Results

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#Results

##Review methods

###Flow diagram

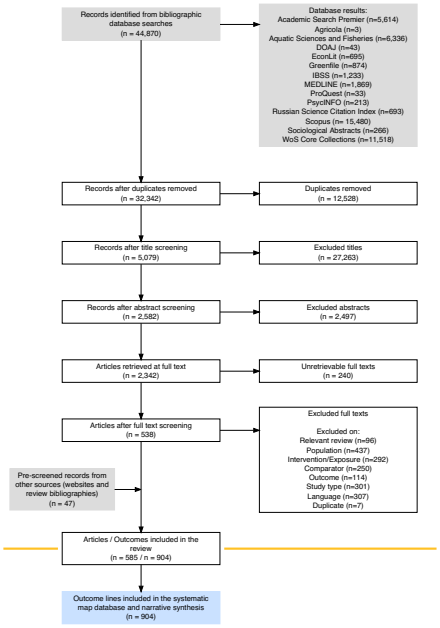


Figure 1: ROSES flow chart for the systematic map, showing the number of records retained at each stage of the review process. Produced using the R package 'ROSES_flowchart' (Haddaway 2020).

##Map database

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.6     v dplyr   1.0.8
## v tidyr   1.2.0     v stringr 1.4.0
## v readr   2.1.2     v forcats 0.5.1

