

Wetland Community Classification Key

Go to upper canopy to key out wetland plant community(-ities) within the evaluation area using the following key¹. Evaluate only each contiguous type that comprises at least 10% of the vegetated wetland area; the exception is a shallow, open water community in which any fringe emergent communities must be evaluated. Be sure to sample shallow, open water areas for submergent vegetation. Enter in page 1 of field data form, MnRAM database second tab, or the manual-use summary table located in the Guidance.

Wetland Community Classification Key

- 1A. Mature trees (dbh of 6 inches or more) are present and form closed stands (more than 17 trees per acre; more than a 50 percent canopy cover) on wet, lowland soils (usually floodplains and ancient lake basins).
 - 2A. Hardwood trees are dominant (>50% areal coverage or basal area of the tree stratum); usually alluvial, peaty/mucky, or poorly drained mineral soils.
 - 3A. Silver maple, American elm, river birch, green ash, black willow, box elder and/or eastern cottonwood are dominant; growing on alluvial soils associated with riverine systems..... **FLOODPLAIN FOREST**
(Type 1); (PFO; 1,6; A)
 - 3B. Black ash, green ash, American elm, eastern cottonwood, black willow, box elder, yellow birch, silver maple, quaking aspen and/or red maple are dominant; northern white cedar may be subdominant; growing on poorly-drained mineral or peat/muck soils, often associated with ancient lake basins..... **HARDWOOD SWAMP**
(Type 7); (PFO;1, 6; A, B, C)
 - 2B. Coniferous trees are dominant (>50% areal coverage or basal area of the tree stratum); soils usually peaty.
 - 4A. Tamarack and/or black spruce are dominant; growing on a continuous sphagnum moss mat and acid, peat soils.....**CONIFEROUS BOG**
(Type 8); (PFO; 2, 4, 6, 7; B)
 - 4B. Northern white cedar and/or tamarack are dominant; continuous sphagnum moss mat absent; usually growing on neutral to alkaline peat/muck soils.....**CONIFEROUS SWAMP**
(Type 7); (PFO;2, 4, 6, 7; B, C)
- 1B. Mature trees are absent or, if present, form open, sparse stands; other woody plants, if present, are shrubs or saplings and pole-size trees (dbh less than 6 inches) less than 20 feet high and growing on wet, lowland, or poorly-drained soils, or in ground-water seepage areas.
 - 5A. Community dominated (>50% areal coverage) by woody shrubs.
 - 6A. Low, woody shrubs usually less than 3 feet high; sphagnum moss mat layer may or

¹ Refer to Pages 19 - 22 of "Wetland Plants and Plant Communities of MN and WI"; (USACOE - St. Paul District; Eggers and Reed).

may not be present.

7A. Shrubs are ericaceous and evergreen growing on a sphagnum moss mat layer; peat soils are acidic.....**OPEN BOG**
(Type 8); (PSS;2, 3, 4, 7; B)

7B. Shrubs are deciduous, mostly shrubby cinquefoil, often growing on sloping sites with a spring-fed supply of internally flowing, calcareous waters; other calciphiles are also dominant; sphagnum moss mat layer absent; muck/poorly-drained mineral soils are alkaline.....**CALCAREOUS FEN**
(Type 2/6), (PEM/PSS;1; B)

6B. Tall, woody deciduous shrubs usually greater than 3 feet high; sphagnum moss mat layer absent: **SHRUB SWAMPS**.

8A. Speckled alder is dominant; usually on acidic soils in and north of the vegetation tension zone (a map of the tension zone is on page 9 of Eggers and Reed [1997]).**ALDER THICKET**
(Type 6); (PSS;1, 6; B, C)

8B. Willows, red-osier dogwood, silky dogwood, meadowsweet and/or steeplebush are dominant on neutral to alkaline poorly drained muck/mineral soils; found north and south of the vegetation tension zone. NOTE: Non-native buckthorns (*Rhamnus cathartica* and *R. frangula*) may occur as dominant shrubs or small trees in disturbed shrub-carrs.**SHRUB-CARR**
(Type 6); (PSS;1, 6; B, C)

5B. Community dominated (>50% areal coverage) by herbaceous plants.

9A. Essentially closed communities, usually with more than 50 percent cover.

