

tussen Duin & Dijk



Connection and defragmentation

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Infranature is thriving *in Noord-Holland*

Albert Vliegenthart

The Netherlands offers thousands of kilometres of infrastructure with great potential to play a connecting role for nature as well. By pairing these opportunities with infrastructural projects, those verges, green spaces and sites can make a significant contribution to our country's biodiversity.

● *Railway embankments, too, can make great green corridors. Photo: Albert Vliegenthart.*

In 2016, on the initiative of De Vlinderstichting, more than twenty organisations signed the Green Deal Infranatuur to raise awareness on biodiversity in relation to our infrastructure. The signatories, which included public authorities, infrastructure managers and engineering firms (see: Signatories Green Deal Infranatuur), agreed to draw upon and bundle their knowledge and experience to help make this focus on biodiversity standard practice in their line of work. A lot has already happened. For instance, infrastructure managers have put biodiversity firmly on their agenda and they benefit from each other's expertise in developing clear policy with regard to nature conservation. At a symposium in 2017, the different work areas that touch on the Green Deal (procurement, business models, environmental management and laws and regulations) were linked to a real-life case. The redesign of the N241 between Wognum and Verlaat was the central theme and the workshops produced concrete suggestions for the implementation

of biodiversity-related commitments in this project that has yet to be realised.

Recommendations

In general, it is important to be as concrete as possible. For example include that the number of species should show a minimum increase of 150% upon the project's completion, or that in a procurement process all tender proposals must include proposals for preventing road fatalities involving animals. It is essential to involve specialists such as ecologists, legal experts and hydrologists as early as possible. They will be able to assess which processes will be relevant over the course of the project. Nature is a dynamic system, and the process of applying for a permit should allow more room for flexibility. What is most important is that at the completion of the project, the objective (increasing the natural value) has been achieved. Currently, enforcing bodies are more concerned with the details as stipulated by the permit. For example: for a watercourse, a



● *Sowing wildflower seeds after signing the Green Deal. Photo: De Vlinderstichting.*

Signatories of the Green Deal Infranatuur

The Green Deal Infranatuur was signed by Arcadis, Brabant Water, ENGIE Infra & Mobility, Gasunie, the Municipality of Tilburg, Heijmans, the Ministry of Economic Affairs, the Ministry of Infrastructure and the Environment (Rijkswaterstaat), ProRail, the Province of Noord-Brabant, the Province of Noord-Holland, Royal HaskoningDHV, Sweco, TenneT, De Vlinderstichting (initiator), Vitens, and the Water Boards of Vallei en Veluwe, Aa en Maas, Rivierenland, Rijn en IJssel, District Water Control Board Hollands Noorderkwartier and District Water Control Board Rijnland.



● Grassland that is rich in flowers around the port of Amsterdam. Photo: Kars Veling.



● Grassland butterflies like the brown argus (*Aricia agestis*) benefit from this arrangement. Photo: Albert Vliegthart.

fixed flow rate has been determined, but as a result of the spatial changes, the flow rate is now slower. The project developer would now have to pump up water to achieve the right flow rate, while the nature-related objective it was about has already been achieved. Noord-Holland is already seeing a lot of initiatives. Below are a few examples.

Groenspoor

Groenspoor Noord-Holland draws on the same principle as Infrana-tuur: There are plenty of opportunities to promote biodiversity that lie right alongside our infrastructure. Groenspoor seeks ‘combinations’ with nature both in existing structures and new developments, which in addition to strengthening nature also serve other social or economic purposes. Castricum and Heiloo already boast a strong ‘infranature’ network for which roads, waterways and railway tracks form the foundations. Public green spaces, green initiatives set up by citizens

and private gardens tie in with the core network and form connecting links and stepping stones for flora and fauna. There is an initiative encouraging people to replace their garden tiles with plants, a string of bee-friendly vegetation across people’s gardens is in the making and new fruit trees and hedges are being planted. Noord-Holland, too, will soon be blossoming and bearing fruit. While beekeepers make the most of the bee-friendly vegetation, others can sell the fruit and juice from the fruit trees, for instance residents of the GGZ-NHN (Willibrordus) institution. The Clusius College Castricum uses the infranature for its practical lessons (which include mowing and pruning). And Groenspoor has recently also been formulating ideas about making space for nature around the planned exit of the A9 at Heiloo.