## -- Conflicts ---------------------------------------- tidyverse_conflicts() --
## x tidyr::extract()   masks magrittr::extract()
## x dplyr::filter()    masks stats::filter()
## x dplyr::lag()       masks stats::lag()
## x purrr::set_names() masks magrittr::set_names()
```

##Research interest ###Publications over time

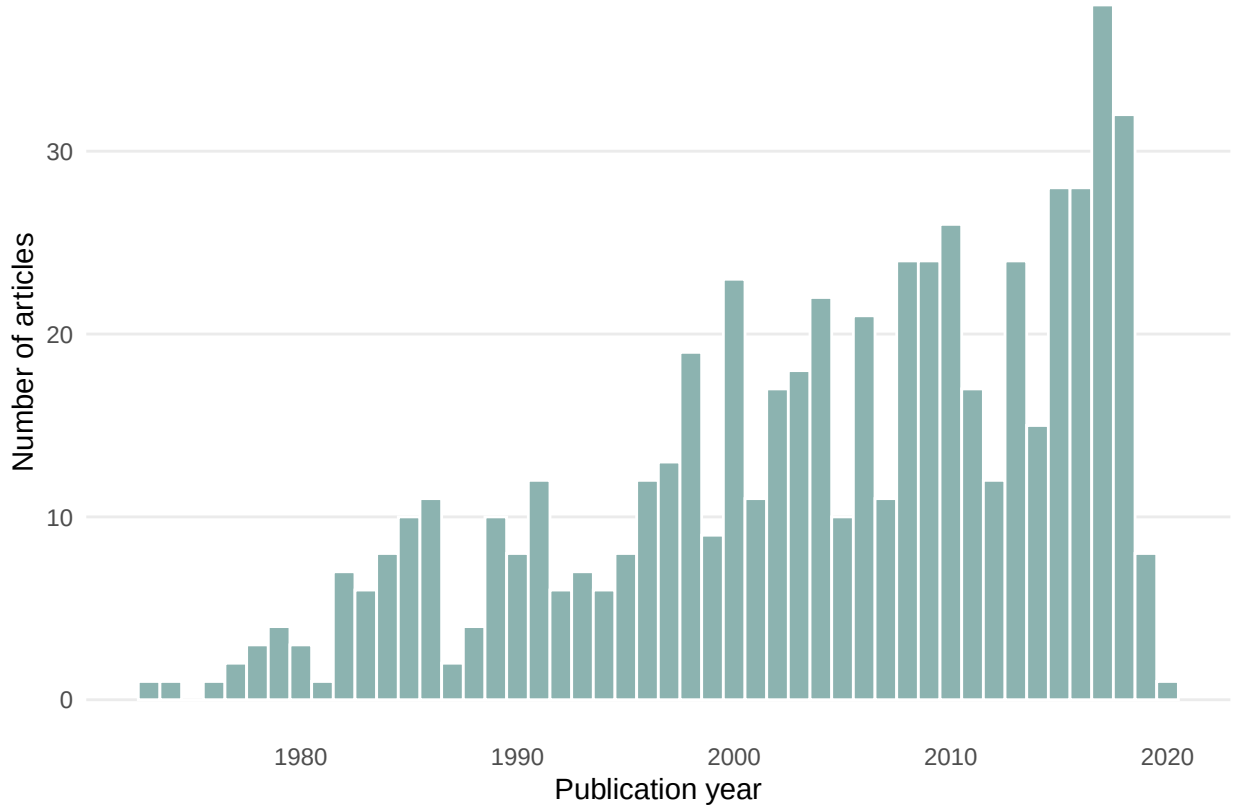


Figure 2: Plot showing the final number of articles included in the systematic map by publication year.

