APPENDIX U:

KBIC Greenhouse, and Native and Invasive Plant Species Information

Control Methods

Manual/Mechanical

* Pulling/Digging
* Mowing
* Cutting
* Girdling
* Fire/burning

Chemical control training

Chemical

* Herbicides

Biological

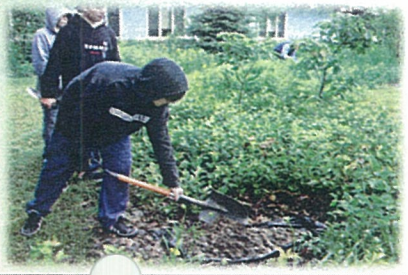
* Insects (beetles/weevils)
* Fungi

Galerucella beetle

Note: KBNRD prefers to use manual/mechanical and biological control whenever possible. Chemical control is only used when other control methods have not been successful.

What can you do to help?

* Stick to native plant species when landscaping around your property. For example, plant a sugar or red maple instead of the ornamental Norway maple to beautify your yard.
* Encourage use of native plant seed for roadsides and ditches
* Remove all invasive/non-native species from your property
* Plant native species for livestock feed
* Properly clean boats and lawn equipment before and after use



Landscap[illegible] with native plants

Cooperative W[illegible]d Management

The following agencies and organizations (in addition to KBNRD) represent a collaborative effort to combine resources and skills to help protect our natural resources from invasive species in Baraga county.

* Rip-It-Up
* U.S. Forest Service (USFS)
* Baraga Conservation District
* Michigan Department of Natural Resources (MDNR)
* Keweenaw Invasive Species Management Association (KISMA)
* Cedar Tree Institute
* Great Lakes Indian Fish and Wildlife Commission (GLIFWC)
* Midwest Invasive Plant Network (MIPN)
* Superior Watershed Partnership

KBNRD green house

Natural Resources Department
Keweenaw Bay Indian Community
14359 Pequaming Road
L'Anse, MI 49946

Phone: 90[illegible]24-5757
Fax: 906-524-5748

Invasive Plant Species: Identification and Control

Natural Resources Department
Keweenaw Bay Indian Community
14359 Pequaming Road
L'Anse, MI 49946

What is an Invasive Species?

An ***invasive species*** is a species that is not native to an ecosystem and may cause economic or environmental harm or harm to human health (USDA). Invasive species can be algae, plants, animals, invertebrates, or microbes (i.e. disease) and can be aquatic or terrestrial. There are more than 85 non-native species known in the Lake Superior basin. Non-native species are not always invasive (causing harm).

How do they get here?

* Introduced as ornamentals or food for livestock
* Improper cleaning of boats or lawn equipment
* Ballast water discharge (aquatic)
* Soil containing non-native plant seed (often used to vegetate roadsides)
* Garden "escapees"

The problem with invasive species

Invasive plants are typically more aggressive than native species and quickly outcompete native plants for space and resources. As a result an area once covered by native plants can quickly become a monoculture of invasive species.

Species of Concern

The following species of concern have been identified on the reservation. Assessment of distribution and location and/or potential control methods are being developed for these species.

Purple loosestrife

Purple Loosestrife (*Lythrum salicaria*) is a perennial that spreads rapidly in wetland ecosystems, degrading the quality of the wetland. KBIC has identified purple loosestrife in several locations on the L'Anse Indian Reservation. KBIC decided to use biological control, *Galerucella* beetles, at three areas. KBIC conducts annual monitoring and control of purple loosestrife within reservation boundaries.

Species of Concern

Spotted knapweed

Spotted Knapweed (*Centaura stoebe*) with its ability to spread in dry, sandy areas is an invasive seen in increasing numbers at Sand Point and alongside roads. Manual control at Sand Point has been done by KBIC youth crews with Superior Watershed Partnership and Ojibwa Community College volunteers. Plants are being dug up and disposed of and 2011 plans are to begin replacing with native plants and seed.

Eurasian watermilfoil (*Myriophyllum spicatum*) is a submerged aquatic plant native to Europe, Asian, and northern Africa that has been known in North American since the 1940's. It was first identified in Lake Superior in 2006. Eurasian watermilfoil grows rapidly in the spring and out competes our native plants for sunlight and space. An assessment of watermilfoil at Sand Point and manual/biological control will take place summer 2011.

