

First Draft

aug 4/83

Man Pannes (insert, as of p. 103, at end of "Forb Pannes")

The Man Panne is a new development amongst the site types and the plant-communities of the Weq.-Pawc. tidal marshes. It was first noticed during a visit in the mid-1970s, tho it probably started earlier. There is no recollection of such a phenomenon whatsoever, from the field work of 1946-48. It is considered a phenomenon triggered entirely by a greatly increased trampling effect of feet, human feet in this case, tho deer use is a minor element. In this respect the Man Panne is an ecological phenomenon related to many other known phenomena: to the vegetation of foot trails as described in British literature to on-the-countour cattle trails in arid range lands, to mucky human paths across bogs (Bethany Bog, Bethany, Conn., personal observation), and to animal trails around the world from those of large African herbivores, to those of mice in old fields. In the case of these tidal marshes, it appears that the trampling results in compaction, resulting in chemical and physical changes, leading to decay of the surface peat, a lowering of the surface, ~~and~~ an influx of impounded water at low tide, with vegetational effects analogous to those of other pannes.

overuse of "wilderness Area trails

This newly developing Man Panne is appearing only at the upper edge of what had been the Juncus Upper Slope (Fig 6, p. 155), and at the seaward margin of the Panicum virgatum Upper Border. This location is easily understood. The Panicum virgatum belt, now intermixed with the low shrub Iva oraria, is difficult to walk thru. Spartina patens and its associates is easy to walk thru, but much of it is often flooded. People pick the driest, most "open" vegetation for walking, and that is thru what had been Juncus, just seaward of the P. virgatum. Furthermore, human use of these areas has vastly increased since 1948, not only by hunters during the hunting seasons, but by bird watchers and other naturalists, and by school classes. They all pick the easiest driest lines of travel. Result: a continuous winding Man Panne, about 12 feet wide. It bifurcates and rejoins itself when a large boulder is in the way. At the marsh edge farthest eastward of the Parking Lot at the Brucker Marsh, it all but disappears, and is replaced by a very narrow and less straight such path, indicating a similar behavior pattern on the part of the deer. In the small marsh west of the Parking Lot, ignored by most of the human visitors, the Juncus Upper Slope continues undisturbed. Most interestingly, the study group on July 6, 1983, was observed, in

full expression of their animal instincts, to be observed walking not in the Man Panne, but adjacent, in the drier Patens marsh, thus initiating a Man Panne of a "second generation". (see photo)

The composition and structure of the Man Panne were studied on , 1983, in a series of 10 sq. m. plots (between 5 and 6 feet in radius), located at (non-mathematical) random, within larger areas that were subjectively considered "typical". A floristic list was made; and relative abundances were designed by three categories (combining conventional Density, number of stems per unit area, and Coverage, actual area-covered by the plant. The three categories recognized were: Rare (0 to 20% of the vegetation), Occasional (20 to 80% of the vegetation), and Abundant (80 to 100% of the vegetation). See new figure x.

data sites to be obtained

FEE and JPA

Bill: Who is going to take the major initiative in writing a full 1983 paper? I offer the above as a specific contribution. Modify it as you wish. We need a new section on the new ditch technology? The Pot Hole, and the two hard-bottomed Ruppia Pools (both eastward). Colonial mowing and ditching? Indian times? And is there ANY pre-Indian natural, virgin, pristine body to worship? I'll go down again for data on the Man Panne. We could have taken them at the end of the afternoon; but no time. I stand ready as often and



over

time-consuming as need be, to go over what mss. are prepared for this new 1947-1983 paper.

The rise in sea level needs an up-to-date statement

I myself see no reason to revamp my general approach as in figure 6 (even tho the upper edge of the Juncus Belt has turned into a Man Panne, and the Sp. alterniflora Lower Border has all but vanished in the interior with the new ditching technology (but probably not, at the Sound edge).

The sand bar and beach needs some new statements.

There has of course been a tremendous re-arrangement in the distribution of, and rel. abundance of, the different plant-communities -- into a checkerboard of rectangles, due to ditching, levees, and pannes -- to which I am not at all surprised.

We should put MORE emphasis on the need of a Natural Area, "as free as possible from human interference" -- for all the reasons that TNC was originally established, as a scientific organization, and from which ~~many~~ organization, scientists have abdicated their responsibilities. Shall Egler write that paragraph. I promise not to be libelous.

Let me hear from you,

Frank

Bill! On the Panne chemistry, the sulfur problem as your group has been investigating, and understandably, the DEcrease in the significance of killing salt concentration, when they dry to precipitation: --

On further thought, I HAVE NO RECOLLECTION WHATSOEVER of seeing any of the black gunk in those drying pannes such as now denominated. I DO RECOLLECT that a white salty crust was often found.

Therefore I ask whether the sulfur reactions may not be a new phenomenon, not present in the 1940s.

And that leads me to ask whether NEW factors may not be playing a role: acid rain with its sulfur? pollution from upstream sources? pollution from Sound waters? Worth thinking about.