

OOZE AND GOOP! ACID SALINE SEEPS WORKSHOP

A Land for Wildlife 10th anniversary event

Despite some very wet weather, over 40 people gathered at Talbot Hall south of York to learn about the problem of surface soil acidity in seepage areas. Steve Appleyard, the acid saline soils guru from DEC, gave a clear explanation of how the soils formed, why they become a problem when aerated, and how the surface scald develops.

He then went on to discuss the problems that exceedingly acidic water can cause, from eating away any infrastructure (culverts, fence posts) made from concrete or steel, to the death of all aquatic organisms, the death of all affected plants (mainly from aluminium toxicity) as the acid first dissolves minerals (eg cadmium, arsenic, lead, aluminium and the 'transuranium elements') from the granite, then concentrates them into a toxic brew that causes nasty problems for anything that tries to drink it, or plants that try to absorb it. The heavy metals are carried on up the food chain, getting more concentrated all the time. Drainage exacerbates the problem, as it allows oxygen to access the sulphite layer in the soil and so activate the process of creating sulphuric acid. Many Wheatbelt drains run with crystal clear, pale blueish water – clear because it is so acid nothing can live in it (and it will blister your skin) and blue because of the extremely high level of dissolved aluminium. It is akin to the waste water from

coal mining and very difficult to dispose of safely.

David Breen, from the Talbot Land Management Group, described the work done on this particular site, and in the Talbot Brook catchment, and what had been learnt from the work (p 14).



Acid seep testing is going on under the umbrellas! The dense growth of Shore Rush is evident, as well as the height of Saltbuster. (More info p. 15)

Steve went on to explain that seeps such as the one at Talbot, produced because of rising groundwater on a catchment scale, are trying to become a small wetland, and are best treated by letting them do just that. Let the site become waterlogged and encourage reeds to cover the surface. Waterlogging means anaerobic conditions, so the acid will no longer be created. Even trampling by stock causes enough pugging to permit surface oxidation.

An inspection of the acid saline seepage site next to Talbot Hall allowed Steve and David to demonstrate the points made during their presentations - including rotting concrete culverts - although the torrential rain diluted surface acidity expression. The effectiveness of the revegetation was clearly seen.

Participants went away with a much better understanding of the problems caused by this type of soil and what to do about it. Zara Kivell thanked everyone for their attendance and hoped that we would all continue to work together for a better long-term future for our unusual and fragile landscape.