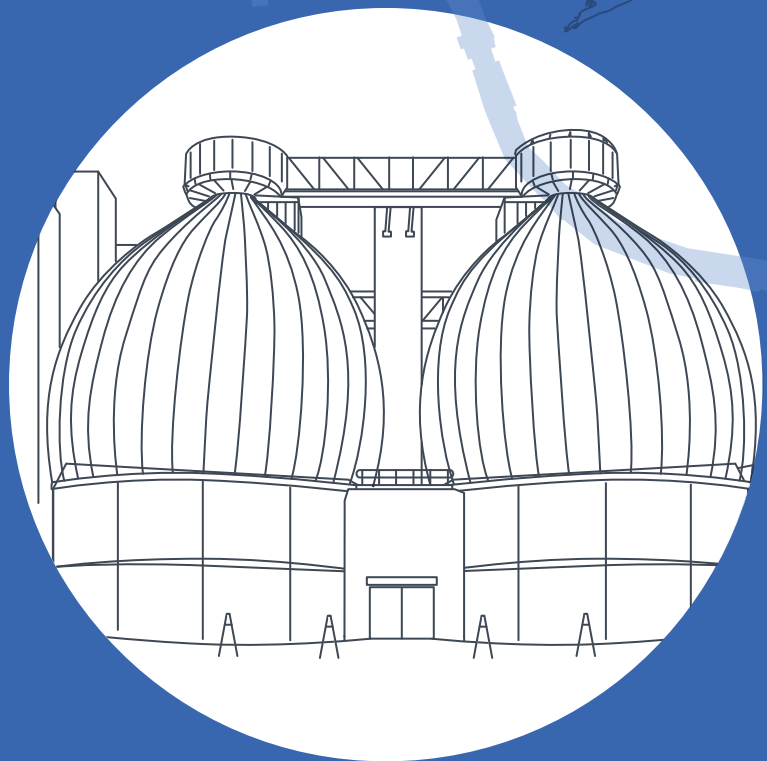


OIL TWITCHERS & BARGE SPOTTERS



Whale Creek

Newtown Creek



Floatable



A FIELD GUIDE TO WHALE CREEK

A

Algal mat

Algal bloom
Alloco Recycling
Amaco Oil (BP)
American elm
American bittern
American black duck
American coot
American crow
American eel
American hornbeam
American robin
American sycamore
Anchor QEA
Anemone
Annual bluegrass
Annual sowthistle
Arsenic
Asian shore crab
Asiatic dayflower
Atlantic menhaden
Atlantic silverside

B

BTEX (Benzene,
Toluene, Ethylbenzene
and Tylene)
Bamboo
Barn swallow
Barnacle
Basswood
Bayside Fuel
Beach-flea amphipod
Belted kingfisher
Bentgrass
Benzene
Bird vetch
Bird watcher
Bittersweet nightshade
Black cherry
Black locust
Black mayonnaise
Black medic
Black-crowned night
heron
Blue crab
Blue-gray gnatcatcher
Boaters
Bollard
Borden Avenue Bridge
Boston ivy
Bottlenose dolphin

Bouncing-bet
Box elder
Brant goose
Bristle worm
Bufflehead
Bulkhead
Bull thistle
Burning bush
Butter-and-eggs

C

CSO (Combined Sewer

Outflow)

Cabbage white
butterfly
Cadmium
Canada goose
Chinese privet
Clouded sulphur
butterfly
Clouds
Coal tar sheen
Comb jelly
Common elderberry
Common fig tree
Common loon
Common plantain
Common yellowthroat
Common blackberry
Common buckthorn
Common dandelion
Common milkweed
Common mullein
Common pear
Common ragweed
Common reed
Common tansy
Concrete
Containment boom

D

DEP (Dept. of
Environmental
Protection)
Damsel fly
Devil's beggarticks
Dewatering
Diesel fuel
Digester eggs
Dinghy
Dioxin
Discharge pipes
Dissolved oxygen

Double-crested
cormorant
Downy brome
Downy woodpecker
Dual-phase pump
system
Dye test

E

East River
Eastern cottonwood
Eastern amberwing
dragonfly
Eastern kingbird
Eastern tailed-blue
butterfly
Eastern tiger
swallowtail butterfly
Eastern towhee
Eastern white oak
Ebullition
English ivy
English plantain
EPA (Environmental
Protection Agency)
European starling
Eutrophication
Evening primrose
Exxon Mobil

