A DECI's Guide to Native Vegetation

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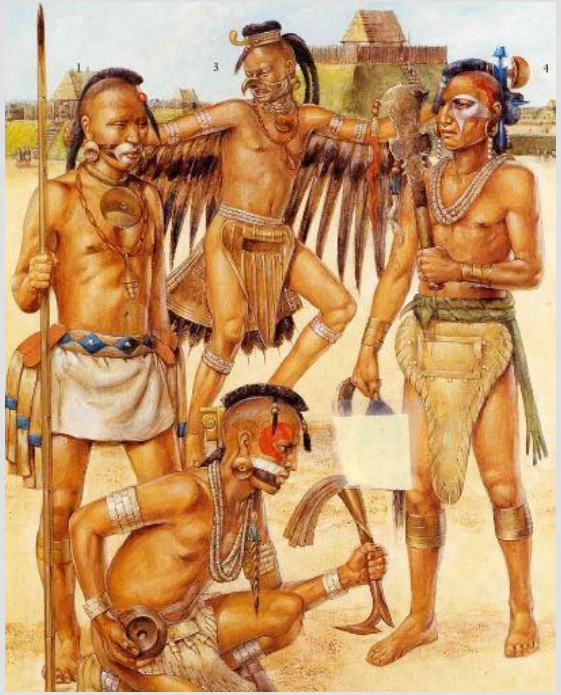
SMC DECI Workshop

February 26, 2020

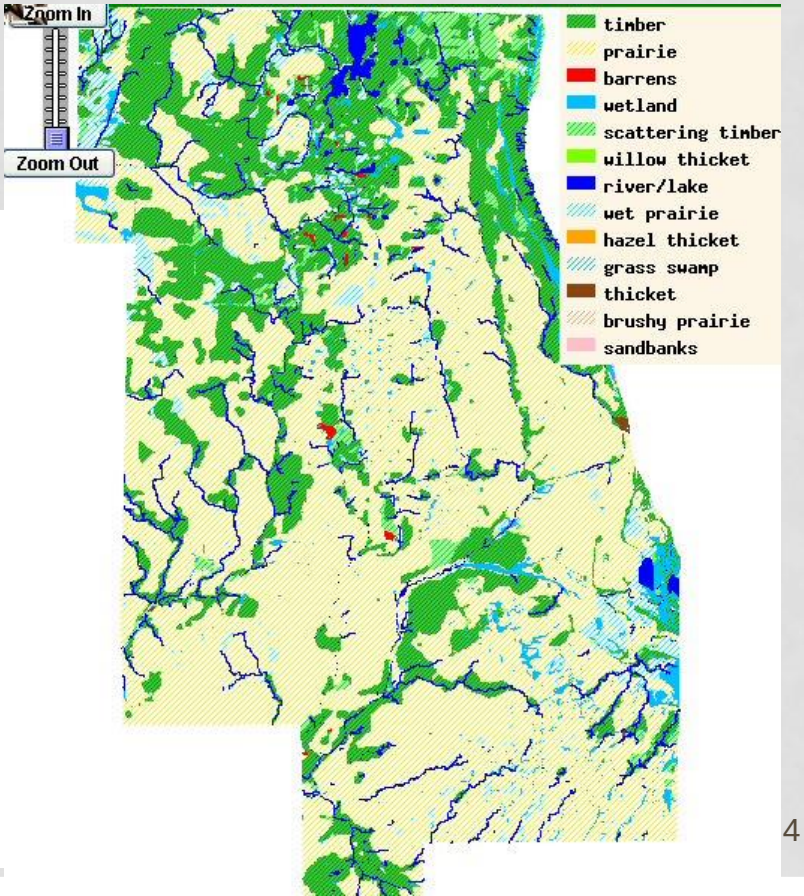
NATIVE PLANT ESTABLISHMENT AND THE MEANING OF LIFE

