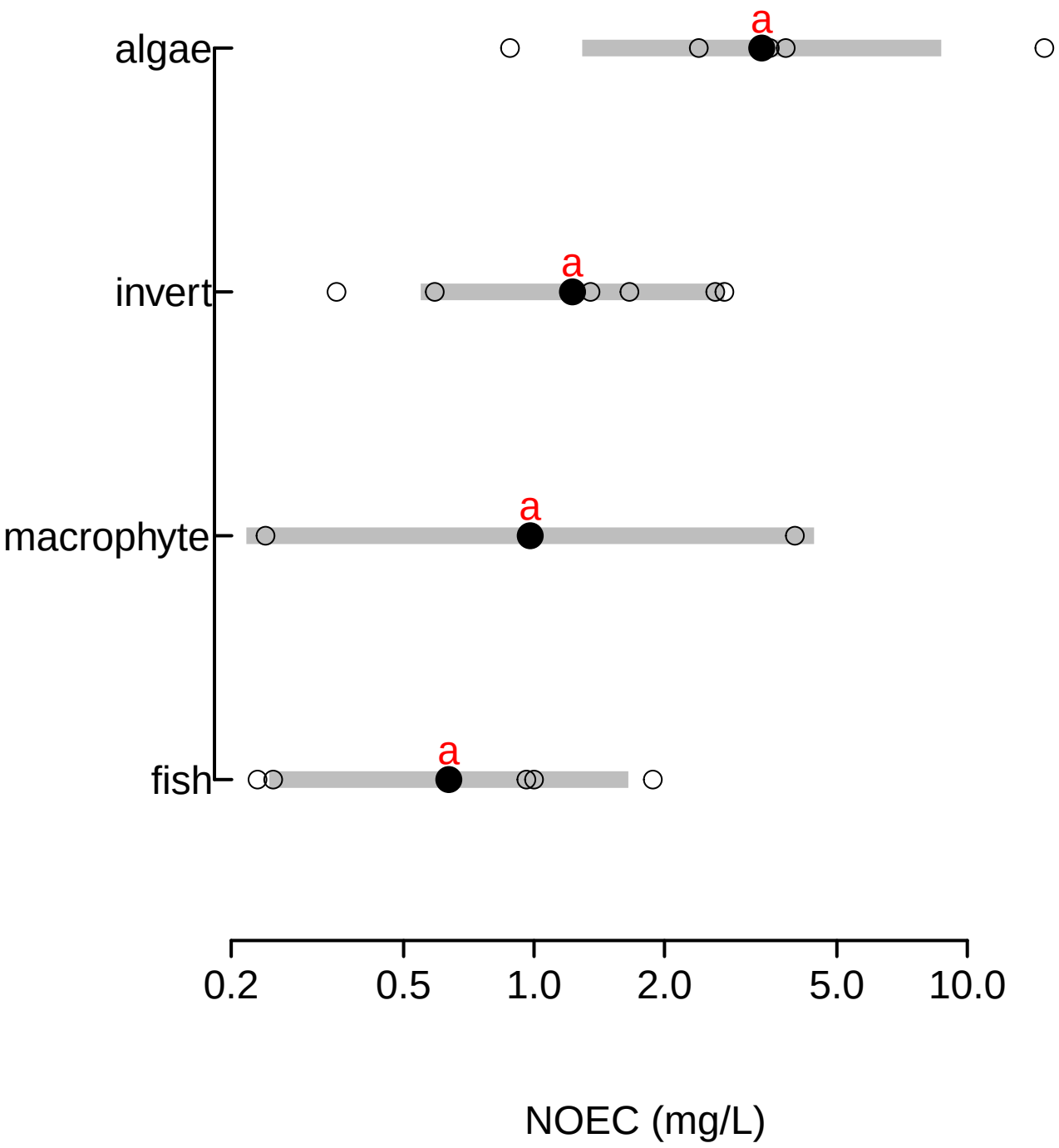
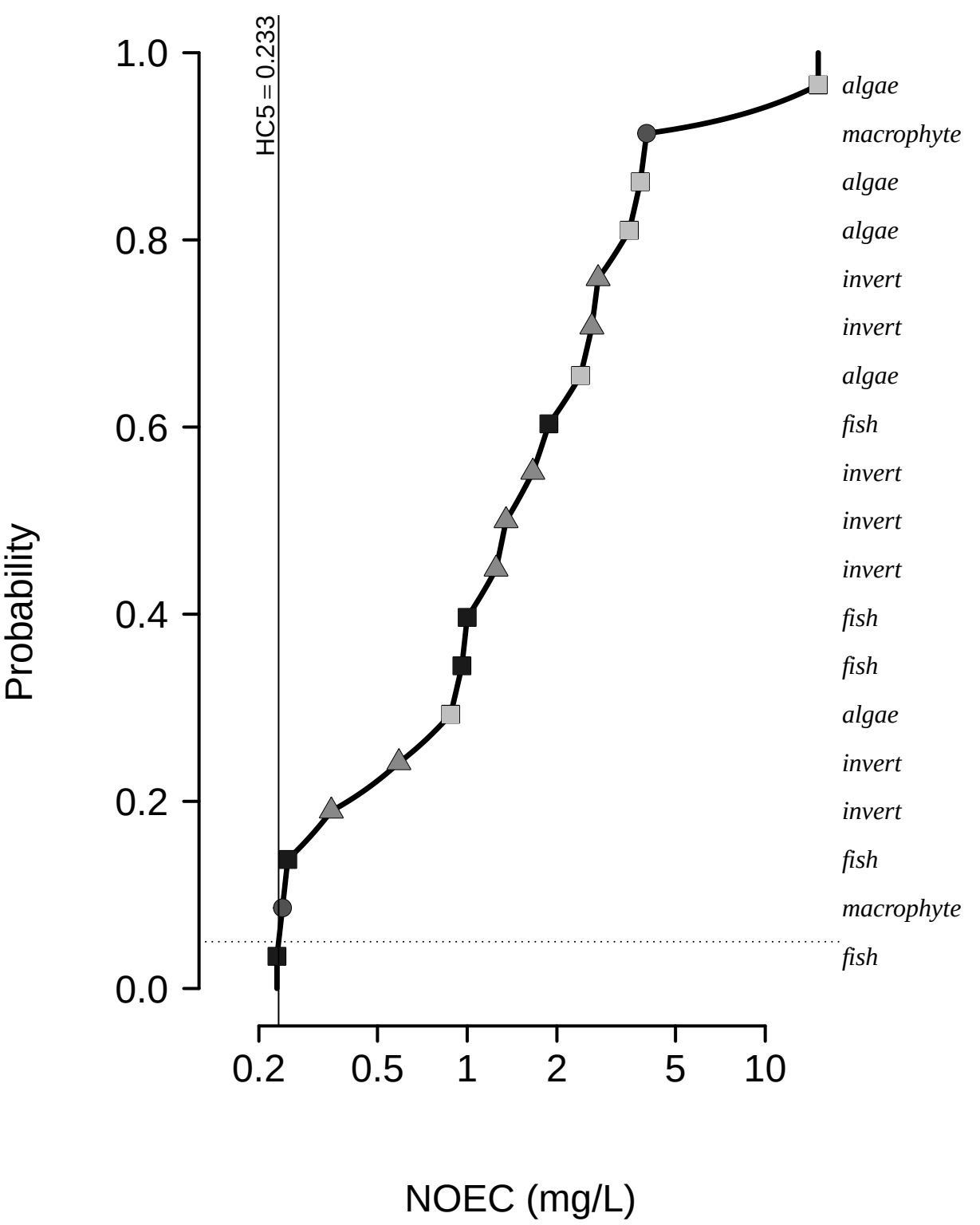
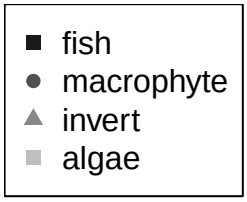
# Group Differences Analysis

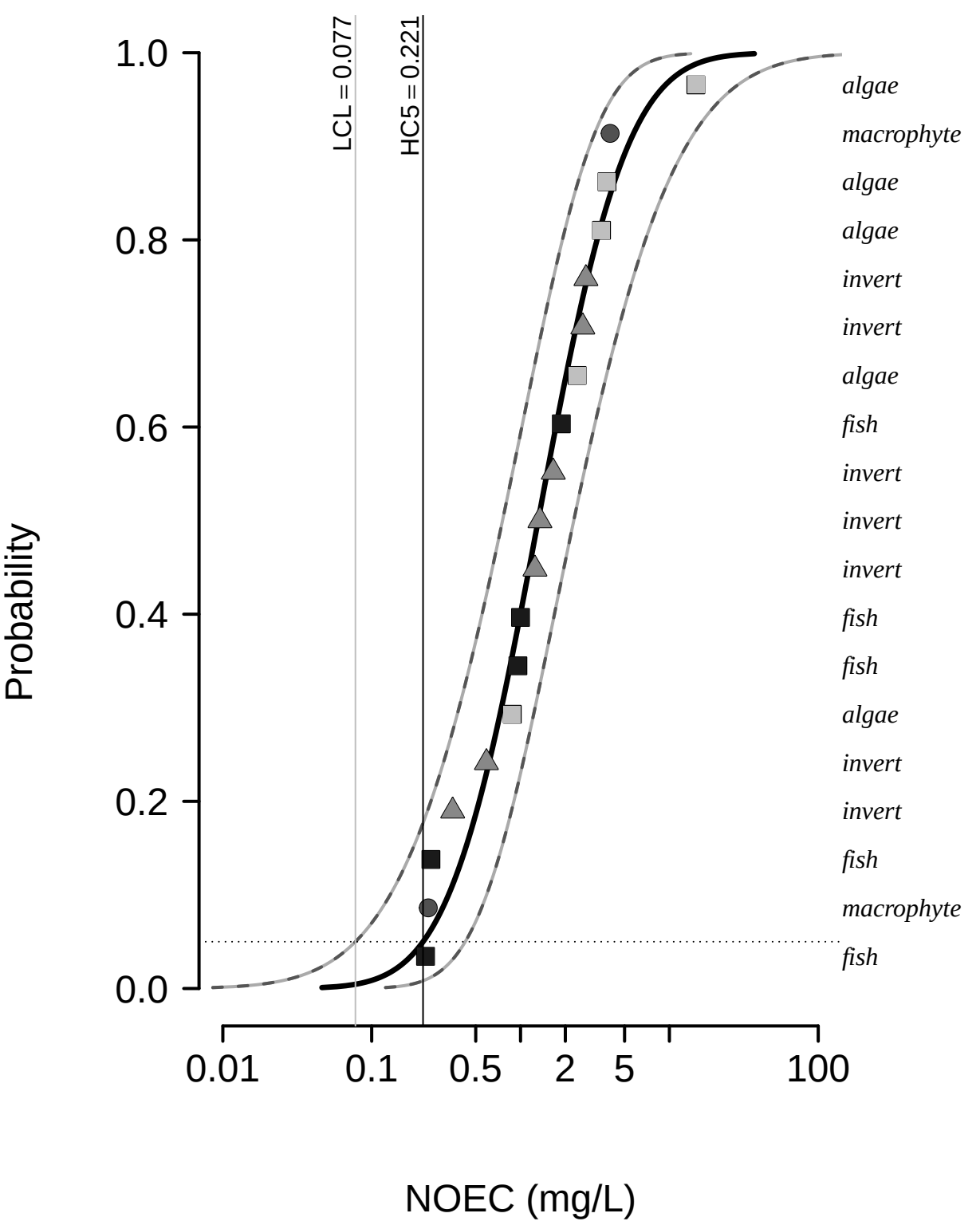

algae
invert
macrophyte
fish
a
a
a
a
0.2
0.5
1.0
2.0
5.0
10.0
NOEC (mg/L)

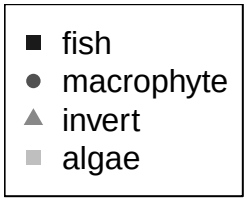
# Nonparametric distribution fit

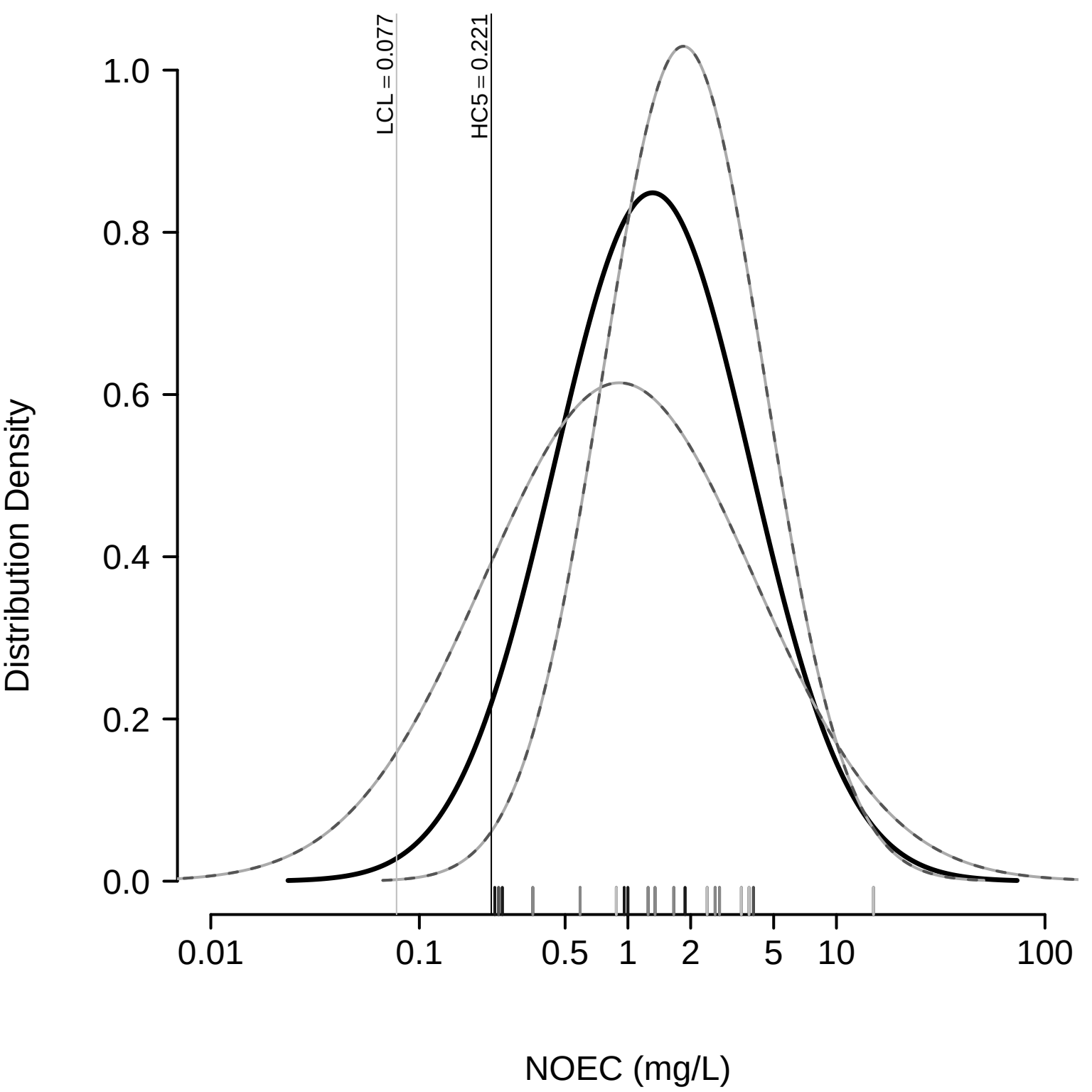

HC5 = 0.233
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.2
0.5
1
2
5
10
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish


