

HIGH PARK CITIZENS' ADVISORY COMMITTEE

NATURAL ENVIRONMENT SUB-COMMITTEE

**MANAGEMENT AND ADMINISTRATIVE
PROTOCOLS AND PROCEDURES
IN HIGH PARK, TORONTO**

A Discussion Paper

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"The oak woodland communities of High Park have been valued by generations of park users. The magnificent black oak trees and their associated flora and fauna have characterized and distinguished High Park from all other City parks. With increasing public interest and environmental concern there is a growing appreciation of . . . the importance of maintaining the natural functions required to ensure its continued existence for future generations of park users. The oak woodlands are considered 'continentally significant' by virtue of their location, . . . and the size, nature and characteristics of the remnant ecological community they comprise."

"However, the natural functions which support the Oak woodlands system are impaired."

- High Park Oak Woodlands Study, 1996

A. BACKGROUND

Since 1976, at least nine studies have been completed with either High Park as the main focus or with High Park included as part of a regional study. More than half of them have had the natural areas of High Park as their main focus (see references).

These reports were not only concerned with the present states of the natural areas of the park, but in many instances offered recommendations as to future large and small scale management practices to ensure the continued survival of many of the native attributes of the park's ecosystems.

The following items highlight the historical efforts and recommendations of some of these studies:

- The Wainio study recommended removal of exotic saplings through cutting or burning in the Oak Woodlands and stated that "every effort should be made to preserve this unique habitat, since it represents the last extensive oak woodland in the Toronto region, and probably in York region." (Wainio et al, 1976)
- In 1988, the Department of Parks and Recreation's Master Planning Study listed as its primary goal (in part) ". . . quality recreational/ educational opportunities that require and/or enhance the enjoyment of the natural and historic landscapes throughout the year." It followed up with this secondary goal: ". . . the need to protect and promote the natural environment and heritage of the park", and ". . . policies will be recommended that protect, improve, and rehabilitate/restore where necessary, the natural . . . features of the park." Additionally, this study listed nine preliminary objectives that deal directly or indirectly with the need to maintain and improve the natural environment of the park (City of Toronto, 1988).
- The ANSI report by Varga in 1989 cited historical record to show that High Park was "as good a Botanical Spot as any that ever I was in" (Goldie, 1819). This study recommended the adoption by the provincial government of 180 acres of the park as an Area of Natural and Scientific Interest, and divided up the whole park into four distinct areas for the purpose of future management practices. This report included nine pages of management considerations to deal with the maintenance and improvement of the natural areas within the park.

- The Apfelbaum study was commissioned by the City of Toronto in 1992 to address specific restoration and management issues involved with the health of the Oak Woodlands. The report made several specific recommendations regarding full scale restoration efforts.
- In 1996, the city Department of Parks and Recreation completed plans for an Oak Woodlands Study (October, 1996) comprising 14 test plots where research of specific restoration methods would be carried out. These plots total 3.7 acres of Oak Woodland and represent just over 2% of the ANSI area as identified by Varga.

In the 21 years since the Wainio study was completed, further degradation of the natural areas in the park has undoubtedly occurred. In 1955, fully 75% of the park was considered to be in its natural state; today that figure could be replaced by the 45% of the park that is designated as an ANSI. Concrete examples of this loss are the apparent extirpation of the speckled alder (*Alnus rugosa*) since 1989 and the seeming disappearance of trailing arbutus (*Epigaea repens*) since 1988, not to mention the historic loss of at least 38 rare species of plants known in the park since 1866.

While we recognize the importance of large-scale efforts in restoration of the natural, native environment in High Park, and the difficulty of maintaining a natural ecosystem in the midst of a highly urban setting while competing with other interests, we feel that the record of the past 20 years shows a commitment within the Department of Parks and Recreation to preserve and improve such systems in this park. This is presently being demonstrated by the ongoing efforts at natural restoration in the critical woodland areas, including the test plot research program and the Volunteer Stewardship initiatives. In a continuation of that spirit, we feel that a consideration of management practices is needed, not just in association with restoration efforts but in a day-to-day manner dealing with both routine and exceptional operations in High Park as a whole.

To this end, we offer the guidelines and recommendations contained in this document.

B. PRINCIPLES AND GUIDELINES

As noted, much of the previous concern toward High Park has centered on the Oak Woodland or Savannah features of the park, especially those sections designated as 'critical areas'. This is understandable when one realizes that such habitats comprise less than 0.01% of the landscape in present southern Ontario and were probably never very common, owing to their southern and western affinities.

