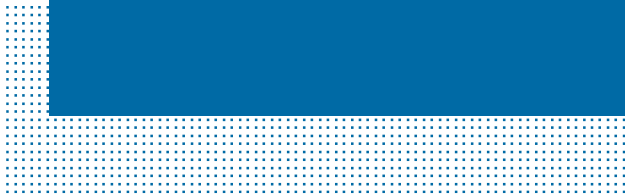
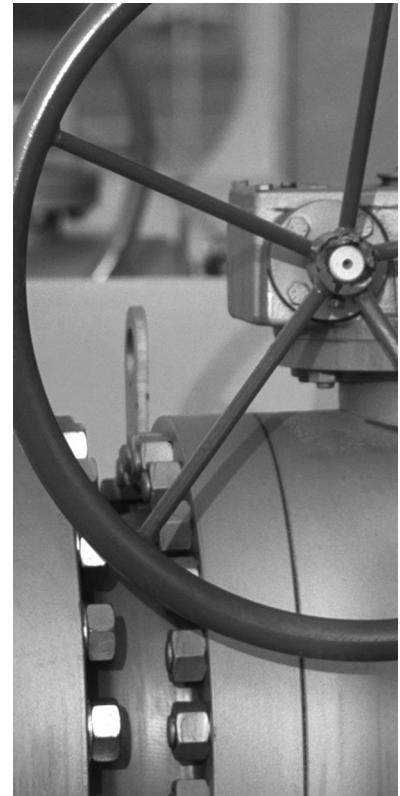


D : FLORA AND FAUNA DATA



SNC • LAVALIN



 **Bear Head**
LNG
A subsidiary company of Liquefied Natural Gas Limited

Table 1. Bird species with potential to breed in the vicinity of the project site, based on presence of suitable habitat. Source: Maritimes Breeding Bird Atlas¹.

Blue = associated with water; Green = associated with terrestrial areas.

Confirmed and Probable Breeding in Area ²			Possible Breeding in Area ²
Alder Flycatcher	Common Raven	Pileated Woodpecker	American Bittern
American Black Duck	Common Tern	Pine Grosbeak	American Kestrel
American Crow	Common Yellowthroat	Pine Siskin	Black-backed Woodpecker
American Goldfinch	Dark-eyed Junco	Purple Finch	Common Goldeneye
American Redstart	Downy Woodpecker	Red Crossbill	Double-crested Cormorant
American Robin	Eastern Phoebe	Red-breasted Nuthatch	Eastern Kingbird
American Woodcock	Eastern Wood-Pewee	Red-eyed Vireo	Eastern Towhee
Bald Eagle	European Starling	Red-winged Blackbird	Great Black-backed Gull
Barn Swallow	Evening Grosbeak	Ring-necked Duck	Great Horned Owl
Barred Owl	Fox Sparrow	Ring-necked Pheasant	Herring Gull
Bay-breasted Warbler	Golden-crowned Kinglet	Rock Pigeon	Long-eared Owl
Belted Kingfisher	Gray Catbird	Rose-breasted Grosbeak	Mallard x Am. Black Duck Hybrid
Black-and-white Warbler	Gray Jay	Ruby-crowned Kinglet	Northern Goshawk
Blackburnian Warbler	Great Blue Heron	Ruby-throated Hummingbird	Northern Mockingbird
Black-capped Chickadee	Green-winged Teal	Ruffed Grouse	Northern Saw-whet Owl
Blackpoll Warbler	Hairy Woodpecker	Savannah Sparrow	Northern Waterthrush
Black-throated Blue Warbler	Hermit Thrush	Sharp-shinned Hawk	Peregrine Falcon
Black-throated Green Warbler	House Sparrow	Song Sparrow	Red-breasted Merganser
Blue Jay	Killdeer	Spotted Sandpiper	Red-tailed Hawk
Blue-headed Vireo	Least Flycatcher	Spruce Grouse	Tennessee Warbler
Blue-winged Teal	Lincoln's Sparrow	Swainson's Thrush	Veery
Boreal Chickadee	Magnolia Warbler	Swamp Sparrow	Virginia Rail
Broad-winged Hawk	Mallard	Tree Swallow	Willet
Brown Creeper	Merlin	White-throated Sparrow	
Brown-headed Cowbird	Mourning Dove	White-winged Crossbill	
Canada Goose	Mourning Warbler	Wilson's Snipe	
Canada Warbler	Nashville Warbler	Wilson's Warbler	
Cedar Waxwing	Northern Flicker	Winter Wren	
Chestnut-sided Warbler	Northern Harrier	Wood Duck	
Chipping Sparrow	Northern Parula	Yellow Warbler	
Common Grackle	Olive-sided Flycatcher	Yellow-bellied Flycatcher	
Common Loon	Osprey	Yellow-bellied Sapsucker	
Common Merganser	Ovenbird	Yellow-rumped Warbler	
Common Nighthawk	Palm Warbler		

