

eDNA-SUSTAIN

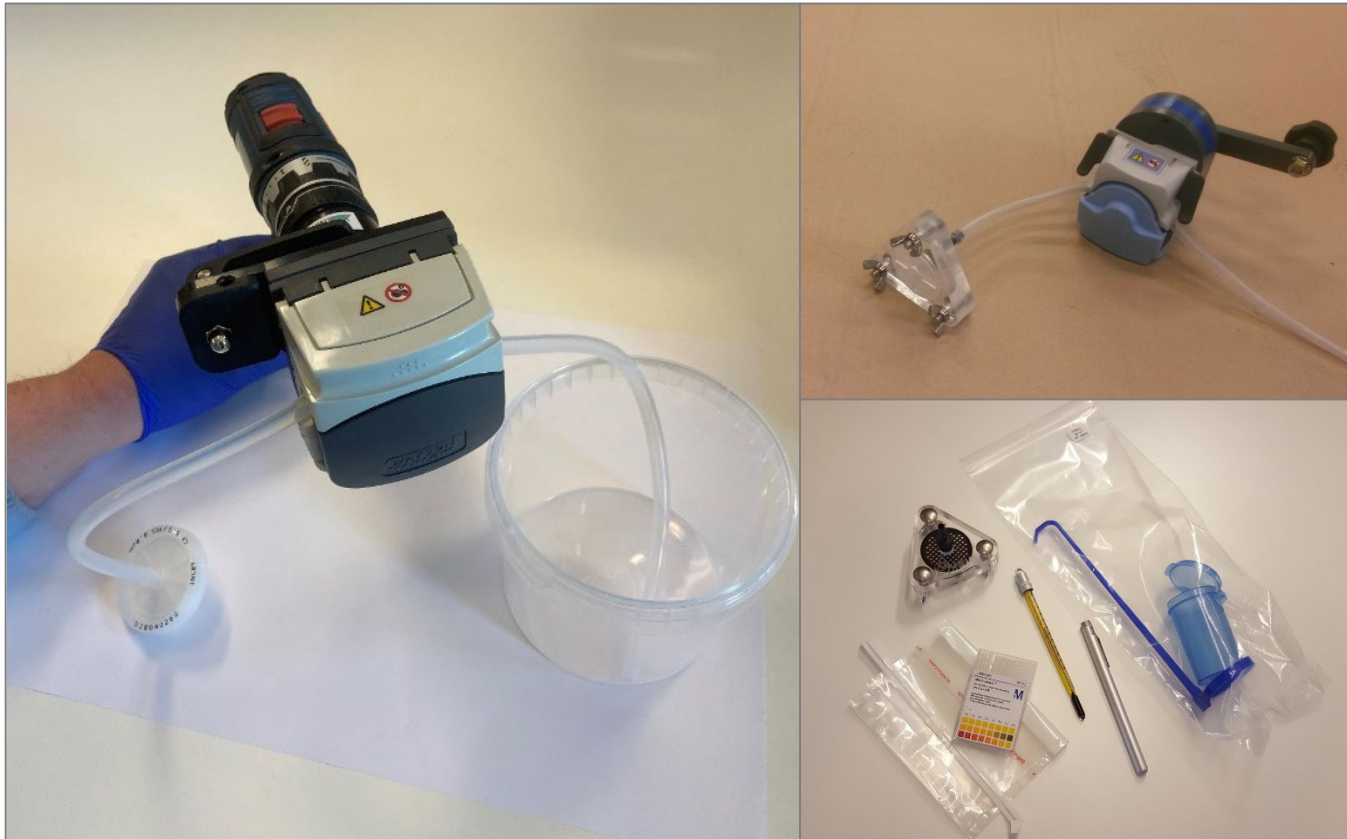
- Bruk av miljø-DNA som et nytt verktøy for bred taksonomisk evaluering av bærekraftig systemdrift i vannkraftindustrien

Frode Fossøy

Hva er miljø-DNA?