Eurasian watermilfoil

Japanese barberry

Japanese Barberry (*Berberis thunbergii*) is native to Japan and was first introduced to the U.S. in the late 1800's. It is found in a variety of habitats and as an ornamental. Japanese barberry has been noted during forestry work in several areas on the reservation. Large quantities are concentrated over multiple ownership lands near the tribal walleye pond property connected to the L'Anse school property.

Several species of **exotic honeysuckle** (*Lonicera* spp.) have been introduced to the U.S. from Asia. Honeysuckle is a perennial vine that can quickly crowd out native plant species. At least one species of exotic honeysuckle has been identified on the reservation. Recommended control methods include removal of seedlings or small plants, herbicide application and burning.

Bell's honeysuckle

Species of Concern

Marsh thistle

Marsh thistle (*Cirsium palustre*) is native to Europe and is an aggressive colonizer in a variety of habitats from wet areas to agricultural fields. Plants can grow over 6ft tall and are spiny with whitish hairs. Recommended control methods include hand pulling, mowing, herbicides, and the weevil *Rhinocyllus conicus*.

Giant knotweed (*Polygonum sachalinense*) is an herbaceous perennial that can grow up to 12ft tall. It is native to Japan and was introduced as an ornamental and for erosion and forage control. This plant grows in various sites including. Dense stands quickly form and choke out native vegetation and clog small waterways. Recommended control methods are the same as those for exotic honeysuckle.

Giant knotweed

Common buckthorn

Common buckthorn (*Rhamnus cathartica*) and **glossy buckthorn** (*Rhamnus frangula*) are tall shrubs native to Eurasia. Buckthorn is found in a variety of habitats. They grow quickly and crowd out native plants. Recommended control methods include burning, girdling, and use of herbicides (or some combination of several methods).

Watch List

Common reed (*Phragmites australis*) is a perennial wetland grass native to Europe. *Phragmites* grows in dense stands, crowding out native species and causes other disturbances and hazards. Treatments include herbicide application followed by mechanical removal.

Common reed

Garlic mustard

Garlic mustard (*Alliaria petiolata*) is native to Europe and was introduced to the U.S. in the 1800's. Garlic mustard is found in upland forests, roadsides, trail edges, and disturbed areas. It prefers shady, mesic areas with alkaline soil. It may be found in other conditions).

Scientific Name	Common Name
Abies balsamea	balsam fir
Acer rubrum	red maple
Ace saccharum	sugar maple
.cer spicatum	mountain maple
Actaea sp.	baneberry
Actaea rubra	red baneberry
Agrimonia sp.	agrimony
Agrostis hyemalis	ticklegrass
Alisma plantago-aquatica	water-plantain
Alopecurus aequalis	short-awned foxtail
Anaphalis margaritacea	pearly everlasting
Anemone canadensis	Canada anemone
Anemone quinquefolia	wood anemone
Aralia nudicaulis	wild sarsaparilla
Arisaema triphyllum	jack-in-the-pulpit
Asclepias incarnata	swamp milkweed
Aster lanceolatus	eastern lined aster
Aster lateriflorus	side-flowering aster
Aster macrophyllus	big-leaved aster
Aster puniceus	swamp aster
Aster umbellatus	tall flat-top white aster
Aster sp.	aster
Asteraceae	aster family
Athyrium filix-femina	lady fern
Betula alleghaniensis	yellow birch
Betula papyrifera	paper birch
idens cernuus	nodding bur-marigold
Bidens frondosus	common beggar-ticks
Bidens sp.	beggar-ticks, tickseed
Botrychium sp.	grape-fern, moonwort
Brachyelytrum erectum	long-awned wood grass
Brasenia schreberi	water shield
Bromus ciliatus	fringed brome
Bromus sp. (maybe non-native)	brome (maybe non-native)
Calamagrostis canadensis	blue-joint grass
Calla palustris	water-arum
Callitriche palustris	water-starwort
Calopogon tuberosus	grass-pink
Caltha palustris	marsh-marigold
Campanula aparinoides	marsh bellflower
Chara sp.	stonewort (alga)
Chelone glabra	turtlehead
Chrysosplenium americanum	golden saxifrage
Cicuta bulbifera	water hemlock
Cinna latifolia	wood reedgrass
Circaea alpina	small enchanter's-nightshade
Cirsium palustre	**marsh-thistle**
rsium sp. (some may be non-native)	thistle (some may be non-native)
Cladium mariscoides	twig-rush
Clematis virginiana	virgin's bower

