



AVNE CONSERVATION ASSOCIATION

Baidland, Downs Rd
Thurlestone

Christmas News Letter 2005

Dear Member(s)

Progress on Projects

1. Siltation

Those of you who attended the Annual Public Lecture heard presentations from the three post-graduate researchers from UoP who reported on their sedimentation studies, and from Dr.Reg Uncles of PML who showed us graphs of the hydrology model of the Estuary which they are building. This led to a lively discussion of the changes taking place in Bantham Harbour and to the conclusion that we, the members of ACA, should assemble a catalogue of "ancient wisdoms and anecdotes" which we should check out against the science of the Project. May I please ask those of you who remember changes in practices over the years to alert us to them. There is also an intention to produce the Atkins maps in A5 format as an aid to navigation in the Estuary

The commissioning of the IT facility in Thurlestone Parish Hall could potentially allow us to complement the studies commissioned from PML as part of their modelling with a continuous record of tide and weather conditions on the Estuary, fed by web-cams and a "marine station". We will be in touch with some members asking their help to set this up .

2. Water Quality

Thanks to your efforts in reviewing discharges, the situation at Bantham appears to have improved this summer. I attach a paper on sewage arrangements prepared by Stuart Watts for local circulation. Peter Marsh and Stuart met with members of EA, DEFRA, CEFAS and Environmental Health to discuss a spike at Hexdown, as a result of which another serious source of pollution has been addressed with the cooperation all parties. .

Those attending the reunion at Fishermans Rest had an opportunity to enjoy once again Avon oysters; they tasted delicious. Full marks to our oyster farmer.

3. Safe Navigation

A change in the regulations governing the stability of ferries is threatening the service between Bantham and Cockleridge. The new buoyancy requirements make sense on quay to quay services, such as Dartmouth and Salcombe, but no sense at all if one terminal is a tidal beach. As things stand, a six mile hike is likely to be added to the Coastal Path.

4. Archaeology

Francis Griffiths, the Devon Archaeologist, has asked us to support the Mount Folly dig and a form of registration is attached. The site is proving more productive than first realised. We are still awaiting the definitive report on the "Bantham Beach Party".

5. Ecology

I attach the addition to our census of flora assembled under the guidance of Gordon Waterhouse on our May Day guided walk, together with some notes on the *Spartina anglica* infestation which is threatening our Estuary and which may yet prove a significant cause of our siltation problems

The next Oyster Fest will be held at the Oyster Shack at 12.30 on Wednesday 15th Feb. It will cost £ 22.- per person (including tip), consists of a three course meal (see menu attached) and you will be able to bring your own bottle of wine, for which there will be £ 2.- corkage. Coffee will be charged extra. I am delighted that we are now able to continue one of our long standing traditions, and am hopeful that we will be able to set up something in the Sloop during the summer holidays. Supporting local caterers comes in handy when looking for raffle prizes and we were very grateful to the Royal Oak, the Fisherman's Rest, Delicasea, the Bantham Coffee shop, Bigbury Bay Oysters and Burts Chips for donations to our Barn Dance raffle. The Barn Dance was a great success thanks to the efforts of Stuart & Sally and raised £ 310 for the General Fund (which pays our contribution to the Estuary Patrol); 60 members and guests participated including 10 children who proved enthusiastic participants,

Wishing you a festive Christmas and an auspicious New Year,

John F.Crawford - Chairman

A PLEA AGAINST SEWAGE POLLUTION

by Stuart Watts

Most of us take sewage disposal for granted; if the sink, bath, washing machine or dishwasher empties as required and the toilet flushes, that is the end of the matter – out of body, out of sight, out of mind. However, in terms of disposal, this is only the beginning of a complex biological process. That process needs to be nurtured; if it does not work effectively, your sewage may come back to haunt you - and others!

Between Loddiswell and Bantham there are many known discharge points for domestic sewage systems into the River Avon, licensed but not routinely monitored by the Environment Agency. Other systems are so ancient that they pre-date the need for a license and may not even feature in the records. If all goes well with these systems, the discharges should make an innocuous addition to the river. However, our concern in the Aune Conservation Association is that many of these un-monitored systems probably function quite ineffectively and as a direct result their discharges could end up damaging our river and threatening the health of those who use it. The main reason for malfunction is poor understanding by their owners about how these systems work. After all, sewage is not normally a major topic of conversation in polite company! A few words of explanation might help to encourage a more cautious and thoughtful approach to human waste disposal.