10A. Sphagnum moss mat on acid peat soils; leatherleaf, pitcher plants, certain sedges, and other herbaceous species tolerant of low nutrient conditions may be present.**OPEN BOG**
(Type 8); (PSS; 2, 3, 4, 7; B; and PML; 1; B)

10B. Sphagnum moss mat absent; dominant vegetation consists of sedges (Cyperaceae), grasses (Gramineae), cattails, giant bur-reed, arrowheads, forbs and/or calciphiles. Soils are usually neutral to alkaline, poorly-drained mineral soils and mucks.

11A. Over 50 percent of the cover dominance contributed by the sedge family, cattails, giant bur-reed, arrowheads, wild rice, and/or giant reed grass (*Phragmites*).

12A. Herbaceous emergent plants growing on saturated soils to areas covered by standing water up to 6 inches in depth throughout most of the growing season.

13A. Major cover dominance by the sedges (primarily genus *Carex*) typically on saturated soils with, at most, short periods of inundation. Canada blue-joint grass may be a subdominant. Lake sedges (*Carex lacustris*, *C. utriculata*) and slough sedge (*Carex atherodes*) can also be dominants in shallow marshes – see 13B. below.....**SEDGE MEADOW**
(Type 2), (PEM; 1; B)

13B. Major cover dominance by cattails, bulrushes, water plantain, *Phragmites*, arrowheads, slough sedge and/or lake sedges typically on soils that are inundated by up to 6 inches of water depth for a significant portion of most growing seasons.....**SHALLOW MARSH**
(Type 3); (PEM; 1, 2; C)

12B. Herbaceous submergent, floating-leaved, floating and emergent plants growing in areas covered by standing water greater than 6 inches in depth throughout most of the growing season.....**DEEP MARSH**
(Type 4); (PEM; 1, 2; F, G, H; and PAB; 2, 4, 5; F, G; and PUB; F, G; and L2EM2; F, G; and L2AB; 2, 4, 5; F, G)

11B. Over 50 percent of the cover dominance contributed by grasses (except wild rice and *Phragmites*), forbs and/or calciphiles.

14A. Spring-fed supply of internally flowing, calcareous waters, often sloping sites; calciphiles such as sterile sedge, wild timothy, Grass-of-Parnassus and lesser fringed gentian are dominant...**CALCAREOUS FEN**
(Type 2); (PEM; 1; B)

14B. Water source(s) variable; calciphiles not dominant.

15A. Dominated by native prairie grasses (e.g., big bluestem, prairie cordgrass, Canada blue-joint grass) usually with characteristic wet prairie forbs (e.g., Riddell's goldenrod, gayfeather, mountain mint)...**WET TO WET- MESIC PRAIRIE**
(Type 2); (PEM; 1; A, B)

15B. Dominated by other grass species (e.g., reed canary grass, redtop) and/or generalist forbs (e.g., giant goldenrod, giant sunflower, swamp aster, marsh aster, wild mint).....**FRESH (WET) MEADOW**
(Type 2); (PEM; 1; B)

9B. Essentially open communities, either flats or basins usually with less than 50 percent vegetative cover during the early portion of the growing season, or shallow open water with submergent, floating and/or floating-leaved aquatic vegetation.

- 16A. Areas of shallow, open water (< 6.6 feet in depth) dominated by submergent, floating and/or floating-leaved aquatic vegetation
.....**SHALLOW, OPEN WATER COMMUNITIES**
(Type 5); (PAB; 2, 4, 5; G, H; and PUB; G, H; and L2EM; 2; G, H; and L2AB; 2, 4, 5; G, H)
- 16B. Shallow depressions or flats including vernal pools; standing water may be present for a few weeks each year, but are dry for much of the growing season; often cultivated or dominated by annuals such as smartweeds and wild millet; when not cultivated, perennial vegetation may be present (see Table 4 on page 15).....**SEASONALLY FLOODED BASIN**
(Type 1); (PEM; A)

Plant Community Ratings

Guidance: The plant community rating incorporates two principal components: integrity and diversity.

Diversity refers to species richness, e.g., number of plant species. Generally, the more floristically diverse a community is, the higher the rating. **Integrity** refers to the condition of the plant community in comparison to the reference standard for that community. The highest rating is given to those communities that represent the characteristic condition of that particular community. The degree (e.g., minor versus substantial) and type of disturbance typically play an important role in the diversity/integrity of plant communities. Some native plant communities are maintained by periodic, natural disturbances (e.g., fire, annual floods). For purposes of this functional assessment, disturbances are more in reference to man-induced alterations (e.g., filling, dredging, drainage) that are typically detrimental to vegetative diversity/integrity.

