



City of New York
Parks & Recreation

The Arsenal
Central Park
New York, New York 10021

Adrian Benepe
Commissioner

Natural Resources Group

Arsenal North
1234 Fifth Avenue
New York, New York 10029

Bill Tai, Director
(212) 360-1425 / bill.tai@parks.nyc.gov

Natural Resources Group Forest Restoration Team Spring 2003 Summary

This spring was a productive season for the Natural Resources Group (NRG) Forest Restoration Team. For the season, the team consisted of 11 full time foresters, and 3 JTP participants. Assistance was provided by other NRG staff, and 9 volunteer and school groups. Plantings took place in 10 parks in Queens, Manhattan, Brooklyn, and the Bronx. The following is a summary of the work completed in the Spring of 2003.

- Planted 6,445 2-3' containerized trees and shrubs
- Planted 800 1-2' bareroot trees in the field
- Potted 12,820 1-2' seedlings for use in the fall
- Planted 556 6-8' B&B trees
- Planted 16,160 herbaceous plants
- Planted 70 6-foot live poles
- Hosted 15 volunteer events with 9 different volunteer and school groups
- Installed 245 linear feet of streambank bioengineering
- Planted 692 pounds of native groundcover seed

Prepared by Tim Wenskus and Paul Kortebein – June 27, 2003

Natural Resources Group Forest Restoration Team Planting Report Spring 2003

I. Tree Plantings

During the Spring 2003 planting season, the Natural Resources Group (NRG) Forest Restoration Team planted a total of **7,001** trees and shrubs, comprised of 6,445 containerized trees and shrubs, and 556 balled and burlaped trees. These plantings, containing 38 species, took place throughout 7 different parks in 4 boroughs. The majority were 2-3 foot containerized plants.

A. Containerized Plantings by Park

Inwood Hill Park – Manhattan	2,066	containerized trees and shrubs
Alley Pond Park – Queens	1,872	containerized trees and shrubs
Bronx River – Bronx	840	containerized trees and shrubs
Seton Falls Park – Bronx	664	containerized trees and shrubs
Four Sparrow Marsh – Brooklyn	395	containerized trees and shrubs
Riverdale Park – Bronx	387	containerized trees and shrubs
Fort Tryon Park – Manhattan	221	containerized trees and shrubs

TOTAL **6,445 Trees and Shrubs**

B. Containerized Plantings by Species

1,000	Northern red oak (<i>Quercus rubra</i>)
720	Tulip poplar (<i>Liriodendron tulipifera</i>)
669	Chestnut oak (<i>Quercus prinus</i>)
383	Black oak (<i>Quercus velutina</i>)
370	Hackberry (<i>Celtis occidentalis</i>)
321	Red maple (<i>Acer rubrum</i>)
302	Spicebush (<i>Lindera benzoin</i>)
300	Grey dogwood (<i>Cornus racemosa</i>)
283	Arrowwood viburnum (<i>Viburnum dentatum</i>)

273	Black birch (<i>Betula lenta</i>)
227	Elderberry (<i>Sambucus canadensis</i>)
154	Lowbush blueberry (<i>Vaccinium angustifolium</i>)
147	Silky dogwood (<i>Cornus amomum</i>)
123	American holly (<i>Ilex opaca</i>)
119	Pin oak (<i>Quercus palustris</i>)
102	Silver maple (<i>Acer saccharinum</i>)
100	Black chokeberry (<i>Aronia melanocarpa</i>)
99	Sweetgum (<i>Liquidambar styraciflua</i>)
79	Black willow (<i>Salix nigra</i>)
78	Pinkster azalea (<i>Rhododendron periclymenoides</i>)
75	Flowering dogwood (<i>Cornus florida</i>)
65	Grey birch (<i>Betula populifolia</i>)
62	Sweet pepperbush (<i>Clethra alnifolia</i>)
50	Sugar maple (<i>Acer saccharum</i>)
44	Persimmon (<i>Diospyros virginiana</i>)
41	Green ash (<i>Fraxinus americana</i>)
41	Serviceberry (<i>Amelanchier canadensis</i>)
40	Bitternut hickory (<i>Carya cordiformis</i>)
37	Black walnut (<i>Juglans nigra</i>)
36	White ash (<i>Fraxinus americana</i>)
26	Eastern hornbeam (<i>Carpinus caroliniana</i>)
25	Red-osier dogwood (<i>Cornus serotina</i>)
25	Pussy willow (<i>Salix discolor</i>)
20	Black raspberry (<i>Rubus allegheniensis</i>)
5	Chokeberry (<i>Aronia arbutifolia</i>)
2	White oak (<i>Quercus alba</i>)
1	American sycamore (<i>Platanus occidentalis</i>)
1	Black cherry (<i>Prunus serotina</i>)

TOTAL

6,445 Containerized Trees and Shrubs

C. Balled and Burlaped Plantings by Park

Inwood Hill Park – Manhattan	145 trees
Alley Pond Park – Queens	124 trees
Bronx River – Bronx	122 trees
Seton Falls Park – Bronx	118 trees
Riverdale Park – Bronx	27 trees
Fort Tryon Park – Manhattan	20 trees
TOTAL	556 Trees