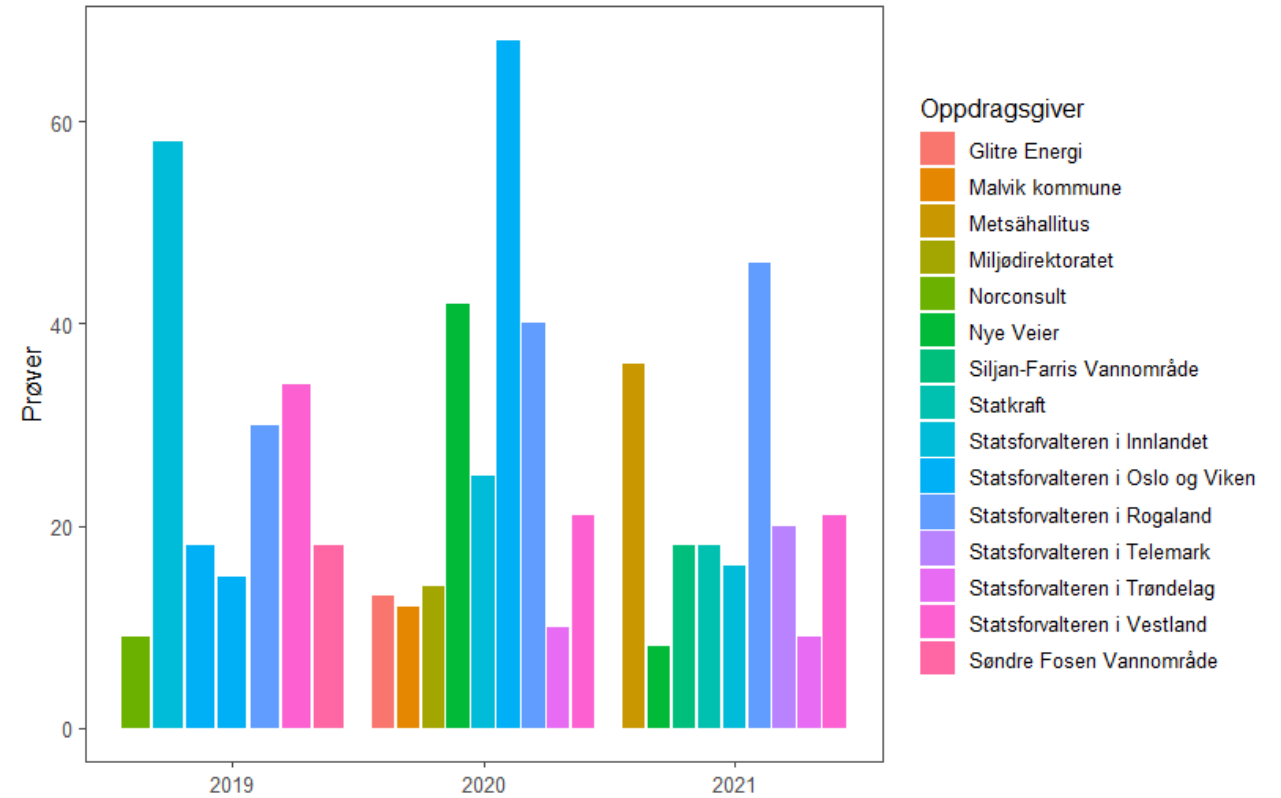
NINA miljø-DNA kit



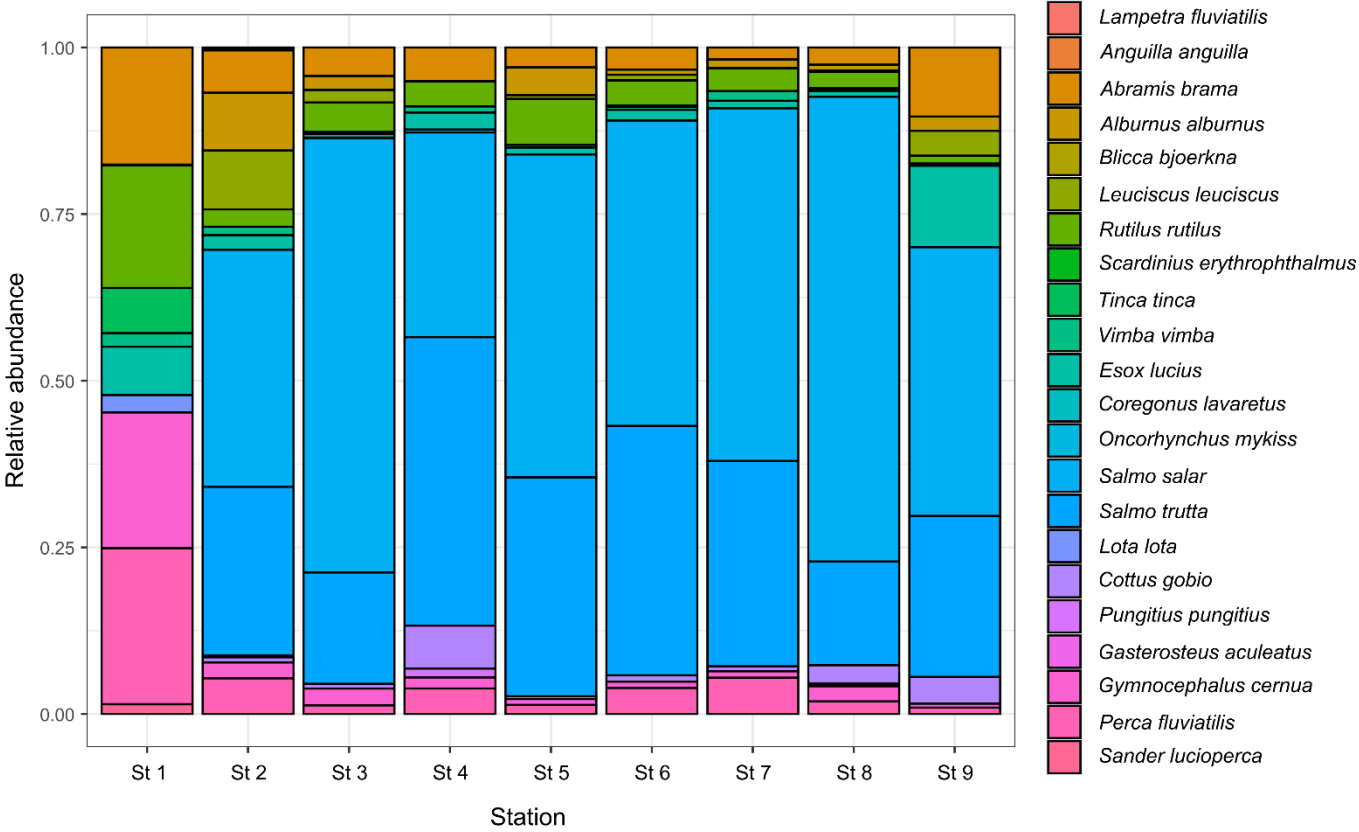
Overvåking av trua arter



Elvemusling

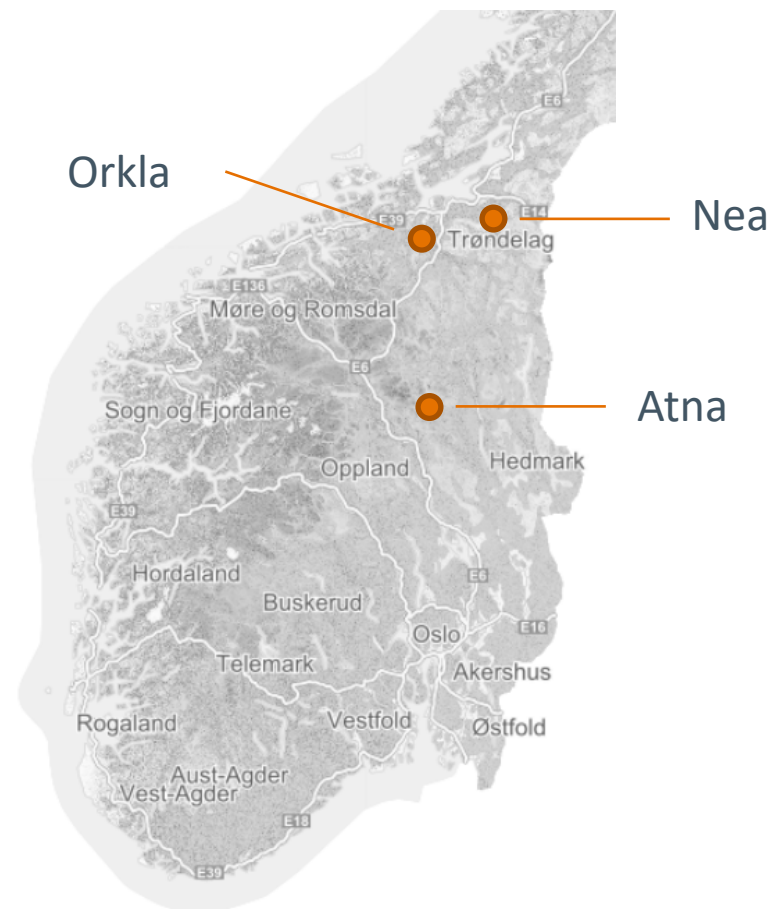


Vattenfall: Dalälven - Kungsådran



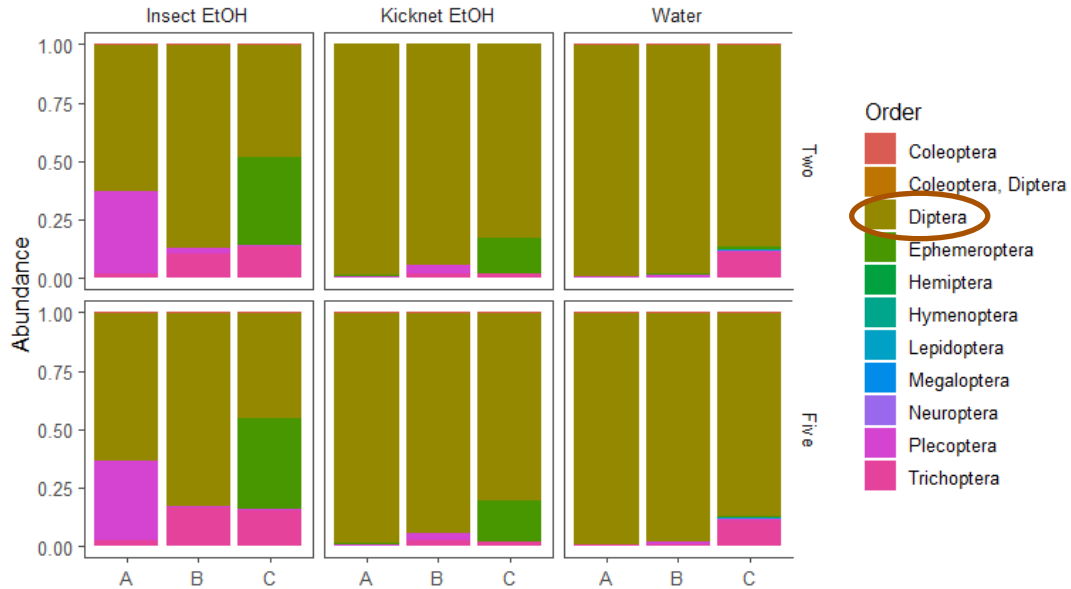
Bunndyr - Vannforskriften

- Økologisk tilstand
- ▶ EPT-arter
 - Orden Ephemeroptera
 - Orden Plecoptera
 - Orden Trichoptera
- ▶ 3 prøvetyper
 - Vannprøver
 - Etanol fra sparkeprøver
 - Etanol fra insektprøver