###Authors

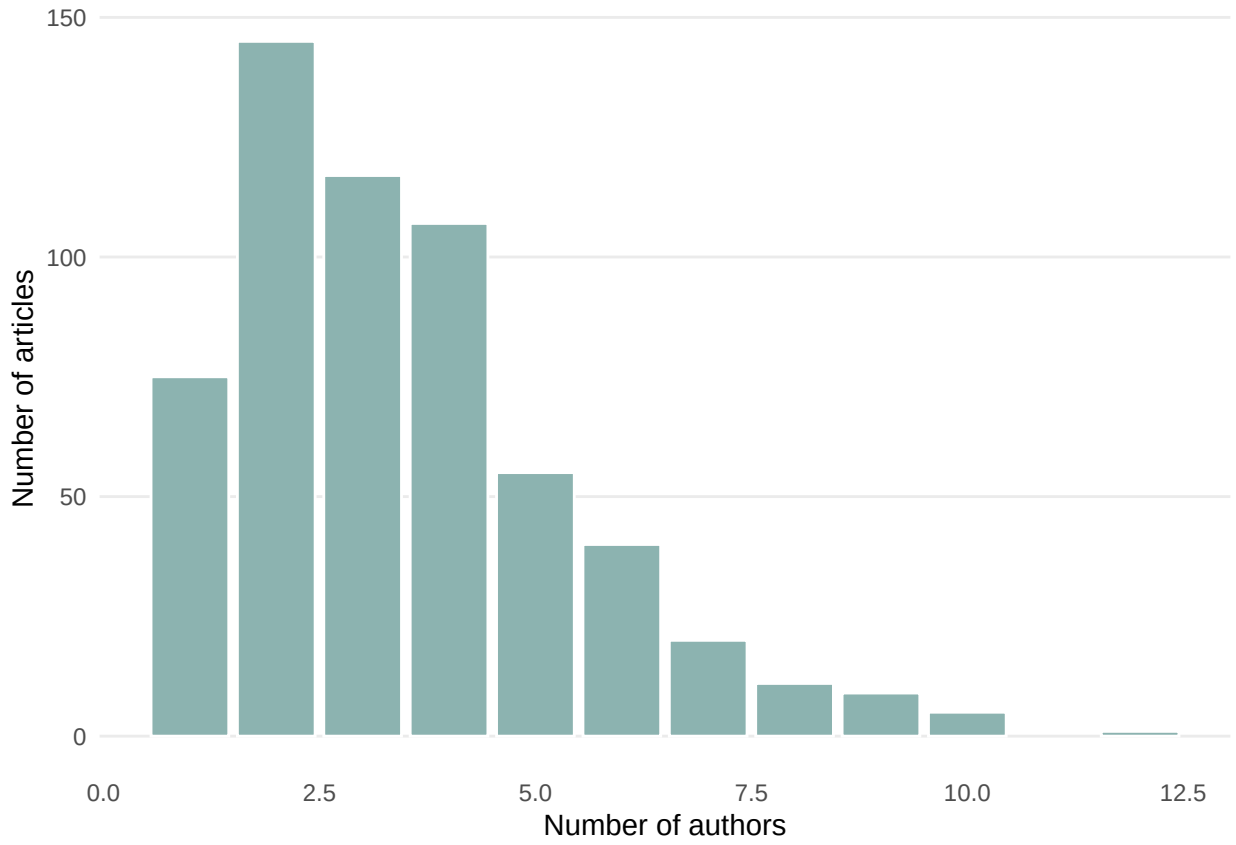


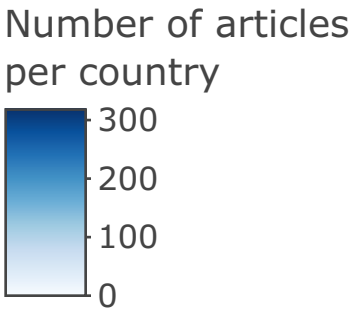
Figure 3: Plot showing the final number of articles included in the systematic map by publication year.

###Evidence atlas [Insert screenshots here]

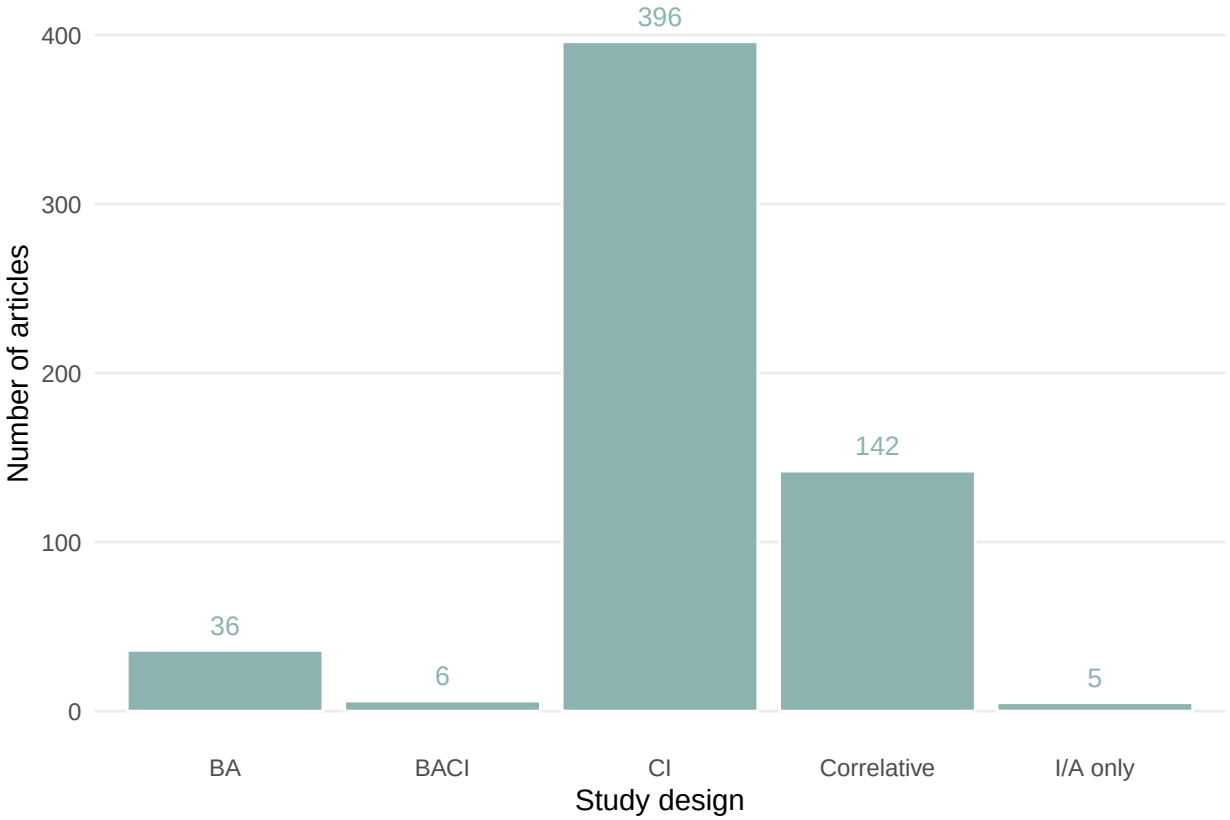
###Research across mines [mines_articles]

###Study country

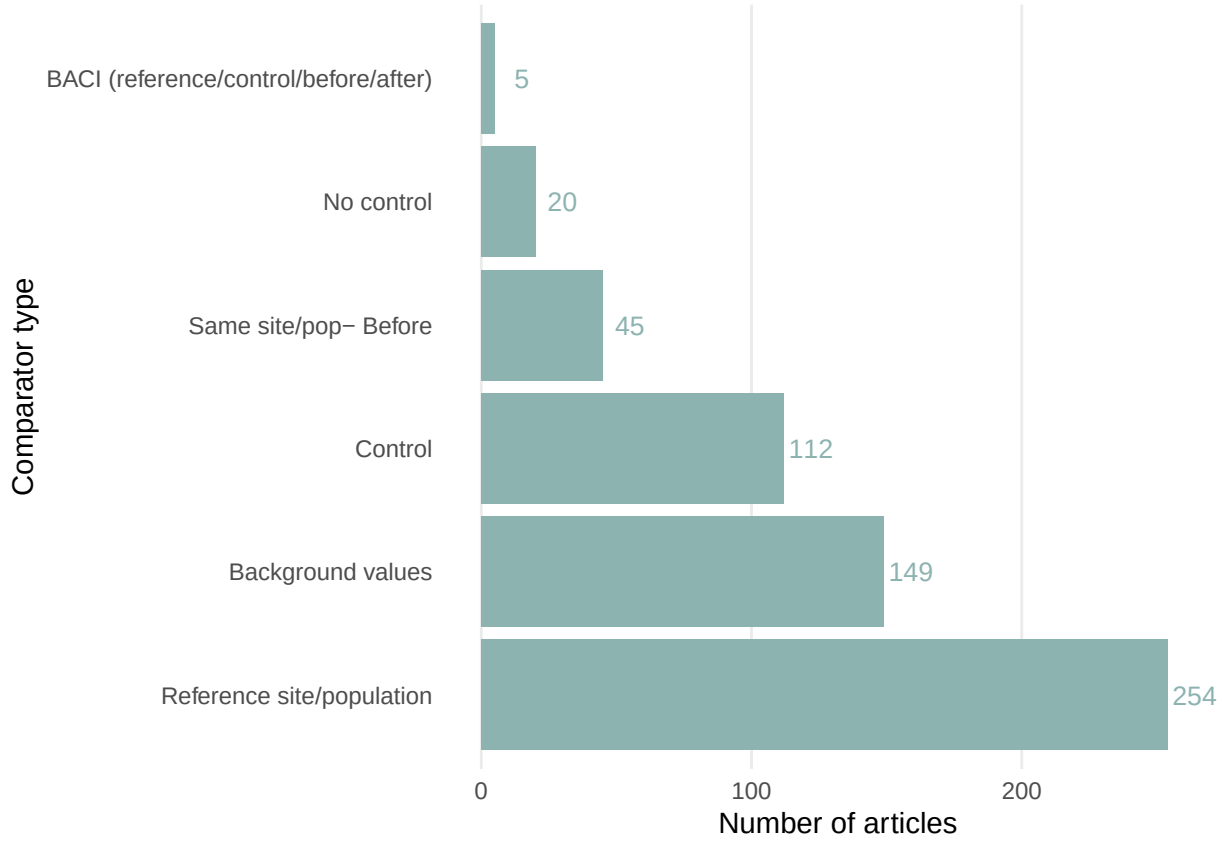
```
##
## Attaching package: 'plotly'