D. Balled and Burlaped Plantings by Species

188	Tulip poplar (<i>Liriodendron tulipifera</i>)
115	Red maple (<i>Acer rubrum</i>)
100	Sweetgum (<i>Liquidambar styraciflua</i>)
66	American sycamore (<i>Platanus occidentalis</i>)
42	Willow oak (<i>Quercus phellos</i>)
30	Yoshino cherry (<i>Prunus X yedoensis</i>)
15	Green ash (<i>Fraxinus americana</i>)
TOTAL	556 Trees

E. Bareroot Plantings by Park

Fort Washington Park – Manhattan	400
Alley Pond Park – Queens	200
Inwood Hill Park - Manhattan	200
TOTAL	800 Bareroot Trees

F. Bareroot Plantings by Species

600	Black oak (<i>Quercus velutina</i>)
200	Serviceberry (<i>Amelanchier canadensis</i>)
TOTAL	800 Bareroot Trees

II. Groundcover Plantings

During the Spring 2003 planting season, NRG Forest Restoration staff planted a total of 16,160 herbaceous groundcover plants, representing 27 species. Groundcover root systems reduce sedimentation and non-point source pollution by stabilizing steep, eroded slopes and streambanks. Cribbing and jute or coir mats temporarily stabilize the slope and groundcover vegetation is planted through the mat. The mats and cribbing eventually biodegrade as the root systems become established. The majority of these plants were 2 ½ “ by 2 ½ “ plugs, however, 633 1-quart size plants are included in the total.

A. Groundcover Planting Totals by Park

Riverdale Park – Bronx	7,538	plants
Seton Falls Park – Bronx	4,201	plants
Inwood Hill Park – Manhattan	2,355	plants
Alley Pond Park - Queens	1,432	plants
Riverside Park – Manhattan	634	plants

TOTAL **16,160 Groundcover Plants**

B. Groundcover Planting Totals by Species

1,705	Heart leaf aster (<i>Aster cordifolia</i>)
1,624	White snakeroot (<i>Eupatorium rugosum</i>)
1,535	Blue stemmed goldenrod (<i>Solidago caesia</i>)
1,344	White wood aster (<i>Aster divaricatus</i>)
1,261	Virginia creeper (<i>Parthenocissus quinquefolia</i>)
1,236	Path rush (<i>Juncus tenuis</i>)
1,108	Pennsylvania sedge (<i>Carex pensylvanica</i>)
1,000	Soft rush (<i>Juncus effusus</i>)
875	Soft stemmed bulrush (<i>Scirpus validus</i>)
812	Fox sedge (<i>Carex vulpinoidea</i>)
500	Shallow sedge (<i>Carex lurida</i>)
500	Tussock sedge (<i>Carex stricta</i>)
462	Appalachian sedge (<i>Carex appalachica</i>)
448	Rough avens (<i>Geum canadensis</i>)
414	Flattened sedge (<i>Danthonia compressa</i>)
291	White avens (<i>Geum virginianum</i>)
192	Woodland sunflower (<i>Helianthus divaricatus</i>)
152	Broad-leaved cattail (<i>Typha latifolia</i>)
144	Wild columbine (<i>Aquilegia canadensis</i>)
110	Blueflag iris (<i>Iris versicolor</i>)
108	Virginia wild rye (<i>Elymus virginicus</i>)

100	Rue anemone (<i>Anemone canadensis</i>)
72	Foamflower (<i>Tiarella cordifolia</i>)
48	Fringed sedge (<i>Carex crinita</i>)
48	Pointed broom-sedge (<i>Carex scoparia</i>)
42	Narrow-leaved cattail (<i>Typha angustifolia</i>)
29	Awl-fruited sedge (<i>Carex stipata</i>)

TOTAL **16,160 Groundcover Plants**

III. Bioengineering

During the Spring 2003 planting season, 245 linear feet of streambank stabilization were completed. This work involves regrading portions of eroding streambanks and slopes, stabilizing them with biodegradable coconut fiber logs, wooden logs, and rock, covering surfaces prone to erosion with various geotextile mats and blankets, and planting large amounts of woody and herbaceous plant material. While the fabric and fiber products provide the immediate erosion control, it is the roots of the plant material which will provide the long term stabilization of the eroded site. The majority of this work occurred along the Bronx River.

A. Log Crib Wall

A log crib wall is an interlocking log structure used to stabilize steep banks on rivers and on slopes. These structures are commonly backfilled with live plant material, soil, and rock. The log crib wall on the Bronx River at 227th Street was completed with a further 10 cubic yards of soil, 75 pounds of seed, and 99 containerized shrubs. A smaller structure was built by hand at 211th Street with 35 linear feet of large logs, 20 tons of rock, and 439 containerized trees and shrubs. This was the Team's most labor-intensive project of the season.

B. Soundview Park

The Team assisted in the salt marsh restoration in Lafayette Street in Soundview Park. 4,080 square feet of coir mattresses and bog mats were installed at the site, containing 9,450 *Spartina alterniflora* plants.