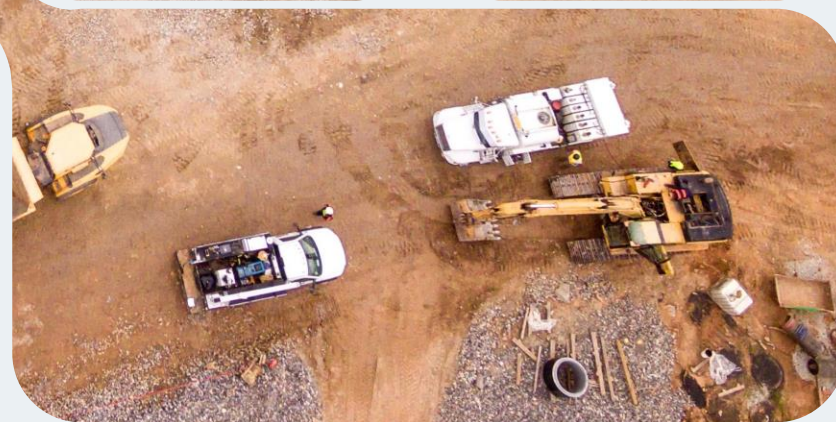


Detect Nature's Fingerprint.



Measuring life is a challenge

Biodiversity is diverse, dynamic and incompletely characterised.

Traditional methods of measuring nature are:

- Time consuming and labour intensive to deploy.
- Expensive to scale spatially and temporally.
- Prone to human error or surveying biases.
- Disruptive to the environment.
- Difficult to manage data management and analysis.



Our vision: Power every nature decision with eDNA.

- Environmental monitoring solution provider
- Purpose built, commercial eDNA lab
- 15 bioscience PhDs
- 250+ global customers
- 100,00+ samples
- >4,000 eDNA projects completed
- Land, marine and freshwater ecosystem expertise



Our Solutions

- eDNA-powered nature analysis
- Predictive modelling
- Environmental monitoring
- DNA collection kits
- Data solutions
- Molecular R&D
- Biodiversity assessments
- Biosecurity and biothreat analysis
- Traditional Owner engagement



Species & Ecosystem Monitoring



Target

Detect and survey target species using tailored qPCR tests from environmental samples.



Screen

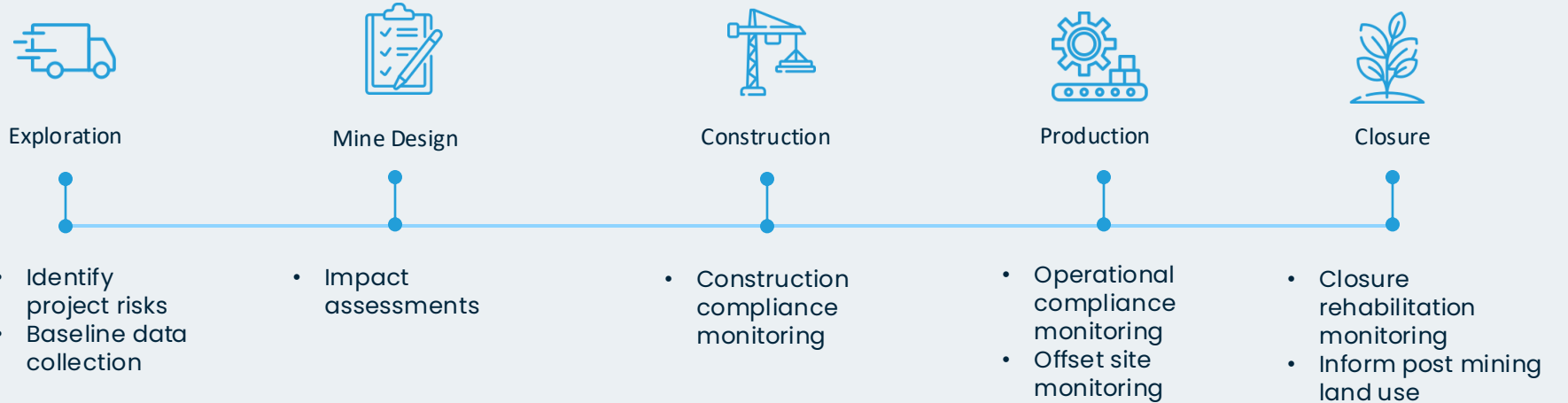
Survey specific groups of species (fish, frogs, mammals etc.) using a combination of DNA metabarcoding eDNA tests.



Atlas

Monitor full spectrum biodiversity using a combination of DNA metabarcoding eDNA tests.

Approach to Mine Sites



Our clients

We work with private organisations, industry, government, research and not-for-profits. Our clients include over 250+ organisations.

Our solutions are designed for broad sectors including mining, natural resource management, impact assessment, government agencies, environmental consultants, conservation and many more.



Our technology

eDNA



What is eDNA?

All organisms shed DNA into the environment – known as environmental DNA or **eDNA**.

eDNA can be extracted from a range of environmental samples to determine occurrence of individual species or quantify biodiversity.



Overcome challenges of traditional techniques.

- High labour, site inaccessibility and OH&S risk
- High costs and resources
- Limited spatial and temporal coverage
- Low sensitivity = false negatives
- Prone to sampling bias
- Invasive for environments and species
- Difficult to identify cryptic or similar looking species
- Require permits and specialty skills and knowledge



