed
Salisbury Plain River	MA62-05	5	5	Trash		Changed
Sassaquin Pond	MA62232	5	5	(Curly-leaf Pondweed*)		Added
Satucket River	MA62-10	2	5	(Non-Native Aquatic Plants*)		Added
Satucket River	MA62-10	2	5	Temperature		Added
Savery Pond	MA62167	4c	4c	(Fanwort*)		Added
Savery Pond	MA62167	4c	4c	(Non-Native Aquatic Plants*)		Removed
Segreganset River	MA62-53	4c	4c	(Fish Passage Barrier*)		Added
Segreganset River	MA62-54	4c	4c	(Fish Passage Barrier*)		Added
Stetson Pond	MA62182	5	5	(Curly-leaf Pondweed*)		Added
Stetson Pond	MA62182	5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
Stetson Pond	MA62182	5	5	(Fanwort*)		Added
Stetson Pond	MA62182	5	5	(Non-Native Aquatic Plants*)		Removed
Stetson Pond	MA62182	5	5	(Water Chestnut*)		Added
Taunton River	MA62-01	5	5	Dissolved Oxygen		Added

Waterbody	AU_ID	2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
Taunton River	MA62-02	4a	5	Chlorophyll-a		Added
Taunton River	MA62-02	4a	5	Nitrogen, Total		Added
Taunton River	MA62-02	4a	5	Phosphorus, Total		Added
Taunton River	MA62-03	5	5	Nitrogen, Total		Added
Taunton River	MA62-04	5	5	Nitrogen, Total		Added
Thirtyacre Pond	MA62190	4c	4c	(Fanwort*)		Added
Thirtyacre Pond	MA62190	4c	4c	(Non-Native Aquatic Plants*)		Removed
Threemile River	MA62-56	2	4c	(Fish Passage Barrier*)		Added
Town River	MA62-11	3	4c	(Fish Passage Barrier*)		Added
Town River	MA62-12	3	4c	(Fish Passage Barrier*)		Added
Town River	MA62-13	3	4c	(Non-Native Aquatic Plants*)		Added
Trout Brook	MA62-07	5	5	Benthic Macroinvertebrates		Added
Trout Brook	MA62-07	5	5	(Habitat Assessment*)		Added
Turnpike Lake	MA62198	4c	4c	(Fanwort*)		Added
Unnamed Tributary	MA62-70	--	4c	(Fanwort*)		Added
Unnamed Tributary	MA62-70	--	4c	(Fish Passage Barrier*)		Added
Unnamed Tributary	MA62-70	--	4c	(Non-Native Aquatic Plants*)		Removed
Upper Porter Pond	MA62200	4c	4c	(Fanwort*)		Added
Upper Porter Pond	MA62200	4c	4c	(Non-Native Aquatic Plants*)		Removed
Wading River	MA62-47	5	5	Dissolved Oxygen		Removed
Waldo Lake	MA62201	4c	4c	(Fanwort*)		Added
Waldo Lake	MA62201	4c	4c	(Non-Native Aquatic Plants*)		Removed
Watson Pond	MA62205	5	5	(Fanwort*)		Added
Watson Pond	MA62205	5	5	(Non-Native Aquatic Plants*)		Removed
Watson Pond	MA62205	5	5	Nutrient/Eutrophication Biological Indicators		Added
Weir Village North Pond	MA62206	--	4c	(Fish Passage Barrier*)		Added
Winnecunnet Pond	MA62213	4c	4c	(Fanwort*)		Added
Winnecunnet Pond	MA62213	4c	4c	(Non-Native Aquatic Plants*)		Removed
Woods Pond	MA62220	5	5	(Fanwort*)		Added
Woods Pond	MA62220	5	5	(Non-Native Aquatic Plants*)		Removed

Ames Long Pond (MA62001)

Location:	Stoughton/Easton.
AU Type:	FRESHWATER LAKE
AU Size:	88 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 synoptic survey, two non-native aquatic macrophyte species, *Cabomba carolinia* and *Myriophyllum heterophyllum* were documented in Ames Long Pond. In July 2003 dissolved oxygen was greater than 7mg/l to a depth of 1.5 meters. A rough estimate would suggest that approximately 90% of the lake surface area has oxygen levels over 7.0 mg/L, but a more exact calculation is limited by the available bathymetry data. There was a single dissolved oxygen data point at a depth of 2.0m that was 0.2mg/L in July 2003, this measurement was likely taken at close to the maxiumum depth of the pond which is estimated to be 2.4m (8'). The depth integrated chlorophyll a measurement in July 2003 was 9 µg/L. The Aquatic Life Use for Ames Long Pond is assessed as not supporting based on the presence of the non-native aquatic macrophytes *Cabomba caroliniana* and *Myriophyllum heterophyllum*.

Assawompset Pond (MA62003)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	2034 ACRES
Classification/Qualifier:	A: PWS, ORW

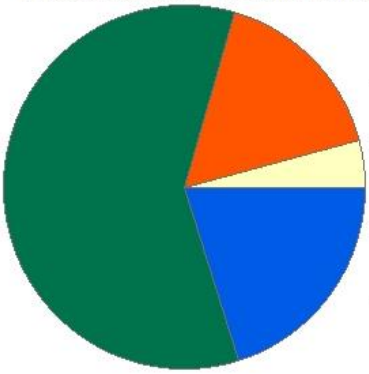
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use for Assawompset Pond is not assessed.

Assonet River (MA62-19)

Location:	From Lakeville/Freetown corporate boundary to Tisdale Pond Dam (NATID: MA03049) (north of Route 79/Elm Street intersection), Freetown (through former 2016 segment: Forge Pond MA62072) (stream name changes from Cedar Swamp River at Lakeville/Freetown corporate boundary).
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Assonet River - MA62-19

Watershed Area: 21.81 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	21.81	13.05	5.2	2.83
Agriculture	4.22%	4.2%	8%	9.4%
Developed	16.4%	16.6%	9.7%	10.1%
Natural	59.3%	58.3%	47.4%	45.2%
Wetland	20.1%	20.9%	34.8%	35.3%
Impervious Cover	6.84%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
In August 2007 DFG biologists conducted a backpack electrofishing survey in the Assonet River near Route 79 in Freetown (SampleID 2370). Six species were collected comprised entirely of tolerant to moderately tolerant macrohabitat generalists (10% of the sample). American eel dominated the sample. According to DMF biologists there are three significant barriers to fish passage along this segment of the Assonet River. From upstream to downstream these barriers include the rocky grade remaining at the former Forge Pond Dam (passage score 5), the Monument Dam (passage score 10), and the Tisdale Pond Dam (passage score 10). Target species for passage are river herring and either white perch or American eel. The Aquatic Life Use for this Assonet River AU (MA62-19) is assessed as not supporting based on the presence of fish passage barriers. Without recent water quality data the alert status for low pH and alkalinity remain.

Assonet River (MA62-20)

Location:	From Tisdale Pond Dam (NATID: MA03049) (north of Route 79/Elm Street intersection), Freetown to mouth at confluence with the Taunton River, Freetown/Berkley.
AU Type:	ESTUARY
AU Size:	0.82 SQUARE MILES
Classification/Qualifier:	SA: SFO

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for this Assonet River AU (MA62-20).

Barrowsville Pond (MA62007)

Location:	Norton.
AU Type:	FRESHWATER LAKE
AU Size:	31 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Water Chestnut*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
An infestation of the non-native aquatic macrophyte *Trapa natans* was reported in Barrowsville Pond by the Town of Norton's Open Space Committee. The Aquatic Life Use for Barrowsville Pond is assessed as not supporting due to the presence of the non-native aquatic macrophyte *Trapa natans*.

Beaumont Pond (MA62009)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	24 ACRES
Classification/Qualifier:	B

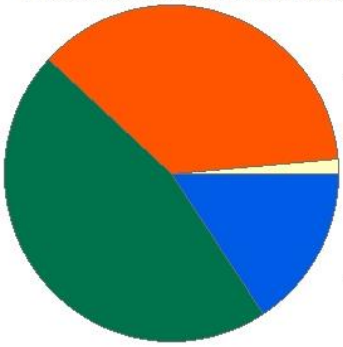
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Beaumont Pond.

Beaver Brook (MA62-09)

Location:	Outlet Cleveland Pond, Abington to mouth at confluence with Salisbury Plain River forming headwaters Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	6.8 MILES
Classification/Qualifier:	B

Beaver Brook - MA62-09

Watershed Area: 9.68 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.65	3.49	2.18	0.99
Agriculture	1.4%	3.3%	2.7%	5.2%
Developed	36.7%	40%	18.7%	21.1%
Natural	46.2%	41.4%	48.1%	44.4%
Wetland	15.8%	15.2%	30.5%	29.4%
Impervious Cover	14.93%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting (Alert)

Water quality sampling was conducted by MassDEP staff in Beaver Brook near the Crescent Street (Route 27) bridge in Brockton (W1496) during the summer of 2006. Excluding the large storm event during the June 2006 survey, and with the exception of low DO, water quality data were indicative of generally good conditions excluding the (i.e., maximum temperature 24.6°C, maximum diel DO shift 0.93 mg/L, maximum saturation 77%, pH 6.0 to 6.6SU, average and maximum total phosphorus concentrations of 0.039 and 0.056mg/L, respectively). Dissolved oxygen ranged from 3.0 to 4.5 mg/L for the entirety of the August deployment and was consistently above 5.0mg/L during the September deployment. Further downstream near Elm Street in East Bridgewater the 2006 benthic macroinvertebrate community sample from Beaver Brook (Station B0600) was found to be only "slightly impacted" (RBPIII analysis 62%) compared to the Canoe River reference station. Backpack electrofishing was conducted by DFG biologists in the river near Elm Street (SampleID4872) in August 2013. The sample in this low gradient reach was comprised of five species and was dominated by fluvial specialist/dependants moderately tolerant to pollution.

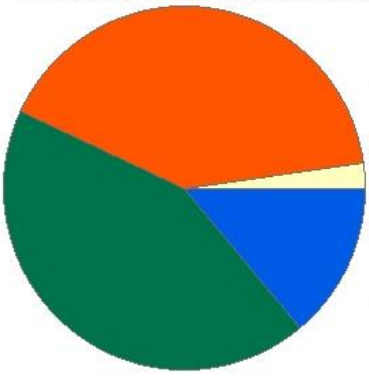
The Aquatic Life Use for the Beaver Brook AU (MA62-09) is assessed as fully supporting based primarily on the biological data (2006 benthic macroinvertebrate RPBIII analysis "slightly impaired" and the 2013 fish sample dominated by fluvial specialist/dependants moderately tolerant to pollution). Except for low DO water quality data were also indicative of generally good conditions. Whether the low dissolved oxygen results from anthropogenic influences or from natural wetland influences is unknown so will continue to be identified with an Alert Status. Habitat degradation resulting from sediment deposition in Beaver Brook upstream from Crescent Street (Route 27) bridge in Brockton also remains a concern as identified from previous assessment information. Total phosphorus concentrations are not considered problematic so are being removed as a concern.

Beaver Brook (MA62-30)

Location:	Headwaters, perennial portion, just west of Bay Road, Easton to mouth at inlet of Old Pond, Easton.
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

Beaver Brook - MA62-30

Watershed Area: 2.18 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.18	2.18	0.8	0.8
Agriculture	2.27%	2.3%	2.2%	2.2%
Developed	40.8%	40.8%	26.8%	26.8%
Natural	42.9%	42.9%	44.9%	44.9%
Wetland	14%	14%	26.1%	26.1%
Impervious Cover	12.02%			

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for this Beaver Brook AU (MA62-30).

Big Bearhole Pond (MA62011)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	38 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey two non-native aquatic species, *Cabomba caroliniana* and *Myriophyllum spicatum*, were found in Big Bearhole Pond. This AU was originally listed as impaired for low dissolved oxygen during the 1998 reporting cycle based on collected by a baseline lake survey conducted by DEM in July 1994 when oxygen depletion (<5.0 mg/L) was found at depths below 1.5m. The Aquatic Life Use for Big Bearhole Pond is assessed as not supporting based on the presence of two non-native aquatic macrophytes, *Cabomba caroliniana* and *Myriophyllum spicatum*, and the low dissolved oxygen impairment is being carried forward.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophytes Eurasian water milfoil (Myriophyllum spicatum) and Fanwort (Cabomba caroliniana) have been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey two non-native aquatic species, Cabomba caroliniana and Myriophyllum spicatum have been observed at Big Bearhole Pond. Because of the presence of two non-native aquatic macrophytes, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophytes Eurasian water milfoil (*Myriophyllum spicatum*) and Fanwort (*Cabomba caroliniana*) have been utilized.

Briggs Pond (MA62021)

Location:	Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Briggs Pond.

Broad Cove (MA62-50)

Location:	Dighton/Somerset (formerly reported as 2004 lake segment: Broad Cove MA62022).
AU Type:	ESTUARY
AU Size:	0.13 SQUARE MILES
Classification/Qualifier:	SA: SFO

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use for Broad Cove is not assessed.

Brockton Reservoir (MA62023)

Location:	Avon.
AU Type:	FRESHWATER LAKE
AU Size:	89 ACRES
Classification/Qualifier:	A: PWS, ORW

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Brockton Reservoir is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. An unconfirmed species of myriophyllum, possibly heterophyllum, was also identified so this use will also be identified with an Alert Status.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

A non-native aquatic species, *Cabomba caroliniana*, and a non-native wetland species, *Lythrum salicaria*, are present in Brockton Reservoir. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. DEP fieldsheets indicate the presence of an unconfirmed species of aquatic plant *Myriophyllum*, possibly *heterophyllum*. The species needs confirmation when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Cain Pond (MA62030)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	3 ACRES
Classification/Qualifier:	B

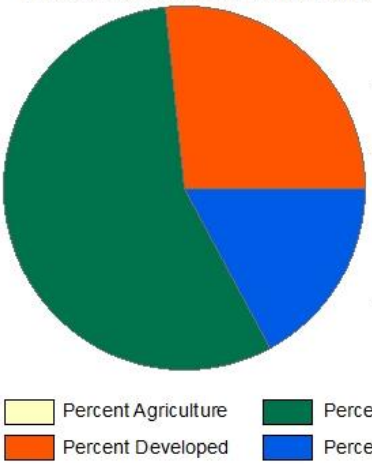
Fish, other Aquatic Life and Wildlife Use: Not Supporting
There are no recent data to evaluate the Aquatic Life Use for Cain Pond. Low DO was originally identified as an impairment in the 1992 reporting cycle. Notes indicated the impairment was based on dissolved oxygen saturation less than 50%. Since there are no new data to evaluate the impairment will remain.

CANOE RIVER (MA62-64)

Location:	Headwaters in wetland east of Cow Hill, Sharon to inlet Beaumont Pond, Foxborough (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	3.1 MILES
Classification/Qualifier:	B

Canoe River - MA62-64

Watershed Area: 2.58 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.56	2.56	0.94	0.94
Agriculture	0.6%	0.6%	0.1%	0.1%
Developed	26.6%	26.6%	20.2%	20.2%
Natural	55.7%	55.7%	50.8%	50.8%
Wetland	17.1%	17.1%	28.9%	28.9%
Impervious Cover	8.99%			

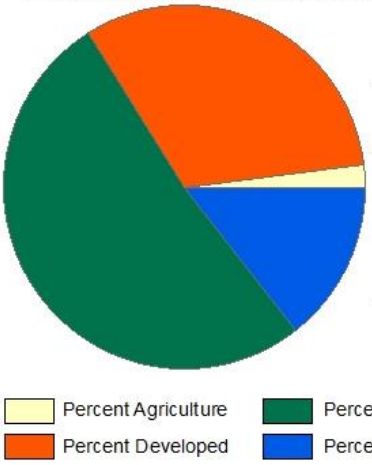
Fish, other Aquatic Life and Wildlife Use: Fully Supporting
Water quality sampling was conducted in the Canoe River during the summer of 2006 at the Willow Street bridge in Foxboro (W1505). With the exception of low pH (range from 5.7 to 6.2SU) all other water quality data were indicative of good conditions (i.e., minimum DO concentration 6.4 mg/L during the three probe deployments, maximum temperature 23.7°C, lack of any indicators of nutrient enrichment including maximum diel changes in DO only 1.0 mg/L, lack of any supersaturation, average and maximum total phosphorus concentrations of 0.025 and 0.048mg/L, respectively, and only one observation of dense/very dense filamentous algae). A benthic macroinvertebrate sample was also collected in August 2006 from the Canoe River downstream from Willow Street in Foxboro (B0184). This was used as a reference station and as such considered "not impacted". Algal cover was estimated as <5% and much of the reach was covered with moss. One fish sample collected in July 2006 (SampleID 1542) resulted in the capture of only two redfin pickerel. The Aquatic Life Use for this Canoe River AU (MA62-64) is assessed as fully supporting based primarily on the healthy benthic macroinvertebrate community. It is best professional judgement that the low pH is naturally occurring (wetland influence).

CANOE RIVER (MA62-65)

Location:	From outlet of Beaumont Pond, Foxborough to inlet of Hartwell School Pond, Mansfield (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	3.8 MILES
Classification/Qualifier:	B

Canoe River - MA62-65

Watershed Area: 9.52 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.5	6.37	3.92	2.8
Agriculture	1.93%	2.7%	1.3%	1.6%
Developed	32%	34.2%	22.1%	22%
Natural	51.6%	48.9%	51.2%	51.3%
Wetland	14.5%	14.3%	25.3%	25.1%
Impervious Cover	12.05%			

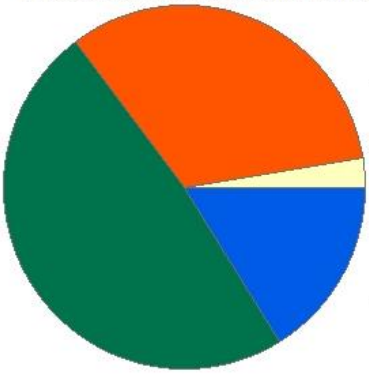
Fish, other Aquatic Life and Wildlife Use: Insufficient Information
One backpack electrofishing survey was attemped by DFG biologists in the Canoe River downstream from Route 106 in Mansfield in July 2006. The river was described as deep (3+feet throughout), slow flowing with a muck/sand bottom, heavily vegetated and marshy riparian. No fish were collected. There is insufficient information to evaluate the Aquatic Life Use for this Canoe River AU (MA62-65).

CANOE RIVER (MA62-66)

Location:	From outlet of Hartwell School Pond, Mansfield to mouth at inlet Winnecunnet Pond, Norton (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	RIVER
AU Size:	6.9 MILES
Classification/Qualifier:	B

Canoe River - MA62-66

Watershed Area: 18.82 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	18.79	5.86	7.26	1.93
Agriculture	2.55%	4%	1.7%	2.6%
Developed	32.7%	29.2%	21.7%	15.6%
Natural	48.5%	46.1%	47.2%	40.5%
Wetland	16.3%	20.7%	29.4%	41.4%
Impervious Cover	11.72%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting
Backpack electrofishing by DFG biologists was conducted at one station in the Canoe River near the Red Mill Road crossing in Norton (SampleID 1641) in May 2006. Ten species (50 individuals) were collected and nearly half of the sample was comprised of fluvial specialists. Both intolerant and moderately tolerant fishes were collected (66% of the sample). The Aquatic Life Use for this Canoe River AU (MA62-66) is assessed as fully supporting based on the fish population data.

Carpenter Pond (MA62032)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	29 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)
1996 DEP fieldsheets indicate the presence of an unconfirmed species of aquatic plant *Myriophyllum*, possibly *heterophyllum*. The species needs confirmation, ideally when flowering heads are present. There is insufficient information to assess Aquatic Life Use for Carpenter Pond. This use is identified with an alert status because of the potential infestation of *M. heterophyllum*, which needs confirmation.

Carver Pond (MA62033)

Location:	Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	29 ACRES
Classification/Qualifier:	B

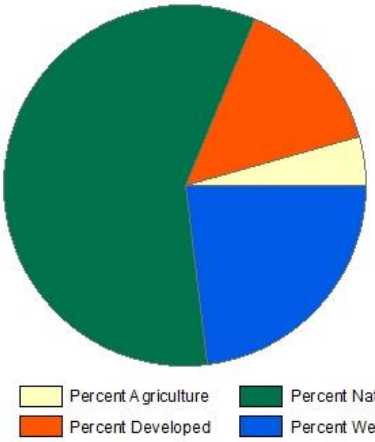
Fish, other Aquatic Life and Wildlife Use: Not Supporting
A non-native aquatic species *Myriophyllum heterophyllum* was identified during the DWM 1996 survey. The Aquatic Life Use is assessed as not supporting for Carver Pond due to the presence of non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Cedar Swamp River (MA62-44)

Location:	Headwaters south of Freetown Street, Lakeville to Lakeville/Freetown corporate boundary (stream name changes to Assonet River at Lakeville/Freetown corporate boundary).
AU Type:	RIVER
AU Size:	5.3 MILES
Classification/Qualifier:	B

Cedar Swamp River - MA62-44

Watershed Area: 16.54 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	16.1	12.1	3.7	2.92
Agriculture	4.3%	5%	7%	8.5%
Developed	14%	15%	8.1%	1.4%
Natural	58%	55%	46%	39%
Wetland	23%	24%	40%	47%
Impervious Cover	6.2%			

Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available for Cedar Swamp River so the Aquatic Life Use is not assessed. The former alerts for low DO, pH, and alkalinity are being maintained and fish passage barrier is being added.

Chaffin Reservoir (MA62035)

Location:	Pembroke.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available for Chaffin Reservoir so the Aquatic Life Use is not assessed. This use is identified with an Alert Status however because of an unidentified species of myriophyllum.

Chartley Pond (MA62038)

Location:	Norton/Attleboro.
AU Type:	FRESHWATER LAKE
AU Size:	57 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for Chartley Pond.

Clear Pond (MA62041)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Non-Native Aquatic Plants*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DCR staff *Myriophyllum heterophyllum* was found in Clear Pond in 2005. The Aquatic Life Use for Clear Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Cleveland Pond (MA62042)

Location:	Abington.
AU Type:	FRESHWATER LAKE
AU Size:	98 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Cleveland Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. This use is also identified with an Alert Status however because of an unconfirmed species of myriophyllum.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

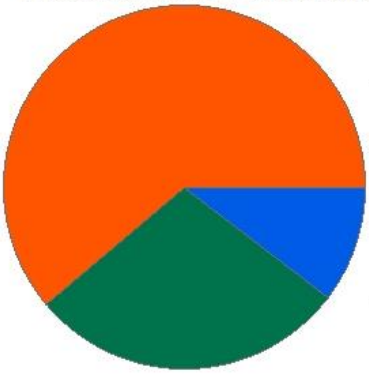
Cleveland Pond has an infestation of two non-native aquatic macrophyte species, *Cabomba caroliniana* (confirmed in DEP field sheets) and *Myriophyllum heterophyllum* (DEP Non-native aquatic species database information from DCR Lakes & ponds 2008). Because of the presence of non-native aquatic macrophytes, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Cobb Brook (MA62-43)

Location:	Headwaters south of Dunbar Street (in Crapo Bog), Taunton to mouth at confluence with the Taunton River, Taunton (approximately 0.1mile culverted at mouth).
AU Type:	RIVER
AU Size:	3.5 MILES
Classification/Qualifier:	B

Cobb Brook - MA62-43

Watershed Area: 2.47 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.47	2.47	0.49	0.49
Agriculture	0.07%	0.1%	0.1%	0.1%
Developed	61.2%	61.2%	50.8%	50.8%
Natural	28.4%	28.4%	31.7%	31.7%
Wetland	10.4%	10.4%	17.5%	17.5%
Impervious Cover	23.39%			

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available so the Aquatic Life Use for Cobb Brook is not assessed.

Cocasset Lake (MA62043)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	32 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)
Non-native aquatic plant species Myriophyllum heterophyllum reported in MassDEP herbicide database by multiple Environmental companies but requires species confirmation. There is insufficient information to assess the Aquatic Life Use for Cocasset Lake. This use is identified with an alert status because of the potential infestation of *M. heterophyllum*, which needs confirmation.

Cooper Pond (MA62046)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	22 ACRES
Classification/Qualifier:	B

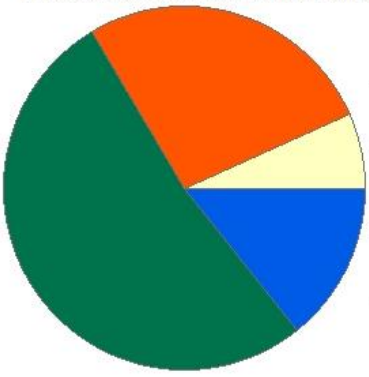
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available for Cooper Pond so the Aquatic Life Use is not assessed.

Cotley River (MA62-41)

Location:	From outlet of cranberry bog south of Seekell Street, Taunton to mouth at confluence with the Taunton River, Taunton.
AU Type:	RIVER
AU Size:	5.7 MILES
Classification/Qualifier:	B

Cotley River - MA62-41

Watershed Area: 7.56 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	7.56	5.54	1.25	1.08
Agriculture	6.66%	5.3%	9.1%	9.4%
Developed	26.9%	28.4%	15.4%	16.4%
Natural	52.1%	52.5%	45.5%	45.3%
Wetland	14.3%	13.8%	30%	28.9%
Impervious Cover	12.01%			

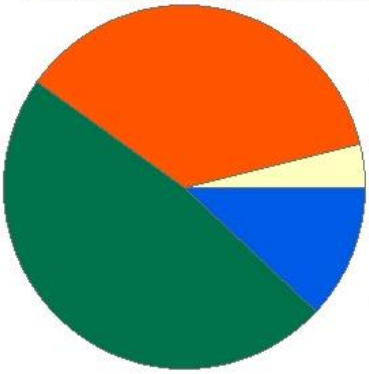
Fish, other Aquatic Life and Wildlife Use: Insufficient Information
Backpack electrofishing conducted at one station upstream from Macomber Street in Berkley (SampleID 3144) in July 2009 resulted in the capture of three species and four individuals. One of the species caught was a fluvial specialist moderately tolerant to environmental perturbations. The Barstows Pond Dam in Taunton near the mouth of the Cotley River which had a DMF passage score of 10 was successfully removed in April 2018. The dam removal project here opened eight miles of riverine habitat to river herring, American eels, seal lamprey and other native species. There is insufficient information to evaluate the Aquatic Life Use for the Cotley River.

Coweeset Brook (MA62-22)

Location:	Headwaters, perennial portion, southwest of Route24/Route 123 interchange (north of Mill Street), Brockton to mouth at confluence with Hockomock River, West Bridgewater.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B

Coweeset Brook - MA62-22

Watershed Area: 18.63 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	18.36	3.85	5.6	1.16
Agriculture	3.85%	6.3%	3.7%	4.1%
Developed	36.3%	48.1%	24.3%	34.6%
Natural	47.8%	32.5%	51.5%	33.2%
Wetland	12.1%	13.1%	20.5%	28%
Impervious Cover	15.48%			

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available so the Aquatic Life Use for Coweeset Brook is not assessed.

Crocker Pond (MA62051)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	17 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Curly-leaf Pondweed*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
The Aquatic Life Use for Crocker Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Potamogeton crispus*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	Impairment changed from the generic "Non-Native Aquatic Plants" to the specific macrophyte "Curly-leaf Pondweed" (Potamogeton crispus).

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Crocker Pond one non-native aquatic macrophyte species, *Potamogeton crispus*. Two non-native wetland species, *Lythrum salicaria* and *Phragmites australis* were also identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is no longer needed since the specific macrophyte "Curly-leaf Pondweed" (*Potamogeton crispus*) has been utilized.

Cross Pond (MA62052)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	2 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available so the Aquatic Life Use for Cross Pond is not assessed.

Cross Street Pond (MA62053)

Location:	Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	27 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so the Aquatic Life Use for Cross Street Pond is not assessed. It should be noted that a portion of the Cross Street Pond AU is mapped as deep marsh according to the MassDEP Detailed Wetlands (2005) Datalayer.

