A Garden: idea - place - action - ecology

abiotic: environment: weather, history of the land, pollutants, carrying capacity, water availability, temperature, altitude, latitude, etc.
biotic:
   plants – autotrophs & producers
   animals – heterotrophs & consumers
soil: sand-silt-clay, nutrients, pH + complex web of living micro & macro-organisms;   cyclers

ARCHITECTURAL / BOTANICAL / AESTHETIC FRAMEWORK

Perennial	woody:	trees	shrubs	vines
			subshrub	
	herbaceous:	"perennial"	biennial	vines
		bulbs, corms, rhizomes, tubers, fibrous, tap		
Annual herbaceous				

Competitor -- Social (stress tolerators) – Ruderal   Plant strategies for survival: N-fixer, offer pollen/nectar, different root
                                                       structures, allelopathy…
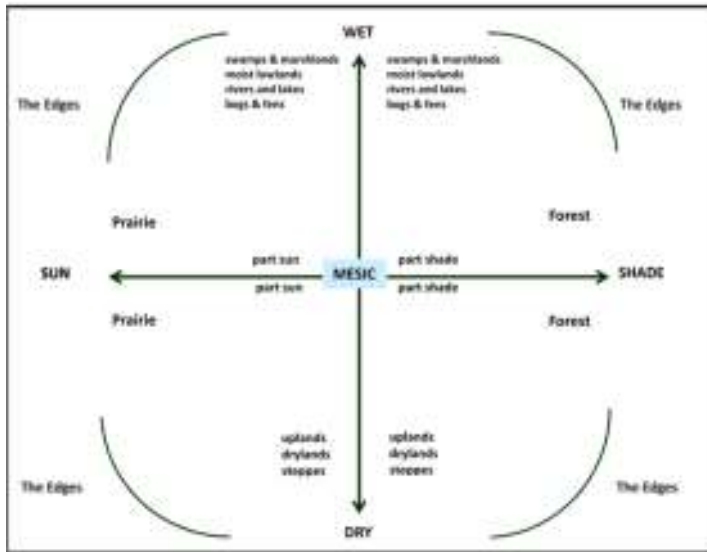
Garden Types

Habitat	Garden
woodland: upland, bottomland, vernal pools	shade gardens: rock garden, rain garden, bioswales, wildlife
prairie: dry, wet, mesic	wildflower: perennial garden, mixed garden, green roofs, wildlife
"meadow": dry, wet, mesic (upland, midland)	wildflower: cottage garden, herb garden, rock garden, wildlife
wetland: swamp, marshes bogs, fens (vernal pools)	water gardens: rain garden, bog garden, wildlife