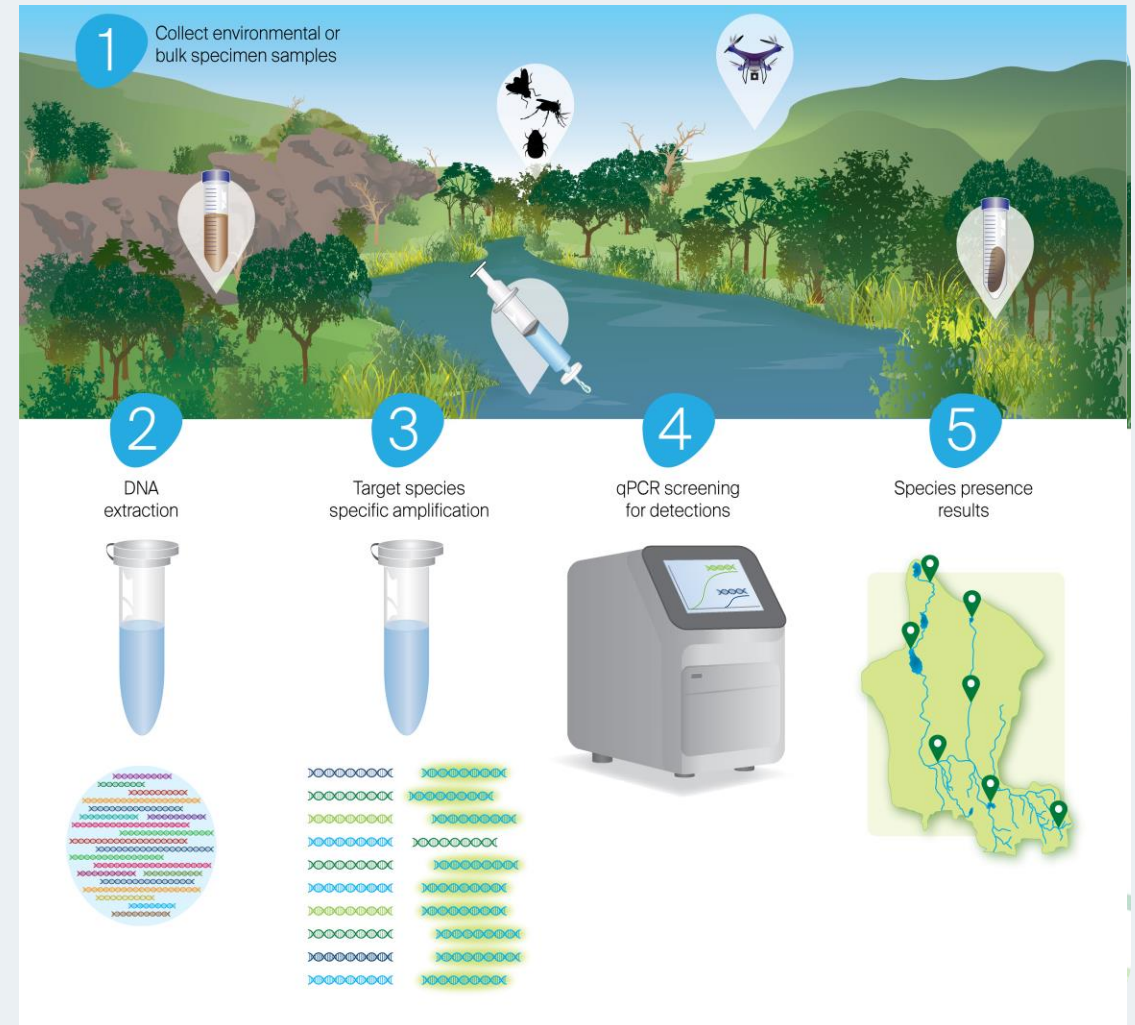
Where can you sample? **Anywhere.**

We have easy-to-deploy and cost-effective sampling methods across land, water and air. The DNA collection process and survey design will vary across ecosystems and project goals.



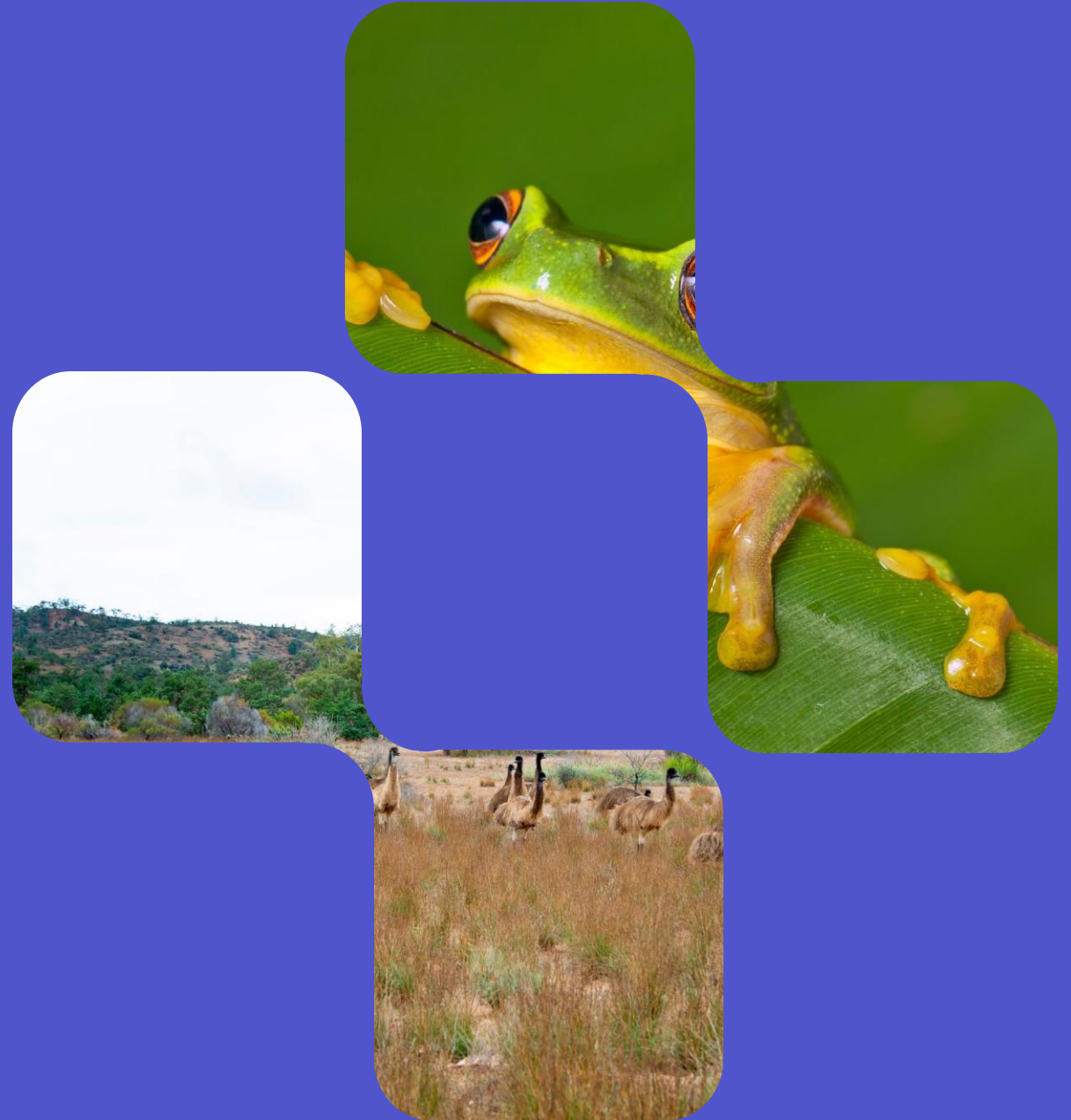
How eDNA projects work

- 1 **Sample:** User-friendly sampling kits or advanced equipment for different environments. We offer comprehensive training or can handle the sampling process for you.
- 2 **Laboratory analysis:** qPCR or DNA metabarcoding, or both. Custom assays based on your target species or biodiversity group.
- 3 **Data analysis:** DNA sequences analysed against extensive public and internal reference libraries of known species. Results are ground-truthed against external datasets to improve confidence.
- 4 **Reporting:** Basic or comprehensive reporting, raw data, complemented by online biodiversity mapping tools and analytics. Ongoing support to help you understand and interpret your data.