This feature has thus been the driving force fueling restoration efforts in the park and present land management practices. We support these works (Volunteer Stewardship Program, High Park Oak Woodlands Study), and the general aspect of recommendations offered in the past (Varga, 1989; Apfelbaum et al., 1993; City of Toronto, 1992).

With these past and present efforts in mind, we propose the following principles be adopted:

1. We feel that management and administrative practices by all pertinent city agencies pertaining to operations within the entire park should at least minimally support natural restoration and maintenance efforts. Such practices would act in concert with the very significant efforts of intensive restoration within those areas defined as 'critical'.
2. There should be a division of the park into four separate zones, based on the division and mapping of the 1989 MNR ANSI report (Varga, 1989); and there should be acceptance of management practices specific to these zones that will, at the least, do no further harm to the natural environment that still exists there.
3. There should be overriding procedures and protocols that are both operational and administrative in nature to define introduction and removal of material within High Park.

This set of principles forms the basis for the specific protocols developed for operations in the park and for administrative decisions and actions taken regarding introduction of outside materials into the park.

In addition to the above principles, certain guidelines have been established for general consideration with regard to management practices. These represent a policy that would generate better results in maintaining and re-establishing the native, natural areas of the

park. The guidelines are as follows:

1. Pursue active control and/or removal of invasive, inappropriate plants, both native and non-native.
2. Establish an active, on-going policy of reintroduction of appropriate native flora and fauna.
3. Restrict or prohibit activity within the park, whether public or institutional, that further degrades areas to be restored.
4. Commit to enshrining the concept of stewardship of natural assets within the park, with the aim of eventually establishing a permanent position of steward.

These guidelines are recommended to the city with the recognition that implementation is dependent on availability of resources and compatibility with existing policy and operations.

C. ZONE-SPECIFIC PROTOCOLS

The protocols designed to be site specific for park operations, both day-to-day and exceptional (e.g. design/construction of avenues, buildings, etc.) are classified according to the recommended zones devised by the MNR in their ANSI report (Varga, 1989). In this document, we will treat these zones as inclusive, in the sense that the wider zones contain the more restricted ones. This scheme can be thought of as a series of nested concentric circles.

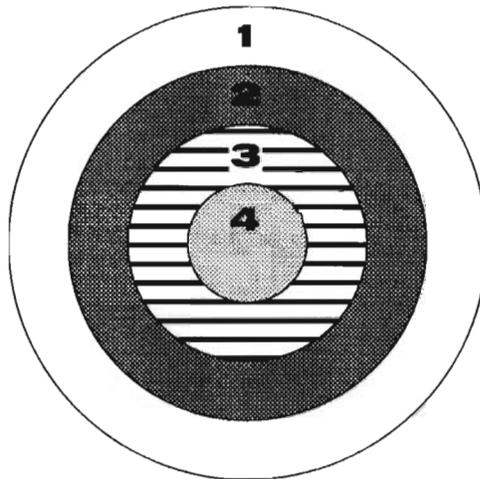


Fig. 1

The protocols and procedures specified for Zone 1 are also applicable in Zones 2, 3, and 4; the procedures for Zone 2 are also meant for Zones 3 and 4, etc. The zones are mapped in Figure 2 on page 6.

Zone 1 is designated as a developmental zone. That is, it is recognized that in this zone human activity is of a nature to require major disturbances to natural systems. Some examples of structures related to these activities are: Baseball diamonds, skating rinks, formal gardens.

Zone 2 is classified as Historical. That is, human activity has altered this zone in the past and such structures found there are to be preserved for historical purposes. The only area designated as such in High Park is the region around and including Colborne Lodge and the Howard Monument.