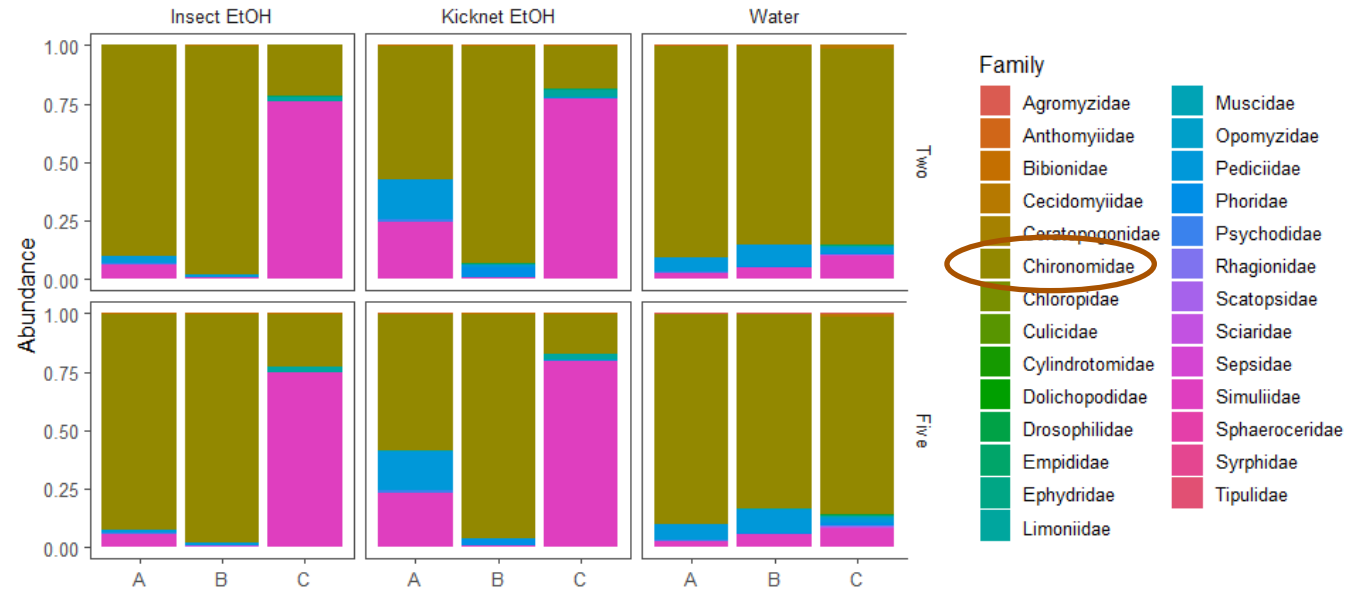


Atna

ATNA river - Class Insecta



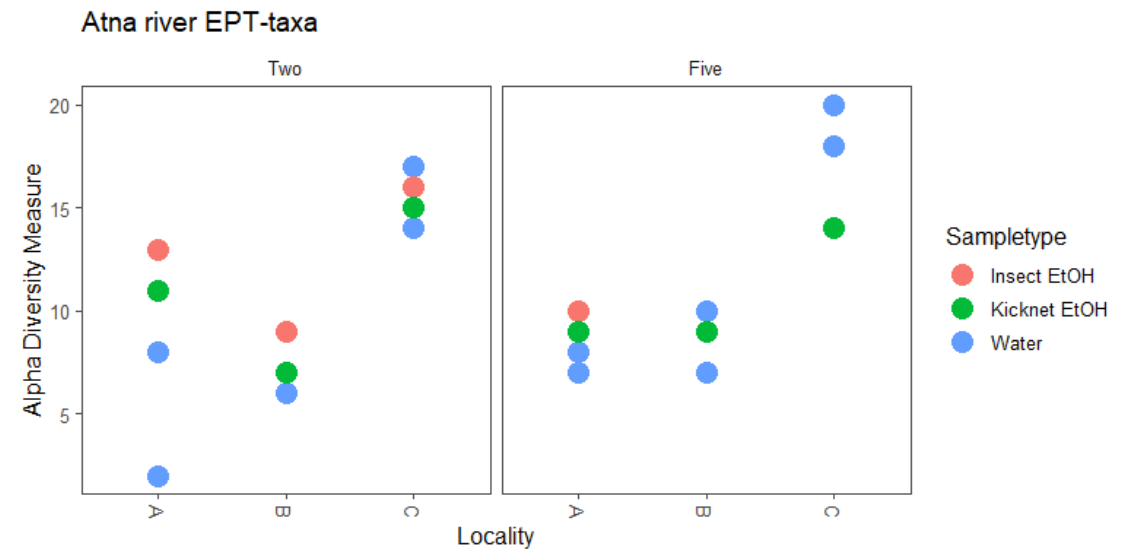
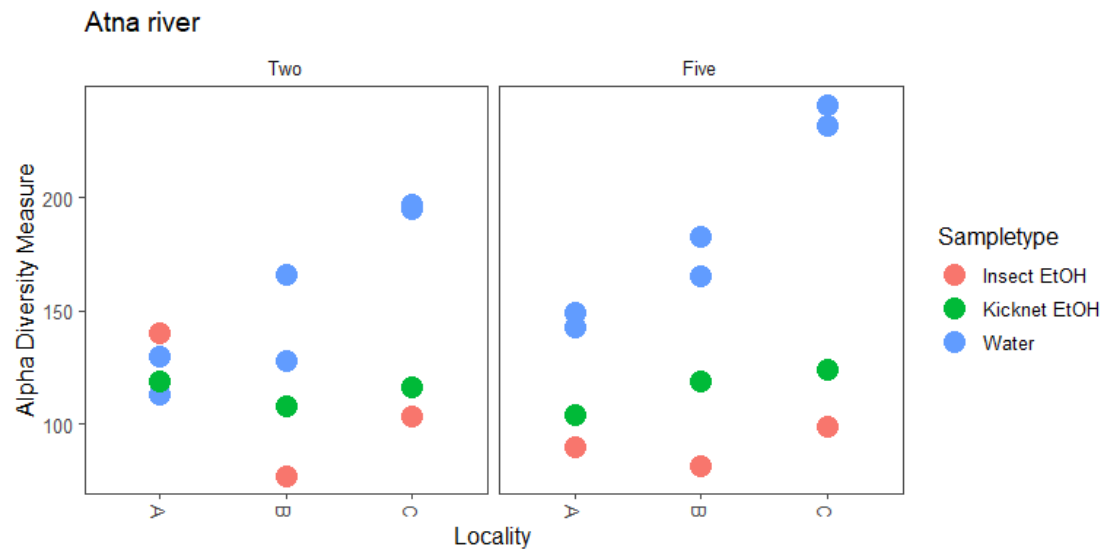
ATNA river - Order Diptera



Orden Diptera og familien Fjærmygg dominerer DNA-data!

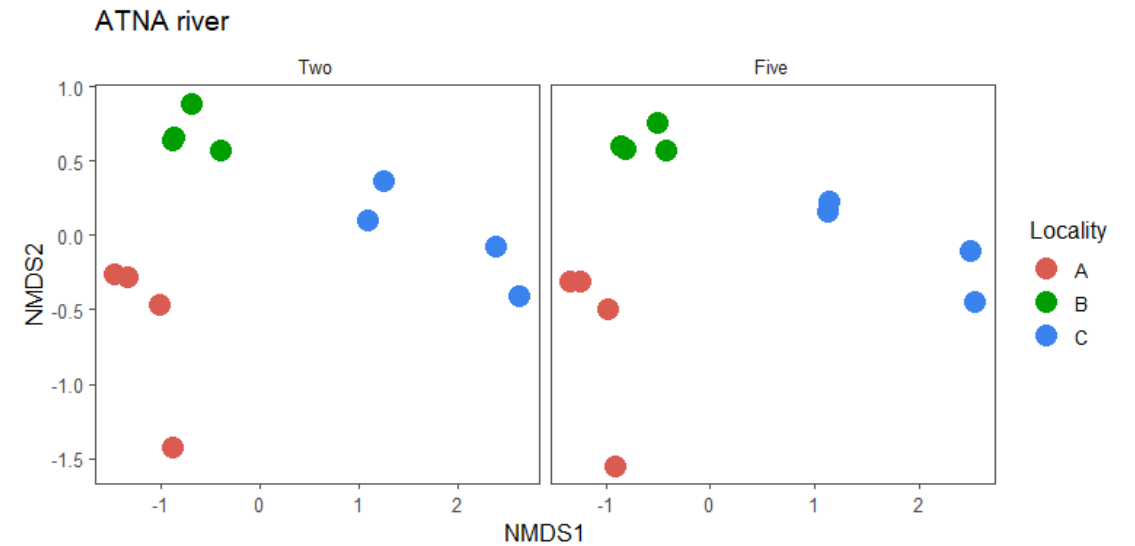
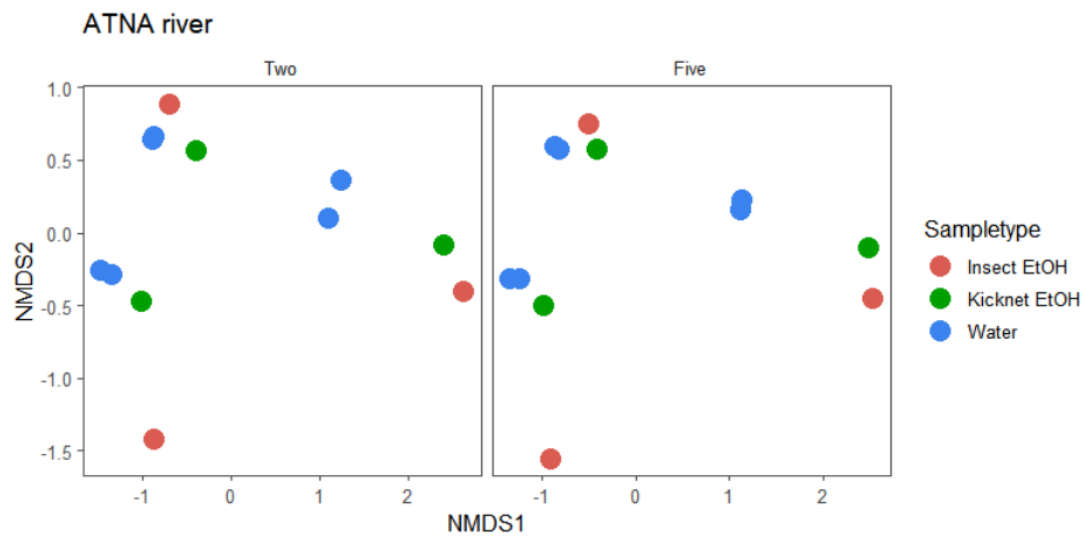
Atna river

