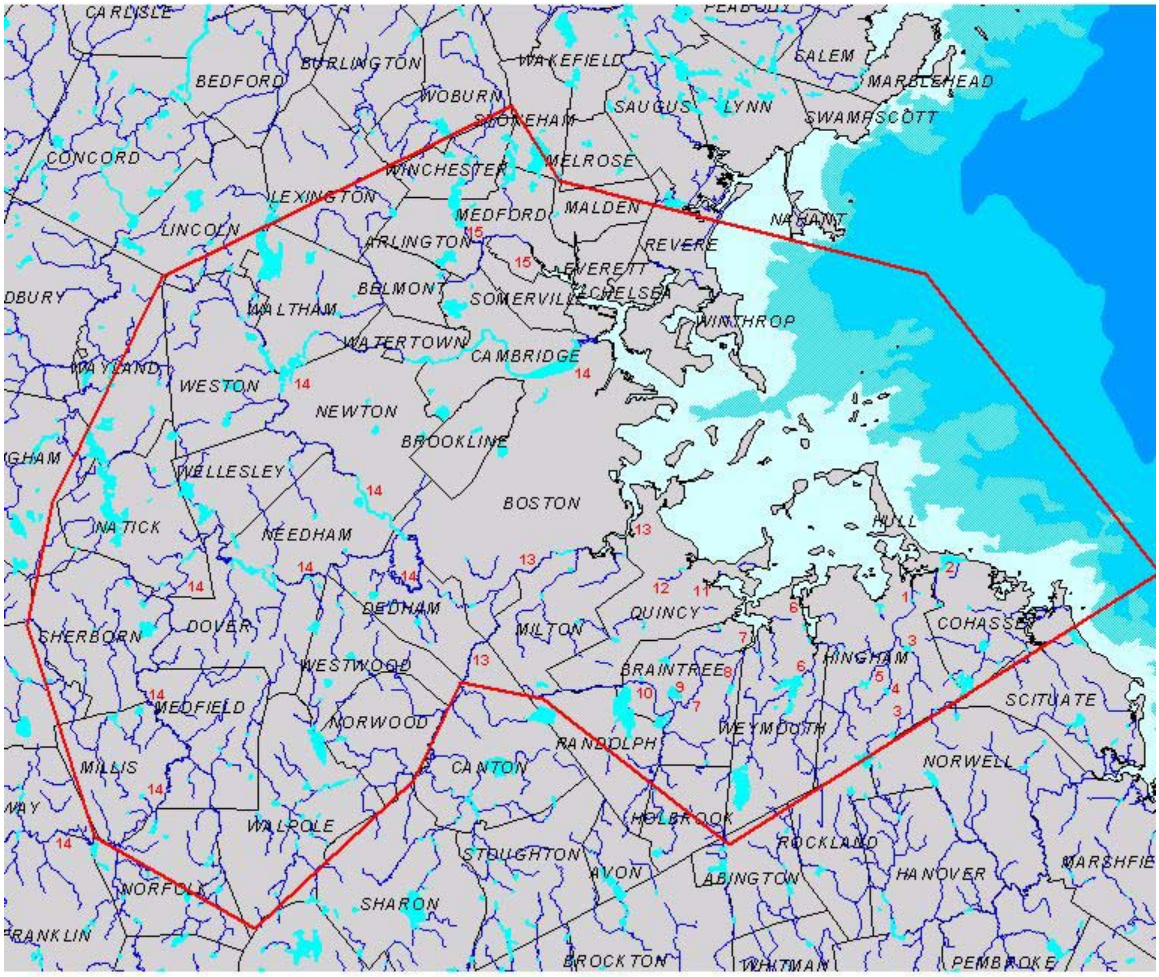
BOSTON HARBOR WATERSHED



Area in red represents the towns included in this report as part of the Boston Harbor watershed.