Any form of sewage system is nothing more than a mechanism for bringing about or accelerating the transformation of complex organic molecules into simpler components that can be more safely discharged into the environment. Microbes, mostly bacteria, are the active agents in this decomposition and oxidation. Importantly, as living organisms, they need to be provided with the right environment to thrive. They do so by using biological matter in the sewage as a food source, breaking it down as they multiply. Many modern domestic sewage digesters operate by providing an environment in which bacteria are cultured in the presence of oxygen or air. To provide optimum treatment the bacteria need free access to oxygen and immersion in the sewage. The majority of purpose-built plants work by providing a fixed medium that the bacteria adhere to, and a means of interfacing this with regular supplies of oxygen and nutrients; this may involve pumping air through the system and/or a mechanical mixing process. When functioning correctly, these digesters are extremely efficient. In contrast, the traditional septic tank relies on anaerobic bacteria - which thrive in the absence of oxygen - multiplying in the settled sludge in the tank and providing a degree of treatment. Further treatment is carried out in so-called biological treatment or irrigation fields where the fluid component leaves the septic tank and percolates over porous subsoil. Here the fluid is exposed to a different population of naturally occurring bacteria which thrive in air; this second population completes the breakdown process. Cesspits/pools which are often confused with septic tanks by the uninitiated are not designed to be biologically active; they merely serve as static, temporary holding tanks for sewage and waste water prior to its timely collection and removal from the site for processing elsewhere. Cesspools have a limited capacity and need frequent emptying.

All types of system need regular maintenance together with informed usage in order to function effectively; much can go wrong. Importantly, a large number of the older systems were not designed to cope with the high volume of detergent-rich effluent from modern washing machines and dishwashers; without adequate maintenance their capacity simply cannot cope. The problem is compounded by our modern day fixation with personal hygiene, involving daily bathing and showering. Obviously, mechanical or electrical breakdown could result in inadequate mixing of oxygen and bacteria in modern treatment plants but it is the welfare of the microbes in the plant that, arguably, is the most critical factor for obtaining the best performance from any installation. The use of modern domestic chemicals, such as bleach and disinfectants, largely eliminates any microbiological activity in septic tanks or irrigation fields and today these may only provide primary settlement of sewage with little if any improvement in effluent quality.

Many systems in the South Hams are associated with holiday homes which pose a number of distinct problems. Many 'holiday home' systems experience sporadic and occasional usage which means the microbiological population is subject to sudden and dramatic fluctuations in its growth environment rather than the steady and constant replenishment of nutrients which would allow it to flourish – a sort of feast or famine situation. These 'holiday home' systems are also less likely to receive regular maintenance; they are often subjected to

excessive loading with consequent overflow during summer months; and, many holiday visitors are likely to be accustomed only to mains drainage, remaining blissfully unaware that many substances that are innocently poured into rural sewage systems actually leave a poisonous legacy by killing off both the aerobic and anaerobic bacteria upon which sewage digestion largely depends. In addition to bleach and disinfectants, such substances would include most commonly used detergents, cooking oils, solvents, paint, etc.

All these sewage arrangements accumulate sludge. Periodic removal of sedimented sludge is another chore, quite separate from the challenge of maintaining the microbial welfare of a sewage system. If sludge is not removed, the systems simply clog up, malfunction and overflow on to the surrounding land (and nearby watercourses). My own sludge removal man assured me recently that many local properties have not had their tanks cleaned out within living memory!

So, for everybody's sake, I ask your readers to familiarise themselves with their own sewage disposal arrangement, to make sure it is regularly serviced, and to educate any guests into treating it with respect. Finally, think on this – a carefully managed and maintained sewage disposal system will be a valuable asset when your property is surveyed prior to re-sale! But you probably don't want to be haunted by the ghosts of that microbial community in your back yard or garden under any circumstances.

END

Oyster Fest Menu - Oyster Shack Wed. 15th Feb at 12.30

Starters: Dozen Avon Oysters au naturel with Thai Dressing
Moules mariniere,
Fritts of Plaice and aioli

Main Dish: Fresh roast Gurnard, garlic, shallot & sage butter
Trawlerman's Pie and homecut Chips
Baked Salmon `al Cartoccio'

Desert: Rum baked Banana, Butterscotch sauce and Raisin ice cream, Caramelised
Apple and Rosemary Crumble with clotted cream, A slice of Sharpham
Rustic, sweet & sour Onions and Water biscuits

Price £ 22 (includes tip), corkage £ 2.- (BYOB) Please phone John Crawford with
your options on 560 688 (or e-mail JCBaidland @BTOpenworld.com)
Low tide ca. 1300 hrs.