It is important to note that some native wetland plants naturally form large colonies or clones creating communities that are low in diversity, but high in integrity. Examples are stands of wild rice, arrowhead, lake sedges, river bulrush, hardstem bulrush, American lotus, wild celery, pickerelweed, wire-grass sedge and tussock sedge. Plant communities with low diversity but high integrity can have a high vegetative diversity/integrity ranking if they represent the characteristic condition of that plant community (i.e., compared to the reference standard community).

Size of the area sampled for the rating can also be a factor. If the area sampled is small, the evaluator must be aware that it may not naturally support the diversity of species a larger area of the same plant community supports.

User Notes: Each community is outlined below with descriptions for high, medium, and low quality. Many sites have more than one community; consult the descriptions individually to decide the appropriate rating for each community, *except* the following description of “exceptional” quality is applicable to all communities:

Exceptional Quality: Plant community is undisturbed, or sufficiently recovered from past disturbances, such that it represents pre-European settlement conditions. Non-native plant species are absent or, if present, constitute a minor percent cover of the community. Unique features (e.g., old growth forest, never-plowed wet prairie, T/E species) may also be present.

NOTE: For purposes here, “dominant” or “dominated by” refers to the dominant species determined by the “50/20 Rule” or other appropriate method for determining which species are dominants. “Subdominant” refers to species that may not meet the “50/20 Rule” for dominance, but have at least 10 percent areal cover (or other dominance measure)².

16A. SHALLOW, OPEN WATER COMMUNITIES³

High Quality: Aquatic bed communities with greater than 10 percent coverage of the open water area and dominated by 3 or more species of native aquatic plants such as pondweeds, water lilies, bladderworts, wild celery, duckweed, water crowfoots, native milfoils, etc.; or communities with low diversity but high integrity as given in additional guidance (e.g., beds of wild celery). Eurasian water milfoil and/or curly leaf pondweed, if present, cumulatively comprise less than

² The “50/20 Rule” is explained in the *Corps of Engineers Wetlands Delineation Manual* (1987).

³ I., page 28, Eggers and Reed.

20 percent cover of the aquatic bed community.

Medium Quality: Aquatic bed communities with greater than 10 percent coverage of the open water area and dominated by 1 or 2 species of native aquatic plants; and/or Eurasian water milfoil and/or curly leaf pondweed cumulatively comprise 20 to 50 percent cover of the aquatic bed community.

Low Quality: Aquatic vegetation absent or coverage is less than 10 percent of the open water area; or, Eurasian water milfoil and/or curly leaf pondweed cumulatively comprise greater than 50 percent cover of the aquatic bed community.

13B. SHALLOW MARSHES⁴

High Quality: Three or more native aquatic plants (e.g., bur-reeds, bulrushes, arrowheads, duckweeds, cattails, sweet flag, pondweeds) are dominants; or, communities with low diversity but high integrity as described in guidance (e.g., stands of arrowhead, lake sedges). Cattails, if present, comprise less than 40 percent cover. Purple loosestrife absent or comprises less than 20 percent cover.

Medium Quality: At least 2 species of native aquatic plants are dominants; and/or purple loosestrife comprises 20 to 50 percent cover; and/or cattails comprise 40 to 85 percent cover.

Low Quality: Dominated by 1 native aquatic species; and/or purple loosestrife comprise more than 50 percent cover; and/or cattail comprises more than 85 percent cover.

12B. DEEP MARSHES⁵

High Quality: Three or more species of native aquatic plants (e.g., bur-reeds, bulrushes, arrowheads, duckweeds, cattails, sweet flag, pondweeds) are dominants; or communities with low diversity but high integrity as described in guidance (e.g., stands of bulrushes, wild rice, lotus, arrowheads). Cattails, if present, comprise less than 40 percent cover. Purple loosestrife and/or Eurasian water milfoil absent or cumulatively comprise less than 20 percent cover.

Medium Quality: Dominated by 2 species of native aquatic plants; and/or purple loosestrife and/or Eurasian water milfoil, cumulatively comprise 20 to 50 percent cover; and/or cattail comprises 40 to 85 percent cover.