## The following object is masked from 'package:ggplot2':
##
##     last_plot

## The following object is masked from 'package:stats':
##
##     filter

## The following object is masked from 'package:graphics':
##
##     layout
```



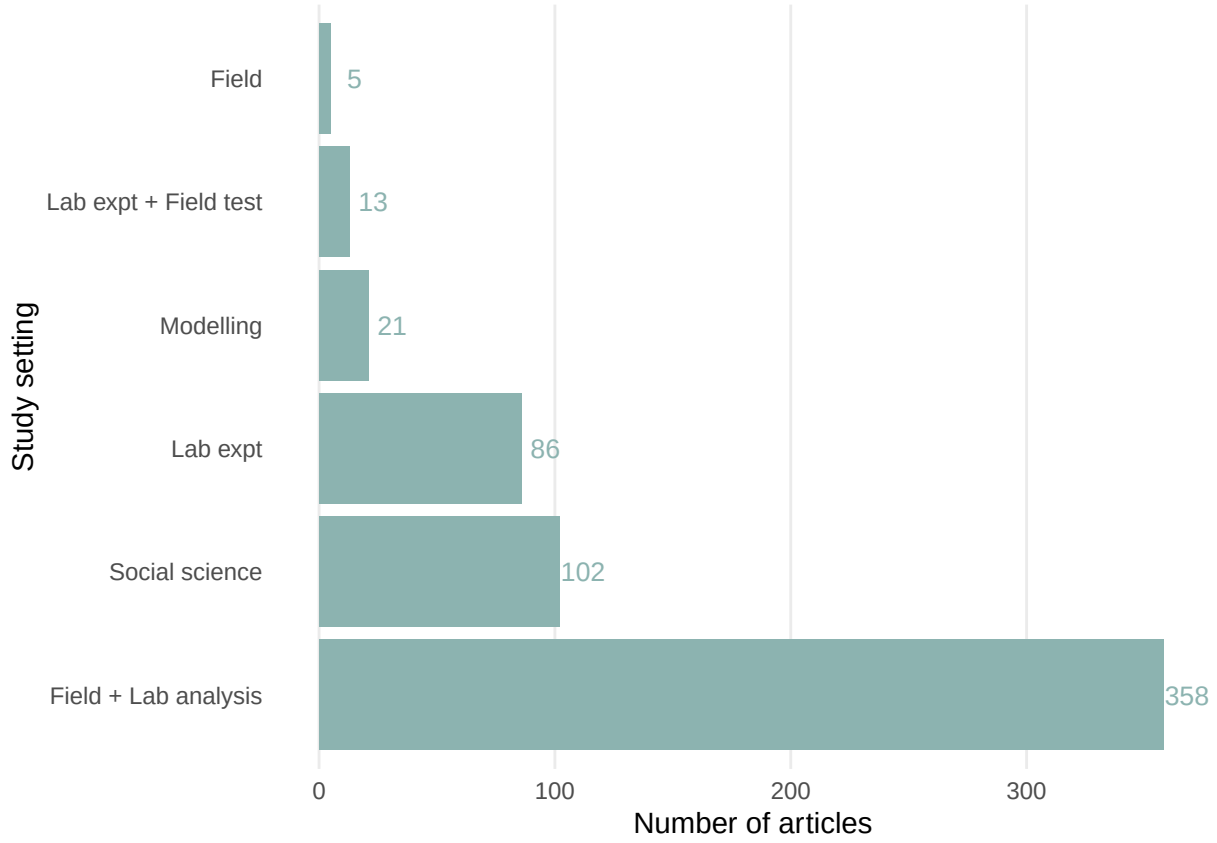
###Study designs



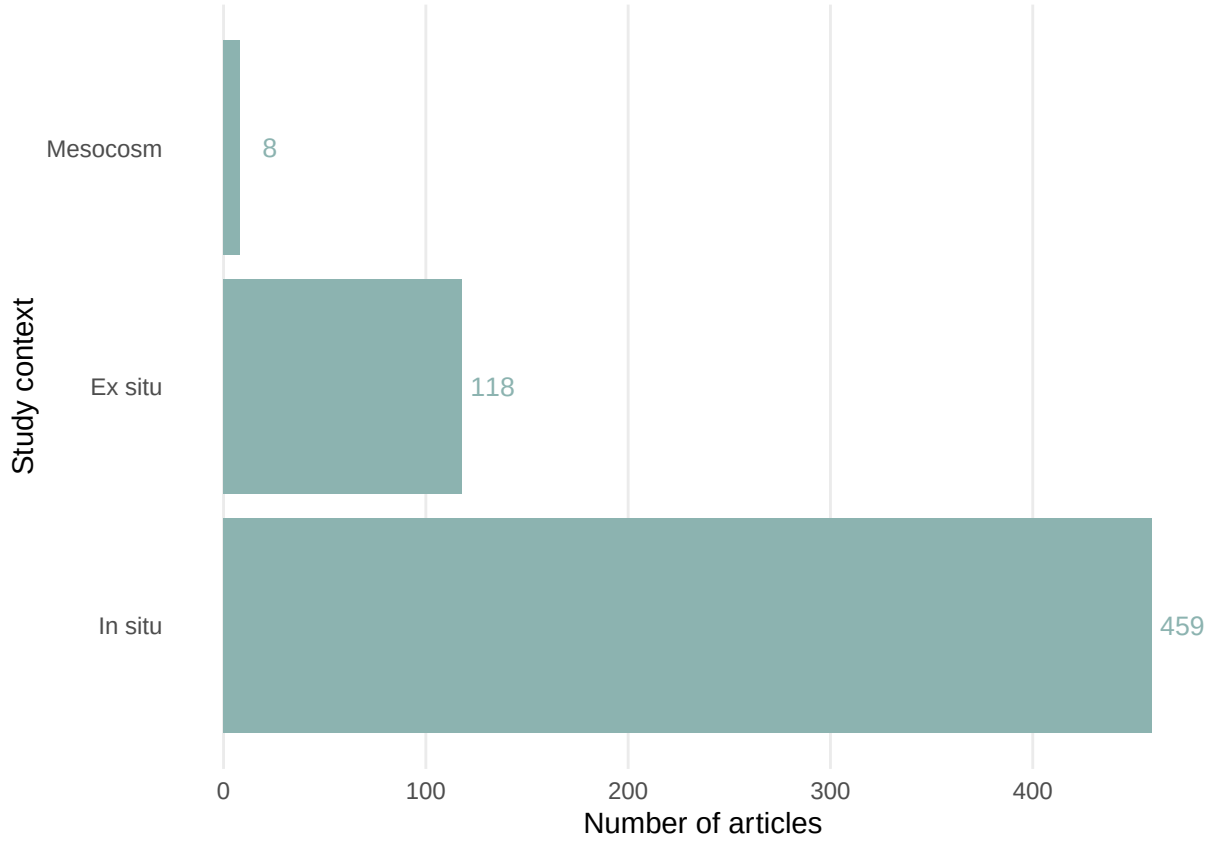
###Comparators


BACI (reference/control/before/after)
No control
Same site/pop− Before
Control
Background values