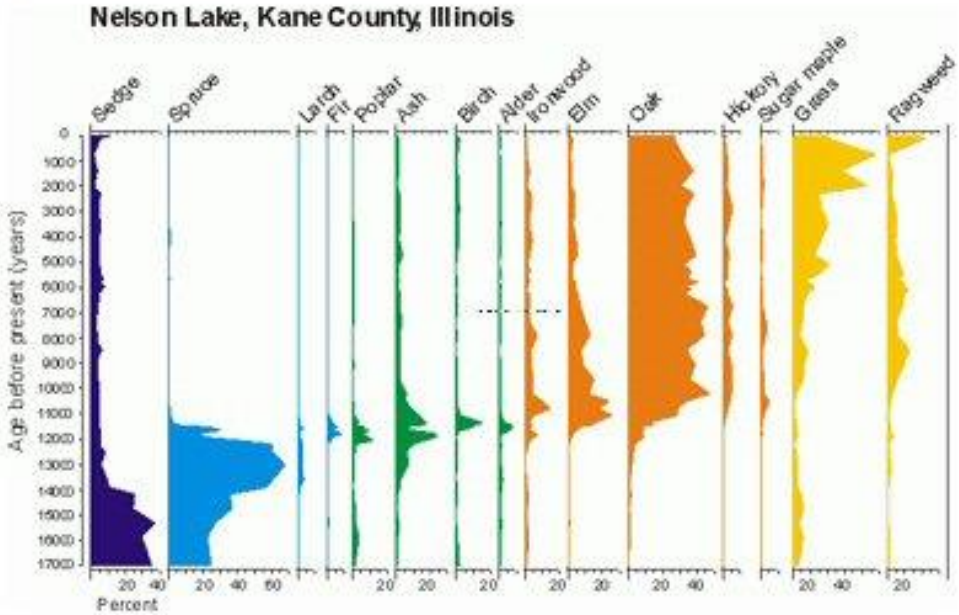
DIFFERENT AREAS EVOLVED DIFFERENT CHARACTERISTICS