Cushing Pond (MA62056)

Location:	Abington.
AU Type:	FRESHWATER LAKE
AU Size:	6 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
The Aquatic Life Use for Cushing Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Cushing Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

East Freetown Pond (MA62063)

Location:	Freetown.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of East Freetown Pond one non-native aquatic macrophyte species, *Myriophyllum heterophyllum*, was found. The Aquatic Life Use for East Freetown Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Elm Street Pond (MA62066)

Location:	Halifax/Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	19 ACRES
Classification/Qualifier:	B

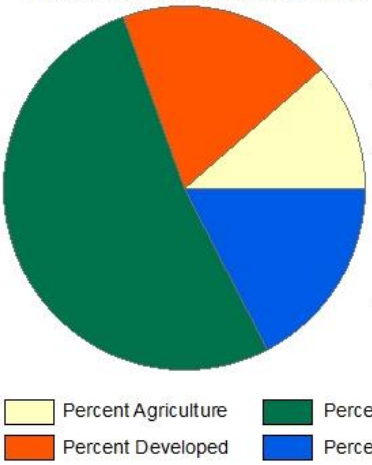
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Elm Street Pond.

FALL BROOK (MA62-72)

Location:	Headwaters, outlet Tispaquin Pond, Middleborough to mouth at confluence with Nemasket River, Lakeville.
AU Type:	RIVER
AU Size:	3.8 MILES
Classification/Qualifier:	B

FALL BROOK - MA62-72

Watershed Area: 9.4 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.31	6.08	2.8	1.52
Agriculture	11.4%	7.8%	18.1%	8%
Developed	19.1%	22.1%	11.9%	11.9%
Natural	52.1%	52.7%	36.5%	41.9%
Wetland	17.4%	17.5%	33.5%	38.1%
Impervious Cover	8.54%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

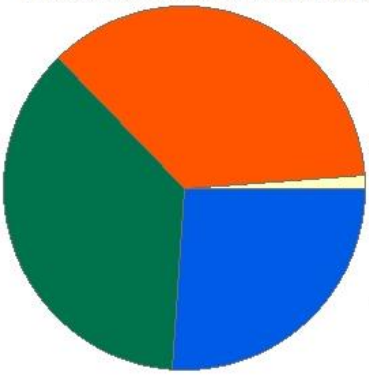
Fall Brook is designated as a coldwater fisheries resource by the MA DFW.
In the upper portion of this AU there are two dams, the Happy Hollow Dam and the Route 28 Dam, that do not allow diadromous fish passage for river herring and American eel (passage scores of 10) to Tispaquin Pond. Further downstream water quality sampling was conducted during the summer of 2013 in Fall Brook at the Wood Street bridge in Middleborough (W0320). The limited attended dissolved oxygen and pH data were low (i.e., DO as low as 4.2 mg/L and pH as low as 5.5 SU) however these are likely naturally occurring as the sampling location is in a large wetland area. The maximum temperature was 20.4°. The maximum and seasonal average total phosphorus concentrations were generally low (0.046 and 0.038 mg/L, respectively). Additional biological and unattended probe data for this site will be available in the near future.
The Aquatic Life Use for Fall Brook is assessed as not supporting because of the presence of diadromous fish passage barriers.

Forge River (MA62-37)

Location:	Headwaters, outlet Kings Pond, Raynham to mouth at confluence with the Taunton River, Raynham.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Forge River - MA62-37

Watershed Area: 9.28 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	9.28	5.75	1.66	1.23
Agriculture	1.12%	1.1%	1.6%	1%
Developed	36.2%	41.5%	20.7%	23.6%
Natural	36.5%	34.2%	44%	45.8%
Wetland	26.1%	23.2%	33.8%	29.6%
Impervious Cover	13.87%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists (Chase 2016 and 2017) there is no present passage for river herring and American eel at the Parks Department Dam (passage score of 10) on the Forge River nor is there passage at the Kings Pond Dam. Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for the Forge River.

Fuller Street Pond (MA62234)

Location:	Middleborough/Carver (formerly reported as 2004 segment: Fuller Street Pond MA95058).
AU Type:	FRESHWATER LAKE
AU Size:	20 ACRES
Classification/Qualifier:	B

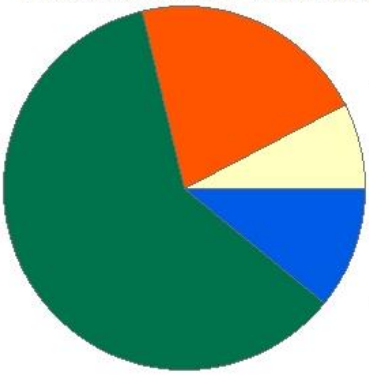
Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Fuller Street Pond one non-native aquatic macrophyte species, *Myriophyllum heterophyllum*, was identified. The Aquatic Life Use for Fuller Street Pond is assessed as impaired because of the presence of a non-native aquatic macrophyte *Myriophyllum heterophyllum.*

FURNACE BROOK (MA62-73)

Location:	Headwaters outlet Lake Rico, Taunton to mouth at confluence with the Taunton River, Raynham.
AU Type:	RIVER
AU Size:	1.1 MILES
Classification/Qualifier:	B

FURNACE BROOK - MA62-73

Watershed Area: 4.14 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	4.14	0.19	1.45	0.05
Agriculture	7.57%	0.2%	8.7%	0.8%
Developed	21.2%	72.2%	10.8%	50.4%
Natural	60.2%	17.3%	66.5%	24.4%
Wetland	11%	10.2%	14%	24.4%
Impervious Cover	8.89%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists, the existing fishway at Lake Rico Dam restricts diadromous fish passage of river herring and American eel from/to Furnace Brook (passage score of 4). DMF notes that DCR dam improvement design began in 2015 as this dam requires flow management and stream maintenance. The Aquatic Life Use for Furnace Brook is assessed as not supporting based on the presence of a barrier to fish passage.

Furnace Lake (MA62076)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	15 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available to assess the Aquatic Life Use for Furnace Lake. This use is identified with an alert status because of an unidentified species of myriophyllum in the lake during the 1996 synoptic survey.

Gavins Pond (MA62077)

Location:	Sharon/Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Supporting
The Aquatic Life Use for Gavins Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Glue Factory Pond (MA62078)

Location:	Foxborough (formerly part of 2014 segment: Rumford River MA62-39).
AU Type:	FRESHWATER LAKE
AU Size:	7 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	3	Benthic Macroinvertebrates		Removed
5	3	Fish Bioassessments		Removed
5	3	(Physical substrate habitat alterations*)		Removed
5	3	Sedimentation/Siltation		Removed

Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)
No recent data are available to assess the Aquatic Life Use for Glue Factory Pond. This use is identified with an Alert Status because of the infestation of *M. heterophyllum* in the Vandys Pond impoundment of the Rumford River (AU MA62-62) which is just upstream from Glue Factory Pond.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Benthic Macroinvertebrates	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for aquatic macroinvertebrate bioassessment impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good benthic macroinvertebrate sample assemblage in the upstream Rumford River AU62-62 during the summer 2006 survey, the impairment for benthic macroinverbrates is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Fish Bioassessments	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for fishes bioassessments impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good fish sample assemblages in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the impairment for fishes bioassessments is being delisted

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
		for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Physical substrate habitat alterations	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Physical substrate habitat alterations impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the Physical substrate habitat alterations impairment is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Sedimentation/Siltation	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Sedimentation/Siltation impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the Sedimentation/Siltation impairment is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Supporting Information for Delisted Impairments

Benthic Macroinvertebrates

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for aquatic macroinvertebrate bioassessment impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good benthic macroinvertebrate sample assemblage in the upstream Rumford River AU62-62 during the summer 2006 survey, the impairment for benthic macroinverbrates is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data Source: (MassDEP 2013) The segment MA62-62 at station TR06, B0189 (RUMFORD RIVER/ , approx. 575 meters downstream/south from Cocasset Street, Foxboro, MA was sampled on 8/1/2006

the RBPIII status was determined to be 76% comparable or "slightly impacted" when compared to the reference TR01 (UniqueID: B0184). This station had a habitat score of 152 considered to be "Comparable" when compared to the reference.

	Project	Years	UNIQUE ID	Field ID	RefPC	Richness	HBI	EPT Index	EPT CHIR	SC/ FC	FC/ Total	% Dom Taxon	Tot HabSc
98	Taunton 2006	2006	B0189	TR06	B0184	29	4.70	8	1.30	0.83	0.32	12.96%	152
99	Taunton 2006	2006	B0189	TR06	B0184	24	5.07	7	1.38	0.44	0.44	22.68%	152
100	Taunton 2006	2006	B0189	TR06	B0184	24	5.09	8	1.65	0.52	0.40	23.38%	152

	% Richness	% HBI	% EPT Index	% EPT CHIR	X.SC/ FC	DomTaxon Score	% Tot Habsc
98	116%	80%	67%	92%	481%	6	90%
99	96%	74%	58%	98%	256%	4	90%
100	96%	74%	67%	117%	299%	4	90%

Fish Bioassessments

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for fishes bioassessments impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good fish sample assemblages in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the impairment for fishes bioassessments is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data Source: (MassDFG 2014)

The RUMFORD RIVER was sampled (Cocasett St xing downstream, just W of Sand St) on 7/6/2006 (SampleID: 2322), using the Backpack Shocking method. A total of 13 individuals were collected with 5 species represented. The sample was composed of 69 % fluvial specialists/dependents and 92 % intolerant/moderately intolerant and 8 % were considered tolerant to pollution.

Taunton Fish Population Data from DFG Database								
Station Description	Rumford River -- Cocasett St xing downstream, just W of Sand St, Foxborough							
Habitat Comments	Fast -flowing, riffles & pools. Dace in riffles, sunfish etc in slack water. Marsh/bog							
Efficiency	Amps are inaccurate. Samplers may have read backpack readings incorrectly(Seconds							
Sample Date	**Species**	5						
07/06/06	**Total Ind**	13						
Method	**% Dom**	69%						
Backpack Shocking	**Habitat**	**Species**	**% Ind**					
Saris/Palis	FS	1	69%					
6235600	FD	0	0%					
	MG	4	31%					
	Tolerant	**Species**	**% Ind**					
	I	1	8%					
	M	3	85%					
	T	1	8%					
	SampleID	2322						
Common Name	**Fish Code**	**Count**	**Min Length**	**Max Length**	**Temp**	**FG**	**PT**	**Function**
Bluegill	B	1	73	73	W	MG	T	Generalist Feeder
Redfin pickerel	RP	1	187	187	WB	MG	M	Top Carnivore
Banded sunfish	BS	1	88	88	WB	MG	I	Water Column Insectivore
Longnose dace	LND	9	66	92	CW	FS	M	Benthic Insectivore
Redbreast sunfish	RBS	1	111	111	W	MG	M	Generalist Feeder

Data Source: (MassDFG 2014)

The RUMFORD RIVER was sampled (Cocasset St xing Downstream, 0.1mi W of Adams St) on 7/12/2007 (SampleID: 2379), using the Backpack Shocking method. A total of 84 individuals were collected with 6 species represented. 1 coldwater species were found including 1 trout less than or equal to 140 mm. The sample was composed of 81 % fluvial specialists/dependents and 100 % intolerant/moderately intolerant and 0 % were considered tolerant to pollution.

Taunton Fish Population Data from DFG Database								
Station Description	Rumford River -- Cocasset St xing Downstream, 0.1mi W of Adams St, Foxboro							
Habitat Comments								
Efficiency	(Seconds Shocked - 725)							
Sample Date	Species	6						
07/12/07	Total Ind	84						
Method	% Dom	67%						
Backpack Shocking	Habitat	Species	% Ind					
Saris/Palis	FS	2	81%					
6235600	FD	0	0%					
	MG	4	19%					
	Tolerant	Species	% Ind					
	I	3	18%					
	M	3	82%					
	T	0	0%					
	SampleID	2379						
Common Name	Fish Code	Count	Min Length	Max Length	Temp	FG	PT	Function
Chain pickerel	CP	4	90	185	W	MG	M	Top Carnivore
Brook trout	EBT	12	140	225	C	FS	I	Top Carnivore
Redfin pickerel	RP	9	65	200	WB	MG	M	Top Carnivore
Banded sunfish	BS	1	74	74	WB	MG	I	Water Column Insectivore
Swamp Darter	SD	2	45	45	WB	MG	I	Benthic Insectivore
Longnose dace	LND	56	28	120	CW	FS	M	Benthic Insectivore

Physical substrate habitat alterations

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Physical substrate habitat alterations impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the Physical substrate habitat alterations impairment is being delisted for Glue Factory Pond. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data to support physical substrate habitat alterations are based on the evidence of good biological integrity of the benthic and fish communities. The habitat score (152) was considered to be "Comparable" when compared to the reference (MassDEP 2013).

Sedimentation/Siltation

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Sedimentation/Siltation impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the Sedimentation/Siltation impairment is being delisted for Glue Factory Pond. Similar

land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data to support physical substrate habitat alterations are based on the evidence of good biological integrity of the benthic and fish communities. The habitat score (152) considered to be “Comparable” when compared to the reference (MassDEP 2013).

Great Quittacas Pond (MA62083)

Location:	Lakeville/Middleborough/Rochester.
AU Type:	FRESHWATER LAKE
AU Size:	1125 ACRES
Classification/Qualifier:	A: PWS, ORW

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use for Great Quittacas Pond is not assessed.

Gushee Pond (MA62084)

Location:	Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	27 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Gushee Pond two non-native aquatic macrophyte species, *Myriophyllum heterophyllum* and *Cabomba caroliniana* were identified. According to DMF biologists (Chase 2016 and 2017) there are three fish passage barriers (Hewitt Pond, Tracy Pond, and Johnson Pond dams) along the unnamed tributary (AU MA62-70) that do not allow passage of diadromous (target species river herring and American eel) fish to and from Gushee pond. The Aquatic Life Use is assessed as not supporting for Gushee Pond because of the presence of two non-native aquatic macrophytes (*Myriophyllum heterophyllum* and *Cabomba caroliniana*) and the three fish passage barriers at the dams along the unnamed tributary (AU MA62-70) to the Forge River in Raynham downstream from Gushee Pond.

Hartwell School Pond (MA62086)

Location:	Mansfield (formerly part of 2014 segment: Canoe River MA62-27).
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

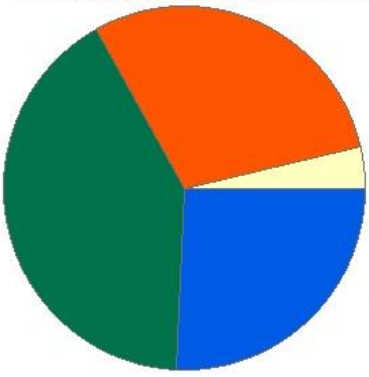
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Hartwell School Pond.

Hockomock River (MA62-35)

Location:	Headwaters, perennial portion, west of Route 24, West Bridgewater to mouth at confluence with Town River, Bridgewater.
AU Type:	RIVER
AU Size:	4.3 MILES
Classification/Qualifier:	B

Hockomock River - MA62-35

Watershed Area: 34.51 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	34.24	8.67	8.62	1.84
Agriculture	3.68%	3.4%	4.8%	6.2%
Developed	29.5%	17.3%	21.2%	9.7%
Natural	41.1%	20.3%	42.2%	17.2%
Wetland	25.7%	58.9%	31.8%	66.9%
Impervious Cover	12.54%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting (Alert)

Electrofishing was conducted at two locations in the Hockomock River:
Downstream from Manley Street in West Bridgewater (MAP2 365 at W2384) in and ~600' upstream from the confluence with the Town River at the West Bridgewater/Bridgewater town line (MAP2 349 at W2381) in August 2013. Both American eel and redfin pickerel (a moderately tolerant macrohabitat generalist species) were collected at both sites in this low gradient river. Tesselated darter, a fluvial specialist, was also present in the most upstream sampling reach in moderate abundance. Water quality data collected during the summer of 2013 at the upstream sampling location (W2384) were indicative of good conditions (minimum DO 5.2 mg/L, maximum saturation 102%, maximum temperature 28.8°C (over 28.3°C for a total of only 6.9 hours), pH 6.6 to 6.9SU, total phosphorus concentration average 0.032 and maximum 0.038mg/L. At the downstream sampling site (W2831) somewhat higher concentrations (~2X) of total phosphorus were found (average and maximum concentrations of 0.0645 and 0.088mg/L, respectively during the summer of 2013. While instream temperature and pH were good (maximum temperature 28.0°C and 6.3/6.4SU) instream DO concentrations were very low (minimum DO 1.3mg/L). Although there was some evidence of enrichment with diel DO change as high as 3.8mg/L, the maximum saturation was low (only 69%). The species of *Myriophyllum* noted in the river at the downstream sampling location during the summer of 2013 needs to be identified.
The Aquatic Life Use for the Hockomock River is assessed as fully supporting based primarily on the fish population data and the generally good water quality conditions. While very low DO was documented in the Hockomock River near to its confluence with the Town River, at this time this condition is considered likely naturally occurring however low DO will be identified as an alert status as well as the presence of an unidentified species of myriophyllum which may be non-native.

Island Grove Pond (MA62094)

Location:	Abington.
AU Type:	FRESHWATER LAKE
AU Size:	31 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
No recent data have been collected in Island Grove Pond. The Aquatic Life Use is assessed as not supporting for Island Grove Pond based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. Algae will also continue to be identified as an impairment based on the synoptic survey conducted in July 1996. The September 2014 Google Earth image displays what appears to be an algal bloom within the pond suggesting the problem continues.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 1996), (MassDEP 2005), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Island Grove Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Johns Pond (MA62096)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	21 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
There are no recent data for Johns Pond so the Aquatic Life Use is not assessed.

Kings Pond (MA62101)

Location:	Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists (Chase 2016 and 2017) there is currently no present passage for diadromous fish (target species river herring and American eel) at the King's Pond Dam nor at the Parks Department Dam on the Forge River. Therefore, fish passage barrier will be added as an impairment for diadromous fish passage. The Aquatic Life Use for Kings Pond is assessed as not supporting because of the lack of diadromous fish passage.

Lake Mirimichi (MA62118)

Location:	Plainville/Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	175 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use is assessed as not supporting for Lake Mirimichi based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. 1996 DEP fieldsheets also indicate the potential presence of *M. heterophyllum* which needs confirmation, ideally when flowering heads are present. Therefore, this use is also identified with an alert status because of the potential infestation of *M. heterophyllum*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Mirimichi Lake one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. 1996 DEP fieldsheets indicate the presence of an additional unconfirmed species of non-native aquatic plant *Myriophyllum*, possibly *heterophyllum*. The species needs confirmation, ideally when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Lake Nippenicket (MA62131)

Location:	Bridgewater/Raynham.
AU Type:	FRESHWATER LAKE
AU Size:	375 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fanwort*)		Added
4a	4a	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the 1996 MassDEP lake synoptic survey of Lake Nippenicket the non-native aquatic macrophyte *Cabomba caroliniana* was documented. The fieldsheets also indicate the presence of an unconfirmed species of *Myriophyllum* which was thought to be *heterophyllum*. The species needs confirmation, ideally when flowering heads are present. The Aquatic Life Use is for Lake Nippenicket is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana.* An additional species, *M. heterophyllum,* may also infest the pond (identified as an Alert Status) however further confirmation of this infestation is needed.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey a species of *Myriophyllum* (suspect the non-native aquatic species *Myriophyllum heterophyllum*) was present but needs to be identified when flowering heads are present. *Cabomba caroliniana* has been found present and therefore aquatic life use for Lake Nippenicket is assessed as impaired. The non-native wetland species *Lythrum salicaria* was also present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Lake Rico (MA62148)

Location:	Taunton (portion formerly reported as 2000 lake segment: King Pond MA62102).
AU Type:	FRESHWATER LAKE
AU Size:	188 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
4c	4c	(Fanwort*)		Added
4c	4c	(Fish Passage Barrier*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Lake Rico two non-native aquatic macrophyte species, *Myriophyllum spicatum* and *Cabomba caroliniana*, were found. The Lake Rico Dam has an existing fishway and has a passage score of 4. The target species for passage at this location are river herring and American eel. DMF notes that DCR dam improvement design began in 2015 as this dam requires flow management and stream maintenance. The Aquatic Life Use for Lake Rico is assessed as not supporting based on the presence of the non-native aquatic macrophytes *Myriophyllum spicatum* and *Cabomba caroliniana* as well as the barrier to diadromous fish passage at the Lake Rico Dam.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic “Non-Native Aquatic Plants” is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Rico Lake two non-native aquatic macrophyte species, *Myriophyllum spicatum* and *Cabomba caroliniana*, and one non-native wetland species, Ly*thrum salicaria*, were identified. Because of the presence of two non-native aquatic macrophytes, the Aquatic Life Use is assessed as impaired. The generic “Non-Native Aquatic Plants” impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Lake Sabbatia (MA62166)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	265 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the 1996 and 2001 suveys two non-native aquatic macrophyte species, *Cabomba caroliniana* and *Myriophyllum heterophyllum* were documented by MassDEP biologists in Lake Sabbatia. More recently *Corbicula fluminea* (Asian clam) has been reported to infest the lake however further confirmation of this infestation (collection of live speciments) are needed. During the 2001 surveys in Lake Sabbatia, oxygen depletion occured at approximately 2.5 -3.0 meters (8-10 feet) in depth representing ~40% of the lake surface area. The Aquatic Life Use for Lake Sabbatia continues to be assessed as non-supporting because of low dissolved oxygen and the presence of the non-native aquatic macrophytes *Cabomba caroliniana* and *Myriophyllum heterophyllum.* An Alert is identified due to the potential infestation of the non-native mollusk species *Corbicula fluminea*.

Leach Pond (MA62103)

Location:	Easton/Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	111 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Leach Pond.

Little Cedar Swamp (MA62106)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	91 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
Little Cedar Swamp is a mapped as a bog according to the MassDEP Detailed Wetlands (2005) Datalayer. The Little Cedar Swamp lake AU should be removed.

Little Quittacas Pond (MA62107)

Location:	Lakeville/Rochester.
AU Type:	FRESHWATER LAKE
AU Size:	295 ACRES
Classification/Qualifier:	A: PWS, ORW

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use for Little Quittacas Pond is not assessed.

Long Pond (MA62108)

Location:	Lakeville/Freetown.
AU Type:	FRESHWATER LAKE
AU Size:	1728 ACRES
Classification/Qualifier:	A: PWS, ORW

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added

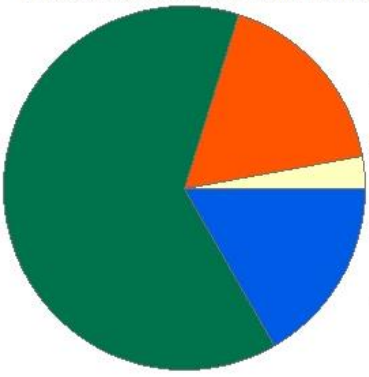
Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Long Pond two non-native aquatic macrophyte species, *Myriophyllum heterophyllum* and *Cabomba caroliniana,* were found. The Aquatic Life Use for Long Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana* and *Myriophyllum heterophyllum*.

LONG POND RIVER (MA62-74)

Location:	Headwaters outlet Long Pond, Lakeville to mouth at inlet Assawompsett Pond, Lakeville.
AU Type:	RIVER
AU Size:	0.4 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

LONG POND RIVER - MA62-74

Watershed Area: 23.34 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	23.33	8.34	10.27	2.87
Agriculture	2.88%	2.7%	4.4%	4.9%
Developed	17.2%	16.9%	16.2%	23.4%
Natural	63.1%	71.3%	51.5%	51.6%
Wetland	16.7%	9.2%	27.9%	20.2%
Impervious Cover	6.98%			

Fish, other Aquatic Life and Wildlife Use: Insufficient Information
The Route 18 culvert on the Long Pond River that connects Long Pond and Assawompsett Pond has a passage score of 2 (minor obstruction). The target species for passage at this location are river herring and American eel. Although there is only a minor obstruction to diadromous fish passage there is insufficient information to assess the Aquatic Life Use for Long Pond River.

Longwater Pond (MA62109)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

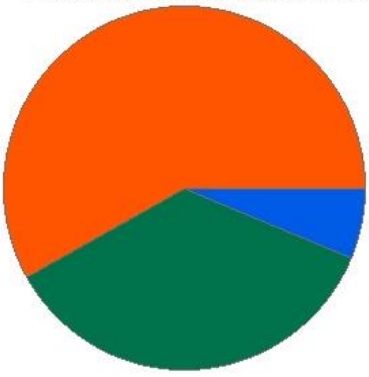
Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Longwater Pond one non-native aquatic macrophyte species, *Myriophyllum heterophyllum*, was documented. The Aquatic Life Use is for Longwater Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Lovett Brook (MA62-46)

Location:	Headwaters, perennial portion, north of Oak Street, Brockton to mouth at inlet Elis Brett Pond, Brockton.
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B

Lovett Brook - MA62-46

Watershed Area: 1.6 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	1.6	1.6	0.34	0.34
Agriculture	0.4%	0.4%	0%	0%
Developed	57.9%	57.9%	53.4%	53.4%
Natural	35.4%	35.4%	35.2%	35.2%
Wetland	6.3%	6.3%	11.5%	11.5%
Impervious Cover	35.1%			

Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available so the Aquatic Life Use for Lovett Brook is not assessed. The previously identified Alert Status items, habitat degradation due to sedimentation and slightly elevated total phosphorus levels will be carried forward.

Lower Porter Pond (MA62111)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	8 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Lower Porter Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. An unconfirmed species of myriophyllum, possibly heterophyllum, was also identified so this use will also be identified with an Alert Status.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

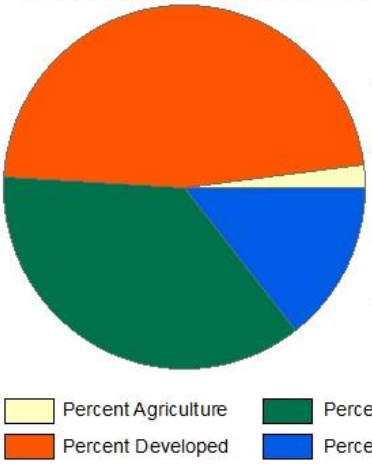
During the 1996 MassDEP lake synoptic survey of Lower Porter Pond one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. A species of Myriophyllum was present but needs to be identified when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Matfield River (MA62-32)

Location:	Headwaters, confluence Beaver Brook and Salisbury Plain River, East Bridgewater to mouth at confluence with Town River forming headwaters Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	6.3 MILES
Classification/Qualifier:	B: WWF

Matfield River - MA62-32

Watershed Area: 64.18 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	64.1	9.67	15.59	2.85
Agriculture	1.95%	5.6%	2.2%	6.2%
Developed	47.2%	35.2%	30%	23.7%
Natural	36.3%	38.8%	40.7%	42.3%
Wetland	14.5%	20.4%	27.1%	27.7%
Impervious Cover	20.67%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Nutrient/Eutrophication Biological Indicators		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Backpack electrofishing was conducted by DFG biologists in the Matfield River near the North Central Street bridge (SampleID 4002) in August 2007. The sample in this low gradient reach was comprised of four species but only 11 individuals. One American brook lamprey, considered an intolerant cold water species, was in the sample. Most of the sample was made up of macrohabitat generalists tolerant to environmental perturbations. Water quality sampling was conducted by MassDEP staff in the Matfield River at two stations during the summer of 2006: near the West Union Street bridge in East Bridgewater (W1500) and much further downstream at the High Street Bridge in Bridgewater (W1501). At the upstream site (W1500), while pH and temperature were good (pH range 6.9-7.2SU, max temperature 21.8°C), DO was low (minimum 3.6mg/L), there were two observations of dense/very dense filamentous algae, and the total phosphorus concentrations were high with an average of 0.13 and maximum of 0.22mg/L, respectively). In August 2006 benthic macroinvertebrate community samples were collected from the Matfield River downstream from West Union Street (Station B0606). The RBPIII analysis found to the community to be "moderately impacted" (29% comparable) compared to the Canoe River reference station. Like the upstream sampling location water quality

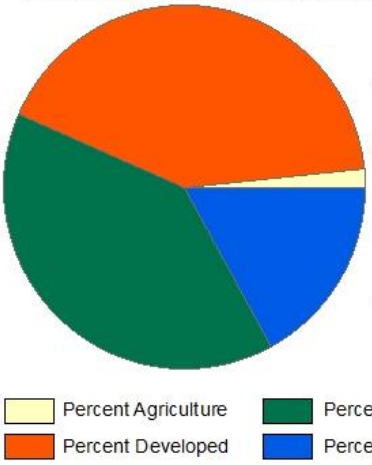
monitoring in the river at W1501 documented good pH and temperature (max 24.9°C) but low DO (minimum 3.8mg/L and ≤4.6mg/L for the entire August deployment). Total phosphorus concentrations were still elevated but lower than at the upstream site (average 0.11 and maximum 0.15 mg/L, respectively) although there was evidence of lower concentrations since the sampling conducted by USGS, ESS and Bridgewater State WAL in 2002 and 2004 when the maximum total phosphorus measurements ranged from 0.35 to 0.905 mg/L.
The Aquatic Life Use for the Matfield River will continue to be is assessed as Not Supporting based on the moderately impacted benthic community, low DO, and elevated total phosphorus. Nutrient/euthrophication biological indicators is being added as an impairment because of the evidence of dense/very dense filamentous algae documented during the summer of 2006.