- Antall arter



Atna

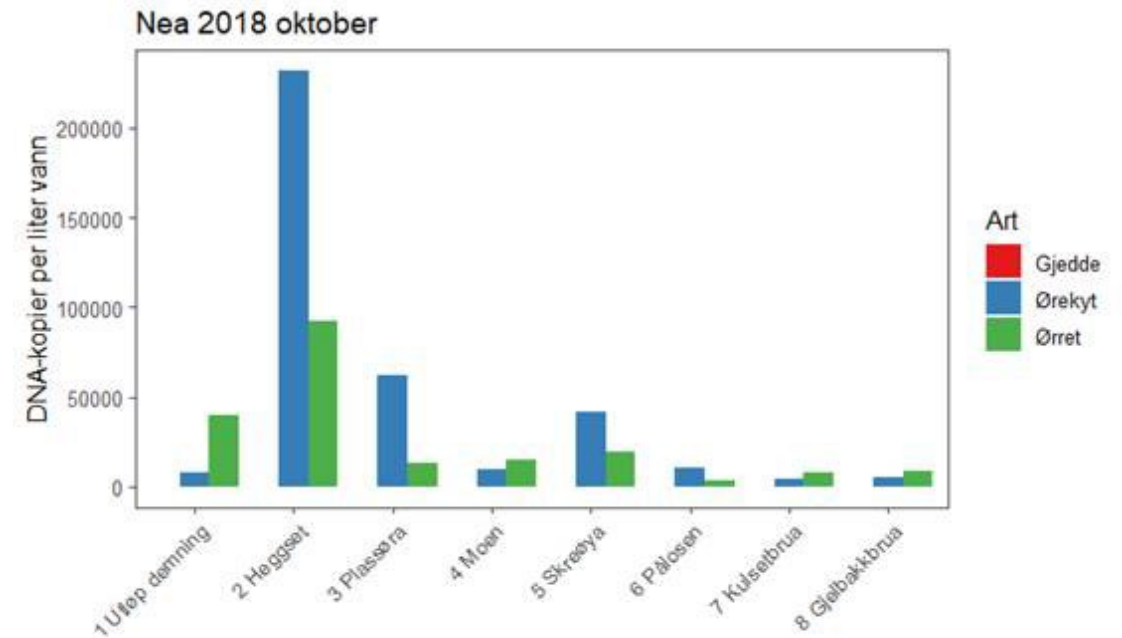
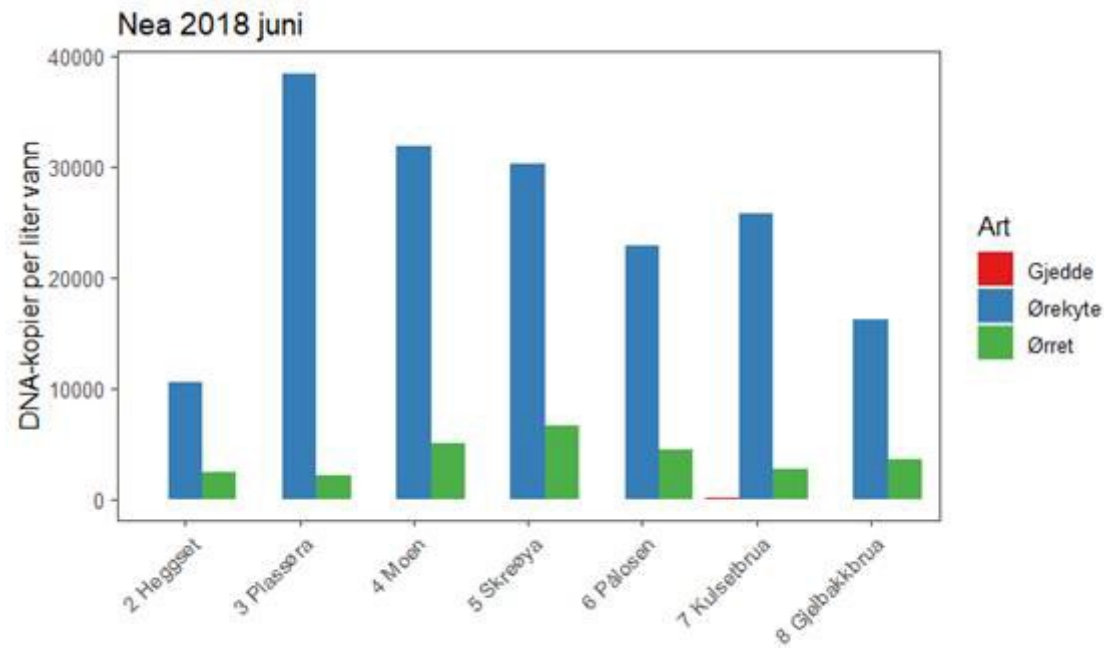
- NMDS plot



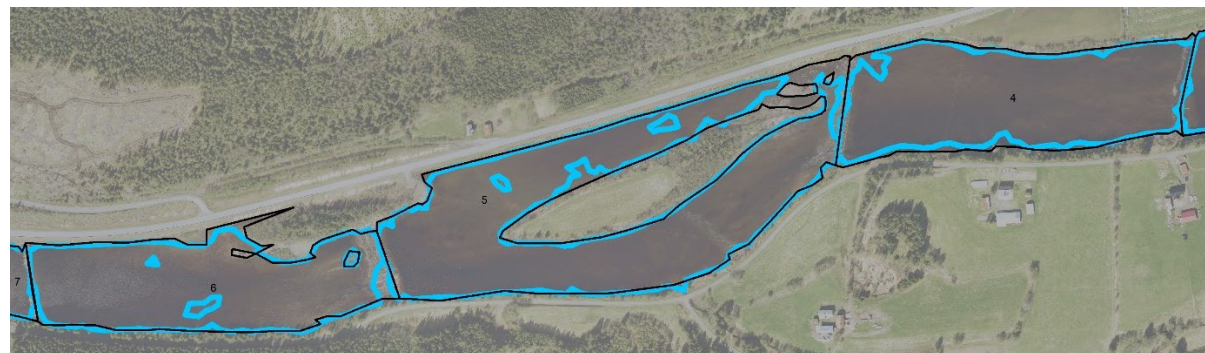
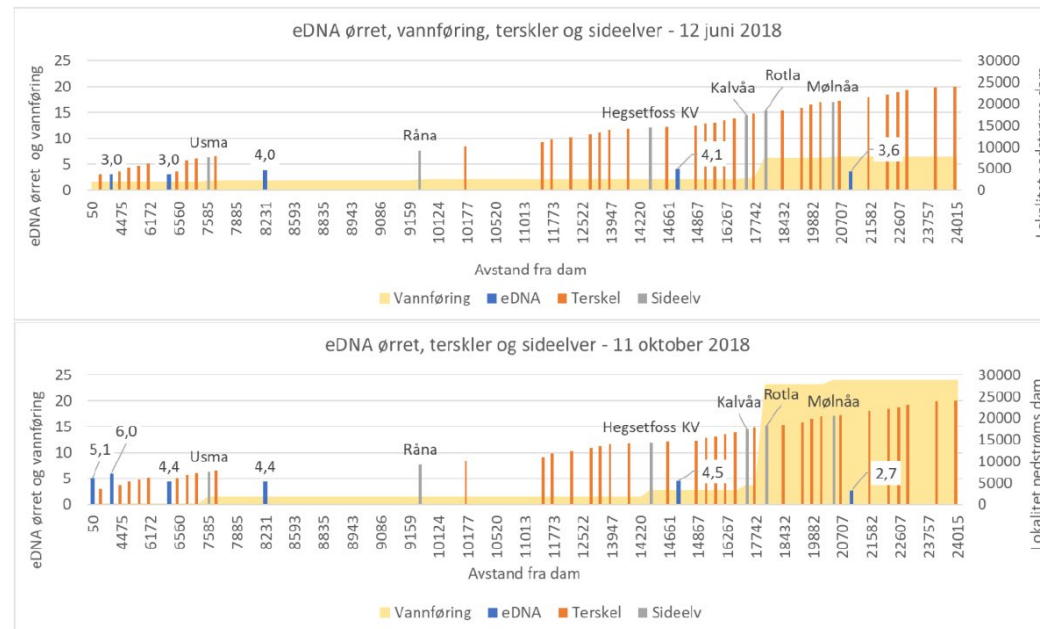
Nea