Our solutions

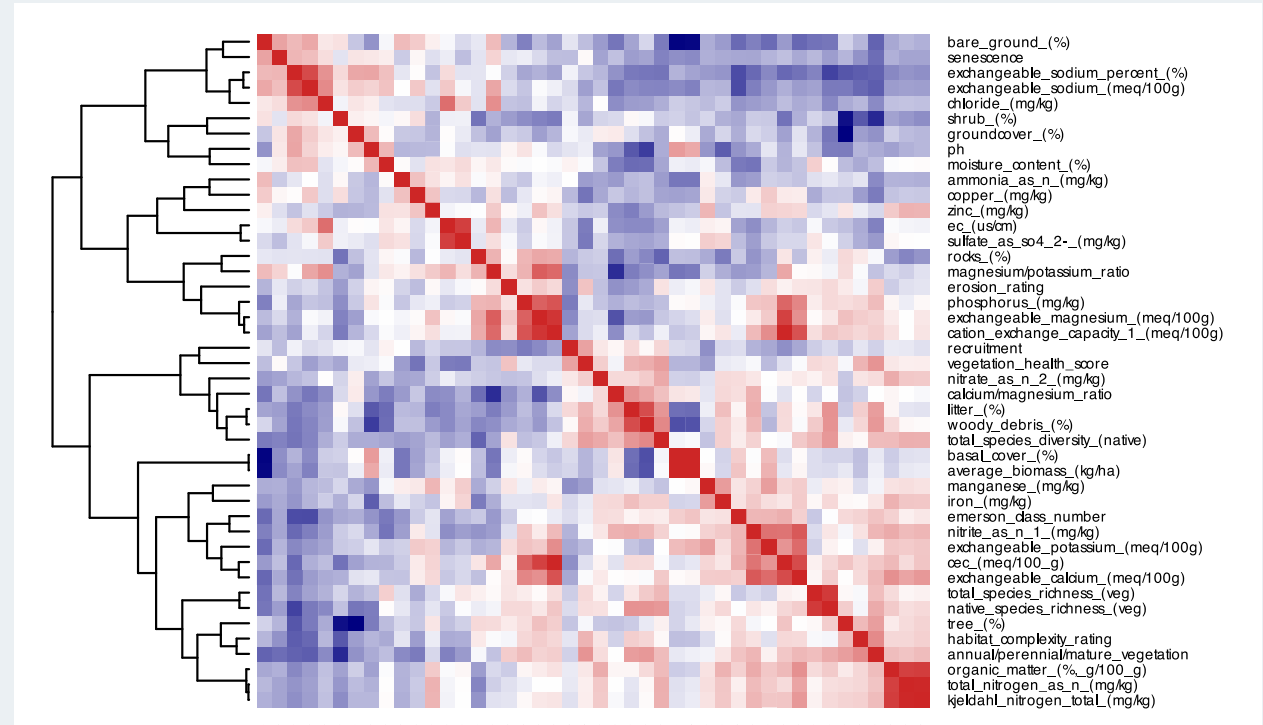
Case study



Tracking mine rehabilitation

Many things can be measured.

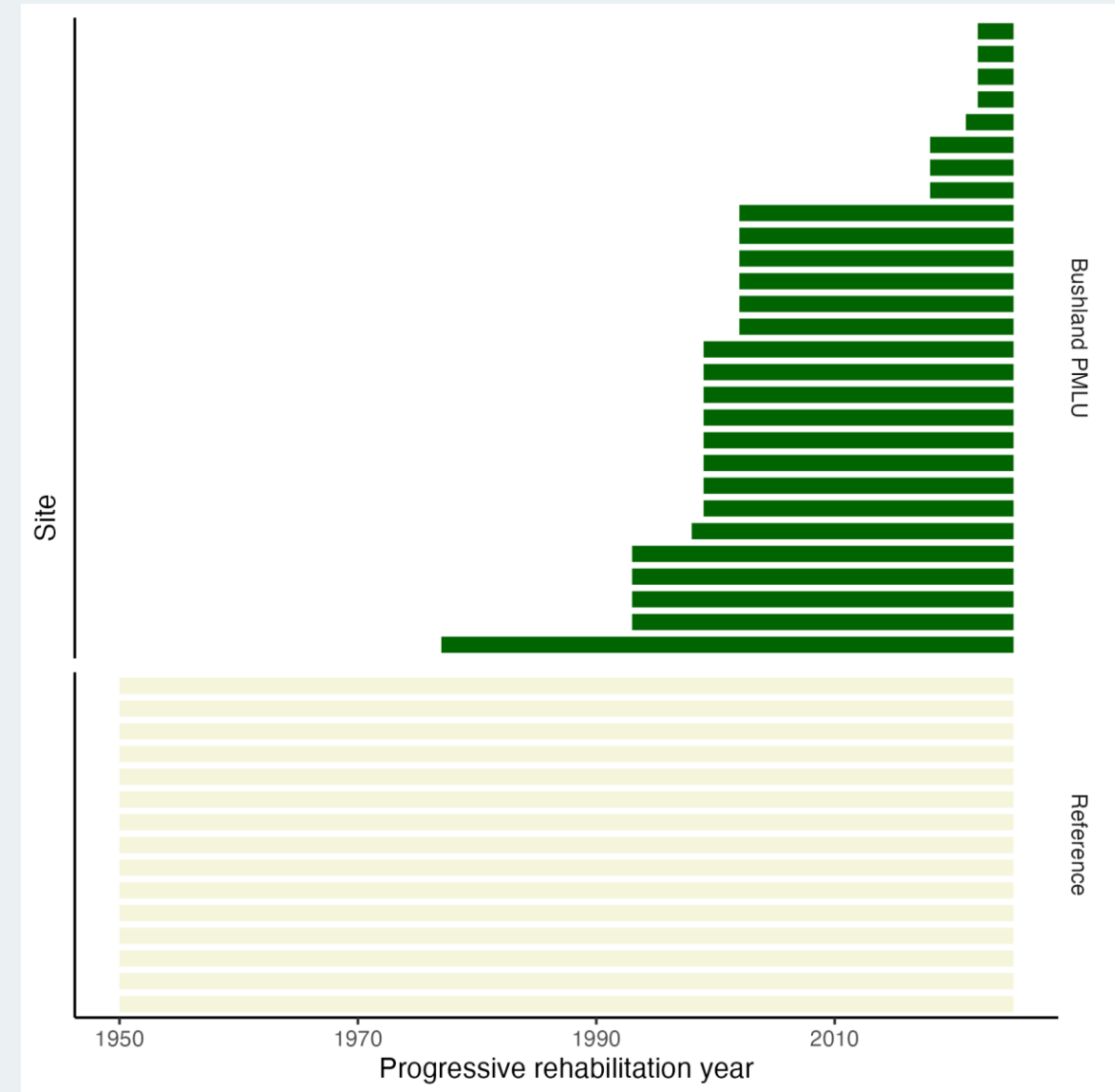
- What is the most efficient and sensitive set of indicators that can be used to robustly report on site condition?