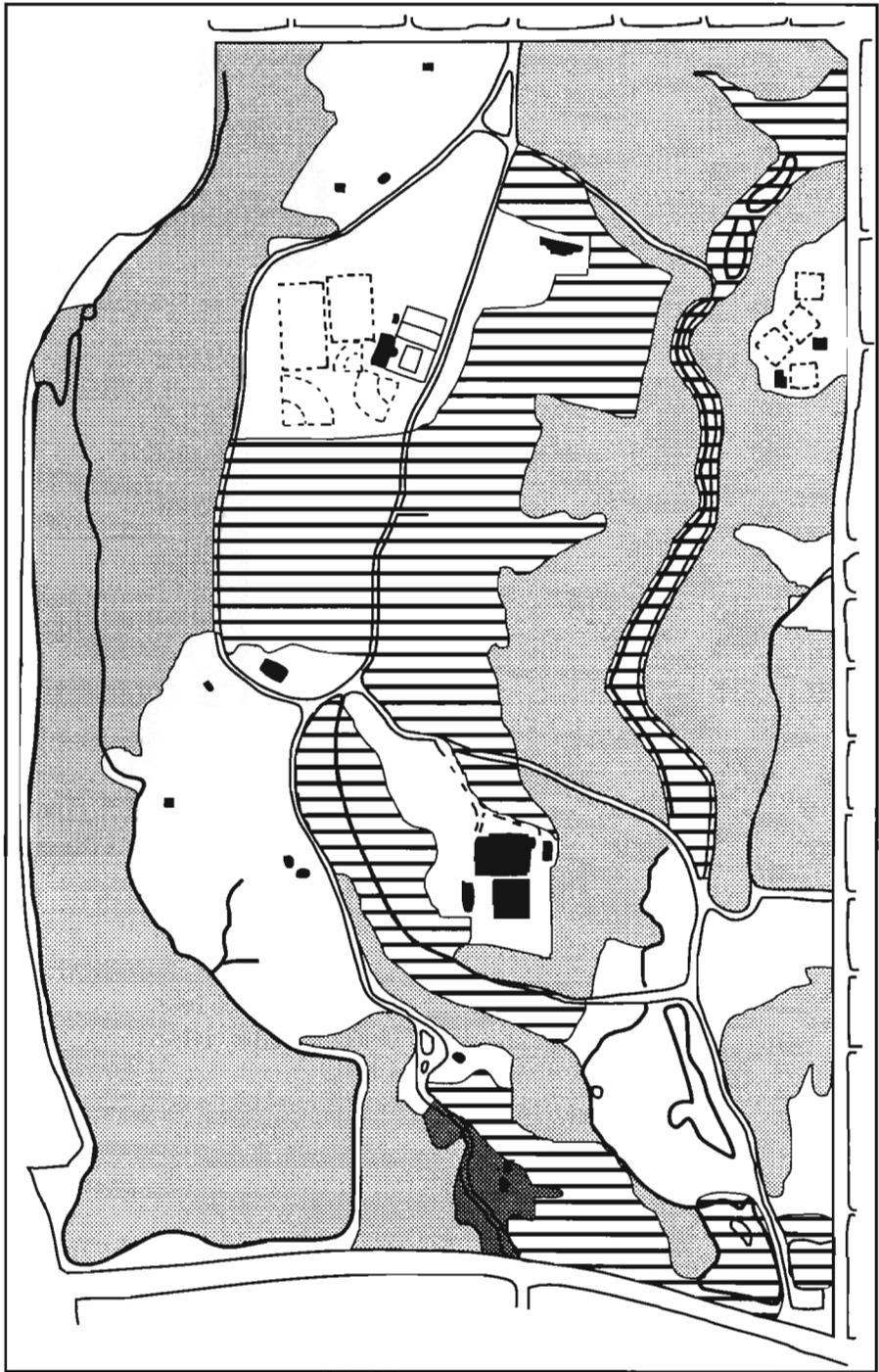
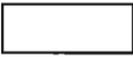
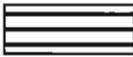
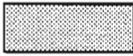


Fig. 2

High Park Management Zones

- | | | | |
|---|------------------------|--|------------------|
|  | Zone 1 (Developmental) |  | Zone 3 (Natural) |
|  | Zone 2 (Historical) |  | Zone 4 (ANSI) |

Zone 3 is designated as natural. This area is recognized as being primarily comprised of relatively undisturbed natural areas or with disturbances and/or structures that are not considered of sufficient historical importance to be preserved.

Zone 4 is the area designated as an ANSI according to the 1989 MNR report. The area within this zone is a natural-use site of sufficiently high quality to be worthy of special care and concern to preserve the unique habitat it represents.

Zone 1 (Developmental)

- No planting of any exotic plant that is known to naturalize and reproduce freely (see Appendix I).
- Control and removal of exotic plants, known to naturalize freely, as resources are available. (Care should be exercised in this regard to avoid removal of plants upon which native fauna have come to depend in the absence of their original native host plants.)
- Reintroduction of historically known native plants, when appropriate, in suitable existing or historical habitats.
- Reintroduction should follow procedures outlined in Section D for introduction of material into the park.
- Plantings of native species should follow historically known guidelines for composition and densities within habitats.
- Any construction or other project which disturbs the environment in natural areas within this and other zones should always be accompanied by appropriate native plantings and be subject to the procedures defined in Section D.