Nea – fish eDNA density

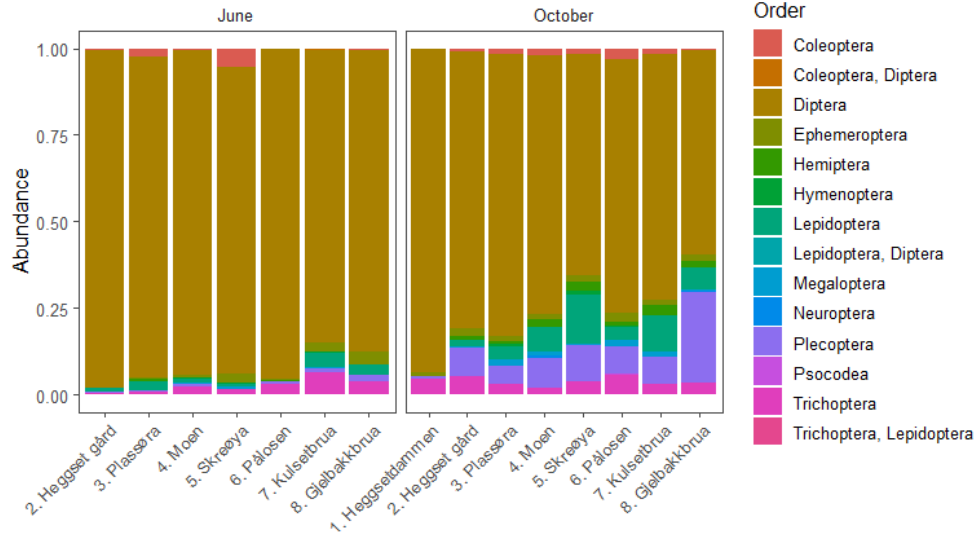


Nea – fish eDNA density

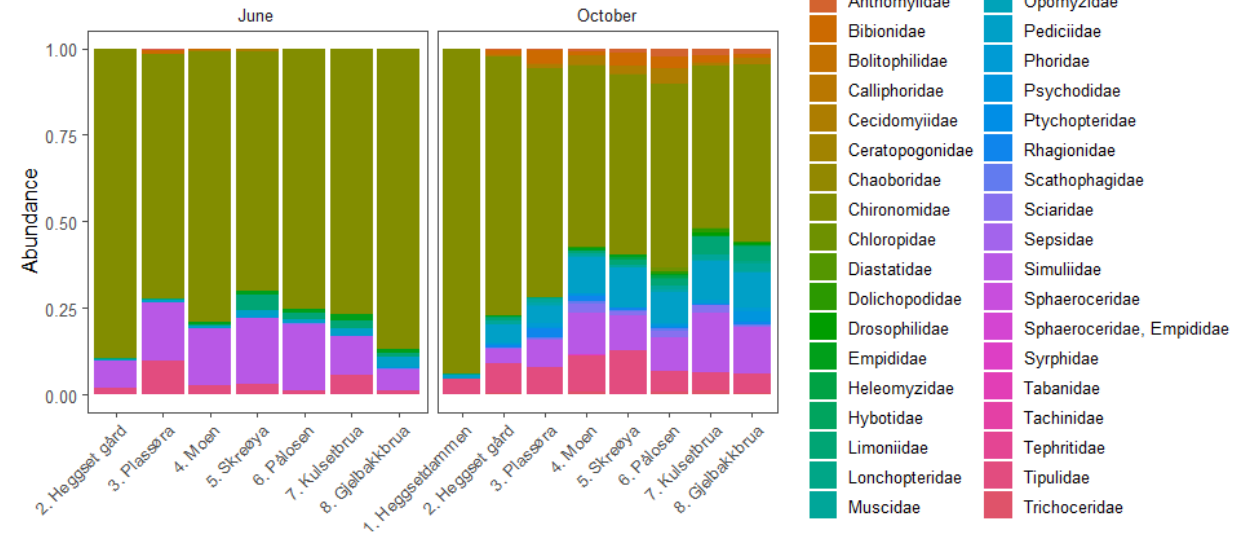


Nea

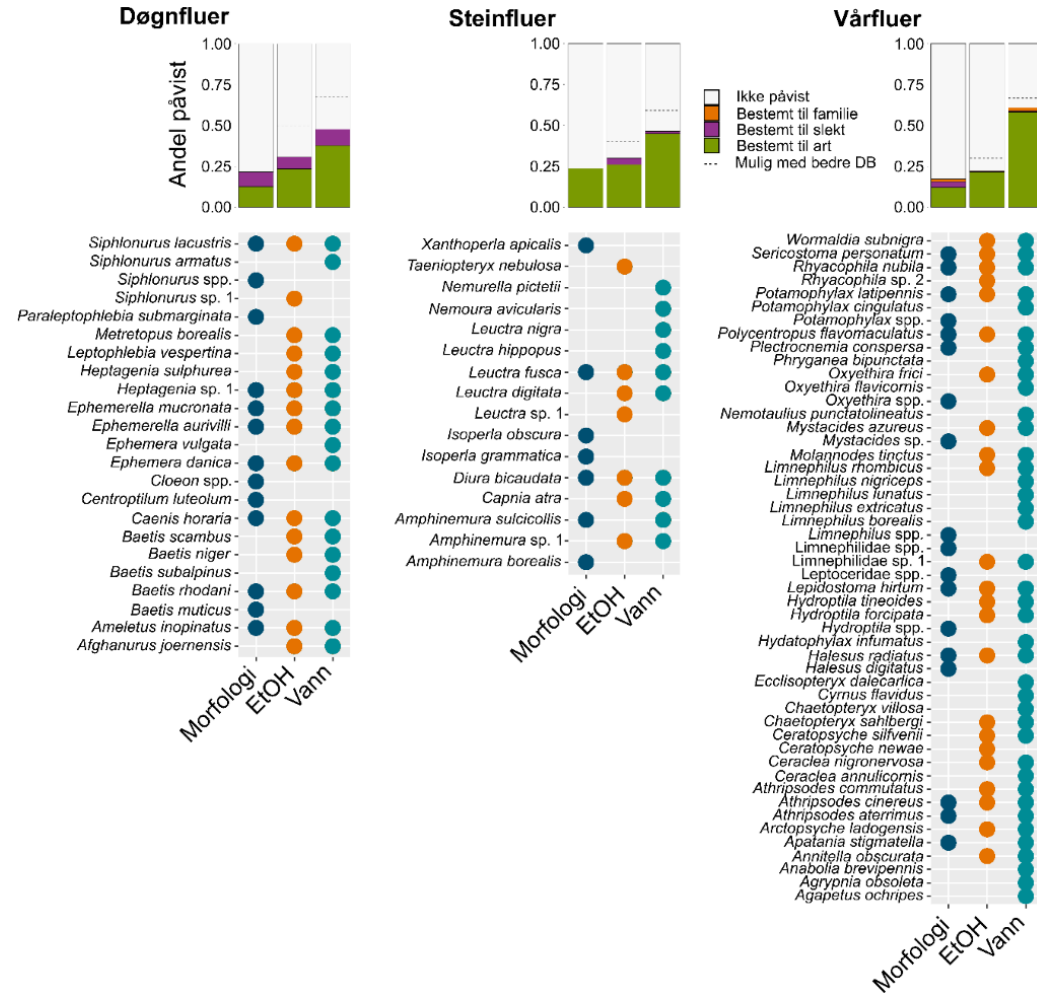
Class Insecta



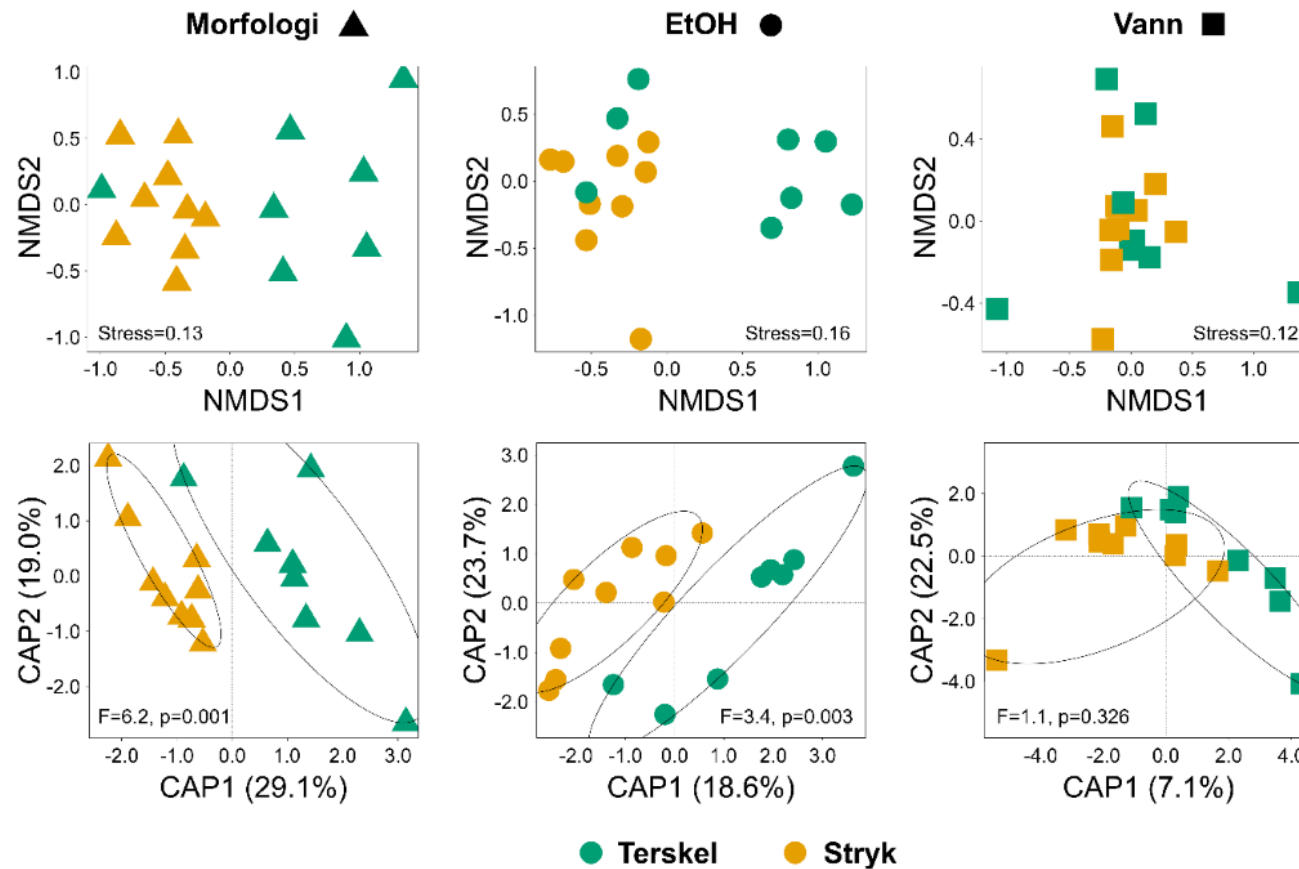
Orden Diptera



Nea



Nea



Nasjonalt overvåking av terrestre insekter



Nasjonalt overvåking av terrestre insekter

Adresseavisen NYHETER SPORT KULTUR MENINGER UKEADRESSA FRODE MENY

Norge mangler insektovervåking: Nytt pilotprosjekt på Malvik

Halvparten av verdens insekter har forsvunnet på tretti år. Forskere mangler datagrunnlag til å vurdere insektbestandens utvikling i Norge. Det skal et testprosjekt i Malvik gjøre noe med.



