

ONLINE APPENDIX

CHAPTER 11

NORTHERN RED MAPLE AND BLACK ASH SWAMPS

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Appendix Table 11.1

Vegetation alliances in which red maple is a dominant or co-dominant species.

Only alliances with a primary distribution in the Northeast and/or Midwest were included. “Formations” refer to the large-scale units of the National Vegetation Classification system based solely on vegetation physiognomy. “n.d.” indicates no data were available on the data base.

Alliance Name	Formation	Number of Associations	Distribution	Habitat characteristics	Hydrology & Soils
<i>Acer rubrum</i> – <i>Fraxinus pennsylvanica</i> saturated forest alliance	I.B.2.N.g – Saturated cold-deciduous forest	2	Northeastern U.S.: CT, DC, DE, IN, MA, MD, NH, NJ, NY, PA, RI, VA, VT	Saturated through growing season; seeps, depressions, along headwater streams; complex microtopography; stands usually small	Saturated to superficial surface water
<i>A. rubrum</i> – <i>F. pennsylvanica</i> seasonally flooded forest alliance	I.B.2.N.e – Seasonally flooded cold-deciduous forest	12	Broadly distributed through eastern U.S.: AR, DC, DE, IL, IN, KY, LA, MA, MD, ME, MI, MO, NC, NH, NJ, NY, OH, PA, SC, TN, TX, VA, VT, WI, WV;	Alluvial clayey or loamy sediments; well-developed and diverse shrub and herb layers; high basal areas; level soils; floodplains of Mississippi or Coastal Plain; geographic variation in associated species	Seasonally flooded; shallow standing water during most of growing season

			Canada: NB, ON, QC		
<i>A. rubrum</i> – <i>Nyssa sylvatica</i> saturated forest alliance	I.B.2.N.g – Saturated cold-deciduous forest	14	Broadly distributed through eastern U.S.: AL, AR, CT, DC, DE, GA, IL, KY, LA, MA, MD, ME, NC, NH, NJ, NY, OK, PA, RI, SC, TN, VA, VT, WV	Acidic seeps on hillsides, saturated swamp forests, basin swamps; geographic variation in associated species	Saturated during the growing season but little surface water
<i>Acer (rubrum, saccharinum)</i> – <i>Ulmus americana</i> temporarily flooded forest alliance	I.B.2.N.d – Temporarily flooded cold-deciduous forest	5	Northeast U.S.: CT, DE, MA, MD, ME, MI, NH, NJ, NY, PA, RI, VT, WV; Canada: QC, NB	Floodplains of smaller rivers; diverse tree, shrub, herb layers	Winter flooding; mineral soils
<i>Fraxinus nigra</i> – <i>A. rubrum</i> saturated forest alliance	I.B.2.N.g – Saturated cold-deciduous forest	9	Northeast to upper Midwest (U.S.: AR, CT, DE, IL, IN, MA, MD, MI, MN, MO, ND, NH, NJ, NY, PA, RI, VA, VT, WI, WV, WY; Canada: MB, ON, QC)	Calcareous seepage swamps; closed to open canopies; patchy shrub and diverse herb communities	Poorly drained depressions or seeps; muck soils; high pH
<i>F. pennsylvanica</i> – <i>A. rubrum</i> – <i>U. americana</i> tidal forest alliance	I.B.2.N.h – Tidal cold-deciduous forest	4	Mid-Atlantic Coastal Plain, mainly NC and VA (also CT, DC, DE, MA, MD, NC, NJ, NY, VA)	n.d.	Tidally flooded upper to oligohaline reaches on Coastal Plain
<i>Liquidambar styraciflua</i> – (<i>A. rubrum</i>) seasonally flooded forest alliance	I.B.2.N.e – Seasonally flooded cold-deciduous forest	5	East Coast to Gulf Coast: AL, DC, DE, FL, GA, MD, NC, NJ, NY, PA, SC, TN, VA	<i>Sphagnum</i> common in herbaceous layer; <i>A. rubrum</i> is co-dominant	Seasonally flooded depressions
<i>L. styraciflua</i> – (<i>Liriodendron tulipifera</i> , <i>A. rubrum</i>) temporarily flooded forest alliance	I.B.2.N.d – Temporarily flooded cold-deciduous forest	4	Southeast: AR, DC, FL, GA, MD, NC, OK, SC, TN, VA, WV	Variety of bottomland types on Piedmont, plateaus, valley and ridge, Coastal Plain; considerable geographic variation in structure. Vines prominent; shrubs and herbs species-rich	Acidic soils; small stream floodplains and bottoms
<i>Nyssa biflora</i> – <i>A. rubrum</i> – (<i>L. tulipifera</i>) saturated forest alliance	I.B.2.N.g – Saturated cold-deciduous forest	7	Southeast: AL, FL, GA, LA, MS, NC, SC, VA	Co-dominated by <i>Nyssa</i> and <i>Acer</i> , with <i>Acer</i> dominant on small Piedmont stream. <i>Sphagnum</i>	Extensive peat flats of Coastal Plain; seepage-fed floodplain edges;