Stream Names:

1 - Weir River
2 - Straits Pond
3 - Accord Brook
4 - Fulling Mill Brook
5 - Crooked Meadow Brook
6 - Weymouth Back River
7 - Fore RIver/ Monatiquot River
8 - Smelt Brook
9 - Sunset Lake
10 - Farm River
11 - Town River
12 - Furnace Brook
13 - Neponset River
14 - Charles River
15 - Mystic River

Boston Harbor Watersheds

Weir River — Hingham

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
4.9	Third	6.4	River herring, smelt, white perch, tomcod

Obstruction # 1 — Foundry Pond Dam — Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
2.7	Dam	Concrete and stone	100	9.0	6.0	1998	Town of Hingham	42° 15’ 48.794” N 70° 51’ 38.082” W

Foundry Pond Dam

Fishway — Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Notched weir-pool	Concrete	73.5	3.0	4.6	12	3.0	1.5	6.5	Good Passable

Fishway at Foundry Pond Dam

Remarks:

Weir River forms a 6 acre impoundment as it flows to Boston Harbor. The 9 foot dam which creates the impoundment has recently been restored and the fishway that provides access was also modified at this time. Juvenile herring out-migration may be negatively impacted by the new rip-rap facing piled at the base of the dam. Efforts should be made to correct some of the detrimental impacts of the dam restoration. The area immediately downstream of the dam has historically supported a strong smelt population and white perch are known to spawn in the lower river.

Straits Pond Cohasset, Hull

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
1.0	Second	8.9	River herring

Obstruction # 1 Straits Pond Tidegate Cohasset, Hull

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
1.0	Tide gate	Metal	10.5	-	95.8	-	Town of Hull	42° 15’ 37.146” N 70° 50’ 40.373” W

Tidegate at Straits Pond

Fishway None

Remarks:

This 95.8 acre salt pond is maintained at low salinities by a tide gate operated by the Town of Hull. River herring enter the pond when the tide gate is properly adjusted. Other than maintaining a flow regulation protocol which would insure maximum fish passage, little can be done to improve the productivity of this system.

Accord Brook Hingham

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
5.9	First	6.9	River herring

Obstruction # 1 Triphammer Pond Dam Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
0.6	Dam	Concrete and stone	20.3	7.5	17.4	1940	Town of Hingham	42° 13’ 25.775” N 70° 52’ 00.103” W

Triphammer Pond Dam

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Weir-pool	Concrete with wooden baffles	58.0	2.5	4.4	10	Varied (1.7, 2.2, 3)	-	6.0	Good Passable

Fishway at Triphammer Pond Dam

Obstruction # 2 Accord Pond Dam Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
5.9	Dam	Concrete, stone, and aluminum	7.2	8	95.0	1890, replaced since	Mass.-American Water Co.	42° 10’ 27.710” N 70° 53’ 21.624” W

Accord Pond Dam

Spillway at Accord Pond

Fishway None

Remarks:

Accord Brook is a tributary to the Weir River and forms two impoundments along its course. The first, Triphammer Pond, is equipped with a weir-pool fishway which allows river herring to access its 17.4 acres of habitat when properly adjusted. The second impoundment, Accord Pond, is 95 acres in area but functions as a public water supply. No outflow was observed at the time of this survey and there is little potential for development here.

Fulling Mill Brook Hingham

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
1.1	First	6.8	River herring

Obstruction # 1 Fulling Millpond Dam Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
1.1	Dam	Concrete with wooden boards	3.0	7	13.4	1900	Hingham Water Co.	42º 12’ 15.410” N 70º 52’ 34.324” W

Fulling Millpond Dam

Fishway None

Remarks:

This stream is also a tributary to the Weir River and forms a 13.4 acre impoundment called Fulling Millpond before joining that stream. The spillway design creates a difficult fishway installation problem and the impoundment is used as a public water supply making this a very low priority for development.

Crooked Meadow River Hingham

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
1.0	Second	6.7	Unknown

Obstruction # 1 Elevation Change below Cushing Pond Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
0.9	Elevation change	Stone	6.0	~8.5	0.0	-	Private	42° 12’ 34.835” N 70° 53’ 15.127” W

Elevation change downstream of Cushing Pond

Fishway None

Obstruction # 2 Cushing Pond Dam Hingham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
1.0	Dam	Concrete	28.0	7.0	18.8	1940	Private	42° 12’ 31.466” N 70° 53’ 14.597” W

Cushing Pond Dam

Fishway None

Remarks:

This stream flows into the Weir River and two obstructions block fish passage before any significant habitat can be reached. The difficulty in providing access to the 18.8 acres available in Cushing Pond reduces potential for development.

