

# NEWSLETTER

Newton's land trust working to preserve open space since 1961

#### WINTER ISSUE

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## Levingston Cove: Improving Recreational Offerings, Enhancing Wildlife Habitat

By Luis Perez Demorizi, Director of Parks & Open Space, Parks, Recreation & Culture Department, City of Newton

ouise Levingston Cove is one of a few public parks along the shores of Crystal Lake. The crescent-shaped, linear park covers roughly one-half of an acre. It to many mature trees, including several oaks and an iconic American Elm. The shrub buffer at the shoreline is sparse. Some invasive plant species have been identified at the park,

sits at the intersection of Lake Avenue and Lakewood Road and spans north a few hundred feet to the intersection of Lake Avenue and Berwick Road in Newton



including glossy buckthorn and purple loosestrife. Circulation through the park occurs along a y-shaped network of pathways that run northsouth with portions

Existing conditions aerial photograph

Highlands. To the east, the park is bounded by Crystal Lake (which is a Great Pond under the jurisdiction of the state), and it rises to Lake Avenue on the west.

Though small, Levingston Cove is bustling with passive and active recreation. The park also serves as habitat for a variety wildlife. Blue herons, cormorants, painted turtles, and many other animals supported by the lake can be seen from its shoreline. People enjoy fishing from the fishing wall, and taking in the scenic views. The park also provides opportunities for sitting, nature study, sunbathing, picnicking, and walking.

The existing landscape at Levingston Cove is grassy, bare, and severely damaged by compaction and erosion. The park is home of the pathway running behind a large concrete retaining wall dating back to the 1930s. The wall does not adequately support the recreational fishing it is most popularly known for. The park pathways and entrances also are not clearly defined, which encourages users to create new access points at will. The current pathways are often muddy from the adjacent eroding landscape and failing retaining walls.

As a result of its popularity, topography, undefined circulation, and limited public open space around the lake, Levingston Cove has suffered significant degradation and can no longer sustain use. Previous attempts to address erosion are failing; recreational fishing space is narrow; and the barren landscape falls far short of its potential. In short, ecological



View of existing fishing wall and severely degraded landscape facing north



View of eroded pathway and degraded slopes facing south near the Lakewood Road entrance



View of eroded pathway and vegetated buffer facing south near the Lakewood Road entrance

restoration and careful consideration to expanding recreational fishing at Levingston Cove are well overdue.

Making plans to improve this park, however, came with the challenges raised in the following questions.

**1.** How can enhancements and improvements be designed and built to ensure accessibility throughout the park, including ADA compliance for fishing, viewing areas, and pathways?

**2.** How can enhancements and improvements be designed and built to protect and expand the park's ecological function while limiting disturbance to existing vegetated buffer and mature trees?

**3.** How do we best follow the regulations required for a Great Pond? Work within the banks of a great pond requires many environmental reviews and permitting by the local conservation commission, various branches of the Massachusetts Department of Environmental Protection (MassDEP), and in some cases, review by the Army Corps of Engineers (ACOE).

While answering those questions about this shoreline park, the city engaged the community on an overall vision for this space. In 2018 and 2019, the city held multiple community meetings to help establish this vision for the park. The Parks, Recreation & Culture Department (formerly known as Parks and Recreation) brought the concept to the Parks & Recreation Commission to review the proposed park program and conceptual design. Ultimately, the commission voted to approve the preferred plan, which includes the following improvements:

- an accessible cantilevered fishing platform
- accessible pathways, ramps, and benches
- stairs to help navigate the steep slope
- a system of terraced walls to create seating opportunities and to combat erosion on the steep slopes
- formalized park entrances and an improved pathway network that funnel pedestrian access into and through the park
- reinforcing degraded and eroded shoreline at the water's edge
- capturing on-site stormwater to help reduce runoff from the park into the lake



• densely planting the severely degraded areas to increase wildlife habitat and curtail erosion



Plan View of preferred plan approved by the Parks and Recreation Commission in May of 2019

After the commission approved the project, the next steps in the design process were to complete a full topographic survey and to develop the conceptual plans into permissible, shovel-ready plans under local and state regulations. In addition, geotechnical borings were performed to confirm that the fishing platform can be anchored on land to avoid impacting the lakebed with concrete deck piers. Test pits were dug at the locations of rain gardens proposed to help control runoff from the street.