				common in herb layer; diverse shrub and herb layers	constantly saturated; soils acid and organic
<i>Quercus bicolor</i> – <i>A. rubrum</i> temporarily flooded forest alliance	I.B.2.N.d – Temporarily flooded cold-deciduous forest	1	Limited parts of Northeast (U.S.: MA, NH, NJ, NY, PA; Canada: QC)	n.d.	Floodplains on lower terraces; silty sediments
<i>Quercus palustris</i> – <i>A. rubrum</i> temporarily flooded forest alliance	I.B.2.N.d – Temporarily flooded cold-deciduous forest	1	Limited parts of Northeast: CT, MA, NJ, NY, PA, RI	Canopy associates vary geographically; shrub and herb layers better developed in northern than in southern sites	Floodplains of smaller rivers; headwaters
<i>Chamaecyparis thyoides</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	1	Limited parts of Atlantic Coastal Plain: DE, MD, NJ	<i>Chamaecyparis</i> dominant, <i>A. rubrum</i> and other hardwoods associated. <i>Sphagnum</i> -covered hummocks present; associated with Pine Barrens vegetation	Poorly drained depressions, more commonly along streams; acidic, thick peat soils in basins or muck over mineral soils
<i>C. thyoides</i> – <i>A. rubrum</i> seasonally flooded forest alliance	I.C.3.N.c – Seasonally flooded mixed needle-leaved evergreen - cold-deciduous forest	1	Limited parts of Northeast: CT, MA, NH, RI	Mixed canopy that always includes <i>A. rubrum</i> and other hardwoods. More diverse understory than in other <i>Chamaecyparis</i> types	Along water courses influenced by surface water in spring
<i>Picea rubens</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	3	Northeast (US: CT, MA, ME, NH, NY, PA, VA, VT, WV; Canada: NB, QC)	Largely deciduous swamp with coniferous components (<i>Picea rubens</i> , <i>Tsuga canadensis</i> , <i>Pinus strobus</i>). Diverse herbs, some <i>Sphagnum</i> but no peat	n.d.
<i>Pinus rigida</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	1	Mid-Atlantic: DC, MD, NJ	Mixed woodland alliance	Saturated mineral soils, usually sand; minimal organic horizon
<i>Pinus strobus</i> – (<i>A. rubrum</i>) saturated forest alliance	I.C.3.N.d - Saturated mixed needle-leaved evergreen - cold-	1	Upper Midwest (U.S.: MI, MN, OH, PA, RI, WI; Canada: ON, QC)	Great Lakes region; Northeast; dominated by conifers but with significant amount of <i>A. rubrum</i>	Gently sloping lowlands, flooded or saturated for part of the year

	deciduous forest				
<i>Pinus taeda</i> – <i>C. thyoides</i> – <i>A. rubrum</i> – <i>N. biflora</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	1	Restricted distribution: NC, VA	Variable canopy composition; shrub layer open to dense; poor herb layer	Nonriverine swamps; organic soils. Shallowly inundated by groundwater in winter; some surface runoff
<i>P. taeda</i> – <i>L. styraciflua</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	None described	Southeast Coastal Plain: AL, GA, LA, MI, NC, SC, VI	Successional forests on Coastal Plain non-riverine flats; result of logging, fire suppression, etc. Composition variable with location; canopy of mixed evergreens and hardwoods	Nonriverine flats
<i>Thuja occidentalis</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	3	Upper Midwest (US: ME, MI, MN, NH, NY, VT, WI; Canada: ON, NB)	Canopy is mixture of conifers, mainly <i>Thuja</i> , and deciduous species. Shrubs sparse to moderately well developed	Poorly drained, mineral soils; pH neutral to alkaline
<i>Tsuga canadensis</i> – <i>A. rubrum</i> saturated forest alliance	I.C.3.N.d – Saturated mixed needle-leaved evergreen - cold-deciduous forest	3	Throughout East Coast (U.S.: CT, GA, KY, MA, MD, ME, MI, NC, NH, NY, PA, RI, SC, TN, VA, VT, WV; Canada: NB, QC)	Dominated by <i>Tsuga</i> and <i>A. rubrum</i> ; open to dense shrub layer; some <i>Sphagnum</i> in hollows. Typically at elevations below 1,200 m. Pronounced hummock-hollows	Palustrine forests; poorly drained bottomlands, occasionally flooded
<i>T. canadensis</i> – <i>A. rubrum</i> temporarily flooded forest alliance	I.C.3.N.b – Temporarily flooded mixed needle-leaved evergreen - cold-deciduous forest	None described	n.d.	Mixed hemlock-hardwood	Along stream drainages, along ecotonal areas
<i>A. rubrum</i> saturated woodland alliance	II.B.2.N.e – Saturated cold-deciduous woodland	3	Appalachian Plateau and New England (U.S.: KY, ME, NC, NH, NY, TN, VT; Canada: NB, QC)	Open canopies; shrubs sparse to dense; vegetation patchy	Seasonally saturated, seeps or peatlands on broad sandstone ridges
<i>A. rubrum</i> seasonally flooded woodland alliance	II.B.2.N.c – Seasonally flooded cold-deciduous woodland	2	Northeast (U.S.: CT, DE, MA, ME, NH, NJ, NY, PA, RI, VT; Canada: QC)	n.d.	Alluvial swamps

<i>Pinus strobus</i> – <i>A. rubrum</i> saturated woodland alliance	II.C.3.N.c – Saturated mixed needle-leaved evergreen - cold-deciduous woodland	2	Blue Ridge and Central Appalachian forest, mostly in VA (also MD, NC, PA, VA)	Woodlands on seepage zone on mafic rocks; mixed deciduous and evergreen canopies. Variable shrub layers; herbs indicative of mafic conditions	Seepage areas on mineral soil
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NOTE: See the NatureServe database (www.natureserve.org/explorer/servlet/NatureServe?init=Ecol) for narrative descriptions of common and indicator plant species.