
BDM FAQs

On what basis did BDM select the species it is monitoring?

As a matter of principle, BDM does not monitor individual species, but rather whole species groups. In doing so, it makes certain that monitoring results reflect a wide range of species, habitats and environmental situations. When BDM experts established the program, they made a point not to restrict it to so-called indicator species, since these often only point to already familiar developments, failing to supply answers to future questions as yet unknown.

Putting together species groups required accommodating very diverse, partially even contradictory demands. On the one hand, such species groups need to cover a wide ecological range, they must lend themselves to being monitored at a reasonable expense of time and money, and there must be enough experts available to do the surveys. On the other hand, it is of crucial importance that species groups can be monitored using methods that are well-targeted (specific), readily responding (sensitive), hardly affected by disturbances (robust) and easily repeated (reproducible).

Why does BDM also monitor commonplace plants and animals instead of focusing on rare species?

Nowadays, rare species only occur in a small portion of Switzerland, mostly in very specific habitats such as dry grassland, raised bogs, fenland, or ponds. However, maintaining biodiversity requires the development of plants and animals to be monitored all over the country's expanse, including places that are very unlikely to harbor rare species anymore, nor species considered to be priority species by nature conservation standards.

As it is one of BDM's main tasks to issue early warnings in case of imminent biodiversity loss, it is essential to monitor common and widespread species in the "normal" landscape. These species also play a key role in many ecosystem services. Focusing on common and widespread species, BDM complements other programs that emphasize rare species.

Why does BDM disregard insects, particularly bugs, the largest species group of all?

Many insect groups have hardly been studied at all so far. Identification literature is frequently incomplete, and there are not enough experts available for field work or identification purposes.

What is more, surveying methods for insects are extremely work-intensive. For example, in order to set and empty pitfall traps, the same location would need to be inspected at least four times a year. In addition to that, it is very time-consuming to sort the animals that have been caught and have them identified by experts. For all of these reasons—time needed, demanding methods, lack of experts—, BDM has chosen not to survey insects, even though it would be meaningful to gather data on this large and important group of animals.

As regards aquatic insects, the Z9 indicator monitors the species diversity of three orders: mayflies (*Ephemeroptera*), stoneflies (*Plecoptera*) and caddisflies (*Trichoptera*). Designed as a state indicator, Z9 describes both current species diversity and changes in species diversity in Swiss watercourses. As surveying of aquatic insects only started in 2010, detailed data analyses are not possible at this time.

Why does BDM not survey habitats?

Habitats are surveyed, albeit in a very limited fashion. For example, field workers are registering land uses and their intensity in each 10-m² sampling area (Z9) according to predefined criteria.

The BDM Coordination Office has prepared an advanced surveying method to cover Switzerland's habitats. However, current priorities do not allow implementing this method for the time being.

Why are BDM sampling areas located in all parts of the landscape rather than only in habitats of particular value to nature conservation?

Valuable habitats are already being monitored by other, specific programs. Conversely, it is BDM's main task to give a representative picture of the country's biodiversity as a whole. For this reason, BDM absolutely needs to use a regular sampling grid without prioritizing areas that are particularly rich in species (biodiversity hotspots).

Some sampling areas are indeed located in habitats of particular value to nature conservation, but only in relation to their share in the country's expanse—which is relatively small.

Are plant surveys made along trails truly representative?

Of course there is a difference between plant diversity found along trails or transects, and plant diversity found in neighboring areas. However, trail-based surveying methods used for the Z7 indicator have been defined in such a way as to record plants in the area beyond the transect as well, not just typical "trailside species". Studies have shown that roughly 75% of the species identified in a complete survey of any sampling area are also found along the corresponding BDM transect.

BDM does not aim at recording absolute species numbers, but rather changes in time, and trail-based surveys are better suited to do that. Surveys covering whole sampling areas would be too time-consuming and not well-reproducible enough.

Plant diversity numbers in landscapes (Z7 indicator) are neither corrected nor projected, but actually refer to the surveyed transect only. As a matter of fact, a whole 1-km² sampling area holds a distinctly higher number of species (see above).

How are sampling areas being protected against human impact?

Sampling areas are intentionally left unprotected. After all, BDM is all about recording changes in biodiversity, which—among other things—are caused by land use. The location of sampling areas is not made public in order to prevent farmers and other users from modifying their activities out of consideration, since that would distort the overall picture.