

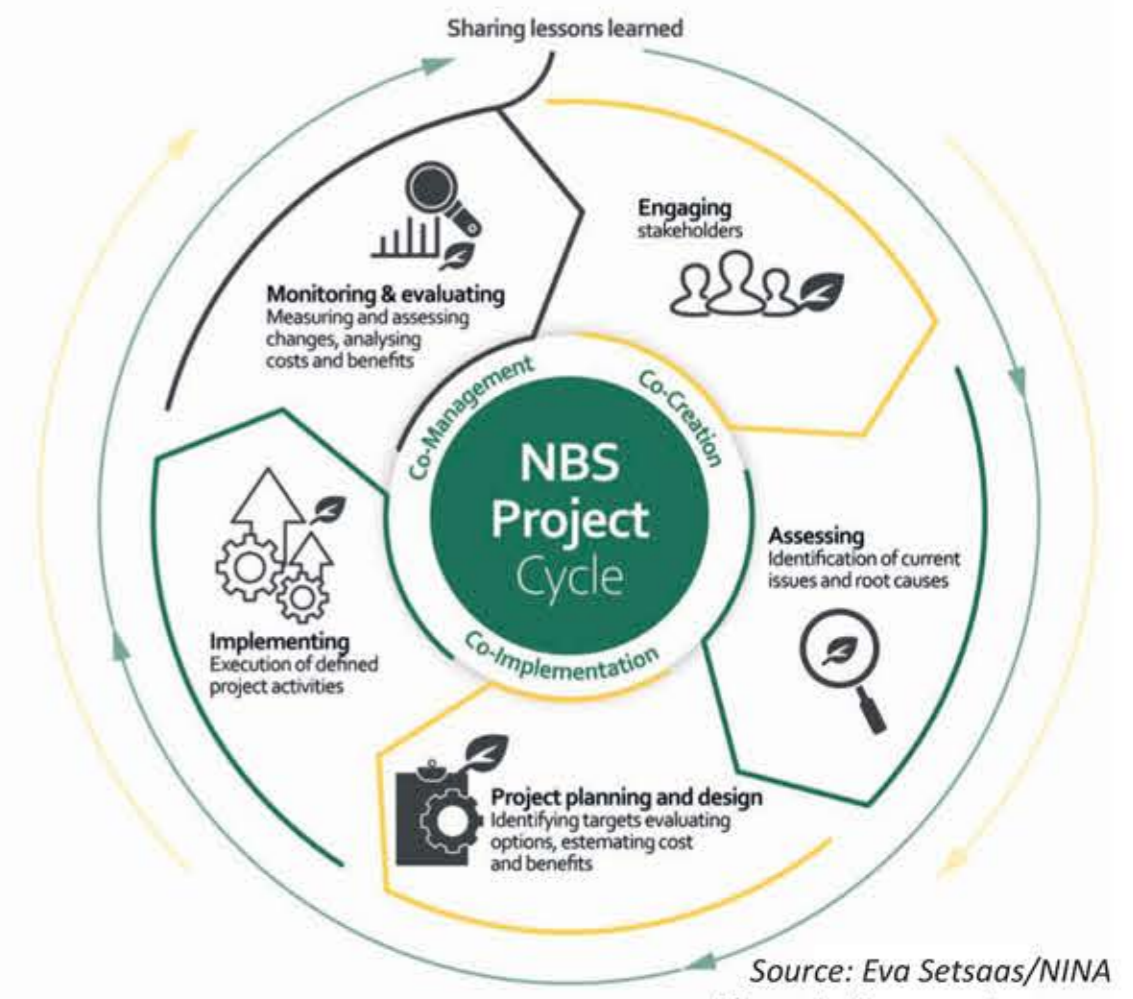
Nature-based Solutions in the nordics



Source: Eva Setsaas/NINA
Adapted from IUCN
Elements from veectezy.com

The Nordic Council of Ministers has provided funding for a four-year program on **nature-based solutions** in the Nordic Region as part of the 2030 vision for a **greener Nordic region**. According to the United Nations and IUCN (2016), nature-based solutions (NbS) are "actions to **protect, sustainably manage, and restore natural or modified ecosystems** that address societal challenges effectively and adaptively, while simultaneously **providing benefits to biodiversity and human well-being**."

Nature-based solutions encompass a wide range of activities, including the **preservation, sustainable use, and restoration of ecosystems** to preserve and restore their functions, thereby addressing societal issues such as **food security, biodiversity loss, climate change adaptation, and climate change mitigation**.



