



Sirkulær arealbruk og naturrestaurering

Miljøringens temamøte: Helhetlig miljøforvaltning

16.04.2024

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Hvorfor?



Kloden koker

4.5°

85%

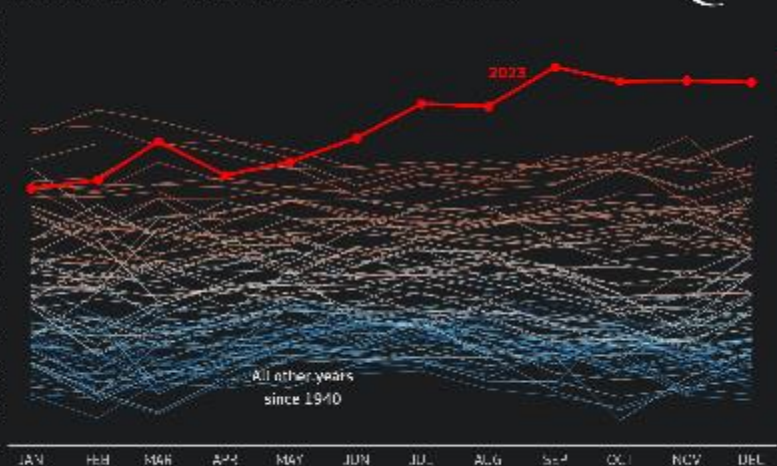
3.6

216

1.2

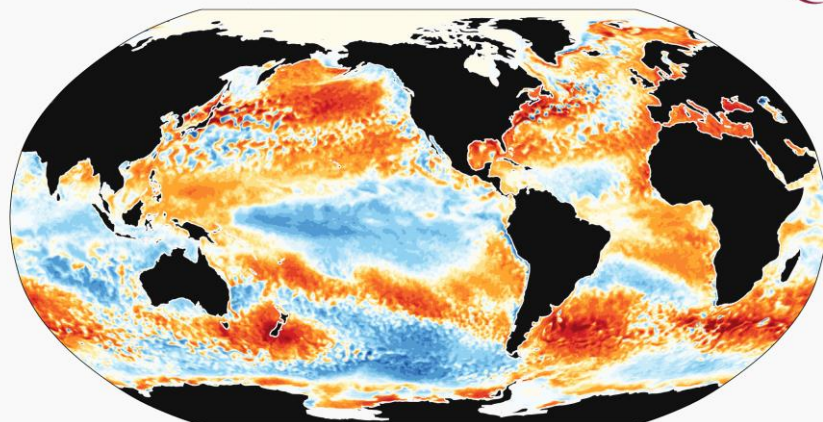
GLOBAL SURFACE AIR TEMPERATURE ANOMALIES

Data: ERA5 (1940-2023) • Reference period: 1991-2020 • Credit: C3S/ECMWF



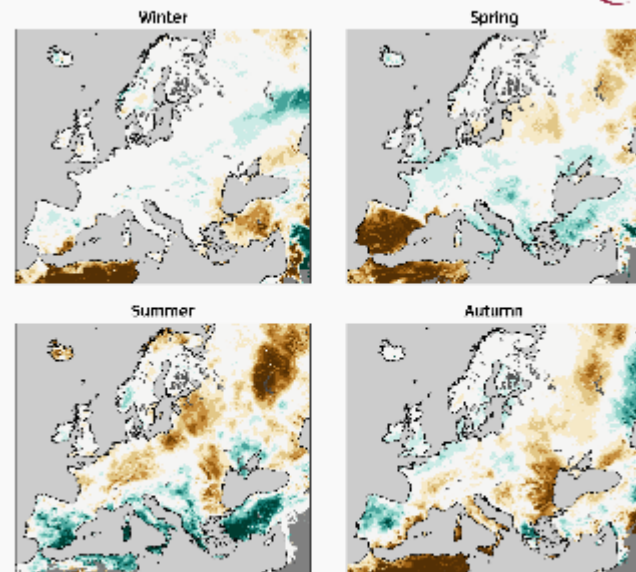
SEA SURFACE TEMPERATURE ANOMALY • JAN 2023