Plan View of refined adjustment to preferred plan June 2021

As the plan continued to evolve, minor changes needed to be made. The fishing platform was shifted north to avoid ledge and to minimize impacts to the existing trees growing on the slope behind it. The guardrail height at the fishing platform was modified to achieve universal accessibility for recreational fishing. The gaps between the deck planks were widened to increase light penetration to the shoreline below. And the materials for the water's edge were revised from river stone to stacked granite blocks. Many of these changes emerged from continued involvement by advocacy groups and other community members interested in the project.



Cross-section at proposed fishing platform



Cross-section at water access point

From an ecological perspective, the Levingston Cove project increases biodiversity in both plant and wildlife species by removing invasive plants and adding native trees, shrubs, and perennials. The project calls for seven trees from four different species, 818 shrubs, perennials and grasses spread across 28 species, and 492 aquatic plugs from six species to be planted. (For a list of the planting plan schedule see the online version of this newsletter at NewtonConservators.org/newsletters).

In the end, the plans to improve Louise Levingston Cove have received substantial support from the community. Once implemented, the restored shoreline park will be home to many visitors, including pollinators, birds, aquatic wildlife, and people. The city advertised the improvements project for a public construction bid. The contract has been awarded to the lowest, responsive, and responsible bidder, and the project is expected to be completed by the summer of 2023.



