



Southern Floodplain Forest

Deciduous riparian forests on sandy or silty alluvium on low, level, annually flooded sites along medium and large rivers in the southern half of Minnesota. Community is characterized by evidence of recent flooding such as rows and piles of debris, ice scars on trees, high-water channels, and freshly deposited silt and sand.

Vegetation Structure & Composition

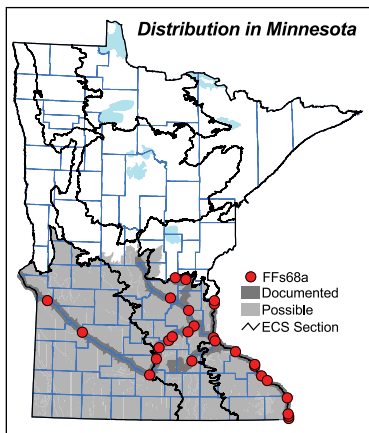
Description is based on summary of vegetation data from 27 plots (relevés).

- **Ground-layer** cover is generally very sparse during spring due to inundation and scouring by floodwaters, becoming variable by midsummer (5–50% cover) and characterized by annual or flood-tolerant perennial species. Important herbaceous species include false nettle (*Boehmeria cylindrica*), clearweeds (*Pilea* spp.), Ontario aster (*Aster ontarionis*), Virginia wild rye (*Elymus virginicus*), cut grasses (*Leersia virginica* and *L. oryzoides*), hop umbrella sedge (*Carex lupulina*), and cattail sedge (*C. typhina*). Wood nettle (*Laportea canadensis*) often forms dense patches. Species typical of wetland communities are also often present, including mad dog skullcap (*Scutellaria lateriflora*), southern blue flag (*Iris virginicus*), and beggarticks (*Bidens* spp.). The invasive species kidney-leaved buttercup (*Ranunculus abortivus*), creeping charlie, moneywort (*Lysimachia nummularia*), motherwort (*Leonurus cardiaca*), yellow wood sorrels (*Oxalis stricta* and *O. dillenii*), garlic mustard (*Alliaria petiolata*), and reed canary grass (*Phalaris arundinacea*) are present in many stands and sometimes abundant.

- **Climbing plants and vines** are important in this community; characteristic are climbing poison ivy (*Toxicodendron radicans* var. *negundo*), wild grape (*Vitis riparia*), and moonseed (*Menispermum canadense*).

- **Shrub layer and subcanopy** are mostly sparse (0–25% cover) and occasionally patchy (25–50% cover); silver maple, green ash, American elm, and hackberry are most common. Climbing poison ivy is occasionally present in the tall-shrub layer. Silver maple seedlings are often abundant.

- **Canopy** is interrupted to continuous (50–100% cover), and strongly dominated by silver maple with occasional green ash, cottonwood, or American elm.



Landscape Setting & Soils

- **Floodplains**—Common. Often the dominant vegetation on active floodplains of medium to large rivers in the deeply cut bedrock valleys of the Minnesota, lower St. Croix, and lower Mississippi rivers and their larger tributaries. Parent material is deep, complexly stratified sandy alluvium with a silty cap. The parent material may or may not have been calcareous originally, although free carbonates are rarely present now. Biogenic carbonates such as snail shells are occasionally present. Gray soil colors occur within 40in (100cm) of the surface and indicate permanently saturated conditions below. Annual flooding is typical. Soils are somewhat poorly or poorly drained. Soil-moisture regime is very moist. (PPL; Anoka Sand Plain, St. Paul Baldwin Plains, and Big Woods in MIM; Minnesota River Prairie in CGP)

Natural History

- **0–35 years**—Young forests recovering from severe flooding or wind and dominated by American elm mixed with red elm, green ash, and willows (*Salix amygdaloides* and



S. nigra). Cottonwood and silver maple are minor components during this stage.

- **35–155 years**—Mature forests consisting of mixtures of American elm, green ash, and silver maple. Willow is eliminated during this stage.

- **> 155 years**—Old forests dominated by American elm, mixed with silver maple and green ash. (True floodplain trees such as silver maple and cottonwood appear to be underrepresented in all growth stages in the historic records for this community. This could be due to difficulty in separating historic tree records for Southern Floodplain Forests from those for Southern Terrace Forests, which are less likely to have abundant silver maple or cottonwood and more likely to have abundant American elm. American elm probably was somewhat more important in true floodplain forests in the past but has largely been eliminated by Dutch elm disease. The composition of floodplain forests has also been affected by changes in river hydrology caused by dam construction along southern Minnesota's major rivers.)