Meadow Brook (MA62-38)

Location:	Headwaters north of Pine Street, Whitman (through Forge Pond, East Bridgewater) to the confluence with the Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	6 MILES
Classification/Qualifier:	B

Meadow Brook - MA62-38

Watershed Area: 7.53 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	7.53	4.5	2.28	1.26
Agriculture	1.66%	2.5%	0.7%	0.7%
Developed	41.8%	33.5%	28.8%	25.3%
Natural	39.5%	45%	38.6%	39.2%
Wetland	17%	19%	31.9%	34.8%
Impervious Cover	16.37%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Backpack electrofishing was conducted by DFG biologists in Meadow Brook downstream from Harvard Street in East Bridgewater (Sample ID2367) in July 2007. A total of 48 individuals were collected with 4 species represented. The sample contained one fluvial dependent species and was dominated by redfin pickerel, a moderately tolerant macrohabitat generalist. Further downstream, ~350 meters upstream from Water Street in East Bridgewater (B0607), MassDEP biologists conducted macroinvertebrate and periphyton surveys in August 2006. The RBPIII analysis indictated 62% comparable or "slightly impacted" compared to the Canoe River reference station. Algae cover within the reach was very limited (~1%) and the vegetation present was primarily moss which covered ~65% of the reach. Water quality monitoring conducted in Meadow Brook by MassDEP staff at the West Union Street Bridge in East Bridgewater (W1498) during the summer 2006 was indicative of generally good conditions (i.e., minimum DO concentration 4.9 mg/L during the two probe deployments, maximum temperature 25.7°C, good pH, lack of any indicators of nutrient enrichment including maximum diel changes in DO 1.9 mg/L, lack of any supersaturation, average and maximum total phosphorus concentrations of 0.051 and 0.093mg/L, respectively). According to DMF biologists the Forge Pond Dam which should allow passage of river herring and American eel has a passage rating of 5 (restricted passage).

Although the biological (benthic and fish) and water quality data collected during the summer of 2006 were indicative of generally good conditions, the Aquatic Life Use for Meadow Brook is assessed as not supporting due to the fish passage barrier at the Forge Pond Dam.

Meadow Brook Pond (MA62113)

Location:	Norton.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so the Aquatic life use is not assessed for Meadow Brook Pond.

Middle Pond (MA62115)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	26 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Middle Pond two non-native aquatic macrophyte species, *Myriophyllum spicatum* and *Cabomba Caroliniana*, were found. The Aquatic Life Use for Middle Pond is assessed as not supporting based on the presence of the non-native aquatic macrophytes *Myriophyllum spicatum* and *Cabomba caroliniana*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophytes "Eurasian water milfoil (Myriophyllum spicatum) and Fanwort (Cabomba caroliniana) have been utilized

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

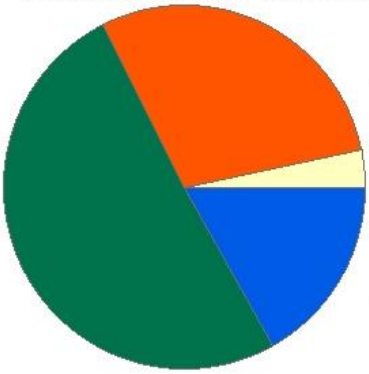
During the 1996 MassDEP lake synoptic survey of Middle Pond two non-native aquatic macrophyte species, *Myriophyllum spicatum* and *Cabomba Caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of two non-native aquatic macrophytes, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophytes Eurasian water milfoil (*Myriophyllum spicatum*) and Fanwort (*Cabomba caroliniana*) have been utilized.

Mill River (MA62-29)

Location:	Headwaters, outlet Lake Sabbatia, Taunton to mouth at confluence with the Taunton River, Taunton (through former 2014 segment: Whittenton Impoundment MA62228).
AU Type:	RIVER
AU Size:	4.2 MILES
Classification/Qualifier:	B: WWF

Mill River - MA62-29

Watershed Area: 43.67 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	43.62	3.01	13.56	0.59
Agriculture	3.28%	1.3%	4.6%	0.4%
Developed	29.1%	67%	20.3%	49.1%
Natural	50.7%	26.4%	48.4%	41.6%
Wetland	17%	5.3%	26.7%	8.9%
Impervious Cover	11.12%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	5	(Fanwort*)		Added
4c	5	(Non-Native Aquatic Plants*)		Removed
4c	5	Temperature		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)

During the 1996 MassDEP lake synoptic survey of the Whittenton Impoundment in the Mill River one non-native aquatic plant species, *Cabomba caroliniana*, was documented. Backpack electrofishing was conducted by DFG biologists at two sampling locations along the Mill River in July 2007; upstream from Whittenton St. in Taunton (SampleID 2369) and near the Taunton State Hospital Grounds (SampleID 2351). Tesselated darters (a moderately tolerant fluvial specialist species) dominated the upstream sample and were also present (one of the two species) in the downstream sample. Several projects have been completed to improve diadromous fish passage (target species listed by DMF biologists are river herring and American eel) on the Mill River. In 2012 the Hopewell Mills Dam was removed and a fish ladder was constructed at Morey's Bridge Dam. The Whittenton Dam was removed in 2013 and the West Britannia Dam was removed in 2018. MassDEP conducted monitoring (benthic, fish, water quality) in the Mill River upstream of Route 140 (Washington St.) (samples B0848, fish pop 5051,W2389) and downstream of Route 44 (B0830, fish pop 5080, W2372) in Taunton during the summer of 2013. While the taxonomy for the benthic samples (B0848 and B0830) are complete these data

were not analyzed using an RBPIII approach. Rather, the benthic data will be compared to biocriteria thresholds which are currently under development and will not be used as part of Aquatic Life Use assessment for 2018/20. Backpack electrofishing by MassDEP biologists conducted in Aug. and Sept. 2013 resulted in the capture of 4 species upstream of Route 140 and 5 species including tessellated darters downstream from Route 44. Notes indicated poor sampling efficiency at the upstream site and a totally compromised riparian zone, only fair sampling efficiency and observations of American eel and darters not captured at the downstream site. While some of the water quality data were indicative of good conditions (min. DO 6.9mg/L, max. diel DO shift only 1.0mg/L, max. saturation 97%, pH 6.6 to 7.0SU, max. specific conductivity 211µS/cm, seasonal avg. TP concentrations were 0.034 and 0.053mg/L and NH3 was 0.056 and 0.062mg/L upstream and downstream, respectively) other data were not. In July 2013 T data were elevated-- the acute 24-hour avg. exceeded 28.3°C 5 times at the upstream site and 3 times at the downstream site while the chronic 7-DADM exceeded 27.7°C 13 times at the downstream site. The max. T recorded was 31.0°C. Cu slightly exceeded acute and chronic criteria on one of 3 sampling events at both sites (max. 1.6TU) and Pb exceeded chronic criteria in two of 3 sampling events (max. 2.57TUs). USGS staff conducted water quality sampling at their gage 01108410 Mill River at Spring St. in Taunton (approx. 20' upstream of bridge) and approx. 0.8 miles upstream from mouth at Taunton River between Jan. 2019 and Feb. 2020. Their data were indicative of good conditions as follows: min. DO 8.0mg/L, max. T 24.5°C, pH 6.4 to 7.4SU, max. specific conductance 374 uS/cm, seasonal avg. TP 0.027mg/L (max. 0.064mg/L), low NH3-N concentrations (all $\leq$0.04mg/L), no acute or chronic exceedances of any metals criteria evaluated.

The Aquatic Life Use for the Mill River is assessed as not supporting based on the presence of the non-native aquatic plant *Cabomba caroliniana* in the former Whittenton Impoundment. A T impairment is also being added based on exceedances of both acute and chronic T criteria recorded by MassDEP in July 2013. While Cu slightly exceeded both acute and chronic criteria during 1 of 3 sampling events, and Pb was above chronic criteria in 2 of 3 sampling events at both MassDEP sampling sites during the summer of 2013, no exceedances were found during any of the 4 USGS surveys in 2019 (no Alerts issued). An alert is being identified, however, for the potential infestation of *M. heterophyllum* which needs confirmation when flowering heads are present.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1), and (MassDEP 1996)

During the 1996 MassDEP lake synoptic survey of the Whittenton Impoundment of the Mill River one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria,* were identified. Because of the presence of a non-native aquatic macrophyte the *Aquatic Life Use* is assessed as impaired. A species of *Myriophyllum* was present but needs to be identified when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Monponsett Pond, East Basin (MA62218)

Location:	[East Basin] Halifax.
AU Type:	FRESHWATER LAKE
AU Size:	247 ACRES
Classification/Qualifier:	A: PWS, ORW

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Added
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
5	5	(Fanwort*)		Added
5	5	Phosphorus, Total		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

During the 1996 MassDEP lake synoptic survey of Monponsett Pond (East Basin) one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. Additional non-native aquatic species including *Potamogeton crispus*, *Utricularia inflata*, *Myriophullym heterophyllum* and *M. spicatum* were also identified in the pond by MassDEP biologists during the summer of 2001. Monponsett Pond, East Basin is a relatively shallow pond surrounded by wetlands with maximum depth recorded at 3.3m. During the summers of 2009 through 2015 MassDEP has conducted water quality monitoring at the deep hole station (W0930) between three and five times each year. The maximum temperature recorded was 28.1°C, pH ranged from 6.0 to 8.4SU (slightly acidic conditions considered naturally occurring), maximum saturation was 121%. On a few occasions DO did drop below 5.0mg/L at depths greater than 2.5 meters, and while this does comprise greater than 10% of the ponds surface area, oxygen depletion at depth did not occur most recently (2014 or 2015). Chlorophyll a data for Monponsett Pond, East Basin ranged from 1.7 to 33.4 µg/L and was typically above 16µg/L in July and August. Except for one measurement (0.08 mg/L near bottom in August 2009) total phosphorus concentrations ranged from 0.01 to 0.04mg/L in both surface and near bottom samples and averaged between 0.02 and 0.03 mg/L. Elevated chlorophyll *a* concentrations were found when the seasonal total phosphorus concentration was >0.02 mg/L. Secchi disk depths ranged from 0.8 to 3.3m and was <1.2m on 4 of 26 occasions. Frequent and persistent algal blooms occurred in the summers of 2011 through 2014 according to DPH.

The Aquatic Life Use for Monponsett Pond, East Basin will continue to be assessed as Not Supporting based on the presence of non-native aquatic macrophytes including infestations of *Cabomba caroliniana, Potamogeton crispus*, *Utricularia inflata*, *Myriophullym heterophyllum* and *M. spicatum*. Impairments are also being added for harmful algal blooms, elevated chlorophyll a, and elevated total phosphorus. A draft Total Phosphorus TMDL was developed for this pond in 2016 but it has not been approved.

Monponsett Pond, West Basin (MA62119)

Location:	[West Basin] Halifax/Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	283 ACRES
Classification/Qualifier:	A: PWS, ORW

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

During the 1996 MassDEP lake synoptic survey of Monponsett Pond (West Basin) one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. Monponsett Pond, West Basin is a relatively shallow pond surrounded by wetlands with maximum depth recorded at 4.3m. During the summers of 2009 through 2015 MassDEP conducted water quality monitoring at the deep hole station (W0926) between three and five times each year. The maximum temperature recorded was 27.8°C. The pH ranged from 6.1 to 9.2SU and the maximum saturation 131%. Dissolved oxygen concentrations did drop below 5.0mg/L at depths greater than 2.5 meters during 7 of the 27 surveys but no bathymetric data are available to estimate area of lake depleted. Chlorophyll a data for Monponsett Pond, West Basin ranged from 8.3 to 92 µg/L and was above 16µg/L in 22 of 25 samples. Total phosphorus concentrations ranged from 0.03 to 0.087 mg/L in surface samples and 0.03 to 0.14mg/L in near bottom samples. Seasonal averages ranged between 0.03 and 0.07 and 0.03 and 0.09mg/L in surface and near bottom samples, respectively. Secchi disk depths ranged from 0.4 to 1.8m and was <1.2m on 20 of 25 occasions. Frequent and persistent algal blooms occurred in the summers of 2009 through 2014 according to DPH.

The Aquatic Life Use for Monponsett Pond, West Basin is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana* as well as the evidence of nutrient enriched conditions including harmful algal blooms and elevated chlorophyll a, elevated total phosphorus, and poor Secchi disk depth. A draft Total Phosphorus TMDL was developed for this pond in 2016 but it has not yet been approved. A series of alum treatments were applied in 2013 and 2015 through 2019. Improved water quality conditions are anticipated as a result of these treatments.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1), and (MassDEP Undated 7)

During the 1996 MassDEP lake synoptic survey of Monponsett Pond (west basin) one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte and the elevated phosphorus levels, the Aquatic Life Use is assessed as impaired. Non-native aquatic species *Potamogeton crispus*, *Utricularia inflata* and *Myriophullym heterophyllum* and spicatum were also listed as present within the water body on fieldsheets from 2001 forward. Non-native wetlands species *Lythrum salicaria* was also listed as present in field sheets as well as a Phragmites species that needs to be identified. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Mount Hope Mill Pond (MA62122)

Location:	Taunton/Dighton (formerly part of 2014 segment: Three Mile River MA62-56 [MA62-16 (2004)]) (portion formerly reported as 2004 lake segment: Three Mile River Impoundment MA62231).
AU Type:	FRESHWATER LAKE
AU Size:	45 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Fish Passage Barrier*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the summer of 1996 MassDEP biologists identified the non-native aquatic macrophyte species, *Cabomba caroliniana*, in Mount Hope Mill Pond. MassDEP staff deployed a portable datalogger at the southern end of the Mount Hope Mill Pond slight upstream of the Draka Dam (W1273) on 1 September 2004. The depth at this location was 2.7m. During this three-day deployment DO ranged from 4.1 to 11.5mg/L, the maximum saturation was 145%, and the maximum temperature was 28.6°C (above 28.3°C for one hour). Secchi disk depth was 2.1m. The water column was described as highly turbid but algae and aquatic plants were sparse. According to DMF biologists the Draka Dam in Dighton/Taunton at Mount Hope Mill Pond on the Three Mile River which should allow passage of river herring and American eel has a passage rating of 10 (no passage). Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for the Mount Hope Mill Pond. The Aquatic Life Use for Mount Hope Mill Pond is assessed as not supporting based on the presence of a barrier to fish passage as well as the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. The very limited water quality data suggest nutrient enriched conditions so this will be identified as an Alert.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey Mount Hope Mill Pond was infested with one non-native aquatic macrophyte species, *Cabomba caroliniana.* Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Muddy Cove Brook (MA62-51)

Location:	From the outlet of the small impoundment behind 333 Main Street (Zeneca Inc.), Dighton to mouth at confluence with the Taunton River, Dighton (formerly part of 2004 segment: Muddy Cove Brook MA62-23).
AU Type:	ESTUARY
AU Size:	0.01 SQUARE MILES
Classification/Qualifier:	SA: SFO

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	4a	(Fish Passage Barrier*)		Added

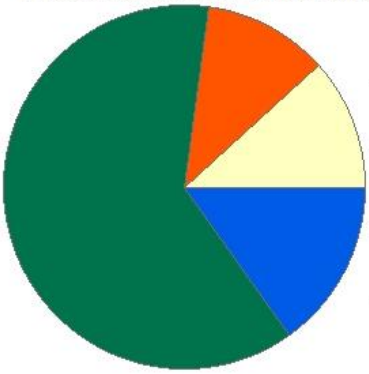
Fish, other Aquatic Life and Wildlife Use: Not Supporting
DMF biologists identify one barrier to river herring and American eel passage at the Route 138 Tide Gate in this Muddy Cove Brook AU. The passage score is 6 (restricted passage). The Aquatic Life Use is assessed as not supporting for this Muddy Cove Brook AU (MA62-51) due to the presence of fish-passage barrier.

MUDDY COVE BROOK (MA62-58)

Location:	Headwaters, south of Hart Street, Dighton to inlet Muddy Cove Brook Pond, Dighton (formerly part of 2014 segment: Muddy Cove Brook MA62-52 [MA62-23 (2004)]).
AU Type:	RIVER
AU Size:	1.4 MILES
Classification/Qualifier:	B

Muddy Cove Brook - MA62-58

Watershed Area: 2.51 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.51	2.51	0.57	0.57
Agriculture	11.68%	11.7%	11.1%	11.1%
Developed	11.2%	11.2%	7.6%	7.6%
Natural	62%	62%	54.7%	54.7%
Wetland	15.2%	15.2%	26.6%	26.6%
Impervious Cover	4.06%			

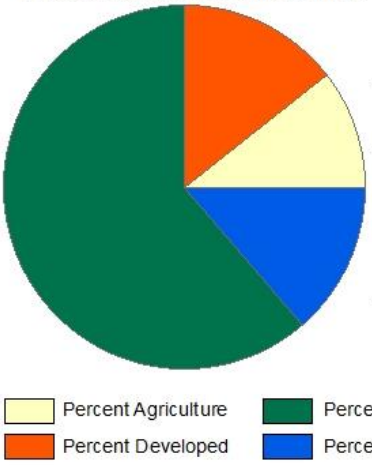
Fish, other Aquatic Life and Wildlife Use: Insufficient Information
No recent data are available to assess the Aquatic Life Use for this Muddy Cove Brook AU (MA62-58.

MUDDY COVE BROOK (MA62-59)

Location:	From outlet Muddy Cove Brook Pond, Dighton to outlet of small impoundment behind 333 Main Street (Zeneca Inc.), Dighton (formerly part of 2014 segment: Muddy Cove Brook MA62-52 [MA62-23 (2004)]).
AU Type:	RIVER
AU Size:	0.2 MILES
Classification/Qualifier:	B

Muddy Cove Brook - MA62-59

Watershed Area: 2.8 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.8	2.8	0.66	0.66
Agriculture	10.65%	10.6%	9.6%	9.6%
Developed	14.4%	14.4%	14.4%	14.4%
Natural	61.3%	61.3%	52.8%	52.8%
Wetland	13.7%	13.7%	23.2%	23.2%
Impervious Cover	5.22%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
There are two significant impairments for diadromous fish (river herring and American eel) passage along this Muddy Cove Brook AU—the Muddy Cove Pond Dam with a passage score of 10 (no present passage) and the Zeneca Inc. Dam with a passage score of 5 (restricted passage). The Aquatic Life Use is assessed as not supporting for this Muddy Cove Brook AU (MA62-59) because of the fish-passage barriers.

Muddy Cove Brook Pond (MA62124)

Location:	Dighton.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
There are two significant impairments for diadromous fish (river herring and American eel) passage into Muddy Cove Brook Pond—the Muddy Cove Pond Dam with a passage score of 10 (no present passage) and the Zeneca Inc. Dam with a passage score of 5 (restricted passage). The Aquatic Life Use is assessed as not supporting for Muddy Cove Brook Pond because of the fish-passage barriers.

Muddy Pond (MA62125)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	61 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the 1996 MassDEP lake synoptic survey of Muddy Pond one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. During 1996 survey *Myriophyllum* sp. (possibly *heterophyllum*), was identified but species was not confirmed. The Aquatic Life Use for Muddy Pond (MA62125) is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana.* The use is also identified with an Alert because of the potential infestation of *M. heterophyllum.*

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Muddy Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. During 1996 survey *Myriophyllum* sp. was identified (possibly *heterophyllum*), but species was not confirmed. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Muddy Pond (MA62126)

Location:	Halifax.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for this Muddy Pond AU (MA62126).

Muddy Pond (MA62233)

Location:	Kingston (formerly reported as 2004 segment: Muddy Pond MA94104).
AU Type:	FRESHWATER LAKE
AU Size:	42 ACRES
Classification/Qualifier:	B

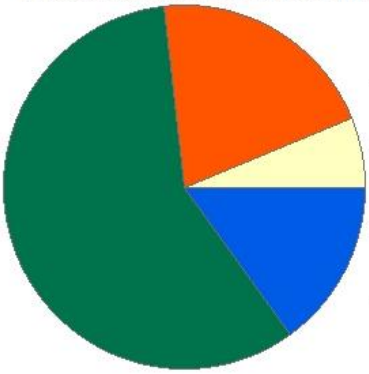
Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available for this Muddy Pond AU (MA62233) so the Aquatic Life Use is not assessed. This use is identified with an Alert Status however because of an unidentified species of myriophyllum.

Mulberry Meadow Brook (MA62-31)

Location:	Headwaters, outlet New Pond, Easton to mouth at inlet of Winnecunnet Pond, Norton (through former 2014 segments: Ward Pond MA62203 and Reservoir MA62158).
AU Type:	RIVER
AU Size:	4.6 MILES
Classification/Qualifier:	B

Mulberry Meadow Brook - MA62-31

Watershed Area: 11.95 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	11.92	3.55	4.53	1.26
Agriculture	6.16%	14.1%	10.6%	29.7%
Developed	20.6%	15.2%	11.9%	5.4%
Natural	58.2%	56.9%	53.4%	45.8%
Wetland	15%	13.8%	24.1%	19%
Impervious Cover	7.21%			

Fish, other Aquatic Life and Wildlife Use: Insufficient Information
A large portion of the brook runs through active cranberry bogs. There was one fish sample taken upstream of the bog south of Highland Street in Easton in July 2005 (SampleID 1167). The fish sample was comprised of seven species including two fluvial specialist/dependant (60% of the sample) with 81% of the fish considered moderately tolerant to pollution. While the fish sample is indicative of a healthy community for a low gradient warm water stream, there is a lack of any water quality data showing the effects of the cranberry bogs on the system. There is insufficient information to evaluate the Aquatic Life Use for Mulberry Meadow Brook.

Mullein Hill Chapel Pond (MA62127)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

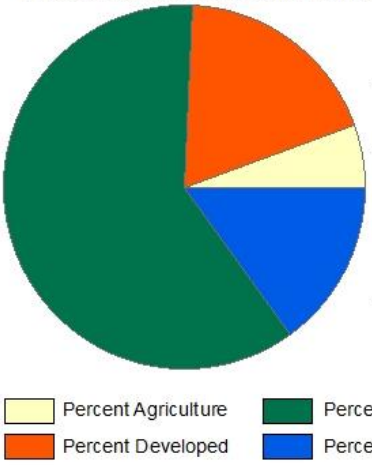
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so the Aquatic Life Use is not assessed for Mullein Hill Chapel Pond.

Nemasket River (MA62-25)

Location:	Headwaters, outlet Assawompset Pond, Lakeville/Middleborough to Middleborough WWTP (NPDES: MA0101591) discharge, Middleborough.
AU Type:	RIVER
AU Size:	6.2 MILES
Classification/Qualifier:	B

Nemasket River - MA62-25

Watershed Area: 66.85 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	52.55	10.9	18.3	2.42
Agriculture	5.53%	5.4%	7.9%	5.7%
Developed	18.8%	31.7%	14.8%	14.3%
Natural	60.5%	49.6%	48.2%	46.6%
Wetland	15.1%	13.3%	29.1%	33.3%
Impervious Cover	6.85%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	Ambient Bioassays - Chronic Aquatic Toxicity		Added
2	5	Dissolved Oxygen		Added
2	5	Temperature		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)

DMF biologists identify four minor obstructions along this Nemasket River AU for diadromous fish passage (target species river herring and American eel) up into and out of Assawompset Pond which are currently functioning. Both species were found in the fish population sample (boat electrofishing was conducted in the Nemasket River by DFG biologists up and downstream of Bridge Street near the Lakeville/Middleborough townline -- SampleID1163) in August 2005. A total of 14 species were represented in the sample which was comprised of ~25% fluvial specialists/dependent species and approximately half of the sample was moderately tolerant or intolent to environmental perturbations. Water quality and benthic macroinvertebrate sampling in the Nemasket River ~1500' downstream from I495 in Middleborough (W2396 and B0854) was conducted by MassDEP biologists during the summer 2013. The benthic data have not been analyzed according to the RBPIII analysis but it can be stated that the taxa richness was 20, the EPT richness was 2, and the percent dominant taxon was 34% (the naid worm *Stylaria lacustris*). While some of the water quality data were indicative of good

conditions (average and maximum total phosphorus concentrations 0.032 and 0.045mg/L, respectively, and very low ammonia nitrogen concentrations –maximum concentration 0.03mg/L), some were not. DO and pH were quite low and temperature was high. DO ranged from 0.2 to 7.7 mg/L and was <4 mg/L for a total of 276.9 out of 354.5 hours of probe deployment. The pH was 5.8SU (n=3). The maximum temperature was 30.4°C and exceeded the acute maximum 24-hour average of 28.3°C on both 19 and 20 July while the chronic 7-DADM of 27.7°C was exceeded 11 times. Further downstream water from the Nemasket River was collected near the Oliver Mill Pond Dam for use as dilution water in the Middleborough Wastewater Treatment Plant's whole effluent toxicity tests. Between November 2004 and November 2017, survival of *Ceriodaphnia dubia* exposed (~7-day) to river water was good (≥ 80%) (n=53 tests). Survival of *Pimephales promelas*, however, has not been as good. While no problems were found at a 48-hour exposure (survival was ≥78%) at the ~7-day exposure survival ranged from 13 to 100% and was <75% in 13 of the 53 valid test events. It should be noted that all tests with *P. promelas* survival <50% were in May.

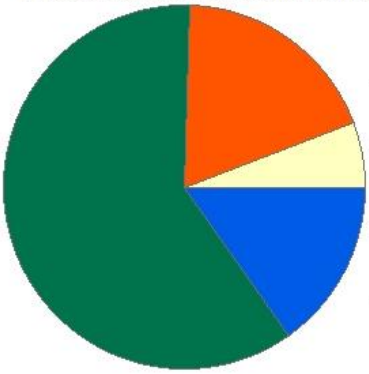
The Aquatic Life Use for this Nemasket River AU (MA62-25) is assessed as not supporting based on the elevated instream temperature documented during the summer of 2013 (24-hour maximum 29.2°C), low DO (minimum 0.2mg/L and <4 mg/L for a total of 276.9 out of 354.5 hours of probe deployment), and evidence of instream toxicity to *P. promelas* (~7-day exposure survival ranged from 13 to 100% and was <75% in 13 of the 53 valid test events). Although not added as an impairment the benthic macroinvertebrate sample was dominated by a naid worm so is identified with an Alert. Low pH and alkalinity are considered naturally occurring so they are no longer being identified as Alert issues.