Reference site/population
5
20
45
112
149
254
Comparator type
0
100
200
Number of articles

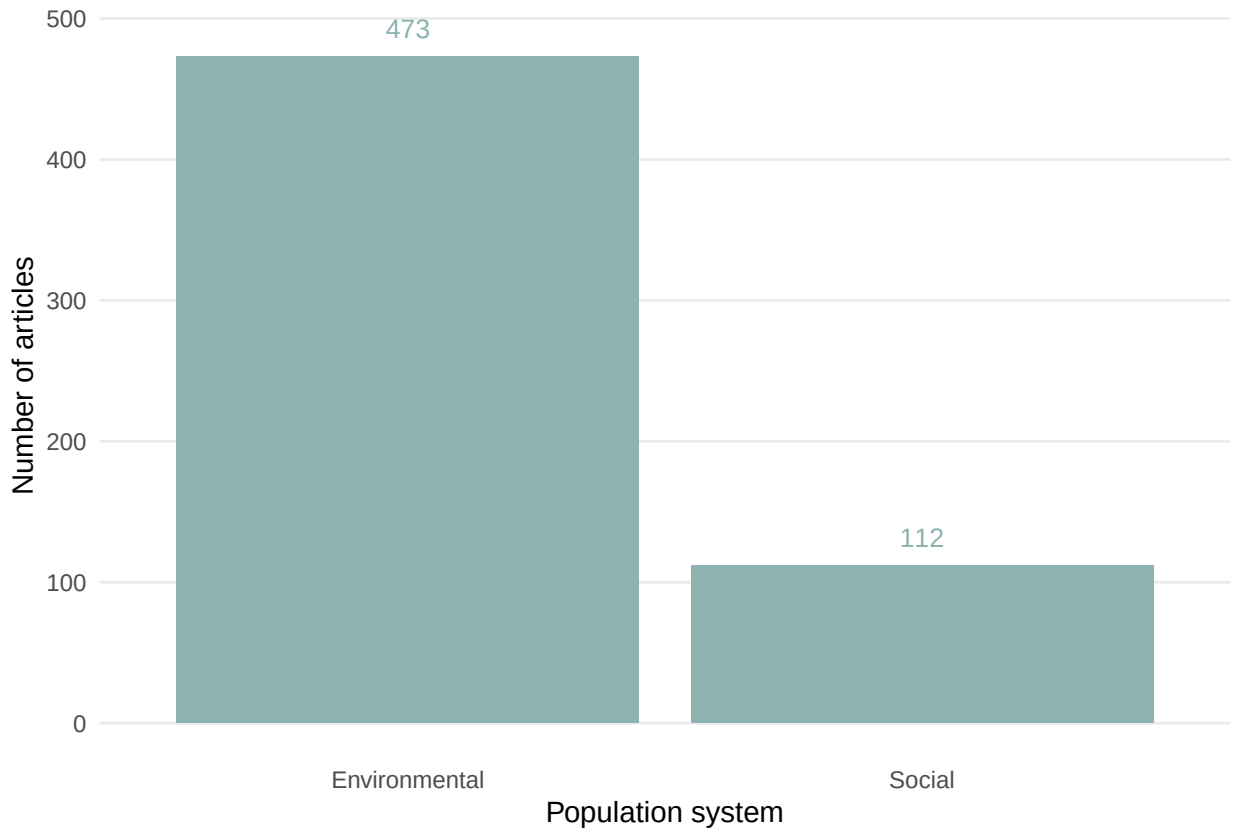
###Settings


Field
Lab expt + Field test
Modelling
Lab expt
Social science
Field + Lab analysis
5
13
21
86
102
358
Study setting
0
100
200
300
Number of articles

###Contexts

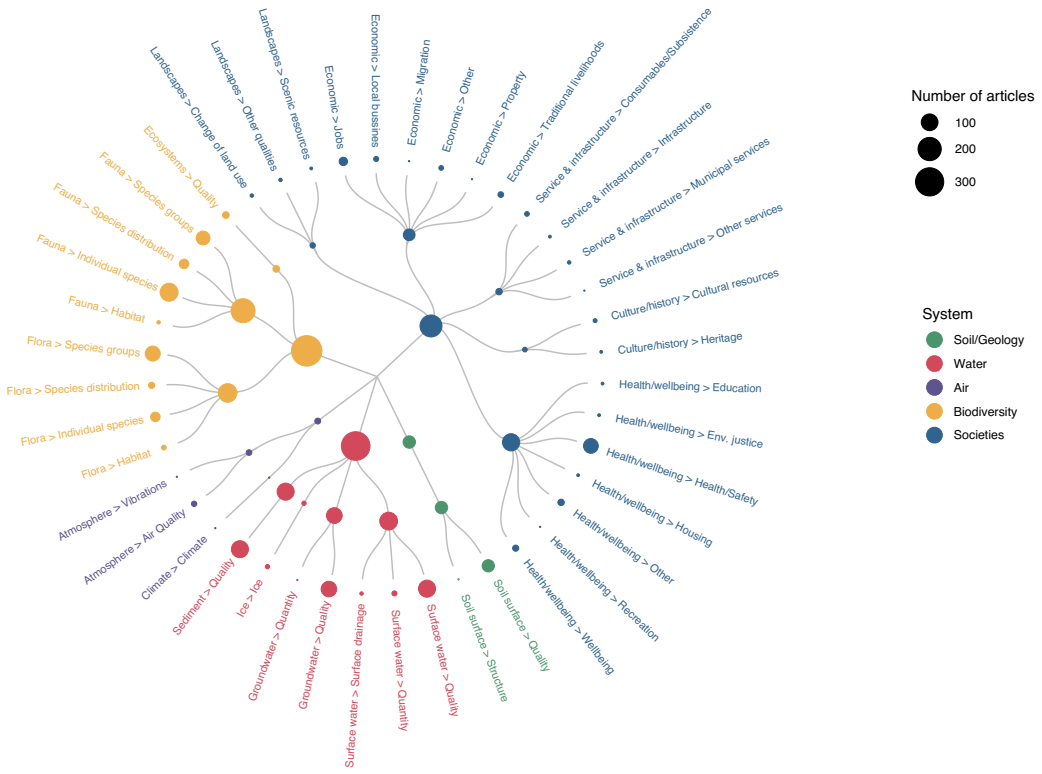


###Population systems



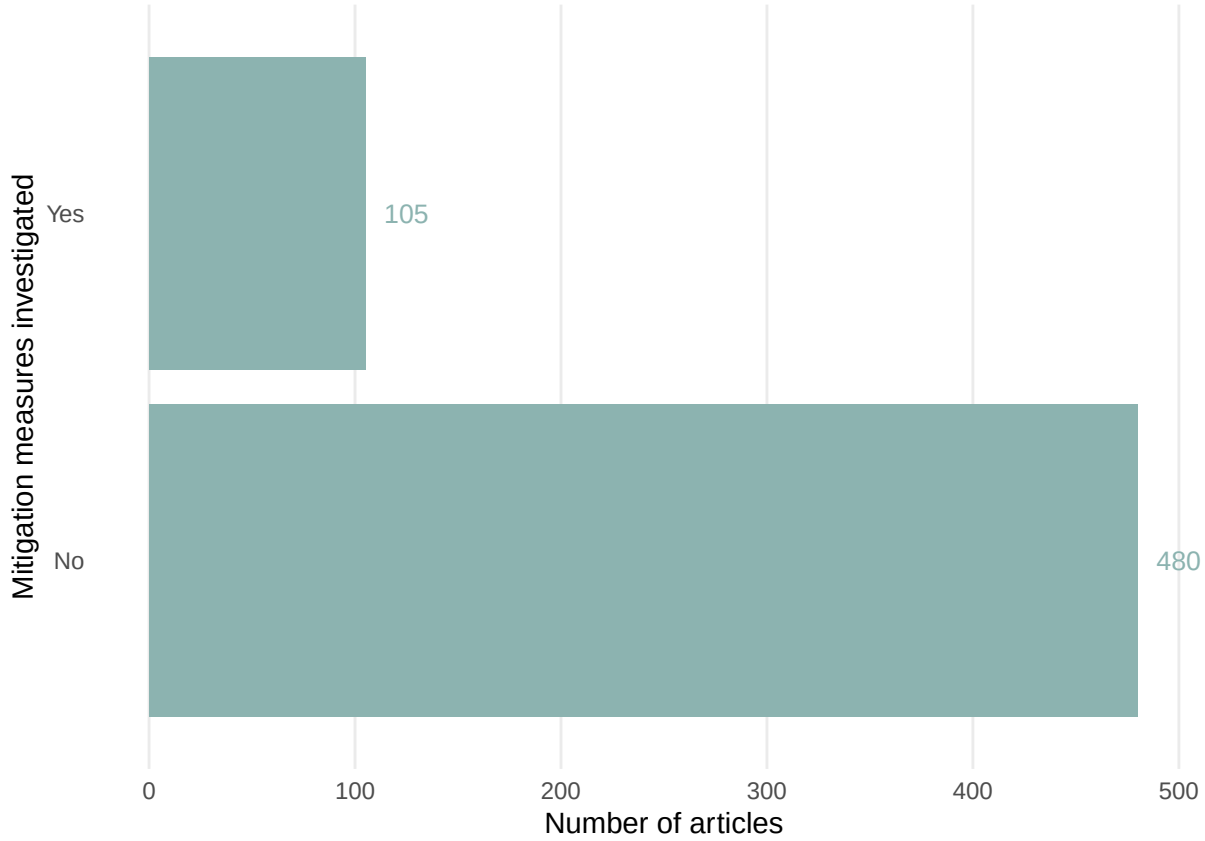
###Affected systems, components, factors

