

MACALESTER COLLEGE

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■ DEPARTMENT OF BIOLOGY

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Subject: "DISTURBED AREAS" at ORDWAY.

Ecologically-speaking a "disturbed area" is one in which the natural processes have been set into disarray. Sometimes a natural action - like an avalanche - results in a "disturbed area"; but the big disturber of nature are the activities of man. In a disturbed area the normal natural processes are disrupted and this shows dramatically in the appearance (or disappearance) of vegetation and living creatures.

At Ordway the area immediately around the building is such an area and it is very easy to observe how the excavation of the building site and the erection of a building and parking-lot have brought about this condition. It is interesting to see how nature's reaction by observing the plant-life about. Sweet Clover (Melilotus alba and M. officinalis) appeared all around the building site and was quite profuse at first although the quantity has abated in just the past year or so; this is an indication that the natural processes are steadying themselves and that a balance is being achieved between this "intruder" and the natural vegetative residents. Mullein (Verbascum thapsus), Shepherd's-purse (Capsella bursa-pastoris) and the Flowering Spurge (Euphorbia corollata) and Hoary Alyssum (Berteroa incana) are other flowering plants ("weeds", if you prefer) which are found in great numbers in the disturbed area near the building. In another type of disturbed area - along the railroad tracks - one finds obvious intrusions from wheat, oats, maize, flax and mustard, no doubt seeded from grain cars passing through.

The passage of time brings about remarkable re-balancing in the natural state of things. In the grassland portions of the property, where man once plied the plough and hay-mower, we observe with the passage of each season a steady reversion to natural prairie conditions. An increasing stand of both Big Bluestem (Andropogon girardi) and Little Bluestem (A. scoparius) has made its appearance and there is an increase in the stand of Yellow Prairie Conflower (Rudbeckia subtomentosa) and the Blazing-Star (Liatris aspera), all of them typical of the prairies as far back as pre-Columbian times. There is an attendant increase in the Meadowlark - we have both the Eastern (Sturnella magna) and the Western (S. neglecta) - and each summer several mother pheasants marshal their half-grown siblings among the tall grasses until they have learned to take evasive flight. Thus one could say that the "disturbed" condition of the cultivated fields is progressively reverting to that of true grasslands although it is well to point out that complete reversion is at best problematic and will require many years, perhaps more than a century. One needs only consider the fact that a plowshare will turn over soil which for time immemorial has reposed 18-20 inches below the surface and bringing this sub-soil to the surface is a considerable disturbance, tantamount to turning over the soil like a huge rug. When one considers how long it requires to deposit as little as one inch of soil on the earth's surface he can better grasp the enormity of what happens when he upturns 18 inches of soil representing perhaps 5000 years or more of soil development. It is little wonder that there is an attendant upheaval in nature's reaction dramatically portrayed in the vegetative changes.



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