Reference period: 1991-2020 • Data: ERA5 • Credit: C3S/ECMWF



SEASONAL SOIL MOISTURE ANOMALIES IN 2023

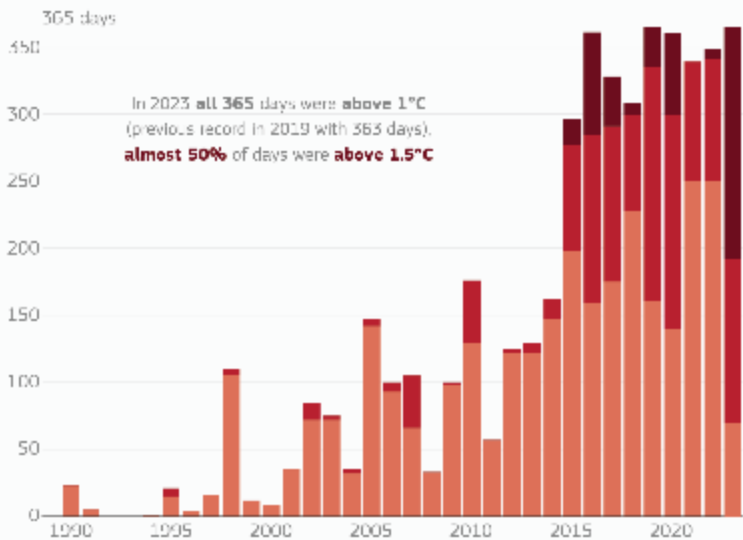
Data: L4S-Land • Reference period: 1991-2020 • Credit: Copernicus



RECORD NUMBER OF DAYS ABOVE 1.5°C IN 2023

Number of days with temperature increase above pre industrial level (1850-1900) within the following ranges:

1 to 1.25°C, 1.25 to 1.5°C, 1.5°C or more

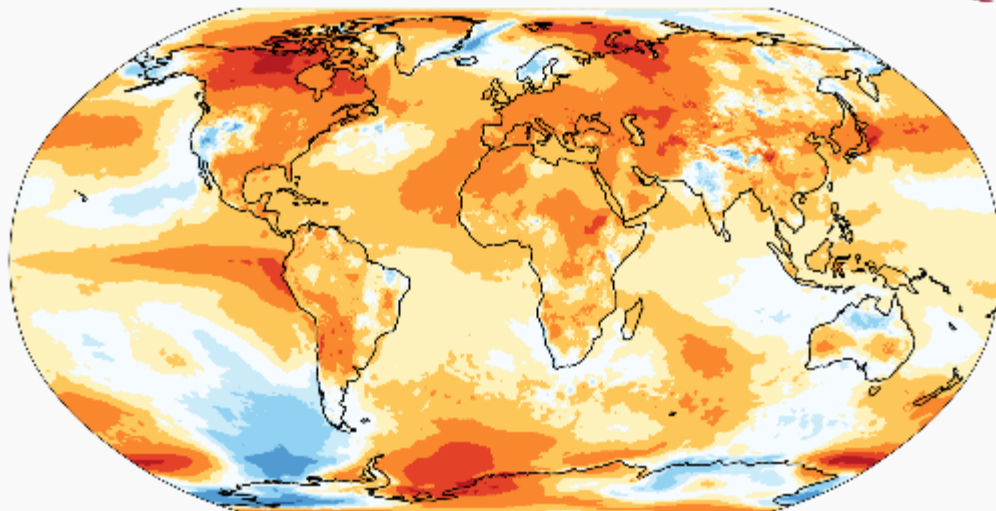


Data: ERA5 • Credit: C3S/ECMWF



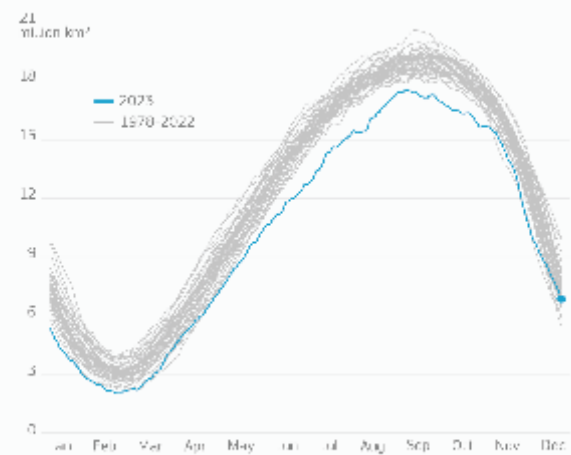
SURFACE AIR TEMPERATURE ANOMALY • 2023

Reference period: 1991-2020 • Data: ERA5 • Credit: C3S/ECMWF



DAILY ANTARCTIC SEA ICE EXTENT

In 2023 a record low extent for the corresponding time of the year was observed for most months