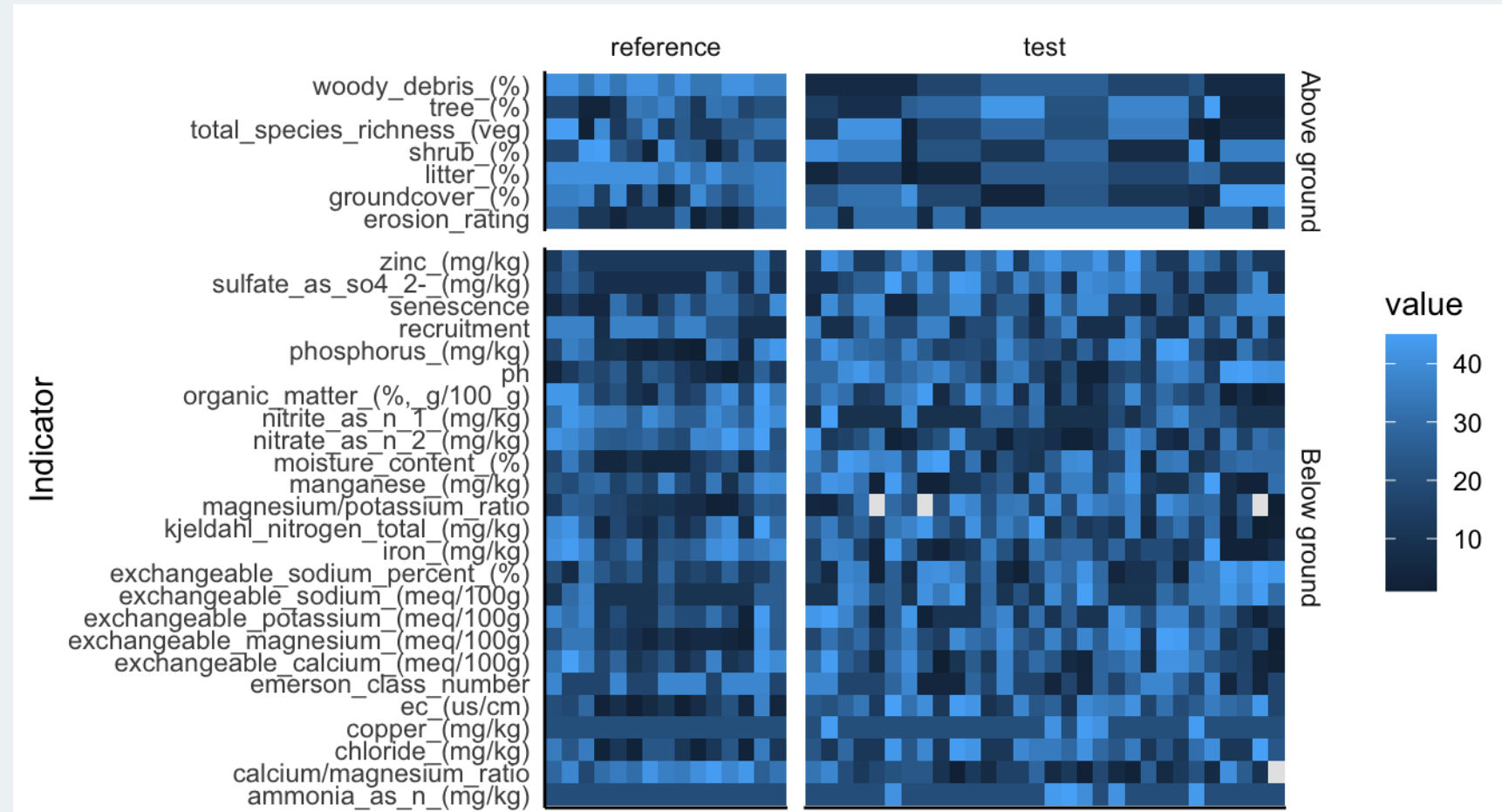
Tracking mine rehabilitation

Many things can be measured.

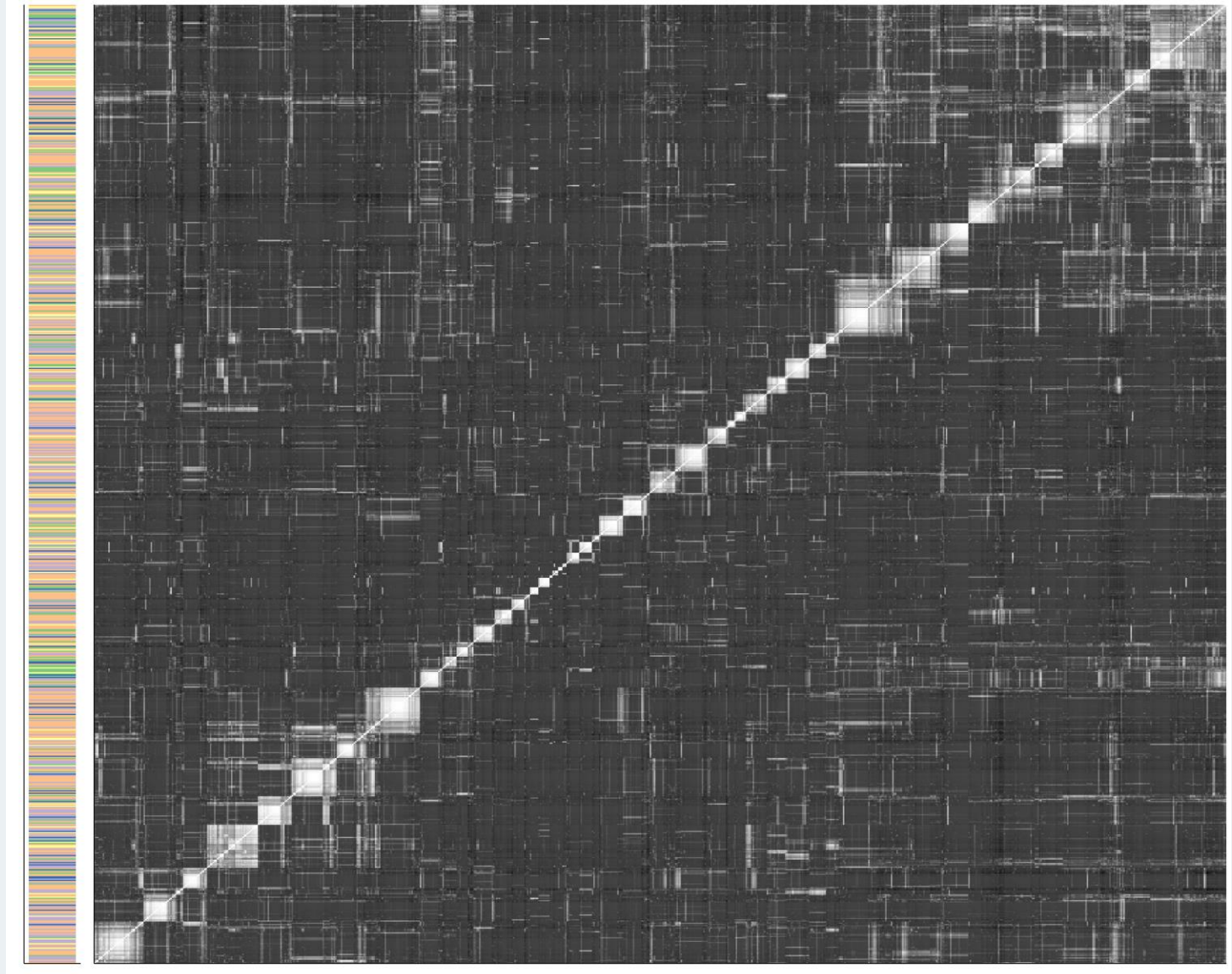
- What is the most efficient and sensitive set of indicators that can be used to robustly report on site condition?
- **Integrative analysis of below and above-ground physico-chem, ecological survey, and eDNA indicators over a progressive rehabilitation chronosequence.**