Scientific Name	Common Name
Clintonia borealis	bluebead-lily
Coptis trifolia	goldthread
Cornus canadensis	bunchberry
Carex arctata	sedge
Carex brunnescens	sedge
Carex canescens	sedge
Carex chordorrhiza	sedge
Carex crinita/gynandra	sedge
Carex cryptolepis	sedge
Carex diandra	sedge
Carex disperma	sedge
Carex exilis	sedge
Carex gracillima	sedge
Carex hystericina	sedge
Carex intumescens	sedge
Carex lacustris	sedge
Carex lasiocarpa	sedge
Carex leptalea	sedge
Carex leptonervia	sedge
Carex limosa	sedge
Carex livida	sedge
Carex oligosperma	sedge
Carex pauciflora	sedge
Carex paupercula	sedge
Carex pedunculata	sedge
Carex retrorsa	sedge
Carex scabrata	sedge
Carex stipata	sedge
Carex stricta	sedge
Carex trisperma	sedge
Carex utriculata	sedge
Carex sp.	sedge
Carex (sect Ovales)	sedge
Carex (sect Stellulatae)	sedge
Daucus carota	**queen-anne's lace**
Drosera intermedia	sundew
Drosera rotundifolia	round-leaved sundew
Dryopteris carthusiana	spinulose woodfern
Dryopteris cristata	crested shield fern
Dryopteris intermedia	evergreen woodfern
Dryopteris sp.	woodfern
Dulichium arundinaceum	three-way sedge
Eleocharis ovata	spike-rush
Eleocharis smallii	spike-rush
Eleocharis sp.	spike-rush
Elymus sp.	wild-rye
Epigaea repens	trailing arbutus
Epilobium leptophyllum	fen willow-herb
Epilobium sp.	willow-herb
Epipactis helleborine	**helleborine**
Equisetum arvense	common horsetail
Equisetum fluviatile	water horsetail
Equisetum palustre	marsh-horsetail

Scientific Name	Common Name
Equisetum scirpoides	dwarf scouring rush
Equisetum sylvaticum	woodland horsetail
Equisetum sp.	horsetail
riocaulon septangulare	pipewort
Eriophorum spissum	cotton-grass
Eriophorum tenellum	cotton-grass
Eriophorum virginicum	tawny cotton-grass
Eriophorum sp.	cotton-grass
Eupatorium maculatum	joe-pye weed
Eupatorium perfoliatum	common boneset
Euthamia graminifolia	grass-leaved goldenrod
Fragaria virginiana	wild strawberry
Fraxinus nigra	black ash
Fraxinus pennsylvanica	red ash, green ash
Fraxinus sp.	ash
Galium asprellum	rough bedstraw
Galium tinctorium	stiff bedstraw
Galium sp.	bedstraw
Gaultheria hispidula	creeping snowberry
Gaultheria procumbens	wintergreen
Gentiana sp.	gentian
Geum sp.	avens
Glyceria borealis	northern manna grass
Glyceria canadensis	rattlesnake grass
Glyceria grandis	reed manna grass
Glyceria striata	fowl manna grass
lyceria sp.	manna grass
Gymnocarpium dryopteris	oak fern
Hepatica americana	round-lobed hepatica
Heracleum lanatum (H. maximum)	cow-parsnip
Hieracium sp. (possibly non-native)	hawkweed (possibly non-native)
Hypericum sp.	St. John's-wort
Hystrix patula	bottlebrush grass
Impatiens capensis	spotted touch-me-not
Iris versicolor	wild blue flag
Juncus brevicaudatus	rush
Juncus canadensis	Canadian rush
Juncus effusus	soft-stemmed rush
Juncus sp.	rush
Lamiaceae	mint family
Laportea canadensis	wood nettle
Larix laricina	tamarack
Leersia oryzoides	cut grass
Lemna minor	small duckweed
Linnaea borealis	twinflower
Ludwigia palustris	water-purslane
Lycopodiella inundata ycopodium inundatum)	bog clubmoss
Lycopodium lucidulum (Huperzia lucidula)	shining clubmoss
Lycopodium obscurum	ground-pine