Nemasket River (MA62-26)

Location:	From the Middleborough WWTP (NPDES: MA0101591) discharge, Middleborough to mouth at confluence with the Taunton River, Middleborough.
AU Type:	RIVER
AU Size:	5.1 MILES
Classification/Qualifier:	B: WWF

Nemasket River - MA62-26

Watershed Area: 70.16 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	55.86	5.18	19.44	1.64
Agriculture	5.74%	8.2%	8.1%	8.9%
Developed	18.8%	18.2%	14.7%	12.6%
Natural	60.2%	54.2%	48.5%	50.8%
Wetland	15.3%	19.4%	28.7%	27.7%
Impervious Cover	6.8%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting (Alert)

A total of 53 valid modified acute and chronic whole effluent toxicity tests were conducted on the Middleborough WWTP effluent between November 2004 and November 2017 using *Ceriodaphnia dubia* and *Pimephales promelas.* The effluent did not exhibit any acute toxicity to either test organism--LC_{50}s and ANOECs were all >100% effluent. For the 53 valid test events for *Ceriodaphnia dubia* C-NOECs were ≥ 53% effluent all but two tests (November 2012 and February 2016 with C-NOECs of 50 and 25% effluent, respectively). Of the 53 valid test events for *Pimephales promelas*, the C-NOEC results were all ≥ 53% effluent. Except for one test (November 2008), *C. dubia* was equally or more sensitive than P. *promelas.*

DFG biologists sampled four sites along this Nemasket River AU during July and August 2005. Although no counts were made, notes from the backpack electrofishing just downstream from the Middleborough WWTP outfall (SampleID 1397) indicated American eel, redfin pickerel, tessellated darter, fallfish were abundant and channel catfish, largemouth bass, chain pickerel, white sucker, pumpkinseed, bluegill, and yellow perch were also present as were crayfish, snapping and painted turtles. Slightly further downstream off Everett Street in Middleborough (SampleId 1399), similar species were documented during hoop net sampling. Twelve species were documented in the Nemasket River during backpack electrofishing up and downstream from Plymouth Street Bridge (Sample ID 1168) and 13 species were collected by boat shocking in the river between Murdock and Plymouth Street. All four samples contained fluvial specialists/dependant species and intolerant and moderately tolerant fishes.

Lastly, there was a report of the non-native aquatic species *Corbicula fluminea* (Asian clam) at the very mouth of the Nemasket River at its confluence with the Taunton River in 2014. Whether or not this species is present further upstream in the Nemasket River is uncertain at this time so this is being identified as an Alert Status.

The Aquatic Life Use is assessed as fully supporting for this Nemasket River AU (MA62-26) based primarily on the fish community data and the typically excellent effluent quality of the Middleborough WWTP in terms of whole effluent toxicity. This use is identified with an Alert Status because of the presence of the non-native aquatic species Corbicula fluminea documented at the mouth of the river (upstream extent of infestation unknown).

New Pond (MA62130)

Location:	Easton.
AU Type:	FRESHWATER LAKE
AU Size:	18 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the 1996 MassDEP lake synoptic survey of New Pond one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. Myriophyllum sp. (possibly heterophyllum) was also identified, but species was not confirmed. Because of the infestation of the non-native aquatic macrophyte *Cabomba caroliniana* of the Aquatic Life Use for New Pond is assessed as not supporting. This use is also identified with an Alert Status because of the potential infestation of *M. heterophyllum* which needs confirmation when flowering heads are present.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of New Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. During 1996 survey *Myriophyllum* sp. (possibly *heterophyllum*) was identified, but species was not confirmed. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

North Center Street Pond (MA62132)

Location:	Carver.
AU Type:	FRESHWATER LAKE
AU Size:	12 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)
North Center Street Pond is mapped as a deep marsh according to the MassDEP Detailed Wetlands (2005) Datalayer. The North Center Street Pond AU should be removed. 1996 DEP fieldsheets indicate the presence of an unconfirmed species of aquatic plant Myriophyllum, possibly heterophyllum. The species needs confirmation, ideally when flowering heads are present. Therefore, the alert is being maintained.

Norton Reservoir (MA62134)

Location:	Norton/Mansfield.
AU Type:	FRESHWATER LAKE
AU Size:	557 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
During the 1996 MassDEP lake synoptic survey of Norton Reservoir two non-native aquatic macrophyte species, *Myriophyllum heterophyllum* and *Cabomba caroliniana* were identified in Norton Reservoir. Additionally, the USGS database (via Harvard University Museum of Comparitive Zoology Specimen Collection) lists this site as having the non-native mollusk *Corbicula fluminea* present as well, but the infestation of this species needs to be confirmed by DCR or DEP (presence of live specimen). No more recent data are available for this AU. Based on the presence of the non-native aquatic macrophytes *Myriophyllum heterophyllum* and *Cabomba caroliniana* and the historic total phosphorus impairment the Aquatic Life Use is assessed as not supporting. This use is also identified with an Alert Status due to the potential infestation of the non-native mollusk *Corbicula fluminea* (Asian clam).

Oakland Pond (MA62136)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	38 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists the Draka Dam in Dighton/Taunton at Mount Hope Mill Pond on the Threemile River which should allow passage of river herring and American eel has a passage rating of 10 (no passage). Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for the Oakland Pond. The Aquatic Life Use for Oakland Pond is assessed as not supporting based on the presence of a barrier to fish passage.

Plymouth Street Pond (MA62141)

Location:	Halifax/East Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	165 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Plymouth Street Pond. It should be noted that a portion of the Plymouth Street Pond AU is mapped as deep marsh according to the MassDEP Detailed Wetlands (2005) Datalayer.

Pocksha Pond (MA62145)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	592 ACRES
Classification/Qualifier:	A: PWS, ORW

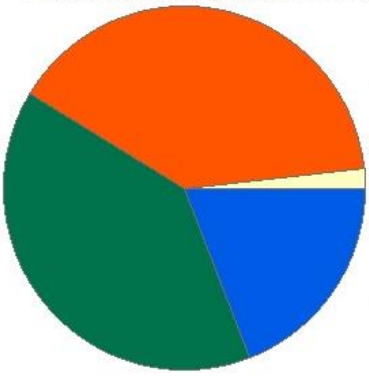
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use for Pocksha Pond is not assessed.

Poor Meadow Brook (MA62-34)

Location:	Headwaters, from wetland near County Street, Hanson to mouth at confluence with Satucket River, East Bridgewater.
AU Type:	RIVER
AU Size:	6.9 MILES
Classification/Qualifier:	B

Poor Meadow Brook - MA62-34

Watershed Area: 16.36 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	16.35	3.83	3.43	0.68
Agriculture	1.72%	2%	1.9%	2.2%
Developed	39.5%	21.7%	23.8%	9%
Natural	39.5%	51.5%	38.1%	42.8%
Wetland	19.2%	24.9%	36.2%	46%
Impervious Cover	14.63%			

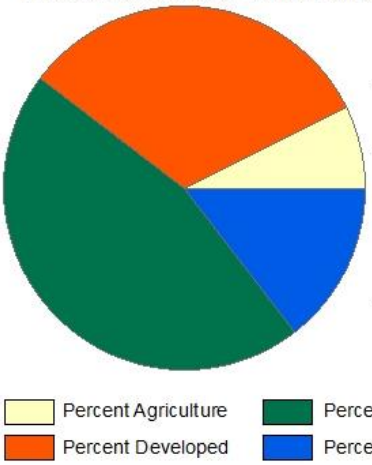
Fish, other Aquatic Life and Wildlife Use: Fully Supporting
Water quality data collected at one station (W0869) at Main Street in Hanson during the summer of 2013 were indicative of generally good conditions (i.e., minimum DO 5.1mg/L during the three probe deployments, maximum saturation 83%, pH between 6.7-6.9SU, average and maximum concentrations of total phosphorus of 0.041 and 0.058 mg/L, respectively and maximum chloride 130mg/L) . The maximum temperature measured during the long-term thermistor deployment was high (29.1°C) but instream temperature in the brook was above 28.3°C for a very limited amount of time (total of 15.4 hours) and the 7-DADM was 27.7°C only twice. The Aquatic Life Use for Poor Meadow Brook is assessed as fully supporting based on the physico-chemical data collected during the summer of 2013.

POQUOY BROOK (MA62-71)

Location:	Headwaters, outlet Poquoy Brook Pond, Lakeville to mouth at confluence with the Taunton River, Taunton/Middleborough.
AU Type:	RIVER
AU Size:	2.2 MILES
Classification/Qualifier:	B

POQUOY BROOK - MA62-71

Watershed Area: 8.31 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	8.31	6.63	2.08	1.78
Agriculture	7.41%	8.5%	10.1%	11.1%
Developed	32.3%	28.2%	19.2%	16.9%
Natural	45.7%	49.1%	46.7%	49.2%
Wetland	14.6%	14.2%	24%	22.7%
Impervious Cover	14.87%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Poquoy Brook is designated as a coldwater fisheries resource by DFW. According to DMF biologists, there are four barriers to river herring passage along Poquoy Brook (sluice ways and the dam all related to cranberry bog operations) that do not allow passage (passage scores = 10) into Poquoy Brook Pond. DFG conducted backpack electrofishing at four sites along the brook downstream from Route 44 in April 2011. While all four samples had few fish, there were notes regarding sampling inefficiencies (e.g., deep water, sand/muck bottom 2-3'deep). All four samples contained a fluvial specialist and/or fluvial dependant species. Two brook trout were collected in one sample. The Aquatic Life Use is assessed as not supporting for Poquoy Brook based on the presence of fish passage barriers.

Poquoy Brook Pond (MA62146)

Location:	Lakeville/Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	34 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists, there are four barriers to river herring passage along Poquoy Brook (sluice ways and the dam all related to cranberry bog operations) that do not allow passage (passage scores = 10) into Poquoy Brook Pond. The Aquatic Life Use is assessed as not supporting for Poquoy Brook Pond based on the presence of fish passage barriers.

Poquoy Pond (MA62147)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	10 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available so the Aquatic Life Use for Poquoy Pond is not assessed.

Prospect Hill Pond (MA62149)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	42 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for Prospect Hill Pond.

Puds Pond (MA62151)

Location:	Sharon/Easton.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	B

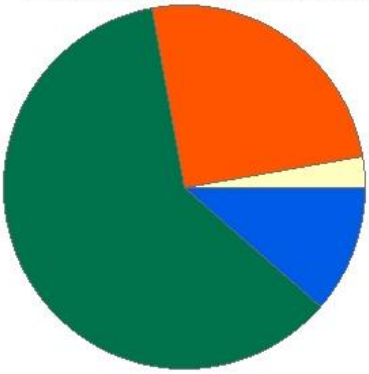
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Puds Pond.

QUESET BROOK (MA62-67)

Location:	Headwaters, outlet Ames Long Pond, Easton to inlet Longwater Pond, Easton (through former 2014 segment: Shovelshop Pond MA62172) (formely part of 2014 segment: Queset Brook MA62-21).
AU Type:	RIVER
AU Size:	1.5 MILES
Classification/Qualifier:	B

Queset Brook - MA62-67

Watershed Area: 4.29 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	4.06	3.85	1.55	1.45
Agriculture	2.7%	2.8%	1.9%	2%
Developed	25.2%	24.6%	20.1%	19.7%
Natural	60.7%	60.9%	59.8%	59.6%
Wetland	11.4%	11.7%	18.2%	18.6%
Impervious Cover	8.32%			

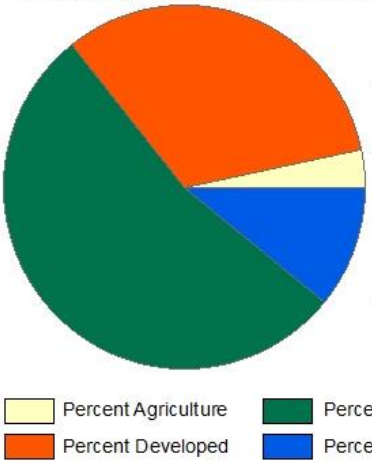
Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Shovelstop Pond (an impoundment of this Queset Brook AU) one non-native aquatic macrophyte species, *Myriophyllum heterophyllum* was documented. The Aquatic Life Use is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum* in the Shovelstop Pond impoundment of this Queset Brook AU (MA62-67).

QUESET BROOK (MA62-68)

Location:	From outlet Longwater Pond, Easton to mouth at confluence with Coweeset Brook, West Bridgewater (formerly part of 2014 segment: Queset Brook MA62-21).
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

Queset Brook - MA62-68

Watershed Area: 10.45 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	10.18	3.55	3.16	0.94
Agriculture	3.3%	5.6%	3.2%	6%
Developed	32.4%	45.8%	22.2%	27.8%
Natural	53.3%	40.7%	56.1%	47.4%
Wetland	11%	7.9%	18.5%	18.8%
Impervious Cover	11.94%			

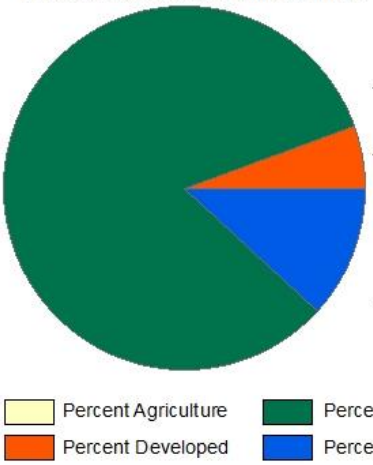
Fish, other Aquatic Life and Wildlife Use: Insufficient Information
Backpack electrofishing in July 2006 upstream of the Turnpike Road in Easton (SampleID 1775) resulted in the capture of only a few fish including one fluvial specialist species. There is insufficient information to evaluate the Aquatic Life Use for the Queset Brook AU (MA62-68).

Rattlesnake Brook (MA62-45)

Location:	Headwaters east of Riggenbach Road, Fall River to mouth at confluence with Assonet River, Freetown.
AU Type:	RIVER
AU Size:	3.2 MILES
Classification/Qualifier:	B

Rattlesnake Brook - MA62-45

Watershed Area: 6.6 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.55	6.13	1.43	1.4
Agriculture	0.81%	0.9%	0.1%	0.1%
Developed	5.5%	5.7%	4.6%	4.8%
Natural	82%	81.1%	76.7%	77%
Wetland	11.7%	12.3%	18.5%	18.2%
Impervious Cover	3.42%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting

Rattlesnake Brook was sampled by MassDEP biologists between 2013 and 2015 as part of the Reference Site Network (RSN) Project upstream from Route 24/79 in Freetown. Streams/sites sampled as part of the project have very low levels of human disturbance and therefore are considered representative of natural conditions. Not all the data collected have been validated however a brief summary is as follows: the benthic community sample collected in 2014 had a taxa richness of 19, an EPT index of 4, an HBI of 2.3, and the %dominant taxon 41%. American eel and redfin pickerel made up the fish community at this sampling location. Except for extremely low pH (range 4.4 to 5.5SU) water quality data were indicative of excellent conditions (DO≥7.5mg/L, maximum temperature 23.4, maximum saturation 99%, very low conductivity ≤ 49µS/cm, maximum total phosphorus concentration 0.02mg/L). Slightly further downstream DFG biologists conducted backpack electrofishing in Rattlesnake Brook upstream from South Main Street in Freetown (SampleID 2783) in July 2008. Four macrohabitat generalist species were collected three of the which are considered moderately tolerant to environmental perturbations. In October 2016, the dam at Bleachery Reservoir was removed as part of a DER Hurricane Sandy Project.

The Aquatic Life Use for Rattlesnake Brook is assessed as fully supporting based primarily on sampling data collected as part of the RSN project. Although the pH is extremely low, the former alerts for low pH and alkalinity are being removed as they are considered to be natural conditions.

Reservoir (White Oak Reservoir) (MA62157)

Location:	Hanson.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added
5	5	Phosphorus, Total		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Water quality monitoring was conducted by MassDEP biologists at the deep hole of the Reservoir (White Oak Reservoir) (W2173) during the summers of 2010, 2011, 2012, 2013, and 2015. The maximum depth recorded during the surveys was 2.1m (during high flow conditions) but was almost always ≤2.0m. Aquatic plant cover was often described as dense/very dense and the non-native aquatic macrophyte *Cabomba caroliniana* was present. Duckweed was reported to cover anywhere between 1 to 50% of the reservoir. Physico-chemical data were also indicative of some nutrient enrichment --dissolved oxygen concentrations did drop below 5.0 mg/L at depth between 1 and 1.5m (minimum DO <0.2mg/L), supersaturation and elevated pH did occur (maximum saturation 118%, and pH 8.6SU in July 2015). The maximum chlorophyll a was 31.6 µg/L in July 2010 and was 16.9µg/L in September 2015. The total phosphorus concentration data ranged from 0.024 to 0.053 mg/L and averaged 0.035 mg/L in the summer of 2015.

The Aquatic Life Use is being assessed as Not Supporting for Reservoir (White Oak Reservoir) based on the presence of the non-native aquatic macrophyte Fanwort (*Cabomba caroliniana*), nutrient/eutrophication biological indicators (as evidenced by dense/very dense growth of the macrophytes, presence of wolffia and lemna, elevated chlorophyll a, low DO, supersaturation, high pH), and total phosphorus. The cranberry bog operation upstream of the AU and stormwater runoff are considered the likely sources.

Richmond Pond (MA62159)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	6 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Richmond Pond one non-native aquatic macrophyte species, *Cabomba caroliniana* was identified. The Aquatic Life Use for Richmond Pond is assessed as not supporting because of the presence of a non-native aquatic macrophyte *Cabomba caroliniana*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Richmond Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Robbins Pond (MA62162)

Location:	East Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	124 ACRES
Classification/Qualifier:	B

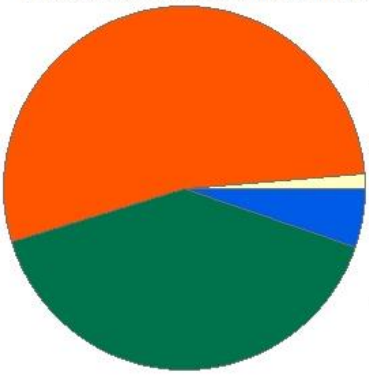
Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
No recent data are available for Robbins Pond so the Aquatic Life Use is not assessed. This use is identified with an Alert Status however because of an unidentified species of myriophyllum.

Robinson Brook (MA62-14)

Location:	Headwaters, outlet Hersey Pond, Foxborough to mouth at confluence with Rumford River, Mansfield.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B

Robinson Brook - MA62-14

Watershed Area: 2.8 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.8	2.8	0.79	0.79
Agriculture	1.28%	1.3%	2.8%	2.8%
Developed	53.5%	53.5%	36.1%	36.1%
Natural	39.9%	39.9%	45.8%	45.8%
Wetland	5.3%	5.3%	15.3%	15.3%
Impervious Cover	25.94%			

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Backpack electrofishing in Robinson Brook near Foxboro Street Foxboro in July 2006 (station 1583) documented a fluvial dependant species in moderate abundance as well as moderately tolerant macrohabitat generalist species which suggests generally good conditions. Notes were made however regarding silt deposits in the bends. Previous assessments had noted that sedimentation has impacted habitat quality negatively and the more recent data suggests this problem remains within this AU. The Aquatic Life Use for Robinson Brook is therefore assessed as not supporting based on physical substrate habitat alterations (sedimentation). There are no recent macroinvertebrate data to evaluate so the Benthic Macroinvertebrate impairment will also remain listed as an impairment.

Route One Pond, West (MA62165)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	10 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

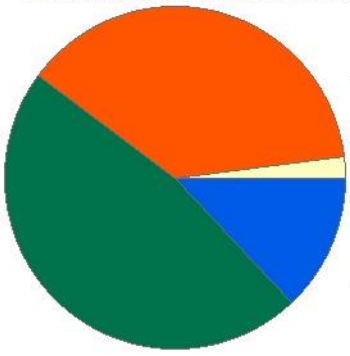
Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)
1996 DEP fieldsheets indicate the presence of an unconfirmed species of aquatic plant Myriophyllum, possibly heterophyllum. The species needs confirmation, ideally when flowering heads are present. There is insufficient information to assess Aquatic Life Use for Route One Pond, West. This use is identified with an alert status because of the potential infestation of *M. heterophyllum*, which needs confirmation.

Rumford River (MA62-40)

Location:	From outlet Norton Reservoir, Norton to mouth at confluence with Wading River forming headwaters Threemile River, Norton (formerly part of 2004 segment: Rumford River MA62-15).
AU Type:	RIVER
AU Size:	4.5 MILES
Classification/Qualifier:	B

Rumford River - MA62-40

Watershed Area: 22.51 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	22.35	5.43	7.5	1.54
Agriculture	2.01%	0.6%	1.9%	0.6%
Developed	37.9%	29.9%	27.3%	26.9%
Natural	47.1%	56.7%	49.3%	50.4%
Wetland	13.1%	12.8%	21.4%	22.2%
Impervious Cover	15.42%			

Fish, other Aquatic Life and Wildlife Use: Insufficient Information (Alert)

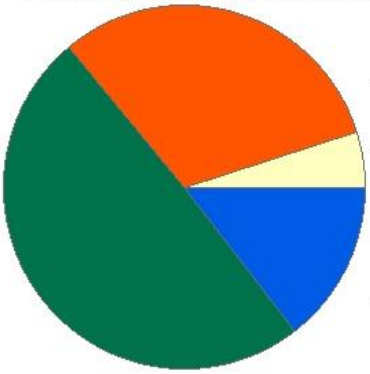
Water quality monitoring was conducted in this Rumford River AU at the Pine Street bridge in Norton (W0311) by MassDEP staff in the summer of 2006. All water quality data collected were indicative of good conditions (i.e., minimum DO concentration 6.4 mg/L, maximum temperature 25.8°C, good pH, lack of any indicators of nutrient enrichment including maximum diel changes in DO only 1.25 mg/L, lack of any supersaturation, average and maximum concentrations of total phosphorus 0.026 and 0.034mg/L, respectively, and only one observation of dense/very dense filamentous algae. River water has also been collected here by Wheaton College Wastewater Treatment River Facility staff for use as dilution water in the facility's whole effluent toxicity tests. Between May 2006 and August of 2016, survival of *Ceriodaphnia dubia* exposed (either 48 hour or 7-day) to river water (n=27 test events) ranged from 80 to 100%. Survival of *Pimephales promelas* exposed (either 48 hour or 7-day) to river water (n=27 test events) ranged from 28 to 100% with 7 of the 27 tests (~26%) with survival less than 75% although survival was improved in the tests conducted after May 2009 (≥ 58% with four tests below 75%) . The Wheaton College discharge (MA0026182) did not exhibit any acute toxicity to either *C. dubia* or *P. promelas* (LC_{50}s and ANOECs were all >100% and 100% effluent, respective) in the 27 tests conducted between between May 2006 and August of 2016. C-NOEC results ranged from <6.25% to 100% effluent for both species neither of which was consistently more sensitive. There are two dams on this AU, but they are not listed as impediments to diadromous fish passage by DMF. Although good water quality conditions were documented during the summer of 2006 and survival of C. dubia exposed to the Rumford River has been excellent, because survival of P. promelas has not consistently been good, it is best professional judgement that without any other biological monitoring data there is insuffience information to assess the status of the Aquatic Life Use for this Rumford River AU (MA62-40). This use is identified with an alert status because of the occasionally low survival of *P. promelas* exposed to water collected from the Rumford River.

RUMFORD RIVER (MA62-62)

Location:	Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough (through former 2014 segment: Vandys Pond MA62112) (formerly part of 2014 segment: Rumford River MA62-39 [MA62-15 (2004)]).
AU Type:	RIVER
AU Size:	2.8 MILES
Classification/Qualifier:	B

Rumford River - MA62-62

Watershed Area: 6.26 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.1	3.57	2.28	1.55
Agriculture	4.9%	0.3%	3%	0.4%
Developed	31.2%	32.1%	18.6%	17.3%
Natural	49.4%	56.8%	54.5%	61.3%
Wetland	14.5%	10.9%	23.9%	21%
Impervious Cover	10.67%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	4c	Benthic Macroinvertebrates		Removed
5	4c	Fish Bioassessments		Removed
5	4c	(Physical substrate habitat alterations*)		Removed
5	4c	Sedimentation/Siltation		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

During the summer of 1996 one non-native aquatic macrophyte species, *Myriophyllum heterophyllum*, was identified by MassDEP in Vandys Pond (an impoundment in this Rumford River AU). Just downstream from this impoundment, fish population surveys were conducted in this Rumford River AU in the vicinity of Cocasset Street in Foxboro in July 2006 (SampleID 2322) and again in July 2007 (SampleID 2379). Two fluvial specialist species were documented including multiple age classes of Eastern brook trout in the July 2007 sample. Both samples were dominated by longnose dace, a moderately tolerant fluvial specialist. With the exception of slightly low pH (ranging from 6.0 to 6.3 SU), water quality data collected at one station (W1506) Cocasset Street bridge in Foxboro during the summer of 2006 were indicative of good conditions (i.e., minimum DO 5.26 mg/L during the three probe deployments, maximum temperature 23.8°C, lack of any indicators of nutrient

enrichment including maximum diel changes in DO only 1.0 mg/L, lack of any supersaturation/very small changes in saturation). Similar conditions were documented during the summer of 2013 slightly further downstream (W2377) although pH was slightly higher (6.5 and 6.6 SU). One benthic macroinvertbrate survey was conducted along this AU of the Rumford River (B0189 ~575m downstream from Cocasset Street) in August of 2006. The RPBIII analysis indicated 76% comparability to the reference ("slightly impaired"). A periphyton survey here in August 2006 estimated 35% algae cover in the stream reach, with a fine organic coating on all surfaces composed, in part, of diatoms. The filamentous cyanobacteria Lyngbya sp. was also present in the sample but was not abundant in the reach.
While all other water quality data collected in this Rumford River AU during the summers of 2006 and 2007 were indicative of good conditions (i.e., benthic, fish, physico-chemical sampling), the Aquatic Life Use is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum* in the Vandys Pond impoundment of this Rumford River AU (MA62-62).

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Benthic Macroinvertebrates	Applicable WQS attained; original basis for listing was incorrect	The original listing for aquatic macroinvertebrate bioassessment impairment came from the July 2001 MassDEP survey as reported on during the 2006 IR reporting cycle. Two sites were sampled in the Rumford River AU (MA62-39) at that time (B0189 downstream from Cocasett Street in Foxboro) and the more downstream site (B0471 downstream from Willow Street in Mansfield). The RPBIII analysis of the upstream station was slightly impacted whereas the RBPIII analysis at the downstream site indicated moderate impacts. At the time the upper 3.0mile reach of the Rumford River was considered supporting the Aquatic Life Use and the impairments were in the lower 5.0mile reach of the Rumford River AU because of the biota (benthos and fish) and habitat degradation. During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). Like the survey in July 2001, the RPB III analysis of the benthic macroinvertebrate sample collected in the river near Cocasett Street (B0189) in this upstream Rumford River AU (MA62-62) during the summer of 2006 indicated "slightly impaired" (76% comparability to the reference site). Between 1988 and 2006 this site has been consistently "slightly impaired" and appears to have improved slightly over time. Total richness of the benthic samples has increased from 21 to 29 and % dominant taxon has decreased from 30 to 13%. The "moderately impaired" site for macroinvertebrates that caused this segment to be impaired is further downstream and has been separated into another AU. Based on the resegmentation and the improvement in the macroinvertebrate sample assemblage in this upstream Rumford River AU, the impairment for benthic macroinvertebrates is being delisted. Similar land use

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
		patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Fish Bioassessments	Applicable WQS attained; original basis for listing was incorrect	During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The original listing for fishes bioassessment impairment came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street Mansfield. This sampling location is in the downstream Rumford River AU MA62-63. While the sample was comprised entirely of macrohabitat generalists at least one species is moderately tolerant to pollution. More recently fish population surveys were conducted in this Rumford River AU in the vicinity of Cocasset Street in Foxboro in July 2006 (SampleID 2322) and again in July 2007 (SampleID 2379). Two fluvial specialist species were documented including multiple age classes of Eastern brook trout in the July 2007 sample. Both samples were dominated by longnose dace, a moderately tolerant fluvial specialist. Based on the resegmentation and the presence of fluvial specialist species (including multiple age classes of Eastern brook trout) in fish sampling conducted in this Rumford River AU, the impairment for fish bioassessments is being delisted. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Physical substrate habitat alterations	Applicable WQS attained; original basis for listing was incorrect	During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The original listing for Physical substrate habitat alterations impairment came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street Mansfield which is now part of the downstream Rumford River AU MA62-63. Based on this resegmentation and the generally good habitat quality condition that supports the biota in this upper portion of the Rumford River as documented during the summers of 2006 and 2007, the Physical substrate habitat alterations impairment is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
		collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.
Sedimentation/Siltation	Applicable WQS attained; original basis for listing was incorrect	During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The original listing for Sedimentation/Siltation impairment came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street Mansfield which is now part of the downstream Rumford River AU MA62-63. Based on this resegmentation and the generally good habitat quality condition that supports the biota in this upper portion of the Rumford River as documented during the summers of 2006 and 2007, the Sedimentation/Siltation impairment is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Supporting Information for Delisted Impairments

Benthic Macroinvertebrates

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for aquatic macroinvertebrate bioassessment impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good benthic macroinvertebrate sample assemblage in the upstream Rumford River AU62-62 during the summer 2006 survey, the impairment for benthic macroinvertebrates is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data Source: (MassDEP 2013)

The segment MA62-62 at station TR06, B0189 (RUMFORD RIVER/ , approx. 575 meters downstream/south from Cocasset Street, Foxboro, MA was sampled on 8/1/2006 the RBPIII status was determined to be 76% comparable or “slightly impacted” when compared to the reference TR01 (UniqueID: B0184). This station had a habitat score of 152 considered to be “Comparable” when compared to the reference.