Hooded Mergansers at Crystal Lake



### Levingston Cove Planting Plan Schedule

TREES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     COA   3   CORNUS ALTERNIFOLIA   PAGODA DOGWOOD   #5   CONTAINER   NOTES     CC   2   CARPINUS CAROLINIANA   IRONWOOD   2"-2.5" CAL.   B&B     BN   1   BETULA NIGRA   RIVER BIRCH   12-14" HEIGHT   B&B   MULTI-TRUNK     QR   1   QUERCUS RUBRA   RED OAK   2"-2.5" CAL.   B&B   FALL DIG HAZAR     TOTAL   7      SHUBS AND VINES       CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CO	PLANT SCHEDULE							
CODEQTYBOTANICAL NAMECOMMON NAMESIZECONTAINERNOTESCOA3CORNUS ALTERNIFOLIAPAGODA DOGWOOD#5CONTAINERCC2CARPINUS CAROLINIANAIRONWOOD2"-2.5" CAL.B&BBN1BETULA NIGRARIVER BIRCH12-14" HEIGHTB&BMULTI-TRUNKQR1QUERCUS RUBRARED OAK2"-2.5" CAL.B&BFALL DIG HAZARTOTAL7 </td <td colspan="8">TREES</td>	TREES							
COA3CORNUS ALTERNIFOLIAPAGODA DOGWOOD#5CONTAINERCC2CARPINUS CAROLINIANAIRONWOOD2"-2.5" CAL.B&BBN1BETULA NIGRARIVER BIRCH12-14" HEIGHTB&BMULTI-TRUNKQR1QUERCUS RUBRARED OAK2"-2.5" CAL.B&BFALL DIG HAZARTOTAL7 </td <td>CODE</td> <td>QTY</td> <td>BOTANICAL NAME</td> <td>COMMON NAME</td> <td>SIZE</td> <td>CONTAINER</td> <td>NOTES</td>	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NOTES	
CC   2   CARPINUS CAROLINIANA   IRONWOOD   2"-2.5" CAL.   B&B     BN   1   BETULA NIGRA   RIVER BIRCH   12-14" HEIGHT   B&B   MULTI-TRUNK     QR   1   QUERCUS RUBRA   RED OAK   2"-2.5" CAL.   B&B   FALL DIG HAZAR     TOTAL   7      BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     CO   3   CEPHALANTHUS OCCIDENTALIS   BUACK CHOKEBERRY   #3   CONTAINER     CA   17   CLETHRA ALNIFOLIA 'HUMMINGBIRD'   SWEET PEPPERBUSH   #3   CONTAINER     IG   19   ILEX GLABRA   INKBERRY   #3   CONTAINER     IVB   28   ILEX VERTICILLATA 'NANA' RED   WINTERBERRY HOLLY   #3   CONTAINER	COA	3	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	#5	CONTAINER		
BN 1 BETULA NIGRA RIVER BIRCH 12-14" HEIGHT B&B MULTI-TRUNK   QR 1 QUERCUS RUBRA RED OAK 2"-2.5" CAL. B&B FALL DIG HAZAR   TOTAL 7         SHRUBS AND VINES          CODE QTY BOTANICAL NAME COMMON NAME SIZE CONTAINER NOTES   AM 44 ARONIA MELANOCARPA 'LOW SCAPE MOUND' BLACK CHOKEBERRY #3 CONTAINER   CO 3 CEPHALANTHUS OCCIDENTALIS BUTTON BUSH #3 CONTAINER   CA 17 CLETHRA ALNIFOLIA 'HUMMINGBIRD' SWEET PEPPERBUSH #3 CONTAINER   IG 19 ILEX GLABRA INKBERRY #3 CONTAINER   IVB 28 ILEX VERTICILLATA 'NANA' RED WINTERBERRY HOLLY #3 CONTAINER	CC	2	CARPINUS CAROLINIANA	IRONWOOD	2"-2.5" CAL.	B&B		
QR   1   QUERCUS RUBRA   RED OAK   2"-2.5" CAL.   B&B   FALL DIG HAZAR     TOTAL   7 </td <td>BN</td> <td>1</td> <td>BETULA NIGRA</td> <td>RIVER BIRCH</td> <td>12-14' HEIGHT</td> <td>B&amp;B</td> <td>MULTI-TRUNK</td>	BN	1	BETULA NIGRA	RIVER BIRCH	12-14' HEIGHT	B&B	MULTI-TRUNK	
TOTAL   7   Image: Constant of the second s	QR	1	QUERCUS RUBRA	RED OAK	2"-2.5" CAL.	B&B	FALL DIG HAZARD	
