the River Restoration Centre
Working to restore and enhance our rivers

Delivering River Restoration: Recipes for Success

13ᵀᴴ ANNUAL NETWORK CONFERENCE

Restoring Europe's Rivers

How French river restoration projects are evaluated?
Discussion about the notion of success

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Context and aim of the study

- European WFD (2000) promotes river restoration
- More and more French river restoration projects
- Need to evaluate the effects and the success of these projects

**Aim : provide feedback on the evaluation process
of French river restoration projects**

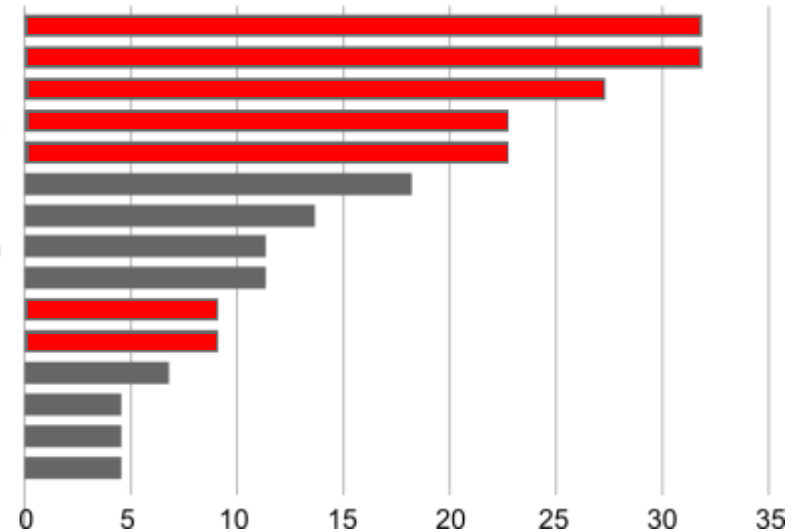# Studied restoration projects' characteristics

% of projects (n=44)
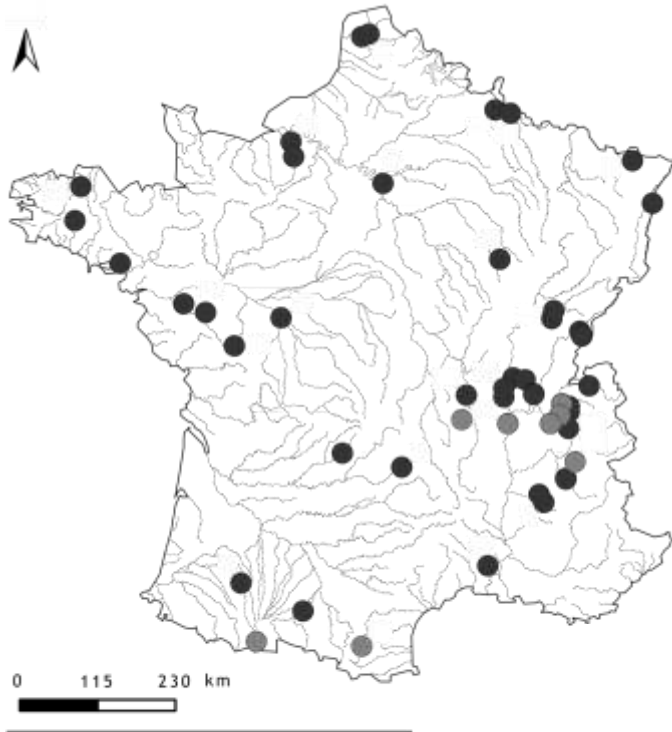
- restoration project
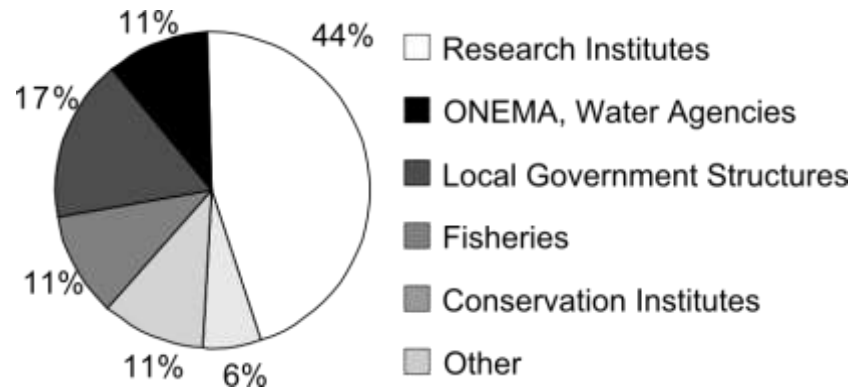- restoration site in multisites project

Materials and methods

Phone interviews (n=66)