Data: TIMSAT OSISAF Sea Ice Index v2.2 • Credit: C3S/ECMWF/OSISAF



1 mill

>75%

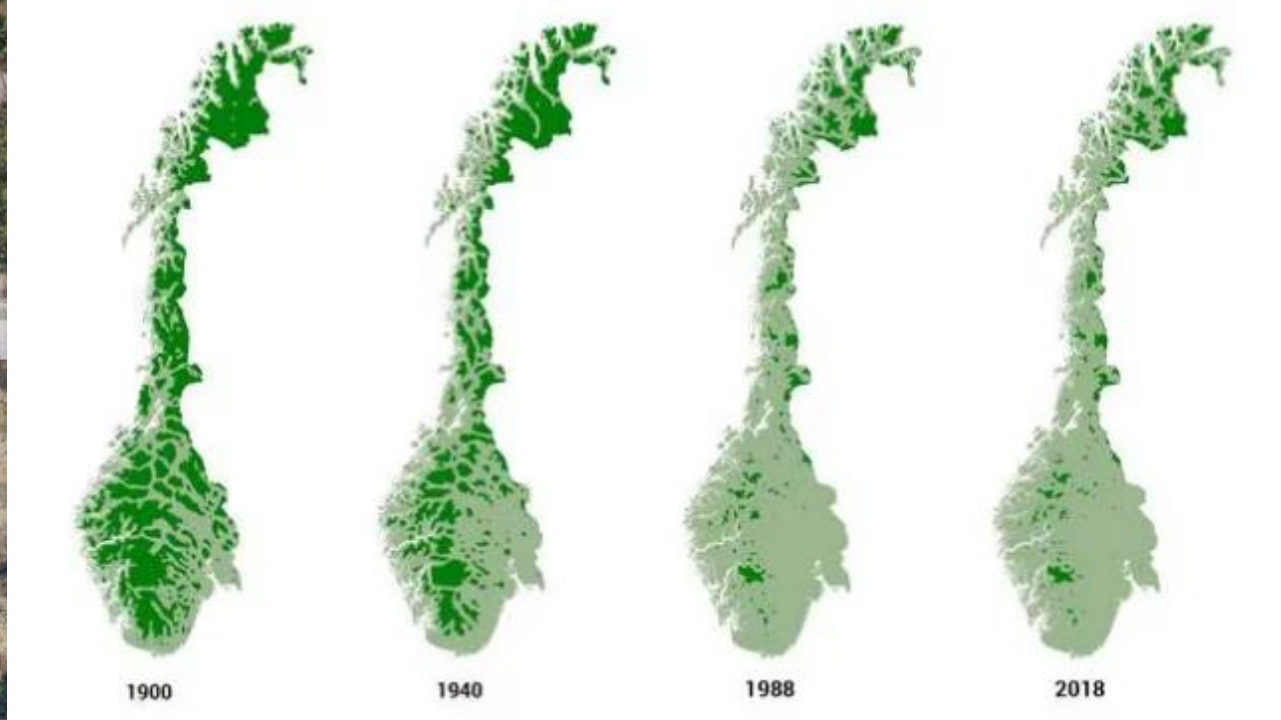
69%

83%

100 000 mrd

A photograph of a ptarmigan standing on a rocky, mossy hillside under a cloudy sky. The bird is the central focus, standing on a small patch of moss between large, grey, rounded boulders. The background shows more of the rocky terrain and a pale, overcast sky. The foreground is filled with dry, brownish grass and some green shrubs.

Naturen er i krise





37%



16°



50%



Hvordan?