```
## Warning: Removed 1 rows containing missing values (geom_interactive_point).

## Warning: It is deprecated to specify ‘guide = FALSE‘ to remove a guide. Please
## use ‘guide = "none"‘ instead.

## Warning: Removed 1 rows containing missing values (geom_interactive_point).

## Warning: It is deprecated to specify ‘guide = FALSE‘ to remove a guide. Please
## use ‘guide = "none"‘ instead.

## Warning: Removed 1 rows containing missing values (geom_interactive_point).

## Warning: It is deprecated to specify ‘guide = FALSE‘ to remove a guide. Please use ‘g
## It is deprecated to specify ‘guide = FALSE‘ to remove a guide. Please use ‘guide = "n
```

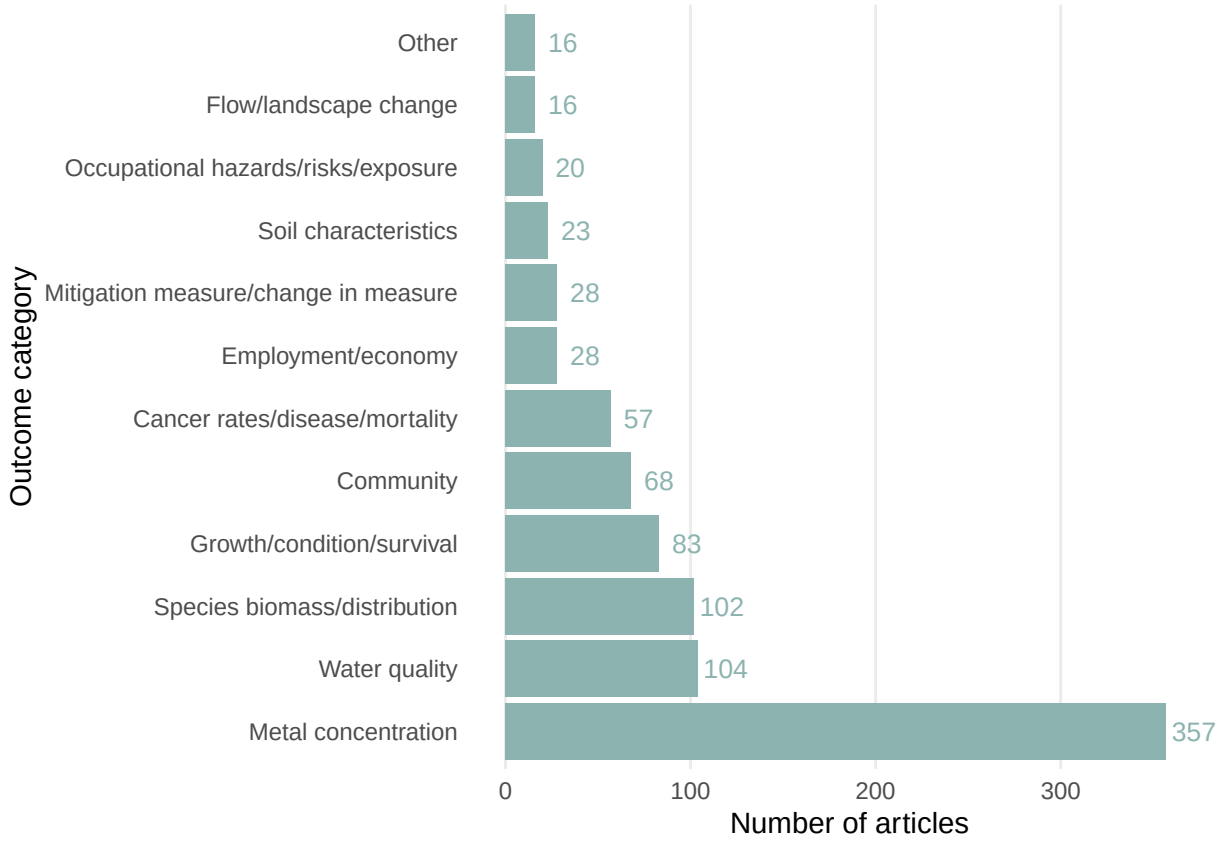