Pie chart legend:
- 44% — Research Institutes
- 11% — ONEMA, Water Agencies
- 17% — Local Government Structures
- 11% — Fisheries
- 11% — Conservation Institutes
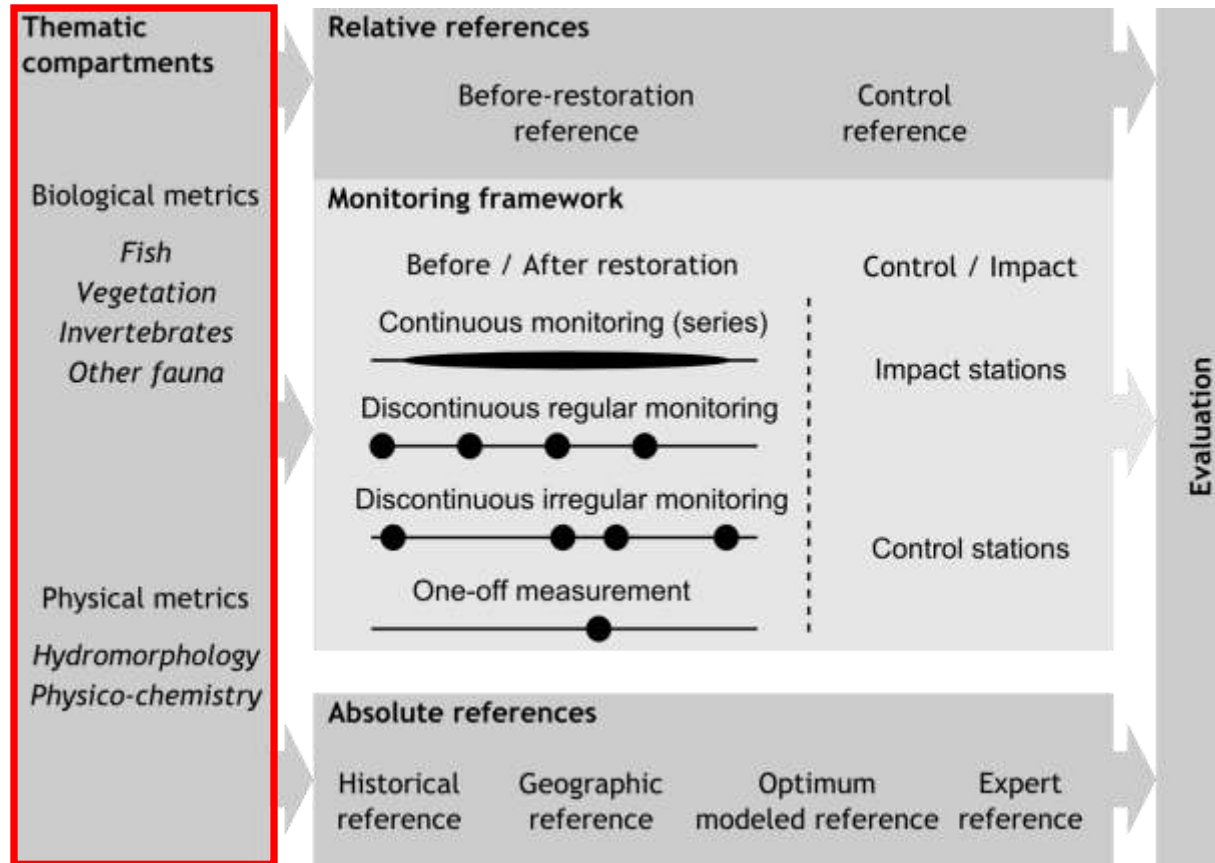- 6% — Other

Documents analysis (n=325)

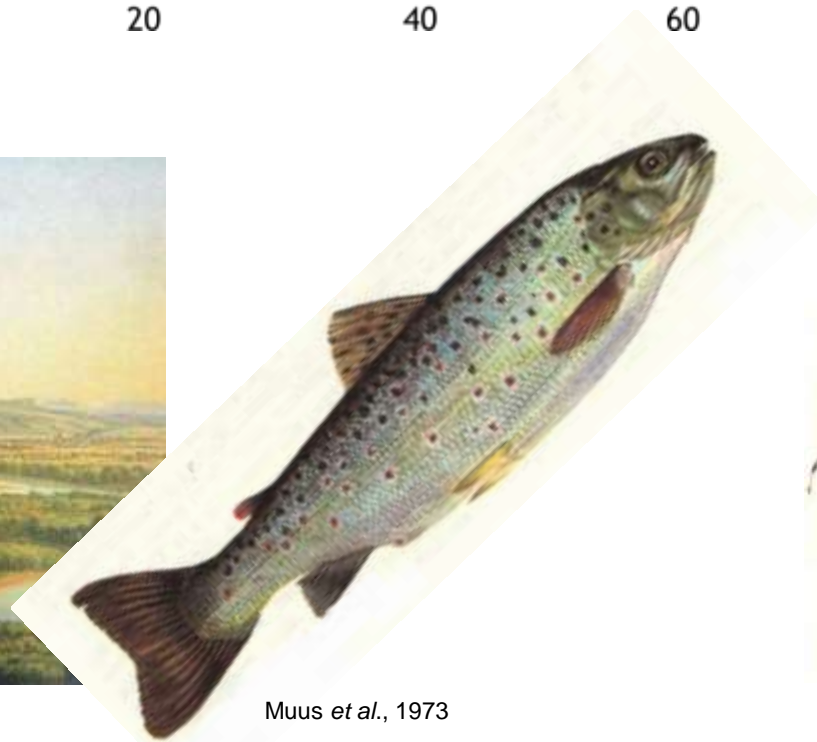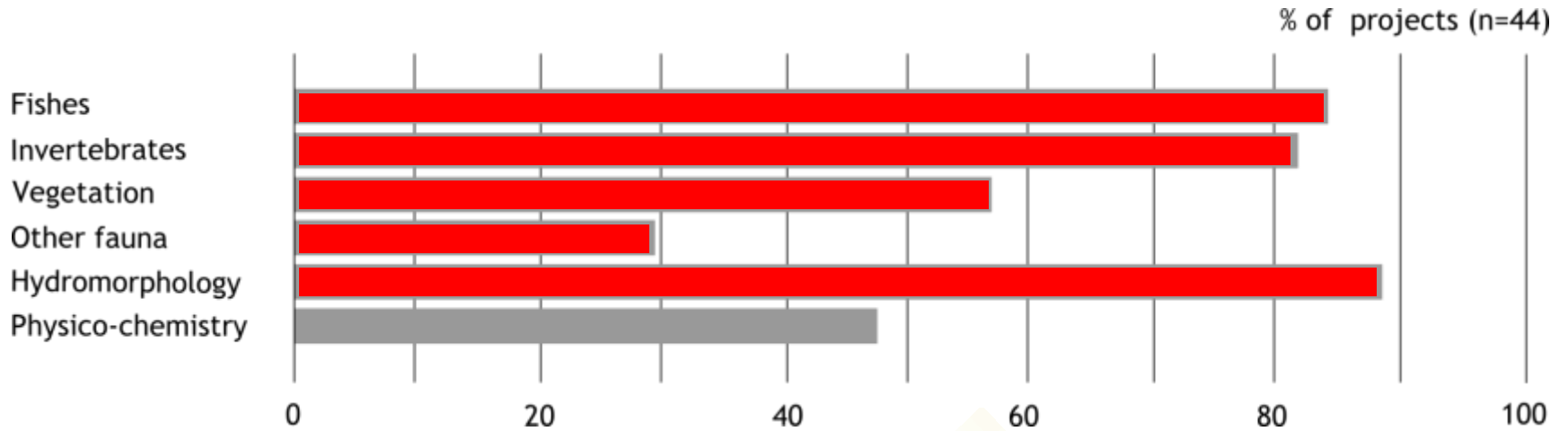|	Scientific articles	Scientific reports	Thesis	Technical documents	Presentation supports	Communication documents	Total
Easy to access	16	21	1	10	8	55	111
Hard to access	0	103	8	88	15	0	214
Total	16	124	9	98	23	55	325