Naturrestauring

“ the process of actively or passively assisting the recovery of an ecosystem towards or to good condition, of a habitat type to the highest level of condition attainable and to its favourable reference area, of a habitat of species to a sufficient quality and quantity, or of species population to satisfactory levels, as a means of conserving or enhancing biodiversity and ecosystem resilience. ²⁸ ”

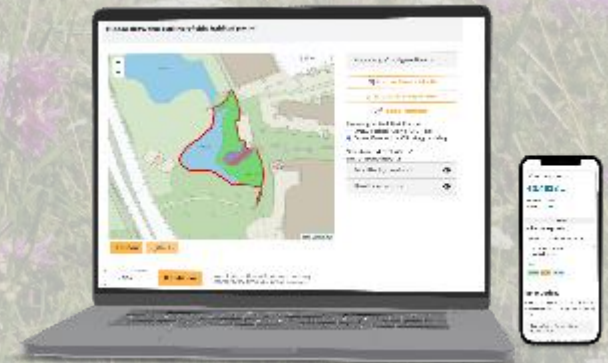
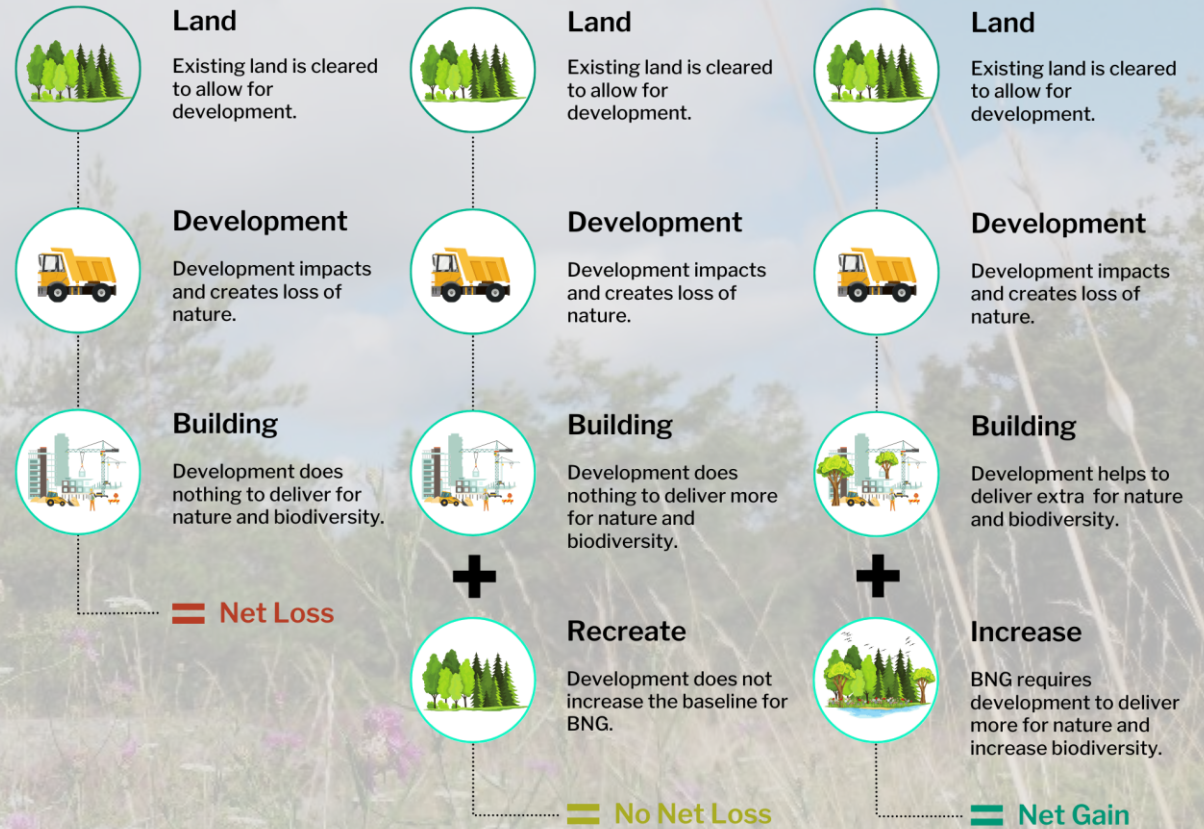
Definisjonen av naturrestauring i EU



Biodiversity Net Gain Biodiversity metric 4.0

«Selling on the BNG market is a choice for land managers»