Zone 2 (Historical)

- Where projects occur, placement of paving should be beyond drip lines of native trees and

shrubs. Renovations of existing pavement should attempt to skirt drip lines of existing native trees. Research into acceptable alternatives to impervious pavement is recommended.

Zone 3 (Natural)

- Where plantings occur, only the introduction of native plants that are appropriate to immediate and adjacent natural areas will be acceptable.
- Placement of new/added substrate materials should be carefully examined to avoid introduction of: basic materials into acidic soils, inappropriate seed banks, mulch or other material that may contain exotic plant material and/or seed.
- Few, if any, projects should be carried out until a decision to restore areas in this zone is made and a full management plan is put into effect.
- Mowing should only be carried out in those areas where permanent damage to existing native species will not occur.

Zone 4 (ANSI)

- No human disturbance of existing areas that can cause significant damage to habitats should be allowed. If necessary, exclosures or other barriers should be erected to prevent access to such areas by the public or other agents (wildlife, city workers).
- Consideration should be given to removal and discontinuance of wood chips as a trail surface, where intensity of use is not a prime consideration.
- A program of active removal of aggressive, invasive species not appropriate to habitat should be carried out (see Appendix I).

D. PLANT/SEED SOURCING AND SPECIES SELECTION OF NATIVE PLANTS

Seed Sourcing

- Only seed of known locality of origin or nursery grown stock grown from such seed is to be used.
- When available, local seed from natural stands is to be used unless it can be shown that another source can give acceptable plants. 'Local seed' means seed from an area subject to similar climactic and habitat influences. Sources will be prioritized as follows:
 - High Park itself will be the first choice for seed collected for direct seeding or nursery propagation, unless a need for genetic diversity suggests otherwise.
 - Second choice for seed or seed stock will be defined as in Figure 3, a roughly semi-circular area centered on High Park and extending out 30-35 kilometres.

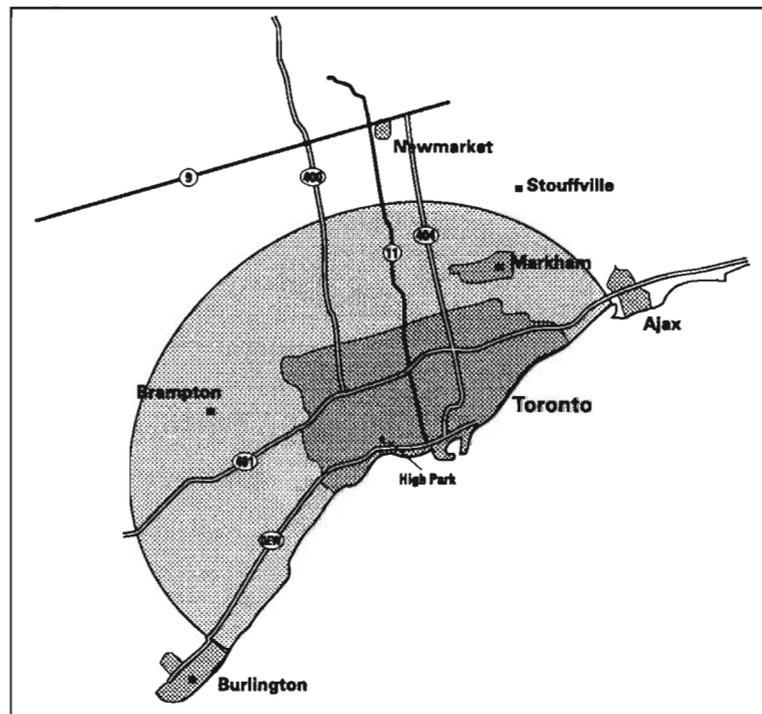


Fig. 3

- When necessary or desirable, seed shall be collected within homologous ecosystems within an area of Southern Ontario defined by Figure 4.