Framework for the assessment of evaluation and success

What are the evaluation objects and metrics used?
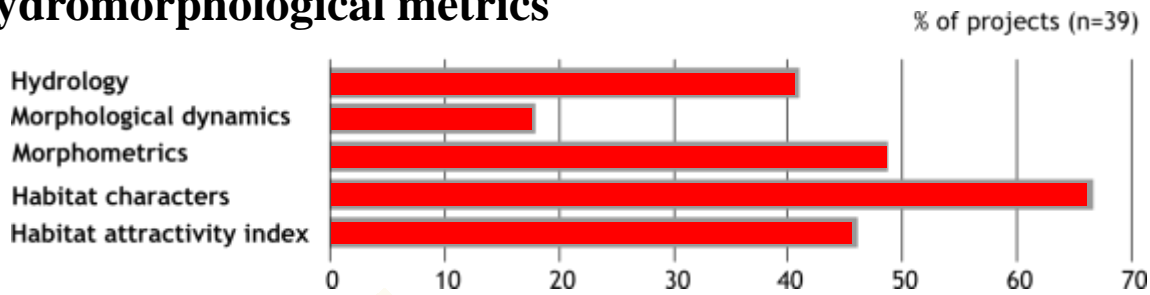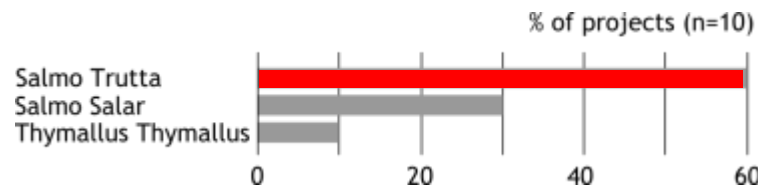
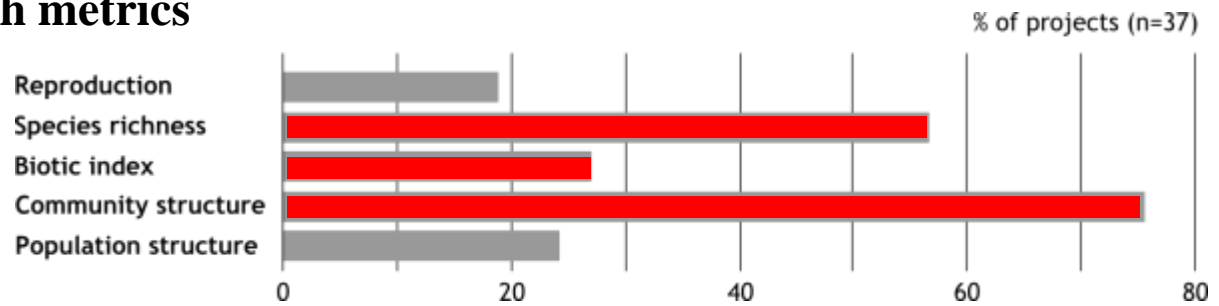# What are the evaluation objects?

Muus *et al.*, 1973

Muus *et al.*, 1973
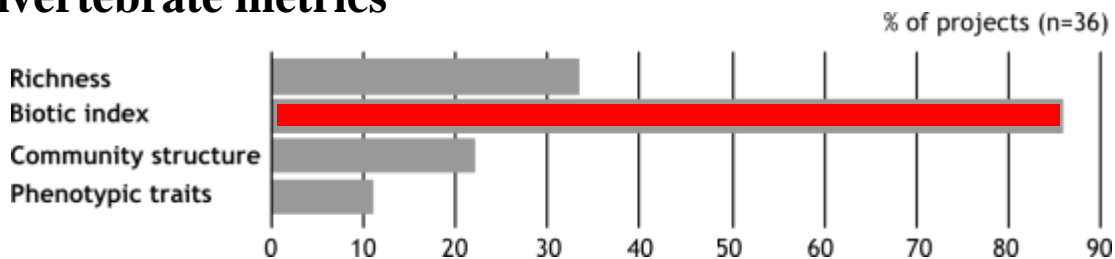
What metrics are used?

Hydromorphological metrics

% of projects (n=39)

Hydrology
Morphological dynamics
Morphometrics
Habitat characters
Habitat attractivity index

0 10 20 30 40 50 60 70

Fish metrics

% of projects (n=37)

Reproduction
Species richness
Biotic index
Community structure
Population structure

0 20 40 60 80

% of projects (n=10)

Salmo Trutta
Salmo Salar
Thymallus Thymallus

0 20 40 60

Muus *et al.*, 1973

Invertebrate metrics

% of projects (n=36)