Low Quality: Dominated by 1 native aquatic species; and/or purple loosestrife and/or Eurasian water milfoil cumulatively comprise more than 50 percent cover; and/or cattail comprises more than 85 percent cover.

13A. SEDGE MEADOWS⁶

High Quality: Stands dominated solely by sedges (e.g., wiregrass sedge, hummock sedge, lake sedge, woolgrass [*Carex lasiocarpa*, *C. stricta*, *C. lacustris*, *Scirpus cyperinus*, respectively]) including nearly monotypic stands; or stands with a mixture of sedge dominants and dominant or subdominant native forbs/ferns/grasses/rushes (e.g., Canada blue-joint grass, joe-pye weed, giant sunflower). Reed canary grass, purple loosestrife, stinging nettle and/or other invasive

⁴ II.B., pages 51-53, Eggers and Reed.

⁵ II.A., pages 51-53, Eggers and Reed.

⁶ III.A., page 86, Eggers and Reed.

species (Table 1) are absent or cumulatively comprise less than 20 percent cover in the herbaceous stratum. Non-native buckthorns, if present, comprise less than 10 percent cover within the sedge meadow community.

Medium Quality: Stands of sedges where the invasive species listed above cumulatively comprise 20 to 40 percent cover in the herbaceous stratum; and/or non-native buckthorns comprise 10 to 30 percent cover within the sedge meadow community.

Low Quality: Invasive herbaceous species listed above cumulatively comprise 40 to 50 percent cover; and/or non-native buckthorns comprise 30 to 50 percent cover within the sedge meadow community.

[Note: Stands with less than 50 percent cover by sedges key out to wet meadows, 15B. Stands with greater than 50 percent cover by buckthorn shrubs key out to shrub-carrs, 8B.]

15B. WET MEADOWS⁷

High Quality: Composed of 10 or more species of native/non-invasive grasses, sedges, ferns, rushes and/or forbs. Reed canary grass, purple loosestrife, stinging nettle and/or other invasive species (Table 1), if present, cumulatively comprise less than 20 percent cover. Non-native buckthorns absent or comprise less than 10 percent cover within the wet meadow community.

Medium Quality: Community composed of 5 to 9 species of native grasses, sedges, rushes, ferns and/or forbs; and/or invasive herbaceous species listed above cumulatively comprise 20 to 50 percent cover; and/or non-native buckthorns, comprise 10 to 30 percent cover within the wet meadow community.

Low Quality: Composed of 4 or fewer species of native grasses, sedges, rushes, ferns and/or forbs; and/or invasive herbaceous species listed above cumulatively comprise more than 50 percent cover; and/or non-native buckthorns comprise 30 to 50 percent cover within the wet meadow community. For example, this rating includes the nearly monotypic stands of reed canary grass that are commonly encountered.

[Note: Greater than 50 percent cover by buckthorn shrubs key out to shrub-carrs, 8B.]

15A. WET to WET-MESIC PRAIRIES⁸

High Quality: Community composed of native grasses (e.g., prairie cord-grass, switchgrass, Canada blue-joint grass), sedges, and forbs characteristic of wet to wet-mesic prairies. Reed canary grass, purple loosestrife, quack grass, Canada thistle and/or other invasive species (Table 1) are absent or cumulatively comprise less than 20 percent cover. Non-native buckthorns absent or comprise less than 10 percent cover within in the prairie community.

Medium Quality: Invasive species listed above cumulatively comprise 20 to 50 percent cover in the herbaceous stratum; and/or non-native buckthorns comprise 10 to 30 percent cover within the prairie community.

Low Quality: Invasive species listed above cumulatively comprise more than 50 percent cover in the herbaceous stratum; and/or non-native buckthorns comprise 30 to 50 percent cover within the prairie community.

⁷ III.B., page 105, Eggers and Reed.

⁸ III.C., page 125, Eggers and Reed.

7B. & 14A. CALCAREOUS FENS⁹

Due to their uniqueness, rarity, and disproportionate number of threatened and special concern plant species, calcareous fen communities are rated as “exceptional” for vegetative diversity/integrity (see Special Features, item b.).