FOR EXAMPLE, NATIVE WARRIORS IN THE 1500'S: EUROPE V. NORTH AMERICA

LOCAL HISTORY OF PLANTS

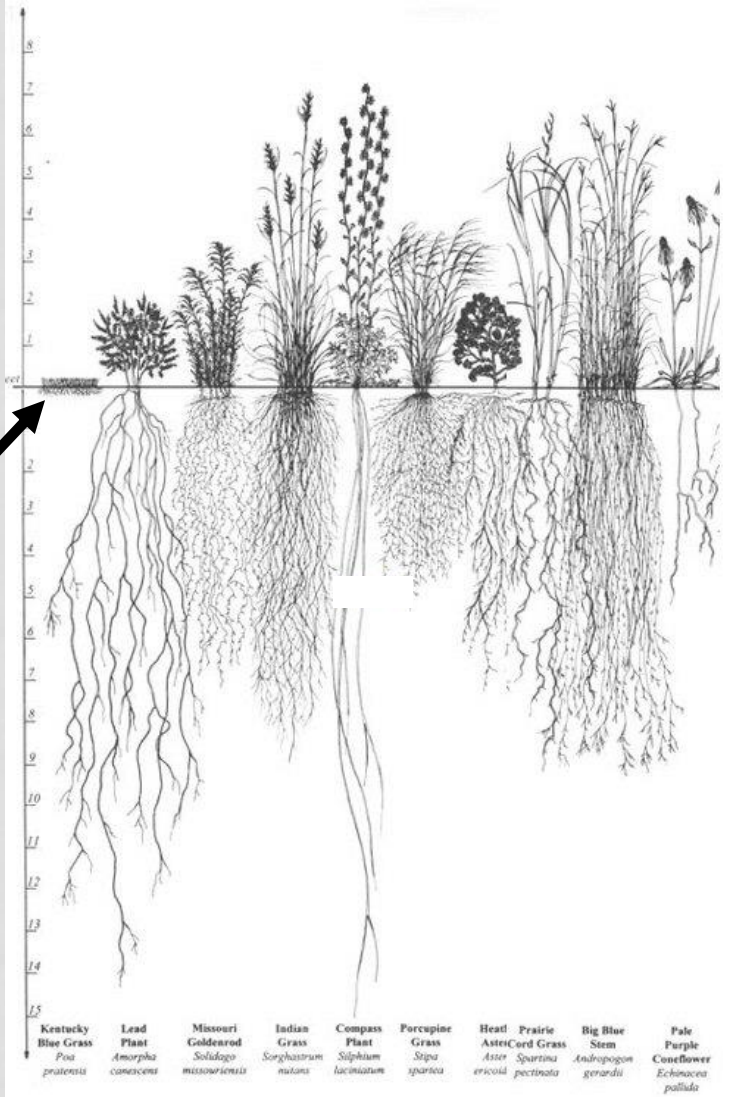




PLANT SELECTIONS - WHY NATIVE

EVOLVED IN NORTH AMERICA

EVOLVED IN EUROPE/ASIA



Root Systems of Prairie Plants

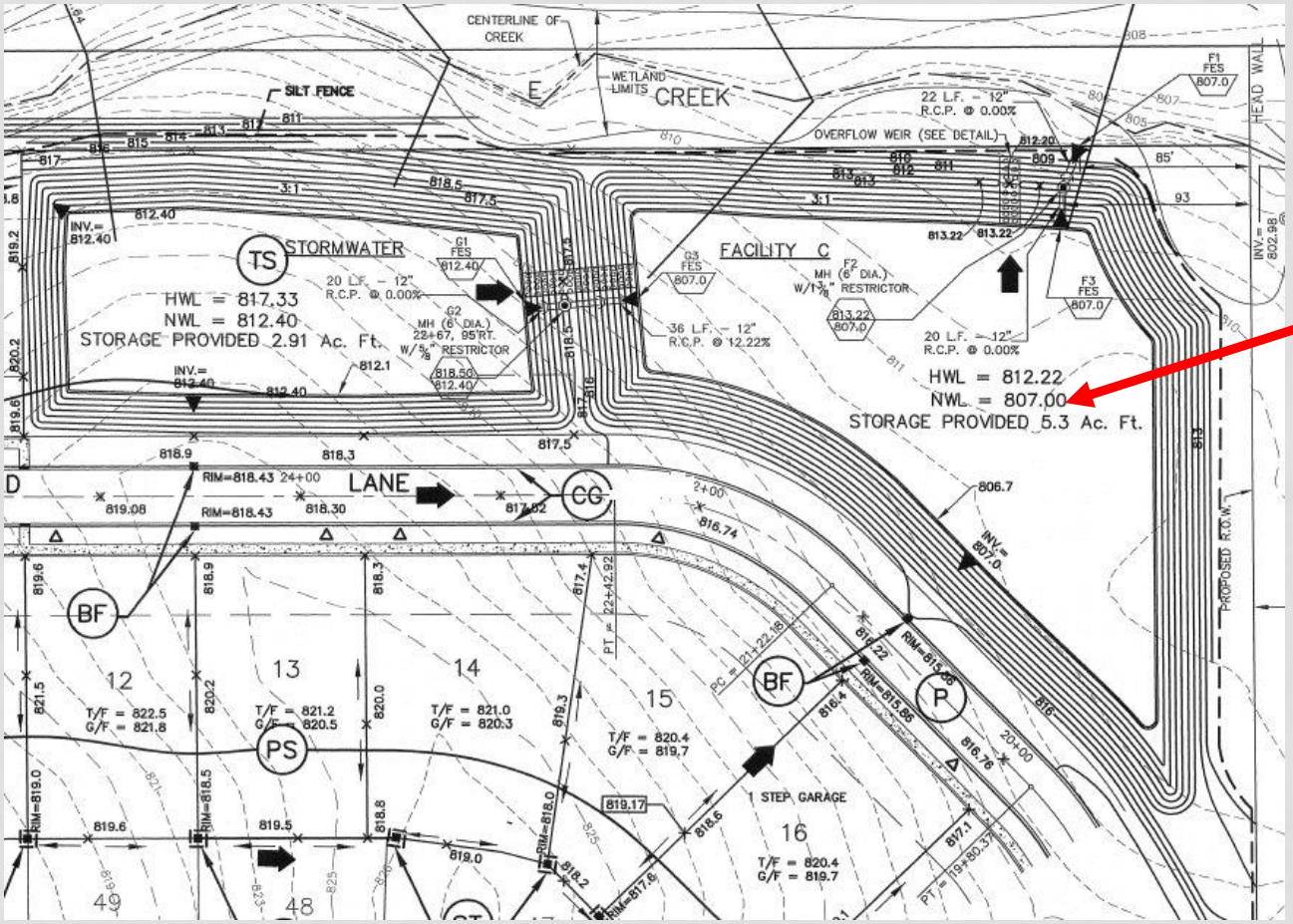
RESULTS OF NON-NATIVE V. NATIVE EVOLVED PLANTS IN OUR LOCAL DETENTION BASINS

Non-native Kentucky blue grass

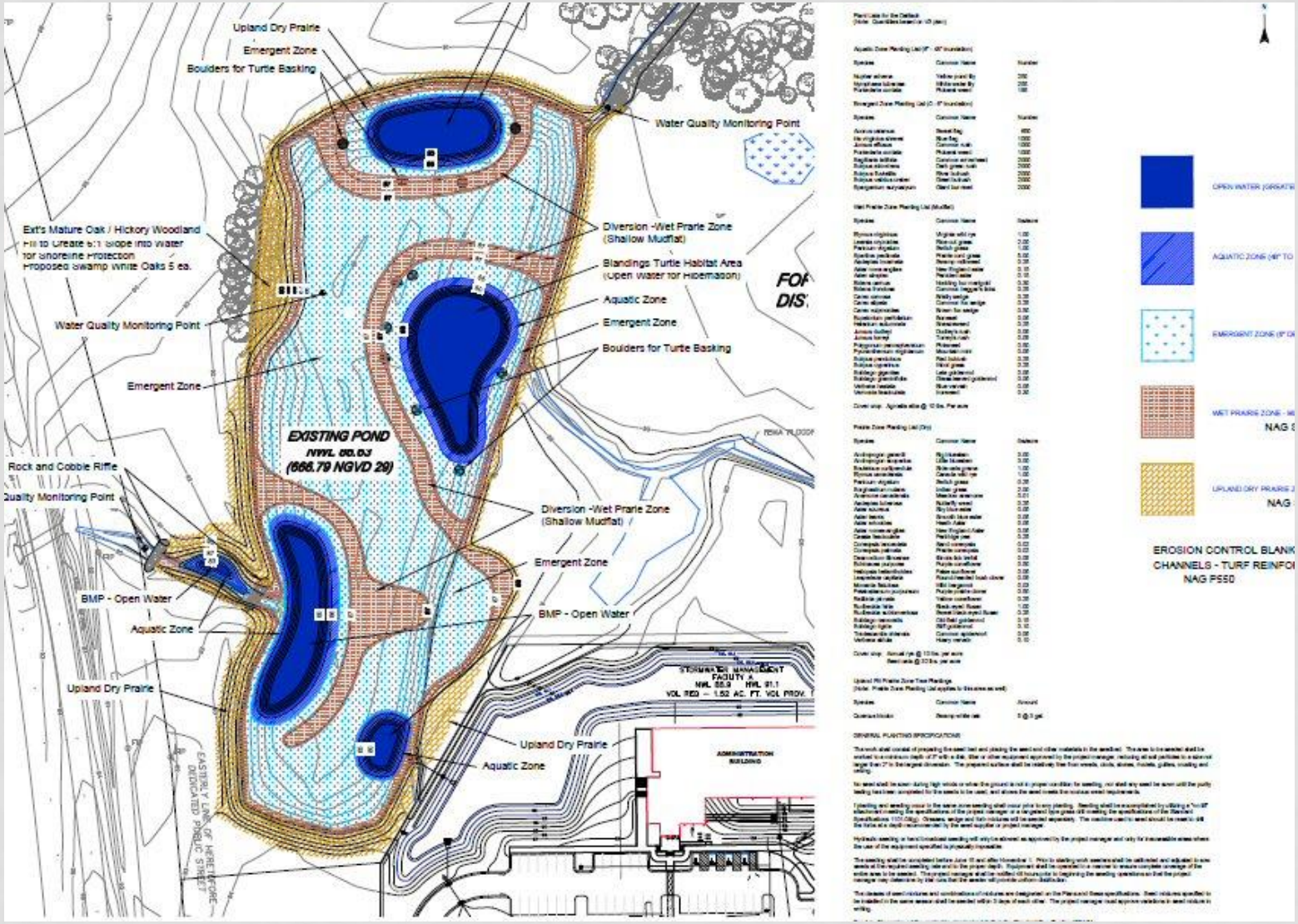
Native Vegetation

DECI SITE
FAILED NATURAL PLANTING AREA

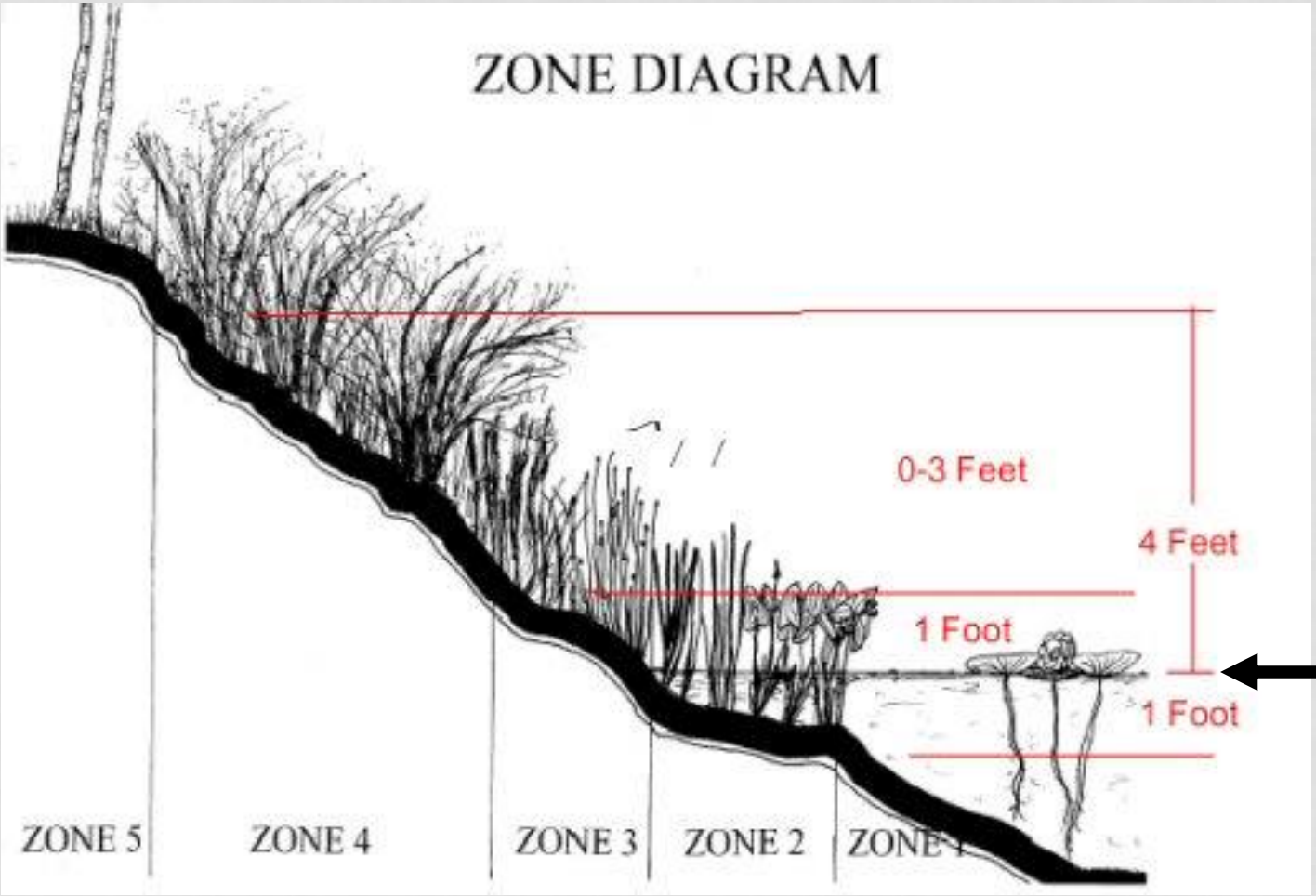