Broad Cove Hingham

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
0.5	First	7.9	None known

No Obstructions

Broad Cove

Fishway None

Remarks:

Broad Cove is an inland extension of Hingham Harbor. A small, unnamed stream drains into the cove and smelt have been known to spawn there in the past. No recent spawning has been observed, probably due to degraded habitat, and there is little potential for further development.

Weymouth Back River Weymouth

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
4.8	Third	6.6	River herring, smelt, white perch

Obstruction # 1 Broad Street Dam Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.2	Dam	Concrete	-	-	0.0	-	-	42º 12’ 56.555” N 70º 55’ 22.461” W

Broad Street Dam and Fishway

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Notched weir-pool	Concrete	130	4.8	6	14	-	3	7	Good Passable

Obstruction # 2 Dam at Youth Center Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.2	Dam	Concrete	4.0	1.4	0.1	-	-	42º 12’ 53.965” N 70º 55’ 25.225” W

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Notched weir-pool	Concrete	21.0	Varied (7.9-10.6)	Varied (9.0-12.0)	3	1.8	4.0	9.9	Fair Passable

Fishway and dam at Weymouth Youth Center

Obstruction # 3 Jackson Square Dam Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.3	Dam	Concrete	28	4.3	0.1	-	-	42º 12’ 53.875” N 70º 55’ 25.393” W

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Notched weir-pool	Concrete with wooden baffles	35.0	4.0	5.7	6	Varied (1.6-3.7)	2.0	Varied (6-7)	Good Passable

Jackson Square Dam and fishway

Obstruction # 4 Elevation change under Jackson Square Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.4	Elevation change	Concrete	12.5		-	-	-	42° 12’ 52.332” N 70° 55’ 25.928” W

Entrance to Jackson Square elevation change

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Stream baffles	Wooden baffles	146	12.5	12.5	3	1	-	Varied (44’ and 80’)	Good Passable

Jackson Square elevation change

Obstruction # 5 Pleasant Street Dam Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.5	Dam	Concrete with wooden boards	8.2	5.7	0.0	-	-	42° 12’ 46.371” N 70° 55’ 32.578” W

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Notched weir-pool	Concrete	89.2	3.0	4.0	13	2.2	1.5	7.0	Fair Passable

Fishway and dam at Pleasant Street

Obstruction # 6 Iron Hill Dam Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.6	Dam	Stone and concrete with wooden boards	6.8	18.1	1.6	-	Town of Weymouth	42° 12’ 47.280” N 70° 55’ 39.306” W

Iron Hill Dam

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil	Concrete with wooden baffles	288.5	3.0	4.9	86	5.0	-	-	Good Passable

Fishway sections at Iron Hill Dam

Obstruction # 7 Whitman's Pond Dam Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.8	Dam	Concrete	53.5	15.0	175.0	1970	Town of Weymouth	42º 12’ 40.195” N 70º 55’ 46.031” W

Whitman’s Pond Dam

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil	Concrete with wooden baffles	85.8	3.0	4.0	26	5.0	-	-	Good Passable

Fish ladder at Whitman’s Pond Dam

Obstruction #8 Washington Street Control Structure Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
5.7	Dam control structure	Concrete and metal	10.5	9	29.3	-	-	42º 11’ 59.050” N 70º 56’ 19.158” W

Control structure at Washington Street

Fishway None

Remarks:

Despite numerous obstructions and the need for seven fishways to insure access, this system supports one of the largest Massachusetts river herring populations north of Cape Cod. Population estimates based on visual counts by volunteers have ranged from 31,000 in 1978 to 859,000 in 1995, and average 265,000 fish annually.

A number of factors impact this resource and may be preventing the population from reaching higher production levels. A bypass channel which is part of a flood control system, designed by the US Army Corps of Engineers and owned by the Town of Weymouth, distracts river herring from the entrance to the first ladder. An attempt to screen this bypass has met with some success but inefficient screen design and deterioration have resulted in the loss of large numbers of fish. The recent installation (Fall, 2004) of a new grate over the entrance to the bypass channel should eliminate the trapping of river herring.