fish
macrophyte
invert
algae

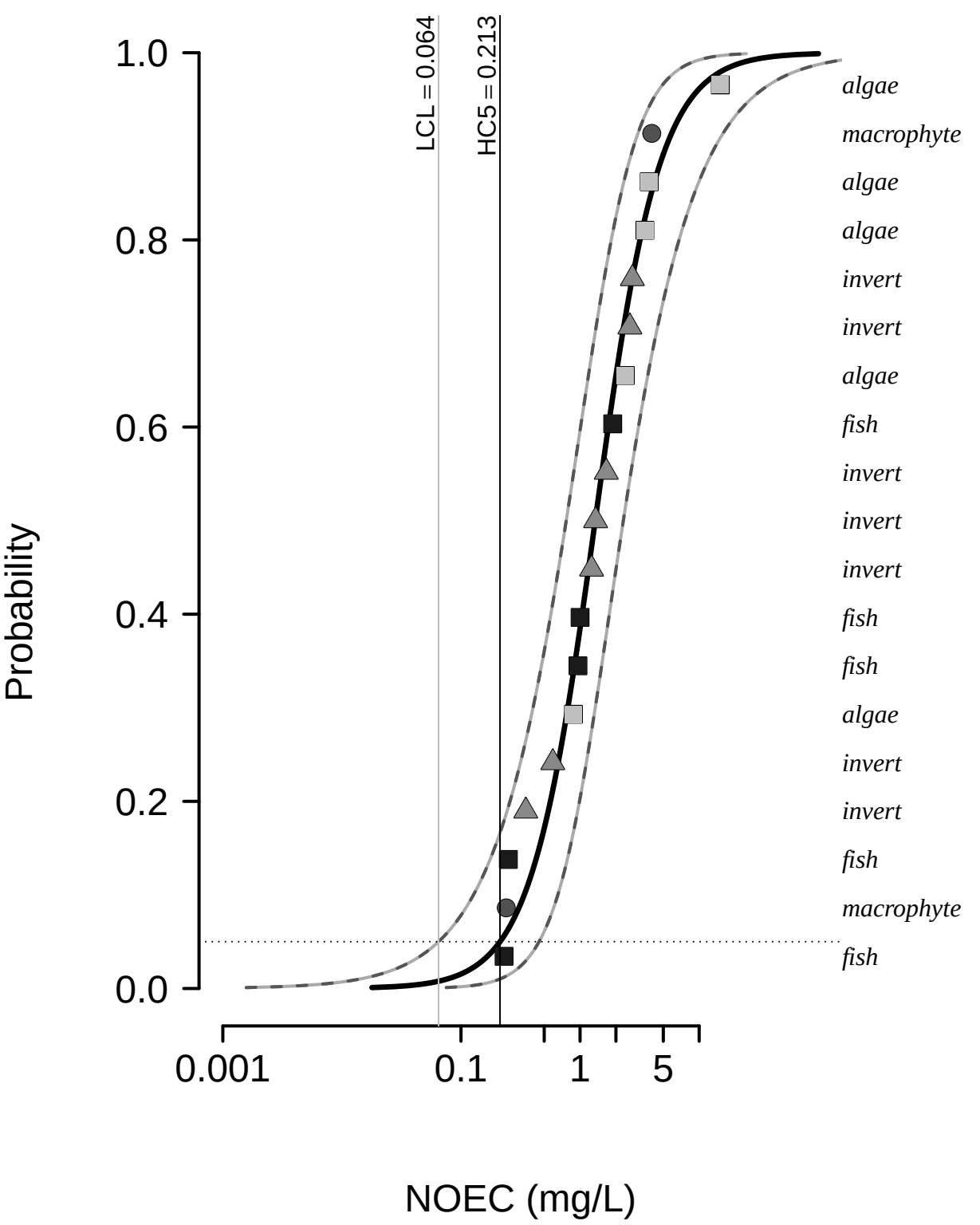
Normal
distribution fit

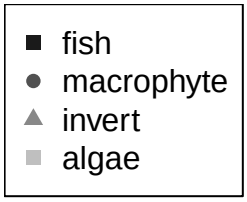

LCL = 0.077
HC5 = 0.221
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.01
0.1
0.5
2
5
100
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish

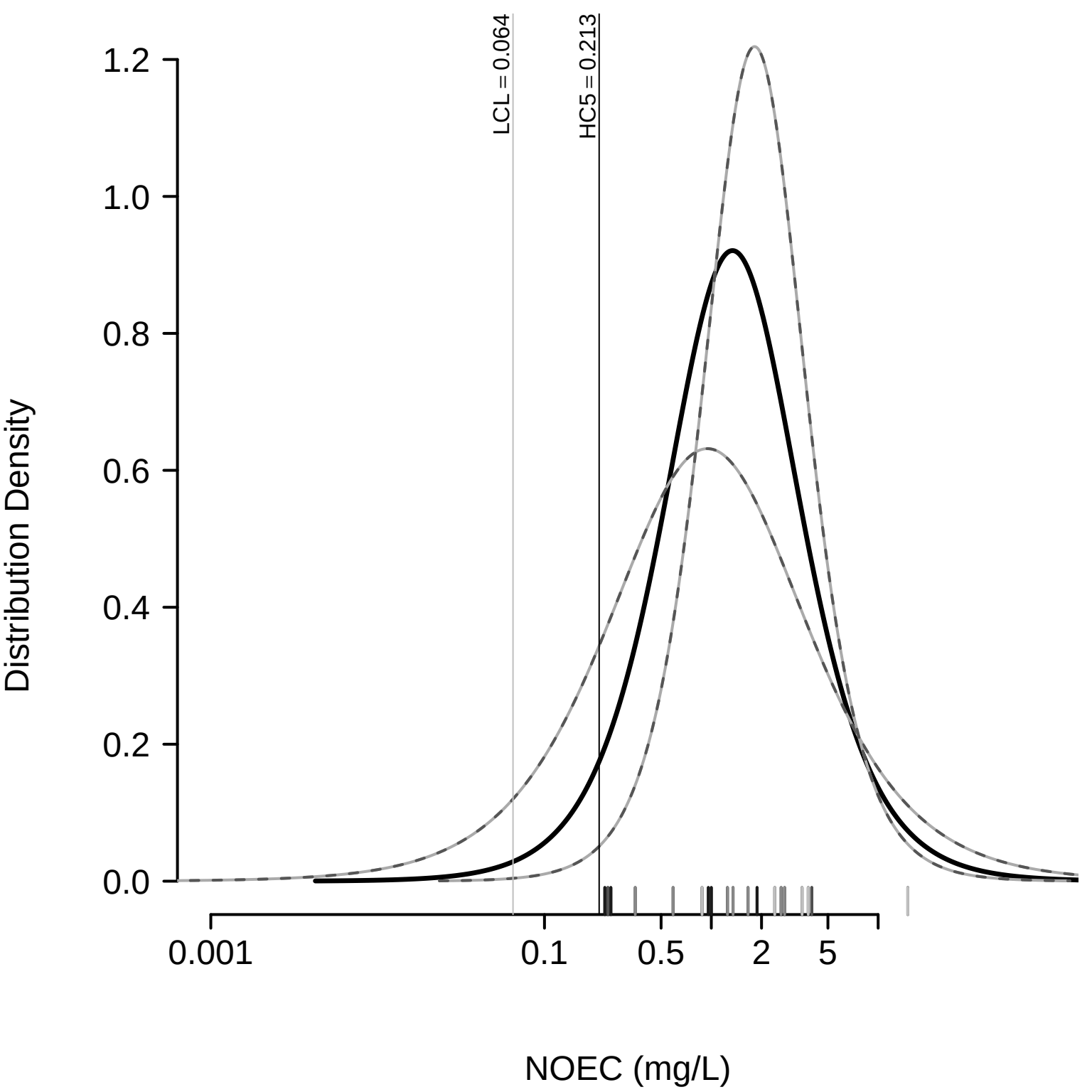

fish
macrophyte
invert
algae


LCL = 0.077
HC5 = 0.221
1.0
0.8
0.6
0.4
0.2
0.0
Distribution Density
0.01
0.1
0.5
1
2
5
10
100
NOEC (mg/L)

Logistic
distribution fit

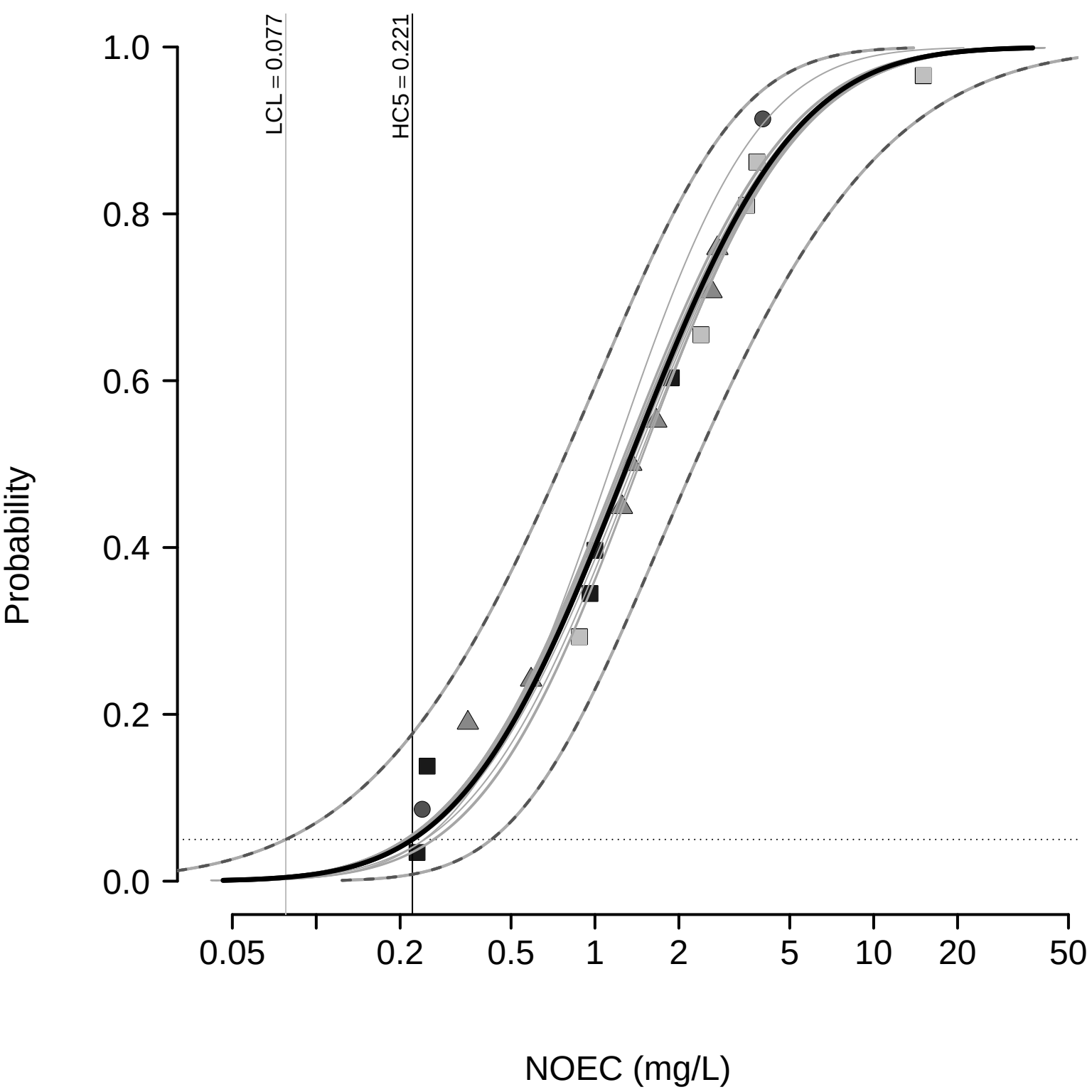

LCL = 0.064
HC5 = 0.213
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.001
0.1
1
5
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish

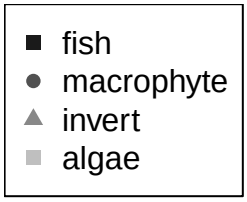

fish
macrophyte
invert
algae

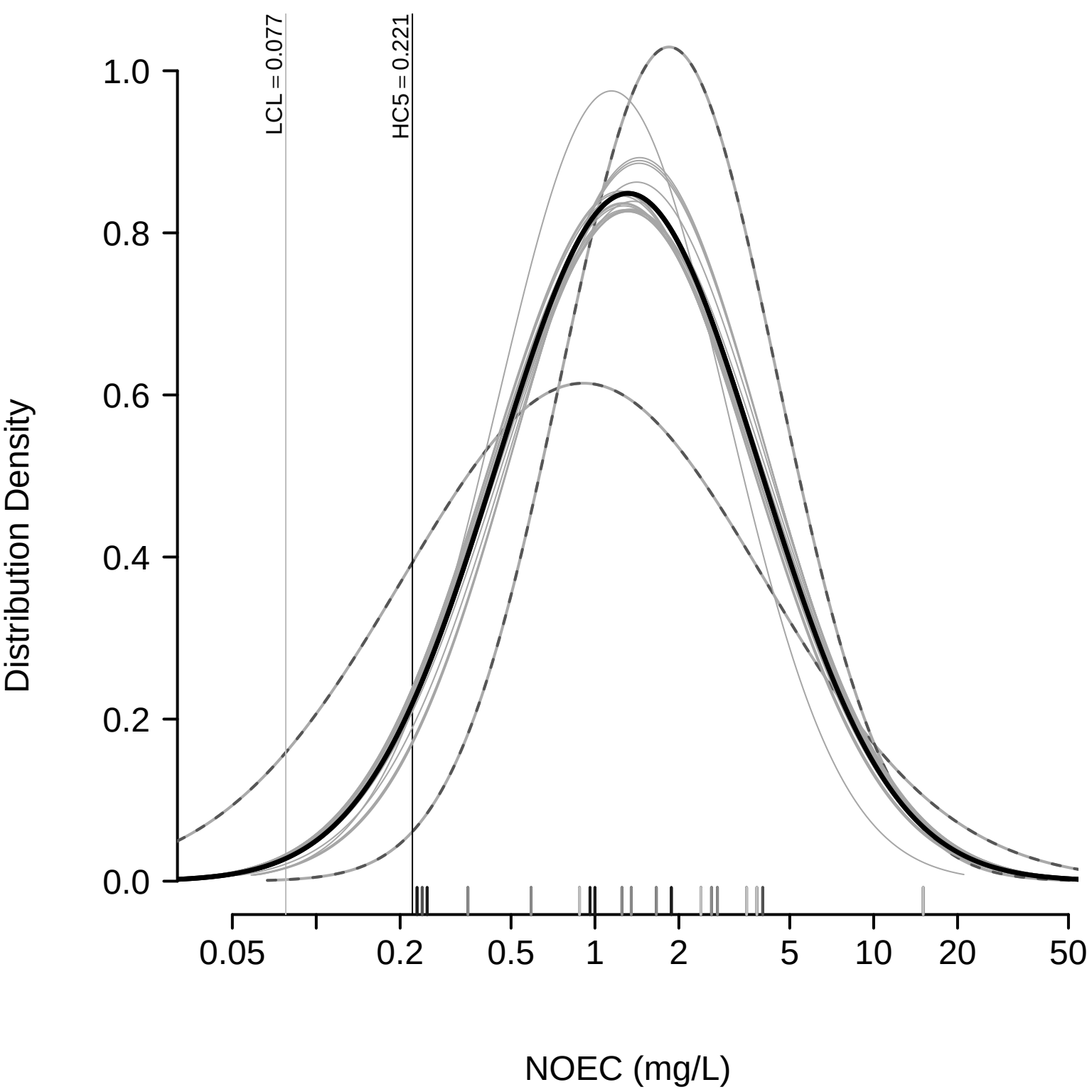

LCL = 0.064
HC5 = 0.213
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Distribution Density
0.001
0.1
0.5
2
5
NOEC (mg/L)