Registration of Interest in Mount Folly Dig

I would like to register my interest to join volunteer fieldwork for archaeological
investigation at Mount Folly Farm, Bigbury. on Sea in 2006

NAME.....

Address

..... ,

.....Post code.....

telephoneMobile.....

e-mail

Completing this form registers your interest but does not commit you to participate.
Participation invitations will be sent out to all those who have registered an interest
in due course. Please return this form to:

Eileen Wilkes, Archaeological & Historical Environment group, School of
Conservation Sciences, Bournemouth University campus, Poole, Dorset BH12 5BB
e-mail: ewilkes(a)bourriemouth ac. uk

Low Watermark Salt Marsh

- Quadrat 6
 Red Fescue
 Sea Arrow grass
 Sea Aster
 Sea Purslane
 Parsley Waterdropwort
 Sea Meadow grass
 Sea Milkwort
 Spartina anglica

Quadrat 7

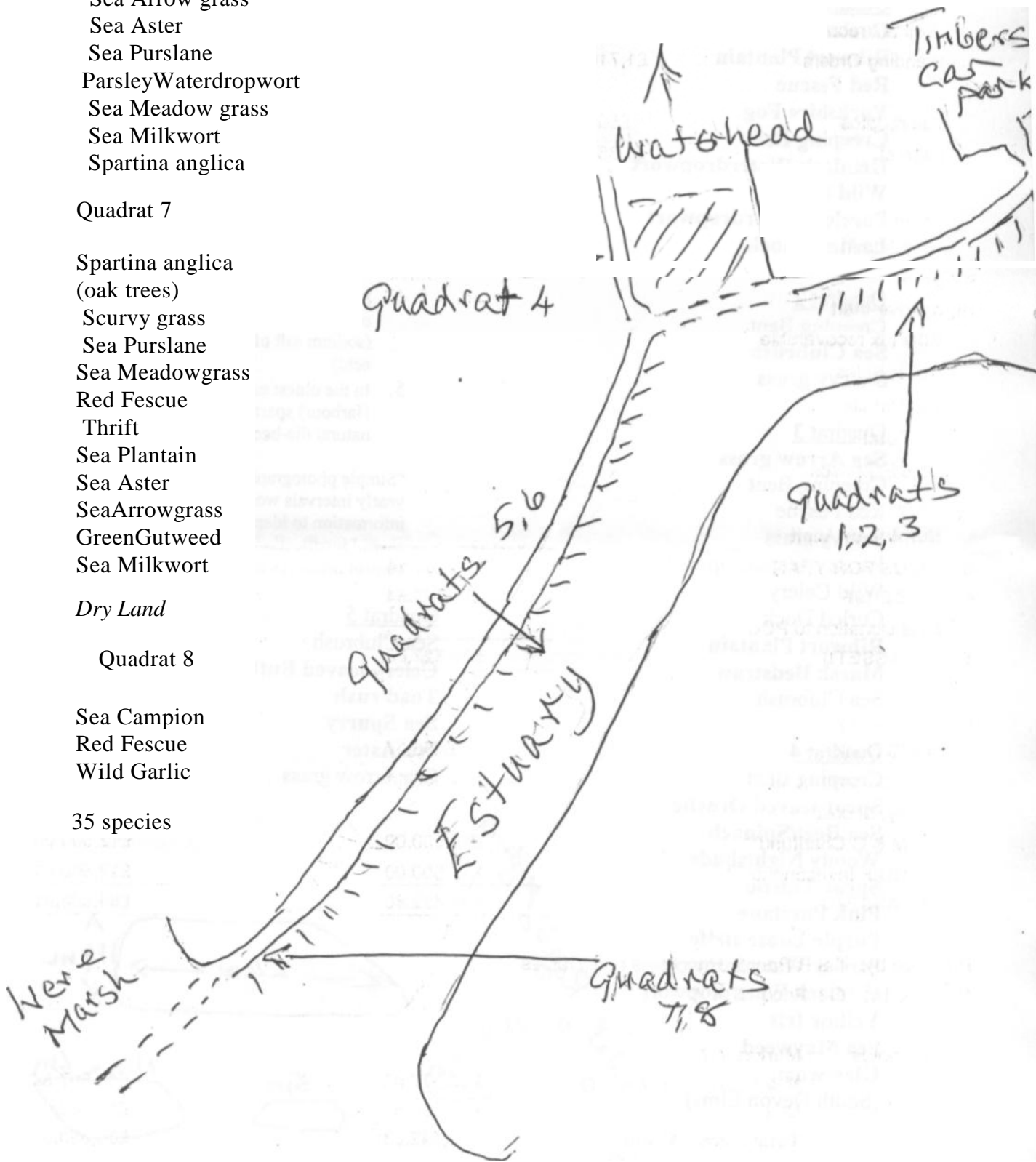
- Spartina anglica
 (oak trees)
 Scurvy grass
 Sea Purslane
 Sea Meadowgrass
 Red Fescue
 Thrift
 Sea Plantain
 Sea Aster
 Sea Arrowgrass
 Green Gutweed
 Sea Milkwort