[note - exported interactive_dendrogram.html and output.html (itself using the script in database.R) that each become an iframe within visualisation.html (itself knitted from visualisation.Rhtml). All three need to be updated and hosted for the main site to work]

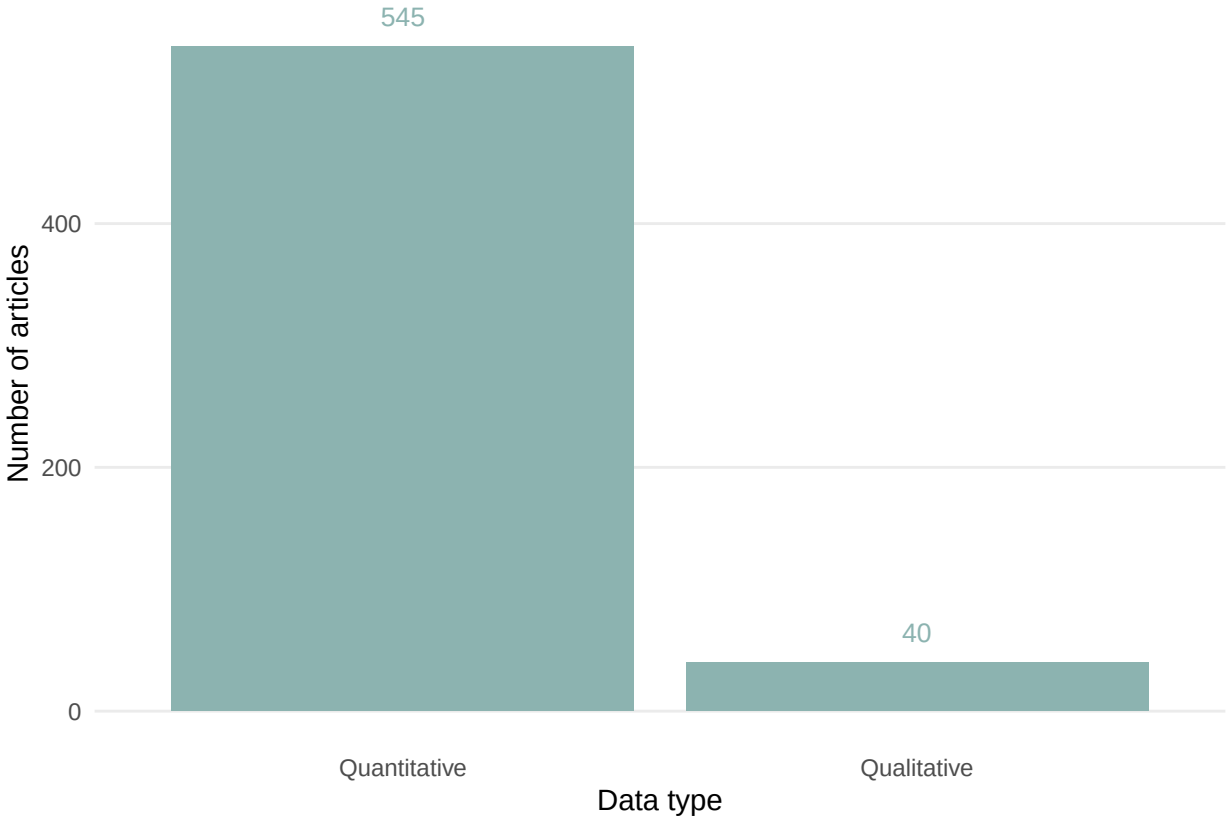
###Mitigation tested



###Outcome category

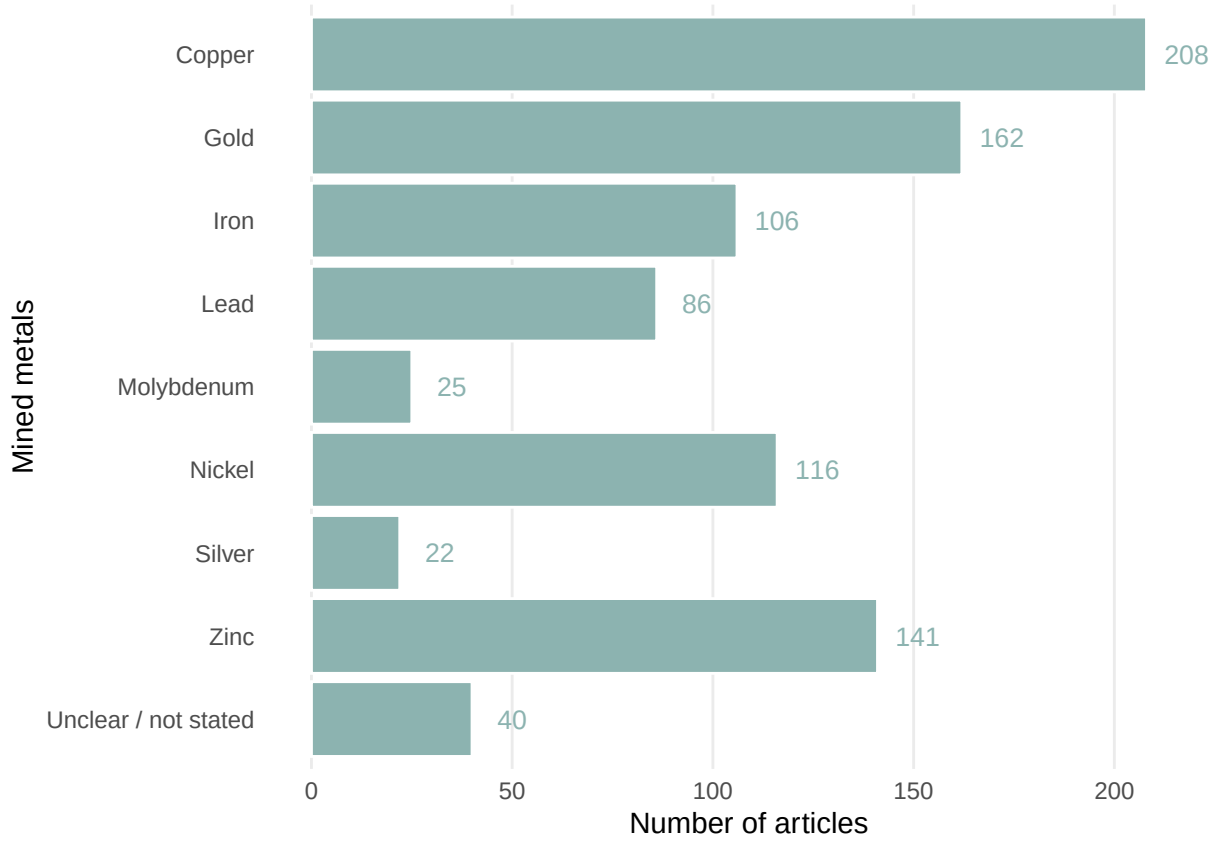

Outcome category
Other
Flow/landscape change
Occupational hazards/risks/exposure
Soil characteristics
Mitigation measure/change in measure
Employment/economy
Cancer rates/disease/mortality
Community
Growth/condition/survival
Species biomass/distribution
Water quality
Metal concentration
16
16
20
23
28
28
57
68
83
102
104
357
0
100
200
300
Number of articles

###Data type

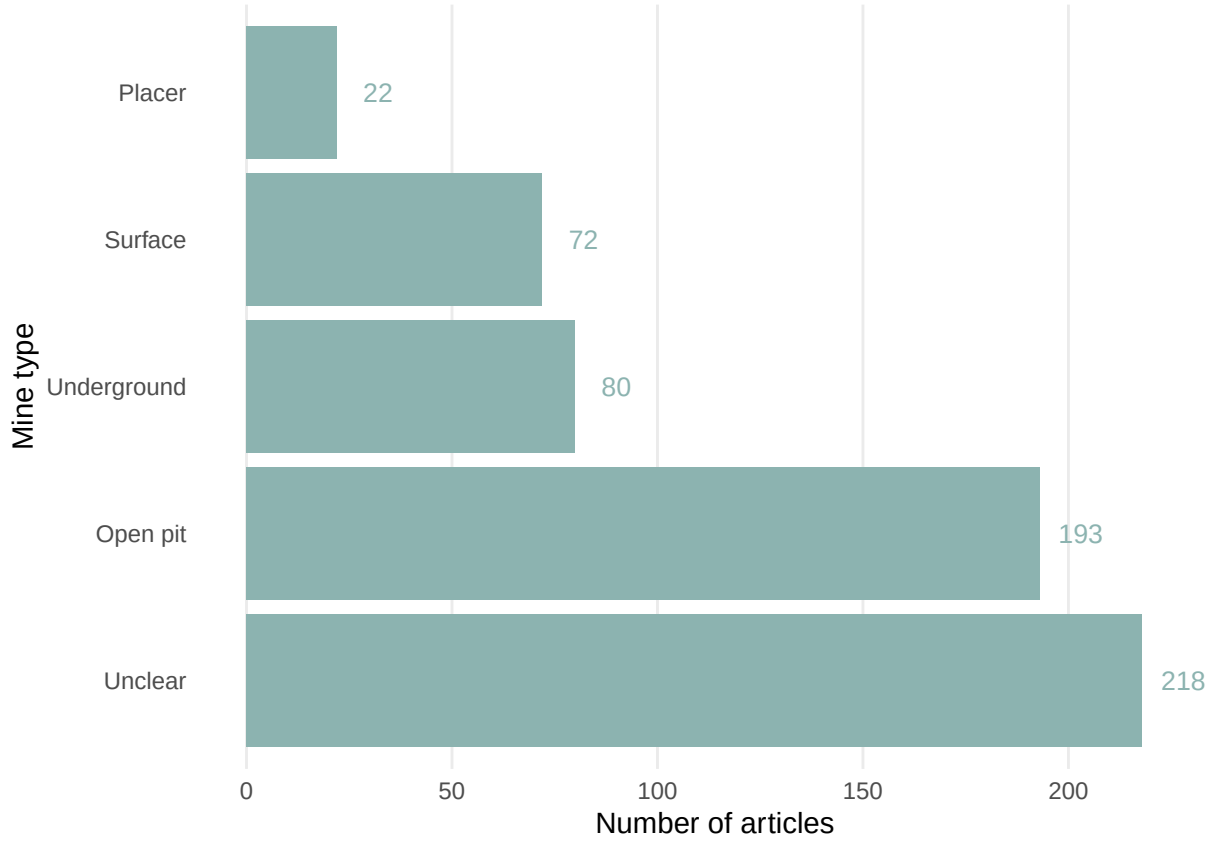