Dikes and biodiversity

Hoogheemraadschap Hollands Noorderkwartier (HHNK) has also made biodiversity a priority. They

are now investigating ways of increasing biodiversity as an integral part of the necessary reinforcement of dikes. The main intention would be connecting to the existing natural values in the area. Another example is the so-called ‘sinusbe-heer’ mowing strategy (Couckuyt, 2015, 2016), which HHNK started applying on the Hondsbossche Zeewering in 2016 (see: Sinusoidal management – How does it work?). The effects of this new mowing regime will be closely monitored over the coming years.

Road verge management

The Green Deal Infrana-tuur aims to promote a strategy for managing road verges that is successful from an ecological point of view. Still, in practice, things tend to go wrong. That is why De Vlinderstichting has launched a quality label for good road verge management, which will become available from the second half of 2018. Contractors and landscaping companies that take account of biodiversity in



● Sinusoidal management leads to increased biodiversity. Photo: De Vlinderstichting.

Sinusoidal management - how does it work?

With each mowing, approximately 40% of the vegetation remains as it is, and winding paths, so-called ‘sinusoidal paths’, are created. These vary in size, according to place and over time. As a result, great variation ensues, which is extremely beneficial for biodiversity. Firstly, the sinusoidal path is mowed, and only later on the area within the sinusoidal path is mowed. The time between mowing a sinusoidal path depends on the local situation; the path can for instance be mown in early or late spring. The number of times it is mowed may vary, but the process will always start with a sinusoidal path and a new pattern. If a fixed number of mowings is established, a more basic winding pattern may be an alternative. An infranature pilot at TenneT has already proven that this approach leads to much greater biodiversity.



● More nature between electricity pylons near Overloon. Photo: Albert Vliegenthart.

managing road verges are eligible to carry this label. Another interesting development is the Noord-Holland innovation involving a ‘grass juice’ – using road verge clippings to create an extract that can be used as an alternative for rock salt (grit) used to grit a road. This green ‘stuff’ has already proven its worth in counteracting slippery roads, and is ready to be rolled out as a sustainable alternative to grit. In the next few years, the effects this new product has on biodiversity will be examined along the N506 (www.grass2grit.nl).

Temporary nature

Though itself no signatory, Port of Amsterdam is an interested party when it comes to infranature. The presence of a major international seaport has a great impact on the infrastructure and associated natural values. The concept of temporary nature is a strategic tool for companies to allow nature to develop spontaneously as long as the intended use of the area has not yet been realised. It allows many plant and animal varieties to grow and spread into the surrounding area for an undetermined period of time. The port area is not only proving interesting for protected species like the natterjack toad (*Epidalea calamita*), but also for orchids and unusual species such as round-leaved wintergreen (*Pyrola*

rotundifolia), blue-winged grasshopper (*Oedipoda caerulescens*) and several kinds of grassland butterflies. The Amsterdam port greatly benefits from this arrangement, but also adds another dimension. The ‘new nature’ is used to make the whole area more attractive for leisure and for companies to settle in – in a sustainable way. This way, the Port of Amsterdam ensures a harmonious spatial development strategy that works both ecologically and economically (Langendijk, 2014).

Think differently

In the daily practice of infrastructure management, biodiversity is often perceived as being unimportant or difficult. Perhaps out of ignorance, or maybe because road authorities and environmentalists often speak a different language. But as it turns out, there are often more possibilities than one might imagine when the issue of biodiversity is not actually identified as such. By discussing safety, health or other factors, benefits for biodiversity may also be achieved. Whenever a row of trees is being planted to shield the motorway and its drivers from direct sunlight, it improves the situation with regard to traffic jams and accidents, yet at the same time, it creates a new

home for birds, mammals and insects. A clear case of win-win.

The Infranatuur project is on the right track, but there is still a lot to be done to ensure biodiversity is in safe hands with infrastructure managers. To this aim, the parties involved will work together to come up with solutions. We also aim to support faculties and students in finding concrete solutions. The onus is on all of us to show to decision makers that nature can be used to create win-win situations.

See www.infranatuur.nl for more examples.

Albert Vliegenthart
albert.vliegenthart@vlinderstichting.nl

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