F

Fall panicum
Feral cat
Fiddler crab
Fish crow
Fish kill
Fishermen
Floatable
Flounder
Flycatcher
Free product skimmers
Fuel barge

G

Gabions
Gadwall
Gasoline
Getty Oil
Glossy leaf privet
Goby

Grand Street Bridge
Grass shrimp
Grasshopper
Gray birch
Gray catbird
Great black-backed
gull
Great blue heron
Great egret
Greater scap
Green ash
Green heron
Greenpoint Ave Bridge
Greywater

H

Hackberry
Harbor Lab
Hard clam
Heat sink
Hedge bindweed
Herring gull
Honey locust
Horse-chestnut tree
Horned grebe
Horseshoe crab
Houseboat
House sparrow
Hunters Point Avenue
Bridge
Hurricane

I

IBZ (Industrial Business
Zone)
Intertidal Zone

J

Japanese knotweed
Japanese honeysuckle

K

Kerosene
Killdeer
Killifish
Kosciuszko Bridge

L

Ladybug

Lamb's quarters
Laughing gull
Lead
Little blue heron

M

Mallard
McCallister Towing
Mercury
Methane
Metro Fuels
Metropolitan Avenue
Bridge
Microalgae
Mimosa
Monarch butterfly
Monitor well
Moon jelly
Mosquito
Motiva Enterprises
Mourning dove
Mud crab
Mud snail
Mugwort
Multiflora rose
Mute swan

N

National Grid
New England
hawkweed
New York Concrete
Newtown Creek
Alliance
Newtown Creek
Wastewater Treatment
Plant
Nitrogen
North Brooklyn Boat
Club
North Henry Street
Northern flicker
Northern cardinal
Northern mockingbird
Norway rat
Nycon

O

Oil refinery
Oil separators
Oil slick

ALONG THE TRUCK ROUTES THAT INTERSECT AT PAIDGE AVENUE AND PROVOST STREET, IN THE GREENPOINT NEIGHBORHOOD OF BROOKLYN, THE NEWTOWN CREEK NATURE WALK BEGINS TO EMERGE.

The park, designed by sculptor George Trakas and opened in 2007, is part of the expansion of the **Newtown Creek Wastewater Treatment Plant**, run by New York City's **DEP**. It hugs the western end of Newtown Creek, close to the **East River**, establishes an intertidal zone for marine life, and provides extensive pedestrian access to an otherwise hidden world.

Newtown Creek is in an estuary where New York City's rivers interchange with the Atlantic Ocean, saltwater mixing with fresh. The Creek is a 3.8 mile working waterway that has been carved out and controlled by **bulkheads**. Over a century of industrial use has caused stagnation: pollutants have settled as a toxic black mayonnaise, and whenever it storms, human detritus spills from Combined Sewer Outflows (CSOs).

The health of the Creek is so poor that in 2010 the EPA declared it to be a federal **Superfund Site** and entered into agreement with the **Potentially**

Responsible Parties. Watching over this process are local organizations such as the Newtown Creek Alliance, in a community-driven effort to remediate the Creek while preserving its local importance as an **Industrial Business Zone**.

Still resilient plants and animals continue to find a place for themselves in this waterway, a relief from the **heat sink** that surrounds it.

By naming and identifying, we merge place with one form of understanding. In this guide are brief entries describing the features and ecology of 14 things you may encounter in this **postnatural landscape**. A glossary explains some of the key terms above. And the index of Newtown Creek entities throughout the guide shows the limits of identification in the face of complexity. By engaging with all of this, to whatever degree, we hope you can start to hold some of the everythingness.

SEE GLOSSARY ON PAGE 6 →

A. THE ROCK



The unofficial gateway to the Newtown Creek Nature Walk, this souvenir from Deep Time was unearthed beneath McGuinness Blvd. A "glacial erratic" rolling towards the Atlantic Ocean from the Adirondack Mountains, it was left behind by the retreating Laurentide Ice Sheet 17,000 years ago.

B. FLOATABLE



Marine trash, marine debris, or floatable debris, commonly called "floatables", are defined by the US Environmental Protection Agency (EPA), as "foreign matter [such as plastic bags or aluminum cans] that may float or remain suspended in the water column." These objects cause harm to the Newtown Creek ecology.