Another factor which certainly affects productivity is the blocking of the portion of Whitmans Pond south of Washington Street to spawning river herring. This extension of the pond is used as a water supply and, in order to isolate it from the poorer quality water in the northern section, a sluice gate prevents any back flow. While river herring could conceivably enter this area in spring without risking contamination of the water supply, any young herring produced would have a difficult time exiting the upper system when the levels were drawn down. As a result, it was decided to confine spawning to the main pond and avoid losses of juveniles.

A third element which may have some effect on population size is the large concentration of double crested cormorants which frequent the area during the summer. These birds have been reported to feed heavily on juvenile herring throughout this period and could impact juvenile escapement success.

In addition to the above mentioned issues, the reliance on seven fishways to provide access to spawning habitat presents another challenge to the management of this resource. The maintenance, regulation, and

cleaning of this many ladders requires a high level of dedication on the part of those responsible, and the Town of Weymouth has undertaken this task with a great deal of success. Continuation of this effort is necessary to maintaining the current high level of productivity.

The section of Weymouth Back River below the first dam is used as a spawning area for rainbow smelt.

Fore River/Monatiquot River Weymouth, Braintree

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
15.4	Third	6.9	Smelt

Obstruction # 1 McCusker Road Culvert Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
5.5	Culvert	Concrete	35.5	1.5	0.0	-	-	42° 13’ 16.016” N 70° 58’ 58.974” W

McCusker Road culvert

Fishway None

Obstruction # 2 Elevation Change above McCusker Road Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
5.5	Elevation change	Stone	~15	~3	0.0	-	-	42° 13’ 17.110” N 70° 58’ 59.832” W

Elevation change upstream of McCusker Road

Fishway None

Obstruction # 3 Falls upstream of Railroad tracks Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
8.4	Elevation change	Rock ledge	18	6	0.0	-	-	42º 12’ 00.293” N 71º 00’ 08.267” W

Natural falls upstream of railroad tracks

Fishway None

Obstruction # 4 Ames Pond Dam Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
8.5	Dam	Concrete with wooden boards	52.0	1.9	3	-	-	42º 11’ 58.888” N 71º 00’ 09.368” W

Ames Pond Dam

Fishway None

Obstruction # 5 Hollingsworth Dam Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
8.6	Dam	Concrete with wooden boards	50	11	4.1	-	-	42° 11' 54.429" N 71° 00' 12.441" W

Hollingsworth Dam

Fishway None

Remarks:

The first obstruction on Fore River is a road culvert at McCusker Street. The 1.5 foot drop at the culvert is passable by river herring during spring flows but effectively limits smelt movement. A 3 foot high natural falls a very short distance upstream of McCusker Street is also passable by river herring under ideal flows but would not allow smelt to pass. Altering the culvert to allow smelt passage could increase smelt spawning habitat by 300 square meters. Due to the numerous fishways needed to overcome a third obstruction (6 foot natural falls) and two upstream dams, plus possible seasonal low flow issues, the further development of the river herring resource would be a difficult and expensive project. This river, once above the influence of the tide, is known as the Monatiquot River.

Smelt Brook Weymouth, Braintree

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
1.2	First	6.7	Smelt

Obstruction # 1 Culverts at abandoned railroad tracks Weymouth

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
.13	Culvert	Concrete	4 and 6	4 and 6	-	-	-	42º 13’ 17.282” N 70º 50’ 04.374” W


Left culvert (6 foot diameter)


Right culvert (4 foot diameter)

Fishway None

Obstruction # 2 Pond Meadow Lake Dam Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
1.2	Dam	Concrete	7.0	7.0	22.9	1975	Weymouth/ Braintree Regional Recreation Conservation District	42º 12’ 28.943” N 70º 58’ 30.653” W

Dam at Pond Meadow Lake

Fishway None

Remarks:

Smelt Brook is a tributary to the Fore River estuary. Smelt spawn in the stream above the head of the tide. Much of the stream above this point is channelized and runs underground. Providing access for river herring to its 22.9 acre headwater pond is made difficult by the design of the pond’s spillway structure.