# Leave−One−Out Analysis

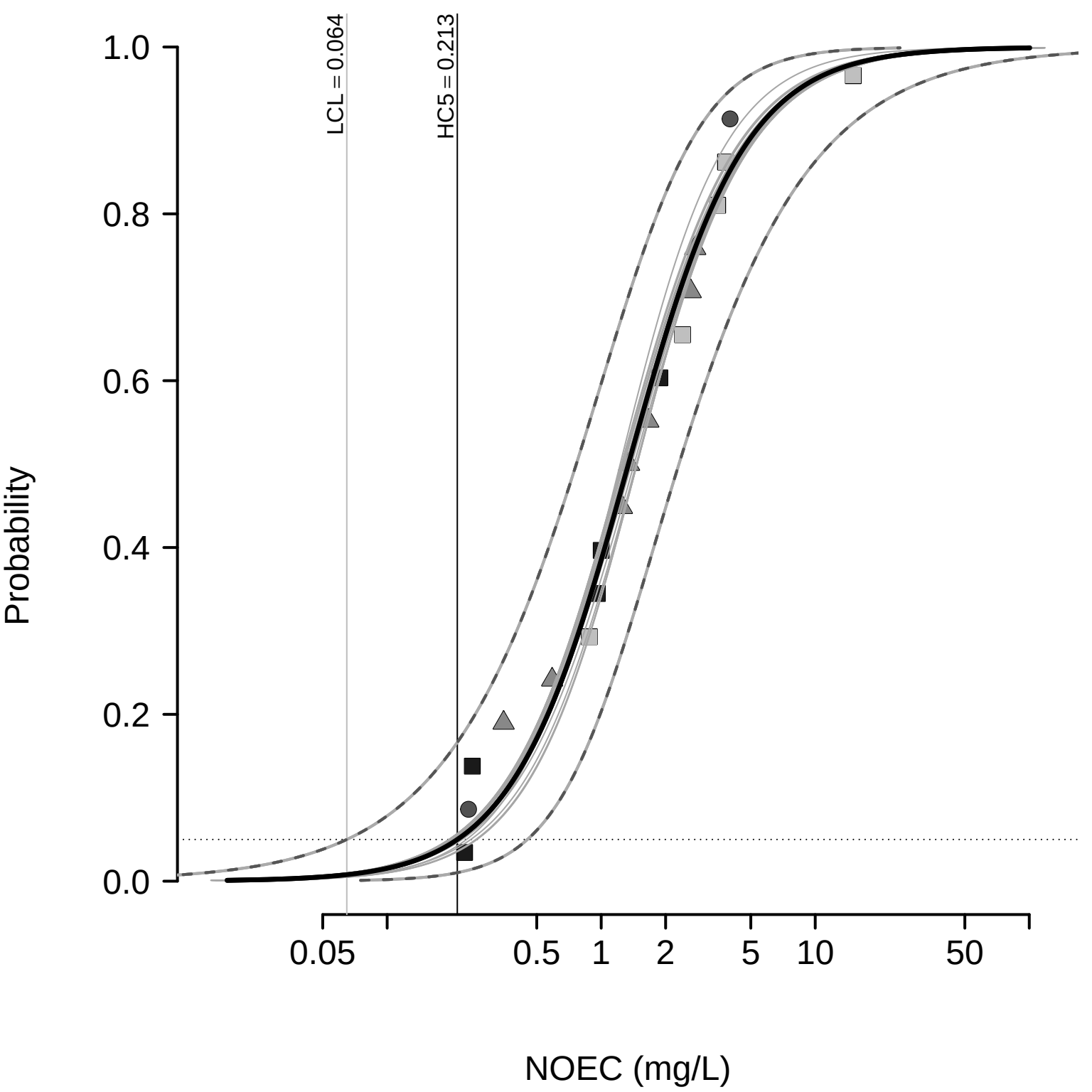
A:
Normal
Leave−One−Out

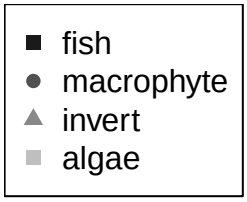

LCL = 0.077
HC5 = 0.221
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.05
0.2
0.5
1
2
5
10
20
50
NOEC (mg/L)

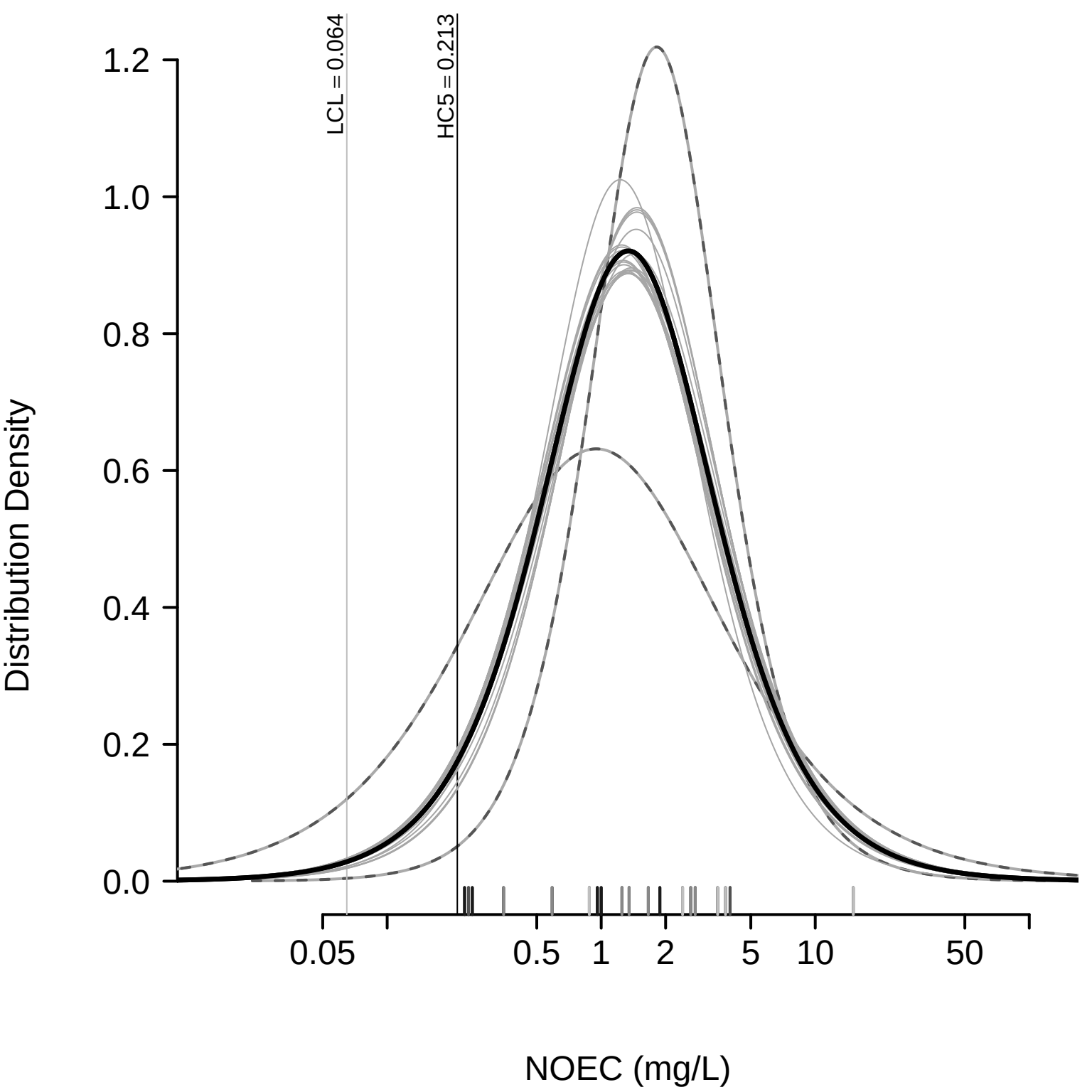

fish
macrophyte
invert
algae


LCL = 0.077
HC5 = 0.221
1.0
0.8
0.6
0.4
0.2
0.0
Distribution Density
0.05
0.2
0.5
1
2
5
10
20
50
NOEC (mg/L)

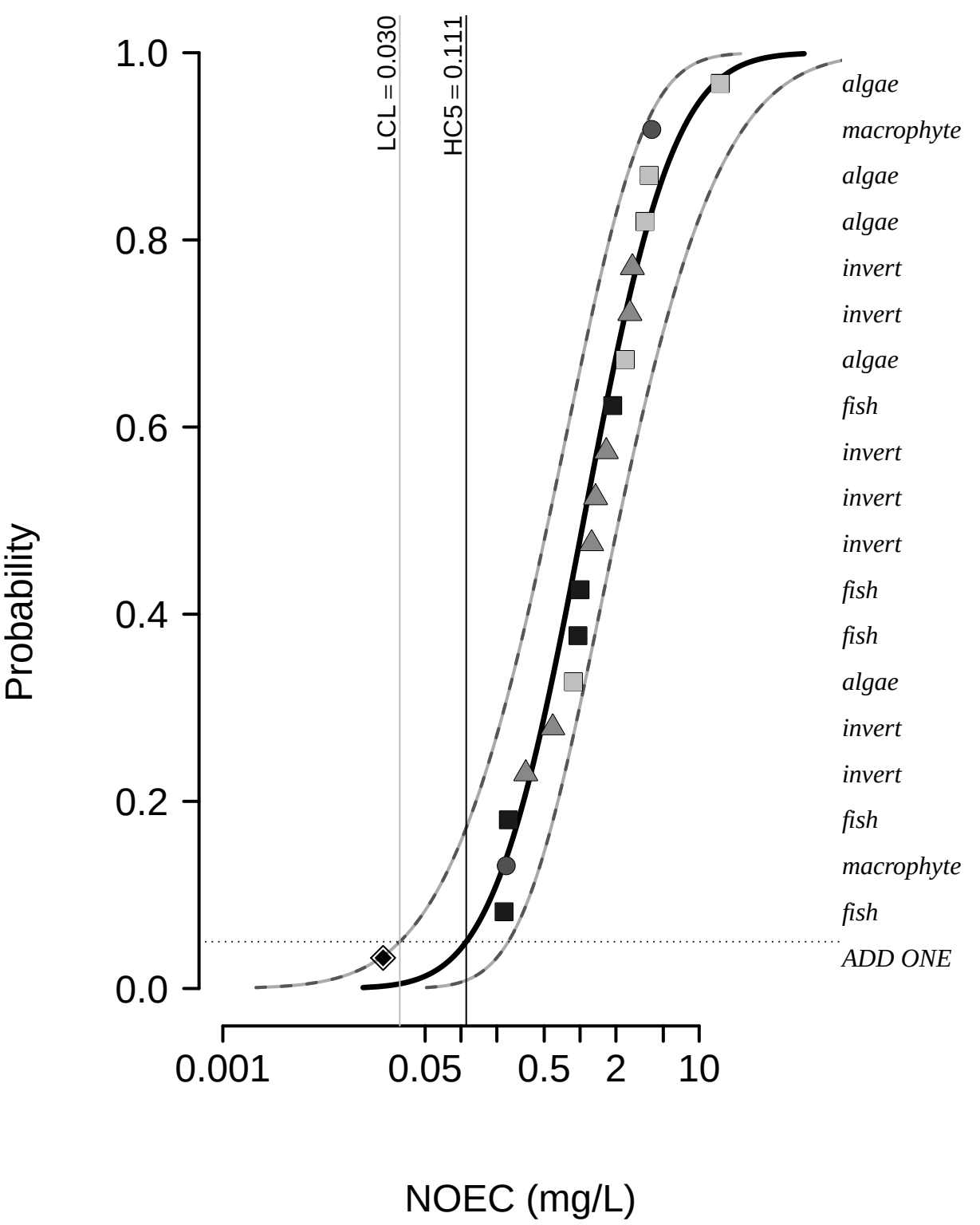
B:
Logistic
Leave−One−Out

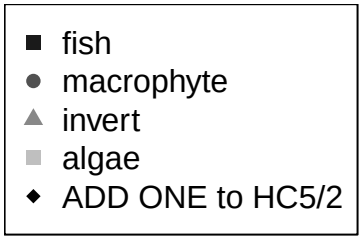

LCL = 0.064
HC5 = 0.213
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.05
0.5
1
2
5
10
50
NOEC (mg/L)