	Project	Years	UNIQUE ID	Field ID	RefPC	Richness	HBI	EPT Index	EPT CHIR	SC/ FC	FC/ Total	% Dom Taxon	Tot HabSc
98	Taunton 2006	2006	B0189	TR06	B0184	29	4.70	8	1.30	0.83	0.32	12.96%	152

99	Taunton 2006	2006	B0189	TR06	B0184	24	5.07	7	1.38	0.44	0.44	22.68%	152
100	Taunton 2006	2006	B0189	TR06	B0184	24	5.09	8	1.65	0.52	0.40	23.38%	152

	% Richness	% HBI	% EPT Index	% EPT CHIR	X.SC/ FC	DomTaxon Score	% Tot Habsc
98	116%	80%	67%	92%	481%	6	90%
99	96%	74%	58%	98%	256%	4	90%
100	96%	74%	67%	117%	299%	4	90%

Fish Bioassessments

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for fishes bioassessments impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the good fish sample assemblages in the upstream Rumford River AU62-62 during the summers of 2006 and 2007, the impairment for fishes bioassessments is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data Source: (MassDFG 2014)

The RUMFORD RIVER was sampled (Cocasett St xing downstream, just W of Sand St) on 7/6/2006 (SampleID: 2322), using the Backpack Shocking method. A total of 13 individuals were collected with 5 species represented. The sample was composed of 69 % fluvial specialists/dependents and 92 % intolerant/moderately intolerant and 8 % were considered tolerant to pollution.

Taunton Fish Population Data from DFG Database								
Station Description	Rumford River -- Cocasett St xing downstream, just W of Sand St, Foxborough							
Habitat Comments	Fast -flowing, riffles & pools. Dace in riffles, sunfish etc in slack water. Marsh/bog							
Efficiency	Amps are inaccurate. Samplers may have read backpack readings incorrectly(Seconds							
Sample Date	**Species**	5						
07/06/06	**Total Ind**	13						
Method	**% Dom**	69%						
Backpack Shocking	**Habitat**	**Species**	**% Ind**					
Saris/Palis	FS	1	69%					
6235600	FD	0	0%					
	MG	4	31%					
	Tolerant	**Species**	**% Ind**					
	I	1	8%					
	M	3	85%					
	T	1	8%					
	SampleID	2322						
Common Name	**Fish Code**	**Count**	**Min Length**	**Max Length**	**Temp**	**FG**	**PT**	**Function**
Bluegill	B	1	73	73	W	MG	T	Generalist Feeder
Redfin pickerel	RP	1	187	187	WB	MG	M	Top Carnivore
Banded sunfish	BS	1	88	88	WB	MG	I	Water Column Insectivore
Longnose dace	LND	9	66	92	CW	FS	M	Benthic Insectivore
Redbreast sunfish	RBS	1	111	111	W	MG	M	Generalist Feeder

Data Source: (MassDFG 2014)

The RUMFORD RIVER was sampled (Cocasset St xing Downstream, 0.1mi W of Adams St) on 7/12/2007 (SampleID: 2379), using the Backpack Shocking method. A total of 84 individuals were collected with 6 species represented. 1 coldwater species were found including 1 trout less than or equal to 140 mm. The sample was composed of 81 % fluvial specialists/dependents and 100 % intolerant/moderately intolerant and 0 % were considered tolerant to pollution.

Taunton Fish Population Data from DFG Database								
Station Description	Rumford River -- Cocasset St xing Downstream, 0.1mi W of Adams St, Foxboro							
Habitat Comments								
Efficiency	(Seconds Shocked - 725)							
Sample Date	Species	6						
07/12/07	Total Ind	84						
Method	% Dom	67%						
Backpack Shocking	Habitat	Species	% Ind					
Saris/Palis	FS	2	81%					
6235600	FD	0	0%					
	MG	4	19%					
	Tolerant	Species	% Ind					
	I	3	18%					
	M	3	82%					
	T	0	0%					
	SampleID	2379						
Common Name	Fish Code	Count	Min Length	Max Length	Temp	FG	PT	Function
Chain pickerel	CP	4	90	185	W	MG	M	Top Carnivore
Brook trout	EBT	12	140	225	C	FS	I	Top Carnivore
Redfin pickerel	RP	9	65	200	WB	MG	M	Top Carnivore
Banded sunfish	BS	1	74	74	WB	MG	I	Water Column Insectivore
Swamp Darter	SD	2	45	45	WB	MG	I	Benthic Insectivore
Longnose dace	LND	56	28	120	CW	FS	M	Benthic Insectivore

Physical substrate habitat alterations

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Physical substrate habitat alterations impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of 2006 and 2007 the Physical substrate habitat alterations impairment is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

Data to support physical substrate habitat alterations are based on the evidence of good biological integrity of the benthic and fish communities. The habitat score (152) was considered "Comparable" when compared to the reference (MassDEP 2013).

Sedimentation/Siltation

Resegmentation in 2016 reporting cycle: MA62-39 deleted and split into 2 Rumford River AUs (MA62-62 and MA62-63) and 1 lake segment (Glue Factory Pond MA62078). The original listing for Sedimentation/Siltation impairment was when Glue Factory Pond was part of the Rumford River AU MA62-39 (2006 reporting cycle). Based on the resegmentation as well as the generally good habitat quality condition that supports the biota in the upstream Rumford River AU62-62 during the summers of

2006 and 2007, the Sedimentation/Siltation impairment is being delisted for this Rumford River AU MA62-62. Similar land use patterns were observed in 2005 and 2015 therefore data collected within this timeframe are considered usable for water quality assessment, listing, and delisting decisions.

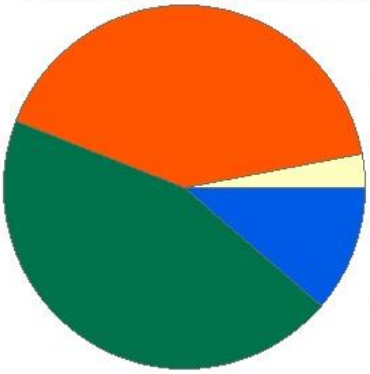
Data to support physical substrate habitat alterations are based on the evidence of good biological integrity of the benthic and fish communities. The habitat score (152) was considered “Comparable” when compared to the reference (MassDEP 2013).

RUMFORD RIVER (MA62-63)

Location:	From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton (through former 2014 pond segments; Fulton Pond MA62075, Hodges Pond MA62091, and Cabot Pond MA62029) (formerly part of 2014 segment: Rumford River MA62-39 [MA62-15 (2004)]).
AU Type:	RIVER
AU Size:	5.1 MILES
Classification/Qualifier:	B

Rumford River - MA62-63

Watershed Area: 13.68 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	13.52	3.19	4.85	1.21
Agriculture	2.92%	1.1%	2.6%	2.1%
Developed	41.1%	55.3%	27.1%	42.5%
Natural	44.6%	32.8%	50.2%	40.2%
Wetland	11.4%	10.8%	20.1%	15.2%
Impervious Cover	18.1%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Added
5	5	(Physical substrate habitat alterations*)		Removed
5	5	Sedimentation/Siltation		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Water quality data collected at one station (W1507) near Willow Street in Mansfield during the summer of 2006 were indicative of good conditions (i.e., minimum DO 6.2mg/L during the three probe deployments, maximum temperature 27.7°C, average and maximum concentrations of total phosphorus of 0.019 and 0.028 mg/L, respectively, lack of any indicators of nutrient enrichment including maximum diel changes in DO 1.8 mg/L, only some slight supersaturation 106%). One benthic macroinvertebrate survey was conducted along this AU of the Rumford River (B0471 ~300 meters downstream/southeast from Willow Street, Mansfield) in August of 2006. The RPBIII analysis indicated 48% comparability to the reference ("moderately impaired"). It should also be noted that habitat characteristics did not appear to limit the biological potential at this site, adverse impacts on the macroinvertebrate community can be attributed primarily to water quality conditions. Similarly, good water quality conditions were documented during the summer of 2013 slightly further downstream (W2402

approximately 1450 feet upstream/north from the Route 140 ramp to Route 495 north bound, Mansfield) although total phosphorus concentrations were slightly higher (average 0.029 and maximum 0.072mg/L). A non-native aquatic macrophyte, *Potamogeton crispus*, was also recorded at this site in the summer of 2013. It should be noted here that cleanup activities took place between the late summer 2009 and fall of 2010 for the Hatheway and Patterson Company (HPC) Superfund Site (a former wood preserving facility) located near the upstream end of this AU. The site was removed from the NPL list in 2018. Although physico-chemical water quality data collected in this Rumford River AU (MA62-63) during the summers of 2006 and 2013 were indicative of good conditions, the Aquatic Life Use will continue to be assessed as not supporting based on the moderately impacted benthic community. The fish bioassessment impairment is being carried forward until more recent data are collected to confirm the appropriateness of its delisting Rumford River downstream from Willow Street Mansfield and the presence of a non-native aquatic macrophyte *Potamogeton crispus*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Physical substrate habitat alterations	Applicable WQS attained; reason for recovery unspecified	During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The original listing for Physical substrate habitat alterations impairment came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street Mansfield . This sampling location is in this Rumford River AU MA62-63. At that time habitat degradation from sediment inputs were noted as likely compromising biological integrity and habitat alterations (remapped to physical substrate habitat alterations) and siltation (remapped to sedimentation/siltation) were listed as impairments. The habitat evaluation conducted in the same river reach near Willow Street in August 2006 indicated an improved sediment deposition score (from 7 to 13) and the biological technical memorandum stated that habitat quality did not appear to limit biological integrity. In July 2013, the sediment deposition score was 18 in the habitat evaluation of the Rumford River at a sampling location further downstream from Willow Street. The site was near the Route 140 ramp to 495 northbound. Based on the improved sediment deposition scores in 2006 and 2013, the physical substrate habitat alterations impairment is being delisted.
Sedimentation/Siltation	Applicable WQS attained; reason for recovery unspecified	During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The original listing for Sedimentation/Siltation came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
		Mansfield. This sampling location is in this Rumford River AU MA62-63. The original listing for Sedimentation/Siltation impairment came from the September 2001 MassDEP survey as reported on during the 2006 IR reporting cycle collected from the Rumford River downstream from Willow Street Mansfield. At that time habitat degradation from sediment inputs were noted as likely compromising biological integrity and habitat alterations (remapped to physical substrate habitat alterations) and siltation (remapped to sedimentation/siltation) were listed as impairments. The habitat evaluation conducted in the same river reach near Willow Street in August 2006 indicated an improved sediment deposition score (from 7 to 13) and the biological technical memorandum stated that habitat quality did not appear to limit biological integrity. In July 2013, the sediment deposition score was 18 in the habitat evaluation of the Rumford River at a sampling location further downstream from Willow Street. The site was near the Route 140 ramp to 495 northbound. Based on the improved sediment deposition scores in 2006 and 2013, the Sedimentation/Siltation impairment is being delisted.

Supporting Information for Delisted Impairments

Physical substrate habitat alterations

During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). The habitat evaluation conducted in the river reach near Willow Street in August 2006 indicated an improved sediment deposition score (from 7 to 13) and the biological technical memorandum stated that habitat quality did not appear to limit biological integrity. In July 2013, the sediment deposition score was 18 in the habitat evaluation of the Rumford River at a sampling location further downstream from Willow Street. The site was near the Route 140 ramp to 495 northbound. Based on the improved sediment deposition scores in this Rumford River AU (MA62-63) during the summers of both 2006 and 2013, the physical substrate habitat alterations impairment is being delisted.

Data Source: (MassDEP 2013) Habitat assessment scores from August 2006 DWM benthic surveys along one reach in this segment of the Rumford River and the overall habitat score of the station located downstream from Willow Street, Mansfield (Station TR06B) was 147 out of 200.

Appendix 1. Habitat assessment summary for biomonitoring stations sampled during the 2006 Taunton River Watershed survey. For within-reach parameters, scores ranging from 16-20 = optimal; 11-15 = suboptimal; 6-10 = marginal; 0-5 = poor. For riparian parameters, scores ranging from 9-10 = optimal; 6-8 = suboptimal; 3-5 = marginal; 0-2 = poor. Maximum habitat score for any site = 200. Refer to Table 1 for a listing and description of sampling stations.

STATION	SALBK00	TRTBK00	BVRBK00A	TR03	MDWBK01	STKR01	MATR01	TR01	TR06	WR08A	TR06B	NB06WAD	TH09
PRIMARY PARAMETERS (range is 0-20)	SCORE												
INSTREAM COVER	8	3	17	19	16	17	10	17	18	11	17	8	19
EPIFAUNAL SUBSTRATE	17	16	19	19	17	18	18	17	15	13	16	18	19
EMBEDDEDNESS	14	11	16	12	15	16	10	19	14	15	11	10	14
CHANNEL ALTERATION	13	0	19	17	20	16	15	20	20	11	20	16	20
SEDIMENT DEPOSITION	17	5	16	14	10	14	15	17	13	10	13	11	11
VELOCITY-DEPTH COMBINATIONS	7	6	13	17	13	12	11	10	7	7	10	9	19
CHANNEL FLOW STATUS	8	13	8	19	9	10	18	15	9	18	10	15	19
SECONDARY PARAMETERS (range is 0-10 for each bank)	SCORE												
BANK VEGETATIVE PROTECTION left	10	2	10	10	10	9	10	10	10	10	10	8	10
BANK VEGETATIVE PROTECTION right	9	2	10	10	10	9	10	10	10	10	10	10	10
BANK STABILITY left	10	9	8	6	4	3	3	7	8	9	5	8	9
BANK STABILITY right	9	9	8	3	3	7	5	7	9	10	5	7	9
RIPARIAN VEGETATIVE ZONE WIDTH left	1	1	10	10	9	4	10	10	10	2	10	7	10
RIPARIAN VEGETATIVE ZONE WIDTH right	2	1	10	2	10	10	6	10	9	10	10	9	10
TOTAL SCORE	125	78	164	158	146	145	141	169	152	136	147	136	179

The habitat assessment score from the July 2013 DWM benthic survey along one reach in this segment of the Rumford River approximately 440m upstream/north from the Route 140 ramp to Route 495 northbound Mansfield (Station B0860) was 157 out of 200 (Nuzzo 2019). Note sediment deposition score was very good (18 out of 20).

ProjectCode	RefPC	UNIQUE_ID	FieldID	BenSampID	TotInd	Richness	HBI	EPTIndex	EPT/CHIR	SC/FC	FC/Total	%DomTaxon	TotHabSc
MAP2 2013r		B0860	MAP2-423	2013033.R	100	34	5.24	9	0.87	0.21	0.47	9.00%	157.00

Description	2013033
Bank Stability-Left Bank	10
Bank Stability-Right Bank	10
Bank Vegetative Protection-Left Bank	10
Bank Vegetative Protection-Right Bank	10
Bottom Substrate/Available Cover	15
Channel Alteration	18
Channel Flow Status	20
Channel Sinuosity	6
Embeddedness	
Epifaunal Substrate	
Frequency of Riffles	
Instream Cover	
Pool Substrate Characterization	14
Pool Variability	7
Riparian Vegetative Zone Width-Left Bank	9
Riparian Vegetative Zone Width-Right Bank	10
Sediment Deposition	18
Total	157

Sedimentation/Siltation

During the 2016 reporting cycle the Rumford River AU MA62-39 was split into two new AUs – MA62-62 (Headwaters, outlet Gavins Pond, Sharon to inlet Glue Factory Pond, Foxborough) and MA62-63 (From outlet Glue Factory Pond, Foxborough to inlet Norton Reservoir, Norton). Improved conditions were documented in this Rumford River AU (MA62-63) during the summers of 2006 and 2013 and based on these data the Sedimentation/Siltation impairment is being delisted.

Data Source: (MassDEP 2013): Habitat assessment scores from August 2006 DWM benthic surveys along one reach in this segment of the Rumford River and the overall habitat score of the station located downstream from Willow Street, Mansfield (Station TR06B) was 147 out of 200.

Appendix 1. Habitat assessment summary for biomonitoring stations sampled during the 2006 Taunton River Watershed survey. For within-reach parameters, scores ranging from 16-20 = optimal; 11-15 = suboptimal; 6-10 = marginal; 0-5 = poor. For riparian parameters, scores ranging from 9-10 = optimal; 6-8 = suboptimal; 3-5 = marginal; 0-2 = poor. Maximum habitat score for any site = 200. Refer to Table 1 for a listing and description of sampling stations.

STATION	SALBK00	TRTBK00	BVRBK00A	TR03	MDWBK01	STKR01	MATR01	TR01	TR06	WR08A	TR06B	NB06WAD	TH09
PRIMARY PARAMETERS (range is 0-20)	SCORE												
INSTREAM COVER	8	3	17	19	16	17	10	17	18	11	17	8	19
EPIFAUNAL SUBSTRATE	17	16	19	19	17	18	18	17	15	13	16	18	19
EMBEDDEDNESS	14	11	16	12	15	16	10	19	14	15	11	10	14
CHANNEL ALTERATION	13	0	19	17	20	16	15	20	20	11	20	16	20
SEDIMENT DEPOSITION	17	5	16	14	10	14	15	17	13	10	13	11	11
VELOCITY-DEPTH COMBINATIONS	7	6	13	17	13	12	11	10	7	7	10	9	19
CHANNEL FLOW STATUS	8	13	8	19	9	10	18	15	9	18	10	15	19
SECONDARY PARAMETERS (range is 0-10 for each bank)	SCORE												
BANK VEGETATIVE PROTECTION left	10	2	10	10	10	9	10	10	10	10	10	8	10
BANK VEGETATIVE PROTECTION right	9	2	10	10	10	9	10	10	10	10	10	10	10
BANK STABILITY left	10	9	8	6	4	3	3	7	8	9	5	8	9
BANK STABILITY right	9	9	8	3	3	7	5	7	9	10	5	7	9
RIPARIAN VEGETATIVE ZONE WIDTH left	1	1	10	10	9	4	10	10	10	2	10	7	10
RIPARIAN VEGETATIVE ZONE WIDTH right	2	1	10	2	10	10	6	10	9	10	10	9	10
TOTAL SCORE	**125**	**78**	**164**	**158**	**146**	**145**	**141**	**169**	**152**	**136**	**147**	**136**	**179**

Data Source: (MassDEP Undated 4): The habitat assessment score from the July 2013 DWM benthic survey along one reach in this segment of the Rumford River approximately 440m upstream/north from the Route 140 ramp to Route 495 northbound Mansfield (Station B0860) was 157 out of 200 (Nuzzo 2019). Note sediment deposition score was very good (18 out of 20).

ProjectCode	RefPC	UNIQUE_ID	FieldID	BenSampID	TotInd	Richness	HBI	EPTIndex	EPT/CHIR	SC/FC	FC/Total	%DomTaxon	TotHabSc
MAP2 2013r		B0860	MAP2-423	2013033.R	100	34	5.24	9	0.87	0.21	0.47	9.00%	157.00

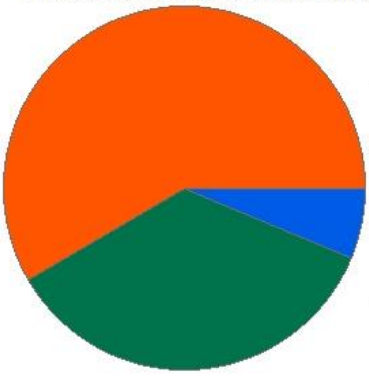
Description	2013033
Bank Stability-Left Bank	10
Bank Stability-Right Bank	10
Bank Vegetative Protection-Left Bank	10
Bank Vegetative Protection-Right Bank	10
Bottom Substrate/Available Cover	15
Channel Alteration	18
Channel Flow Status	20
Channel Sinuosity	6
Embeddedness	
Epifaunal Substrate	
Frequency of Riffles	
Instream Cover	
Pool Substrate Characterization	14
Pool Variability	7
Riparian Vegetative Zone Width-Left Bank	9
Riparian Vegetative Zone Width-Right Bank	10
Sediment Deposition	18
Total	157

Salisbury Brook (MA62-08)

Location:	Headwaters, outlet Cross Pond, Brockton to mouth at confluence with Trout Brook forming headwaters Salibury Plain River, Brockton.
AU Type:	RIVER
AU Size:	2.5 MILES
Classification/Qualifier:	B

Salisbury Brook - MA62-08

Watershed Area: 8.25 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	8.22	3.73	2.38	0.67
Agriculture	0.2%	0.1%	0.3%	0.3%
Developed	58.3%	72.1%	40.2%	56.8%
Natural	35.2%	25.2%	44.7%	36.3%
Wetland	6.3%	2.5%	14.9%	6.6%
Impervious Cover	32.95%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates		Added
5	5	(Non-Native Aquatic Plants*)		Added
5	5	Trash		Changed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Water quality monitoring was conducted by MassDEP at two sites in Salisbury Brook—just upstream from Ellsworth Street (W2378) during the summer of 2013 and further downstream at the Otis Street bridge (W1490) during the summer of 2006. Water quality data were indicative of generally good conditions (minimum DO 4.6mg/L during July 2013 deployment but measurements were qualified whereas all other probe deployments were >5.7 mg/L, good pH, maximum saturation 97%, maximum temperature 28.8°C exceeding 28.3°C for only 5.4 hours, all total phosphorus concentrations <0.064mg/L with seasonal average in 2013 and 2006 of 0.03 and 0.045mg/L, respectively). Backpack electrofishing conducted by DFG biologists in the brook near Warren Avenue in Brockton (SampleID 4874) in August 2013 resulted in the capture of five species. Both a fluvial specialist and fluvial dependant species were found in moderate abundance, indicative of a decent fish community for the low gradient environment. Benthic macroinvertebrates sampling was conducted by MassDEP biologists in Salisbury Brook upstream from Otis Street in Brockton (B0609). The RPBIII analysis indicated a moderately impaired benthic community (48% comparability to the Canoe River reference station) although it should be noted that habitat comparability was also somewhat low. Habitat degradation was

limited most by the lack of riparian vegetated zone, lack of instream cover, and flow (limited velocity-depth combinations and channel flow status). Sediment deposition and embeddedness scored fairly well. Periphyton sampling at this site in August estimated 70% of the reach covered with filamentous green algae comprised primarily of the algae *Spirogyra* sp. Instream habitat in this brook continues to be limited as a direct result of development (poor instream cover, channel alteration, and very limited riparian zones). In July 2017, the non-native aquatic macrophyte species *Myriophyllum heterophyllum* was found in Salisbury Brook near the Otis Street bridge by MassDEP biologists.

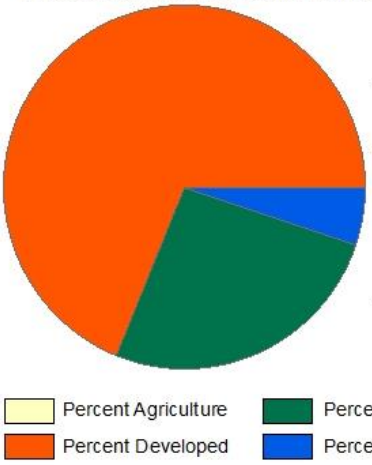
The Aquatic Life Use for Salisbury Brook is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*, the moderately impacted benthic macroinvertebrate community, and filamentous algae, as well as habitat degradation from development that continues to include sediment/siltation (prior habitat surveys) and physical habitat alterations (culverting).

Salisbury Plain River (MA62-05)

Location:	Headwaters, confluence of Trout and Salisbury brooks, Brockton to the Brockton Advanced Water Reclamation Facility (AWRF) discharge (NPDES: MA0101010), Brockton.
AU Type:	RIVER
AU Size:	2.4 MILES
Classification/Qualifier:	B

Salisbury Plain River - MA62-05

Watershed Area: 17.99 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	17.96	4.9	4.14	0.82
Agriculture	0.33%	0.5%	0.2%	0.2%
Developed	68.7%	85.7%	46.5%	67.6%
Natural	25.8%	10.7%	39.7%	27%
Wetland	5.1%	3.1%	13.5%	5.2%
Impervious Cover	36.12%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Trash		Changed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

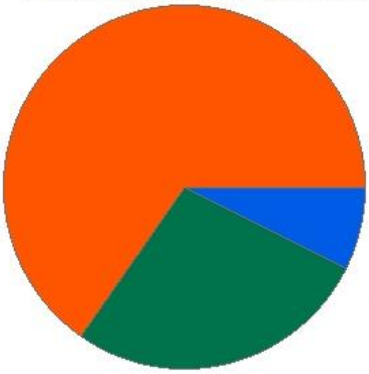
Water quality monitoring was conducted by MassDEP at two sites in the Salisbury Plain RIver—downstream from Grove Street (W2406) during the summer of 2013 and further downstream at Sargeant's Way bridge (W1494) during the summer of 2006. With the exception of low DO in the river at Sargeant's Way bridge in the summer of 2006, water quality data were indicative of generally good conditions (good pH, maximum saturation 95%, maximum diel change in DO 2.4mg/L, maximum temperature 27.8°C, all total phosphorus concentrations <0.099mg/L with seasonal average in 2013 and 2006 of 0.05 and 0.06mg/L, respectively and there were no observations of dense or very dense filamentous algae noted). Dissolved oxygen was as low as 3.62 mg/L in August 2006 and the mean during the August deployment was 4.98 mg/L. Survival of *C. dubia* exposed (~7-day) to the Salisbury Plain River water collected just upstream from the Brockton AWRF discharge for use as a site control in the facility's WET tests was ≥80% in the 33 tests conducted between May 2011 and November 2017. The Aquatic Life Use for this Salisbury Plain River AU (MA62-05) is assessed as not supporting based on the low DO documented in the river during the summer of 2006. Without any new data to evaluate, physical substrate habitat alterations and sedimentation/siltation will remain listed as impairments.

Salisbury Plain River (MA62-06)

Location:	From the Brockton Advanced Water Reclamation Facility (AWRF) discharge (NPDES: MA0101010), Brockton to mouth at confluence with Beaver Brook forming headwaters Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	B: WWF

Salisbury Plain River - MA62-06

Watershed Area: 21.27 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	21.23	5.45	5.05	1.24
Agriculture	0.55%	1.5%	0.3%	0.6%
Developed	65%	57.2%	44.3%	40.4%
Natural	27.1%	26.8%	38.1%	31.1%
Wetland	7.4%	14.4%	17.4%	27.9%
Impervious Cover	33.32%			

Fish, other Aquatic Life and Wildlife Use: Not Supporting

The Brockton AWRF is authorized (NPDES MA0101010) to discharge 18 MGD (monthly average flow) of treated wastewater to this Salisbury Plain River AU. Between November 2004 and November 2017, 64 modified acute and chronic whole effluent toxicity tests were conducted using *Ceriodaphnia dubia* as test organisms. Except for two tests (May 2006 and August 2008 with LC_{50}s =71.3 and 90.94% effluent) the LC_{50}s were all $\geq$ 100% effluent. Of the 63 valid tests, the C-NOEC results ranged from <6.25 to 100% and 12 of the 64 valid tests were less than the limit of 98% effluent (~18% of the tests). The facility has met their CNOEC permit since February 2014. Note facility's permit issued in May 2005 included ammonia and total nitrogen limits and the permit resissued in January 2017 also added a DO limit (not less than 6.0mg/L) and total phosphorus limits.