Sunset Lake Braintree

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
0.4	First	7.1	None known

Obstruction # 1 Sunset Lake Dam Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
0.4	Dam	Concrete and granite with wooden boards	3.0	1.7	57.0	-	Town of Braintree	42° 12’ 05.708” N 71° 00’ 56.222” W

Sunset Lake Dam

Fishway None

Remarks:

The unnamed tributary which drains 57 acre Sunset Lake enters the Monatiquot River above the fifth obstruction. The high cost associated with overcoming these obstructions makes this system a low priority for river herring restoration.

Farm River — Braintree

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
3.0	Fourth	6.9	None known

Obstruction # 1 — Great Pond Reservoir Dam — Braintree

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
3.0	Dam	Concrete with steel stop logs	31.8	6.6	180.0	-	-	42º 12’ 20.581” N 71º 02’ 39.482” W

Great Pond Reservoir Dam

Fishway None

Remarks:

Farm River also enters the Monatiquot River above the fifth obstruction and so has low development potential due to downstream obstructions despite its 180 acre headwater impoundment.

Town River — Quincy

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
2.0	First	7.1	Smelt

Obstruction # 1 — Culvert at Monroe Field — Quincy

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
2.0	Culvert	Concrete with aluminum grate	60	0.0	0.0	-	-	42° 15’ 02.521” N 70° 59’ 33.070” W

Monroe Field culvert

Fishway None

Remarks:

This highly altered stream is a spawning habitat for a smelt population. Modifications to the culvert structure at Rt. 3A by the US Army Corps of Engineers for the purpose of flood control changed the stream's gradient within the spawning area. These changes have eliminated spawning habitat below Rt. 3A and the flood control project has diverted base flows resulting in degraded spawning habitat upstream of Rt. 3A.

Furnace Brook Quincy

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
1.9	First	6.5	Smelt

Culverts downstream of Furnace Brook Elementary School

No Obstructions

Fishway None

Remarks:

Furnace Brook is another highly urbanized and altered stream which drains into Boston Harbor. Smelt spawn in the stream at the head of the tide. There is no opportunity for further development of anadromous fish passage. Lack of spawning habitat prohibits alewife restoration.

Neponset River

Quincy, Boston, Milton, Canton, Dedham, Westwood, Norwood, Walpole, Foxborough

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
28.4	Third	6.7	Alewife, blueback, American shad, smelt, white perch

Obstruction # 1 Baker Chocolate Factory Dam Milton

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
4.2	Dam	Concrete and steel with wooden boards	79	7.0	0.0	1900	Comm.-of MA-DCR	42º 16’ 14.096” N 71º 04’ 07.531” W

Baker Chocolate Factory Dam

Fishway None

Obstruction # 2 Rubble Dam Milton, Mattapan

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
6.7	Dam	Boulder and rubble		variable	-	-	-	not available

Rubble Dam; photo courtesy of Michael Merrill (FWE)

Fishway None

Obstruction # 3 Tilestone & Hollingsworth Dam Milton, Mattapan

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
6.8	Dam	Concrete with a steel door	151	9.5	1.1	-	DCR	42º 15’ 39.337” N 71º 06’ 37.312” W

The Tilestone and Hollingsworth Dam

Fishway None

Remarks:

The Neponset River and its potential for anadromous fish restoration have been the focus of a great deal of attention in recent years. A survey carried out by DMF in 1995 revealed 15.7 miles of riverine habitat suitable for American shad and river herring spawning. Although river herring, rainbow smelt, and possibly American shad are known to spawn below the first dam, nearly all of the upstream habitat is made inaccessible by the Baker Chocolate Factory dam and the Tilestone-Hollingsworth dam. With the existence of so much potential spawning area documented, the issue of fish passage has been undertaken by an Army Corps of Engineers (ACOE) feasibility study, currently underway, to determine the preferred alternative. The options addressed in the study are the installation of two Denil style ladders or complete or partial removal of the dams. In anticipation of renewed fish access to the upper river, DMF has introduced a total of 1,047 adult American shad from the Connecticut River. This stocking has taken place over 7 years from 1995 to 2001.