¹ Breeding evidence was determined from the "Maritimes Breeding Bird Atlas" website (<http://www.mba-aom.ca>). Data was obtained for the 10 X 10 km survey area that covers the project site. Bird species highlighted in blue have breeding/food requirements that involve water (e.g., river banks, coastline, marshes and bogs); birds highlighted in green have breeding habitats that require terrestrial setting (e.g., forests and grasslands).

² Observed evidence confirms breeding or that breeding is probable (highly likely) in the area; Breeding is categorized as possible in the area due to the presence of suitable habitat and the species observed during breeding season.

Species	Habitat													
	MM	IM	MS	IS	CC	BA	CS	TS	LS	TB	CB	OW	HU	FO
Nashville Warbler	1		5				1							
Magnolia Warbler	2	13	9			1								
Yellow-rumped Warbler	2	1					1							
Blackburnian Warbler	1	2												
Palm Warbler						1								
Bay-breasted Warbler		2												
Blackpoll Warbler	1		1	1										
Black-and-white Warbler			3											
American Redstart		2												
Ovenbird	1													
Mourning Warbler					1	1								
Common Yellowthroat		2	1			2	1	1		1				
Song Sparrow		2												
Lincoln's Sparrow		2												
Swamp Sparrow							1	1	1					
White-throated Sparrow	6	6	2			1	1			1				
Dark-eyed Junco	11	6	4	2			1							
Pine Grosbeak	1													
Purple Finch							1							
American Goldfinch		1	2			1								2
Total	42	51	49	5	1	1	8	3	1	2	1	22	10	16

Habitat Codes. MM = Mature Mixedwood Forest, IM = Immature Mixedwood Forest, MS = Mature Softwood Forest, IS = Immature Softwood Forest, CC = Clear-cut, BA = Barrens, CS = Coniferous Treed Swamp, TS = Tall Shrub Swamp, LS = Low Shrub Swamp, TB = Treed Bog, CB = Cobble Beach, OW = Open Water, HU = Habitat Unknown, FO = Flew Over.

Table 3: Abundance and Breeding Status of Birds Observed at the proposed LNG Terminal (JWEL, 2004a)