EVERY BASIN IS DIFFERENT



IMORTANT TO KNOW AS IT RELATES TO SPECIES INUNDATION TOLERANCES


Upland Dry Prairie
Emergent Zone
Boulders for Turtle Basking
Water Quality Monitoring Point
Ext's Mature Oak / Hickory Woodland
Fill to Create 6:1 Slope into Water
for Shoreline Protection
Proposed Swamp White Oaks 5 ea.
Diversion -Wet Prarie Zone
(Shallow Mudflat)
Blandings Turtle Habitat Area
(Open Water for Hibernation)
Aquatic Zone
Emergent Zone
Boulders for Turtle Basking
Water Quality Monitoring Point
Emergent Zone
EXISTING POND
NWL 88.63
(666.79 NGVD 29)
Rock and Cobble Riffle
Quality Monitoring Point
Diversion -Wet Prarie Zone
(Shallow Mudflat)
Emergent Zone
BMP - Open Water
BMP - Open Water
Aquatic Zone
Upland Dry Prairie
Upland Dry Prairie
Aquatic Zone
STORMWATER MANAGEMENT
FACILITY A
NWL 88.9 HWL 91.1
VOL REQ — 1.52 AC. FT. VOL PROV.
ADMINISTRATION
BUILDING
EASTERLY LINE OF HERETOFORE
DEDICATED PUBLIC STREET
OPEN WATER (GREATE
AQUATIC ZONE (48" TO
EMERGENT ZONE (8" O
WET PRAIRIE ZONE - W
NAG S
UPLAND DRY PRAIRIE Z
NAG
EROSION CONTROL BLANK
CHANNELS - TURF REINFO
NAG P550
GENERAL PLANTING SPECIFICATIONS