SHRUBS AND VINES     CODE   QTY   BOTANICAL NAME   COMMON NAME   SIZE   CONTAINER   NOTES     AM   44   ARONIA MELANOCARPA 'LOW SCAPE MOUND'   BLACK CHOKEBERRY   #3   CONTAINER     CO   3   CEPHALANTHUS OCCIDENTALIS   BUTTON BUSH   #3   CONTAINER     CA   17   CLETHRA ALNIFOLIA 'HUMMINGBIRD'   SWEET PEPPERBUSH   #3   CONTAINER     CR   51   CORNUS RACEMOSA 'SLAVINIF   DWARF GRAY DOGWOOD   #3   CONTAINER     IG   19   ILEX GLABRA   INKBERRY   #3   CONTAINER     IVB   28   ILEX VERTICILLATA 'NANA' RED   WINTERBERRY HOLLY   #3   CONTAINER	TOTAL	7						
CODE     QTY     BOTANICAL NAME     COMMON NAME     SIZE     CONTAINER     NOTES       AM     44     ARONIA MELANOCARPA 'LOW SCAPE MOUND'     BLACK CHOKEBERRY     #3     CONTAINER       CO     3     CEPHALANTHUS OCCIDENTALIS     BUTTON BUSH     #3     CONTAINER       CA     17     CLETHRA ALNIFOLIA 'HUMMINGBIRD'     SWEET PEPPERBUSH     #3     CONTAINER       CR     51     CORNUS RACEMOSA 'SLAVINIF     DWARF GRAY DOGWOOD     #3     CONTAINER       IG     19     ILEX GLABRA     INKBERRY     #3     CONTAINER       IVB     28     ILEX VERTICILLATA 'NANA' RED CONTAI     WINTERBERRY HOLLY     #3     CONTAINER	SHRUBS AND VINES							
AM   44   ARONIA MELANOCARPA 'LOW SCAPE MOUND'   BLACK CHOKEBERRY   #3   CONTAINER     CO   3   CEPHALANTHUS OCCIDENTALIS   BUTTON BUSH   #3   CONTAINER     CA   17   CLETHRA ALNIFOLIA 'HUMMINGBIRD'   SWEET PEPPERBUSH   #3   CONTAINER     CR   51   CORNUS RACEMOSA 'SLAVINII'   DWARF GRAY DOGWOOD   #3   CONTAINER     IG   19   ILEX GLABRA   INKBERRY   #3   CONTAINER     IVB   28   ILEX VERTICILLATA 'NANA' RED   WINTERBERRY HOLLY   #3   CONTAINER	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NOTES	
CO   3   CEPHALANTHUS OCCIDENTALIS   BUTTON BUSH   #3   CONTAINER     CA   17   CLETHRA ALNIFOLIA 'HUMMINGBIRD'   SWEET PEPPERBUSH   #3   CONTAINER     CR   51   CORNUS RACEMOSA 'SLAVINIF   DWARF GRAY DOGWOOD   #3   CONTAINER     IG   19   ILEX GLABRA   INKBERRY   #3   CONTAINER     IVB   28   ILEX VERTICILLATA 'NANA' RED CONTAINER   WINTERBERRY HOLLY   #3   CONTAINER	AM	44	ARONIA MELANOCARPA 'LOW SCAPE MOUND'	BLACK CHOKEBERRY	#3	CONTAINER		
CA     17     CLETHRA ALNIFOLIA 'HUMMINGBIRD'     SWEET PEPPERBUSH     #3     CONTAINER       CR     51     CORNUS RACEMOSA 'SLAVINII'     DWARF GRAY DOGWOOD     #3     CONTAINER       IG     19     ILEX GLABRA     INKBERRY     #3     CONTAINER       IVB     28     ILEX VERTICILLATA 'NANA' RED     WINTERBERRY HOLLY     #3     CONTAINER	co	3	CEPHALANTHUS OCCIDENTALIS	BUTTON BUSH	#3	CONTAINER		
CR     51     CORNUS RACEMOSA 'SLAVINII'     DWARF GRAY DOGWOOD     #3     CONTAINER       IG     19     ILEX GLABRA     INKBERRY     #3     CONTAINER       IVB     28     ILEX VERTICILLATA 'NANA' RED     WINTERBERRY HOLLY     #3     CONTAINER	CA	17	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	#3	CONTAINER		
IG     19     ILEX GLABRA     INKBERRY     #3     CONTAINER       IVB     28     ILEX VERTICILLATA 'NANA' RED     WINTERBERRY HOLLY     #3     CONTAINER     FEMALE CULTIVA	CR	51	CORNUS RACEMOSA 'SLAVINII'	DWARF GRAY DOGWOOD	#3	CONTAINER		