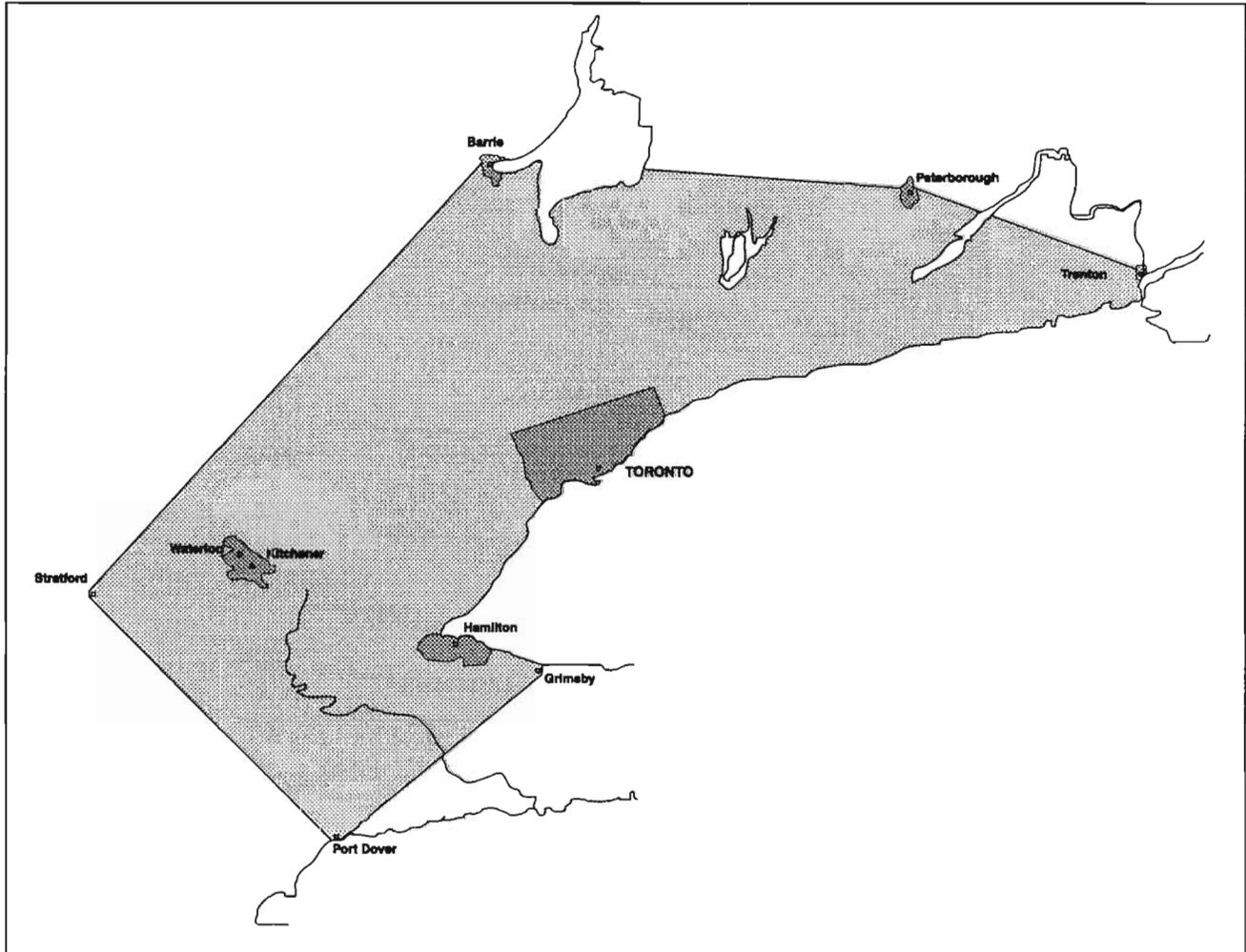


Fig. 4

- When seed is required which is unavailable from the above area, the radius of the search area may be progressively increased dependent on the need and desirability of the species in question. In all cases, the overriding principle ratio of 'desire over distance' shall be weighed and applied.

Species Selection

- Selection of plant species for use in natural area restoration efforts shall be based upon historical records catalogued in such documents as Wainio's 1976 Ecological Study,

MNR/Varga 1989 ANSI Study or other appropriate historical reports.

- In recognition that ecosystems are complex organisms sometimes resistant to complete inventory, species which are deemed to be representative of congruent habitats or found in plant communities located in ecosystems similar to those of High Park may be selected for use.
- Under no circumstances should ornamental plants be introduced into natural, native areas. Additionally, use of ornamental plants in areas adjacent to those natural areas should be discouraged to avoid the possibility of cross-pollination with related native species.

Soils and Substrate Practice

In cases where soil and/or substrate are removed from areas from areas of High Park due to construction or other reasons, every attempt should be made to retain such material and stockpile it within the park for future use. This material is uniquely suited to High Park and may contain seed genetic material and micro-organisms that are part of the High Park ecosystem and would prove useful in future restoration projects where soil or substrate is required.