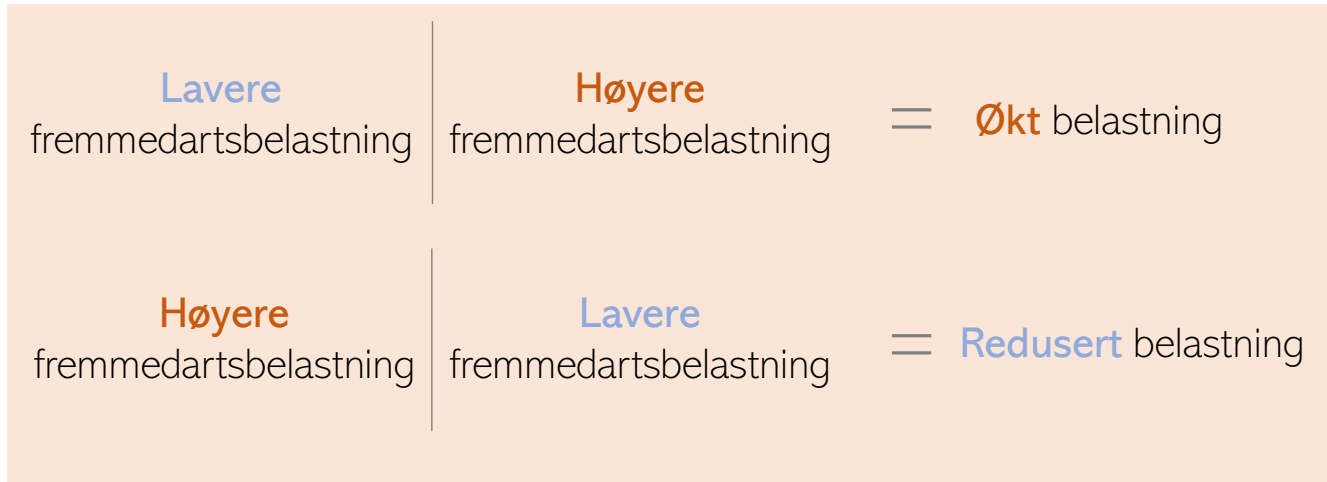
«It is a potential source of revenue and could fund nature recovery work on your land. You can sell off-site biodiversity units on your land to developers, who may need to buy these under mandatory BNG requirements»



Arealtypers **sårbarhet** for fremmede arter



Interaksjoner



! Arealer interagerer gjennom spredning av fremmedarter

Lavere fremmedartsbelastning →
Høyere fremmedartsbelastning →



Et verktøy

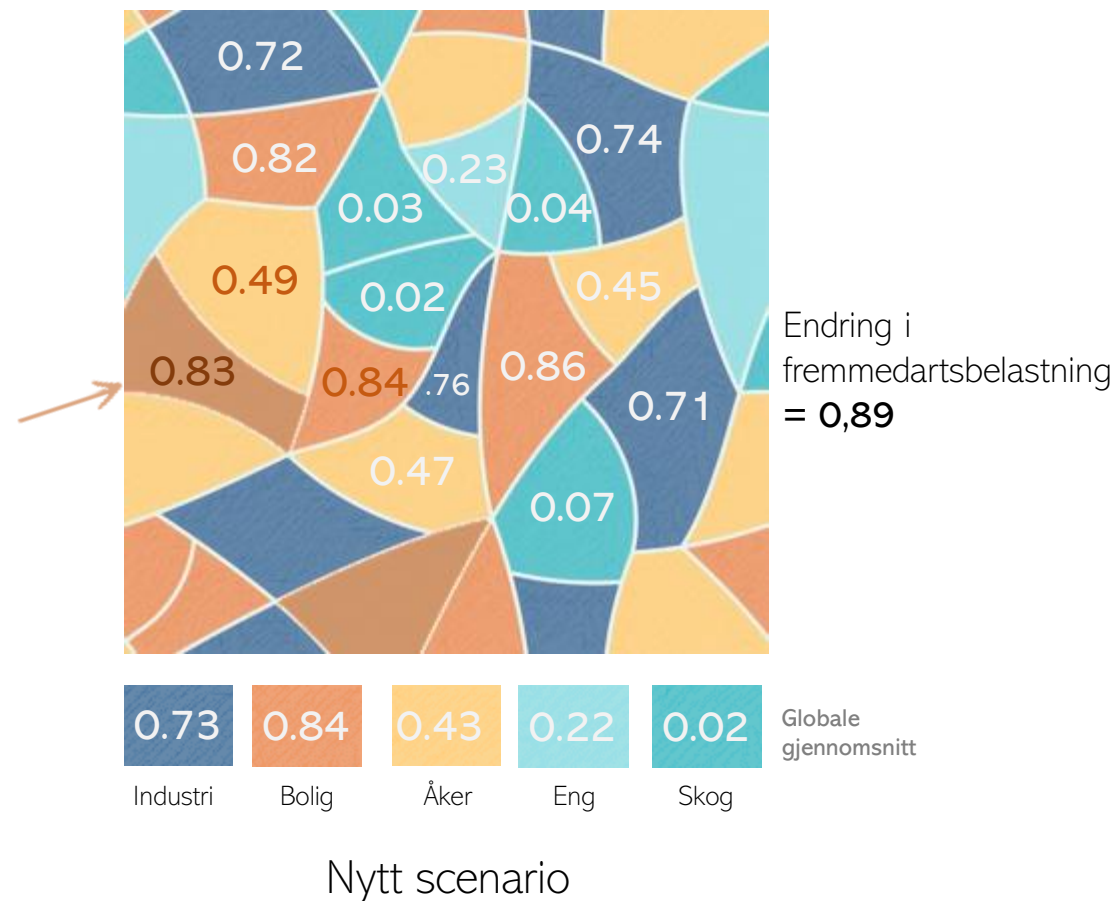
Globale gjennomsnittet = 0.5 (f.eks)