Survey and physico- chem indicators

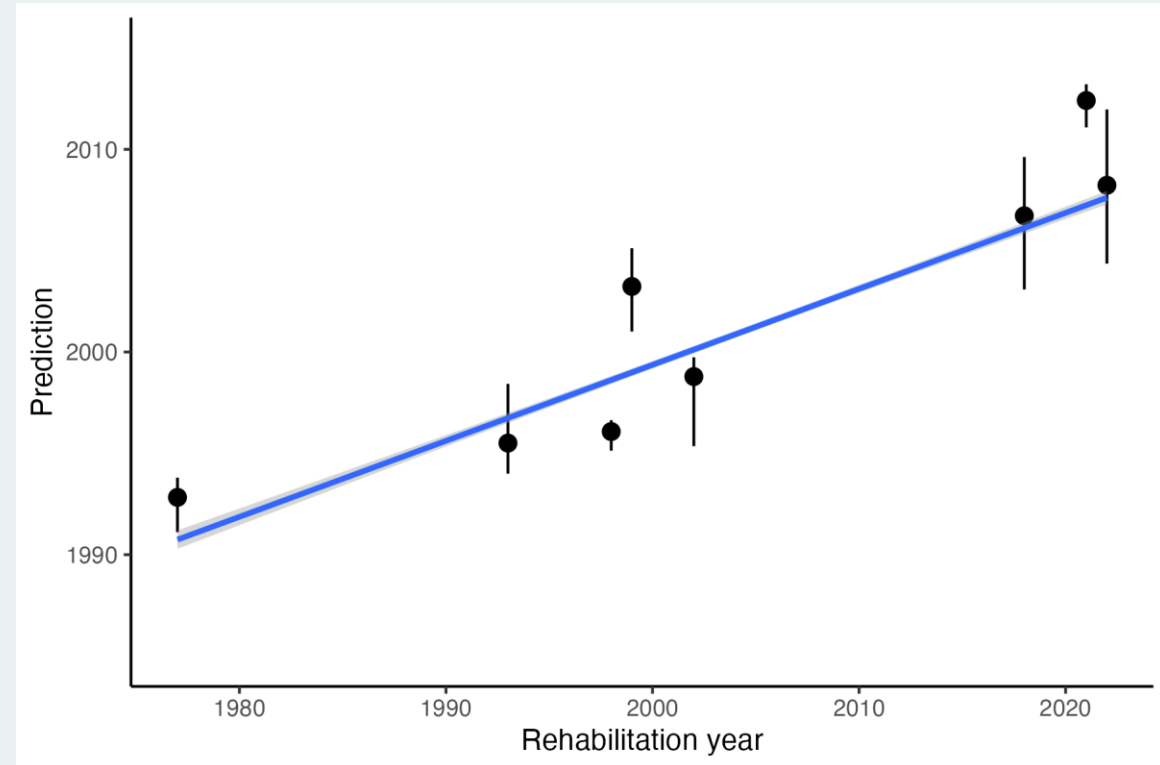


Soil eDNA metabarcoding

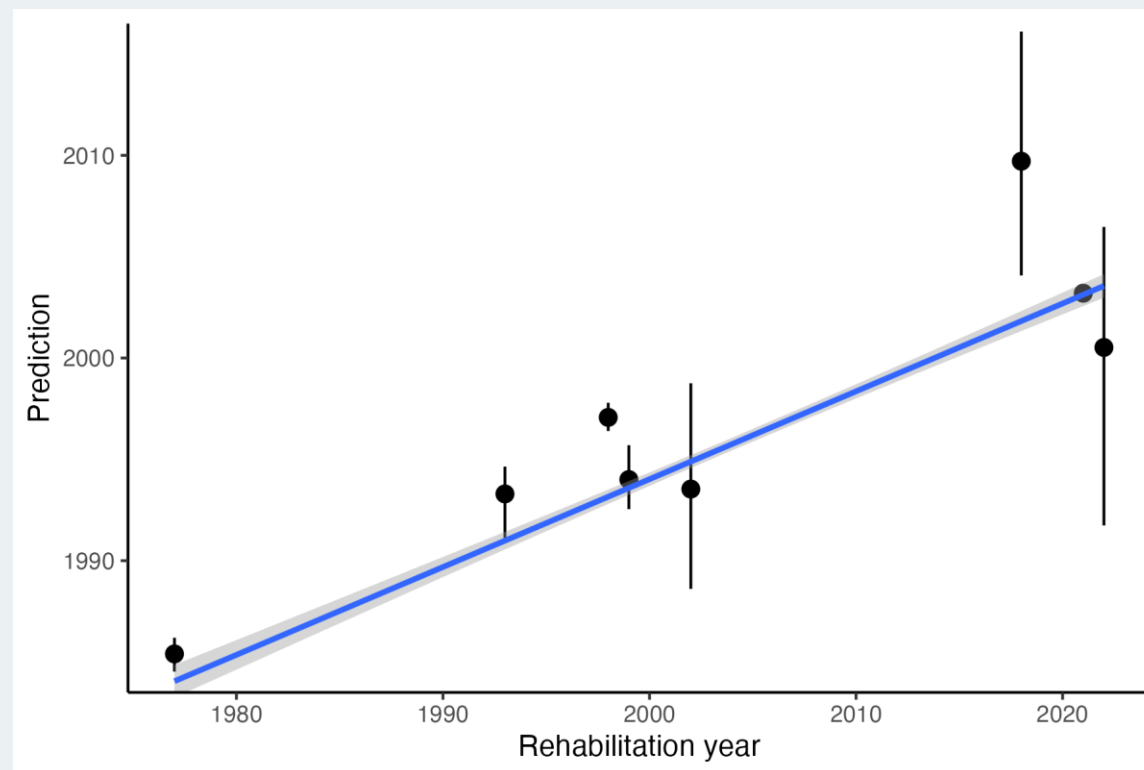


Traditional indicators

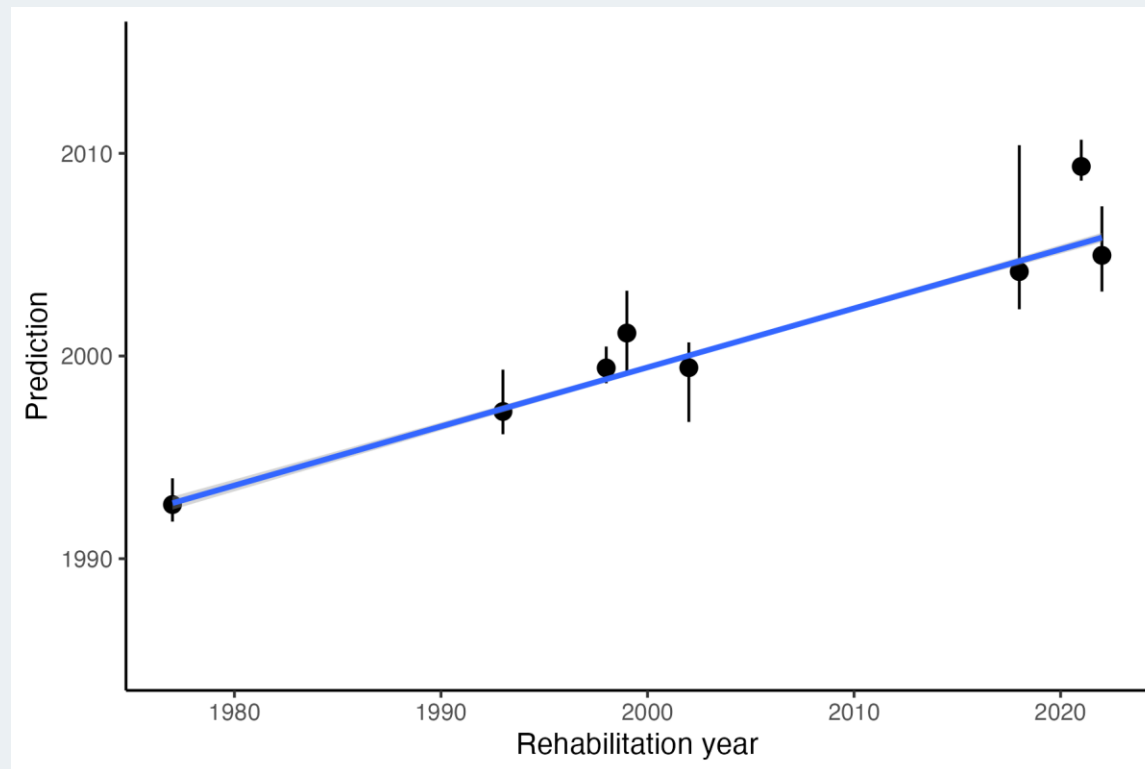
Prediction of restoration commencement year.