C. SPARTINA



Spartina alterniflora, seen at various points along Newtown Creek, was reintroduced both in an effort to restore habitats and as a tool in remediation. Its foliage reduces wakes and its presence can improve nutrient imbalances. Compare this soft boundary to the ubiquitous, impenetrable bulkheads.

D. RECYCLING BARGE



Sims Metal Management Ltd. is a multi-national corporation spanning five continents. During the day you'll see long, slender barges like theirs carrying heaps of plastic and scrap metal to and fro, utilizing creekside maritime access. A barge can travel nearly 10 times as far as a truck on one gallon of fuel.

E. MUSSELS



Ribbed Mussels have been incorporated into remediation efforts such as the Newtown Creek Alliance Living Dock, due to their ability to filter out phytoplankton and excessive debris. Along with other species like oysters and clams, they have been losing habitat, but their renewed presence on the Creek is a hopeful sign. Find them when the tide is right, occupying the triangular bays cut into the steps.

F. KILLIFISH



It may be a surprise that today you could see a fish in Newtown Creek, and tomorrow you could see it in your neighbor's aquarium. The small, carp-like killifish, who spend their whole lives in the Creek, eating insects, being eaten by Egrets, are one of the key organisms in the ecology of this waterway. And yet the EPA is not testing them for toxicity.

G. BLUE CRAB



Blue Crabs have it hard enough, paddling with their ten legs trying to avoid seagulls, but they also have humans to contend with. They are a classic staple, along with Old Bay Seasoning, in diets up and down the Eastern Seaboard. On Newtown Creek they are an indicator of risks posed to human health, as DOH and EPA advisories spell out. So do not eat them.





H. DIGESTER EGGS



Eight shiny spaceships glow against the night sky in North Brooklyn. These behemoths are the Digester Eggs, fashioned out of steel and able to process around 1.5 million gallons of sludge per day with heat, time, and "burping", converting it to reusable energy (CO₂, water, methane, and biosolids). They arrived in 2010 as part of the Wastewater Treatment Plant renovation.

I. CSO



Rainwater is taken up through storm drains into New York City's massive combined sewer system. It mixes with raw sewage, and, ideally, travels to treatment plants. But when the plants can't accept it, which happens with just an extra 1/10 of an inch of rain, it is rerouted to CSOs that discharge pathogens such as E. coli. CSOs may be submerged, but there are green "Caution!" signs to alert you of their presence.

J. SLUDGE VESSEL



Picture 1.2 billion gallons of sludge. Since 1930 the NYC DEP has operated "sludge boats", to transport approximately that amount per year of soupy organic residue from the wastewater treatment process. Now it goes to dewatering facilities to be converted into biosolids, which is preferable to the old practice, abandoned in 1992, of depositing the sludge offshore into the open ocean.

K. JAPANESE KNOTWEED



We all want to see more plant life along Newtown Creek, and flowers enliven its often dull shorelines. But the small greenish-white blooms of Japanese Knotweed that appear in late summer warn of an invasive species that can grow upright 10 to 15 feet, forming dense thickets that crowd out native plants and break through sidewalks.

L. ALGAL MAT



Tarpaper-like forms you may observe adrift on the water are actually laminated cyanobacterial algae and sediment. Their appearance may be stimulated by raw sewage outflow, which induces blooms of algae, or they may break off from the Creek bottom by oxygen bubbling. Oxygen-poor conditions due to CSOs produce more of these questionable "welcome mats."

M. BLACK MAYONNAISE



If you were to scoop up the sediment from the 15-25 foot layer lining Newtown Creek's bottom (don't!), you'd have a toxic admixture the consistency of mayonnaise. Oil, arsenic, polychlorinated biphenyls, and incinerated ash are some of the organic and inorganic pollutants that the EPA is quantifying in their Superfund assessment.

N. BIRD WATCHER



In the evenings, you may be able to spot birdwatchers (it's true!), out enjoying the Green Herons, Egrets, and Kingfishers that rely on the Creek. You may see a UPS employee at Plank Road, in Maspeth, enjoying an Osprey diving to snag a fish. You're glimpsing a mixed-use waterway.

GLOSSARY

This glossary offers a closer look at some of the key entities, mentioned in the Introduction. They have shaped, and continue to shape, the history, ecology, and geography of Newtown Creek.