IVB 28 ILEX VERTICILLATA NANA' RED WINTERBERRY HOLLY #3 CONTAINER FEMALE CULTIVA	IG	19	ILEX GLABRA	INKBERRY	#3	CONTAINER		
	IVB	28	ILEX VERTICILLATA 'NANA' RED SPRITE	WINTERBERRY HOLLY	#3	CONTAINER	FEMALE CULTIVAR	
IVM 22 ILEX VERTICILLATA 'MR. WINTERBERRY HOLLY #3 CONTAINER MALE CULTIVAR POPPINS'	IVM	22	ILEX VERTICILLATA 'MR. POPPINS'	WINTERBERRY HOLLY	#3	CONTAINER	MALE CULTIVAR	
MG 7 MYRICA GALE SWEETGALE #3 CONTAINER	MG	7	MYRICA GALE	SWEETGALE	#3	CONTAINER		
PT 9 PARTHENOCISSUS BOSTON IVY #2 CONTAINER TRICUSPIDATA	PT	9	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	#2	CONTAINER		
RA 107 RHUS AROMATICA 'GRO-LOW AROMATIC SUMAC #3 CONTAINER	RA	107	RHUS AROMATICA 'GRO-LOW'	AROMATIC SUMAC	#3	CONTAINER		
VA 84 VACCINIUM ANGUSTIFOLIUM LOWBUSH BLUEBERRY #2 CONTAINER	VA	84	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	#2	CONTAINER		
TOTAL 301	TOTAL	391						
FERNS, GRASSES. RUSHES AND SEDGES								
CODE QTY BOTANICAL NAME COMMON NAME SIZE CONTAINER NOTES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	NOTES	
CAC 60 CAREX CRINATA FRINGED SEDGE 2" PLUG SPACE 12" O.C	CAC	60	CAREX CRINATA	FRINGED SEDGE	2"	PLUG	SPACE 12" O.C.	
CL 78 CAREX LURIDA SALLOW SEDGE 2" PLUG SPACE 12" O.C	CL	78	CAREX LURIDA	SALLOW SEDGE	2"	PLUG	SPACE 12" O.C.	
CP 46 CAREX PENSYLVANICA PENNSYLVANIA SEDGE 2" PLUG SPACE 12" 0.0	CP	46	CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	2"	PLUG	SPACE 12" O.C.	
CS 78 CAREX STRICTA TUSSOCK SEDGE 2" PLUG SPACE 12" 0.0	CS	78	CAREX STRICTA	TUSSOCK SEDGE	2"	PLUG	SPACE 12" O.C.	
DC 78 DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS 2" PLUG SPACE 12" 0.0	DC	78	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	2"	PLUG	SPACE 12" O.C.	
OS 18 ONOCLEA SENSIBILIS SENSITIVE FERN 2" PLUG SPACE 18" O.C	OS	18	ONOCLEA SENSIBILIS	SENSITIVE FERN	2"	PLUG	SPACE 18" O.C.	
PV 20 PANICUM VIRGATUM SWITCHGRASS 2" PLUG SPACE 18" O.C	PV	20	PANICUM VIRGATUM	SWITCHGRASS	2"	PLUG	SPACE 18" O.C.	
SA 49 SISYRINCHIUM ANGUSTIFOLIUM BLUE-EYED GRASS 2" PLUG SPACE 12" O.C	SA	49	SISYRINCHIUM ANGUSTIFOLIUM	BLUE-EYED GRASS	2"	PLUG	SPACE 12" O.C.	
TOTAL 427	TOTAL	427						
AQUATIC PLANTING								
CCO 55 CAREX COMOSA BEARDED SEDGE 2" PLUG SPACE 18" 0.0	CCO	55	CAREX COMOSA	BEARDED SEDGE	2"	PLUG	SPACE 18" O.C.	
CS-A 126 CAREX STRICTA TUSSOCK SEDGE 2" PLUG SPACE 12" 0.0	CS-A	126	CAREX STRICTA	TUSSOCK SEDGE	2"	PLUG	SPACE 12" O.C.	
PEV 126 PELTANDRA VIRGINICA ARROW ARUM 2" PLUG SPACE 12" 0.0	PEV	126	PELTANDRA VIRGINICA	ARROW ARUM	2"	PLUG	SPACE 12" O.C.	
PC 112 PONTEDERIA CORDATA PICKERALWEED 2" PLUG SPACE 12" 0.0	PC	112	PONTEDERIA CORDATA	PICKERALWEED	2"	PLUG	SPACE 12" O.C.	
SP 25 SCHOENOPLECTUS PUNGENS THREE-SQUARE BULLRUSH 2" PLUG SPACE 24" 0.0	SP	25	SCHOENOPLECTUS PUNGENS	THREE-SQUARE BULLRUSH	2"	PLUG	SPACE 24" O.C.	
SPA 48 SPARGANIUM AMERICANUM AMERICAN BUR-REED 2" PLUG SPACE 18" O.C	SPA	48	SPARGANIUM AMERICANUM	AMERICAN BUR-REED	2"	PLUG	SPACE 18" O.C.	
TOTAL 492	TOTAL	492						

COURTESY: WESTON & SAMPSON, INC.

