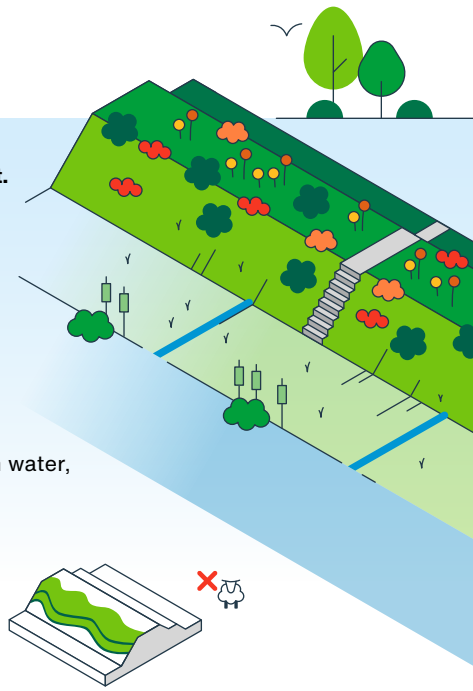
Witteveen + Bos

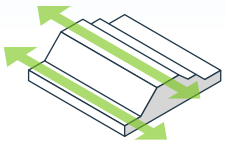
Ecological Design Principles fact sheet

Dykes

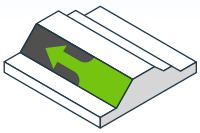


Our projects offer us opportunities to increase biodiversity and strengthen the natural environment. Ecological Design Principles (EDPs) help designers systematically integrate nature into projects. The EDPs make it possible to create designs that benefit both people and nature in a feasible and practical manner.
Because our projects vary in terms of their phasing and scale, the application and impact of the EDPs also differ. In this series of visualisations, we show how each project can help strengthen the ecosystem through the use of the EDPs.

Dykes are essential **links between land and water**, for both **safety** and for **landscape quality** and **ecological quality**. The use of EDPs creates opportunities to enhance biodiversity on land and in water, strengthen the connection between land and water, and to introduce new functions for nature.

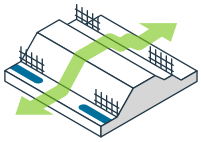


Design the dyke as one long ecological connection to create a natural corridor that allows plants and animals to spread and move safely along the dyke.

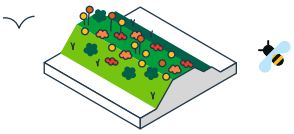


Opt for vegetation rather than a hard revetment, so that the dyke retains its ecological value and provides natural habitats for various plant and animal species.

Use a curved mowing pattern instead of sheep grazing. This results in a varied vegetation structure that is beneficial to insects and other animals, and biodiversity increases at the same time.

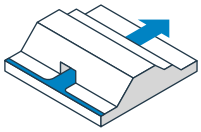


Design an ecological connection that runs perpendicular to the dyke, to connect habitats on either side of the dyke and promote the movement of species.

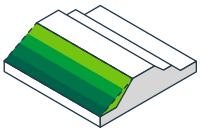


Plant herb-rich vegetation on the dyke, comprising native species from the region derived from indigenous material, to enhance local biodiversity and give the dyke a unique character that fits with the area.

Reinstate a topsoil suitable for herbs that matches the area, or deplete the soil in areas where it is nutrient-rich in order to create a more diverse vegetation with rarer species.



Integrate a fish passage into the dyke to allow migration of fish species and thereby support aquatic biodiversity.



Design the dyke with a gentle slope so that different types of vegetation can grow at different heights along the dyke due to the hydraulic gradient, resulting in a rich and diverse plant life.

Create micro gradients on the dyke to form areas that are sheltered from the wind. Make smart use of essential features such as steps, benches and inlets to provide sheltered spots for plants and animals.

Limit and concentrate human activity on the dyke to minimise disturbance. This allows plants and animals to develop without being hindered by outside influences.

You can find more information about our Ecological Design Principles and fact sheets on the other themes at:

www.witteveenbos.com/designingforbiodiversity