Spartina
Alterniflora

NEWTOWN CREEK WASTEWATER TREATMENT PLANT

The Newtown Creek Wastewater Treatment Plant is the hub for wastewater from Lower Manhattan, Brooklyn, and Queens, where it arrives to be safely processed. First erected in 1967, this is New York's largest plant, covering 54 acres in Greenpoint. In order to comply with the Clean Water Act, the city began an expansion in 1998 that is, as of 2017, nearing completion, and includes the Newtown Creek Nature Walk and the landmark Digester Eggs.

DEP

New York City's Department of Environmental Protection was established in the 1970s. Its primary responsibility is the management of New York's water supply, including wastewater treatment. It provides more than 1.1 billion gallons (4,200,000 m³) of water each day to more than 9 million residents through a complex network of reservoirs, controlled lakes, water mains, tunnels, and aqueducts. It treats wastewater at 14 plants around the city.

EAST RIVER

The East River is, in fact, not a river, but a tidal estuary that divides Manhattan from Brooklyn and Queens on its eastern side. It connects Long Island Sound in the north to Upper New York Bay in the south, and it is Newtown Creek's link to the Atlantic Ocean. Maritime activity has diminished from its peak in the 19th Century, however it is still the thoroughfare for barges from Newtown Creek's businesses.

BULKHEAD

A bulkhead is a seawall built to prevent erosion, due to waves, along coastal and intertidal zones. Since Newtown Creek is an active waterway, with maritime traffic, these structures shape the waterfronts of industrial properties so they can be accessed by barges. They are markers of the postnatural landscape, and are known to have a negative impact on intertidal ecology.

SUPERFUND SITE

A Superfund site is a location that has received a designation from the United States' Superfund program, established in 1980, to fund the cleanup of contaminated sites. Newtown Creek, a Superfund site since 2010, has been under investigation overseen by the EPA, and will be subject to some form of remediation, based on EPA recommendations and consent from the PRPs involved with the site. Both short-term removal and long-term remedial action are usually taken as a result of the Superfund process.

PRP

A Potentially Responsible Party is an entity or organization that is deemed to have a possible financial obligation in the assessment, management, and remediation of Superfund sites, where environmental damage has occurred due, potentially, to the actions of that PRP. The main PRPs with possible obligations on Newtown Creek are five corporations: Phelps Dodge, Texaco, British Petroleum, National Grid and ExxonMobil, as well as the City of New York.

IBZ

Industrial Business Zones are areas of New York City that exist to protect manufacturing and industrial growth. The city has over 20, including the North Brooklyn IBZ, which borders Newtown Creek. Its businesses provide services that range from scrap metal recycling to small food production. Any remediation efforts or experiments in restoring pre-colonial ecology must take into account preservation of the IBZ.

HEAT SINK

A heat sink is an environment or medium that absorbs heat. The industrial corridor that borders Newtown Creek, largely devoid of plant life, architectural variation, or green infrastructure that might disperse or reflect sunlight and mechanical warmth, functions as a de facto urban heat sink, affecting all of the laborers who spend their days working in Newtown's businesses.

POST NATURAL LANDSCAPE

A postnatural landscape has been altered, shaped, and impacted by humans but retains nonhuman elements. Wild plants and animals coexist with people, domestic species, landscaping, and the built environment. George Trakas' designs at the Newtown Creek Nature Walk combine to create such a landscape: he has juxtaposed mini-habitats for resilient organisms, nostalgic gardens with native species, historical plaques and etchings, industrial views, and scientific symbolism, permeated by the aroma of seawater and sewage.

YOU + NEWTOWN CREEK: WHAT'S NEXT?

The future of Newtown Creek—the way it might be reshaped, redeveloped, restored, or remediated—is being decided right now. If you would like to participate in that future, here are some steps you can take:

1

SHARE

this pamphlet with a friend

2

LISTEN

to our audio tour, "A Field Guide to Whale Creek"

newtowncreekfieldguide.com

3

BRING

a friend to the Newtown Creek Nature Walk

Paidge Ave. & Provost St.,
Brooklyn, NY, 11222

4

JOIN

the Newtown Creek Alliance

newtowncreekalliance.org

5

ATTEND

a Citizen's Advisory Group (CAG) Meeting

newtowncreekcag.wordpress.com

6

CANOE

on the creek with North Brooklyn Boat Club

northbrooklynboatclub.org

When I walk out
of here

.....

.....

.....

.....

will stay with me.

Coming to this place,
I didn't expect to find...

.....

.....

.....



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