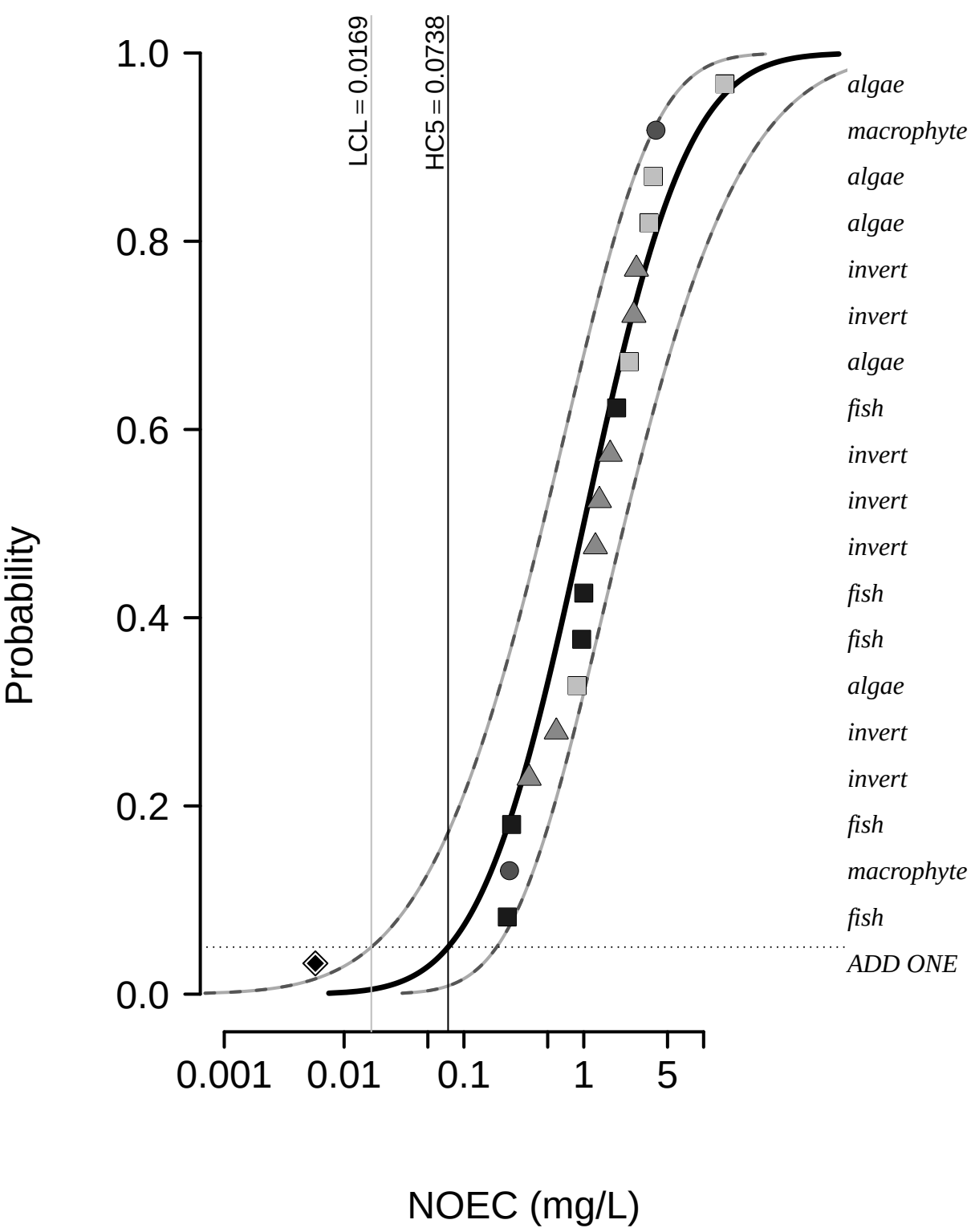

fish
macrophyte
invert
algae

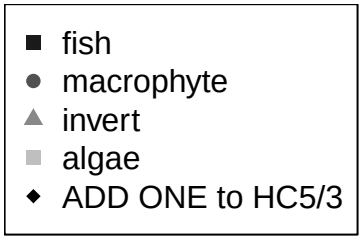

LCL = 0.064
HC5 = 0.213
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Distribution Density
0.05
0.5
1
2
5
10
50
NOEC (mg/L)

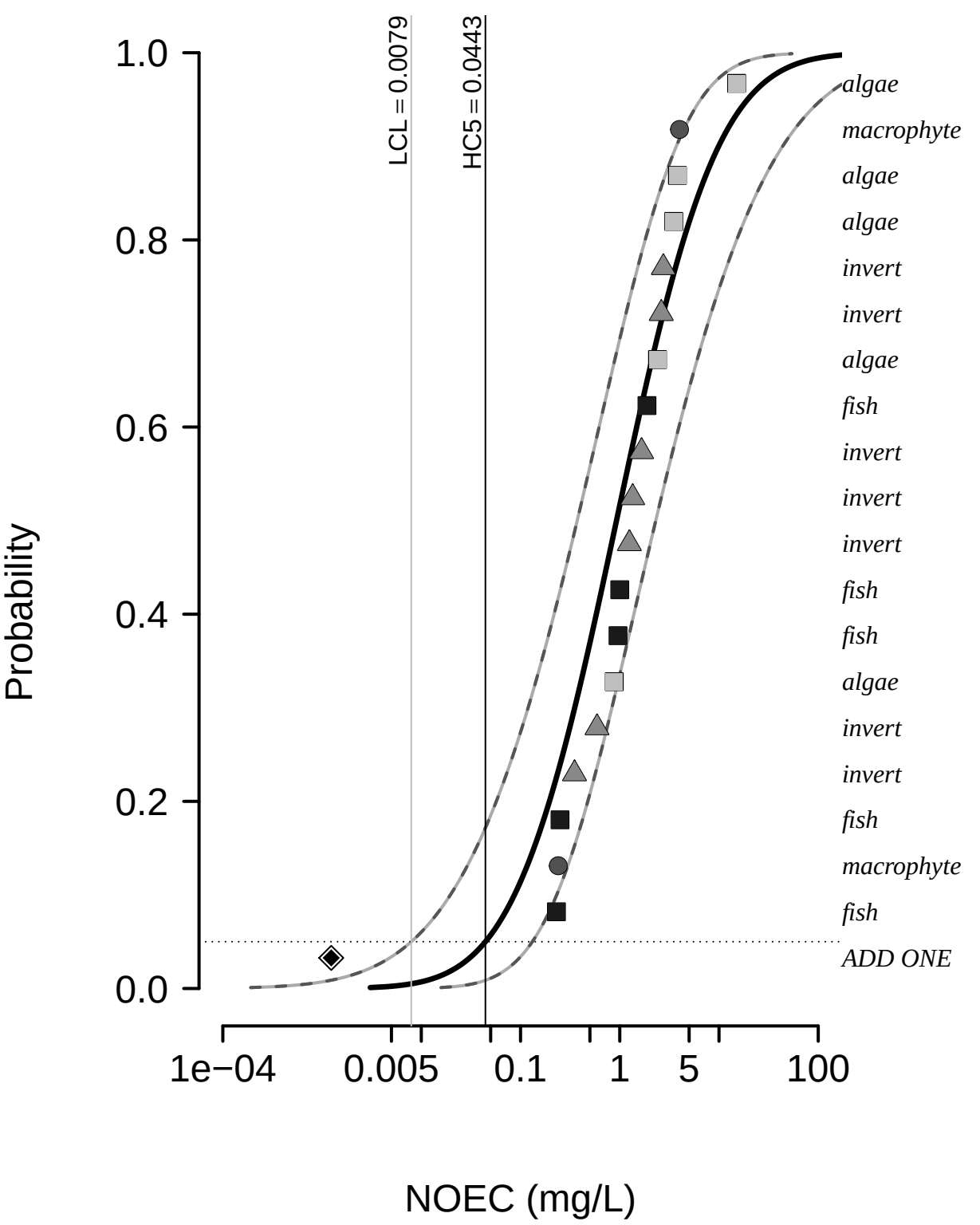
# A:  Normal Add−One−In

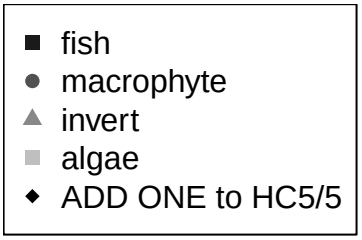

LCL = 0.030
HC5 = 0.111
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.001
0.05
0.5
2
10
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

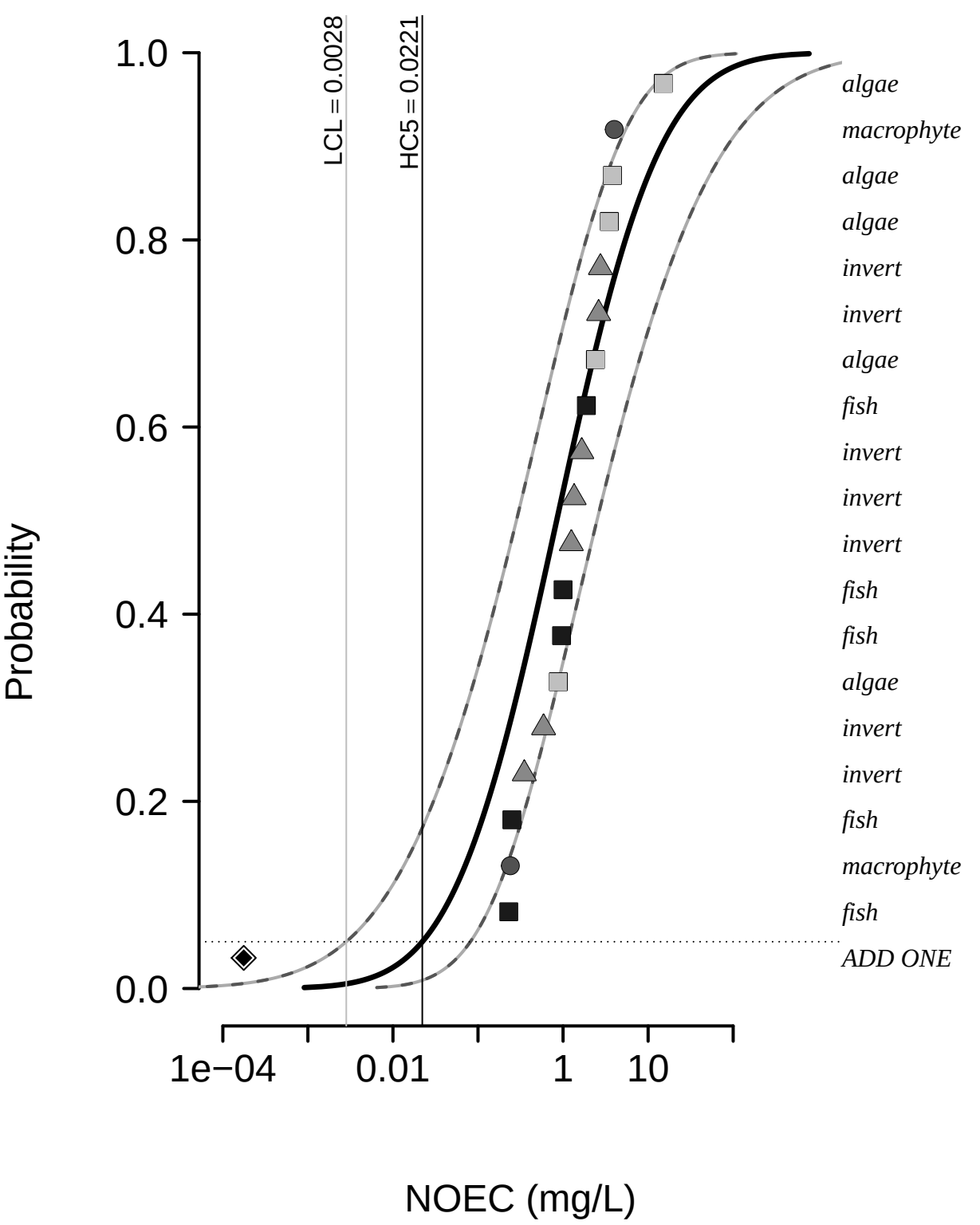

fish
macrophyte
invert
algae
ADD ONE to HC5/2

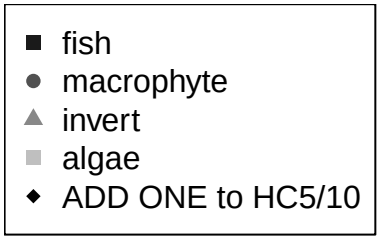

LCL = 0.0169
HC5 = 0.0738
1.0
0.8
0.6
0.4
0.2
0.0
Probability
0.001
0.01
0.1
1
5
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

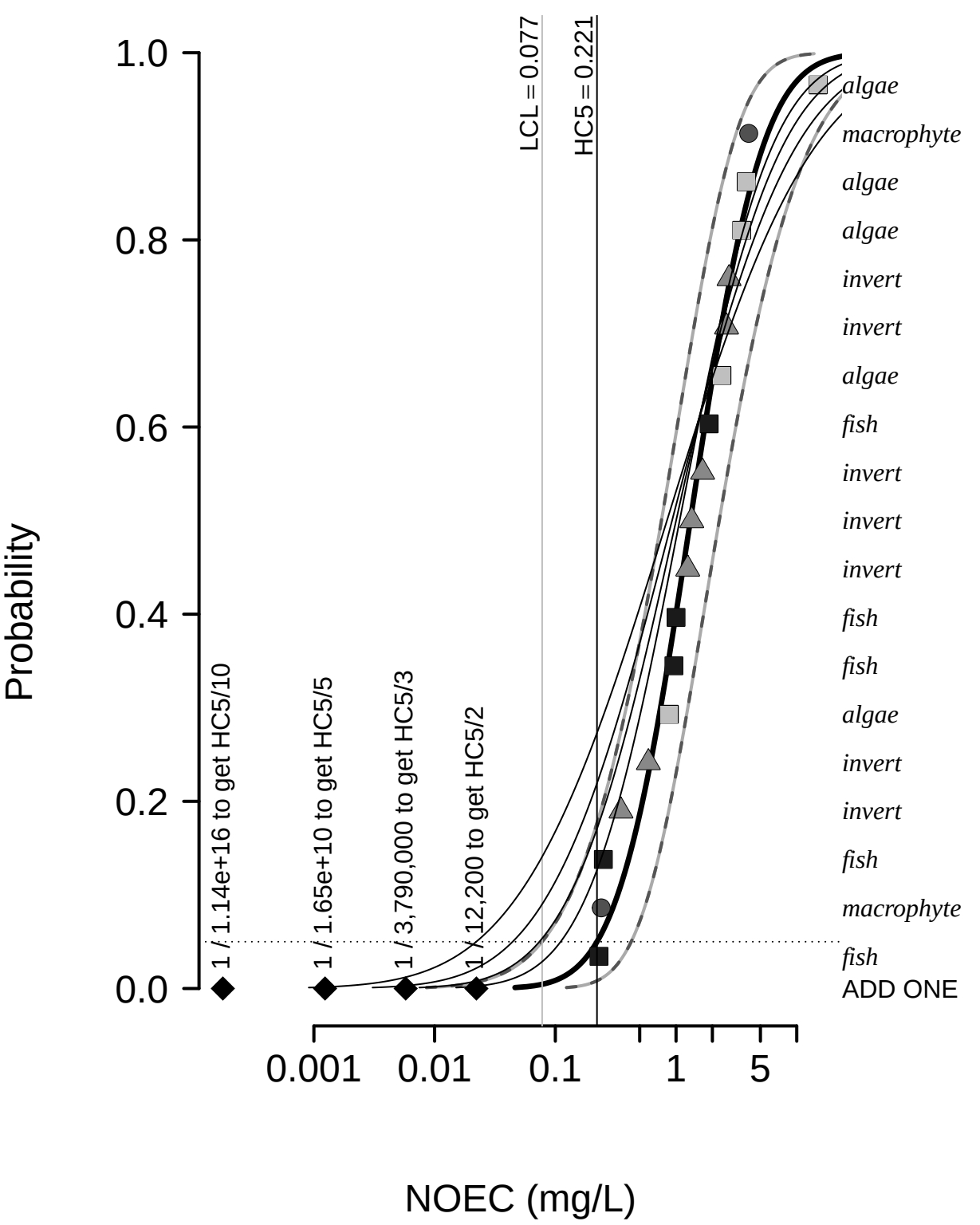

fish
macrophyte
invert
algae
ADD ONE to HC5/3

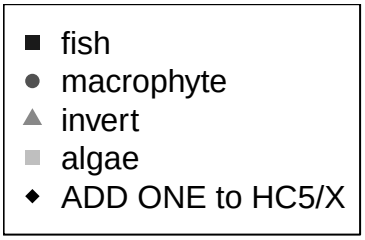

LCL = 0.0079
HC5 = 0.0443
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−04
0.005
0.1
1
5
100
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE


fish
macrophyte
invert
algae
ADD ONE to HC5/5


LCL = 0.0028
HC5 = 0.0221
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−04
0.01
1
10
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