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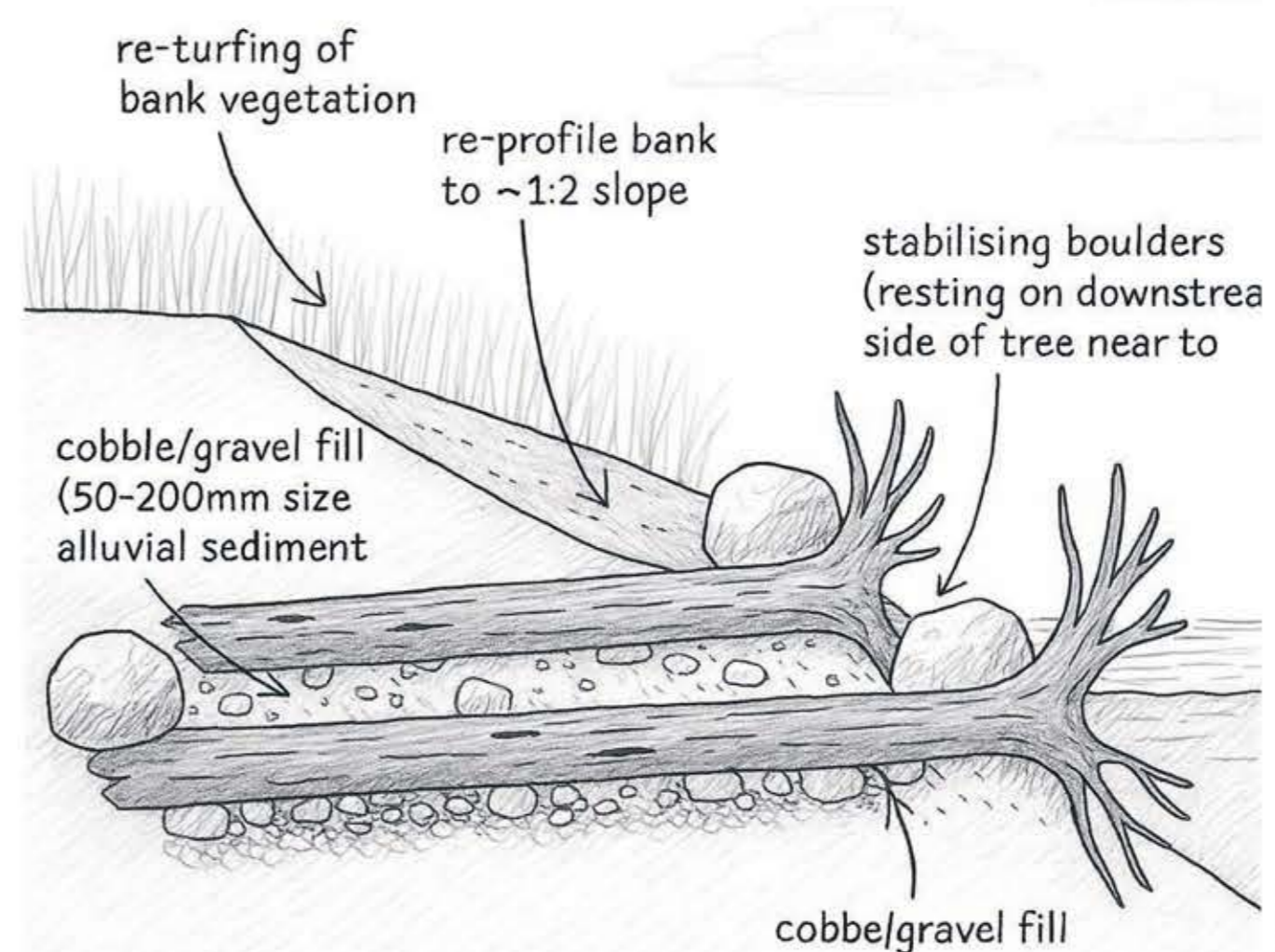
Case studies in Iceland Riverbank restoration project



The first significant "green" riverbank preservation project in Iceland was the **Andakíls Riverbank Restoration Project**, which was started in 2021. Its objective is to counteract soil erosion, which is common in the Andakíll region, by utilising **locally produced and natural resources**, such as **logs and stones**, rather than more conventional techniques like **rock barriers and bulldozers**. The logs and turf encourage the **growth of flora**, which **further fortifies the riverbanks**. The wooden constructions **replicate natural stabilising processes**. In addition to being **more economical, efficient, and sustainable** than traditional methods, this strategy **promotes biodiversity**.

To make the intervention more **stable, climate-resilient, and ecologically benign**, the overall plan aims to **replicate natural processes**, allowing the river to determine its own path. There is **no one-size-fits-all solution**, though; every river requires a different strategy.

Cross Section (looking downstream)



Source: Adapted cbec eco-engineering UK (Ltd), redrawn by Nicolò Sgalippa



Source: Daniele Stefàno, 2025



Source: Daniele Stefàno, 2025

Blue-green sustainable water solution



Source: Halldóra Hreggviðsdóttir



The first community in Iceland to be certified as a **BREEAM Community**—a designation that evaluates an area's **sustainability** based on **environmental, social, and energy criteria**—is **Urriðaholt**, a new sustainable neighbourhood in Garðabaer that was created **in accordance with the natural surroundings**.

With the help of numerous partners, the project got underway in 2003 and is notable for being the **first large-scale sustainable drainage system** in Iceland and the **first one in Europe** to be installed on a **high-latitude hillside**. By **replicating natural processes**, this system encourages rainwater to **naturally flow into Lake Urriðavatn**, a **protected environmental area**, and infiltrate the soil. This reduces **flooding**, enhances **water quality**, and protects the **ecosystem**.

Water from streets and rooftops is **collected and filtered** by drainage swales, ponds, channels, and green areas. Due to its **creative and eco-friendly approach**, Urriðaholt is today regarded as a **global model of sustainable urban development**.

References:

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- Nickayin, Samaneh S., Maria Wilke, and Rúna brastardóttir. "State of the art of Nature-based Solutions in Iceland." (2022).

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Source: Nicolò Sgalippa, 2025



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