WET

swamps & marshlands
moist lowlands
rivers and lakes
bogs & fens

swamps & marshlands
moist lowlands
rivers and lakes
bogs & fens

The Edges

The Edges

Prairie

Forest

SUN ← part sun | MESIC | part shade → **SHADE**
part sun | part shade

Prairie

Forest

uplands
drylands
steppes

uplands
drylands
steppes

The Edges

The Edges

DRY
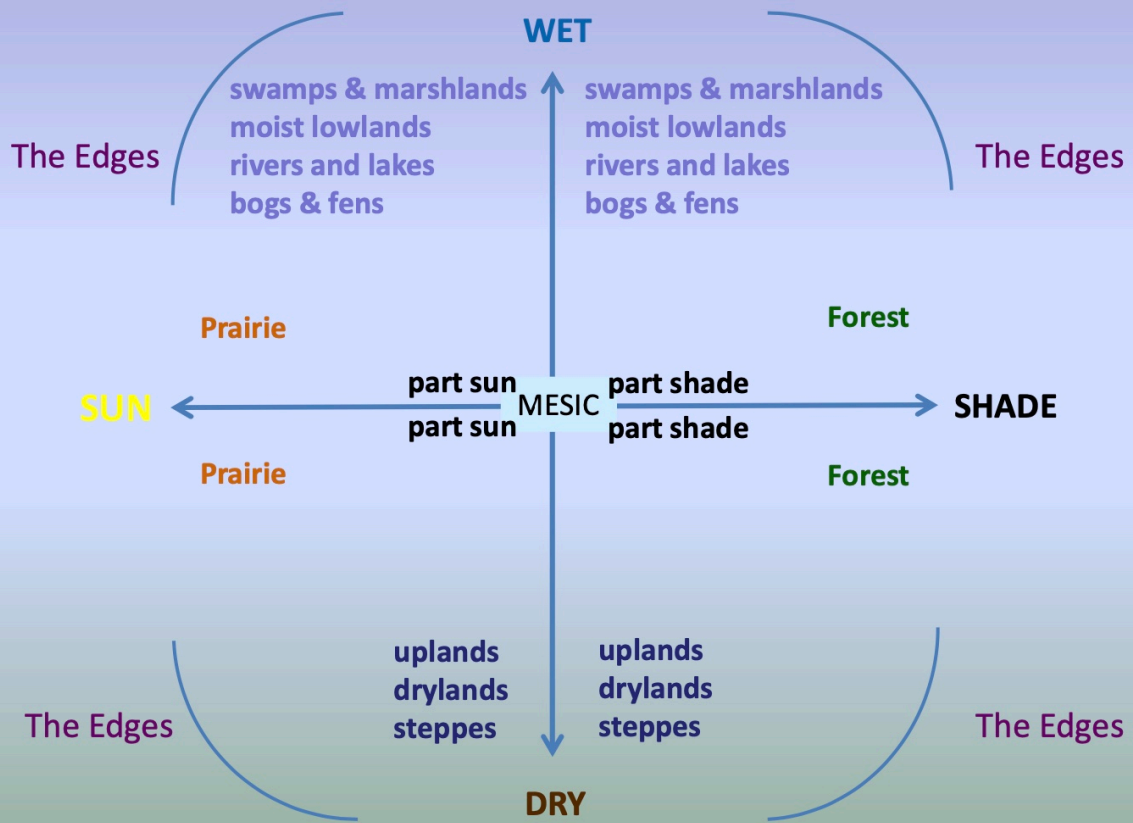
woodland/forest: upland, bottomland, vernal pools
   shade/part shade with openings
   deep, fertile soils
   layers: primary canopy; understory woodies, herbaceous, b-c-t-r
   pH: acidic to neutral to alkaline
   root competition
   vines, spring ephemerals
   environment is modified by plants
   Garden correlates: shade gardens, rock garden, stormwater control: rain garden, bioswales; wildlife gardens, forest gardens

prairie/meadow: dry, wet, mesic
   sun - sun - sun
   shallow to deep fertile soil renewed by herbaceous plant litter
   layers: grasses, forbs, b-c-t-r
   pH: all
   root competition: dense grass roots; deeply rooted, open forb roots
   growth modified by fire
   Garden correlates: wildflower, perennial garden, herb garden, mixed gardens, cottage garden, green roofs, wildlife gardens, stormwater control designs

aquatic/wetland: lakes, rivers, swamps, marshes, bogs, fens, vernal pools
   saturated/hydric soils; may or may not have surface water
         low oxygen soils; "nature's kidneys"
   seasonal fluctuations
   swamps: more shade; marshes: more sun; others vary
   pH: bogs are acidic; fens are alkaline
   plants: obligate to facultative to marginal
   often in combination with edge ecosystems
   Garden correlates: water gardens, rain garden, bog garden, ponds, wildlife gardens, other stormwater control designs

edges: the boundary of two ecosystems/habitats
   allows for greater biodiversity; where invasive plants seem to proliferate first
   characteristics depend on the two joined habitats
   happening more as we fragment ecosystems (habitat destruction)
   Garden correlates: different garden communities next to each other; wildlife gardens