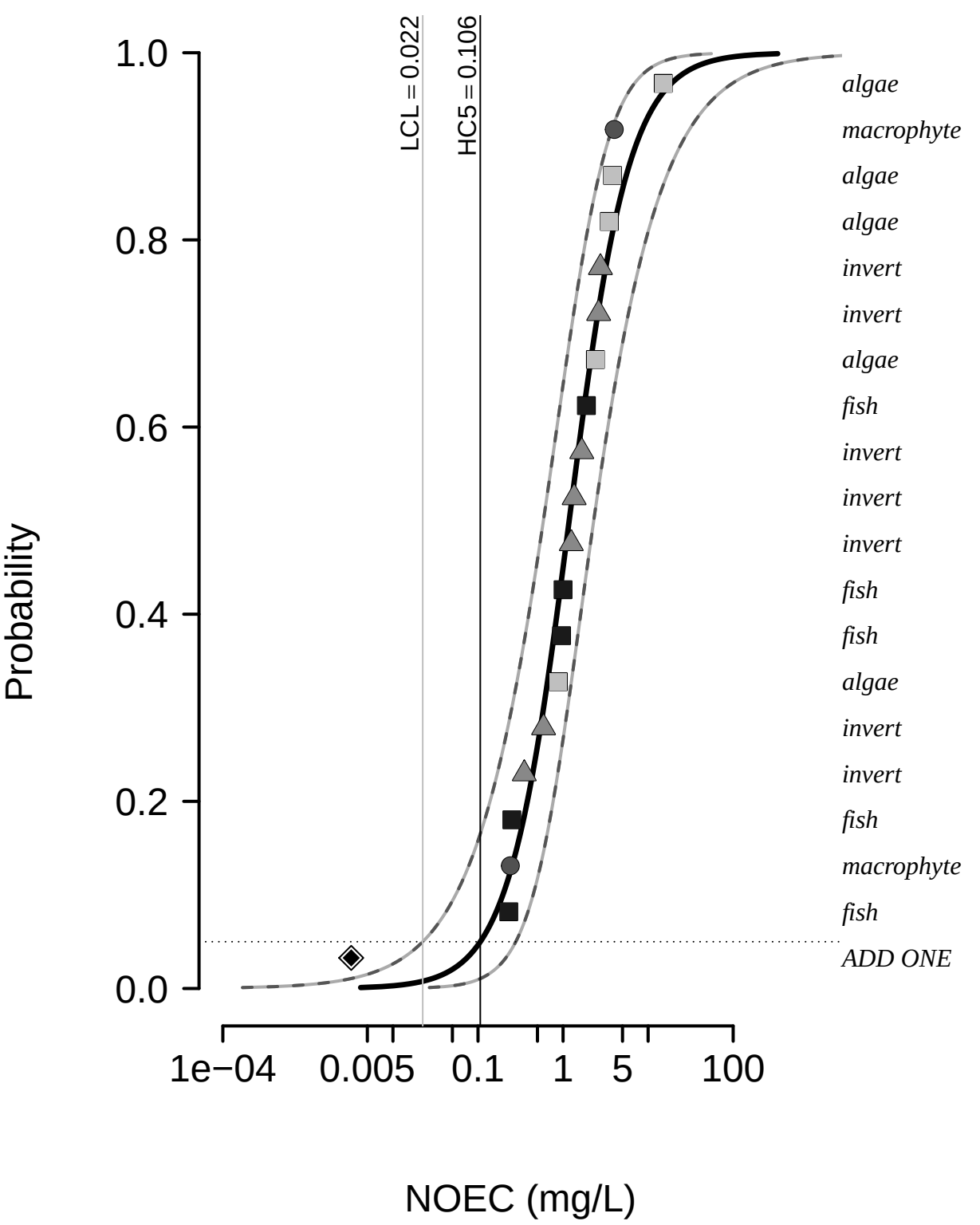

fish
macrophyte
invert
algae
ADD ONE to HC5/10

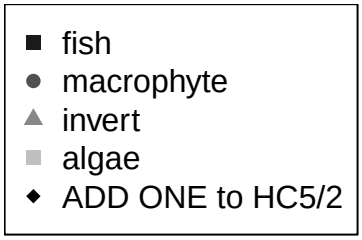

1.0
0.8
0.6
0.4
0.2
0.0
Probability
LCL = 0.077
HC5 = 0.221
1 / 1.14e+16 to get HC5/10
1 / 1.65e+10 to get HC5/5
1 / 3,790,000 to get HC5/3
1 / 12,200 to get HC5/2
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE
0.001
0.01
0.1
1
5
NOEC (mg/L)

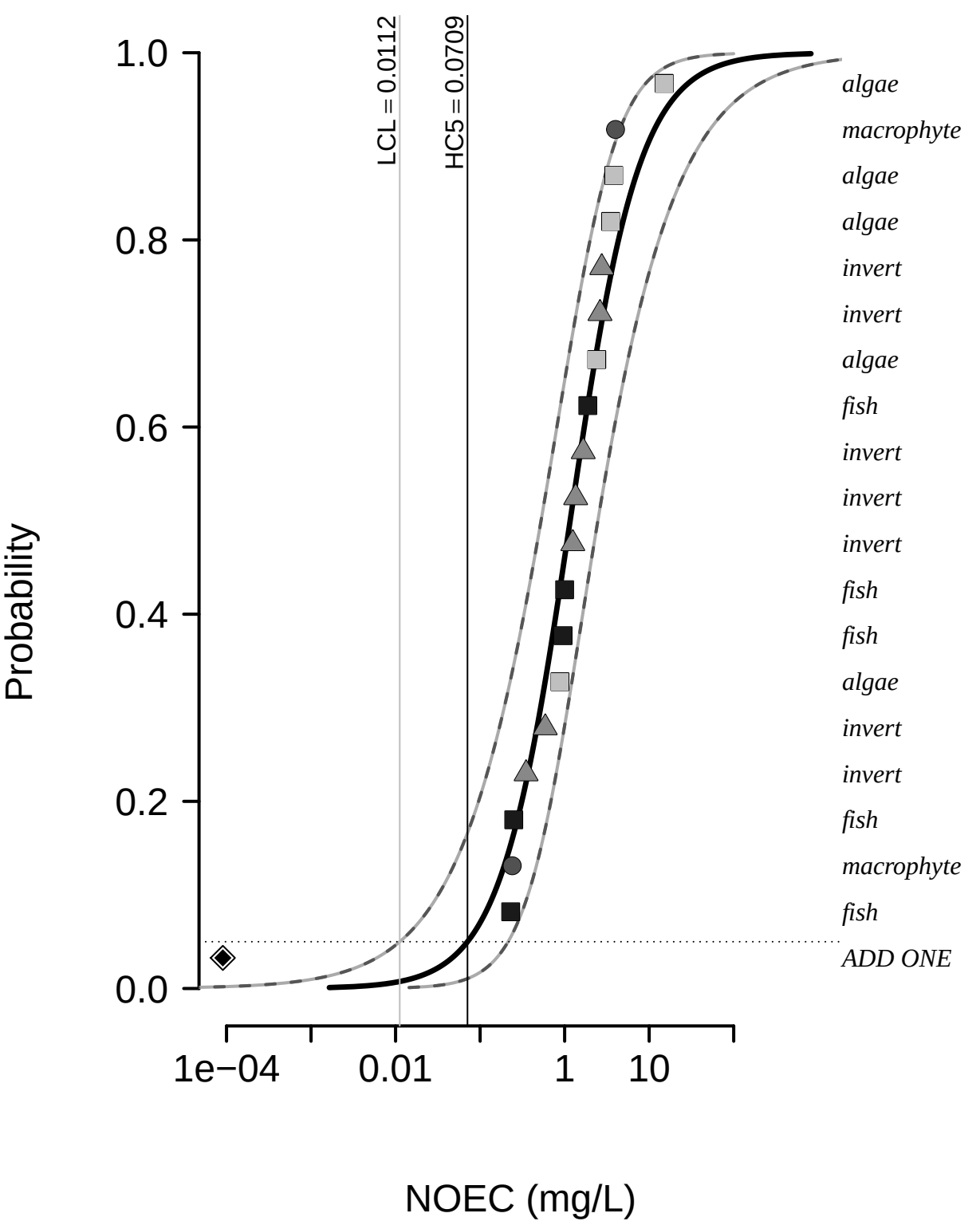

fish
macrophyte
invert
algae
ADD ONE to HC5/X

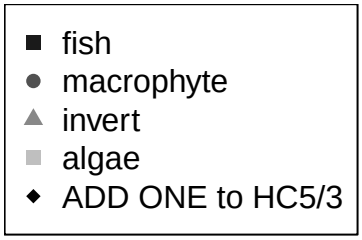
# Add−One−In Analysis

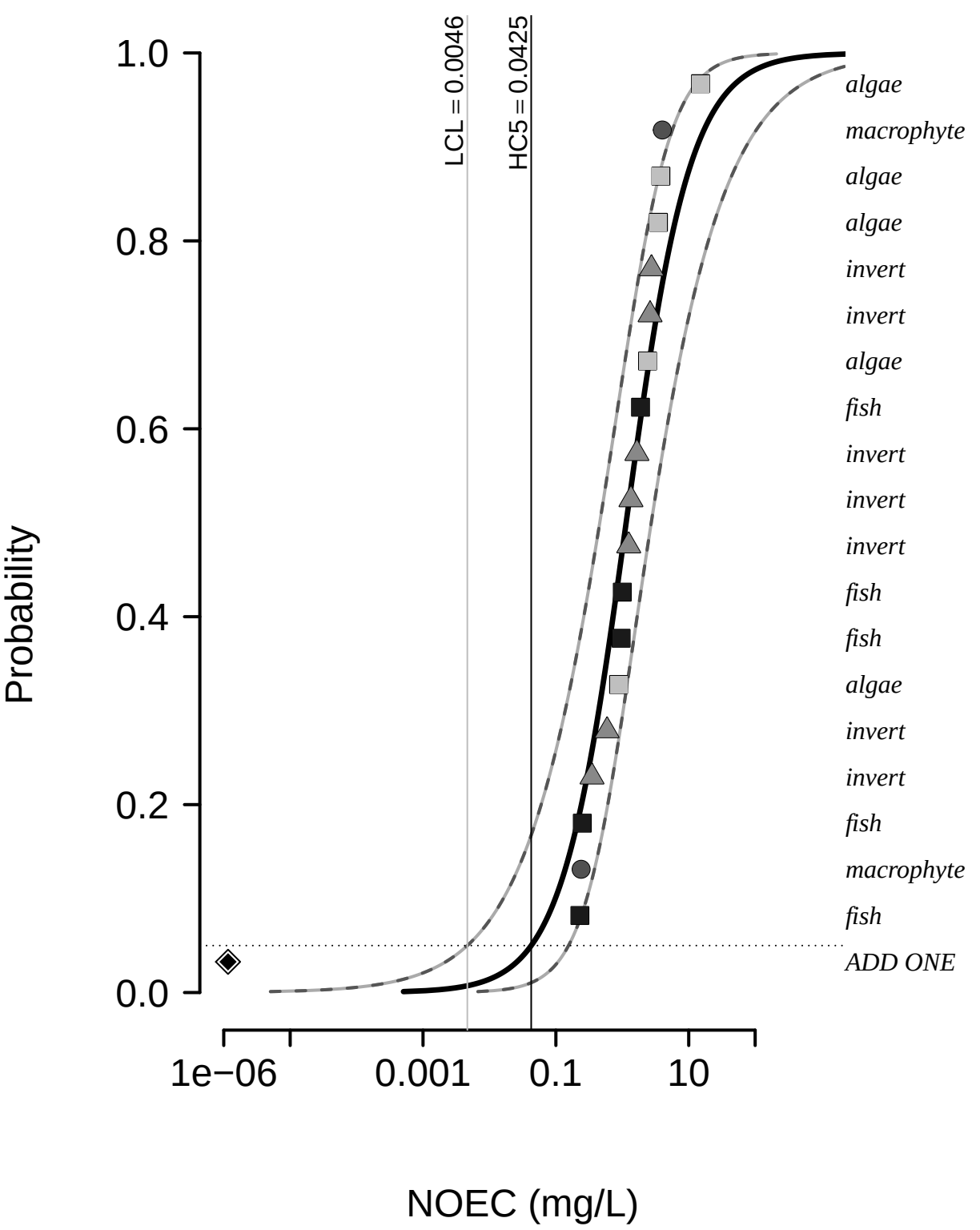
# B:  Logistic Add−One−In

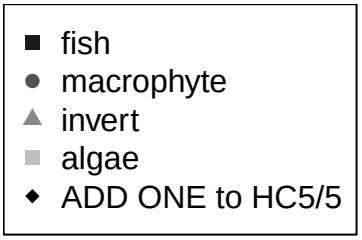

LCL = 0.022
HC5 = 0.106
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−04
0.005
0.1
1
5
100
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

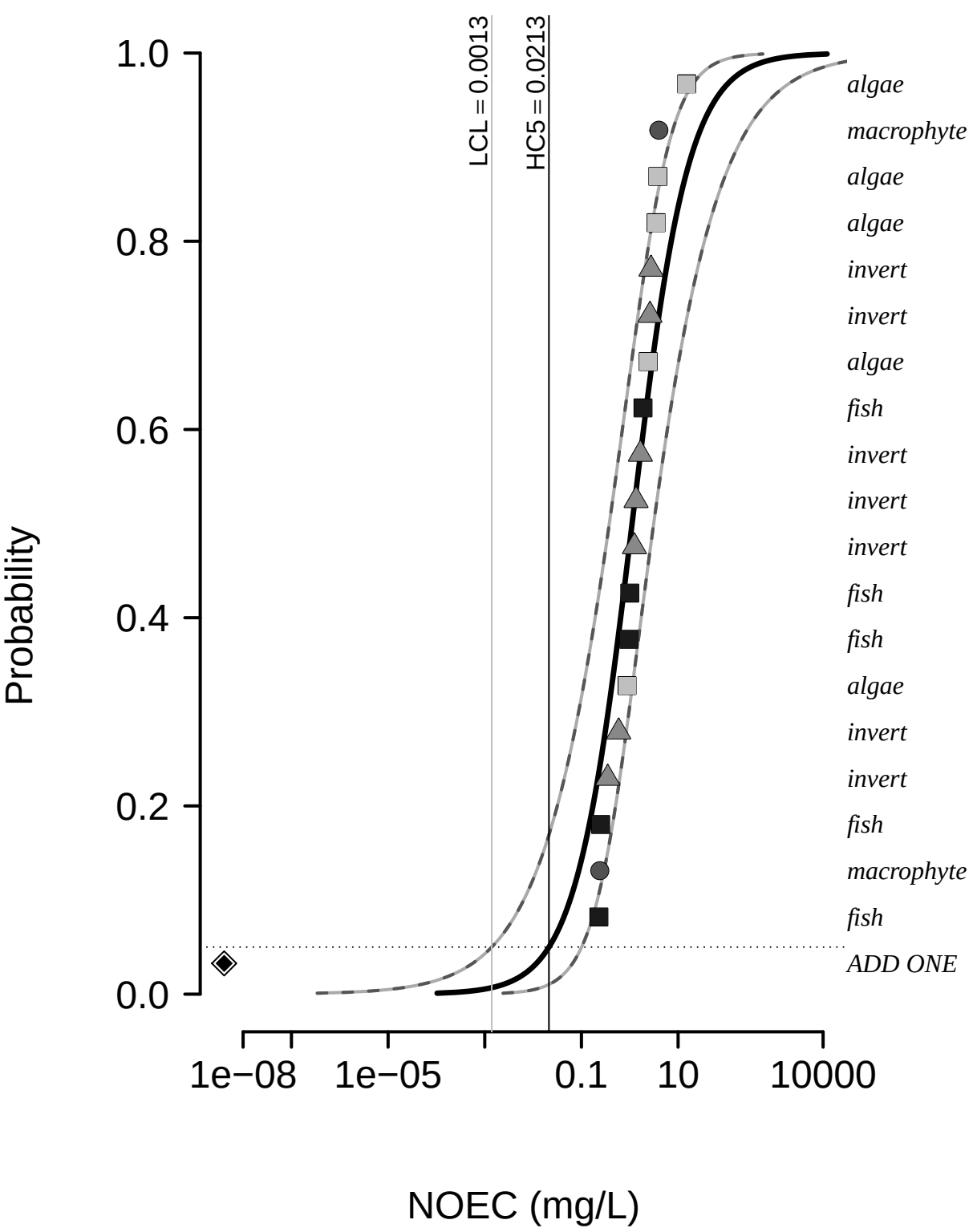

fish
macrophyte
invert
algae
ADD ONE to HC5/2

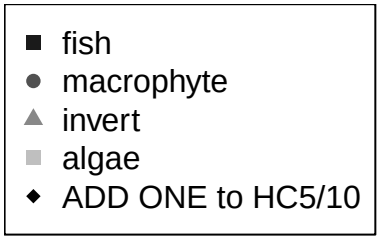

LCL = 0.0112
HC5 = 0.0709
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−04
0.01
1
10
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