0.5 reflekterer det **globale gjennomsnittet av antall fremmedarter per arealenhet for studieområdet**

Tall over 0.5 betyr et høyere antall fremmedarter per arealenhet, motsatt for tall lavere enn 0.5

Summen av relativ endring i fremmedartsbelastning ved et arealinngrep ganget med arealet (kvm) gir et mål på fremmedartspåvirkning

(Ny belastning - opprinnelig belastning)
= **sum av relativ endring i fremmedartsbelastning**





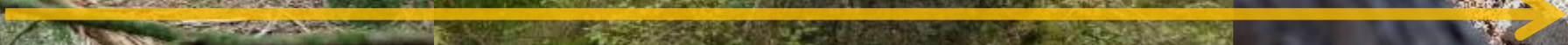
Plantasjer



**Lukkede hogster
med flere treslag**

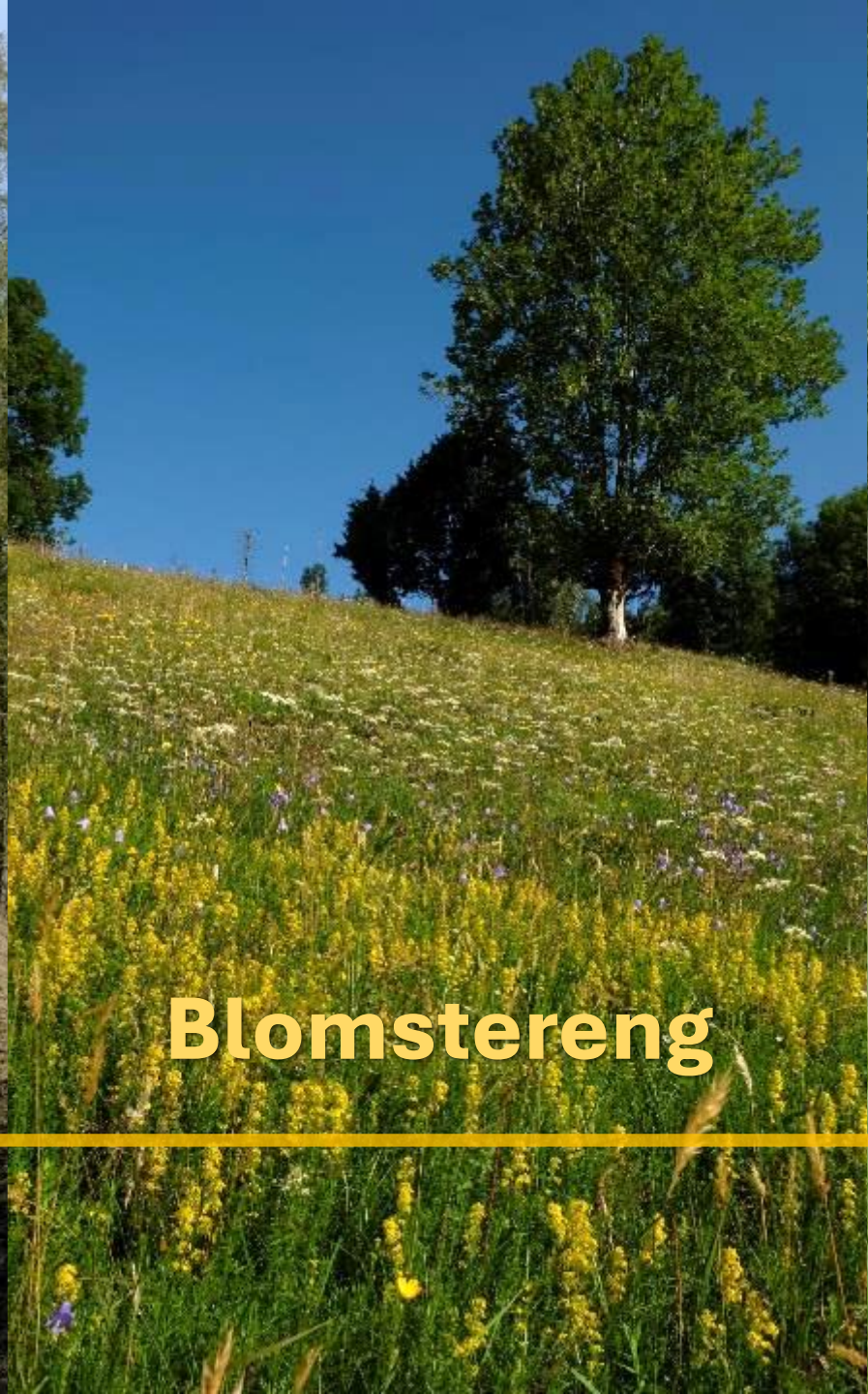


Skogbrann





Åker og eng



Blomstereng

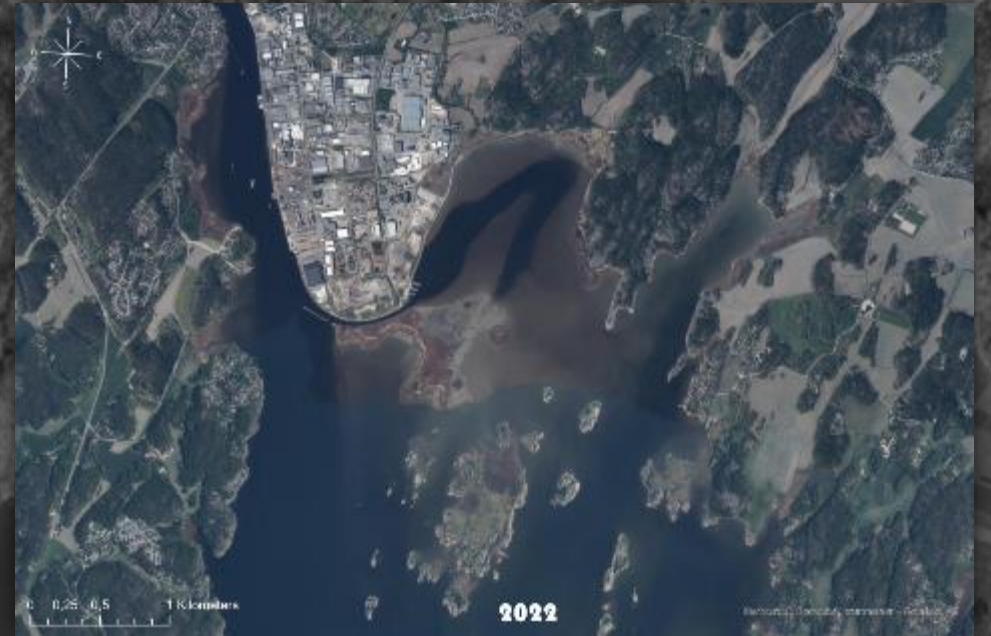


Flere sjikt



A landscape photograph showing a herd of cows grazing in a field next to a body of water, with birds flying in the sky. The text "Gjenskape tapte økosystemer" is overlaid in the center.