Common Name	Binomial	Breeding Status	Number Observed
Common Loon	<i>Gavia immer</i>	Ne	1
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	Ne	2
American Black Duck	<i>Anas rubripes</i>	Pr	2
Osprey	<i>Pandion haliaetus</i>	Ne	2
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Ne	1
Spruce Grouse	<i>Dendrogapus canadensis</i>	Po	1
Ruffed Grouse	<i>Bonasa umbellus</i>	Po	1
Spotted Sandpiper	<i>Actitis macularia</i>	Po	1
Herring Gull	<i>Larus argentatus</i>	Ne	1
Great Black-backed Gull	<i>Larus marinus</i>	Ne	2
Gull sp.	<i>Larus sp.</i>	Ne	1
Common Tern	<i>Sterna hirundo</i>	Ne	2
Belted Kingfisher	<i>Ceryle alcyon</i>	Po	2
Northern Flicker	<i>Colaptes auratus</i>	Ne	2
Olive-sided Flycatcher	<i>Contopus borealis</i>	Po	3
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	Po	4
Alder Flycatcher	<i>Empidonax alnorum</i>	Po	2
Blue Jay	<i>Cyanocitta cristata</i>	Ne	1
Gray Jay	<i>Perisoreus canadensis</i>	Po	2
American Crow	<i>Corvus brachyrhynchos</i>	Po	4
Common Raven	<i>Corvus corax</i>	Ne	1
Black-capped Chickadee	<i>Poecile atricapillus</i>	Po	1
Boreal Chickadee	<i>Poecile hudsonicus</i>	Po	1
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Po	1
Brown Creeper	<i>Certhia americana</i>	Pr	1
Winter Wren	<i>Troglodytes troglodytes</i>	Po	1
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Po	4
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Po	5
Swainson's Thrush	<i>Catharus ustulatus</i>	Po	6
Hermit Thrush	<i>Catharus guttatus</i>	Cf	9
American Robin	<i>Turdus migratorius</i>	Pr	5
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Pr	3
Blue-headed Vireo	<i>Vireo solitarius</i>	Po	5
Red-eyed Vireo	<i>Vireo olivaceus</i>	Po	1
Nashville Warbler	<i>Vermivora ruficapilla</i>	Po	7
Magnolia Warbler	<i>Dendroica magnolia</i>	Pr	25
Yellow-rumped Warbler	<i>Dendroica coronata</i>	Pr	4
Blackburnian Warbler	<i>Dendroica fusca</i>	Po	3
Palm Warbler	<i>Dendroica palmarum</i>	Pr	1
Bay-breasted Warbler	<i>Dendroica castanea</i>	Po	2
Blackpoll Warbler	<i>Dendroica striata</i>	Po	2
Black-and-white Warbler	<i>Mniotilta varia</i>	Po	3
American Redstart	<i>Setophaga ruticilla</i>	Po	2
Ovenbird	<i>Seiurus aurocapillus</i>	Po	1
Mourning Warbler	<i>Oporornis philadelphia</i>	Po	2
Common Yellowthroat	<i>Geothlypis trichas</i>	Pr	7
Song Sparrow	<i>Melospiza melodia</i>	Po	2
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	Po	1
Swamp Sparrow	<i>Melospiza georgiana</i>	Pr	3
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Pr	17
Dark-eyed Junco	<i>Junco hyemalis</i>	Cf	21
Pine Grosbeak	<i>Pinicola enucleator</i>	Po	1
Purple Finch	<i>Carpodacus purpureus</i>	Po	1
American Goldfinch	<i>Carduelis tristis</i>	Pr	4

Breeding Status Codes. Po = Possible Breeder, Pr = Probable Breeder, Cf = Confirmed Breeder, Ne = No Evidence of Breeding.
 Note: Breeding bird survey was conducted on June 23, 2003. Additional bird data collected on April 14 and July 27, 2003.

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Abies balsamea</i>	balsam fir
<i>Acer pensylvanicum</i>	striped maple
<i>Acer rubrum</i>	red maple
<i>Achillea millefolium</i>	yarrow
<i>Agrostis capillaris</i>	bent-grass
<i>Agrostis gigantea</i>	red-top
<i>Agrostis hyemalis</i>	tickle-grass
<i>Agrostis perrenans</i>	bent-grass
<i>Agrostis stolonifera</i>	creeping bent-grass
<i>Alnus incana</i>	speckled alder
<i>Alnus viridis</i>	downy alder
<i>Amelanchier arborea</i>	shadbush
<i>Amelanchier bartramiana</i>	mountain serviceberry
<i>Amelanchier sp.</i>	shadbush
<i>Anaphalis margaritacea</i>	pearly everlasting
<i>Anthoxanthum odorata</i>	sweet vernal-grass
<i>Aralia hispida</i>	bristly aralia
<i>Aronia arbutifolia</i>	red chokeberry
<i>Aronia melanocarpa</i>	black chokeberry
<i>Aronia prunifolia</i>	chokeberry
<i>Aster acuminatus</i>	wood aster
<i>Aster lanceolatus</i>	aster
<i>Aster lateriflorus</i>	calico aster
<i>Aster nemoralis</i>	bog aster
<i>Aster novi-belgii</i>	New York aster
<i>Aster radula</i>	aster
<i>Aster umbellatus</i>	tall white aster
<i>Aster X blakei</i>	aster
<i>Atriplex prostrata</i>	orach
<i>Betula allegheniensis</i>	yellow birch
<i>Betula cordifolia</i>	mountain white birch
<i>Betula populifolia</i>	wire birch
<i>Bidens frondosa</i>	beggar ticks
<i>Cakile edentula</i>	sea-rocket
<i>Calamagrostis canadensis</i>	blue-joint
<i>Calopogon tuberosus</i>	grass-pink
<i>Calystegia sepium</i>	bindweed
<i>Carex brunnescens</i>	sedge
<i>Carex canescens</i>	sedge
<i>Carex debilis</i>	sedge
<i>Carex echinata</i>	sedge
<i>Carex folliculata</i>	sedge
<i>Carex gynandra</i>	sedge
<i>Carex nigra</i>	sedge
<i>Carex paleacea</i>	sedge
<i>Carex pallescens</i>	sedge
<i>Carex pauciflora</i>	sedge
<i>Carex paupercula</i>	sedge