Richness
Biotic index
Community structure
Phenotypic traits

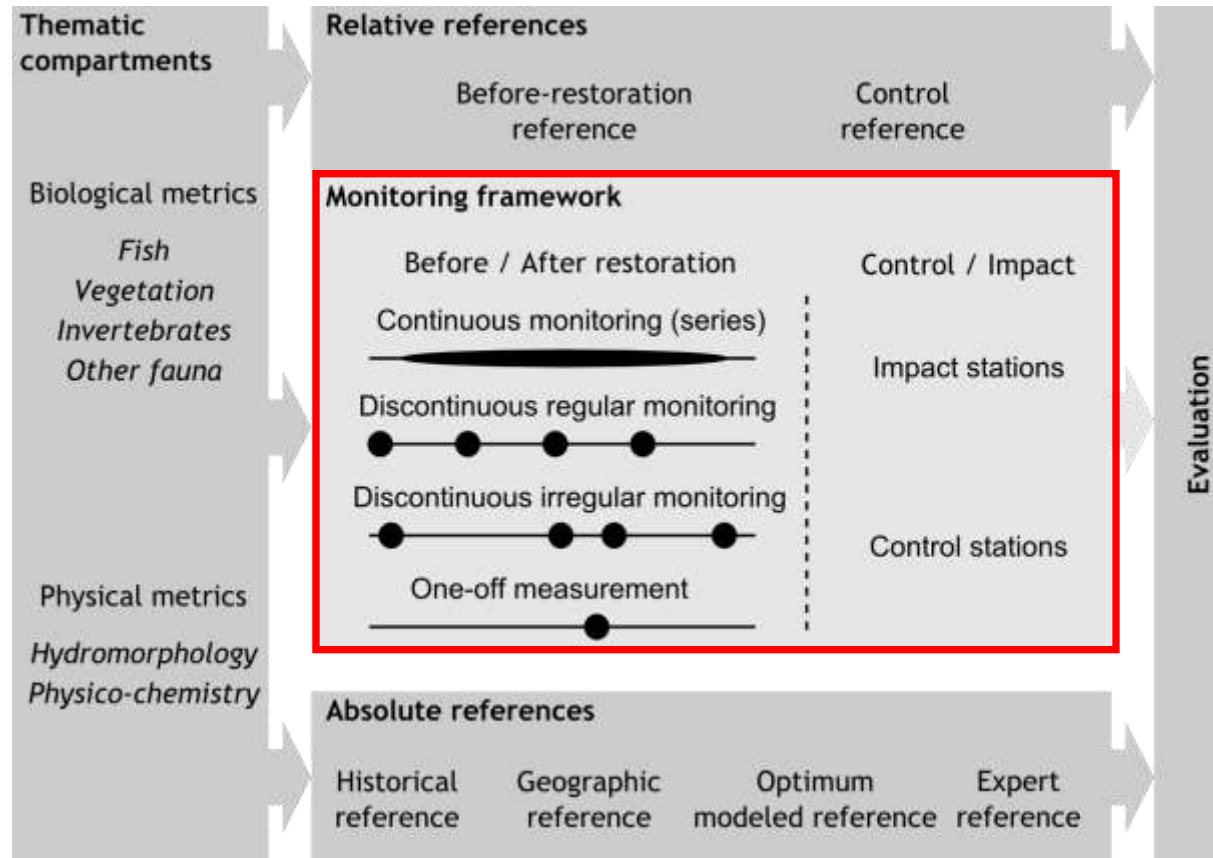0 10 20 30 40 50 60 70 80 90

Muus *et al.*, 1973

Framework for assessment of evaluation and success

What are the evaluation objects and metrics used?