7A. & 10A. OPEN BOGS¹⁰

High Quality: Composed of the characteristic assemblage of sphagnum mosses, sedges and heath family shrubs, often with carnivorous plants and various orchid species. Cattails, quaking aspen, non-native buckthorns, reed canary grass, stinging nettle and/or other invasive species (Table 1) are absent or comprise less than 20 percent cover in each stratum (e.g., bryophyte, herbaceous, shrub).

Medium Quality: Invasive species listed above comprise 20 to 50 percent cover in one or more strata.

Low Quality: Invasive species listed above comprise greater than 50 percent cover in one or more strata. Dieback of sphagnum mosses due to flooding, nutrient loading, salt spray, sediment input, etc., can be an indicator.

4A. CONIFEROUS BOGS¹¹

High Quality: Stands of tamarack and/or black spruce with the characteristic assemblage of sphagnum mosses, sedges and heath family shrubs. Cattails, quaking aspen, non-native buckthorns, stinging nettle, reed canary grass, and/or other invasive species (Table 1) comprise less than 20 percent cover in any stratum (e.g., bryophyte, herbaceous, shrub, tree).

Medium Quality: Stands of tamarack and/or black spruce invaded by cattail, quaking aspen, non-native buckthorns, stinging nettle and other invasive species (Table 1) that comprise 20 to 50 percent cover in one or more strata.

Low Quality: Non-native buckthorns, quaking aspen, stinging nettle, cattail and/or other invasive species (Table 1) cumulatively comprise more than 50 percent cover in one or more strata. Also includes stands where greater than 50 percent of the black spruce and tamarack are dead (due to impoundment, drainage, salt spray, etc.).

8B. SHRUB-CARRS¹²

High Quality: Dominated by native shrubs (e.g., dogwoods, willows) with a herbaceous stratum composed of five or more species of native grasses, sedges, rushes, ferns and/or forbs. Non-native buckthorns, non-native honeysuckles, box elder and/or other invasive woody species (Table 1), cumulatively comprise less than 20 percent cover of the shrub stratum. Reed canary grass and other invasive herbaceous species comprise less than 20 percent cover of the herbaceous stratum.

⁹ III.D., page 141, Eggers and Reed.

¹⁰ IV.A., page 161, Eggers and Reed.

¹¹ IV.B., page 175, Eggers and Reed.

¹² V.A., page 180, Eggers and Reed.

Medium Quality: Invasive species listed above comprise 20 to 50 percent cover in any one stratum (shrub or herbaceous or both); and/or the herbaceous stratum has 4 or fewer species of native grasses, sedges, rushes, ferns or forbs.

Low Quality: Invasive species listed above comprise more than 50 percent cover in any one stratum (shrub or herbaceous or both).

8A. ALDER THICKETS¹³

High Quality: Stands of speckled alder with less than 20 percent cumulative cover by non-native buckthorns, non-native honeysuckles, box elder and/or other invasive woody species (Table 1). Herbaceous stratum composed of 5 or more species of native grasses, sedges, rushes, ferns and forbs. Reed canary grass, if present, comprises less than 20 percent cover.

Medium Quality: Invasive species listed above cumulatively comprise 20 to 40 percent cover of the shrub stratum; and/or the herbaceous stratum has 4 or fewer native herbaceous species; and/or herbaceous stratum has 20 to 50 percent cover of reed canary grass or other invasive species.

Low Quality: Forty to 50 percent cover of the shrub stratum consists of invasive woody species listed above (Table 1); and/or reed canary grass comprises more than 50 percent cover of the herbaceous stratum.

[Note: Stands with more than 50 percent cover by buckthorns, key out to shrub-carrs, 8B.]

3B. HARDWOOD SWAMPS and 4B. CONIFEROUS SWAMPS¹⁴

High Quality: Tree/sapling/shrub strata each have less than 20 percent cover of box elder, non-native buckthorns, non-native honeysuckles, eastern cottonwood, quaking aspen (see note below regarding aspen) and/or other invasive species (Table1). Herbaceous stratum composed of 5 or more species of native grasses, sedges, rushes, ferns and/or forbs, and reed canary grass comprises less than 20 percent cover. Another factor is the common presence of seedlings/saplings of the characteristic tree species, which indicates regeneration of the stand, as opposed to observing abundant seedlings/saplings of invasive woody species. NOTE: aspen parkland in northern Minnesota is a special case. Stands of quaking aspen with a ground layer of native prairie species should be rated by a separate method specific to aspen parklands.