Forsker på Norsk institutt for naturforskning, Jens Åström, forteller om insektfellene som skal overvåke norske insektbestand. FOTO: MICHAEL SCHULTZ/LIRIKSEN

MARTHE SVENDSEN

ANNONSE

Boligguiden

Trondheim 6 490 000,-

Jakobelt 22 000 000,-

Her finner du fantastiske boliger til salg allerede nå

Samfunnsøkonomisk beregning:
- MENON Economics

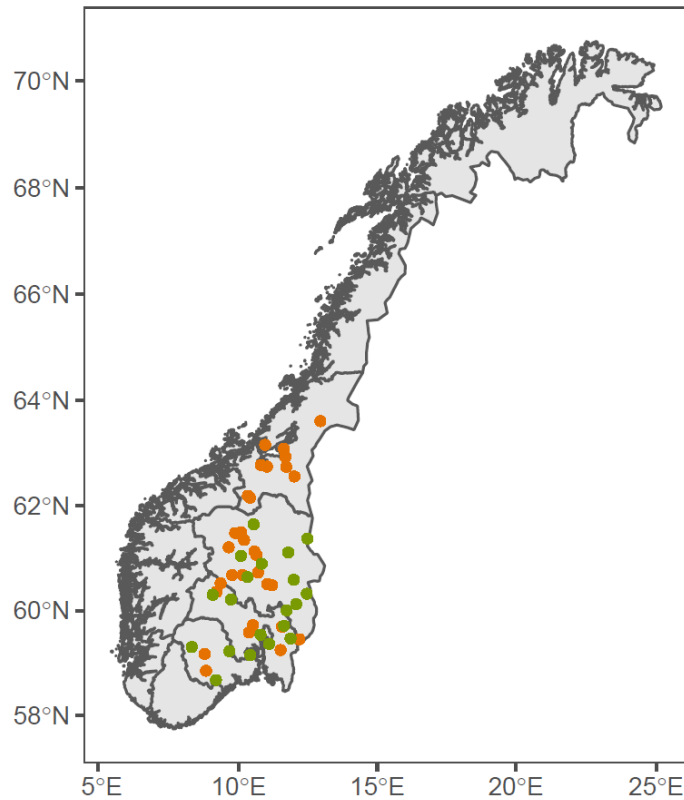
Morfologisk identifikasjon:

480 millioner NOK per år

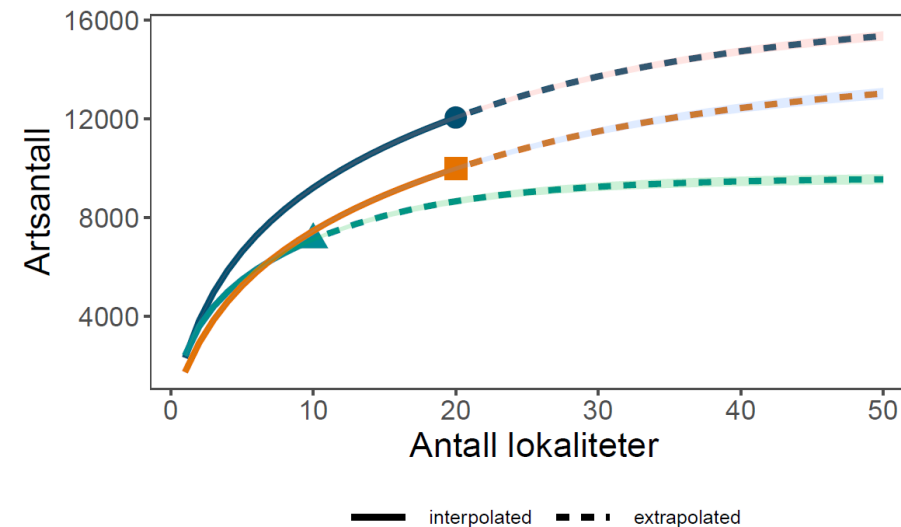
DNA-basert identifikasjon:

19.3 millioner NOK per år

Nasjonalt overvåking av terrestre insekter



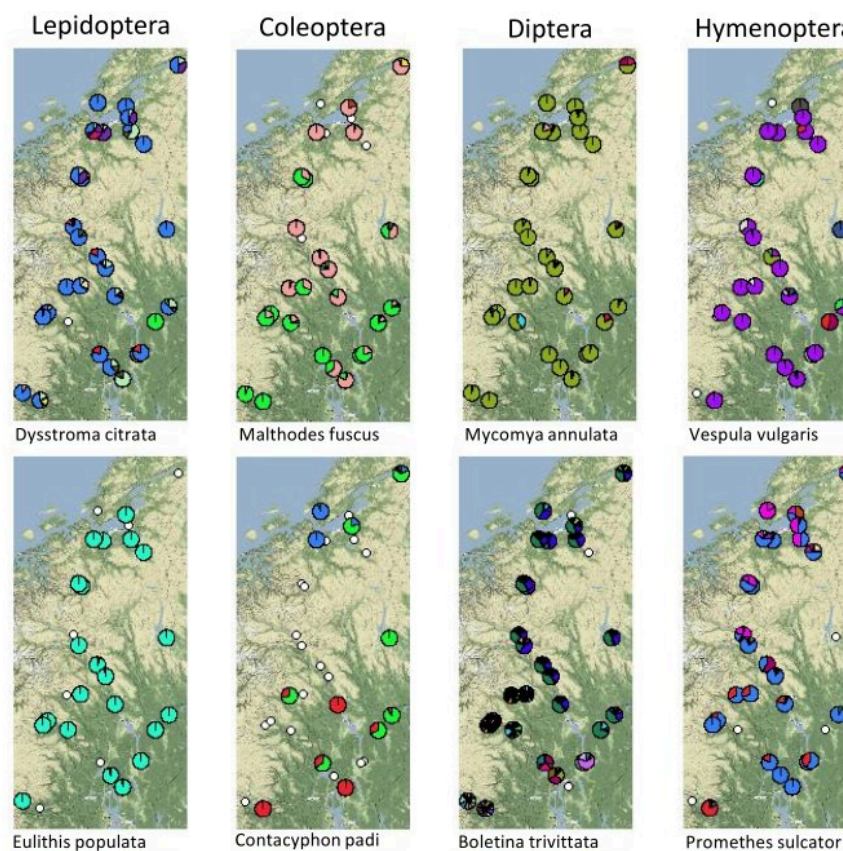
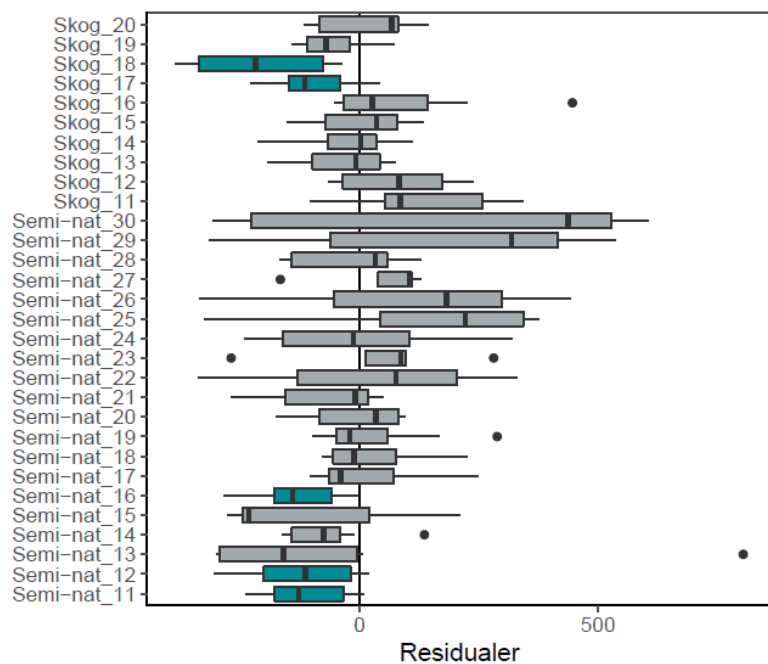
- 19.000 insekter registrert i Norge (Artsdatabanken)
- Vi har allerede påvist 17.000
- Har Norge >30.000 insekter?