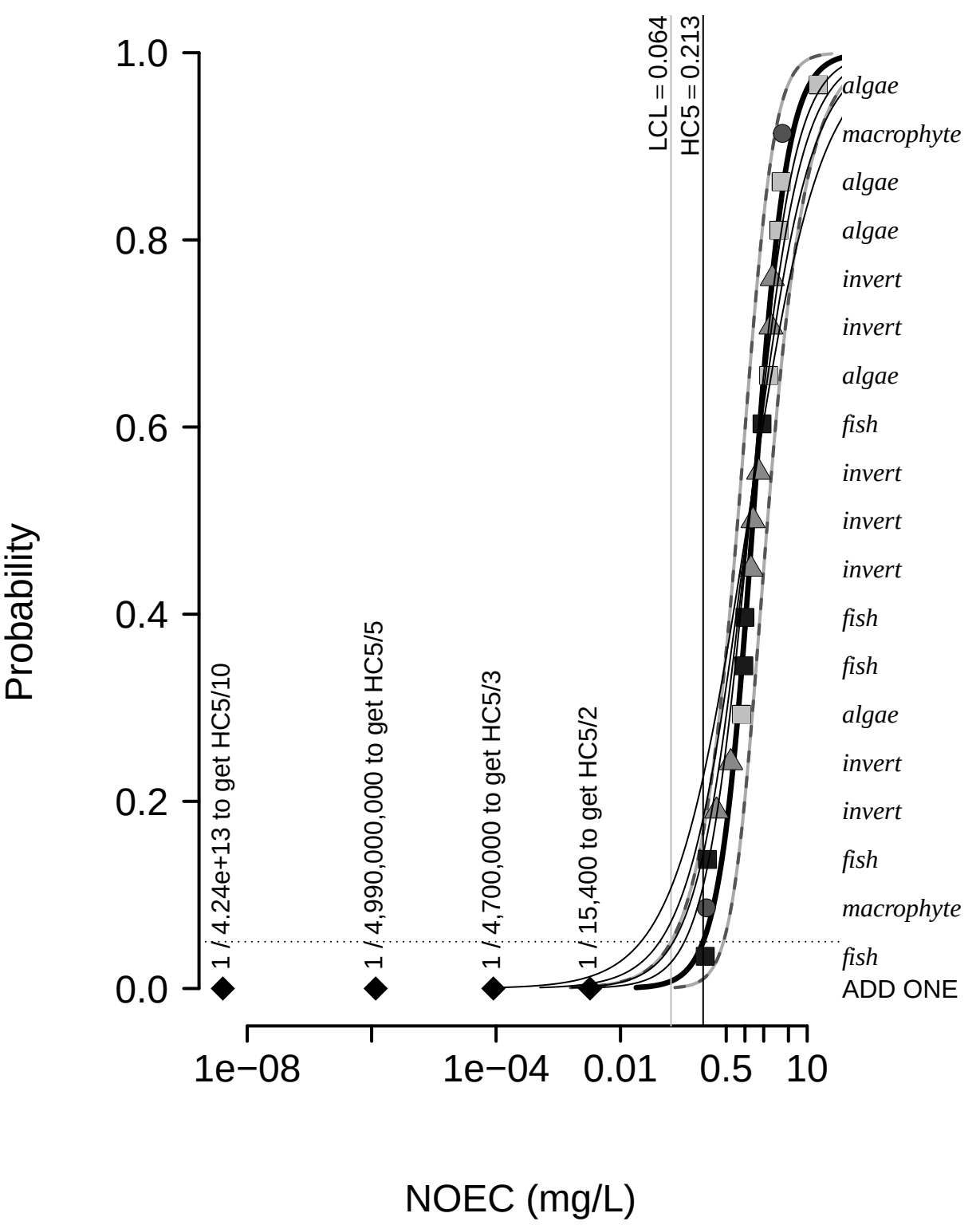

fish
macrophyte
invert
algae
ADD ONE to HC5/3

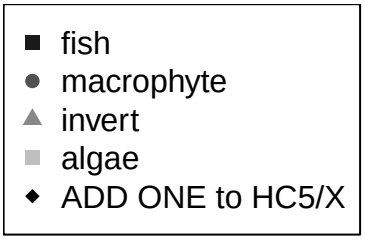

LCL = 0.0046
HC5 = 0.0425
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−06
0.001
0.1
10
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE


fish
macrophyte
invert
algae
ADD ONE to HC5/5

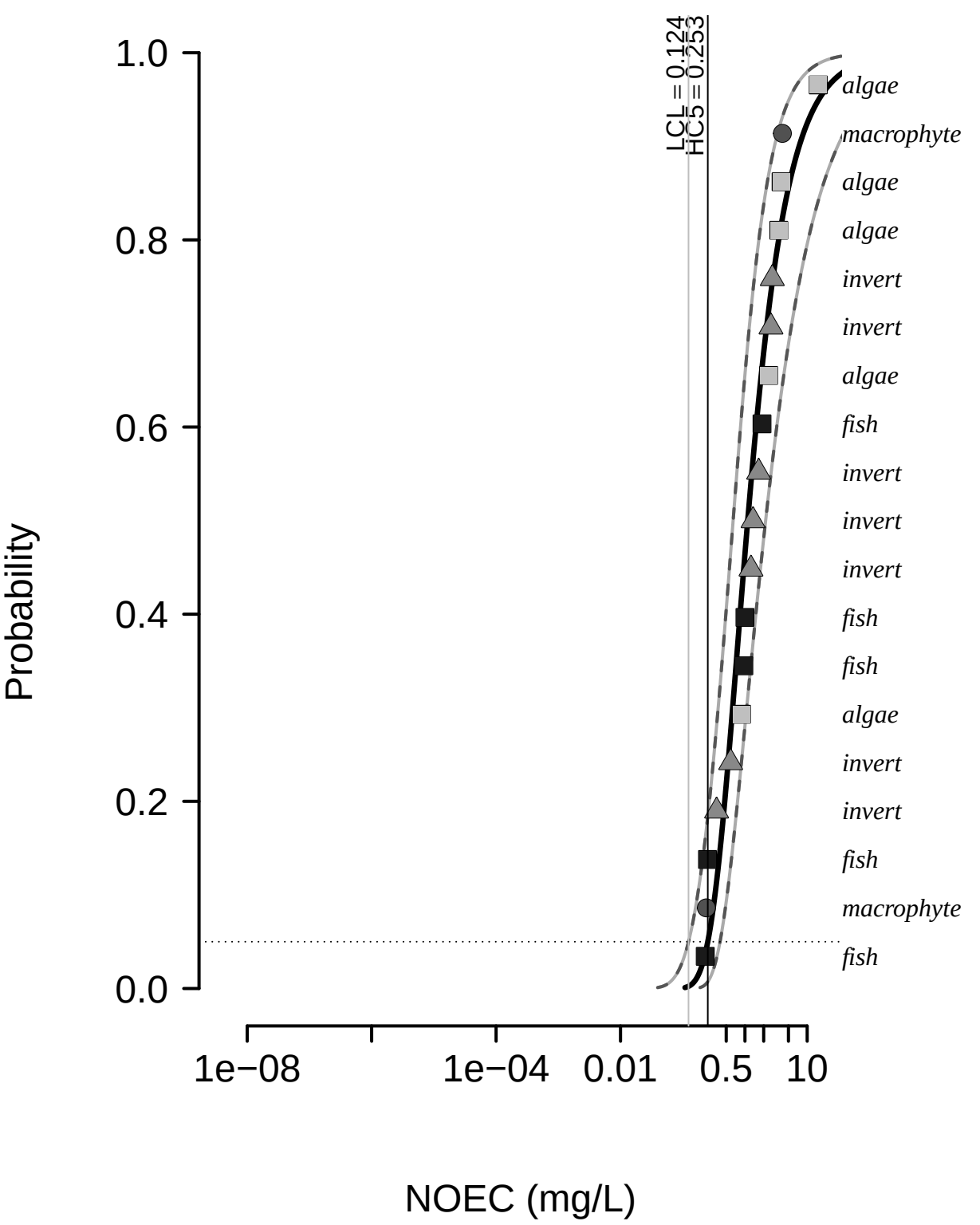

LCL = 0.0013
HC5 = 0.0213
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−08
1e−05
0.1
10
10000
NOEC (mg/L)
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE

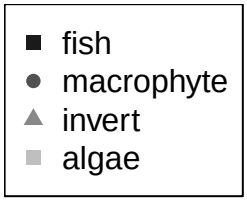

fish
macrophyte
invert
algae
ADD ONE to HC5/10

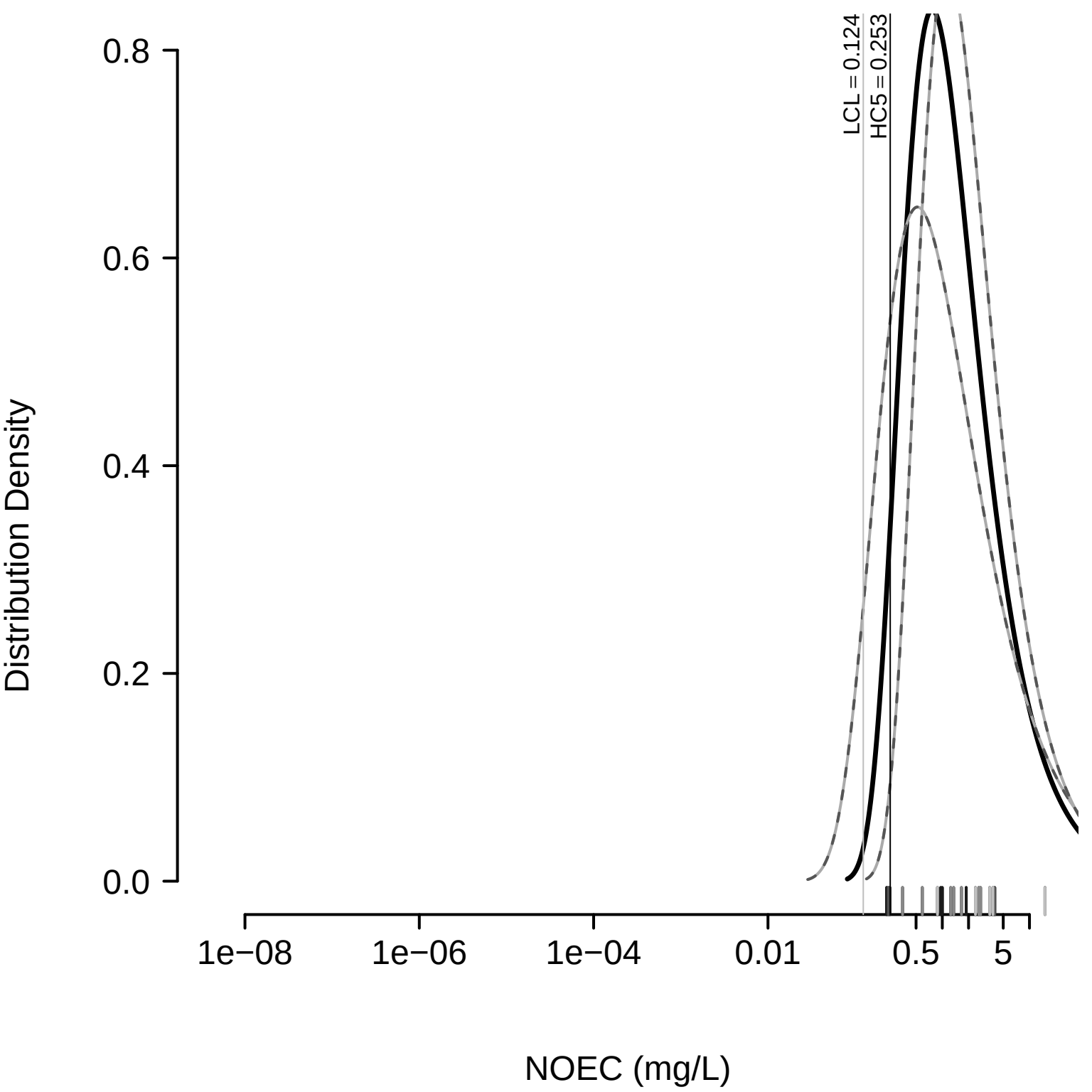

LCL = 0.064
HC5 = 0.213
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
ADD ONE
1 / 4.24e+13 to get HC5/10
1 / 4,990,000,000 to get HC5/5
1 / 4,700,000 to get HC5/3
1 / 15,400 to get HC5/2
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−08
1e−04
0.01
0.5
10
NOEC (mg/L)