Similar Native Plant Community Classes

● FFs59 Southern Terrace Forest

FFs59 occurs along many of the same rivers as FFs68, and the two communities grade into one another. FFs59 is generally present on elevated riparian sites—such as terraces and levees—that flood only occasionally and usually for just a few days at most, while FFs68 is present on sites that are flooded every spring (and sometimes following heavy rain) for several days to several weeks and have regular deposition of silt and sand. Recently deposited sediment, windrowed debris, and ice scars on trees are all useful evidence for distinguishing active floodplain sites from sites where terrace forests occur. FFs59 is more likely to have basswood, bur oak, swamp white oak, hackberry, black ash, or black walnut in the canopy, with silver maple sometimes present but rarely dominant. FFs68 tends to be strongly dominated by silver maple.

● FFn67 Northern Floodplain Forest

FFs68 Indicator Species	(freq%)	
	FFs68	FFs59
Bur marigold and Beggarticks (<i>Bidens</i> spp.)	44	5
Hop umbrella sedge (<i>Carex lupulina</i>)	22	2
Mad dog skullcap (<i>Scutellaria lateriflora</i>)	56	7
Wild cucumber (<i>Echinocystis lobata</i>)	19	2
Northern bugleweed (<i>Lycopus uniflorus</i>)	19	2
Rice cut grass (<i>Leersia oryzoides</i>)	30	7
False nettle (<i>Boehmeria cylindrica</i>)	26	7
Narrow-leaved hedge nettle (<i>Stachys tenuifolia</i>)	33	9

FFs59 Indicator Species	(freq%)	
	FFs68	FFs59
Missouri gooseberry (<i>Ribes missouriense</i>)	-	53
Aniseroot (<i>Osmorhiza longistylis</i>)	-	37
False rue anemone (<i>Enemion biternatum</i>)	-	30
Virginia waterleaf (<i>Hydrophyllum virginianum</i>)	4	70
Cleavers (<i>Galium aparine</i>)	4	51
White avens (<i>Geum canadense</i>)	4	40
Blue phlox (<i>Phlox divaricata</i>)	4	37
Basswood (C,U)	4	37

FFn67 also occurs on annually flooded sites along medium to large rivers and is strongly dominated by silver maple but is restricted to northern Minnesota. The ranges of the two classes overlap in east-central and west-central Minnesota.

FFs68 Indicator Species	(freq%)	
	FFs68	FFn67
Hackberry (C,U)	41	-
Greenbrier (<i>Smilax tamnoides</i>)	33	-
Cottonwood (C)	30	-
Rice cut grass (<i>Leersia oryzoides</i>)	30	-
Honewort (<i>Cryptotaenia canadensis</i>)	26	-
Canada moonseed (<i>Menispermum canadense</i>)	56	5
Tall coneflower (<i>Rudbeckia laciniata</i>)	41	5
Poison ivy (<i>Toxicodendron rydbergii</i>)	33	5

*Small or Three-cleft bedstraw (*Galium tinctorium* or *G. trifidum*)

FFn67 Indicator Species	(freq%)	
	FFs68	FFn67
Small or Three-cleft bedstraw*	-	53
Retrorse sedge (<i>Carex retrorsa</i>)	-	53
Tuckerman's sedge (<i>Carex tuckermanii</i>)	-	47
Yellow loosestrife (<i>Lysimachia terrestris</i>)	-	32
Northern blue flag (<i>Iris versicolor</i>)	4	42
Sensitive fern (<i>Onoclea sensibilis</i>)	7	58
Black ash (C,U)	7	53
Fringed loosestrife (<i>Lysimachia ciliata</i>)	7	47

Native Plant Community Types in Class

● FFs68a Silver Maple - (Virginia Creeper) Floodplain Forest

FFs68a is the only type recognized in this class at present. Additional data collection, particularly focused on geographical differences or on wetter sites, may result in recognition of distinct types or subtypes.