Dry Land

Quadrat 8

- Sea Campion
 Red Fescue
 Wild Garlic

35 species



Flora Census; Waterhead to Were Marsh, Saturday 30th April

High Watermark Saltmarsh

Quadrat 1

Curled Dock
 Ribwort Plantain
 Red Fescue
 Yorkshire Fog
 Creeping Bent
 Hemlock Waterdropwort
 Wild Celery
 Parsley Waterdropwort
 Ladies Smock

Quadrat 2

Creeping Bent,
 Sea Club Rush
 Sea Scurvy grass

Quadrat 3

Sea Arrow grass,
 Creeping Bent,
 Red Fescue
 Scurvy grass
 Parsley Waterdropwort
 Wild Celery
 Curled Dock
 Ribwort Plantain
 Marsh Bedstraw
 Sea Clubrush

Quadrat 4

Creeping Bent
 Spear leaved Orache
 Sea Beet/Spinach
 Woody Nightshade
 Spear Thistle
 Pink Purslane
 Purple Loosestrife
 Parsley Waterdropwort
 Hemlock Waterdropwort
 Yellow Iris
 Sea Mayweed
 Glasswort
 (South Devon Elms)

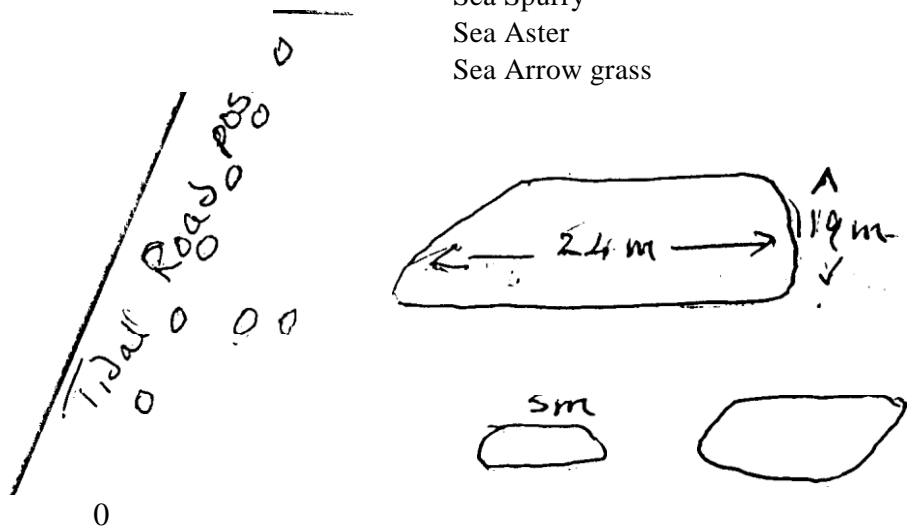
Notes taken from *Spartina Anglica* by Doody 10/11/02

1. *Spartina* poses a threat to other salt marsh flora. *Zostera* is mentioned, but other native pioneer plants are affected
2. *Spartina* poses a threat to waders (particularly red-shank, plover, oyster catcher, dunlin)
3. *Spartina* fixes siltation which would otherwise have been washed out of the estuary
4. *Spartina* has been successfully controlled by spraying with Dalapron (sodium salt of dichloropropionic acid)
5. In the oldest established area, (Poole Harbour) *spartina* has experienced natural die-back

"Simple photographic monitoring at yearly intervals would provide sufficient information to identify any major changes, should justification for the introduction of control measures be introduced".

Quadrat 5

Sea Clubrush
 Celery leaved Buttercup
 Toad rush
 Sea Spurry
 Sea Aster
 Sea Arrow grass



Spartina patches forming at the mouth of Were Marsh (Quadrat 7)