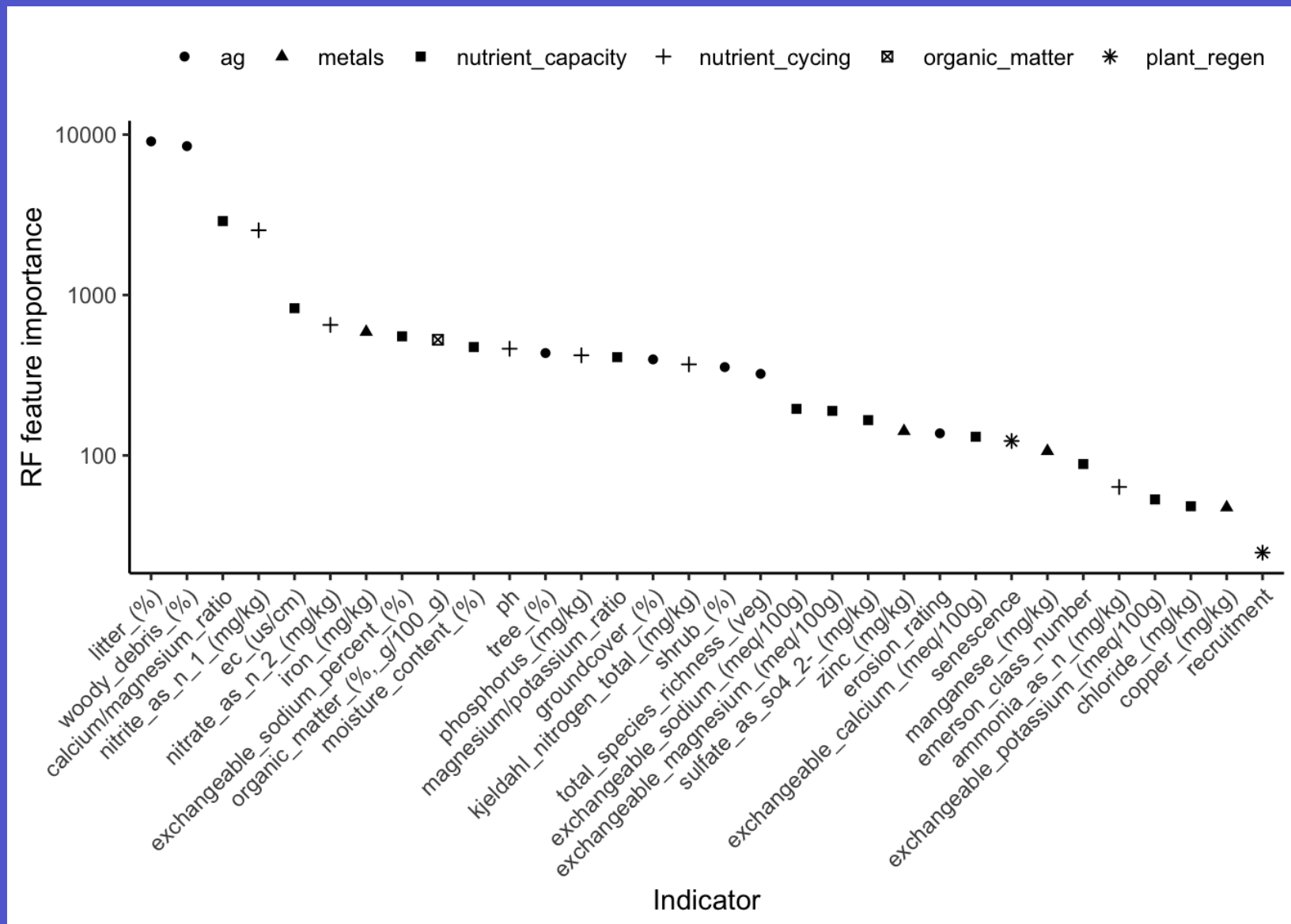
eDNA indicators



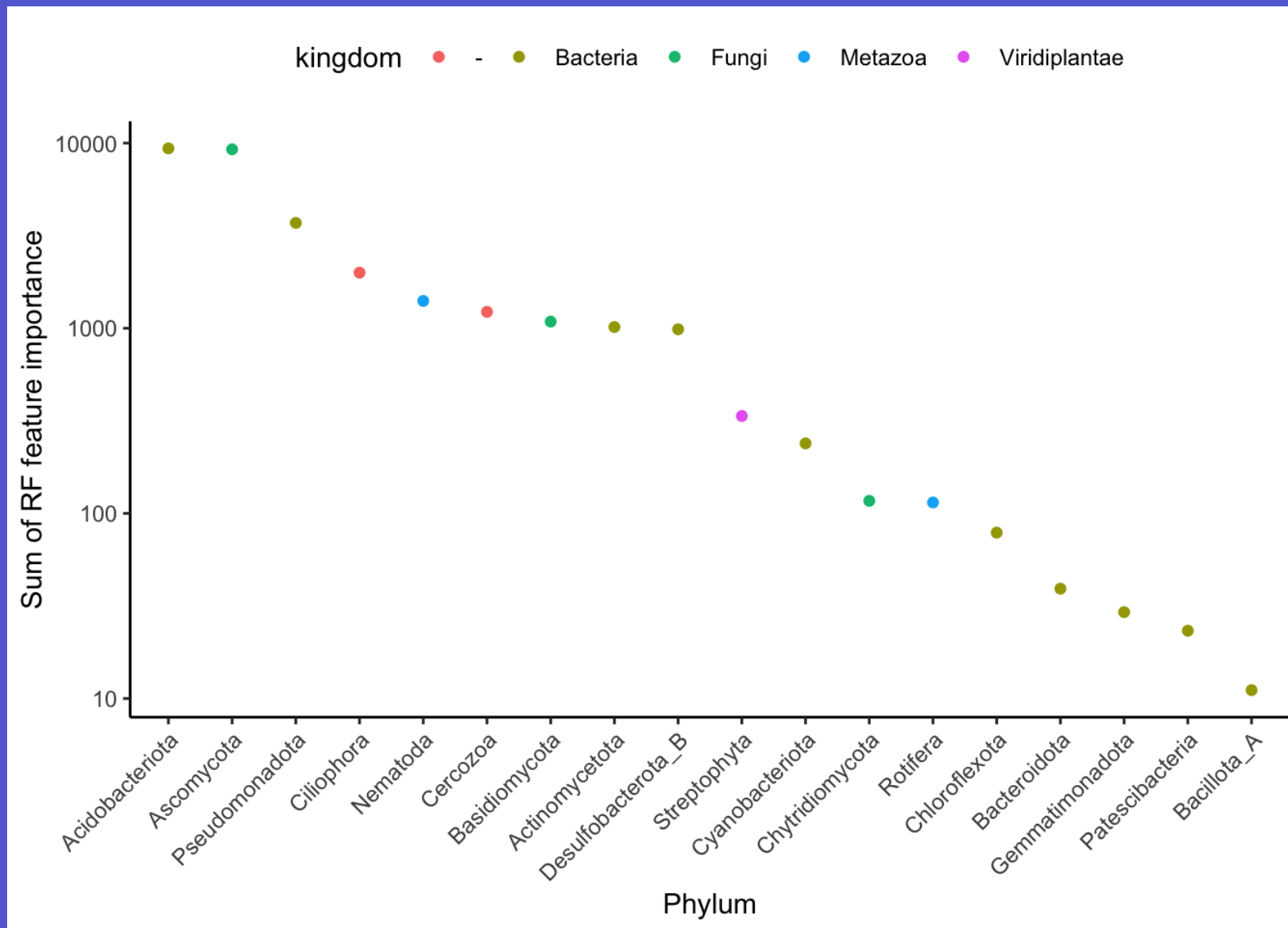
Pooled indicators



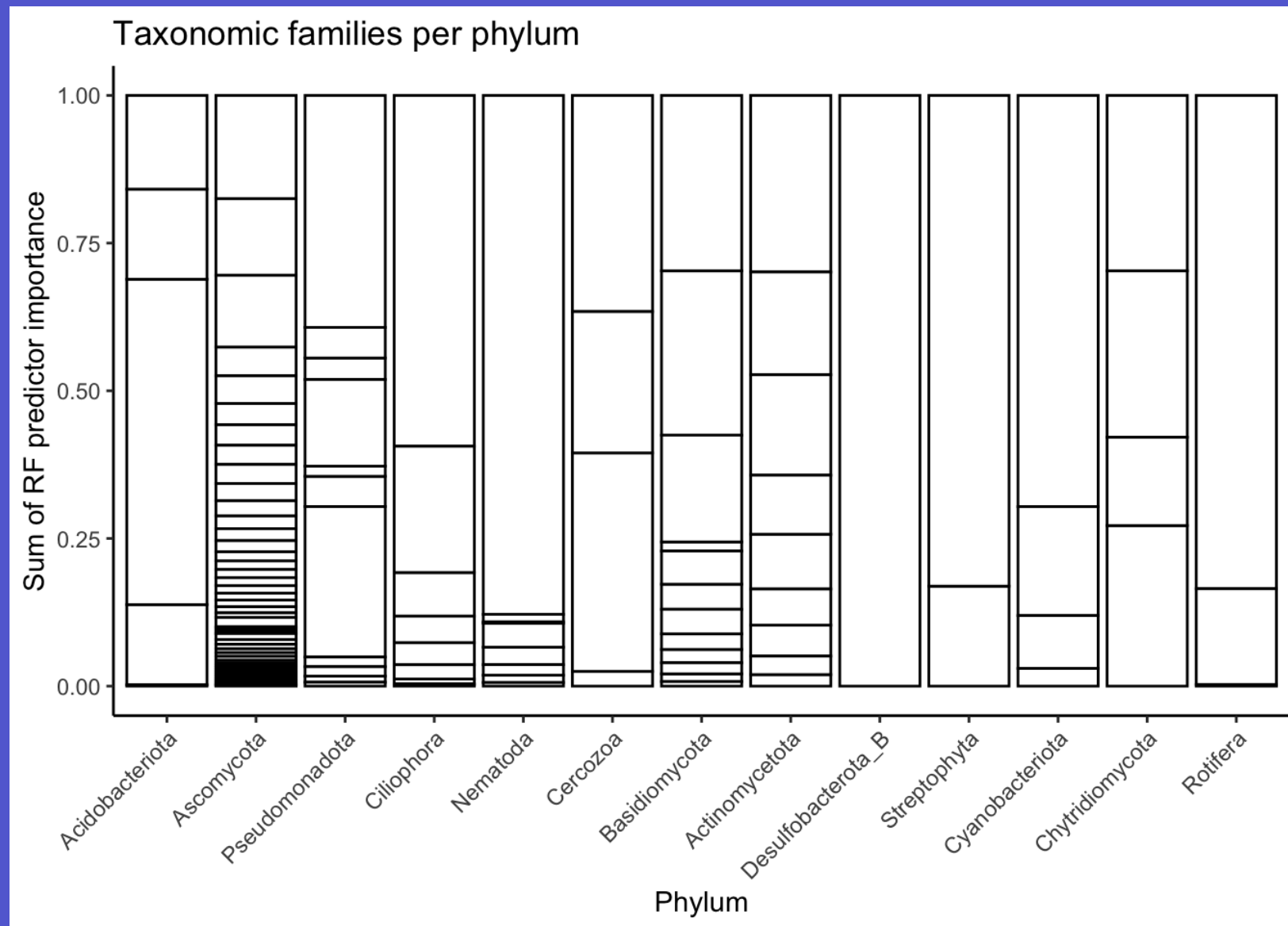
Traditional indicator importance



eDNA indicator importance



Diversity of eDNA Indicators



One

