

# MACALESTER COLLEGE

SAINT PAUL, MINNESOTA 55105

■ DEPARTMENT OF BIOLOGY

Ordway Bulletin No. 11

Subject: EROSION and FOOT-PATHS at ORDWAY.

One matter of concern at Ordway is that of the loss of the topsoil by water runoff, particularly in those areas where our activities have had the most effect upon the terrain. In one small depression just below the Station building we drilled to a depth of 29 inches before reaching loam soil, the entire area being covered with fine sand and silt washed down from the higher ridges. Since the Station is located 865 feet above sea level and River Lake is at 675 feet there is a strong tendency for erosion of the upper soils. With the intention of minimizing the effect of runoff the foot-trails have been re-located so as to discourage the formation of steep, straight paths where the surface waters would gather momentum to scar the slopes. The passage of motor vehicles and horses is forbidden as well.

When walking one should be aware of the effects of erosion upon a landscape and should bear in mind that his own conduct can produce the initial incursion which can have a drastic effect upon the environment, particularly where the precipitation is high during a part of the year. This is particularly so when walking on steep slopes or in terrain where there exists a "fragile" balance - such as sandy slopes or dunes. Running up and down a steep bank or sliding down a sand dune can be a real "fun thing" but unnecessarily hard on the environment. There is a time and place for everything and this should be kept in mind when one is walking through the woods or countryside.

The trails at Ordway are laid out in such a way as to be obvious to most visitors. It is amazing, however, how many persons will walk the most direct or steep path simply because "this used to be the path" and "you can get there sooner". When walking - not only at Ordway but wherever we may walk - we should take the more gradual avenue of descent (or ascent) in order to lessen the deleterious effect upon the terrain. This is particularly appropriate if there is a sizeable group of walkers involved.

Many animals (other than Homo sapiens) are remarkably adapted to this sort of pathfinding (as anyone knows who has followed a cowpath from a steep pasture to the watering-trough). Sheep will pick out a gradually descending route with many switchbacks and it is said that the pathways by which our native bison ascended from the plains into the foothills were almost perfectly graded to the needs of the first railroad builders in our Western country, being no more than the 4% grade which marks the desirable limit of steepness for railroad locomotives.



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