Scientific Name	Common Name
Lycopus americanus	common water horehound
Lycopus uniflorus	northern bugle weed
Lycopus sp.	bugle weed
Lysimachia terrestris	swamp candles
Lysimachia thyrsiflora	tufted loosestrife
Lysimachia sp.	loosestrife
Lythrum salicaria	**purple loosestrife**
Maianthemum canadense	Canada mayflower
Matteuccia struthiopteris	ostrich fern
Mentha arvensis	wild mint
Menyanthes trifoliata	buckbean
Mimulus ringens	monkey-flower
Mitchella repens	partridge berry
Mitella nuda	naked mitrewort
Myosotis sp. (possibly non-native)	forget-me-not (possibly non-native)
Nuphar variegata	yellow pond-lily
Onoclea sensibilis	sensitive fern
Orthilia secunda	one-sided pyrola
Osmunda cinnamomea	cinnamon fern
Osmunda claytoniana	interrupted fern
Osmunda regalis	royal fern
Osmunda sp.	fern
Oxalis sp.	wood-sorrel
Parthenocissus sp.	creeper
Petasites frigidus (P. palmatus)	sweet-coltsfoot
Phalaris arundinacea (some may be non-native)	reed canary grass (some may be non-native)
Phegopteris connectilis (Thelypteris phegopteris)	northern beech-fern
Pinus banksiana	jack pine
Picea glauca	white spruce
Picea mariana	black spruce
Picea sp.	spruce
Pinus resinosa	red pine
Pinus strobus	white pine
Poaceae	grass family
Poa palustris	fowl meadow grass
Pogonia ophioglossoides	rose pogonia
Polygonum amphibium	water-smartweed
Polygonum cilinode	fringed false buckwheat
Polygonum hydropiper	water-pepper
Polygonum sp.	smartweed
Pontederia cordata	pickerel weed
Populus balsamifera	balsam poplar
Populus tremuloides	trembling, quaking aspen
Potamogeton epihydrus	ribbon-leaved pondweed
Potamogeton gramineus	pondweed
Potamogeton natans	pondweed
Potentilla norvegica	rough cinquefoil
Potentilla palustris	marsh cinquefoil
Prenanthes alba	white lettuce

Scientific Name	Common Name
Prunus serotina	wild black cherry
Prunella vulgaris	**lawn prunella**
Pteridium aquilinum	bracken fern
Puccinellia pallida	puccinellia
Pyrola elliptica	large-leaved shinleaf
Pyrola sp.	pyrola
Quercus rubra	red oak
Ranunculus acris	**common buttercup**
Ranunculus sp. (possibly non-native)	buttercup (possibly non-native)
Rhynchospora alba	beak-rush
Rhynchospora capillacea	beak-rush
Rhynchospora fusca	beak-rush
Rubus pubescens	dwarf raspberry
Rumex orbiculata	great water dock
Rumex sp. (possibly non-native)	dock (possibly non-native)
Sagittaria sp.	arrowhead
Sanguinaria canadensis	bloodroot
Sarracenia purpurea	pitcher-plant
Scheuchzeria palustris	arrow-grass
Scirpus atrovirens	bulrush
Scirpus cespitosus	bulrush
Scirpus cyperinus	wool-grass
Scirpus microcarpus	bulrush
Scirpus validus	softstem bulrush
Scirpus sp.	bulrush
Scutellaria galericulata	common skullcap
Scutellaria lateriflora	mad-dog skullcap
Senecio aureus	golden ragwort
Sium suave	water-parsnip
Smilacina trifolia	false mayflower
Solanum dulcamara	**bittersweet nightshade**
Solidago canadensis	Canada goldenrod
Solidago flexicaulis	broad-leaved goldenrod
Solidago uliginosa	bog goldenrod
Solidago sp.	goldenrod
Sparganium americanum	American bur-reed
Sparganium sp.	bur-reed
Spirodela polyrhiza	great duckweed
Symplocarpus foetidus	skunk-cabbage
Tanacetum vulgare	**garden tansy**
Taraxacum officinale	**common dandelion**
Thalictrum dasycarpum	purple meadow-rue
Thelypteris palustris	marsh fern
Thuja occidentalis	northern white cedar
Tilia americana	basswood
Triadenum fraseri	marsh St. John's-wort
Trientalis borealis	starflower
Trillium cernuum	nodding trillium
Tsuga canadensis	hemlock
Typha sp. (some may be non-native)	cattail (some may be non-native)