Benthic macroinvertebrate sampling was conducted by MassDEP biologists in the Salisbury Plain River approx. 300 meters downstream/east from Belmont Street (adjacent to Matfield Street) in East Bridgewater (B0186) in August 2006. The RBPIII status was determined to be 24% comparable or "moderately impacted" when compared to the Canoe River reference conditions. The habitat was considered comparable to the reference. The green algae *Mougeotia* sp., was abundant although algal cover was estimated as <5% of the reach. Instream vegetation was dominated by moss. The water quality sampling data conducted in this reach of the Salisbury Plain River during the summer of 2006 were also indicative of poor conditions including low DO (minimum 1.62 and all results ≤4.4mg/L and maximum saturation of 51%), elevated nutrients (average and maximum concentratations of total phosphorus 0.19 and 0.27 mg/L, respectively) as well as high concentrations of ammonia-nitrogen (range 0.22 to 8.2mg/L, with four of five samples that exceeded the acute criterion (maximum TU 17.4). Except for one high measurement, pH was good.

The Aquatic Life Use is assessed as impaired for this segment of Salisbury Plain River based on the impacted benthic macroinvertebrate community, low dissolved oxygen, excess algal growth, and elevated total phosphorus. Chronic toxicity in the Brockton AWRF effluent is also of concern. Ammonia data reported by the facility as part of their quarterly WET tests was reviewed and elevated concentrations (exceeding permit limits) were documented in 2006 but much lower concentrations in the effluent were measured in subsequent years. Since the effluent comprises ~98% of the Salisbury Plain River at 7Q10, the improved effluent quality in terms of ammonia-nitrogen should have resulted in much lower concentrations in this Salisbury Plain River AU so ammonia will not be added as a cause of impairment based on the improved Brockton AWRF effluent quality since 2008.

Sassaquin Pond (MA62232)

Location:	New Bedford (formerly reported as 2002 segment: Sassaquin Pond MA95129).
AU Type:	FRESHWATER LAKE
AU Size:	36 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Added

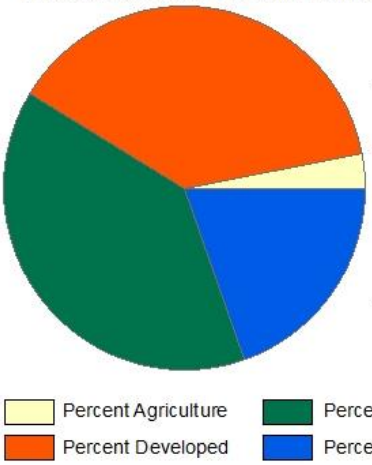
Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
Although the DPH Algal Bloom Posting Database indicates that Sassaquin Pond suffered blooms in both 2010 and 2011, baseline lake surveys conducted by MassDEP biologists in July and August 2011 documented generally good conditions. Secchi disk depths were 2.6 and 4.0m and chlorophyll a and total phosphorus concentrations were low (≤4.2µg/L and ≤0.012 mg/L, respectively). An infestation of the non-native aquatic macrophyte *Potamogeton crispus* was found. The Aquatic Life Use is assessed as not supporting for Sassaquin Pond due to the presence of non-native aquatic macrophyte *Potamogeton crispus*. This use is identified with an Alert status because of the algal blooms.

Satucket River (MA62-10)

Location:	Headwaters, outlet Robbins Pond, East Bridgewater to mouth at confluence with the Matfield River, East Bridgewater.
AU Type:	RIVER
AU Size:	5.6 MILES
Classification/Qualifier:	B

Satucket River - MA62-10

Watershed Area: 21.73 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	21.73	8.52	4.99	2.1
Agriculture	3.02%	5.2%	4.1%	7.3%
Developed	38.3%	29.3%	23.2%	18.8%
Natural	39.1%	42.8%	39%	40.3%
Wetland	19.6%	22.8%	33.8%	33.7%
Impervious Cover	13.84%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	5	(Non-Native Aquatic Plants*)		Added
2	5	Temperature		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Water quality sampling was conducted by MassDEP biologists at two locations along the Satucket River in East Bridgewater as follows: in the summer of 2013 downstream from Washington Street (W2375) and further downstream at Plymouth Street (Route 106 Bridge) (W1499) during the summer of 2006. At the most upstream site (W2375) some of the water quality data were indicative of generally good conditions and some were not. Low DO (ranging from 3.4 to 4.5mg/L) was documented during the June survey but DO was good (≥ 5.6mg/L) during the July and August surveys. Instream temperature was also high during July (maximum 32.1°C) and the 7-DADM of 27.7°C was exceeded a total of 15 times during summer 2013 deployment. Average and maximum total phosphorus concentrations were slightly elevated (0.074 and 0.097mg/L, respectively) but were <0.1mg/L and there were no ammonia violations. The RPBIII analysis of the August 2006 benthic macroinvertebrate community sample from the Satucket River downstream from Bridge Street in East Bridgewater (Station B0602) was found to be only "slightly impacted" (71% comparable) compared to the Canoe River reference station. Backpack electrofishing was conducted in the Satucket River at the Route 106 Bridge in East Bridgewater in July 2002. The sample was comprised of 10 species and was dominated by tolerant macrohabitat generalists although two fluvial specialist/dependant species were collected and ~12% of the fish

were moderately tolerant to environmental perturbations. Excluding the large storm event during the June 2006 survey, water quality at Plymouth Street (Route 106 Bridge) (W1499) during the summer of 2006 was indicative of good conditions (i.e., minimum DO 5.4mg/L, maximum temperature 26.9°C, maximum diel DO shift 1.5 mg/L, maximum saturation 97%, pH 6.2 to 6.8SU, average and maximum total phosphorus concentrations were 0.074 and 0.097mg/L, respectively and no ammonia violations). A field survey by Wong & Maldonado of Mass DEP conducted in July 2017 indicates that Satucket River has an infestation of the non-native aquatic macrophyte species *Myriophullum aquaticum*. Lastly the Carver Cotton Gin Mill Dam on the Satucket River near Route 106 and Plymouth Street that had impaired diadromous fish passage was removed in November of 2017. The Aquatic Life Use for the Satucket River is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophullum aquaticum,* and elevated instream temperature documented during the summer of 2013.

Savery Pond (MA62167)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	24 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Savery Pond one non-native aquatic macrophyte species, Cabomba caroliniana was identified. Savery Pond was sampled in 2004 for dissolved oxygen and temperature. During the three-day probe deployment, the minimum DO was 5.2 mg/L and the maximum temperature was 24.0°C. The Aquatic Life Use for Savery Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

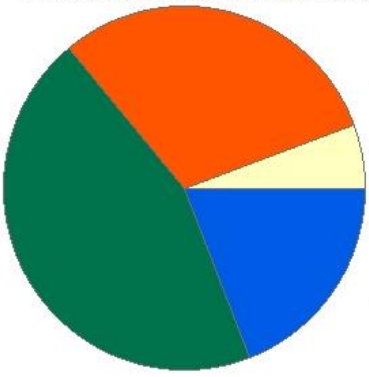
During the 1996 MassDEP lake synoptic survey of Savery Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Sawmill Brook (MA62-36)

Location:	Headwaters, outlet Ice Pond, Bridgewater to mouth at confluence with the Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	1.9 MILES
Classification/Qualifier:	B: WWF

Sawmill Brook - MA62-36

Watershed Area: 3.48 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	3.48	3.48	1.34	1.34
Agriculture	5.69%	5.7%	3.6%	3.6%
Developed	30.3%	30.3%	11.5%	11.5%
Natural	44.8%	44.8%	52.1%	52.1%
Wetland	19.2%	19.2%	32.8%	32.8%
Impervious Cover	11.46%			

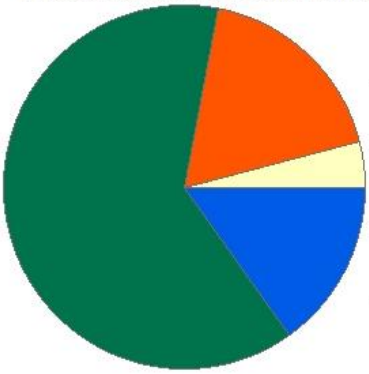
Fish, other Aquatic Life and Wildlife Use: Fully Supporting
Backpack electrofishing was conducted by DFG biologists downstream from Ice Pond in Bridgewater (SampleID 936) in November 2003. This sample was represented by three species (all macrohabitat generalists) but only six individuals. Fish moderately tolerant to environmental perturbations were present in the sample. Survival of *C. dubia* exposed (~7 day) to water collected from the Sawmill River upstream from the MCI Bridgewater Water Pollution Control Facility's discharge for use in the whole effluent toxicity tests has been excellent (100%) in the tests conducted between October 2004 and November 2017 (n=50). No acute whole effluent toxicity has been detected in the MCI Bridgewater WPCF's discharge (all ANOECs =100% effluent) and the facility has also been in compliance with their chronic limit (CNOECs all ≥81% effluent and all but three of the 50 tests with CNOECs =2100% effluent). The Aquatic Life Use for Sawmill Brook is assessed as fully supporting based primarily on the excellent survival of *C. dubia* exposed to water collected from the brook upstream from the MCI Bridgewater treated effluent discharge and the lack of any acute and chronic toxicity to *C. dubia* in the effluent.

Segreganset River (MA62-53)

Location:	Source in wetland north of Glebe Street, Taunton to the Montaup Pond Dam (NATID: MA02104), Dighton (formerly part of 2004 segment: Segreganset River MA62-18) (through former 2014 lake segment: Segreganset River Ponds MA62169).
AU Type:	RIVER
AU Size:	7.8 MILES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Segreganset River - MA62-53

Watershed Area: 13.45 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	13.44	6.54	7.92	3.4
Agriculture	4%	5.6%	2.8%	3.4%
Developed	18%	14.2%	12.4%	7.6%
Natural	62.8%	63.1%	61.4%	59.4%
Wetland	15.1%	17%	23.5%	29.6%
Impervious Cover	6.71%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)

DFG biologists conducted backpack electrofishing at two sites along this Segreganset River AU (MA62-53)—the most upstream station, sampled in June 2005, was above Route 44 in Taunton (SampleID 1253) and the downstream station, sampled in July 2005, was near Susan Road in Dighton (SampleID 1159). Both samples in this low gradient river were well represented with fluvial specialists/dependant species and the samples were dominated by intolerant/moderately tolerant fishes. It should be noted that this river is identified as a Coldwater Fisheries Resource by DFW. Diadromous fish passage for both river herring and American eel however is limited by the barrier at the Montaup Pond Dam (also referred to as Second Dam by DMF) which offers no passage (score =10) as well as another barrier, the Segregansett River Dam (also referred to as Unnamed Dam by DMF biologists) which restricts passage (score=5) in the next downstream Segreganset River AU (MA62-54). Streamflow if affected by two public water supplies: Dighton Water District wells along the upper reaches of the river and a diversion of water from the river above the Montaup Pond Dam by the Somerset Water Department. The USGS gauge 01109070 on the Segreganset River in Dighton continues to indicate low or no flow during late summer periods (2005 to 2018). USGS staff conducted water quality sampling at their gage 01109070 Segragansett River 50' upstream from twin culverts on Center Street in

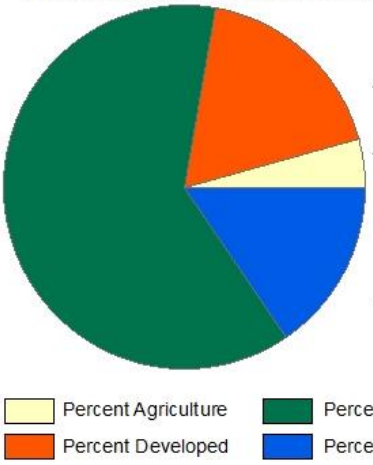
Dighton. Between January 2019 and February 2020 the minimum DO recorded by USGS was 2.8mg/L, maximum temperature was 22.9°C, pH ranged from 6.1 to 7.0SU, maximum specific conductance was only 226µS/cm, seasonal average total phosphorus 0.033mg/L (maximum 0.088mg/L), low ammonia-nitrogen concentrations (all ≤0.04mg/L), no acute or chronic criteria exceedances of any metals with the exception of two slight chronic lead criteria exceedances (1.35 and1.39TUs). Note that the Dighton-Rehoboth Regional School District NPDES permit MA0022586 was authorized (September 2006) the discharge of 0.01 MGD treated wastewater to an unnamed tributary to this segment of the Segreganset River. A septic system was since constructed and the NPDES permit was terminated in July 2010 since there was no longer a surface discharge. The Aquatic Life Use for this Segreganset River AU (MA62-53) will continue to be assessed as not supporting based on flow alterations. Fish passage barriers is being added as an impairment. An alert is also being identified because of the two slight chronic lead criteria exceedances out of the four USGS sampling events in the river upstream from the twin culverts on Center Street in Dighton.

Segreganset River (MA62-54)

Location:	From Montaup Pond Dam (NATID: MA02104), Dighton to approximately 250 feet north of Brook Street, Dighton (formerly part of 2004 segment: Segreganset River MA62-18).
AU Type:	RIVER
AU Size:	0.3 MILES
Classification/Qualifier:	B

Segreganset River - MA62-54

Watershed Area: 14.31 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	14.3	6.83	8.16	3.41
Agriculture	4.29%	6.2%	2.8%	3.6%
Developed	17.9%	14.8%	12.2%	7.5%
Natural	62.3%	60.6%	61%	57.5%
Wetland	15.5%	18.4%	24%	31.4%
Impervious Cover	6.71%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Like the upstream Segreganset River AU (MA62-53), this portion of the Segreganset River is identified as a Coldwater Fisheries Resource by DFW. Diadromous fish passage for river herring, American eel, and rainbow smelt however is limited by the barrier at the Montaup Pond Dam (also referred to as Second Dam by DMF) which offers no passage (score =10) as well as the Segregansett River Dam (also referred to as Unnamed Dam by DMF biologists) which restricts passage (score=5). Streamflow if affected by two public water supplies: Dighton Water District wells along the upper reaches of the river and a diversion of water from the river above the Montaup Pond Dam by the Somerset Water Department. The USGS gauge 01109070 on the Segreganset River in Dighton continues to indicate low or no flow during late summer periods (2005 to 2018). The Aquatic Life Use for this Segreganset River AU (MA62-54) is assessed as not supporting based on flow alterations and the presence of fish passage barriers.

Segreganset River (MA62-55)

Location:	From approximately 250 feet north of Brook Street, Dighton to mouth at confluence with the Taunton River, Dighton (formerly part of 2004 segment: Segreganset River MA62-18).
AU Type:	ESTUARY
AU Size:	0.02 SQUARE MILES
Classification/Qualifier:	SA: SFO

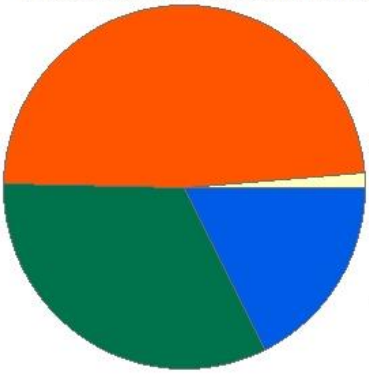
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available for this Segreganset River AU (MA62-55) so the Aquatic Life Use is not assessed.

Shumatuscacant River (MA62-33)

Location:	Headwaters, from wetland northwest of Vineyard Road, Abington to mouth at confluence with Poor Meadow Brook, Hanson (through former 2014 segment: Hobart Pond MA62090) (excluding 0.5 mile through Island Grove Pond MA62094).
AU Type:	RIVER
AU Size:	8 MILES
Classification/Qualifier:	B

Shumatuscacant River - MA62-33

Watershed Area: 10.69 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	10.69	4.33	2.28	0.85
Agriculture	1.25%	1.9%	1.1%	1.7%
Developed	48.5%	44.3%	31.5%	23%
Natural	32.6%	35.7%	34.3%	34.3%
Wetland	17.7%	18.1%	33.1%	41%
Impervious Cover	18.23%			

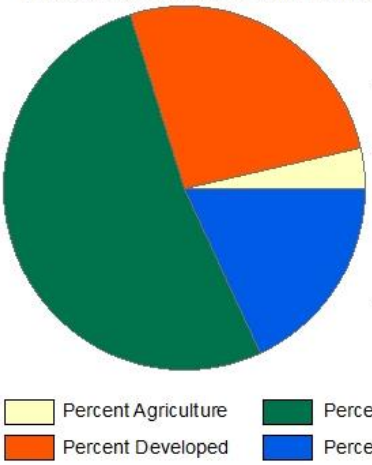
Fish, other Aquatic Life and Wildlife Use: Not Supporting
Backpack electrofishing was conducted by DFG biologists in the Shumatuscacant River in July 2006 upstream from Adams Street in Abington. The sample was small consisting of only two macrohabitat generalist species (13 individuals) one of which is considered moderate tolerant to environmental perturbations. In July 1996 one non-native aquatic macrophyte species, *Myriophyllum heterophyllum,* was identified in the Hobart Pond impoundment of the Shumatuscacant River. No other recent data are available for this AU. The Aquatic Life Use is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum.* The other impairments (low DO, physical substrate habitat alterations and sedimentation/siltation), which were previously identified as problems in the lower 4.9-mile reach of the river (downstream from the Meyers Avenue WTP NPDES discharge) will remain listed as impairments.

Snake River (MA62-28)

Location:	Headwaters, outlet Winnecunnet Pond, Norton to mouth at inlet of Lake Sabbatia, Taunton.
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

Snake River - MA62-28

Watershed Area: 38.13 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	38.08	8.71	12.52	1.43
Agriculture	3.59%	3.7%	5%	10.3%
Developed	26.3%	19.9%	18.2%	16%
Natural	51.9%	48.5%	48.7%	34.7%
Wetland	18.1%	28%	28.1%	38.9%
Impervious Cover	9.38%			

Fish, other Aquatic Life and Wildlife Use: Insufficient Information
There was one fish sample taken near the outlet of Winnecunnet Pond in Norton in July 2005 (SampleID 1194) at the very upstream end of this AU. The fish sample was comprised of eight species including one fluvial specialist (1% of the sample) there were five additional macrohabitat generalist species (61% of the sample) considered moderately tolerant to pollution. While the fish sample is considered indicative of a generally healthy community for a low gradient warm water stream, there is insufficient information to evaluate the Aquatic Life Use for the Snake River.

Somerset Reservoir (MA62174)

Location:	Somerset.
AU Type:	FRESHWATER LAKE
AU Size:	164 ACRES
Classification/Qualifier:	A: PWS, ORW

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available for Somerset Reservoir so the Aquatic Life Use is not assessed.

Stetson Pond (MA62182)

Location:	Pembroke.
AU Type:	FRESHWATER LAKE
AU Size:	88 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Curly-leaf Pondweed*)		Added
5	5	(Eurasian Water Milfoil, Myriophyllum Spicatum*)		Added
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed
5	5	(Water Chestnut*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Non-native aquatic macrophytes reported to be present in Stetson Pond include *Cabomba caroliniana*, *Myriophyllum spicatum*, *Potamogeton crispus*, and *Trapa natans*. Water quality monitoring was conducted at the deep hole by MassDEP biologists in September 2003 and between May and September 2015. Depletion of DO (below 5.0 mg/L) generally occurred at a depth of ~ 5 meters which is estimated to be 30% of the pond's surface area. The total phosphorus concentration was 0.07mg/L in September 2003. Water quality data collected in the summer of 2015 not yet available. The Aquatic Life Use is assessed as not supporting for Stetson Pond based on the presence of non-native aquatic macrophytes including *Cabomba caroliniana*, *Myriophyllum spicatum*, *Potamogeton crispus*, and *Trapa natans*. Low DO and elevated total phosphorus will also remain listed as impairments.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophytes "Eurasian water milfoil (Myriophyllum spicatum), Cabomba caroliniana (fanwort), Curly-leaf pondweed (Potamogeton crispus), and Water chestnut (Trapa natans) have been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1), and (MassDEP Undated 7)

DCR 2008 Lakes & Ponds data mentions the presence of *Cabomba caroliniana*. MassDEP fieldsheets indicate the presence of non-native aquatic species *Myriophyllum spicatum*, *Potamogeton crispus* and *Trapa natans* in Stetson Pond. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophytes Eurasian water milfoil (*Myriophyllum spicatum*), *Cabomba caroliniana* (fanwort), Curly-leaf pondweed (*Potamogeton crispus*), and Water chestnut (*Trapa natans*) have been utilized.

Sunset Lake (MA62184)

Location:	Foxborough.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

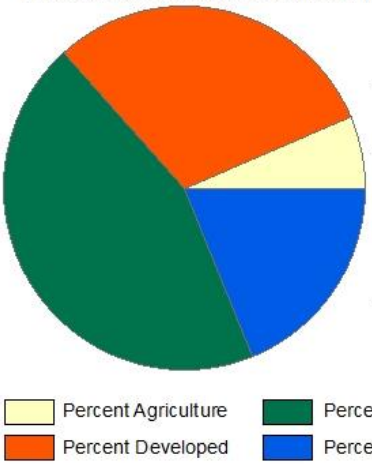
Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so the Aquatic Life Use is not assessed for Sunset Lake.

Taunton River (MA62-01)

Location:	Headwaters, confluence of Town and Matfield rivers, Bridgewater to Route 24 bridge, Taunton/Raynham.
AU Type:	RIVER
AU Size:	19.5 MILES
Classification/Qualifier:	B: WWF

Taunton River - MA62-01

Watershed Area: 302.46 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	287.79	14.04	84.54	3.95
Agriculture	6.41%	6.6%	9.9%	10.5%
Developed	30.2%	31.8%	18.7%	16.5%
Natural	44.4%	48.7%	42.4%	50.2%
Wetland	18.9%	12.9%	28.9%	22.8%
Impervious Cover	12.07%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)

According to DMF biologists the remnant dam at the Taunton River/Matfield Impoundment just downstream from the Town and Matfield rivers confluence in Bridgewater may impede fish passage at low flow (passage score 2, minor obstruction). Water quality monitoring was conducted by MassDEP staff during summer 2006 at three stations along this Taunton River AU (MA62-01) and USGS sampled at their gage montly between January 2019 and March 2020. From upstream to downstream these sites are: Route 104 Bridge, Bridgewater (W1502), USGS gage 01108000 near Titicut Road, Bridgewater, Green/Plymouth Street Bridge, Bridgewater/Middleborough (W1503), and South Street East/Old Colony Avenue bridge, Raynham/Taunton (W1504). At the most upstream site (W1502), DO was slightly low (minimum 4.37mg/L with 3 day mean 4.8mg/L in August with all other measurements above 5.0mg/L) and total phosphorus concentrations were slightly high (average 0.1mg/L, maximum 0.12mg/L) with other data indicative of good conditions (maximum saturation 90%, maximum diel shift of DO 1.37, maximum temperature 25.6°C, pH 6.4 to 7.0SU). USGS sampling also documented slightly low DO (4 and 4.5mg/L in July and August 2019) in two of the 15 sampling events with other data also indicative of good conditions (maximum temperature 24.8°C, pH 6.5 to 7.4SU, maximum specific conductance 387µS/cm), average total phosphorus 0.068mg/L (maximum 0.093mg/L), low ammonia-nitrogen concentrations (all $\leq$0.08mg/L) and with the exception of one very slight chronic lead criteria exceedance (1.16TU) no exceedances of any acute or chronic criteria for any metals. Water from the Taunton River was

collected upstream from Auburn Street, Middleborough for use as dilution water in Oak Point Retirement Community's acute WET tests (NPDES MA00032433). Survival of both *C. dubia* and *P. promelas* exposed to the river water (48-hr) was ≥98% in the 12 tests between August 2005 and 2016. No acute toxicity was detected either (LC50's and ANOECs >100% and 100% effluent, respectively). Boat electrofishing was conducted by DFG or Midwest Biodiversity biologists at five locations between the confluences of the Winnetuxet and Nemasket rivers in July 2009 (unless otherwise noted). Fluvial specialist and/or dependant species were present in all samples (from upstream to downstream SampleIDs 3289, 1265 in August 2005, 3142, 3290, and 3149) and while not always abundant, the samples were well represented by macrohabitat generalists moderately tolerant to environmental perturbations. The non-native aquatic species *Corbicula fluminea* (Asian clam) was identified in the river at the very mouth of the Nemasket River in 2014. Excluding the June 2006 deployed probe DO data, water quality conditions in the Taunton River downstream from the confluences of two large tributaries (Winnetuxet and Nemasket rivers) and some smaller tributaries (Sawmill, Poquoy, and Furnace brooks), generally good water quality conditions were documented (minimum DO 4.98mg/L, maximum saturation 94%, diel shift of DO 1.5mg/L, maximum temperature 26.9°C, and average and maximum total phosphorus concentrations ≤0.08 and ≤0.12mg/L, respectively). The June deploys at sites W1503 and W1504 had low DOs (daily mean minimum 4.44 and 3.76mg/L, deployment mean 4.72 and 4.15mg/L, respectively).
The Aquatic Life Use for this Taunton River AU (MA62-01) is assessed as Not Supporting because of low DO in the river at times during the 2006 summer and again in July/August 2019. While most other water quality data were indicative of good conditions the alert for slightly elevated total phosphorus is being carried forward and a new alert is being identified for the non-native shellfish *Corbicula fluminea* (confirmation of live specimens is needed prior to making an impairment decision). It is noted, however, that total phosphorus concentrations are lower than those documented in the prior assessment report when concentrations ranged from 0.101 to 0.28mg/L.

Taunton River (MA62-02)

Location:	From Route 24 bridge, Taunton/Raynham to Berkley Bridge, Dighton/Berkley.
AU Type:	ESTUARY
AU Size:	0.28 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4a	5	Chlorophyll-a		Added
4a	5	Nitrogen, Total		Added
4a	5	Phosphorus, Total		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Water from the Taunton River was collected for use as dilution water in the Taunton WWTP and the Taunton Municipal Lighting Plant (TMLP) whole effluent toxicity tests. Between November 2004 and November 2017 survival of *C. dubia* exposed (~7-day) to river water collected at the Plain Street Bridge in Taunton was ≥80 % (n=50). Nutrient related water quality monitoring was also conducted at the Plain Street bridge, Weir Village, in Taunton (Station MHB-A) during the summer of 2018 by the University of Massachusetts-Dartmouth, SMAST-Coastal Systems Program (CSP) scientists. Sampling was conducted at two depths at this site (surface and mid depth) close to mid ebb tide between June and September. Salinity was low (0.3ppt), the minimum DO measured was 5.36mg/L, and the maximum temperature was 26.1°C. The concentration of chlorophyll *a* ranged from 0.75 to 27.5µg/L with 9 of 26 measurements above 10µg/L. These occurred on 5 of the 13 sampling dates. The average total phosphorus concentration was slightly elevated (0.102mg/L) and the total nitrogen concentrations ranged from 1.143 to 1.887mg/L (average = 1.396mg/L). Survival of *C. dubia* exposed (48-hour) to river water collected near Cleary Flood Drive in Taunton between August 2007 and August of 2016 was ≥95% (n=8 test events). Three NPDES facilities have outfalls that discharge to this Taunton River AU (MA62-02): Taunton WWTP (MA0100897), TMLP (MA0002241), and INIMA USA CO Taunton River Desalination (MA0040193). These facilities have also shown compliance with acute whole effluent toxicity testing limits and, with the exception of the Taunton WWTP May 2013 test, with chronic testing limits.

The Aquatic Life Use for this Taunton River AU (MA62-02) is assessed as Not Supporting based on the evidence of nutrient enrichment documented during the 2018 summer surveys including elevated chlorophyll a concentrations and nutrients (total phosphorus and total nitrogen). There was however no evidence of any acute toxicity (good survival of *C. dubia* test organisms exposed to river water).