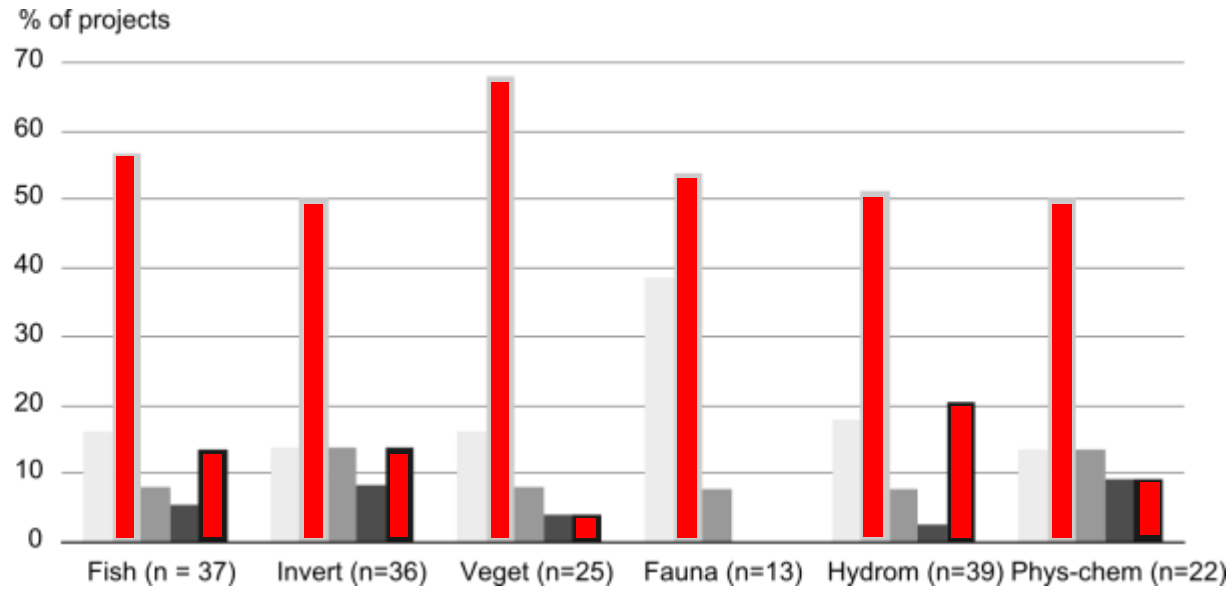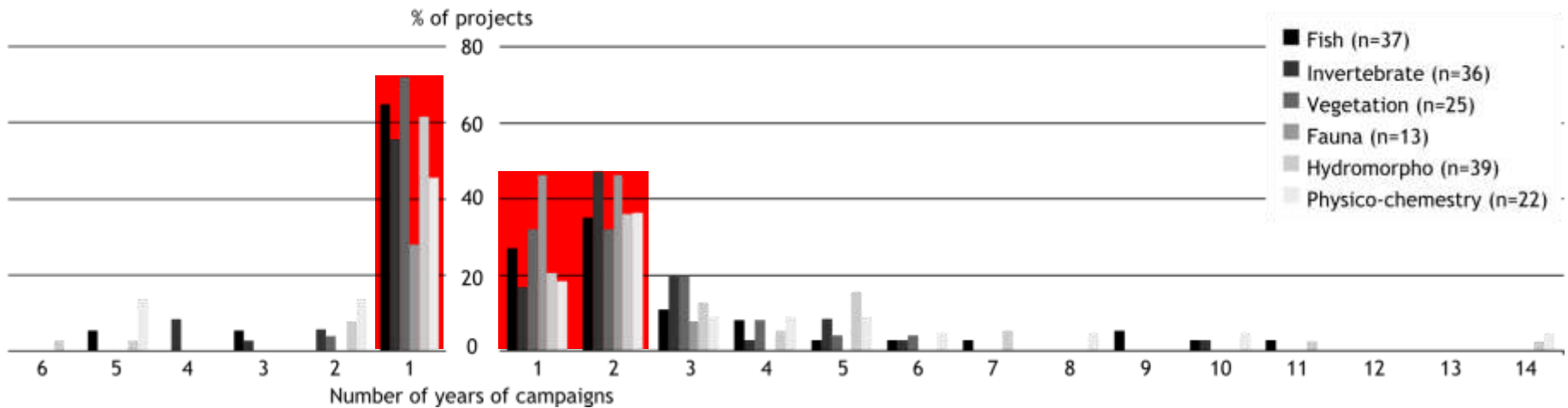# What are the monitoring frameworks?
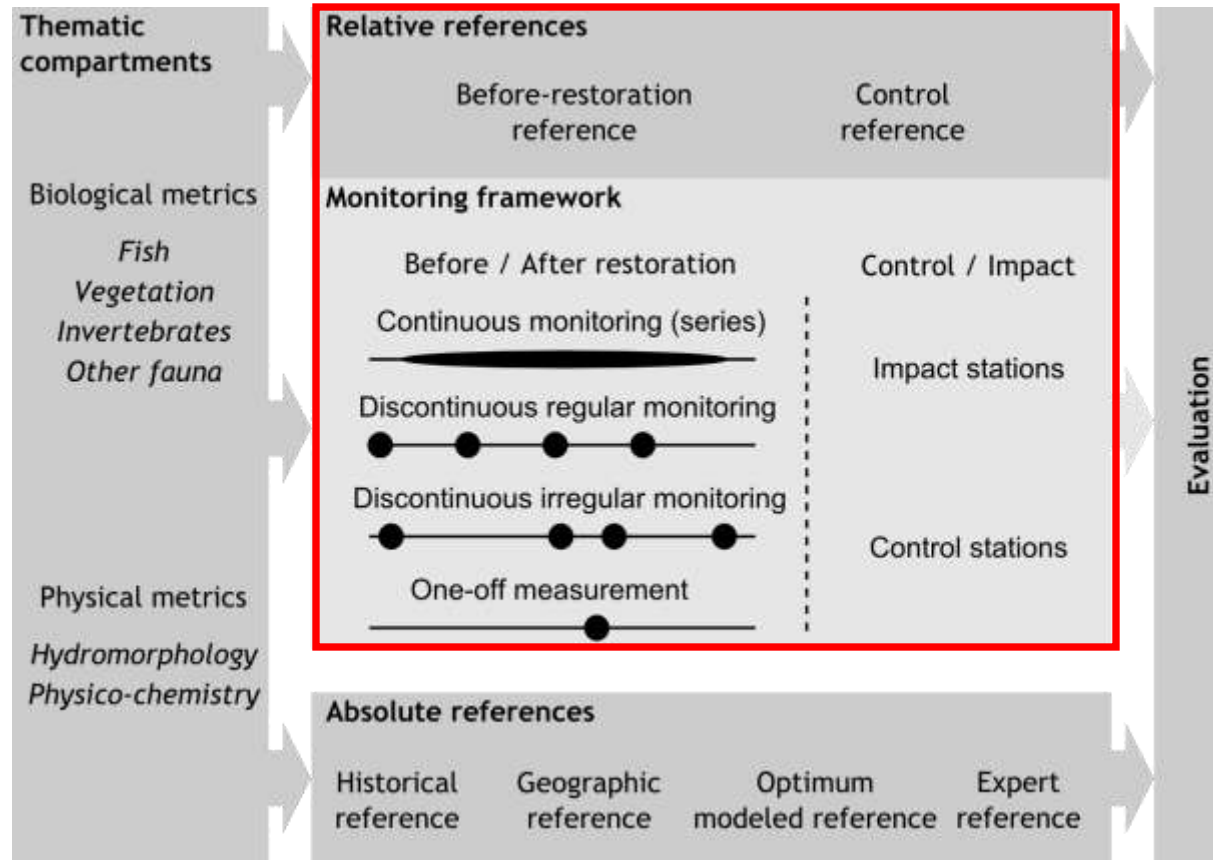
Before / After / Control measurements