##Mines ###Unique mines

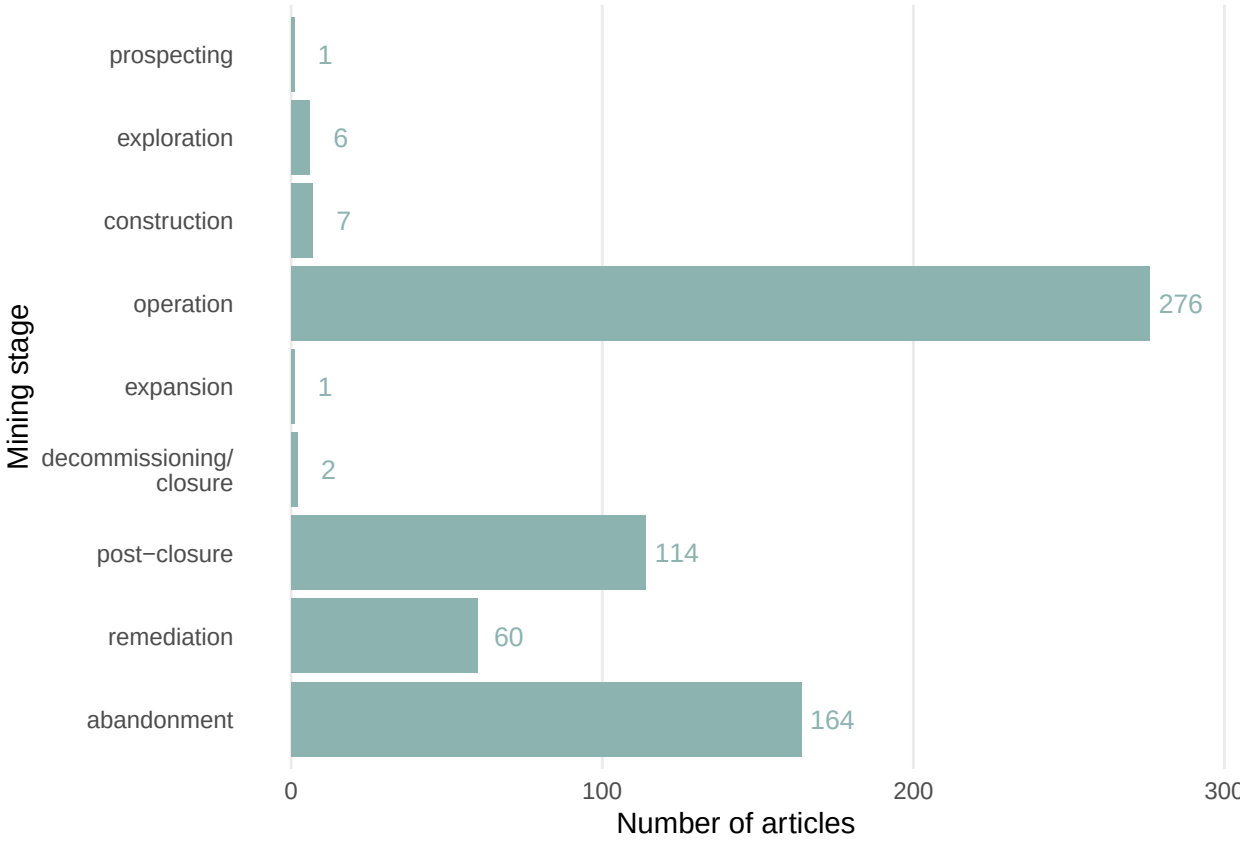
###Metals mined

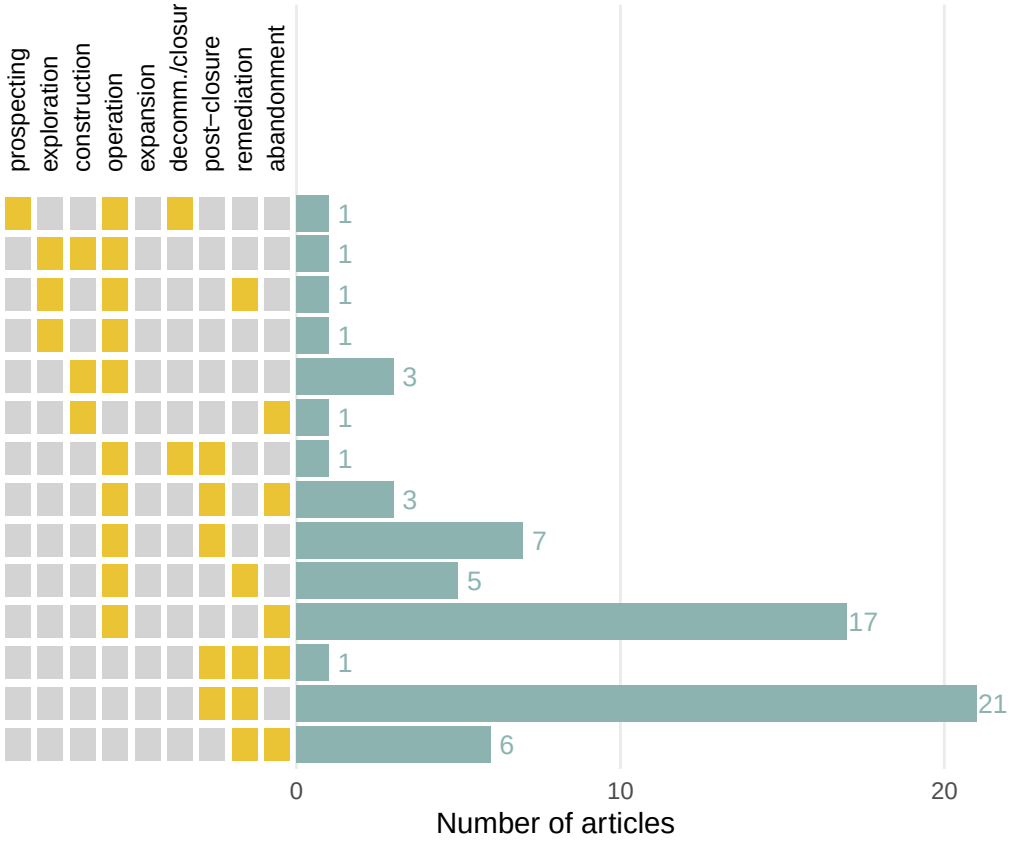

Copper
Gold
Iron
Lead
Molybdenum
Nickel
Silver
Zinc
Unclear / not stated
208
162
106
86
25
116
22
141
40
Mined metals
0
50
100
150
200
Number of articles

###Mine type



###Extraction stage

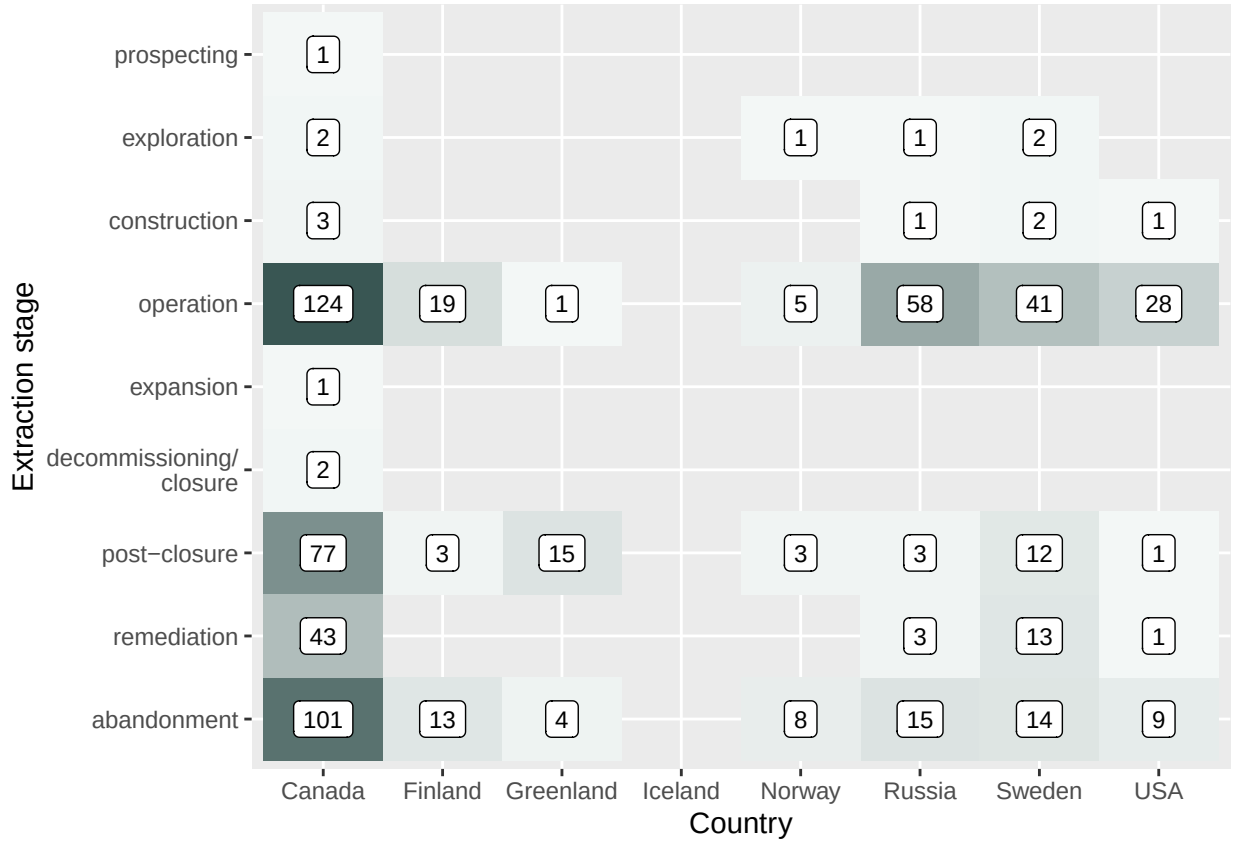

Mining stage
prospecting
exploration
construction
operation
expansion
decommissioning/
closure
post−closure
remediation
abandonment
1
6
7
276
1
2
114
60
164
0
100
200
300
Number of articles



1 Cross Tabs

1.0.0.1 Country -vs- stage

```
## Warning: Removed 9 rows containing missing values (geom_label).
```




```
## Warning: Removed 9 rows containing missing values (geom_label).
```

##Gap analysis