

Nature Positive Initiative State of Nature Metrics: Terrestrial Pilot Case Study - Acciona

Acciona is a global sustainable infrastructure group dedicated to the development and management of infrastructure and renewable energy. Acciona participated in the State of Nature (SoN) Metrics piloting programme to test emerging global metrics aligned with the Nature Positive Initiative and evaluate their practical applicability across infrastructure projects.

A) Where Acciona applied the metrics

Location	Moss Municipality, Viken County, Norway
Pilot site	Sandbukta–Moss–Såstad railway project
Pilot area size	The project comprises two tunnels of 2.3 km and 2.7 km, a 500m cut-and-cover tunnel, and associated linear infrastructure
Ecosystems covered	The surrounding landscape is dominated by croplands, with forest and wetland corridors providing ecological connectivity
Metrics piloted & granularity	The indicators ‘proportion of natural or semi-natural habitat’, ‘site condition’, ‘landscape condition’ and ‘species extinction risk’ were computed at medium granularity level; the indicator ‘ecosystem extent & classification’ at high granularity level and ‘species population abundance’ at low granularity level
Piloting partner(s)	World Business Council for Sustainable Development (WBCSD)

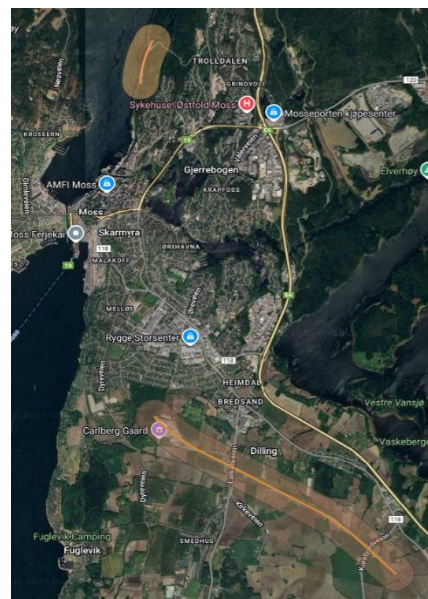


Figure 1: Site location [Acciona]

B) How and why the piloting project was completed

In line with its sustainability commitments to regenerating ecosystems, Acciona sought to understand how the SoN indicators could strengthen environmental decision-making, enhance biodiversity outcomes and support future disclosures. The pilot also offered an opportunity to contribute technical insights to the development of a globally consistent framework.

The pilot program followed a multi-step workflow and integrated both corporate and project-level data sources. Acciona’s Corporate Sustainability team coordinated the

Land Cover Change within the Project Footprint

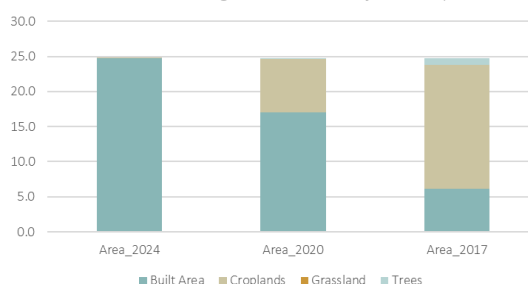


Figure 2: Land cover change computed by the company as part of their SoN assessment [Acciona]



exercise with their Construction business. Site, buffer and surrounding areas were delineated according to the NPI guidance.

For data collection, amongst other tools, Acciona relied on Environmental Impact Assessment (EIA) studies, ecological surveys and monitoring reports from the client and Acciona's on-site teams. On-site environmental specialists provided ecological context, species observations and mitigation measures. Client documentation (provided by the Government agency responsible for railway operation, BaneNor) and Norwegian environmental datasets were reviewed to validate ecological baselines.

Metrics were computed using GIS tools, applying reclassification, overlay analyses and change detection across 2017-2024 imagery. A pre-construction baseline (2020) was complemented by retrospective imagery from 2017 to capture pre-disturbance conditions.

C) Key measurement approaches and tools used

	<i>Ecosystem (condition and extent)</i>	<i>Species</i>
<i>Approaches</i>	- Detailed national datasets were used to complete high granularity ecosystem classification - Multiple sources were overlaid to validate classifications - Ecosystem condition assessment integrated both spatial datasets and expert ecological judgement where required	- Priority species were identified and habitat-based estimates of population change applied - evaluation of habitat stability was applied as a proxy for species habitat conditions
<i>Tools / data sources</i>	- Land-cover and landscape metrics: satellite datasets (ESA Dynamic World, WorldCover), Natur i Norge (NiN) datasets, with Google Earth Imagery for verification - Ecosystem types classification: GET Level 3, SBTN "Natural Lands" typology, with project orthophotos and site inspections for validation - Spatial processing: QGIS 3.34	- Priority species identification: IBAT species reports, Arborist report (2025), EIA species lists and habitat assessments (Norconsult, 2019) - Local species-habitat cross-reference: Natur i Norge (NiN) - Habitat stability: ESA Dynamic World land cover dataset, and orthophotos - Regional species influenced by the project area identification: IBAT and Artsdatabanken, Arborist report (2025) - Mapping and spatial comparison: QGIS



D) Key challenges encountered and how the framework was adjusted to ensure practicality



- Metric suitability limitation (linear infrastructure): as narrow footprints rarely generate detectable pixel-level change, Acciona found the land-cover metrics were not suitable for linear projects. They addressed this by emphasising qualitative ecological assessments and integrating additional condition indicators.



- Over-inclusive species triggering: Acciona found the site buffer zones overly-inclusive, producing long lists of species beyond the true area of habitat. These were refined manually by Acciona using habitat suitability and EIA documentation.

NPI notes: How feedback was incorporated

- It was noted that higher granularity metric measurement specifications were likely to be best suited for linear infrastructure projects. This feedback also emphasised the importance of maintaining sufficient flexibility and safeguards in the condition metric descriptor to enable it to be applied robustly in different contexts.
- Further clarity has been provided on the boundaries to which species metrics should be applied (i.e. site vs landscape), recognising that measuring species populations at the landscape scale is not yet feasible due to data limitations in many areas. A Species Selection Filter and guidance was also developed to support the refinement of species lists.

E) Why is it important for companies to measure state of nature metrics?

For Acciona, measuring SoN Metrics is important because it helps reduce variability in how biodiversity is assessed and managed across projects, geographies and regulatory contexts. By structuring and harmonising existing environmental information—such as that generated through EIA—the metrics provide a consistent baseline of ecological understanding, including in jurisdictions where requirements are uneven or absent.

This consistency supports more robust and comparable decision-making and enables users to move beyond compliance-driven assessments towards more integrated, landscape-aware approaches that embed biodiversity into asset performance and strengthen ecological resilience and value.



“By investing in a clear scope, robust ecological baselines and consistent metrics, organisations can turn biodiversity data into a powerful tool for decision-making.”

Kristina Cerro Urcelay,
Environmental Specialist, Acciona



Learn more about the State of Nature Metrics: naturepositive.org/metrics