Before / After measurements timing

Framework for assessment of evaluation and success

What are the evaluation objects and metrics used?
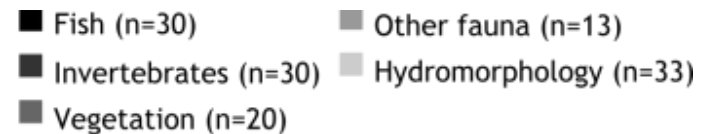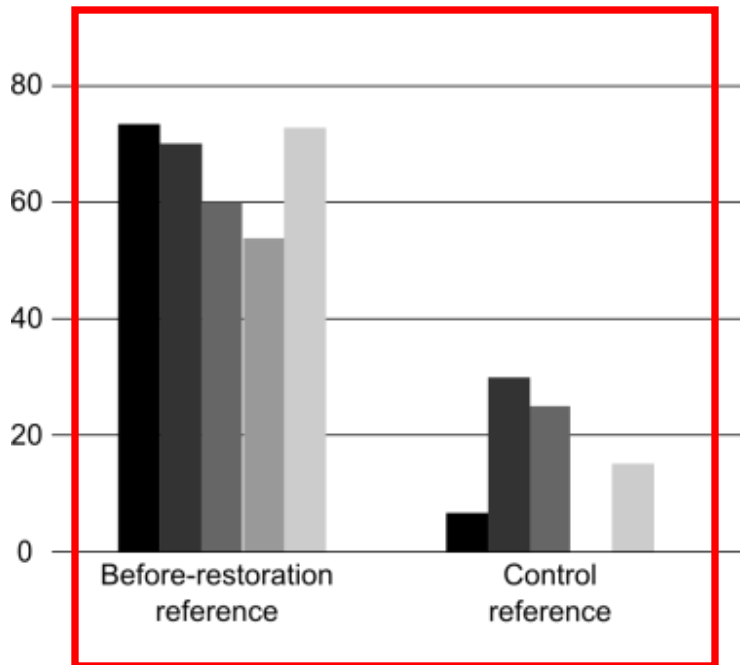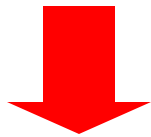
What are the monitoring frameworks?

What references are used for evaluation?

What references are used for evaluation?

Relative references

Framework for the evaluation and success assessment

What are evaluation objects and metrics used?

What are the monitoring frameworks?

What are references used for evaluation?

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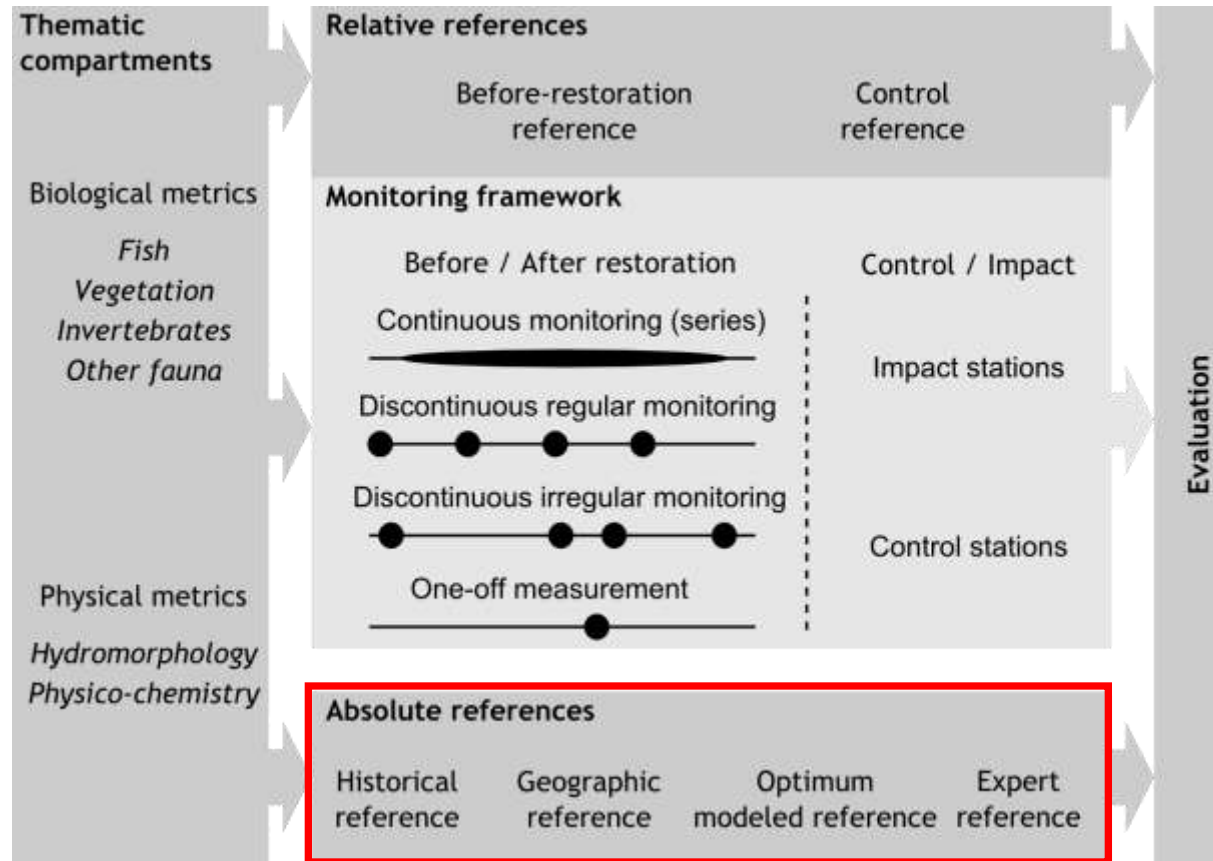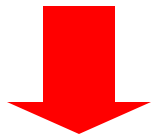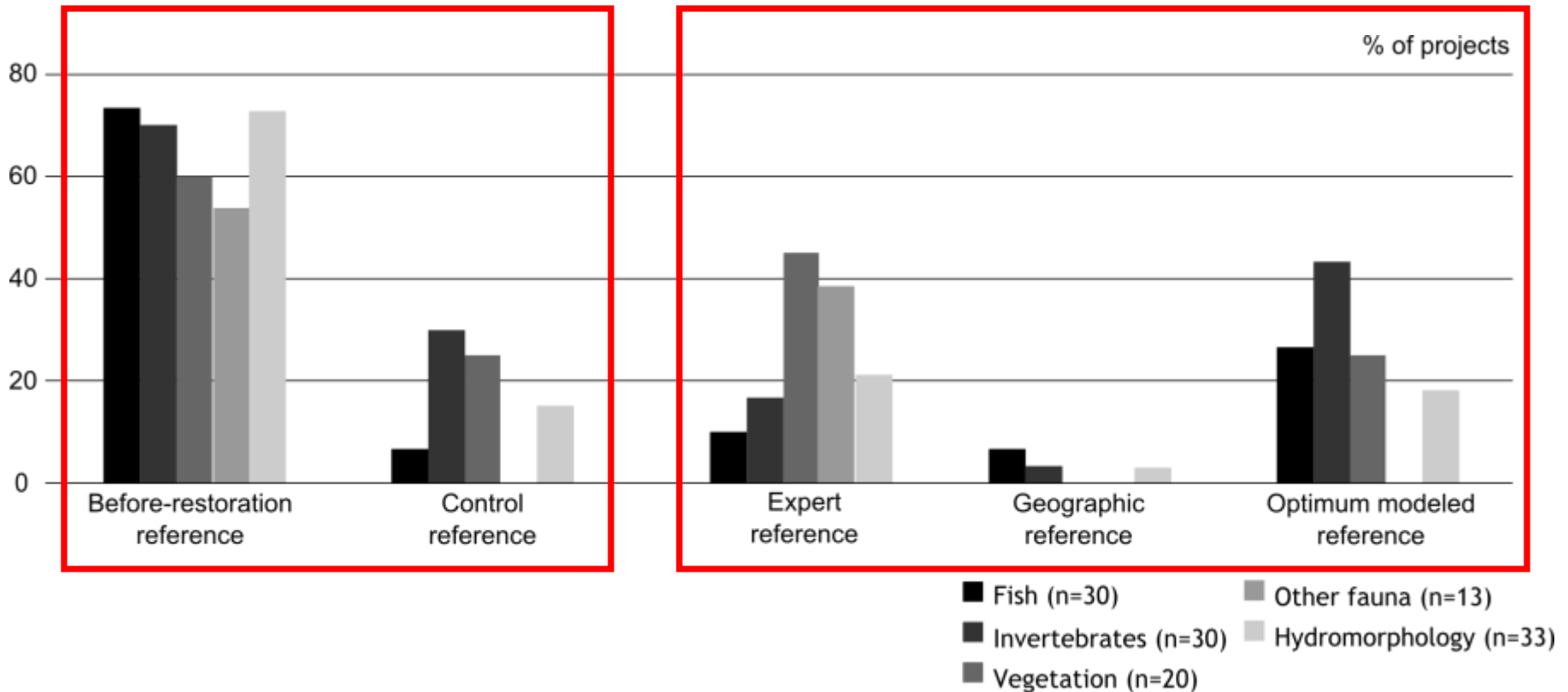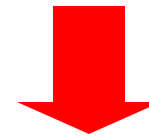
Relative references