E. ADMINISTRATIVE PROCEDURES

The following procedures should be accepted and followed in all city departments responsible for activities that will potentially or definitely disturb areas in Zones 2,3,or 4. These procedures also apply to officially planned restoration projects anywhere in the whole park.

- When plants are to be introduced into High Park, the priorities and guidelines specified in Section D are to be followed.
- In purchasing or sourcing plant material, High Park greenhouses should be given first consideration as supplier. This applies whether the city or any private contractor is directly responsible for purchasing.
- In cases where plant material is purchased from an outside source, the following procedures are required:
 - Evidence for the place and year of origin is required of the vendor when seeds or plants are bought.
 - An accurate record of the following data is required of all shipments: lot number; year of seed crop; species; seed origin as to Province/State, County, locality, and climate zone; and proof of origin.

The same procedure is required through any private sub-contractor.

- In planning of plantings, High Park greenhouses will be given the opportunity in every case to approve plant selection prior to ordering material. Also, a copy of of the documentation required by the previous item will, in every case, be forwarded to the plant production supervisor.

REFERENCES

- Apfelbaum, S. I., J. Larson, A. W. Haney, and D. Orsini. 1993. Analysis of Historic and Existing Ecological Conditions of Significant Oak Woodlands at High Park, Toronto, Canada. 156 pp.
- Hanna, R.. 1984. Life Science Areas of Natural and Scientific Interest in Site District 7-4. Parks and recreational Areas Section, Ontario Ministry of Natural Resources, Richmond Hill, Ontario. vii + 69 pp. + folded map, illus.
- Varga, S. 1981. Plant Communities of High Park. Toronto Field Naturalist. 338:13-19
- Varga, S. 1981. The Plant Communities of Spring Road Ravine. Toronto Field Naturalist. 339:144-162
- Wainio, A., J. Barrie, J. Rowsell, K. McIntosh. 1976. An Ecological Study of Grenadier Pond and the Surrounding Areas of High Park - Toronto. Maple: Ontario Ministry of Natural Resources. 179 pp.
- City of Toronto Department of Parks and Recreation. 1988. High Park Forest Working Plan. City of Toronto. 64 pp.
- City of Toronto Department of Parks and Recreation. 1988. High Park Master Planning Study. City of Toronto.
- City of Toronto Department of Parks and Recreation. 1992. High Park Draft Proposals for Restoration and Management. City of Toronto. 94 pp.
- City of Toronto Department of Parks and Recreation. 1996. An Implementation Plan for the Savannah Research Test Plot Program. City of Toronto. 28 pp.

APPENDIX I

LIST OF INVASIVE EXOTIC PLANT SPECIES

The following are species deemed noxious and undesirable in any area of High Park, but especially so in Zones 3 and 4. Opportunities to actively control or remove these species should be taken advantage of as they are aggressive and fully naturalized within the park.

<i>Pinus sylvestris</i>	Scots Pine
<i>Bromus inermis</i>	Smooth Brome Grass
<i>Dactylis glomerata</i>	Orchard Grass
<i>Phalaris canariensis</i>	Reed Canary Grass
<i>Convallaria majilis</i>	Lily-of-the-valley
<i>Hemerocallis fulva</i>	Orange Day-Lily
<i>Scilla siberica</i>	Squill
<i>Populus alba</i>	White Poplar
<i>Salix fragilis</i>	Crack Willow
<i>Alnus glutinosa</i>	Black Alder
<i>Berberis sp.</i>	Barberry
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Acer negundo</i> *	Manitoba Maple
<i>Acer platanoides</i>	Norway Maple
<i>Impatiens glandulifera</i>	Himalayan Balsam
<i>Prunus avium</i>	Sweet Cherry
<i>Rhamnus cathartica</i>	Common Buckthorn
<i>Rhamnus frangula</i>	Alder-buckthorn
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Lysimachia nummularia</i>	Moneywort
<i>Polygonum cuspidatum</i>	Japanese Knotweed
<i>Mellilotus alba</i>	White Sweet Clover
<i>Vincetoxicum sp.</i>	Dog-strangling Vine
<i>Myosotis scorpioides</i>	Forget-me-not
<i>Solanum dulcamara</i>	Bittersweet, Nightshade
<i>Lonicera tatarica</i>	Tartarian Honeysuckle
<i>Lonicera morrowii</i>	Honeysuckle
<i>Cirsium arvense</i>	Canada Thistle

*Example of non-native that provides fauna with a significant food source.