fish
macrophyte
invert
algae
ADD ONE to HC5/X

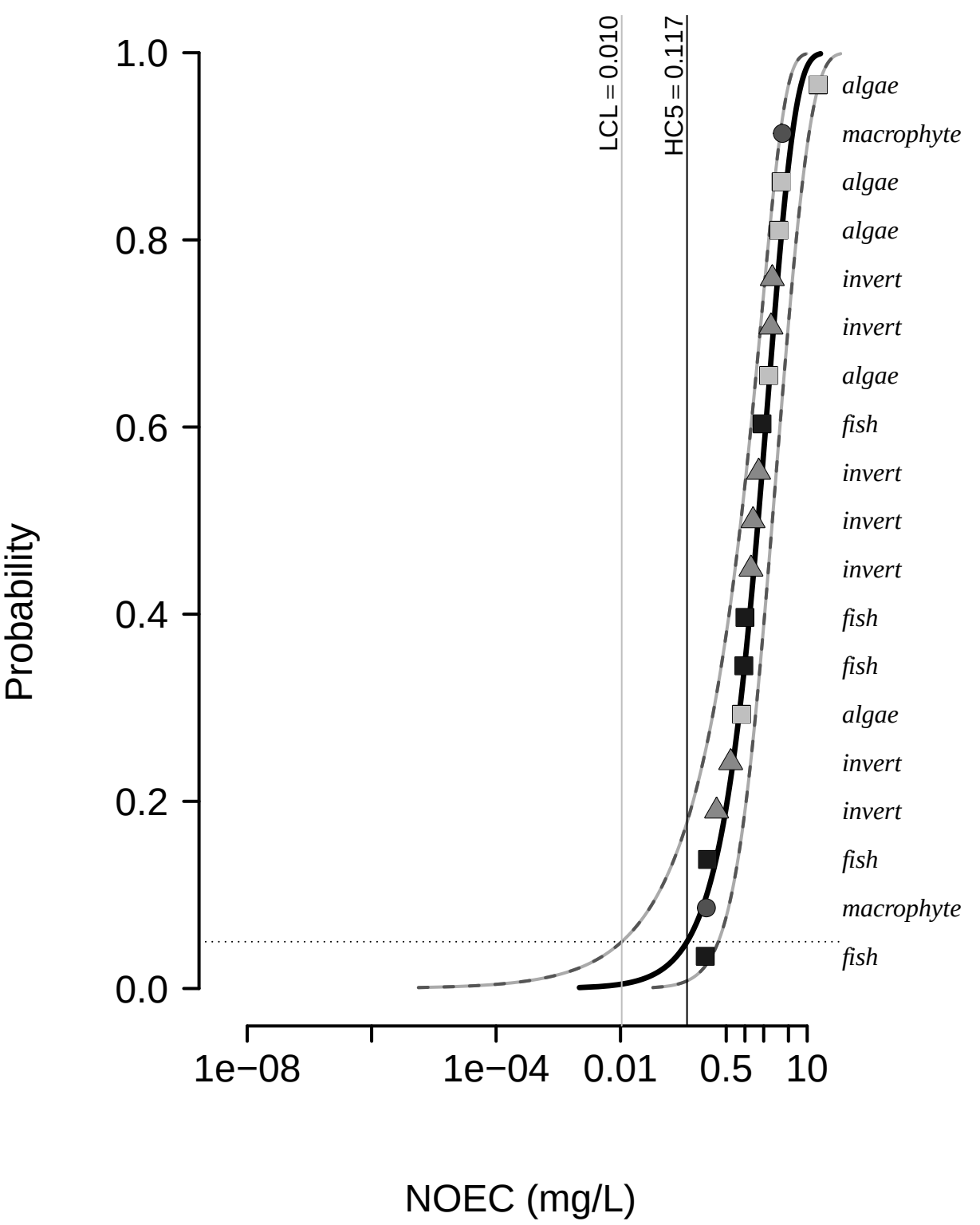
Gumbel
distribution fit

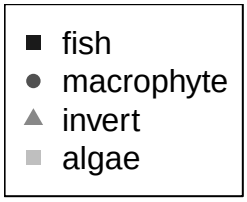

LCL = 0.124
HC5 = 0.253
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−08
1e−04
0.01
0.5
10
NOEC (mg/L)

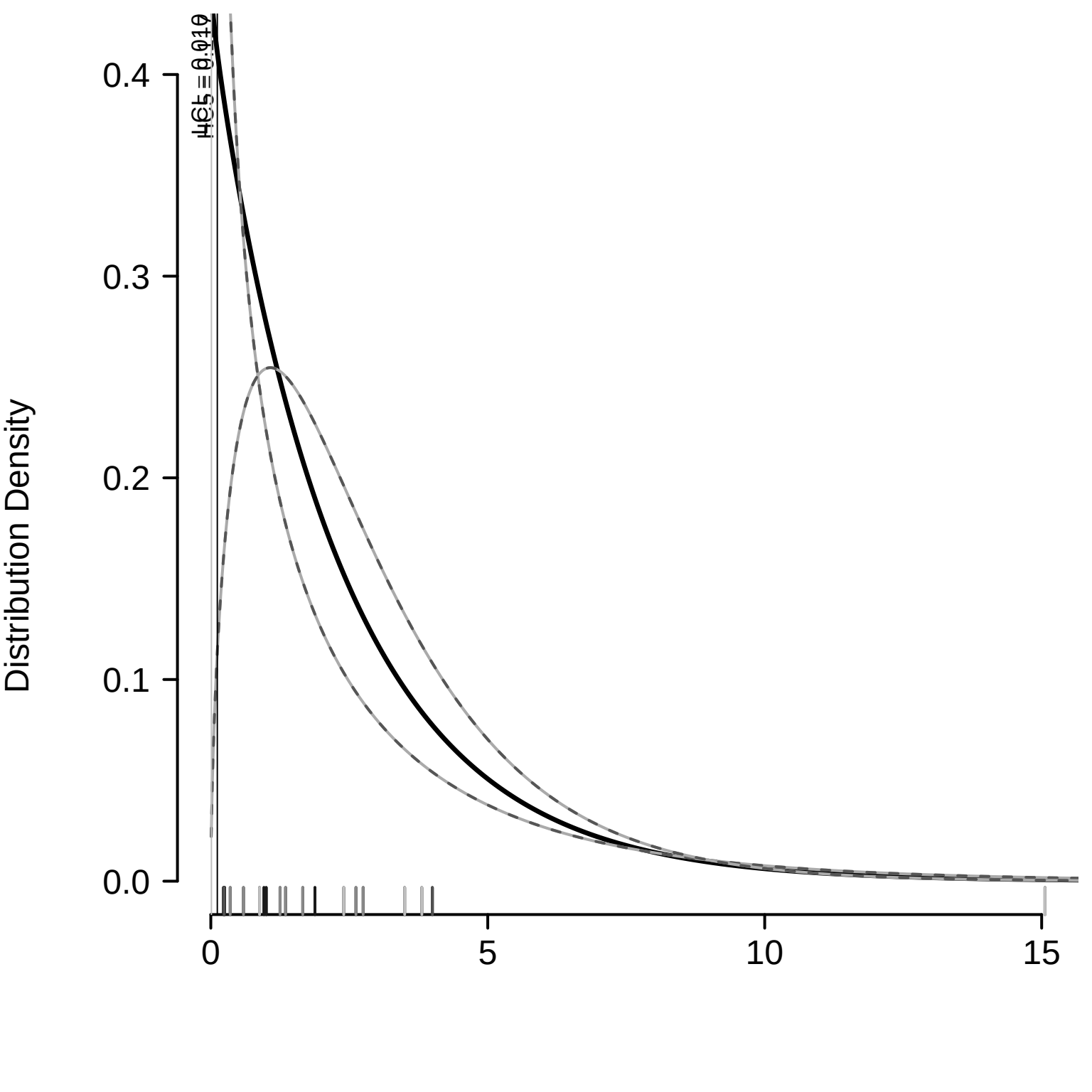

fish
macrophyte
invert
algae

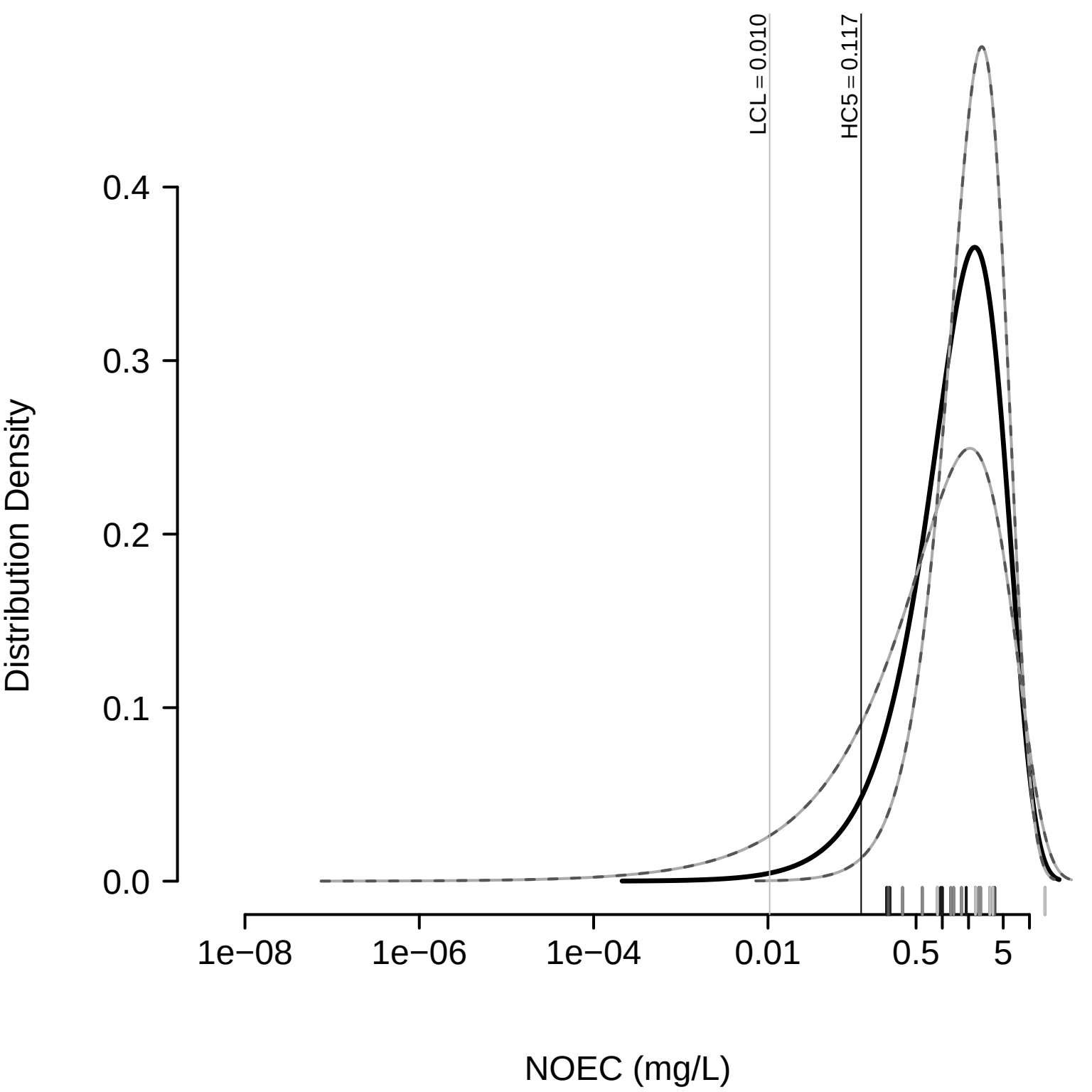

LCL = 0.124
HC5 = 0.253
0.8
0.6
0.4
0.2
0.0
Distribution Density
1e−08
1e−06
1e−04
0.01
0.5
5
NOEC (mg/L)

Gamma
distribution fit

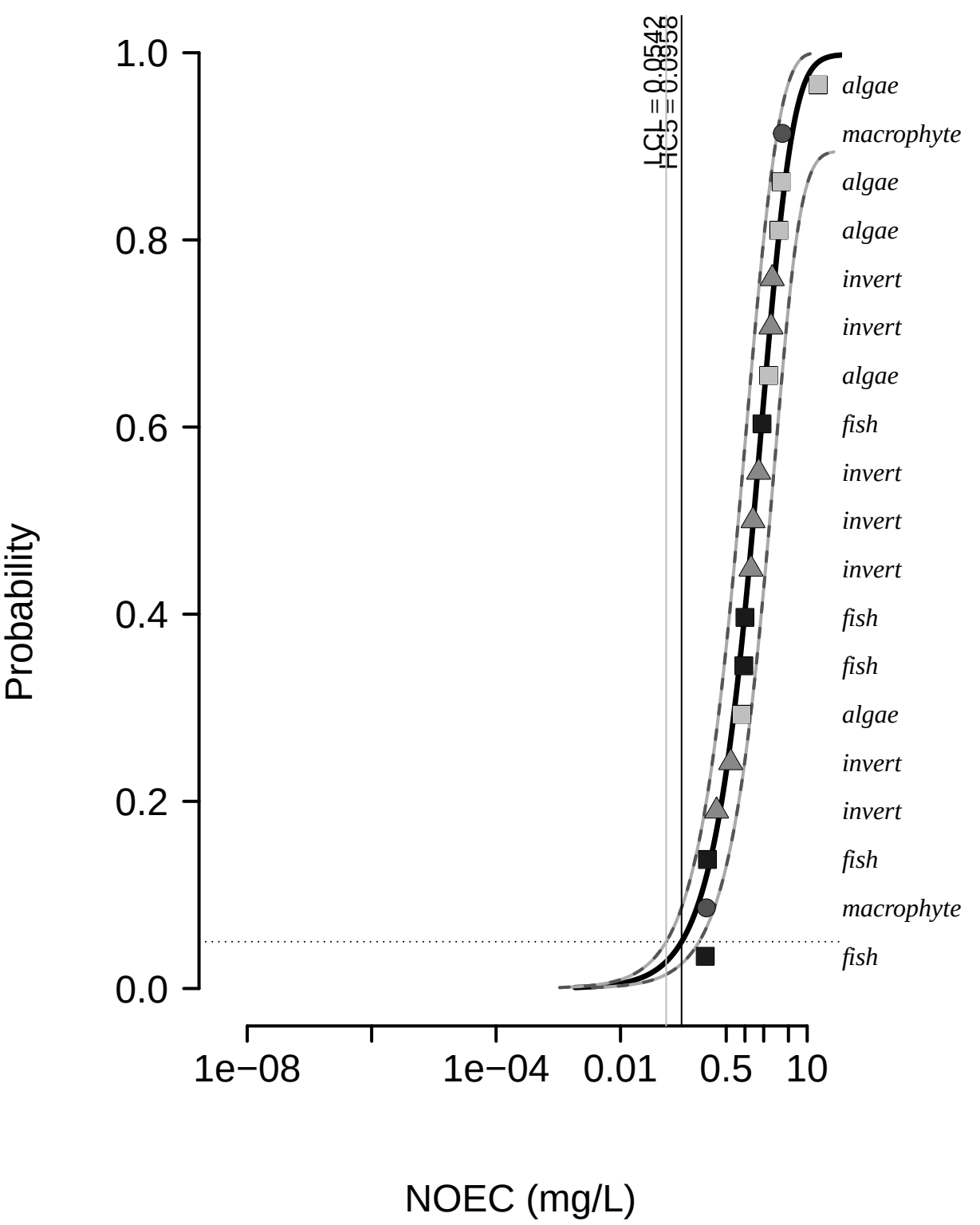

LCL = 0.010
HC5 = 0.117
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−08
1e−04
0.01
0.5
10
NOEC (mg/L)