Medium Quality: Invasive species listed above comprise 20 to 50 percent cover in one or more strata, and/or the herbaceous stratum has 4 or fewer species of native grasses, sedges, rushes, ferns and forbs. This rating also includes early successional forests of quaking aspen with an under story of characteristic tree species of swamps (e.g., green ash, black ash, red maple, balsam poplar, northern white cedar.).

Low Quality: Invasive species listed above comprise more than 50 percent cover in one or more strata (e.g., tree, sapling, shrub, herbaceous). Typically, few to no indications of regeneration of the characteristic tree species are present.

¹³ V.B., page 192, Eggers and Reed.

¹⁴ VI.A and VI.B., pages 197 to 213, Eggers and Reed.

3A. FLOODPLAIN FORESTS¹⁵

High Quality: Tree stratum with less than 20 percent cumulative cover by box elder, crack willow, weeping willow or white willow. Herbaceous stratum, if present, composed of native forbs, ferns, sedges and grasses characteristic of floodplain forests (e.g., wood nettle, jewelweed, Virginia rye, cut-leaf coneflower) with less than 20 percent cover by reed canary grass.

Medium Quality: Invasive species listed above comprise 20 to 50 percent cover in one or more strata.

Low Quality: Invasive species listed above comprise greater than 50 percent cover in one or more strata. Also include stands where greater than 50 percent of the trees are dead.

16B. SEASONALLY FLOODED BASINS¹⁶

High Quality: Dominated by native/non-invasive species (examples in Table 4) with less than 20 percent cover in any one stratum by non-native and/or invasive species (e.g., common buckthorn, reed canary grass, Canada thistle, yellow foxtail, barnyard grass, common ragweed, stinging nettle, quack grass – see Table 1). Typically located within an area of permanent vegetative cover (e.g., forest, prairie, non-agricultural settings) undisturbed or minimally disturbed by artificial drainage, haying, grazing, plowing, stormwater input, or other disturbances.

Medium Quality: Invasive species listed above comprise 20-50 percent cover in one or more strata. Typically located in areas that are partially drained, infrequently cropped, lightly grazed, subject to some stormwater input, etc.

Low Quality: Invasive species listed above comprise greater than 50 percent cover in one or more strata. Typically located in frequently cropped agricultural fields, heavily grazed, or subjected to substantial inputs of stormwater, or other adverse disturbances.

Examples of Native/Non-Invasive Species of Seasonally Flooded Basins Including Vernal Pools

Scientific Name	Common Name	Scientific Name	Common Name
<i>Onoclea sensibilis</i>	Sensitive fern	<i>Geum canadense</i>	White avens
<i>Athyrium filix-femina</i>	Lady fern	<i>Impatiens capensis</i>	Jewelweed
<i>Ribes americanum</i>	Wild black currant	<i>Juncus canadensis</i>	Canada rush
<i>Sambucus canadensis</i>	Common elderberry	<i>Juncus tenuis</i>	Slender rush
<i>Vitis riparia</i>	Riverbank grape	<i>Juncus torreyi</i>	Torrey's rush
<i>Boehmeria cylindrica</i>	False nettle	<i>Leersia virginica</i>	Whitegrass
<i>Carex grayi</i>	Gray's sedge	<i>Leersia oryzoides</i>	Rice cut-grass
<i>Carex lupulina</i>	Hop sedge	<i>Rudbeckia laciniata</i>	Cut-leaf coneflower
<i>Carex muskingumensis</i>	Muskingum sedge	<i>Sium suave</i>	Water parsnip
<i>Carex stipata</i>	Stalk-grain sedge	<i>Polygonum pensylvanicum</i>	Penn. smartweed
<i>Carex typhina</i>	Cattail sedge	<i>Polygonum lapathifolium</i>	Nodding smartweed
<i>Cyperus strigosus</i>	Straw-color flatsedge	<i>Ranunculus septentrionalis</i>	Buttercup
<i>Eleocharis obtusa</i>	Blunt spikerush	<i>Elymus virginicus</i>	Virginia wild-rye
<i>Aster lateriflorus</i>	Calico aster	<i>Bidens cernua</i>	Nodding beggartick

¹⁵ VII., page 214, Eggers and Reed

¹⁶ VIII., page 227, Eggers and Reed.