Genetic methods can detect single species of exceptional interest through to entire communities from **environmental samples taken by non-experts**

Two

eDNA metabarcoding of soil samples **efficiently and reproducibly detects high-dimensional data** across all kingdoms of life

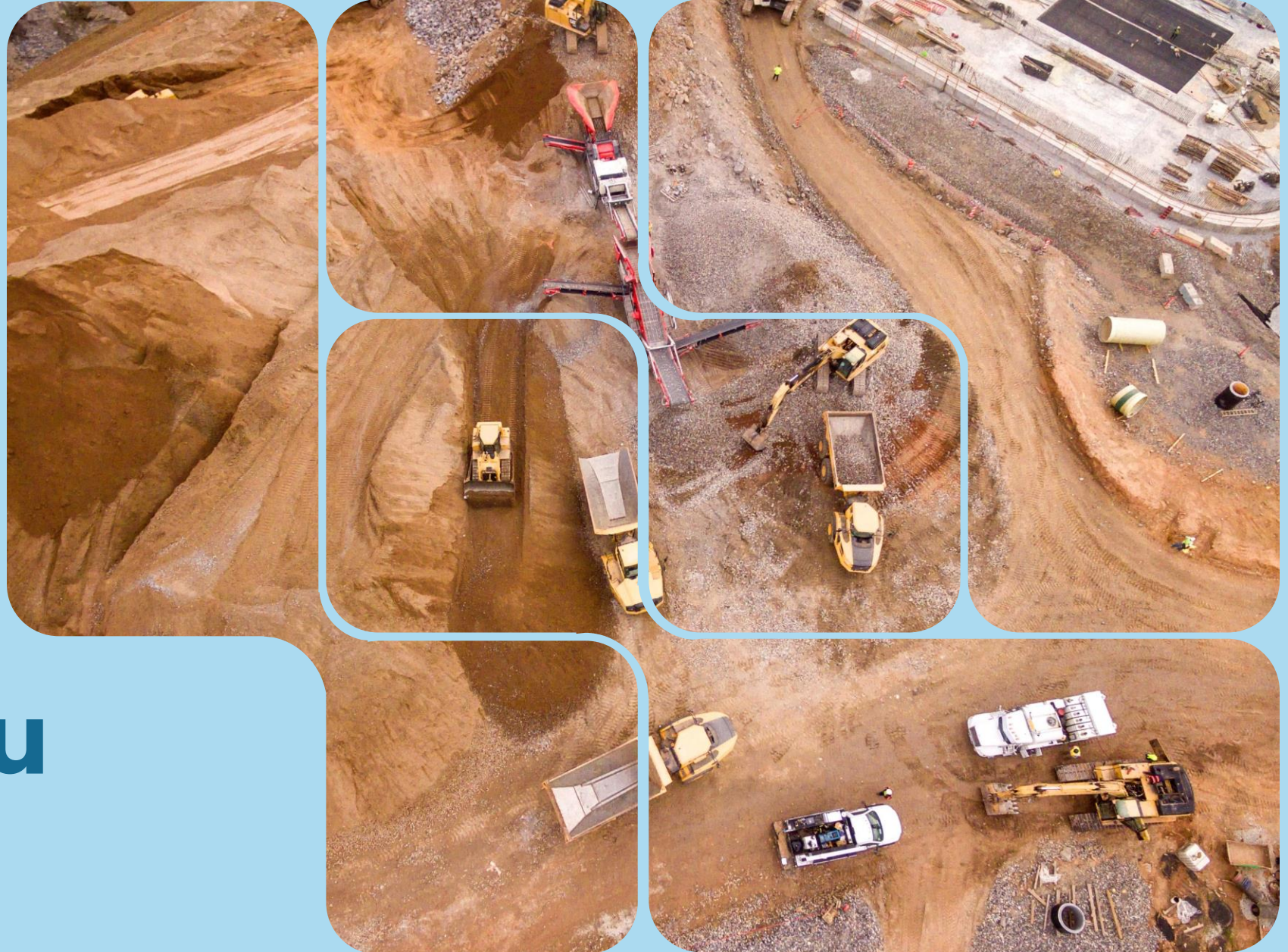
Three

eDNA indicators currently show similar power to predict rehabilitation as above-ground survey variables, and add **direct measurement of biodiversity**

Four

Power will increase with sample size





Thank You

Contact EnviroDNA:

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Website: www.envirodna.com