

GRASSLAND IN THE FLOODPLAIN OF ILLINOIS
RIVERS

BY

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The occurrence of grassland in the floodplain of the larger rivers in or bordering Illinois has been discussed by Brendel (1887), Gleason (1910), Inlay (1797) and Sampson (1921). The relationship of this type of grassland to bottomland forest and other vegetation types in the Mississippi and Illinois river valleys seems to be as follows: the customary floodplain forest is commonly confined to a belt or zone from a few hundred yards to a half mile in width paralleling the river channel or surrounding ponds and lakes. The landward side of this forest type merges into a grass association, at first on the hydric side of mesophytism, but giving way in turn, as the elevation of the floodplain increases, to a mesic grass association.

Two such areas were studied in the summer of 1930, in the Mississippi floodplain near Hillview, and the Illinois River floodplain northeast of Kamps-ville. An analysis of the site factors of these situations did not reveal striking differences between these areas and similar prairie areas in the middle western states, except for occasional flooding.

The spring floral aspect of these areas is characterized by the early vegetative phase of the grasses and the few sedges that will later dominate the situation. In addition are a number of early blooming spring flowers as *Cerastium*, *Veronica*, *Stellaria*, *Specularia*, *Amsonia*, *Ranunculus*, *Myosurus*, *Erigeron*, *Potentilla*, *Apocynum*, *Sisymbrium* and *Arabis*. Two grasses, *Alopecurus* and *Festuca* are identifiable and *Eleocharis* is fairly common.

Midsummer finds the following plants important in the habitat: *Spartina Michauxiana*, *Bidens* species, *Cassia*, *Ambrosia*, *Iva*, *Apocynum*, *Steironema*, *Vernonia*, *Oxalis* and *Euphorbia*. By this time *Spartina*, *Panicum virgatum* and *Calamagrostis canadensis* have attained such size as to be the dominant, conspicuous plants.

A statistical survey, conducted in early September revealed the following floristic character of the prairie: *Spartina Michauxiana* is conspicuously dominant in both areas. *Panicum virgatum*, although having a spotted distribution is locally important to the point of dominance. *Eleocharis palustris* and *Carex* species are relatively important. Both areas have also a representation of dicotyledonous plants, as *Lythrum alatum*, *Cassia Chamacrista*, *Bidens trichosperma*, *Ambrosia bidentata*, *Iva ciliata*, *Eupatorium serotinum*, and *Oxalis corniculatus*.

In many ways these areas resemble some of the stages in prairie succession as occurring in the Mississippi floodplain near Savanna, Illinois (Sampson, 1921). However, in this instance clear-cut steps in succession were not discernible, conversely there occurred an abundance of overlapping of stages.

The method of statistical analysis employed was that derived by Raunkiaer (Raunkiaer, 1918). The frequency curve of the areas in question essentially coincided with the curves derived by other investigators elsewhere. However, the results obtained more nearly approximated Kenoyer's curve