**Gjenskape
tapte økosystemer**

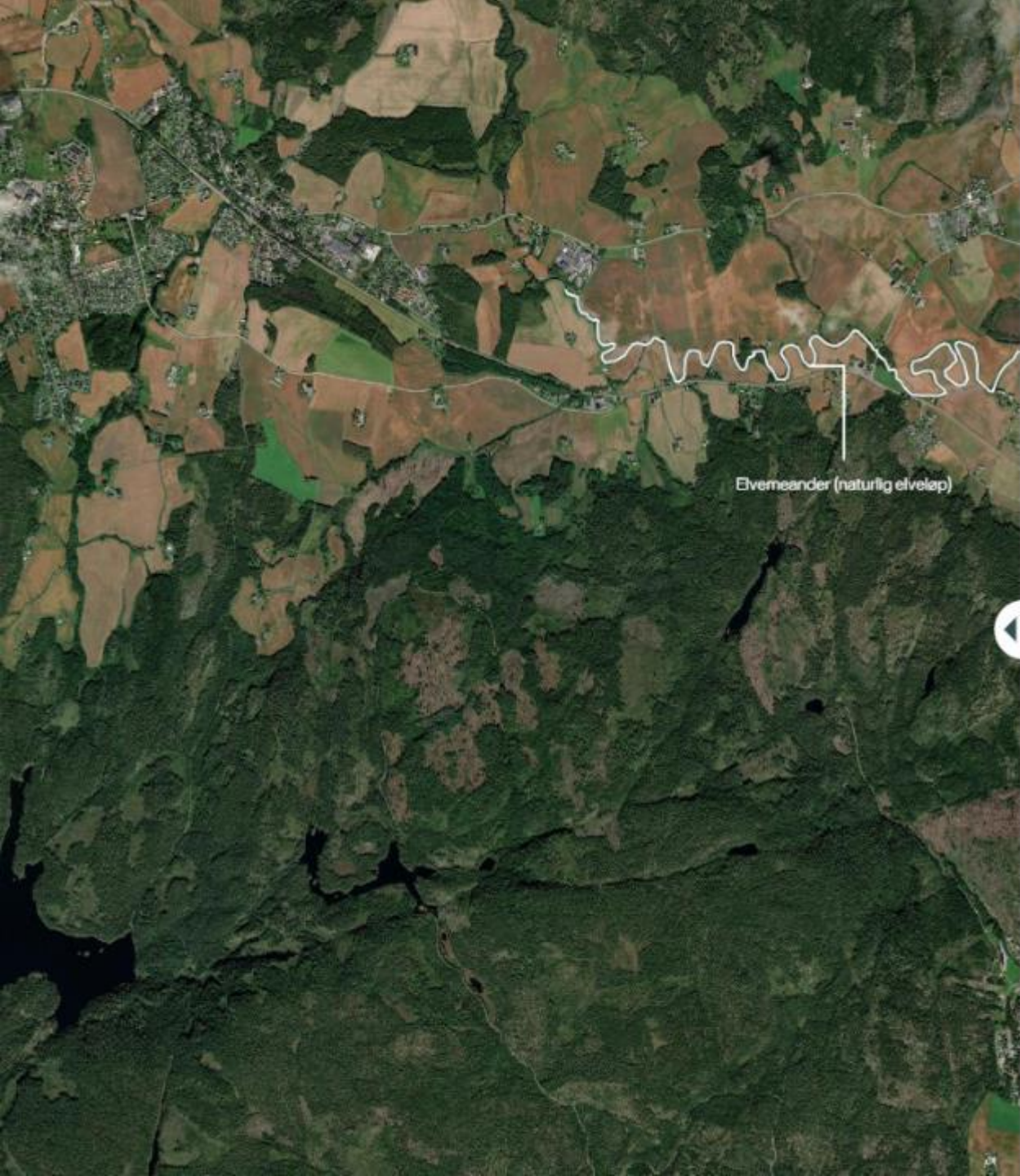


Våtmarksrestaurering på Øra

Restaureringspotensiale for en av Norges viktigste våtmarker ved gjenbruk av muddermasser - en case for sirkulær massehåndtering

Anders Gunnar Helle

July 31, 2023





1-20 år



100-200 år



1000-1500 år

**Ikke all natur er like
restaurerbar / sirkulær**