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Carex scoparia</i>	sedge
<i>Carex stricta</i>	sedge
<i>Carex trisperma</i>	sedge
<i>Centaurea nigra</i>	knapweed
<i>Cerastium vulgatum</i>	mouse-ear chickweed
<i>Chamaedaphne calyculata</i>	leather-leaf
<i>Chenopodium album</i>	lamb's-quarters
<i>Chrysanthemum leucanthemum</i>	ox-eye daisy
<i>Cicuta maculata</i>	water-hemlock
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium muticum</i>	swamp-thistle
<i>Clintonia borealis</i>	yellow clintonia
<i>Coptis trifolia</i>	goldthread
<i>Cornus canadensis</i>	bunchberry
<i>Crataegus sp.</i>	hawthorn
<i>Cypripedium acaule</i>	common lady's-slipper
<i>Dactylis glomerata</i>	orchard grass
<i>Danthonia spicata</i>	poverty grass
<i>Daucus carota</i>	wild carrot
<i>Dennstaedtia punctilobula</i>	hay-scented fern
<i>Deschampsia flexuosa</i>	hair-grass
<i>Dianthus armeria</i>	Deptford pink
<i>Diervilla lonicera</i>	bush honeysuckle
<i>Drosera intermedia</i>	narrow-leaved sundew
<i>Drosera rotundifolia</i>	round-leaved sundew
<i>Dryopteris carthusiana</i>	wood fern
<i>Dryopteris cristata</i>	crested shield fern
<i>Eleocharis ovata</i>	spike rush
<i>Elymus mollis</i>	American dune-grass
<i>Elymus repens</i>	couch grass
<i>Epigaea repens</i>	trailing arbutus
<i>Epilobium angustifolium</i>	fireweed
<i>Epilobium ciliatum</i>	willow-herb
<i>Epilobium palustre</i>	willow-herb
<i>Equisetum arvense</i>	field horsetail
<i>Equisetum sylvaticum</i>	wood horsetail
<i>Eriophorum polystachon</i>	cotton-grass
<i>Eriophorum sp.</i>	cotton-grass
<i>Eriophorum vaginatum</i>	hare's-tail
<i>Eriophorum virginicum</i>	cotton-grass
<i>Euphrasia officinalis</i>	common eyebright
<i>Euthamia graminifolia</i>	narrow-leaved goldenrod
<i>Festuca filiformis</i>	hair fescue
<i>Festuca rubra</i>	red fescue
<i>Fragaria virginiana</i>	wild strawberry
<i>Galium sp.</i>	bedstraw
<i>Gaultheria hispidula</i>	snowberry
<i>Gaultheria procumbens</i>	teaberry