DIFFERENT PLANTING ZONES



Normal Water Level

Upland Prairie Zone

Mesic Prairie Zone

Emergent Zone

Aquatic Zone

Knowing inundation tolerance is important as it relates to NWL, etc.

Aquatic Zone Planting List (6” – 48” inundation)

Species	Common Name	Number
Nuphar advena	Yellow pond lily	250
Nymphaea tuberosa	White water lily	255
Pontederia cordata	Pickerel weed	185

Emergent Zone Planting List (0 – 6” inundation)

Species	Common Name	Number
Acorus calamus	Sweet flag	650
Iris virginica shrevei	Blue flag	1000
Juncus effusus	Common rush	1000
Pontederia cordata	Pickerel weed	1000
Sagittaria latifolia	Common arrowhead	2000
Scirpus atrovirens	Dark green rush	2000
Scirpus fluviatilis	River bulrush	2000
Scirpus validus creber	Great bulrush	2000
Sparganium eurycarpum	Giant bur-reed	2000

Wet Prairie Zone Planting List (Mudflat)

Species	Common Name	lbs/acre
Elymus virginicus	Virginia wild rye	1.00
Leersia oryzoides	Rice cut grass	2.00
Panicum virgatum	Switch grass	1.00
Spartina pectinata	Prairie cord grass	5.00
Asclepias incarnata	Swamp milkweed	0.25
Aster nova-angliae	New England aster	0.15
Aster simplex	Panicled aster	0.15
Bidens cernua	Nodding bur marigold	0.30
Bidens frondosa	Common beggar's ticks	0.25
Carex comosa	Bristly sedge	0.25
Carex stipata	Common fox sedge	0.25
Carex vulpinoidea	Brown fox sedge	0.50
Eupatorium perfoliatum	Boneset	0.05
Helenium autumnale	Sneezeweed	0.25
Juncus dudleyi	Dudley's rush	0.05
Juncus torreyi	Torrey's rush	0.05
Polygonum pennsylvanicum	Pinkweed	0.50
Pycnanthemum virginianum	Mountain mint	0.05
Scirpus pendulous	Red bulrush	0.25
Scirpus cyperinus	Wool grass	0.25
Solidago gigantea	Late goldenrod	0.05
Solidago graminifolia	Grass-leaved goldenrod	0.05
Verbena hastata	Blue vervain	0.05
Vernonia fasciculata	Ironweed	0.30

Cover crop: Agrostis alba @ 10 lbs. Per acre

Prairie Zone Planting List (Dry)

Species	Common Name	lbs/acre
Andropogon gerardii	Big bluestem	3.00
Andropogon scoparius	Little bluestem	3.00
Bouteloua curtipendula	Side-oats grama	1.00
Elymus canadensis	Canada wild rye	1.00
Panicum virgatum	Switch grass	0.25
Sorghastrum nutans	Indian grass	2.00
Anemone canadensis	Meadow anemone	0.01
Asclepias tuberosa	Butterfly weed	0.25
Aster azureus	Sky blue aster	0.05
Aster leavis	Smooth blue aster	0.05
Aster ericoides	Heath Aster	0.05
Aster novae-angliae	New England Aster	0.05
Cassia fasciculate	Partridge pea	0.25
Coreopsis lanceolata	Sand coreopsis	0.02
Coreopsis palmata	Prairie coreopsis	0.02
Desmodium illinoense	Illinois tick trefoil	0.05
Echinacea purpurea	Purple coneflower	0.50
Heliopsis helianthoides	False sunflower	0.05
Lespedeza capitata	Round-headed bush clover	0.05
Monarda fistulosa	Wild bergamot	0.03
Petalostemum purpureum	Purple prairie clover	0.50
Ratibida pinnata	Yellow coneflower	0.25
Rudbeckia hirta	Black-eyed Susan	1.00
Rudbeckia subtomentosa	Sweet black-eyed Susan	0.25
Solidago nemoralis	Old-field goldenrod	0.15
Solidago rigida	Stiff goldenrod	0.10
Tradescantia ohiensis	Common spiderwort	0.05
Verbena stricta	Hoary vervain	0.10