Charles River

Boston, Cambridge, Watertown, Waltham, Newton, Weston, Wellesley, Needham, Dedham, Westwood, Dover, Natick, Medfield, Sherborn, Millis, Norfolk, etc.

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
79.5	Fourth	6.9	Alewife, blueback, American shad, smelt, white perch, gizzard shad

Obstruction # 1 Charles River Locks Boston

River Mile	Type	Material	Lock W (ft)	Lock L (ft)	Impoundment Acreage	Year Built	Owner	GPS
0.9	Locks	Concrete and steel	Varied (2 at 25' 1 at 40')	Varied (2 at 200' 1 at 300')	0.0	1978	Comm. of Mass.-DCR	42° 22' 06.924" N 71° 03' 42.812" W

Charles River Locks

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Slots	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Vertical slot	Concrete	170	Varied (.5-1.0)		29	N/A	-	Varied	Fair Not passable

Vertical slot fishway at Charles River Locks

Obstruction # 2 Watertown Dam Watertown

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
9.4	Dam	Concrete	198	5.9	0.0	1900	Comm. of Mass.-DCR	42° 21’ 54.390” N 71° 11’ 22.365” W

Watertown Dam

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil	Concrete with plastic baffles	83	4	6	15	7			Good Passable

Fishway entrance at Watertown Dam

Obstruction # 3 Bleachery Dam

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
11.4	Dam (breached)	Granite blocks and cement	150	3.5	0.0	1900	Comm. of Mass. DCR	42° 22’ 09.615” N 71° 13’ 22.433” W

Bleachery Dam (breach not shown)

Fishway None

Obstruction # 4 Moody Street Dam Waltham

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
12.2	Dam	Granite base & steel with wooden boards	171	17.0	188.9	1847	Comm. of Mass-DCR	42° 22’ 23.850” N 71° 14’ 09.749” W

Moody Street Dam and Fishway

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil & weir-pool	Concrete with wooden Denil baffles	216.0	6.0	8.7	23	7	6	10.0	Fair Inefficient passage

Obstruction # 5 Finlay (Newton Lower Falls) Dam Wellesley, Newton

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
17.8	Dam	Granite & concrete	104	6.5	0.0	1900	Comm. of Mass.-DCR	42° 19’ 30.411” N 71° 15’ 30.842” W

Finlay Dam (Newton Lower Falls)

Fishway Present

Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil	Concrete with composite baffles and granite block cap	93.0	4.5	6.5	16	7	-	-	Good Passable

Fishway at Finlay Dam

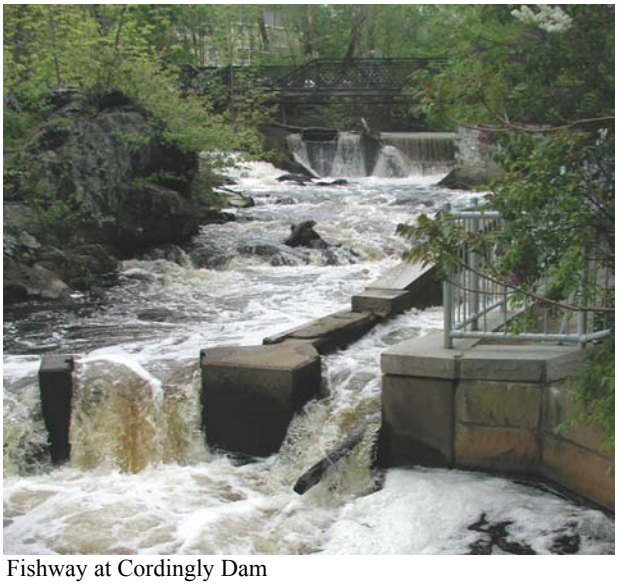
Obstruction # 6 Cordingly (Newton Upper Falls) Dam Wellesley, Newton

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
18.1	Dam	Concrete and granite	92	20	0.0	1912	Comm. of Mass.-DCR	42° 19’ 33.022” N 71° 15’ 15.671” W

Cordingly Dam (Newton Upper Falls)

