

## Telemetry & GPS Collars

### Extracts from Nibblers online discussion group

Is there anyone out there using GPS collars or any other system to track semi feral grazing stock across large areas [300ha total] consisting of lowland heath, scrub and woodland?

We are looking for a system that reduces the time taken to find nearly 40 semi feral Exmoor ponies spread over 4 sites. We deliberately don't handle the ponies so that they cannot be approached by members of the public but that means that whatever system we use would require minimum intervention to change batteries etc.

Any suggestions gratefully received.

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I believe Corporation of London were using system or at least contemplating it at Ashted Common many years ago, don't know if it ever came to anything -  
Simon.Meek@corpoflondon.gov.uk

Any info Simon?

Regards

Jim Swanson

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Biotrack in Wareham - 01929 552992 will sell you the gear to do everything from a blackbird to a buffalo.

One of my graziers uses cow bells - seems OK to me.

Ian

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English Nature and the Yorks Dales NPA have purchased 2 collars (1 for cattle 1 for sheep) and software to track movements over 100+ha of limestone grassland and heath (no scrub or woodland). It works v well for monitoring movements (a position plot is recorded as frequently as you like) but not a great help in tracking because the battery only lasts 2 or 3 weeks and the radio signal that is used for locating the collar in the field in real time stops working at that point.. Collars need to be removed and re-energized accordingly. Researchers at Newcastle Uni are collating the data and there should soon be some results to show what the system can do

My guess would be that radio tracking will be much more cost effective if all you want to do is locate them for checking welfare.

Bill

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<http://www.followit.co.uk/> claim their device is suitable

Animal Tracking - Due to the size of the Locator it is the only truly practical portable GPS/GSM solution on the market today. In conjunction with the battery module and the Followit range of collars you can keep track of your horse, dog or livestock. In fact as long as the animal in question is of a reasonable size you can locate its position. specifically designed for this purpose

However - with ponies you don't handle you may have trouble attaching the device and then renewing the batteries. I heard about one pony tracking project that tried a variety ways -

headcollars, glue etc. The ponies always managed to remove the device. Eventually they used to plait the device into the pony's tail although this was not foolproof.

I came across -

<http://www.colsimsecurity.com/defaultc8.html?PageName=tags.asp>

Margaret and Tim Mackintosh  
Exmoor Ponies in Conservation

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Not sure about this system but the units used for tracking animals as large as cows normally have batteries that last upwards of 18 months before needing to be changed.

Ian

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This advice from Richard Bevan of Newcastle who has experience of tracking a range of animals with different systems:

I've been thinking about the advice about the Exmoor ponies. If they only want to track the ponies to look after their welfare then radio transmitters seem the obvious answer (Biotrack are a very good UK company see below). However, if they'd also like to get some info on where they've been then they could use the satellite collars but using a much lower sampling rate than we've been using. They can set them up to take, for example, just 4 readings per day - at night, morning, midday and afternoon. This would give them a nice picture of the ponies' movements and the batteries should last over 150 days and you'd have the UHF beacon for tracking. But, of course, there is the expense and the radiocollars would work for considerably longer.

Cheers

Richard

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GPS collars for stock now available from alana ecology; for more information contact - [www.alanaecology.com/acatalog/gpscollars.html](http://www.alanaecology.com/acatalog/gpscollars.html) or email: [telemetry@alanaecology.com](mailto:telemetry@alanaecology.com) or tel: 01588 630173

Jim Swanson, GAP Southern England Coordinator

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Looks like an excellent product, and would be very useful.

However... I got the catalogue, and found that the unit retails at over £2000, with, as far as I can make out, another £800 or so for software and PC interface (good catalogue though otherwise).

So unless someone is going to be very generous at Christmas, I think we'll wait for

something cheaper!

Other possibilities (though not yet in UK?) seem to be:

<http://www.globalpetfinder.com> -- about \$350

<http://www.wherifywireless.com/html/solutions.asp?pageId=80> -- about \$150.

So it does seem to be technically feasible -- we just have to wait for the technology to trickle down.

There are also GPS/GSM vehicle-tracker units available, though these too seem to be pricy, and most need 12V power.

Richard C

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I use equipment from Alana which is a receiver and directional aerial and a transmitter on a collar. It was cheaper than that price quoted below. I think probably a different system. I use it to find my Shetland cattle herd out on sites and have used it for more than 5 years. It must have saved me hundreds and hundreds of hours. Its quite invaluable.

Mary Holloway

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Mackay, R. Stuart presents a number of simple telemetry circuits, suitable for construction by a volunteer enthusiast, in his classic Bio-telemetry text (1968): Bio - Medical Telemetry: Sensing and Transmitting Biological Information from Animals and Man.

These 1960s circuits are of course relatively old tech, laughable even, against today's methods. But laughable technology (hope my dogs aren't reading this) may be all that it takes to locate the flock for those who need a gizmo; and laughable is cheap.

As for monitoring flock health indirectly through evaluating flock movements (via telemetry to satellites), diagnostic sensors are already available now, so that a more direct diagnosis can be made, say from rumen activity and chemical analysis with a telemetering implant. Temperature measurement and logged activity telemetry are routine now in Bio-telemetry.

Flock movement could eventually be monitored by satellites using imaging and image analysis alone, no need for any telemetry gadgets on the animals. It is this technology, not the telemetered system Defra suggests that would detect predators too. Foxes won't be wearing a tracking collar.

It is only likely if there is still a Defra in 30 years that "Data would be monitored and interpreted by specialist surveillance managers - trained in animal husbandry and advised by vets - so any changes in livestock movement, no matter how small, could be instantly picked up and responded to." It is more probable that automatic expert systems (replacing Defra managers) will sift the data and analyse changes, and then someone will tootle up the hill to have a squiz.

I have a weekend project building a prototype automatic expert system made from an eyed potato and with four matchsticks for legs. So far it is going really well, showing the usual expert characteristic of not functioning on Saturday and Sunday.

For an excellent bio-telemetry mailing list see <http://listserv.technion.ac.il/biotelem.html> where a mail archive is available.

regards

David (dafad) Kilgour  
New Zealand

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