Taunton River (MA62-03)

Location:	From Berkley Bridge, Dighton/Berkley to confluence with Assonet River at a line from Sandy Point, Somerset northeasterly to the southwestern tip of Assonet Neck, Berkley.
AU Type:	ESTUARY
AU Size:	0.92 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Nitrogen, Total		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Nutrient related water quality monitoring was conducted at one station in this Taunton River AU (MA62-03) in the vicinity of Ferry Point downstream from the confluence of Muddy Cove Brook, Dighton/Berkley (Station MHB-21) during the summer of 2018 by the University of Massachusetts-Dartmouth, SMAST-Coastal Systems Program (CSP) scientists. Sampling was conducted at two depths at this site (surface and bottom depth) close to mid ebb tide between June and September. Salinity ranged from 10.2 to 23.2ppt and there was little evidence of any stratification. The minimum DO was 3.69mg/L and was below 5.0mg/L on only one day (21 August) of the 13 sampling events. The maximum temperature was 29.0°C. Chlorophyll a ranged from 0.56 to 8.72µg/L. The average total phosphorus concentration was 0.138mg/L and the total nitrogen concentrations ranged from 0.594 to 1.887mg/L (average = 0.915mg/L n=38). The original DO listing was in the 1992 reporting cycle based on DO data collected on one day (1 July 1986) at two sites – below the confluence with the Segraganset River near Peters Point (Station TR18 with reported DO at surface, mid depth, and bottom = 5.3, 4.0, and 3.9mg/L, respectively) and in the Taunton River off Ferry Point (Station TR18B with surface DO = 5.0mg/L). No data were collected in this AU during the 1990 survey although notes were made on the assessment sheets that lower Taunton River samples TR3 and TR4 (located in the lower Taunton River AU (MA62-04) exhibited consistently low DO.

The Aquatic Life Use for this Taunton River AU (MA62-03) will continue to be assessed as Not Supporting for low DO. The influence of salinity transitions was evident (range 10.2 to 23.2ppt) in this reach of the river so total nitrogen is being added as an impairment based on evidence of nutrient enrichment found in both the up and downstream Taunton River AUs (MA62-02 and MA62-04) even though chlorophyll a concentrations were below 10ug/L in this reach of the river during the 2018 summer surveys conducted by SMAST scientists.

Taunton River (MA62-04)

Location:	From confluence with Assonet River at a line from Sandy Point, Somerset northeasterly to the southwestern tip of Assonet Neck, Berkley to mouth just upstream of the Braga Bridge, Somerset/Fall River.
AU Type:	ESTUARY
AU Size:	2.6 SQUARE MILES
Classification/Qualifier:	SB: SFR, CSO

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Nitrogen, Total		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

Nutrient related water quality monitoring conducted at four stations in this Taunton River AU (MA62-04) during summer 2018 by UMass-Dartmouth, SMAST-Coastal Systems Program (CSP) scientists. Upstream to downstream the midstream sampling stations included: near Winslow Point downstream Assonet River confluence, Somerset/Freetown (Station MHB-19), downstream confluence of Labor in Vain Brook near Fall River CC (Station MHB-18), slightly southeast Breeds Cove (Station MHB-1), and upstream Braga Bridge near Somerset WPCF (Station MHB-2), Somerset/Fall River. Sampling was conducted at three depths each site (surface, mid, and bottom) close to mid ebb tide between June and September. Data summary: Salinity 14.5 to 29.0ppt at the surface and 19.6 to 31.0ppt at the bottom (n=60 each depth). The minimum DO was 5.07mg/L at the surface and 3.96mg/L at the bottom (n=66 and 59 measurements, respectively) with 20 measurements below 5.0mg/L on as many as seven of the 13 survey dates. The maximum temperature was 28.7°C. Surface chlorophyll a range 1.46 to 18.35µg/L (n=66) with average 3.92µg/L and bottom 0.46 to 7.58µg/L (n=60) with average 3.88µg/L. Four of 66 measurement (6%) >10µg/L (once at MHB18, twice at MHB1, and once at MHB2) on three dates. The average surface total phosphorus concentration was 0.107mg/L and total nitrogen concentrations ranged from 0.368 to 1.065mg/L (average = 0.568mg/L n=65). Near bottom average total phosphorus concentration was similar 0.108mg/L and total nitrogen concentrations ranged from 0.291 to 0.859mg/L (average = 0.568mg/L n=59). Near shore water quality monitoring (DO, % saturation, temperature, pH, and salinity) was conducted by consultants for Brayton Point Power Station between June and August as part of young-of-the-year winter flounder beach seine sampling. Twelve locations in 2015 (36 times) and 2016 (35 samples) (n=71 samples). Except for a single low DO on July 28th, 2015 (4.92mg/L) all other measurements were above 5.0mg/L (5.15 to 12.75mg/L), saturation >125% on seven of 13 surveys days (11 of 71 measurements) highest 174%, max temperature 27.84°C, pH 4.52 to 9.63SU (one <7.0, two >9.0SU). River water was collected near Riverside Ave, Somerset for use as dilution water in Somerset Power's WET tests. Between October 2004 and October 2010, survival of *M.s bahia* exposed (48-hour) to the river water was ≥95% (n=13) and no acute toxicity to *M. bahia* detected in the effluent (LC_{50}s and ANOECs >100 and 100% effluent, respectively). The Somerset Power facility (formerly Somerset Station) closed in 2010. River water also collected near the Somerset POTW for use as dilution water in the facility's WET tests. Between November 2004 and November 2017 suvival of *M. beryllina* exposed (48-hours) to the river was ≥93% (n=52). Except for one test (November 2013) the Somerset POTW met the acute whole effluent toxicity testing limit (LC_{50}≥100% effluent) (n=52 test events).

The Aquatic Life Use for this Taunton River AU (MA62-04) will continue to be assessed as Not Supporting for low DO and fishes bioassessment. While actual causes/sources of reduced abundance and diversity of fish were unproven, overfishing, nonpoint source pollution/watershed delopment, power plant operations, climate change (warming) were identified as most likely all contributing to the decline. In May 2017 Brayton Point Power Station (the largest fossit-fueled power plant in New England just southwest of mouth of this Taunton

River AU) ceased operation. Recovery of the fish community has not yet been proven. Total nitrogen is being added as an impairment (seasonal average mid-ebb tide total nitrogen concentration 0.568mg/L) based on some evidence of nutrient enrichment (chlorophyll a concentrations as high as 18.35µg/L and above 10 µg/L on three survey dates during the summer 2018 SMAST scientist surveys) and some high saturations along near shore areas.

The Reservoir (MA62189)

Location:	Lakeville.
AU Type:	FRESHWATER LAKE
AU Size:	23 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available for The Reservoir so the Aquatic Life Use is not assessed.

Thirtyacre Pond (MA62190)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	26 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Thirtyacre Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. An unconfirmed species of myriophyllum, possibly heterophyllum, was also identified so this use will also be identified with an Alert Status.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

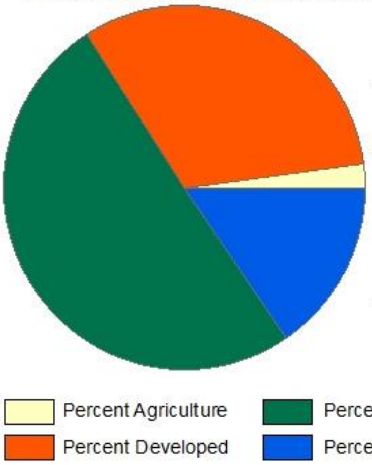
During the 1996 MassDEP lake synoptic survey of Thirty Acre Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Phragmites australis*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. A species of Myriophyllum was present but needs to be identified when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Threemile River (MA62-56)

Location:	Confluence of Wading and Rumford rivers, Norton to dam (NATID: MA03083) behind 66 South Street (Harodite Finishing Co.), Taunton (excluding the approximately 0.5 mile through Oakland Pond segment MA62136 and the appproximately 1.0 mile through Mount Hope Mill Pond segment MA62122) (formerly part of 2004 segment: Three Mile River MA62-16).
AU Type:	RIVER
AU Size:	10.5 MILES
Classification/Qualifier:	B: WWF

Three Mile River - MA62-56

Watershed Area: 84.6 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	84.35	5.49	28.11	1.74
Agriculture	2.03%	4.2%	1.8%	3.5%
Developed	32%	27.4%	23.1%	16.6%
Natural	50.4%	54.4%	52.1%	54.2%
Wetland	15.5%	14%	23%	25.7%
Impervious Cover	12.59%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
2	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
Staff from the Mansfield WPAF collected water from the Threemile River at the Crane Street bridge in Norton (approximately 200 yards upstream from their discharge) for use as a site-water control in the facility's whole effluent toxicity test. Between Nov. 2004 and Nov. 2017, survival of *Ceriodaphnia dubia* exposed (7-day) to river water (n=53 tests) was $\underline{\geq}$ 80% except for one test (Nov. 2014 survival = 70%). Survival of *Pimephales promelas* (7-day exposure) ranged from 38 to 100% and survival was <75% in six of 54 test events (11%) (Aug. 2005, May 2009, Feb. 2016 when survival was 70%, and May 2007, Feb. 2009, and May 2017 when survival was 43, 38, and 58%, respectively). No acute whole effluent toxicity was detected by either test organism (LC_{50}s and ANOEC results were all $\underline{\geq}$ 100% and 100% effluent, respectively). C-NOEC results for *C. dubia* ranged from <6.25 to 100% effluent with two of the 51 valid tests that did not meet the ≥45% limit (Nov. 2003 and Nov. 2017 with CNOECs of 12.5 and <6.25% effluent, respectively). For *P. promelas* C-NOEC results ranged from <6.25 to 100% effluent and five of the 54 valid tests (11%) that did not meet the ≥45% limit (Aug. 2007, Feb. 2008, Feb. 2009, May

2012, and Aug. 2012 with CNOEC results of 6.25, <6.25, <6.25, 25, and 25%effluent, respectively). Benthic macroinvertebrate sampling was conducted in the Threemile River downstream from Harvey Street in Taunton (B0350) in Aug. 2006. The RBPIII analysis found the sample to be 86% comparable or "not impacted" when compared to the Canoe River reference site. Water quality data collected from the river here (W0821) during the summer of 2006 was also indicative of good conditions (minimum DO 5.7mg/L, maximum saturation 94%, maximum temperature 24.6°C, pH 6.3 to 6.9SU, average and maximum total phosphorus concentrations 0.028 and 0.037mg/L, respectively). Downstream from Oakland Pond DFG biologists conducted backpack electrofishing in the river near the John F. Palmer Municipal Golf Course in Taunton in June 2005 (SampleID 1256). Two moderately tolerant macrohabitat generalist species were collected in this low gradient reach described as shallow with a sandy bottom. Water quality monitoring in the Threemile River was also conducted during the summer of 2006 at the Cohannet Street Bridge in Taunton (W1508). Like the upstream sampling location water quality data were indicative of good conditions (minimum DO 5.8mg/L, maximum saturation 91%, maximum temperature 25.4°C, pH 6.5 to 7.0SU, average and maximum total phosphorus concentrations 0.028 and 0.043mg/L, respectively). According to DMF biologists the Draka Dam in Dighton/Taunton at Mount Hope Mill Pond on the Threemile River which should allow passage of river herring and American eel has a passage rating of 10 (no passage). Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for this Threemile River AU. Lastly USGS staff conducted water quality sampling at their gage 01109060 Threemile River 800' downstream from Warner Boulevard in North Dighton and 1.4 mi upstream from mouth at Taunton River between January 2019 and Feb. 2020. Their data were indicative of good conditions as follows: minimum DO 6.7mg/L, maximum temperature 24.8°C, pH 6.6 to 7.6SU, maximum specific conductance 470 uS/cm, average total phosphorus 0.039mg/L (maximum 0.052mg/L), low ammonia-nitrogen concentrations (all $\leq$0.05mg/L), and no exceedances of any acute or chronic metals criteria evaluated. The Aquatic Life Use for this Threemile River AU (MA62-56) is assessed as not supporting based on the presence of a barrier to fish passage. Except for occasionally low survival of fathead minnows exposed to river water (being maintained as an Alert), all other water quality data (benthic, fish, physico-chemical) were indicative of good conditions. Total phosphorus concentrations were also lower than those documented during the 2001 survey so it is no longer being identified with an Alert.

Threemile River (MA62-57)

Location:	From dam (NATID: MA03083) behind 66 South Street (Harodite Finishing Co.), Taunton/Dighton to mouth at confluence with the Taunton River, Taunton/Dighton (formerly part of 2004 segment: Three Mile River MA62-16).
AU Type:	ESTUARY
AU Size:	0.02 SQUARE MILES
Classification/Qualifier:	SB: SFR

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available for this Threemile River AU (MA62-57) so the Aquatic Life Use is not assessed.

Thurston Street Pond (MA62192)

Location:	Wrentham.
AU Type:	FRESHWATER LAKE
AU Size:	7 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so Aquatic Life Use is not assessed for Thurston Street Pond.

Tispaquin Pond (MA62195)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	195 ACRES
Classification/Qualifier:	B

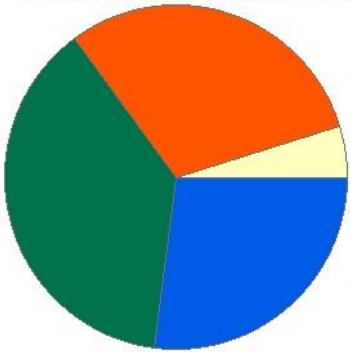
Fish, other Aquatic Life and Wildlife Use: Not Assessed (Alert)
DCR Lake and Pond staff reported an infestation of *Corbicula fluminea* (Asian clam) in Tispaquin Pond in 2006. Confirmation of the presence of live specimens is needed. The Aquatic Life Use is not assessed for Tispaquin Pond but is identified with an Alert Status based on the potential infestation of *Corbicula fluminea*.

Town River (MA62-11)

Location:	Headwaters, outlet Lake Nippenicket, Bridgewater to Route 28 bridge, West Bridgewater.
AU Type:	RIVER
AU Size:	4.5 MILES
Classification/Qualifier:	B

Town River - MA62-11

Watershed Area: 51.05 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	50.78	13.3	13.03	4.08
Agriculture	4.77%	9%	5.6%	8.1%
Developed	30.2%	22.5%	20.8%	12.2%
Natural	37.9%	26.7%	37.3%	23%
Wetland	27.1%	41.8%	36.3%	56.7%
Impervious Cover	12.47%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

The Howard School WWTP NPDES permit MA0101753 was terminated in June 2008 since the discharge was changed to septic system. The Rose L. MacDonald School WWTP permit MA0102061, which is in this Town River subwatershed, was also terminated since that discharge was direct to a septic system in 2009. Survival of C. dubia exposed (48-hour) to water collected from the Town River collected upstream from the Howard School WWTP discharge (upstream from Arch Street in West Bridgewater) was 100% in the tests conducted in November 2007 and November 2008. Backpack electrofishing was conducted by DFG biologists in the Town River downstream from Arch Street in West Bridgewater (SampleID 4887) in September 2013. Fluvial specialist and dependant species were present and the sample was well represented by moderately tolerant species which is indicative of good conditions in this low gradient river.

According to DMF biologists the existing fishway at the War Memorial Park Dam in this Town River AU needs some repair but is only a minor obstruction to diadromous fish passage. Further downstream however, the High Street Dam on the Town River in Bridgewater (AU MA62-12) does restrict passage so fish passage barrier will be added as an impairment for this Town River AU (MA62-11).

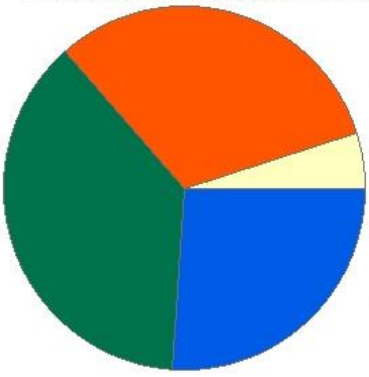
The Aquatic Life Use for this Town Brook AU (MA62-11) is assessed as not supporting based on the presence of a fish passage barrier.

Town River (MA62-12)

Location:	Route 28 bridge, West Bridgewater to Bridgewater WWTP (NPDES: MA0100641) discharge, Bridgewater.
AU Type:	RIVER
AU Size:	3.9 MILES
Classification/Qualifier:	B

Town River - MA62-12

Watershed Area: 55.89 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	55.62	9.2	14.37	2.49
Agriculture	4.94%	10.3%	5.6%	10%
Developed	31.5%	34.4%	21.9%	22.1%
Natural	37.4%	27.1%	37.1%	26.5%
Wetland	26.1%	28.2%	35.4%	41.4%
Impervious Cover	12.9%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

According to DMF biologists the High Street Dam on the Town River in Bridgewater which should allow passage of river herring and American eel has a passage rating of 4 (a restricted passage). Currently a fishway surmounts the ten-foot dam but passage is still restricted. DMF lists the project as in the planning stage for potential dam removal. Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for this Town River AU (MA62-12). Survival of *C. dubia* exposed (~7-day) to Town River water collected upstream from the Bridgewater POTW discharge for use as dilution water in the facility's whole effluent toxicity tests was very good (≥80%) in the 39 tests conducted between November 2004 and May of 2017.

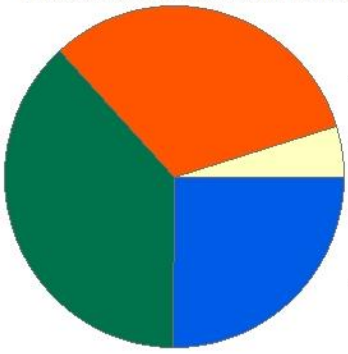
The Aquatic Life Use for this Town Brook AU (MA62-12) is assessed as not supporting based on the presence of a fish passage barrier at the High Street Dam.

Town River (MA62-13)

Location:	From Bridgewater WWTP (NPDES: MA0100641) discharge, Bridgewater to mouth at confluence with the Matfield River forming headwaters Taunton River, Bridgewater.
AU Type:	RIVER
AU Size:	2.3 MILES
Classification/Qualifier:	B: WWF

Town River - MA62-13

Watershed Area: 60.18 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	59.9	8.11	15.5	1.89
Agriculture	4.84%	3.5%	5.4%	2.4%
Developed	31.9%	43.2%	21.5%	26.4%
Natural	38.1%	40.5%	38.6%	49.6%
Wetland	25.2%	12.8%	34.5%	21.6%
Impervious Cover	12.93%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
3	4c	(Non-Native Aquatic Plants*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting

No acute whole effluent toxicity has been detected in the Bridgewater WWTP effluent between November 2004 and May of 2017 (LC_{50}s all $\geq$100% effluent n=52 tests). The C-NOECs ranged from <6.25% to 100% effluent (n=48 valid test events) meeting the CNOEC limit of ≥45% effluent in 40 tests (~83%). Water quality sampling was conducted in the Town River just upstream from Hayward Street in Bridgewater (W2405) in the summer of 2013. While some of the water quality data were indicative of good conditions (i.e., minimum DO 5.0 mg/L, maximum saturation 88%, pH 620 to 6.6SU), the average and maximum total phosphorus concentrations (0.088 and 0.11mg/L, respectively) were slightly elevated as was the maximum temperature during the thermistor deployment (29.4°C). Instream temperature exceeded 28.3°C for 20.9 of the 3022 hours of the deployment (<1% of the time) and the DADM exceeded 27.7°C only four times. While there were no observations of filamentous algae or excessive plant growth, the non-native aquatic macrophyte *Myriophyllum heterophyllum* was noted by MassDEP field staff.

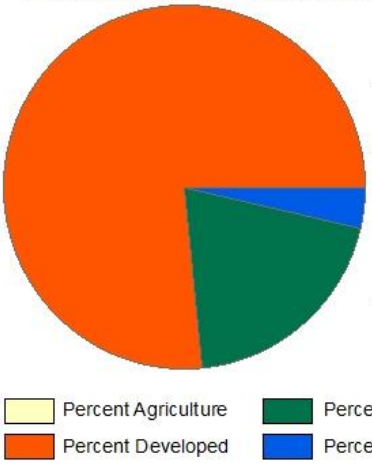
This Town River AU (MA62-13) is assessed as not supporting for the aquatic life use due to the presence of the non-native aquatic plant *Myriophyllum heterophyllum.* While instream total phosphorus concentrations were slightly elevated in the summer of 2013, the Bridgewater WWTP permit MA0100641 was reissued in September 2016 with more stringent total phosphorus limits (monthly average limit of 1.0mg/L changed to 0.3mg/L) and no other indications of enrichment were noted.

Trout Brook (MA62-07)

Location:	Headwaters, perennial portion, northeast of Argyle Avenue and west of Conrail Line, Avon to mouth at confluence with Salisbury Brook forming headwaters Salisbury Plain River, Brockton.
AU Type:	RIVER
AU Size:	3.4 MILES
Classification/Qualifier:	B

Trout Brook - MA62-07

Watershed Area: 6.97 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.97	5.59	1.38	1.04
Agriculture	0.28%	0.3%	0.1%	0.2%
Developed	76.3%	80.8%	54.5%	57.9%
Natural	19.7%	15.6%	32.8%	28.4%
Wetland	3.7%	3.3%	12.6%	13.5%
Impervious Cover	36.32%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Benthic Macroinvertebrates		Added
5	5	(Habitat Assessment*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)

One NPDES permittee, Avon Custom Mixing Services, Inc., (MA0026883) was authorized to discharge treated sanitary wastewater and noncontact cooling water in the upper watershed of Trout Brook. Between November 2004 and June 2013 however 21 valid modified acute and chronic whole effluent toxicity tests using *Ceriodaphnia dubia* and 22 tests using *Pimephales promelas* were conducted on the Avon Custom Mixing effluent. Except for the June 2013 test (*C. dubia* LC_{50}=70.7% effluent) all LC_{50} results were >100% effluent. All the chronic *C. dubia* test results met the permit limit of 21% effluent and 18 of the 22 *P. promelas* tests met the limit. The three tests not meeting the limit were August and December 2006 and March 2008 with CNOECs <6.25, 12.5, and 6.25% effluent, respectively. The facility closed and the permit was terminated July 2016. Benthic macroinvertebrate sampling in Trout Brook ~100m upstream from the confluence with Salisbury Brook in Brockton (B0329) was conducted by MassDEP biologists in August 2006. Although habitat quality was not considered to be comparable with the Canoe River reference station, the RBPIII status was only 19% comparable "Moderately/Severely impacted". Habitat quality limitations included channel alteration, poor instream cover, sediment deposition, poor bank vegetative protection and riparian vegetative zone width.

There were no observations of dense or very dense filamentous algae but during a periphyton survey algal cover was estimated at ~60%. Water quality sampling was also conducted in Trout Brook between Crescent and Summer streets in Brockton (W1493) during the summer 2006. Excluding the large storm event during the June 2006 survey, some of the water quality data were indicative of generally good conditions (i.e., maximum temperature 24.6°C, maximum diel DO shift 2.2 mg/L, maximum saturation 89%, and good pH) while other data were not. Low DO (minimum 3.9 mg/L) and somewhat elevated total phosphorus concentrations (average and maximum 0.088 and 0.14mg/L, respectively) were both found.

The Aquatic Life Use for Trout Brook is assessed as not supporting based on the moderately/severely impacted benthic community, habitat quality degradation and low dissolved oxygen. This use is identified with an Alert Status for elevated total phosphorus.

Turnpike Lake (MA62198)

Location:	Plainville.
AU Type:	FRESHWATER LAKE
AU Size:	99 ACRES
Classification/Qualifier:	A: PWS, ORW (Tributary)

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added

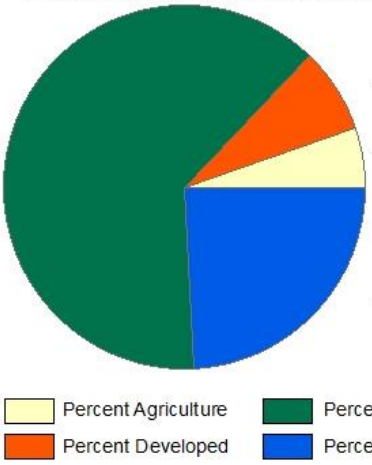
Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Turnpike Lake two non-native aquatic macrophyte species, Myriophyllum heterophyllum and Cabomba caroliniana. The Aquatic Life Use for Turnpike Lake is assessed as not supporting based on the presence of the non-native aquatic macrophytes *Myriophyllum heterophyllum* and *Cabomba caroliniana*.

Unnamed Tributary (MA62-42)

Location:	Headwaters, south of Slab Bridge Road (in Cedar Swamp portion of Freetown-Fall River State Forest), Freetown to mouth at confluence with Cedar Swamp River, Lakeville.
AU Type:	RIVER
AU Size:	4 MILES
Classification/Qualifier:	B

Unnamed Tributary - MA62-42

Watershed Area: 6.16 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	6.16	3.76	1.08	0.86
Agriculture	5.26%	8.5%	21%	26.5%
Developed	7.7%	9.2%	5.4%	6.7%
Natural	62.9%	57.6%	41.5%	33.8%
Wetland	24.2%	24.7%	32.2%	33.1%
Impervious Cover	4.59%			

Fish, other Aquatic Life and Wildlife Use: Not Supporting
Backpack electrofishing was conducted by DFG biologists in this unnamed tributary referred to as Cedar Swamp Brook upstream of Mill Street in Lakeville (SampleID 3146) in July 2009. The sample was comprised of only four fish representing three macrohabitat generalist species either moderately or intolerant to pollution. Though the presence of an intolerant species is promising, the small number of individuals is not definitive enough to remove the impairment for fish bioassessments. Too limited recent data are available to assess the Aquatic Life Use for this unnamed tributary (AU MA62-42) so the previous impairments resulting from cranberry bog operations are being maintained.

Unnamed Tributary (MA62-48)

Location:	Channel from Taunton Municipal Lighting Plant, Taunton to mouth at confluence with the Taunton River, Taunton.
AU Type:	ESTUARY
AU Size:	0.002 SQUARE MILES
Classification/Qualifier:	SA: SFO

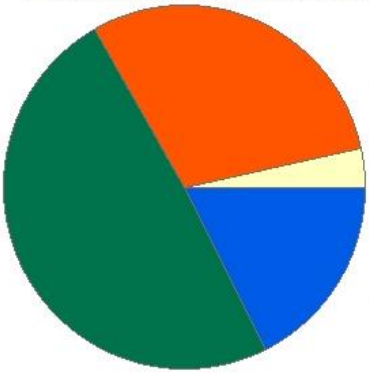
Fish, other Aquatic Life and Wildlife Use: Not Supporting
This Unnamed Tributary AU (MA62-48) was impaired for several issues linked to the Taunton Municipal Lighting Plant (TMLP) NPDES discharge. The permit was reissued in September 2006. No acute whole effluent toxicity to *C. dubia* has been detected in the eight tests conducted between August 2007 and August 2016. The Aquatic Life Use for this Unnamed Tributary (MA62-48) will continue to be assessed as not supporting since the TMLP facility is still operating and no new biological and habitat quality data are available to suggest conditions have changed. Therefore, the existing impairments will remain.

Unnamed Tributary (MA62-69)

Location:	Unnamed Tributary to unnamed tributaries to Poquoy Brook Pond, headwaters in wetland north of Kenneth Welch Drive, Lakeville to mouth at confluence with unnamed tributary east of Route 18 (Bedford Street), Lakeville.
AU Type:	RIVER
AU Size:	0.6 MILES
Classification/Qualifier:	B

UNNAMED TRIBUTARY - MA62-69

Watershed Area: 0.65 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	0.65	0.65	0.21	0.21
Agriculture	3.48%	3.5%	3.1%	3.1%
Developed	29.8%	29.8%	21%	21%
Natural	49.1%	49.1%	52.3%	52.3%
Wetland	17.6%	17.6%	23.7%	23.7%
Impervious Cover	17.53%			

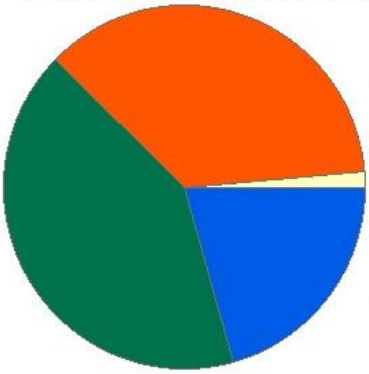
Fish, other Aquatic Life and Wildlife Use: Fully Supporting
This unnamed tributary is designated as a coldwater fisheries resource by DFW. DFG biologists conducted backpack electrofishing at three sites along this unnamed tributary, locally referred to as Box Brook, in August 2013. While few fish were collected at these three sites, brook trout were found in at the two most upstream sites and all three sites were dominated by either intolerant or moderately tolerant fish. The brook trout were all <140mm in length suggesting they were not stocked. The Aquatic Life Use for this Unnamed tributary (MA62-62) is assessed as fully supporting based on the fish population data.