Fishway Present

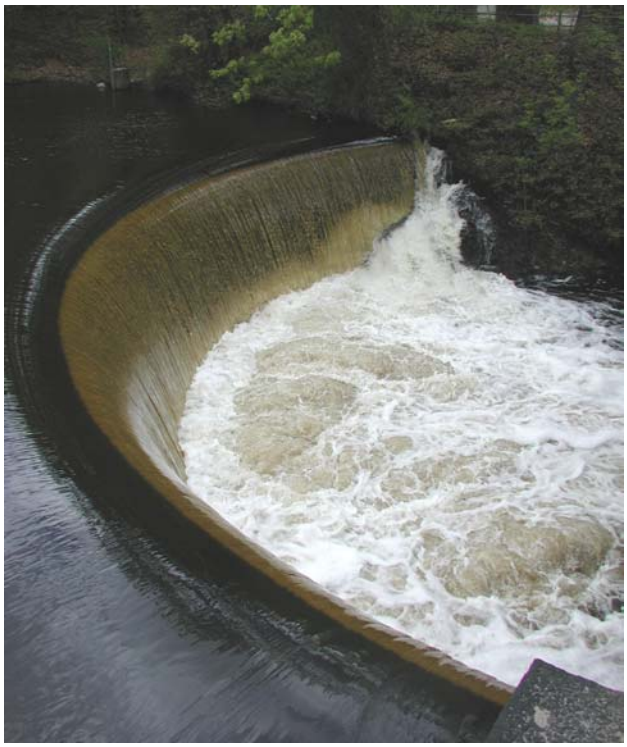
Design	Material	Length (ft)	Inside W (ft)	Outside W (ft)	# of Baffles	Baffle H (ft)	Notch W (ft)	Pool L (ft)	Condition/ Function
Denil	Concrete with wooden baffles and a granite cap	166	4.6	7.5	40	7	-	-	Fair Not passable



Fishway at Cordingly Dam

Obstruction # 7 Metropolitan Circular Dam Wellesley, Newton

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
20.0	Dam	Granite blocks	75	12.0	0.0	1900	Comm. of Mass.-DCR	42° 19’ 00.129” N 71° 13’ 40.921” W



Metropolitan Circular Dam

Fishway None

Obstruction # 8 Silk Mill Dam Newton/Wellesley

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
20.2	Bascule dam	Steel & concrete	68	14.0	0.0	-	-	42° 18' 50.058" N 71° 13' 34.370" W

Silk Mill Dam

Fishway None

Remarks:

The Charles River is a large system and offers an abundance of riverine habitat to anadromous fishes. Its potential, however, is drastically impacted by the numerous obstructions to passage in its lower reaches. The first of these, the Charles River Dam and Locks, operated by DCR, is near the mouth of the river and has an effect on any fish attempting to enter the system. Although equipped with a fishway in 1978, the facility has never operated effectively due to mechanical failures and insufficient attraction flow and, as a result, migrating fish must rely on opening of the locks for access to the river. A locking protocol has been developed to maximize usage by rainbow smelt, river herring and American shad during their spawning runs.

Approximately 8.5 miles above the first obstruction fish encounter the Watertown Dam. While the Denil fishway at this location functions well, the width of the spillway and river make it difficult for river herring and shad to locate the entrance and it is likely that a large percentage of these populations fail to ascend the river beyond this point. The smelt population spawns below this dam and is not affected by the fishway's shortcomings.

The partially breached Bleachery Dam at river mile 11.4 still functions as an obstruction due to the river's width and the relative narrowness of the breach. The siting of the breached section adjacent to the south bank of the river also makes it difficult for fish moving along the north bank to locate. Complete removal of the structure or the addition of a second breach on the north side would significantly improve passage at this point.

The fourth obstruction, the Moody Street Dam, is at river mile 12.2 and is equipped with a combination Denil and weir-pool fishway. The incorporation of these two designs into one fishway makes proper flow regulation critical to efficient passage. Other problems such as competing spillway flow, which makes entrance to the ladder difficult, and a deteriorated baffle have made this site a problem spot. In order to pass any significant numbers of fish, a conscientious program of flow regulation and maintenance must be applied to this structure.