Semi-nat_Ost Semi-nat_Trond Skog_Ost

Genetisk variasjon innen arter

- Nasjonal overvåking av insekter



HydroCen Open Call project:

Implementing eDNA as a tool for assessing sustainable operation of hydropower production

Bruk av miljø-DNA som et nytt verktøy for bred taksonomisk evaluering av bærekraftig systemdrift i vannkraftindustrien

eDNA-SUSTAIN

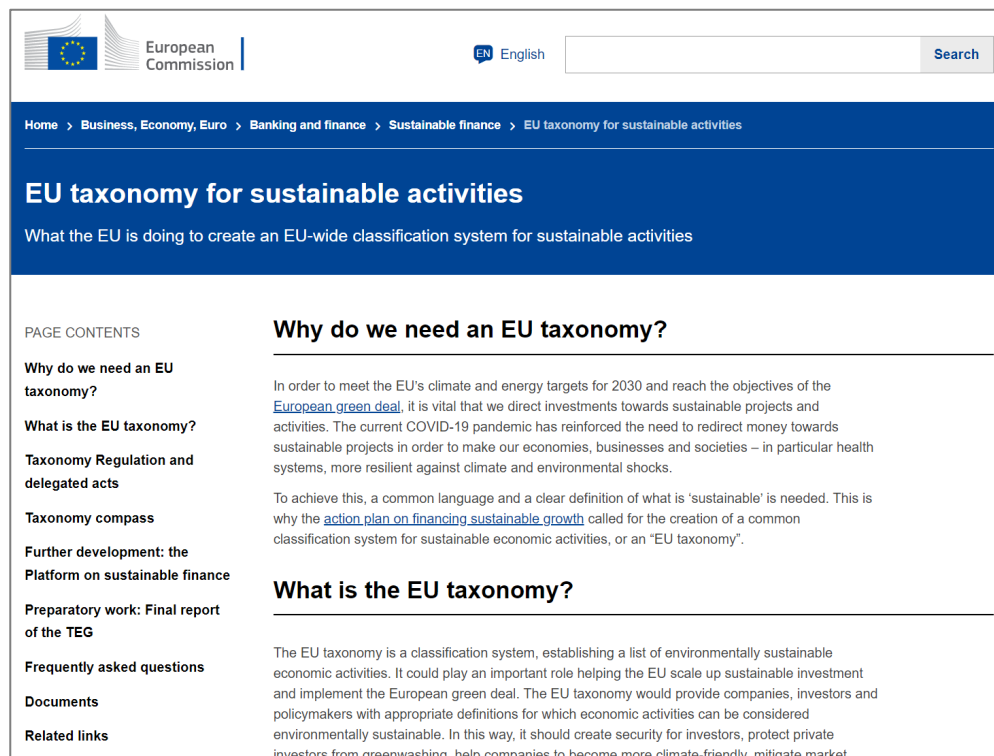
- Brukerpartnere?
 - ▶ Miljødirektoratet
 - ▶ Hafslund Eco
 - ▶ Agder Energi
 - ▶ Vattenfall



VATTENFALL

agder energi

Ny EU taksonomi for bærekraft



The screenshot shows the European Commission website page for 'EU taxonomy for sustainable activities'. The page includes a navigation menu, a search bar, and a main heading. The content is organized into sections: 'PAGE CONTENTS', 'Why do we need an EU taxonomy?', and 'What is the EU taxonomy?'. The 'Why do we need an EU taxonomy?' section explains the need for a common language and clear definition of 'sustainable' to meet the EU's climate and energy targets for 2030. The 'What is the EU taxonomy?' section describes it as a classification system for environmentally sustainable economic activities.

European Commission

EN English Search

Home > Business, Economy, Euro > Banking and finance > Sustainable finance > EU taxonomy for sustainable activities

EU taxonomy for sustainable activities

What the EU is doing to create an EU-wide classification system for sustainable activities

PAGE CONTENTS

- Why do we need an EU taxonomy?
- What is the EU taxonomy?
- Taxonomy Regulation and delegated acts
- Taxonomy compass
- Further development: the Platform on sustainable finance
- Preparatory work: Final report of the TEG
- Frequently asked questions
- Documents
- Related links

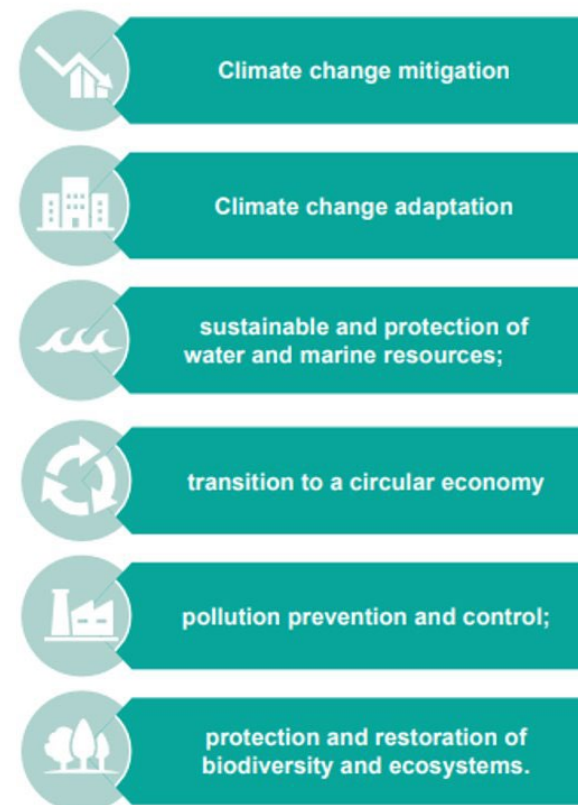
Why do we need an EU taxonomy?

In order to meet the EU's climate and energy targets for 2030 and reach the objectives of the [European green deal](#), it is vital that we direct investments towards sustainable projects and activities. The current COVID-19 pandemic has reinforced the need to redirect money towards sustainable projects in order to make our economies, businesses and societies – in particular health systems, more resilient against climate and environmental shocks.

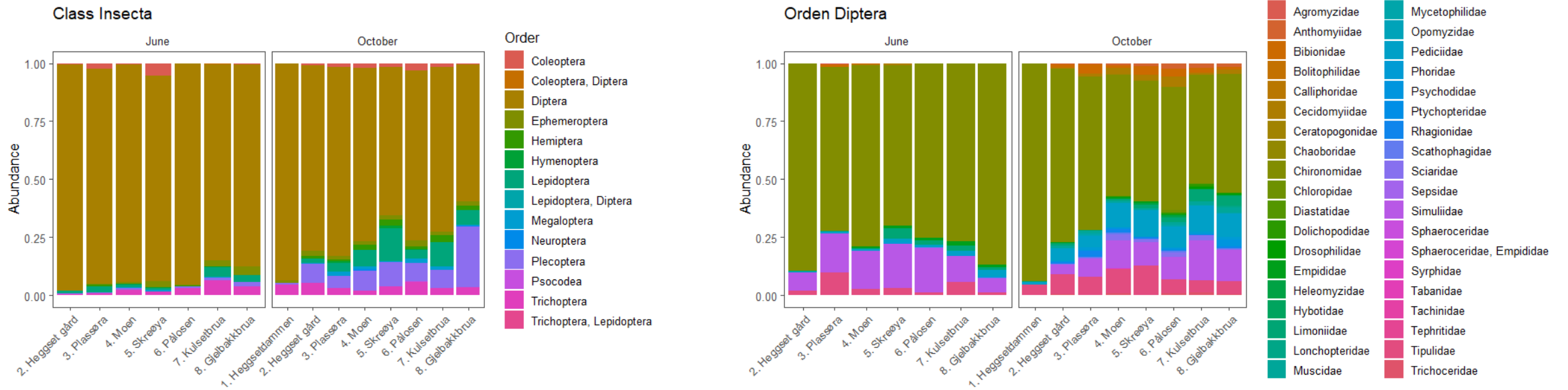
To achieve this, a common language and a clear definition of what is 'sustainable' is needed. This is why the [action plan on financing sustainable growth](#) called for the creation of a common classification system for sustainable economic activities, or an "EU taxonomy".