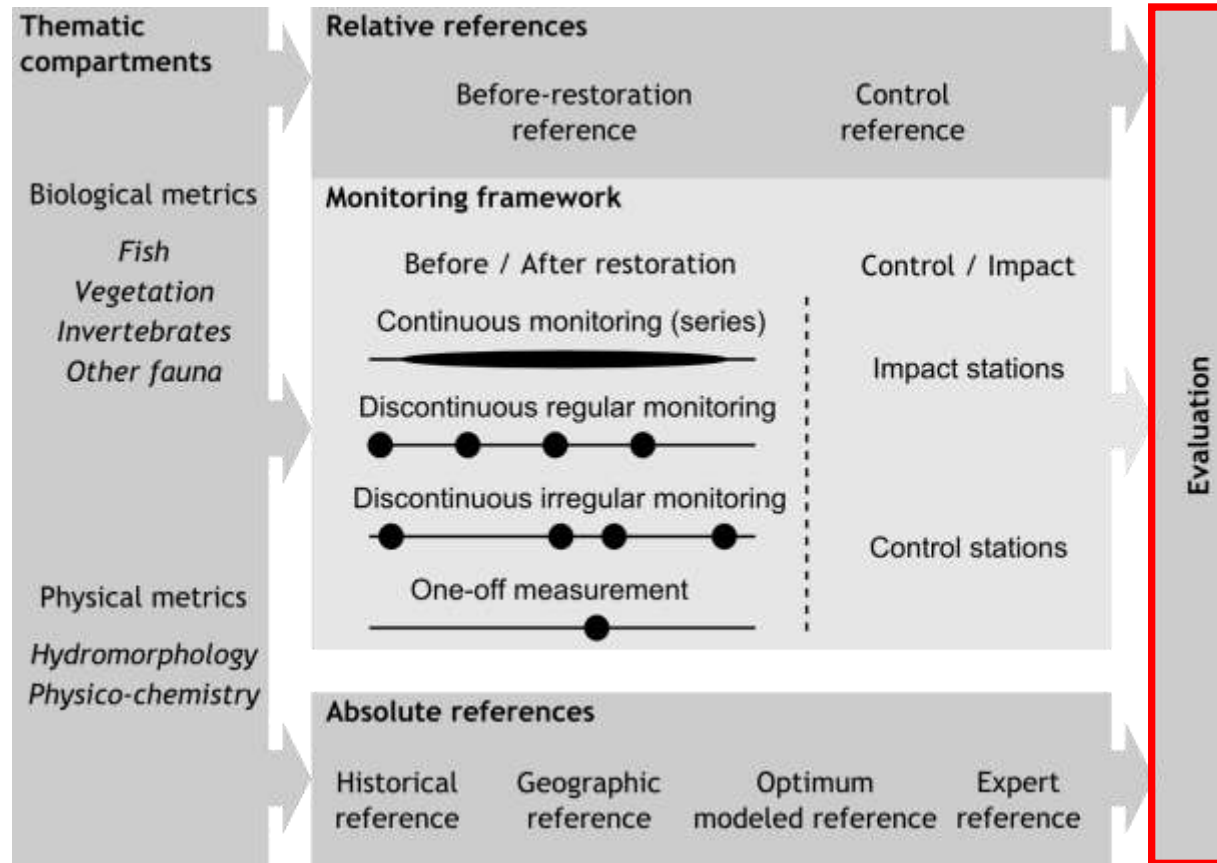Absolute references

Framework for the evaluation and success assessment

What are evaluation objects and metrics used?