The next two obstructions, the Finlay (Newton Lower Falls) and the Cordingly (Newton Upper Falls) Dams, are both equipped with Denil fishways. The wooden Denil baffles in the first ladder had badly deteriorated and have recently been replaced with an experimental design incorporating a recycled plastic material. The upper fishway is currently scheduled for a similar renovation. It should be noted that, to date, there is no documentation of anadromous species reaching the Newton Lower Falls. Two large dams, Metropolitan Circular Dam at river mile 20.0 and the Silk Mill Dam at river mile 20.2, have no fish passage facilities and eliminate any potential for further upstream migration.

The Charles River has been the focal point of much anadromous fish restoration work in the past. DMF introduced a total of 9,436,000 fertilized American shad eggs into the river from 1971 to 1977 and from 1978 to 1992 released 2,612 adult shad into the system. While some returning adult shad have been documented, the development of a significant Charles River population never materialized. From 1990 to 2002 a total of 37,950 blueback herring, taken from below the Watertown Dam by DMF, have been moved to above the Moody Street Dam to establish a population imprinted on that section of the river. Due to the fish passage difficulties at Moody Street, the success of that stocking has yet to be evaluated.

Mystic River

Boston, Chelsea, Everett, Somerville, Medford, Arlington, Winchester

Stream Length (mi)	Stream Order	pH	Anadromous Species Present
7.2	Third	7.8	Alewife, blueback, American shad, white perch

Obstruction # 1 Amelia Earhart Dam & Locks Somerville, Everett

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
1.7	Locks	Concrete and steel	-	N/A	0.0	1965	DCR	42° 23’ 41.782” N 71° 04’ 32.072” W

Amelia Earhart Dam and Locks

Fishway None

Obstruction # 2 Mystic Lakes Dam Arlington, Medford

River Mile	Type	Material	Spillway W (ft)	Spillway H (ft)	Impoundment Acreage	Year Built	Owner	GPS
7.2	Dam	Granite blocks with wooden boards	76	5.8	165.0	1900	DCR	42° 25’ 50.662” N 71° 08’ 54.180” W

Mystic Lakes Dam

Fishway None

Remarks:

River herring entering the Mystic River encounter the Amelia Earhart Dam and Locks just 1.7 miles from the river's mouth. Although a fishway at the dam is poorly designed and nonfunctional, DCR personnel are able to pass herring through the locks in large numbers. Although no locking protocol exists, as is the case at the Charles River, sufficient numbers reach spawning habitat to maintain a large population.

A 5.8 foot dam separates 85 acre Lower Mystic Lake from 165 acre upper Mystic Lake and prevents herring from reaching the larger habitat. Deterioration of the dam has caused DCR to initiate planning for repair or replacement of the structure. A fishway should be included in any future modifications. A locking protocol should also be instituted to insure ongoing passage at the Amelia Earhart Dam.

Boston Harbor Watershed Recommendations

1. Fish passage at the lower two dams on the Neponset River should be restored either through construction of fishways or removal of the dams. From the perspective of passage for river herring and American shad, complete removal would be the preferred option.

2. A fishway should be installed at Upper Mystic Lake for the passage of river herring. It would be economically beneficial to coordinate such construction with proposed dam improvements.

3. .A locking protocol for moving river herring through the Amelia Earhart Dam and Locks on the Mystic River should be developed and adhered to. Although fish are currently locked through the system successfully, a more formal arrangement is needed to insure that this continues in the future.

4. The locking protocol that has been developed for the Charles River Dam and Locks should be evaluated for effectiveness and adjustments made if required for optimal fish passage. Lock operators should strictly adhere to the accepted protocol.

5. A second breach of the Bleachery Dam on the Charles River should be made adjacent to the north bank in order to facilitate passage of fish moving up that side.

6. A conscientious program of flow regulation and ladder maintenance for the Moody Street Dam fishway on the Charles River should be developed and adhered to.

7. American shad should continue to be introduced into the Neponset River in anticipation of restoration of fish passage. The possibility of utilizing shad fry rather than adults should be considered.