

**Company:** Jehander  
**Location:** Pålamm-Riksten, Sweden

**Objective** Realisation of a census  
“Butterflies and other insects from Pålamm-Riksten” by Jan Bergsten, biologist.

**Context** Finding just a single species on the endangered species list, plant or insect is enough to reject an extraction application. Even if an endangered species is not found, the argument remains that extraction impoverishes nature. What happens in the areas that we successively restore during extraction operations?

**Solution** Biologist Jan Bergsten has counted insect species, both in the undisturbed Pålamm forest (where the company applies to extract gravel and stone) and in the restored areas of the pit.

**Result** The census shows that there are five times as many species in the restored areas of the pit than in the undisturbed forest. And all of the species present in the forest are also found in the pit. The diversity of insects attracts insect-eating birds, which in turn attract birds of prey which in turn...

Bergsten also suggests how the restorations could be better organised with an eye towards increasing biological diversity. This may include:

- Creating topographically varying landscapes with embankments, mounds, crags, embayment, pools, exposed sand and rock surfaces.
- Preserving the extant vegetation.
- Large share of self-sown flora as host species. The process can be hastened by transfer (by bucket or shovel) of suitable species from the pit boundaries.
- Ideally, up to 95% of the (gravel) pit area can be left unplanted. When planting pine, no more than 30% of the available area should be planted.

Bergsten’s census and proposals primarily concern gravel pits, although species diversity ought to be achievable even in areas of carefully restored stone quarries.