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Gaylussacia baccata</i>	huckleberry
<i>Gaylussacia dumosa</i>	bog huckleberry
<i>Geocaulon lividum</i>	northern commandra
<i>Glyceria canadensis</i>	rattlesnake grass
<i>Hamamelis virginiana</i>	witchhazel
<i>Hieracium caespitosum</i>	hawkweed
<i>Hieracium lachenalii</i>	hawkweed
<i>Hieracium pillosella</i>	mouse-ear hawkweed
<i>Hypericum canadense</i>	St. John's-wort
<i>Ilex verticillata</i>	black alder
<i>Impatiens capensis</i>	spotted touch-me-not
<i>Iris versicolor</i>	blue-flag
<i>Juncus brevicaudatus</i>	rush
<i>Juncus canadensis</i>	rush
<i>Juncus effusus</i>	soft rush
<i>Juncus gerardii</i>	rush
<i>Juncus pelocarpus</i>	rush
<i>Juncus sp.</i>	rush
<i>Juncus tenuis</i>	rush
<i>Juniperus communis</i>	common juniper
<i>Kalmia angustifolia</i>	lambkill
<i>Kalmia polifolia</i>	bog lambkill
<i>Larix laricina</i>	tamarack
<i>Lathyrus maritima</i>	beach pea
<i>Ledum groenlandicum</i>	Labrador tea
<i>Leontodon autumnalis</i>	fall dandelion
<i>Linnaea borealis</i>	twin-flower
<i>Listera australis</i>	southern twayblade
<i>Lonicera caerulea</i>	mountain fly-honeysuckle
<i>Lotus corniculatus</i>	bird's-foot trefoil
<i>Luzula acuminata</i>	woodrush
<i>Luzula multiflora</i>	common woodrush
<i>Lycopodiella inundata</i>	bog club-moss
<i>Lycopodium annotinum</i>	bristly club-moss
<i>Lycopodium clavatum</i>	club-moss
<i>Lycopodium obscurum</i>	ground-pine
<i>Lycopus uniflorus</i>	bugle-weed
<i>Lysimachia ciliolata</i>	fringed loosestrife
<i>Lysimachia terrestris</i>	yellow candle
<i>Maianthemum canadense</i>	wild lily-of-the-valley
<i>Matricaria matricarioides</i>	pineapple-weed
<i>Medicago lupulina</i>	black medick
<i>Melampyrum lineare</i>	cow wheat
<i>Mellilotus alba</i>	white sweet-clover
<i>Mitchella repens</i>	partridge berry
<i>Monotropa uniflora</i>	Indian pipe
<i>Myosotis laxa</i>	small forget-me-not
<i>Myrica gale</i>	sweet gale

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Myrica pensylvanica</i>	bayberry
<i>Nemopanthus mucronata</i>	false holly
<i>Odontites serotina</i>	red bartsia
<i>Onoclea sensibilis</i>	sensitive fern
<i>Osmunda cinnamomea</i>	cinnamon fern
<i>Osmunda claytoniana</i>	interrupted fern
<i>Osmunda regalis</i>	royal fern
<i>Panicum lanuginosum</i>	panic grass
<i>Panicum villosissium</i>	panic-grass
<i>Phegopteris connectilis</i>	northern beech fern
<i>Phleum pratense</i>	Timothy
<i>Picea glauca</i>	white spruce
<i>Picea mariana</i>	black spruce
<i>Pinus strobus</i>	white pine
<i>Plantago major</i>	broad-leaved plantain
<i>Platanthera blephariglottis</i>	white-fringed orchid
<i>Platanthera clavellata</i>	northern club-spur
<i>Platanthera lacera</i>	ragged-fringed orchid
<i>Platanthera psychodes</i>	purple-fringed orchid
<i>Poa compressa</i>	Canada bluegrass
<i>Pogonia ophioglossoides</i>	rose pogonia
<i>Populus tremuloides</i>	trembling aspen
<i>Potentilla anserina</i>	silverweed
<i>Potentilla simplex</i>	cinquefoil
<i>Prunella vulgaris</i>	heal-all
<i>Prunus pensylvanica</i>	pin-cherry
<i>Prunus virginiana</i>	choke-cherry
<i>Pteridium aquilinum</i>	bracken fern
<i>Pyrola secunda</i>	one-sided wintergreen
<i>Pyrus malus</i>	apple
<i>Ranunculus acris</i>	tall buttercup
<i>Ranunculus repens</i>	creeping buttercup
<i>Rhododendron canadense</i>	rhodora
<i>Rhynchospora alba</i>	beak rush
<i>Ribes hirtellum</i>	gooseberry
<i>Rosa carolina</i>	rose
<i>Rosa nitida</i>	swamp-rose
<i>Rosa virginiana</i>	common wild rose
<i>Rubus allegheniensis</i>	blackberry
<i>Rubus canadensis</i>	blackberry
<i>Rubus hispidus</i>	trailing blackberry
<i>Rubus idaeus</i>	wild raspberry
<i>Rubus pubescens</i>	dewberry
<i>Rubus setosus</i>	blackberry
<i>Rumex acetosella</i>	sheep-sorrel
<i>Rumex crispus</i>	curled dock
<i>Rumex orbiculatus</i>	water-dock
<i>Rumex pallidus</i>	seabeach-dock

