

Data Quality Standards for SEDN

Draft 8/9/2009

As a Biological Records Centre, SEDN needs good quality data to provide to users. The main things people want to do with data are these:-

1. To determine, empirically, which species are rare or important, relative to other species.
2. To determine, empirically, which sites are important, relative to other sites.
3. To find out how these species and sites are changing.

To accomplish these tasks we need comprehensive, structured data. And we need to be highly selective about what we collect. With some 10,000 species to record and some 3,500 square kilometres in which to record them, it is clear that we could make tens of millions of records every decade to get comprehensive coverage. As we're only going to get a tiny fraction (1%) of that, we need to make sure that we avoid unnecessary duplication, badly structured surveys, and erroneous records.

Collecting good quality data without duplication is good for everyone. One may have to be trained to a higher standard and to think a bit more about what one does, but the end result is less work for better results, because it is more efficient and more effective.

What do good biological records look like?

Good quality biological records can always be divided into one of three categories:

1. Full lists
2. Structured samples
3. Individual records

Poor quality biological records can usually be defined as follows:-

1. Partial lists
2. Unsystematic samples
3. Inadequately detailed records

It is vital to understand these three categories and to consciously divide all your work into one of these categories.

1. Full Lists

A full list is usually made for a site or a grid square. A full site list is useful in evaluating the site (finding out what lives there) and for detecting change (what has arrived and what has gone). The difference between a good site and a poor one might be just one species – e.g. 10 breeding dragonflies rather than 9. This immediately highlights the importance of a full list. If a surveyor casually records just 3 species in a pond where actually 10 occur, then clearly the list is of no use in evaluating that site. The list is not a little bit useful – it is of no use at all. That sounds harsh, but it is clearly true. On the basis of that list you would be mistaking a SSSI for an undesignated site.

Having said that, several lists of 3 species over one year, when combined, might make a full site list and then it would suddenly become a valuable piece of work.

A similar process works for grid square surveying. A good, comprehensive list of birds in a grid square contributes to our knowledge of the distribution of species. But a half-hearted effort to record just the common garden birds in each square only tells us what we already know – that common birds are common. You have to get the difficult and rare ones for the list to be valuable as a list.

2. Structured samples

A structured sample is a repeatable method of surveying that is less arduous than a full site list. You can record a vegetation quadrat or place a pitfall trap for one day, and the data is valuable. Butterfly transects and moth traps produce structured samples. What is important is to avoid inventing your own type of structured samples. For example, a short walk-through survey of a wood would be an unstructured sample – not repeatable, not conforming to any standard, and not equivalent to a thorough site survey.

To understand this, imagine someone doing half a butterfly transect in the spring and the other half in the autumn. A full transect would enable you to compare the species flying at each time of year, but with only half a transect, possibly in different habitats, no comparison would be possible. You might conclude that woodland species fly in the spring and grassland species fly in the autumn. Or vice versa. It is, essentially, useless data. The moral is: if you are going to use structured samples, do them in full and do them properly.

3. Individual records

It is easy to make an individual record. This is just a note that you saw a species on a particular day at a particular site. But you cannot make up a biological recording system based entirely on individual records – this format is reserved for records of particular importance, such as rare species or ones that are difficult to identify. In this case, it is often necessary to provide additional information such as a voucher specimen or a population count. For each taxonomic group there are different criteria for what would count as worthwhile. If you went around the county randomly recording pipistrelles or foxes, that would be worthless data. But if you went round carefully recording and documenting pink waxcaps or Brown Long-eared Bat roosts wherever you found them, it would be treasure. The same amount of work, possibly, and probably fewer records – but infinitely greater value.

Advice for the surveyor

The important thing to remember is that you can easily do work that would be useful, and that just a little bit of thought and knowledge can make it so. We do not want to put people off making records.

To be an effective surveyor, you need to know a bit about your subject area. A skilled surveyor can make a lot of good records in a short time. But even a complete beginner can start to make good records by focusing on a subject where they can make a difference. The **county recorders** can advise on this.

It would be easy to say that rules such as this spoil the fun of recording, but compare it with other things that are fun. What use is a singer who is dreadful or a sportsman who refuses to play sensibly? To make a sensible contribution to any subject you have to be willing to work within your limits and to the standards that are acceptable to the people around you.

Biological recording is one of the few areas where ‘ordinary’ people can make as good a contribution to science as professionals. SEDN will offer training and guidance, and we will tell you what you need to do to make a real contribution. Unfortunately, this sometimes means that we have to tell people that what they are doing is not all that useful – but would you rather have us lie to you? It is far better to know what is good practice and what is not such good practice, and then you can make a choice for yourself.