What is the EU taxonomy?

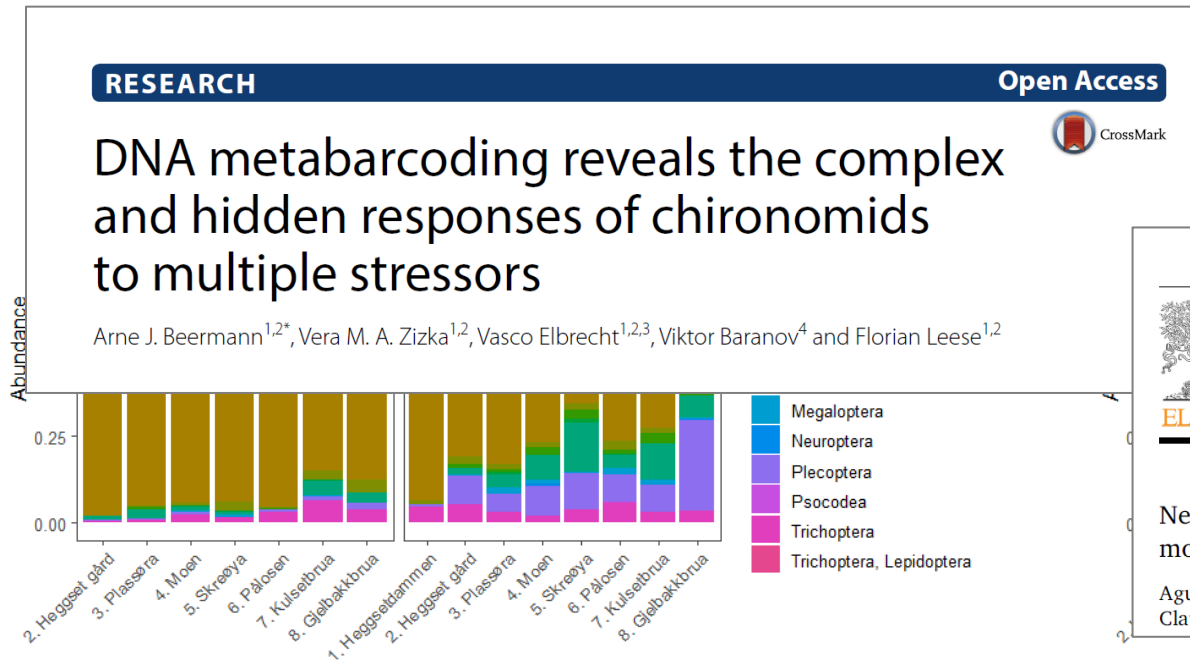
The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities. It could play an important role helping the EU scale up sustainable investment and implement the European green deal. The EU taxonomy would provide companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable. In this way, it should create security for investors, protect private investors from greenwashing, help companies to become more climate-friendly, mitigate market



Fjærmygg som indikatorer?



Fjærmygg som indikatorer?



Open Diptera



Ecological Indicators 117 (2020) 106619

Contents lists available at ScienceDirect

Ecological Indicators

journal homepage: www.elsevier.com/locate/ecolind

New insights on bioindicator value of Chironomids by using occupancy modelling

Agustina Cortelezzi^{a,*}, María V. Simoy^a, Augusto Siri^b, Mariano Donato^b, Rosana E. Cepeda^a, Claudia B. Marinelli^a, Igor Berkunsky^a

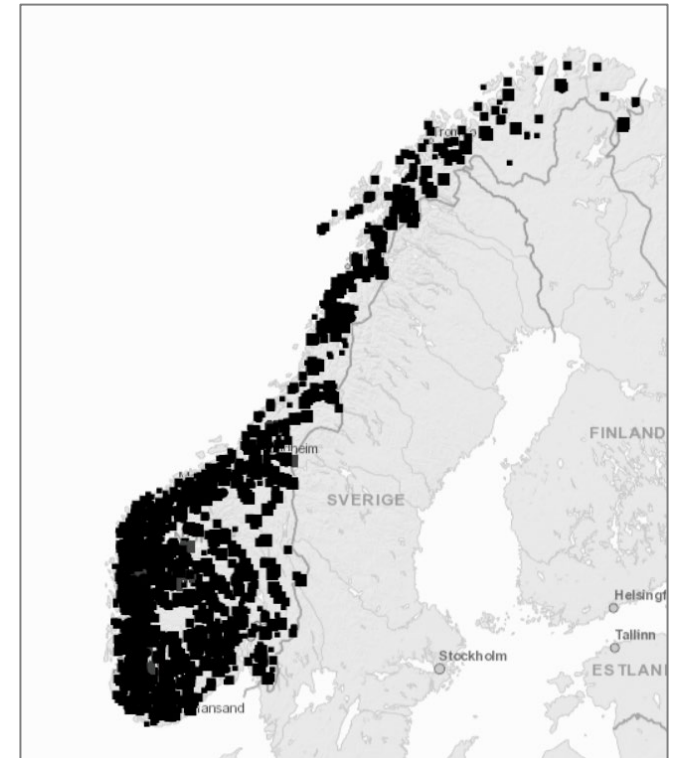
da, dae, dae, dae, Empididae

Check for updates

eDNA-SUSTAIN

- 150 elver
 - ▶ Uregulerte vassdrag
 - ▶ Regulerte vassdrag
 - Elvekraftverk
 - Magasinkraftverk
 - Grad av effektkjøring
 - ▶ Modellering av hydrologi
 - Siste 3 år?
- Hva har størst effekt på dagens diversitet?

Bunndyr + fisk



Cooperation and expertise for a sustainable future

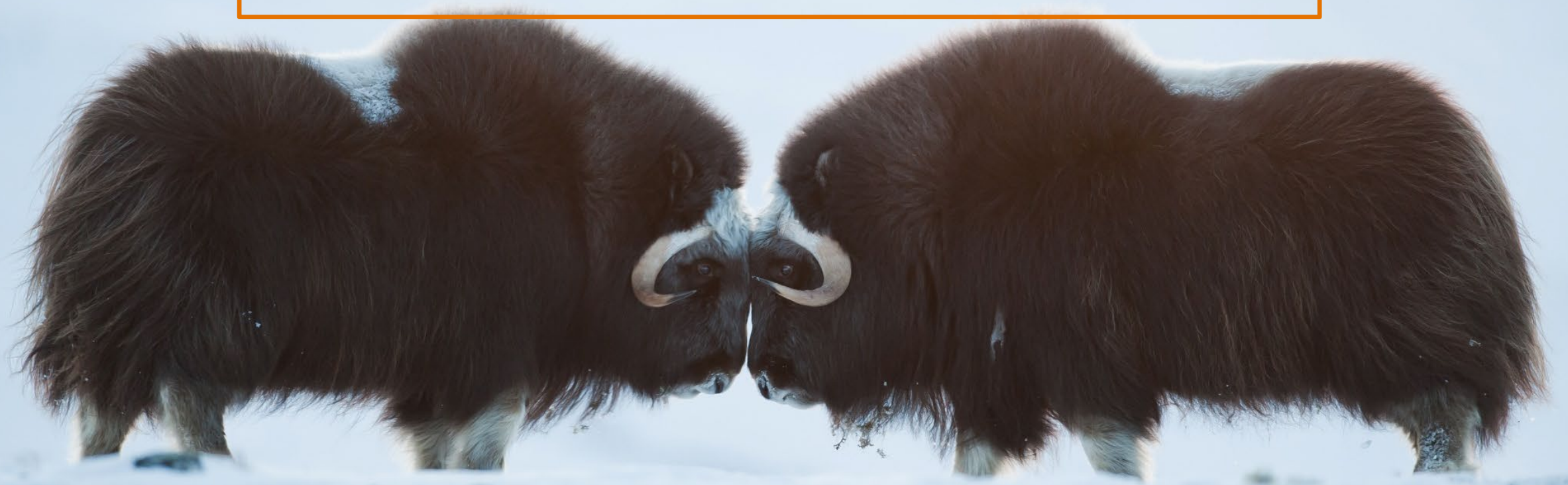


Foto. A. Staverløkk