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Salix sp.</i>	willow
<i>Scirpus atrovirens</i>	bulrush
<i>Scirpus caespitosus</i>	deerglass
<i>Scirpus cyperinus</i>	bulrush
<i>Scirpus sp.</i>	bulrush
<i>Scutellaria galericulata</i>	skullcap
<i>Senecio jacobaea</i>	stinking Willy
<i>Sisyrinchium montanum</i>	blue-eyed grass
<i>Sium suave</i>	water-parsnip
<i>Smilacina trifolia</i>	three-leaved false Solomon's seal
<i>Solanum dulcamara</i>	bittersweet
<i>Solidago bicolor</i>	white goldenrod
<i>Solidago canadensis</i>	Canada goldenrod
<i>Solidago juncea</i>	early goldenrod
<i>Solidago puberula</i>	rough goldenrod
<i>Solidago rugosa</i>	rough goldenrod
<i>Solidago sempervirens</i>	seaside goldenrod
<i>Solidago uliginosa</i>	bog goldenrod
<i>Sonchus arvensis</i>	perennial sow-thistle
<i>Sorbus aucuparia</i>	European mountain ash
<i>Sorbus americana</i>	mountain ash
<i>Sorbus decora</i>	dogberry
<i>Sparganium americanum</i>	bur-reed
<i>Sparganium angustifolium</i>	bur-reed
<i>Sparganium sp.</i>	bur-reed
<i>Spiraea alba</i>	meadowsweet
<i>Spiranthes lacera</i>	northern slender ladies's-tresses
<i>Stellaria graminea</i>	grass-leaved stitchwort
<i>Taraxacum officinale</i>	dandelion
<i>Thelypteris noveboracensis</i>	New York fern
<i>Thelypteris palustris</i>	marsh fern
<i>Thelypteris simulata</i>	bog fern
<i>Triadenum fraseri</i>	marsh St. John's-wort
<i>Trientalis borealis</i>	star flower
<i>Trifolium aureum</i>	clover
<i>Trifolium hybridum</i>	alsike clover
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	creeping white clover
<i>Triglochin maritima</i>	arrow-grass
<i>Trillium undulatum</i>	painted trillium
<i>Tsuga canadensis</i>	eastern hemlock
<i>Tussilago farfara</i>	coltsfoot
<i>Typha latifolia</i>	broad-leaved cat-tail
<i>Vaccinium angustifolium</i>	late lowbush blueberry
<i>Vaccinium macrocarpon</i>	large cranberry
<i>Vaccinium myrtilloides</i>	Canada blueberry
<i>Vaccinium oxycoccos</i>	small cranberry
<i>Vaccinium vitis-idaea</i>	foxberry

Table 4: Vascular Plant Species Found in the Bear Head Study Area (JWEL, 2004a)

Binomial	Common Name
<i>Veronica officinalis</i>	common speedwell
<i>Viburnum nudum</i>	witherod
<i>Vicia cracca</i>	tufted vetch
<i>Viola cucullata</i>	blue violet
<i>Viola lanceolata</i>	lance-leaved violet
<i>Viola macloskeyi</i>	small white violet
<i>Viola sororia</i>	violet