Cover crop: Annual rye @ 10 lbs. per acre
Seed oats @ 32 lbs. per acre

TYPICAL PHOTO OF COVER CROP COMING IN UPLAND OR MESIC AREA

COMMON UPLAND COVER CROPS

SHORT LIVED ANNUALS

ANNUAL RYE GRASS
OR

ITALIAN RYE GRASS

OATS

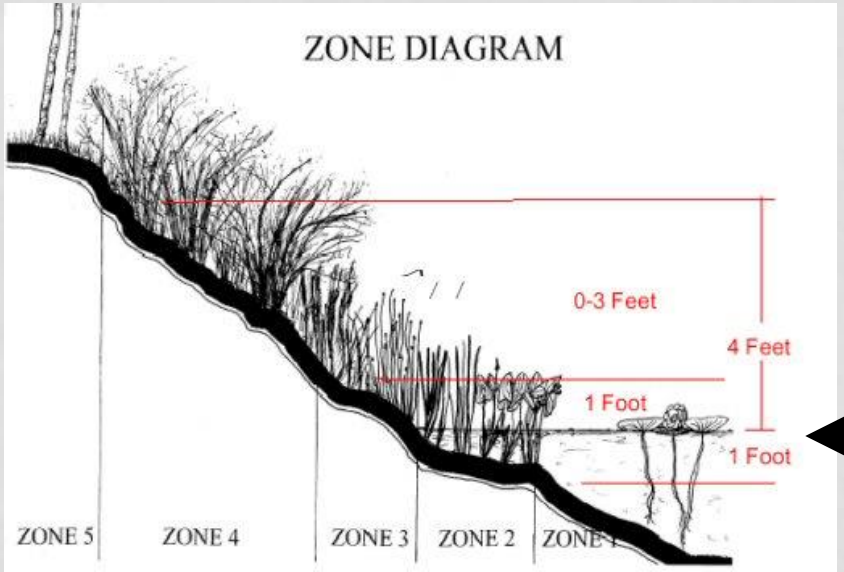
COMMON WEEDS WITHIN UPLAND COVER CROP

GIANT FOXTAIL

VELVET LEAF

UPLAND PRAIRIE

MESIC PRAIRIE ZONE



NWL

Mesic
Prairie
Zone

(Usually at
NWL
to
1-2'
above)

MESIC PRAIRIE

MESIC PRAIRIE

SOME EXAMLPES OF THREATS TO DRY UPLAND AND MESIC PRAIRIE

BUCKTHORN AND SOME OTHER NON-NATIVES ARE ALLELOPATHIC

BARE AREA OVERSEEDING

CANADA WILD RYE (FACU)

VIRGINIA WILD RYE (FACW)

EMERGENT ZONE PLUGGING AREA

EMERGENT NATIVE VEGETATION

EMERGENT NATIVE VEGETATION

COMMON WEEDS WITHIN EMERGENT AREA

ADDING NATIVES TO EMERGENT AREAS – USE WHAT WORKS

SOFT STEM AND HARD STEM BULRUSH

DARK GREEN RUSH

OTHER INVASIVE SPECIES

WHY DO STORMWATER BASINS FAIL TO ESTABLISH NATIVE SPECIES

Native Landscapes	Created Urban Landscapes
Water travels a long ways before getting to wetland or stream	Water travels a short ways before getting to created basin
Contaminates filtrated through ground	Contaminates usually not filtrated through ground so dirty (runoff, oils, salts, etc)
Cool clean water from ground (more pervious surfaces)	Warm dirty water from roads, rooftops, impervious surfaces
Most Native Plants have evolved in this environment	Many Non-native Invasive Plants in Lake County are adapted to this environment
Solution for native species establishment – Pick the right native species adapted to the situation you're giving it	Solution for keeping non-native species out – Out compete them with natives and management

VEGETATIVE MONITORING

Questions?

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