Scientific Name	Common Name
Ulmus americana	American elm
Urtica dioica	nettle
Utricularia intermedia	flat-leaved bladderwort
Utricularia vulgaris	great bladderwort
Utricularia sp.	bladderwort
Vaccinium macrocarpon	large cranberry
Vaccinium oxycoccos	small cranberry
Vaccinium sp.	cranberry
Verbena sp.	vervain
Veronica sp. (some may be non-native)	speedwell (some may be non-native)
Viola sp.	violet
Xyris montana	yellow-eyed-grass
Zizania aquatica	wild-rice
Abies balsamea	balsam fir
Acer rubrum	red maple
Acer saccharum	sugar maple
Betula alleghaniensis	yellow birch
Betula papyrifera	paper birch
Fraxinus nigra	black ash
Fraxinus pennsylvanica	red ash, green ash
Fraxinus sp.	ash
Larix laricina	tamarack
Picea glauca	white spruce
Picea mariana	black spruce
Picea sp.	spruce
Pinus banksiana	jack pine
Pinus strobus	white pine
Populus balsamifera	balsam poplar
Populus tremuloides	trembling, quaking aspen
Prunus serotina	wild black cherry
Thuja occidentalis	northern white cedar
Tilia americana	basswood
Tsuga canadensis	hemlock
Ulmus americana	American elm
Abies balsamea	balsam fir
Acer rubrum	red maple
Acer saccharum	sugar maple
Acer spicatum	mountain maple
Alnus incana var. americana	tag alder
Amelanchier sp.	sugar plum, juneberry
Andromeda glaucophylla	bog rosemary
Aronia prunifolia	black chokeberry
Betula alleghaniensis	yellow birch
Betula papyrifera	paper birch
Chamaedaphne calyculata	leatherleaf
Cornus sericea	red osier dogwood
Corylus cornuta	beaked hazelnut
Cornus sp.	dogwood

Scientific Name	Common Name
Fraxinus nigra	black ash
Fraxinus pennsylvanica	red ash, green ash
Fraxinus sp.	ash
Ilex verticillata	winterberry, Michigan holly
Kalmia polifolia	bog laurel
Larix laricina	tamarack
Ledum groenlandicum	Labrador tea
Lonicera canadensis	American fly honeysuckle
Myrica gale	sweet gale
Nemopanthus mucronatus	mountain holly
Picea glauca	white spruce
Picea mariana	black spruce
Picea sp.	spruce
Pinus banksiana	jack pine
Pinus resinosa	red pine
Pinus strobus	white pine
Populus balsamifera	balsam poplar
Populus tremuloides	trembling, quaking aspen
Prunus serotina	wild black cherry
Prunus virginiana	chokecherry
Prunus sp.	cherry
Rhamnus alnifolia	alder-leaved buckthorn
Ribes lacustre	swamp black currant
Ribes triste	swamp red currant
Ribes sp.	currant
Rosa palustris	swamp rose
Rosa sp.	rose
Rubus idaeus	raspberry
Rubus sp.	Rubus
Salix pedicellaris	bog willow
Salix sp.	willow
Sambucus canadensis	common elderberry
Sambucus sp.	elderberry
Spiraea alba	meadowsweet
Taxus canadensis	Canada yew
Thuja occidentalis	northern white cedar
Tilia americana	basswood
Tsuga canadensis	hemlock
Ulmus americana	American elm
Vaccinium angustifolium	blueberry
Vaccinium myrtilloides	Canada blueberry
Viburnum lentago	nannyberry
Viburnum opulus var. americanum	highbush cranberry
Sphagnum spp.	peat mosses