photo by D.S. Wovcha MN DNR



Sherburne County, MN



FFs68 Southern Floodplain Forest – Species Frequency & Cover

Forbs, Ferns & Fern Allies	freq%	cover	freq%	cover
Wood nettle (<i>Laportea canadensis</i>)	93	●●●●	11	●
Ontario aster (<i>Aster ontariensis</i>)	56	●	52	●●
Mad dog skullcap (<i>Scutellaria lateriflora</i>)	56	●	44	●●
Cleanweed (<i>Pilea</i> spp.)	52	●●●	30	●●
Bur marigold and Beggaricks (<i>Bidens</i> spp.)	44	●	22	●●
Touch-me-not (<i>Impatiens</i> spp.)	41	●	15	●●●
Tall coneflower (<i>Rudbeckia laciniata</i>)	41	●●	15	●●
Singing nettle (<i>Urtica dioica</i>)	37	●	11	●
Kidney-leaved buttercup (<i>Ranunculus abortivus</i>)	33	●	11	●
Narrow-leaved hedge nettle (<i>Stachys tenuifolia</i>)	33	●	11	●●
Honestwort (<i>Cryptotaenia canadensis</i>)	26	●	11	●●
False nettle (<i>Boehmeria cylindrica</i>)	26	●●	81	●
Wild cucumber (<i>Echinocystis lobata</i>)	19	●	56	●
Nodding or Virginia stickseed (<i>Hackelia deflexa</i> or <i>H. virginiana</i>)	19	●	33	●
Northern bugleweed (<i>Lycopus uniflorus</i>)	19	●	26	●
Side-flowering aster (<i>Aster lateriflorus</i>)	15	●	**	**
Dodder (<i>Cuscuta</i> spp.)	15	●	33	●●
Tall bellflower (<i>Campanula americana</i>)	15	●●	11	●●●●
Virginia knotweed (<i>Polygonum virginianum</i>)	15	●●		
Germander (<i>Teucrium canadense</i>)	15	●●		
Bur cucumber (<i>Scyos angulatus</i>)	15	●●		
Woundwort (<i>Stachys palustris</i>)	15	●		
Eastern panicled aster (<i>Aster lanceolatus</i>)	11	●●●●		
Cut-leaved bugleweed (<i>Lycopus americanus</i>)	11	●●●●		
Green dragon (<i>Arisaema dracontium</i>)	11	●●●●		
White snakeroot (<i>Eupatorium rugosum</i>)	11	●●●●		
Stemless blue violets (<i>Viola sororia</i> and similar <i>Viola</i> spp.)	11	●●		
Erect, Smooth, or Illinois carion-flower*	11	●●		
Common mint (<i>Mentha arvensis</i>)	11	●●		
Three-seeded mercury (<i>Acalypha rhomboidea</i>)	11	●●		
Grasses & Sedges				
Southern blue flag (<i>Iris virginica</i>)			11	●
Virginia wild rye (<i>Elymus virginicus</i>)			52	●●
White grass (<i>Leersia virginica</i>)			44	●●
Rice cut grass (<i>Leersia oryzoides</i>)			30	●●
Hop umbrella sedge (<i>Carex lupulina</i>)			22	●●
Cattail sedge (<i>Carex typhina</i>)			15	●●●
Ambiguous sedge (<i>Carex amphibola</i>)			15	●●
Bladder sedge (<i>Carex intumescens</i>)			11	●
Stout woodreed (<i>Cinna arundinacea</i>)			11	●
Gray's sedge (<i>Carex grayi</i>)			11	●●
Climbing Plants				
Wild grape (<i>Vitis riparia</i>)			81	●
Canada moonseed (<i>Menispermum canadense</i>)			56	●
Greenbrier (<i>Smilax tamnoides</i>)			33	●
Virginia creeper (<i>Parthenocissus</i> spp.)			26	●
Climbing poison ivy (<i>Toxicodendron rydbergii</i>)			**	**
Shrubs				
Climbing poison ivy (<i>Toxicodendron rydbergii</i>)			33	●●
Black willow (<i>Salix nigra</i>)			11	●●●●
Trees				
Silver maple	96	●●●●●	56	●●●
Green ash	67	●●●	48	●●
American elm	41	●●	56	●●
Cottonwood	30	●●●●	-	-
Hackberry	22	●	19	●●
Box elder	11	●●●	22	●●
Swamp white oak	11	●●●	-	-
Red elm	-	-	-	26

* Erect, Smooth, or Illinois carion-flower (*Smilax ecirrata*, *S. herbacea*, or *S. illinoensis*) **Climbing poison ivy is important in both the shrub and climbing plant layers, but all records from plot samples were universally assigned to the shrub layer.