Unnamed Tributary (MA62-70)

Location:	Unnamed Tributary to Forge River, headwaters outlet Gushee Pond, Raynham to mouth at confluence with Forge River, Raynham (through former 2016 segments: Hewitt Pond MA62088 and Johnson Pond MA62097).
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B

UNNAMED TRIBUTARY - MA62-70

Watershed Area: 2.85 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	2.85	0.7	0.64	0.11
Agriculture	1.35%	4.4%	0.7%	0%
Developed	36.3%	38.9%	16.2%	12.1%
Natural	41.7%	45.1%	44.6%	48.2%
Wetland	20.6%	11.6%	38.5%	39.7%
Impervious Cover	13.51%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fanwort*)		Added
--	4c	(Fish Passage Barrier*)		Added
--	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting

According to DMF biologists (Chase 2016 and 2017) there are three fish passage barriers along this unnamed tributary (AU MA62-70) that do not allow passage of diadromous fish (target species river herring and American eel) . From upstream to downstream these barriers are the Hewitt Pond Dam, Tracy Pond Dam, and Johnson Pond Dam). This unnamed tributary runs through former Johnson Pond MA62097 segment. During the 1996 MassDEP synoptic survey of Johnson Pond the non-native aquatic macrophyte species *Cabomba caroliniana* was observed.

The Aquatic Life Use for this unnamed tributary (AU MA62-70) is assessed as not supporting the Aquatic Life Use based on presence of a non-native aquatic macrophyte *Cabomba caroliniana* in the Johnson Pond Dam impoundment as well as the three diadromous fish passage barriers.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

During the 1996 MassDEP synoptic survey of Johnson Pond (now part of this Unnamed tributary AU MA62-70) the non-native aquatic macrophyte species *Cabomba caroliniana* was observed. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Upper Leach Pond (MA62123)

Location:	(Mountain Street Pond) Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	28 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Upper Leach Pond.

Upper Porter Pond (MA62200)

Location:	Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	11 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Upper Porter Pond is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. An unconfirmed species of myriophyllum, possibly heterophyllum, was also identified so this use will also be identified with an Alert Status.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

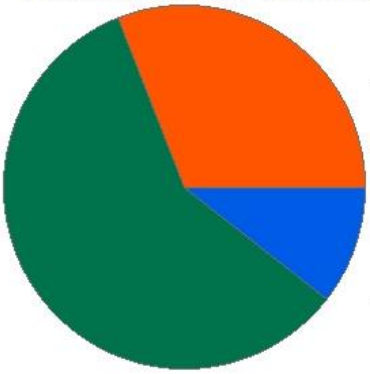
During the 1996 MassDEP lake synoptic survey of Upper Porter Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. A species of Myriophyllum was present but needs to be identified when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Wading River (MA62-47)

Location:	Headwaters, outlet Furnace Lake, Foxborough to Balcolm Street, Mansfield (through former 2014 pond segments: Robinson Pond MA62163 and Blakes Pond MA62221) (formerly part of 2004 segment: Wading River MA62-17) (1987 Wrentham quad depicts river incorrectly).
AU Type:	RIVER
AU Size:	5 MILES
Classification/Qualifier:	A: PWS, ORW

Wading River - MA62-47

Watershed Area: 19.47 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	19.42	5.9	9	2.78
Agriculture	0.91%	0.6%	1.1%	0.7%
Developed	30.7%	38.4%	21.7%	27.1%
Natural	57.9%	50.5%	58.1%	51.9%
Wetland	10.5%	10.5%	19.1%	20.4%
Impervious Cover	11.47%			

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	Dissolved Oxygen		Removed

Fish, other Aquatic Life and Wildlife Use: Fully Supporting
Water quality monitoring was conducted by MassDEP staff in the Wading River at the West Street bridge in Mansfield (W0819) during the summer of 2006. The maximum temperature was 25.2°C, maximum diel DO shift 1.6mg/L, maximum saturation 94%, pH 6.3 to 6.6SU, and the seasonal average and maximum total phosphorus concentrations were 0.013 and 0.019mg/L, respectively). There were four observations of dense/very dense filamentous algae noted at this site between the August and October surveys. Benthic macroinvertebrate sampling was conducted further downstream from the water quality monitoring location upstream from Balcom Street in Mansfield (B0352) in August 2006. The RPBIII analysis found the sample to be 81% comparable or "non/slightly impacted" when compared to the Canoe River reference site. The Aquatic Life Use is assessed as fully supporting based primarily on the benthic macroinvertebrate RPBIII analysis of "non/slightly impacted" as well as water quality data indicative of generally good conditions. The DO impairment is being delisted (see additional information in the removal comment).

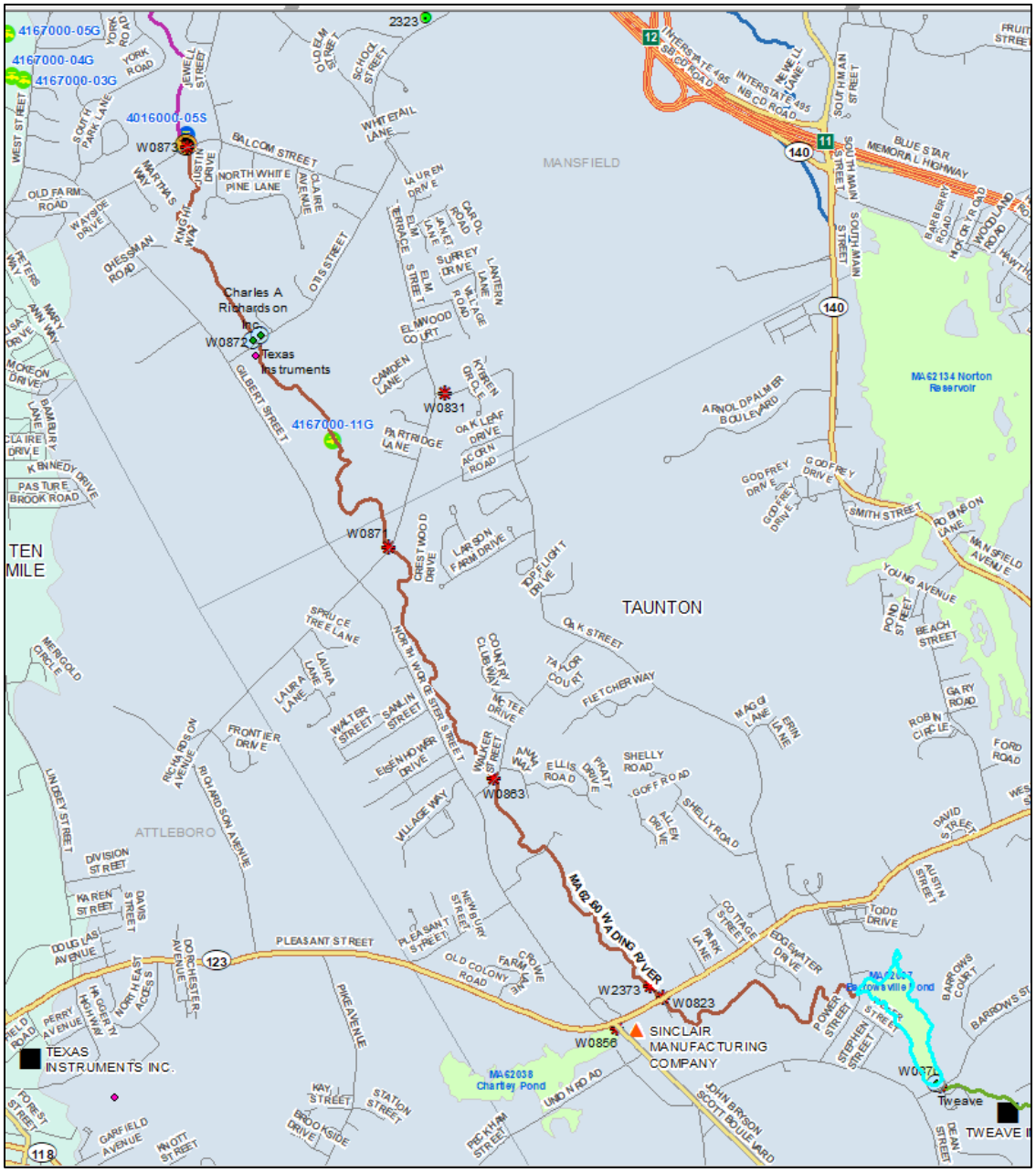
2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Dissolved Oxygen	Applicable WQS attained; original basis for listing was incorrect	This Wading River AU (MA62-47) was originally listed as impaired for low dissolved oxygen based on data collected in June 1988 when it was part of a larger assessment unit. The DO concentrations at the Balcom Street bridge (the lower end of this current AU) during the 1988 survey were all excellent (≥6.1mg/L). Therefore, with the resegmentation of the Wading River AUs the DO impairment for this upper portion of the Wading River was inappropriate (the original listing was incorrect) and so DO is being delisted as an impairment.

Supporting Information for Delisted Impairments

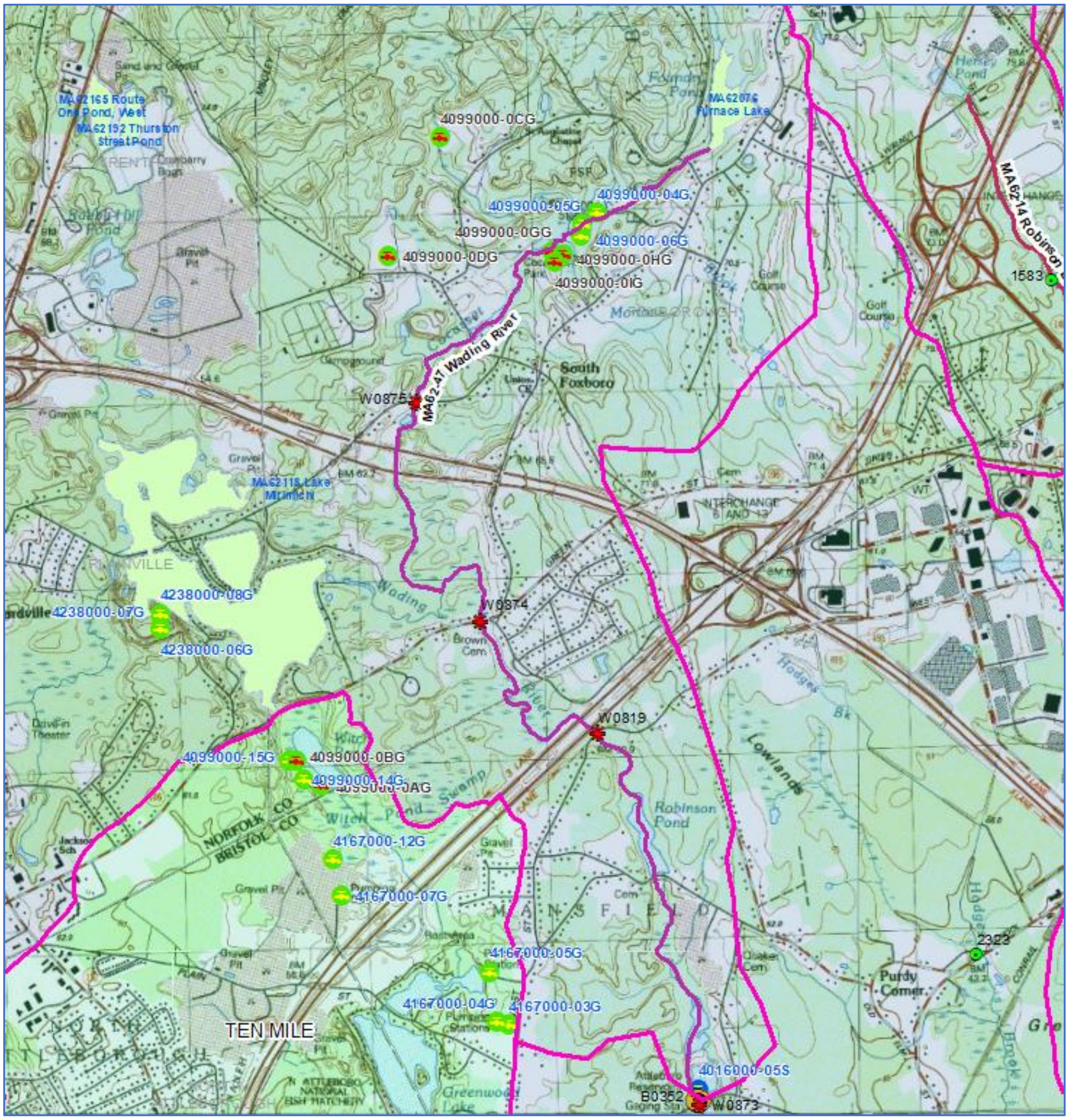
Dissolved Oxygen

This Wading River AU (MA62-47) was originally listed as impaired for low dissolved oxygen based on data collected in June 1988 when it was part of a larger assessment unit. The DO concentrations at the Balcom Street bridge (the lower end of this current AU) during the 1988 survey were all excellent (≥6.1mg/L). Therefore, with the resegmentation of the Wading River AUs the DO impairment for this upper portion of the Wading River was inappropriate (the original listing was incorrect) and so the Dissolved Oxygen impairment is being delisted.

Screen capture from GIS project depicting roadways near and crossing the Wading River.



Screen capture of GIS datalayers depicting Wading River MA62-47



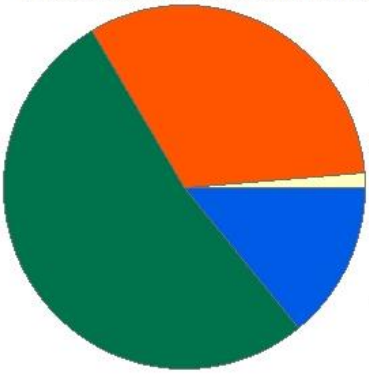
MA62165 Route One Pond, West
MA62192 Thurston Street Pond
4099000-0CG
MA62076 Furnace Lake
4099000-05G
4099000-04G
4099000-0GG
4099000-06G
4099000-0DG
4099000-0HG
4099000-0IG
MA62-14 Robinson
1583
South Foxboro
MA62-47 Wading River
W0875
MA62118 Lake Mirimichi
INTERCHANGE 6 AND 12
4238000-08G
4238000-07G
4238000-06G
W0874
W0819
4099000-15G
4099000-0BG
4099000-14G
4099000-0AG
NORFOLK CO
BRISTOL CO
4167000-12G
4167000-07G
Robinson Pond
Lowlands
MANSFIELD
4167000-05G
2323
Purdy Corner
4167000-04G
4167000-03G
TEN MILE
4016000-05S
B0352
W0873

WADING RIVER (MA62-60)

Location:	From Balcolm Street, Mansfield to inlet Barrowswille Pond, Norton (through former 2014 segment: Sweets Pond MA62185) (formerly part of 2014 segment: Wading River MA62-49 [MA62-17 (2004)]).
AU Type:	RIVER
AU Size:	5.8 MILES
Classification/Qualifier:	B: WWF

Wading River - MA62-60

Watershed Area: 36.33 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	36.25	9.97	14.25	2.8
Agriculture	1.25%	1.6%	1.2%	1.4%
Developed	32.2%	32%	23.7%	23%
Natural	52.4%	45.1%	53.3%	43.3%
Wetland	14.1%	21.3%	21.8%	32.3%
Impervious Cover	11.81%			

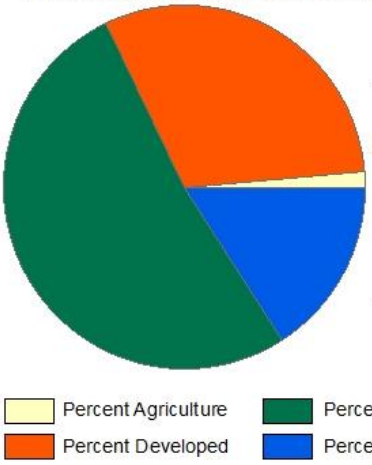
Fish, other Aquatic Life and Wildlife Use: Not Supporting
The non-native aquatic macrophyte *Myriophyllum heterophyllum* was identified in the Sweets Pond impoundment of the Wading River in Mansfield during the summer of 1996. During the summers of 2006 and 2013 water quality sampling was conducted by MassDEP staff in the Wading River at stations near the Route 123 bridge ((W2373 in 2013 and W0823 in 2006). Water quality data were indicative of good conditions (i.e., min DO 5.5mg/L, maximum saturation 104%, pH 6.5 – 6.89SU, and low concentrations of total phosphorus – average ~0.-01 and maximum 0.02mg/L). During the summer of 2013, the maximum temperature (28.7°C) was above 28.3°C for only 6.9 of 1795 hours of record between May and September (~0.4% of the measurements. Although water quality data collected during the summers of 2006 and 2013 are indicative of good conditions, the Aquatic Life Use for this Wading River AU (MA62-60) is assessed as not supporting based on the presence of *Myriophyllum heterophyllum* in the Sweets Pond impoundment.

WADING RIVER (MA62-61)

Location:	From outlet Barrowsville Pond, Norton to mouth at confluence with Rumford River, forming headwaters Threemile River, Norton (formerly part of 2014 segment: Wading River MA62-49 [MA62-17 (2004)]).
AU Type:	RIVER
AU Size:	3.3 MILES
Classification/Qualifier:	B: WWF

Wading River - MA62-61

Watershed Area: 43.62 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	43.53	6.3	15.36	1.34
Agriculture	1.4%	1.7%	1.3%	2.6%
Developed	30.7%	28.5%	23.5%	24.9%
Natural	52%	53.2%	53.4%	52.3%
Wetland	15.9%	16.6%	21.8%	20.1%
Impervious Cover	11.45%			

Fish, other Aquatic Life and Wildlife Use: Fully Supporting

Water from the Wading River was collected at the outlet of Barrowsville Pond for use as dilution water in the Tweave, Inc. whole effluent toxicity tests. Between November 2004 and October 2018, survival of *Ceriodaphnia dubia* and *Pimephales promelas* exposed (48 hours) to river water was ≥90% with the exception of the April 2016 test with *P. promelas* survival of 60% (n=48 *C. dubia* tests and n=44 *P. promelas* tests). Tweave Inc. is permitted (MA0005355) to discharge treated wastewater to this segment of the Wading River (MA62-61) with a permit limit of $LC_{50} \geq 100\%$ effluent. Between November 2004 and October 2018, a total of 47 valid *C. dubia* and 43 valid *P. promelas* acute whole effluent toxicity tests were conducted on the Tweave treated effluent. For *C. dubia* 42 of the 47 tests submitted met the permit limit (i.e., LC50 ≥100% effluent) while 41 of 43 *P. promelas* tests submitted met the permit limit. The limit was met in the 28 *C. dubia* tests submitted since May 2009 and in the 34 P. promelas test submitted since February 2007 indicative of improved effluent quality. During the summers of 2006 and 2013 water quality sampling was conducted by MassDEP staff in the Wading River at stations near the Route 140 bridge in Norton (W0858 in 2006 and W2407 in 2013). Water quality data were indicative of good conditions (i.e., min DO 5.74mg/L, maximum saturation 106%, maximum temperature 28.2°C, pH 6.5 – 6.89SU, and low concentrations of total phosphorus –average ~0.-02 and maximum 0.031mg/L). Backpack electrofishing was conducted by DFG biologists near the Route 140 bridge (SampleID 1164) in August 2005. The sample included five species and was dominated by a fluvial specialist. There sample was well represented by fish that were moderately tolerant to environmental perturbations. Benthic macroinvertebrate sampling was conducted in the Wading River downstream from the Route 140 bridge (B0603) by MassDEP biologists in August 2006. The RPBIII analysis found the sample to be 81% comparable or "non/slightly impacted" when compared to the Canoe River reference site.

The Aquatic Life Use for this Wading River AU (MA62-61) is assessed as fully supporting based on the benthic macroinvertebrate community, fish population, and water quality data.

Waldo Lake (MA62201)

Location:	Avon/Brockton.
AU Type:	FRESHWATER LAKE
AU Size:	72 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use for Waldo Lake is assessed as not supporting based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana*. An unconfirmed species of myriophyllum, possibly heterophyllum, was also identified so this use will also be identified with an Alert Status.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Waldo Lake one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. A species of Myriophyllum was present but needs to be identified when flowering heads are present. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Watson Pond (MA62205)

Location:	Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	78 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed
5	5	Nutrient/Eutrophication Biological Indicators		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Watson Pond one non-native aquatic macrophyte species, *Cabomba caroliniana,* was documented. Most recent water quality sampling in Watson Pond conducted during the summer of 2018 not yet available for assessment decision update. Evidence of nutrient enrichment was documented during the 2001 surveys (algal blooms, elevated chlorophyll a, oxygen depletion at depth ≥ 2.4 m which comprises much greater than 10% surface area of the pond, and the elevated total phosphorus). The Aquatic Life Use for Watson Pond continues to be assessed as non-supporting because of the biological evidence of nutrient enrichment, low dissolved oxygen, high total phosphorus and the presence of the non-native aquatic macrophyte *Cabomba caroliniana*.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Watson Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. Because of the presence of a non-native aquatic macrophyte and the elevated total phosphorus levels, the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Weir Village North Pond (MA62206)

Location:	west of Carriage Lane, Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	17 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
--	4c	(Fish Passage Barrier*)		Added

Fish, other Aquatic Life and Wildlife Use: Not Supporting
According to DMF biologists (Chase 2016 and 2017), the culvert between the Weir Village North and South Ponds in Taunton, which should allow passage of river herring and American eel, has a passage rating of 4 (a restricted passage). Therefore, fish passage barrier will be added as an impairment for diadromous fish passage for the Weir Village North Pond (also locally referred to as Brickyard and/or Oakland Mills Ponds). The Aquatic Life Use is assessed as not supporting for Weir Village North Pond because of the fish passage barrier (culvert).

Weir Village South Pond (MA62207)

Location:	northeast of the railroad tracks west of Linden Street, Taunton.
AU Type:	FRESHWATER LAKE
AU Size:	14 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No data are available to assess the Aquatic Life Use for Weir Village South Pond. It should be noted however, that according to DMF biologists diadromous fish passage from the Weir Village South Pond to the Weir Village North Pond through the culvert is restricted and needs culvert maintenance. These ponds also locally referred to as Brickyard and/or Oakland Mills Ponds.

West Meadow Pond (MA62208)

Location:	West Bridgewater.
AU Type:	FRESHWATER LAKE
AU Size:	104 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of West Meadow Pond one non-native aquatic macrophyte species, *Myriophyllum heterophyllum* was identified. The Aquatic Life Use is assessed as not supporting for West Meadow Pond based on the presence of the non-native aquatic macrophyte *Myriophyllum heterophyllum*.

Whiteville Pond (MA62211)

Location:	Mansfield.
AU Type:	FRESHWATER LAKE
AU Size:	14 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available to assess the Aquatic Life Use for Whiteville Pond.

Winnecunnet Pond (MA62213)

Location:	Norton.
AU Type:	FRESHWATER LAKE
AU Size:	150 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
4c	4c	(Fanwort*)		Added
4c	4c	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting (Alert)
The Aquatic Life Use is assessed as not supporting for Winnecunnet Pond based on the presence of the non-native aquatic macrophyte *Cabomba caroliniana.* Two additional aquatic invasive species, *Myriophyllum heterophyllum* and *Corbicula fluminea* (Asian clam) may also infest the pond (identified as an Alert Status) however further confirmation of these infestations are needed.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

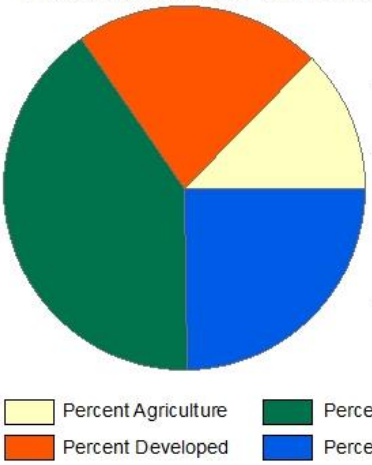
During the 1996 MassDEP lake synoptic survey of Winnecunnet Pond one non-native aquatic macrophyte species*, Cabomba caroliniana*, and one non-native wetland species, *Lythrum salicaria*, were identified. A species of Myriophyllum was present, thought likely to be *heterophyllum*, confirmation is needed to identify species when flowering heads are present. According to DCR, Asian clam (*Corbicula*) have also been found in the pond, however confirmation of live specimens is needed. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

Winnetuxet River (MA62-24)

Location:	Headwaters, confluence of Muddy Pond Brook and Doten Brook, Carver to mouth at confluence with the Taunton River, Halifax.
AU Type:	RIVER
AU Size:	12.1 MILES
Classification/Qualifier:	B

Winnetuxet River - MA62-24

Watershed Area: 53.87 square miles



Landuse Type	Entire Basin	5km Radius Proximal Subbasin	100m Stream Buffer	Proximal Stream Buffer
Land Use Area (square miles)	53.85	14.55	18.8	4.24
Agriculture	12.63%	10.2%	21.9%	11.4%
Developed	22.1%	23%	14.5%	14.8%
Natural	40.6%	32.3%	34.3%	31.9%
Wetland	24.7%	34.6%	29.2%	41.9%
Impervious Cover	8.38%			

Fish, other Aquatic Life and Wildlife Use: Insufficient Information
Backpack electrofishing in the Winnetuxet River was conducted downstream of the pond at the park off Winnetuxet Road in Plympton (SampleID4886) by DFG biologists in September 2013. Five species including one fluvial specialist were collected. No notes were made regarding sampling efficiency but only 21 fish were collected. The sample was dominated (81%) by fish moderately tolerant to environmental perturbation. There is insufficient information available to assess the Aquatic Life Use for the Winnetuxet River.

Wolomolopoag Pond (MA62216)

Location:	Sharon.
AU Type:	FRESHWATER LAKE
AU Size:	13 ACRES
Classification/Qualifier:	B

Fish, other Aquatic Life and Wildlife Use: Not Assessed
No recent data are available so the Aquatic Life Use for Wolomolopoag Pond is not assessed.

Woods Pond (MA62220)

Location:	Middleborough.
AU Type:	FRESHWATER LAKE
AU Size:	51 ACRES
Classification/Qualifier:	B

2016 AU Category	2018/20 AU Category	Impairment	ATTAINS Action ID	Impairment Change Summary
5	5	(Fanwort*)		Added
5	5	(Non-Native Aquatic Plants*)		Removed

Fish, other Aquatic Life and Wildlife Use: Not Supporting
During the 1996 MassDEP lake synoptic survey of Woods Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte *Cabomba caroliniana* the Aquatic Life Use for Woods Pond is assessed as not supporting.

2018/20 Delisted Impairment	Delisting Reason	Delisting Comment
Non-Native Aquatic Plants	Clarification of listing cause	The generic "Non-Native Aquatic Plants" is not needed since the specific macrophyte Cabomba caroliniana (fanwort) has been utilized.

Supporting Information for Delisted Impairments

Non-Native Aquatic Plants

Data Source: (MassDEP 2005), (MassDEP 1996), and (MassDEP, Freshwater Aquatic Invasive Species Database Open Project Files Undated 1)

During the 1996 MassDEP lake synoptic survey of Woods Pond one non-native aquatic macrophyte species, *Cabomba caroliniana*, was identified. Because of the presence of a non-native aquatic macrophyte the Aquatic Life Use is assessed as impaired. The generic "Non-Native Aquatic Plants" impairment is not needed since the specific macrophyte *Cabomba caroliniana* (fanwort) has been utilized.

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