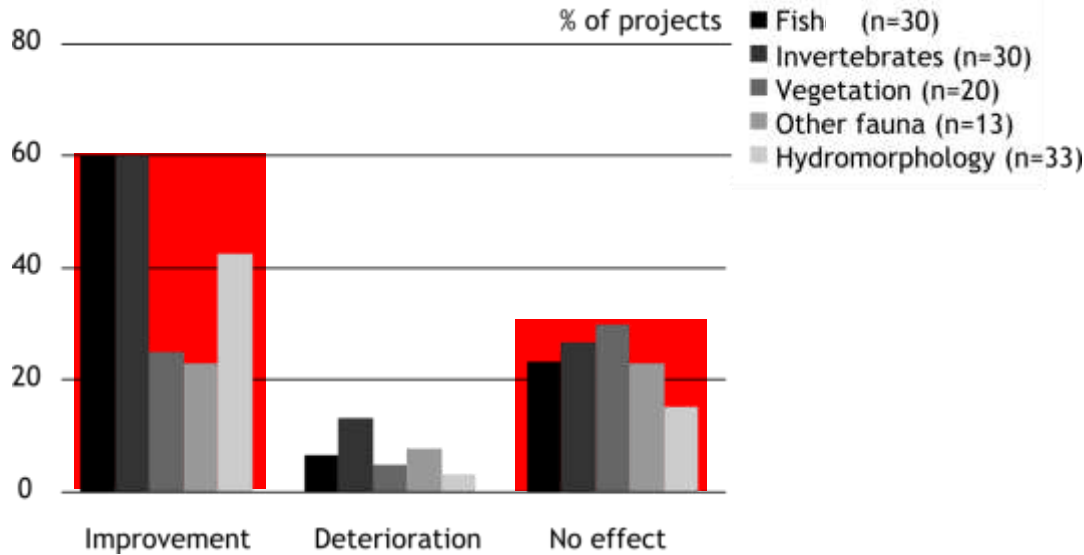**What are the monitoring frameworks?**
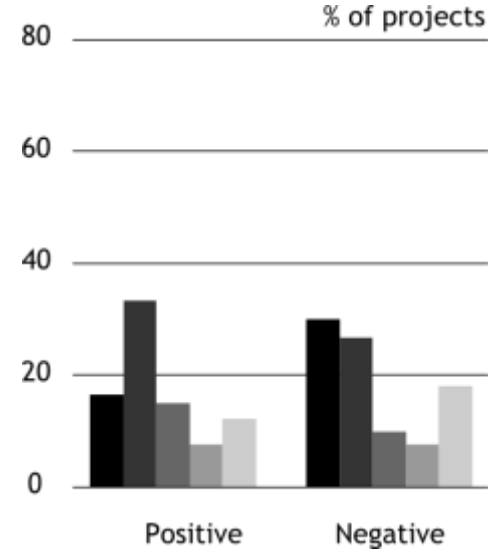

What are references used for evaluation?

What are the results of evaluation?

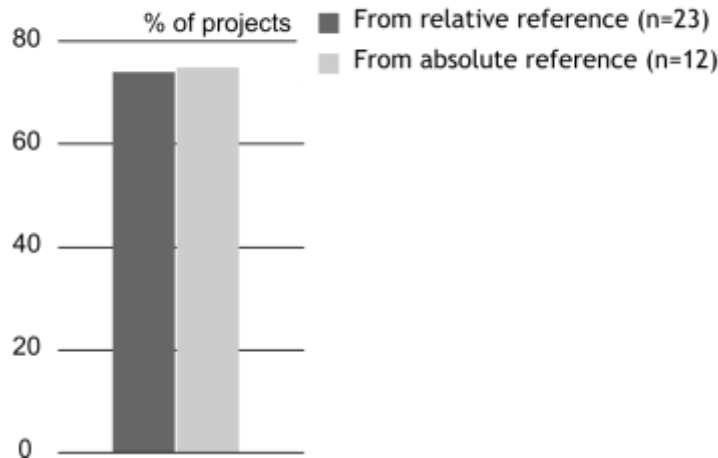# What are the results of evaluation?

From relative references

% of projects

- Fish (n=30)
- Invertebrates (n=30)
- Vegetation (n=20)
- Other fauna (n=13)
- Hydromorphology (n=33)

Improvement   Deterioration   No effect

From absolute references

% of projects

Positive   Negative

Heterogeneity of results

Inter-compartment heterogeneity

% of projects

- From relative reference (n=23)
- From absolute reference (n=12)

Intra-compartment heterogeneity

% of projects

- Fish (n=30)
- Invertebrates (n=30)
- Vegetation (n=20)
- Other fauna (n=13)
- Hydromorphology (n=33)
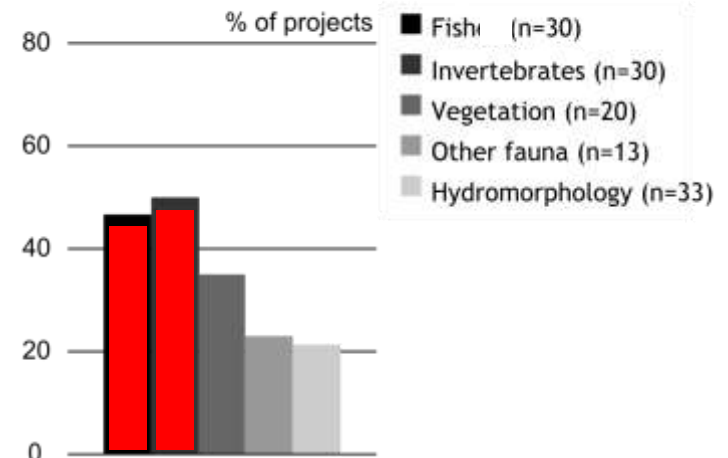
Conclusions and perspectives
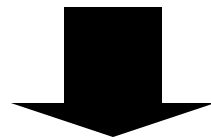
A need to clearly define references for clear restoration objectives

A need to improve quality of monitoring in order to support reference comparison

Important to identify values behind references

Support policy strategy to better situate river restoration projects within an integrated river management approach

Thank you for your attention

Many thanks to our FORECASTER partners, ONEMA financers and all the scientists or stakeholders who took the time to answer to our solicitations.