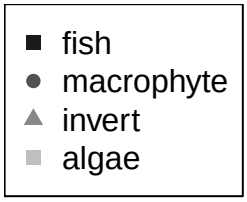

fish
macrophyte
invert
algae

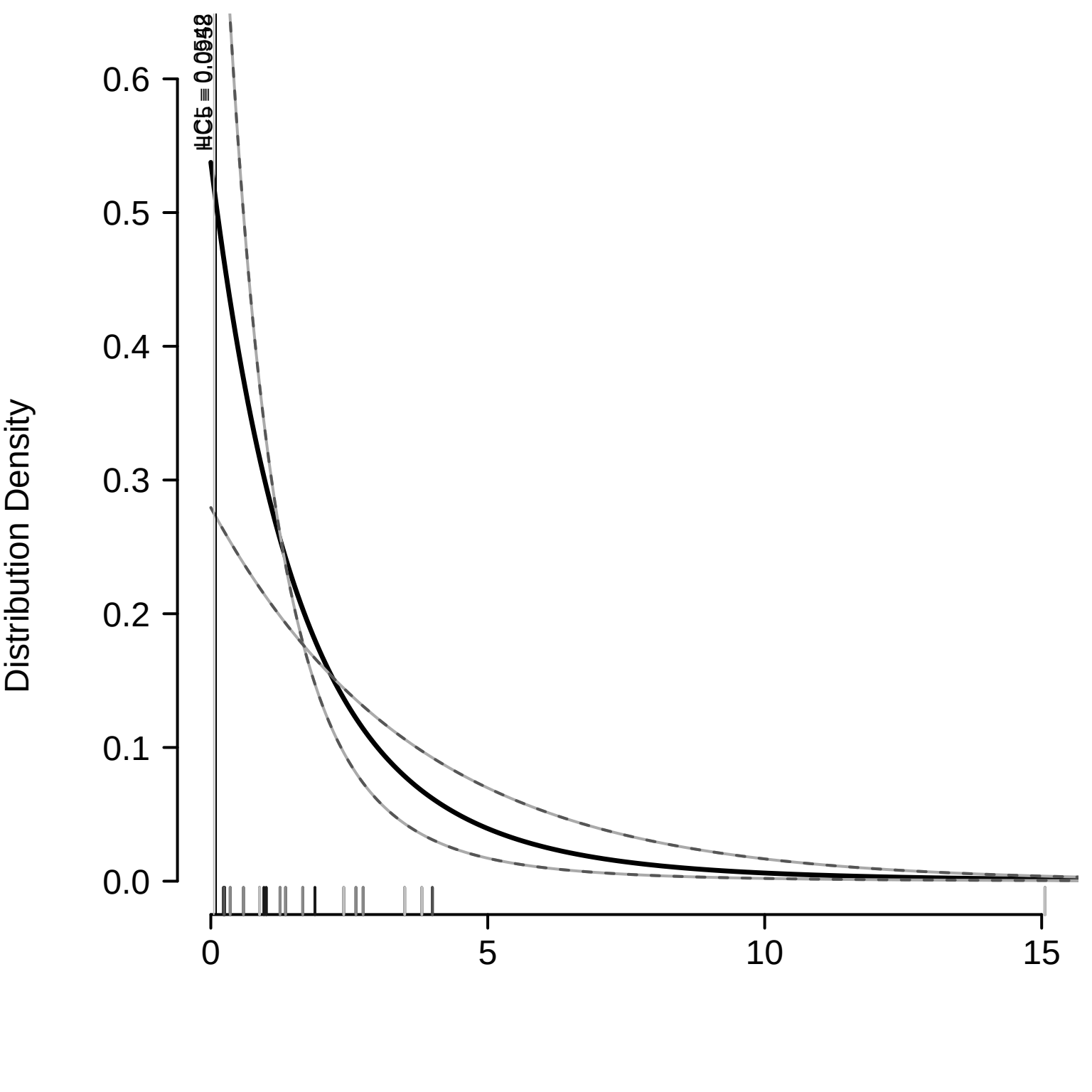

Distribution Density
0.0
0.1
0.2
0.3
0.4
0
5
10
15

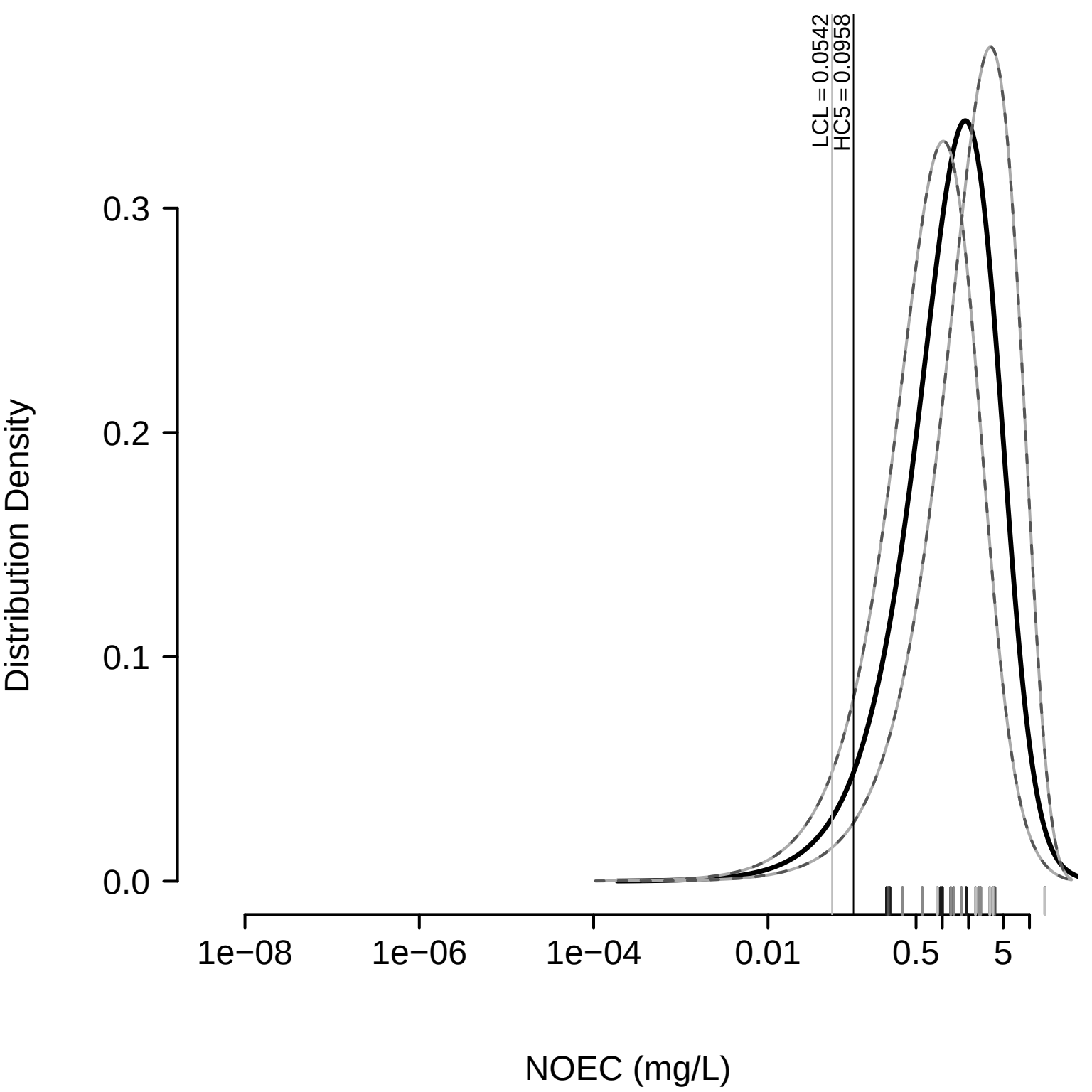

LCL = 0.010
HC5 = 0.117
0.4
0.3
0.2
0.1
0.0
Distribution Density
1e−08
1e−06
1e−04
0.01
0.5
5
NOEC (mg/L)

Gompertz
distribution fit

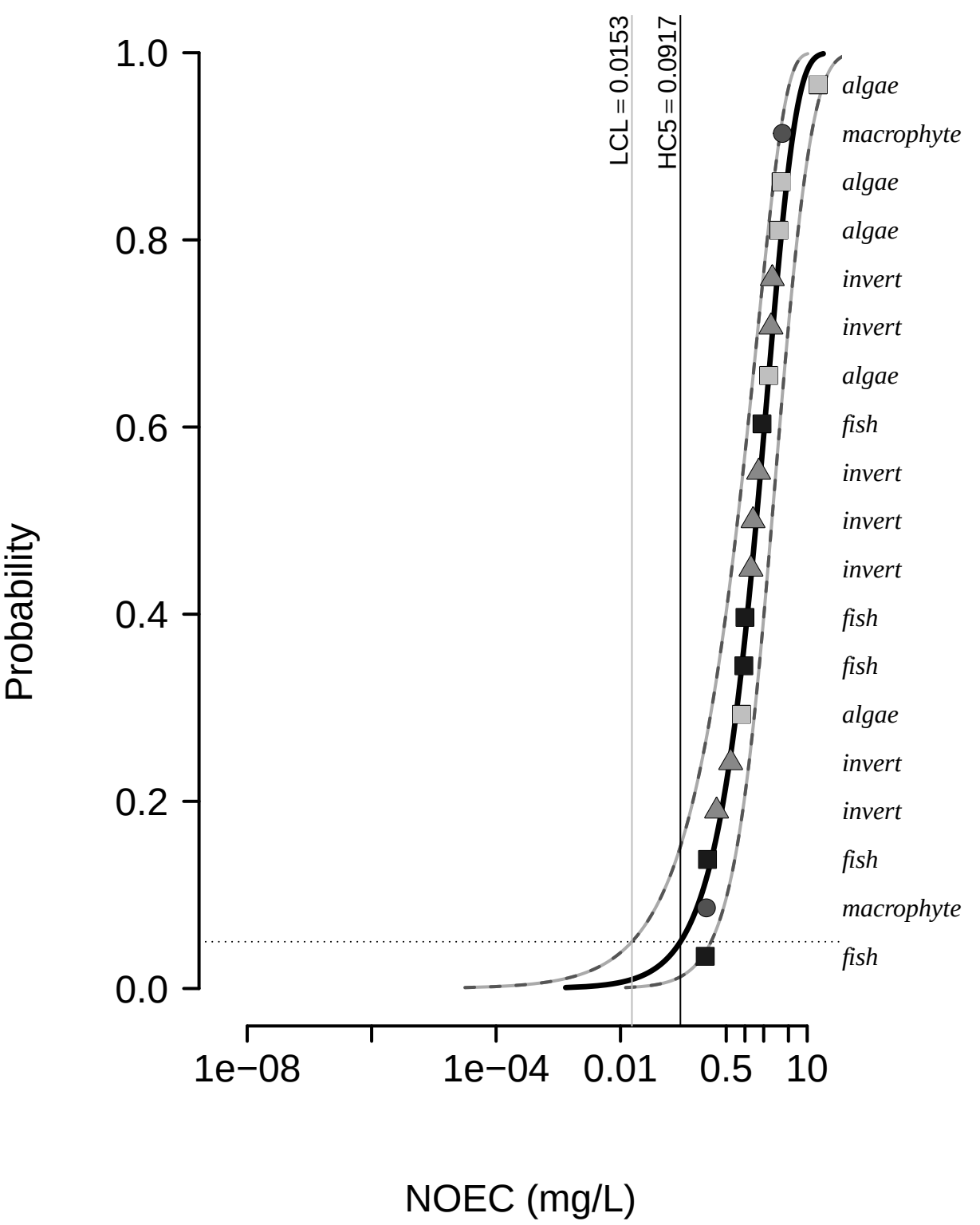

HC5 = 0.0542
LCL = 0.0358
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
1.0
0.8
0.6
0.4
0.2
0.0
Probability
1e−08
1e−04
0.01
0.5
10
NOEC (mg/L)

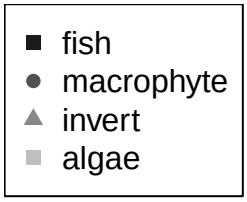

fish
macrophyte
invert
algae

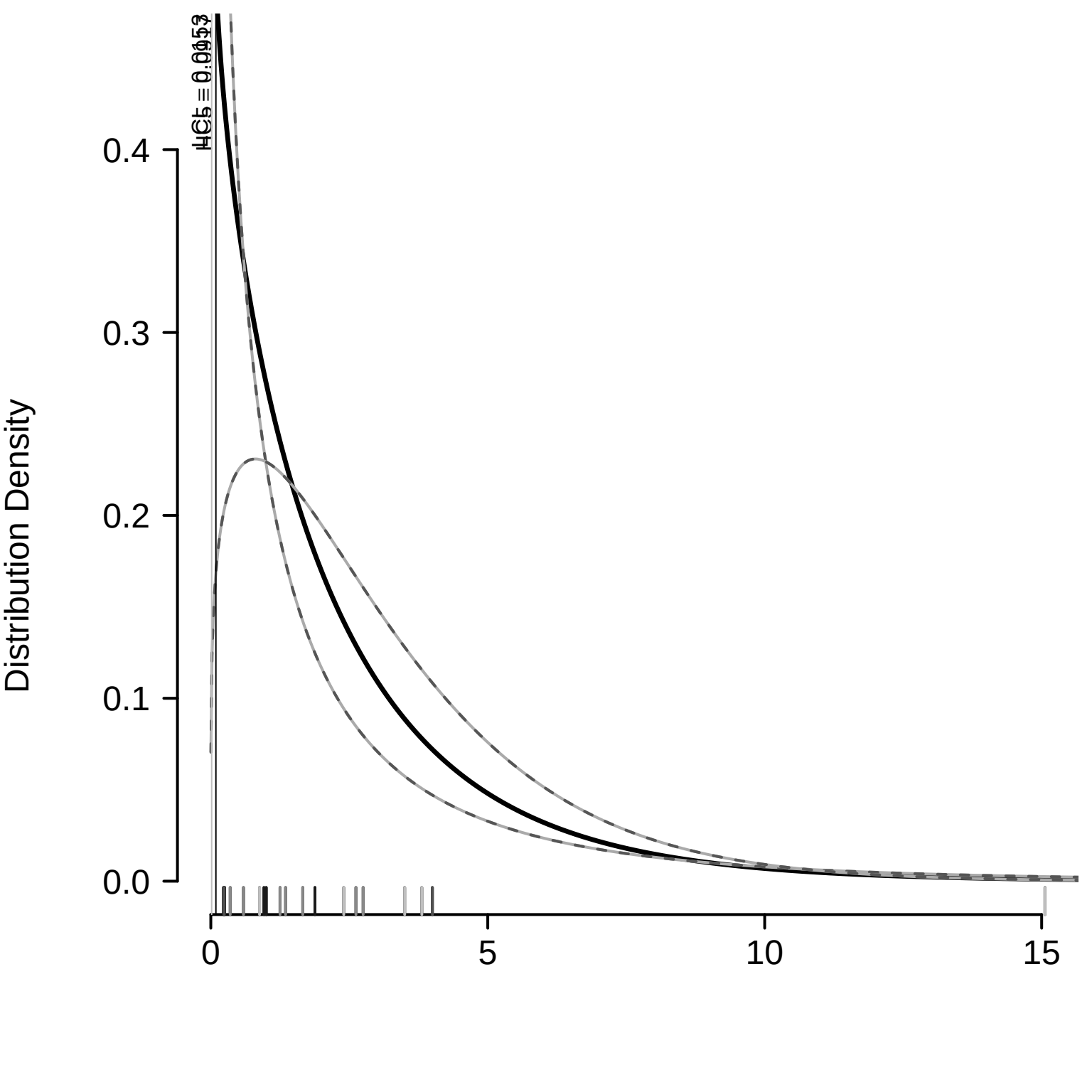

Distribution Density
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0
5
10
15

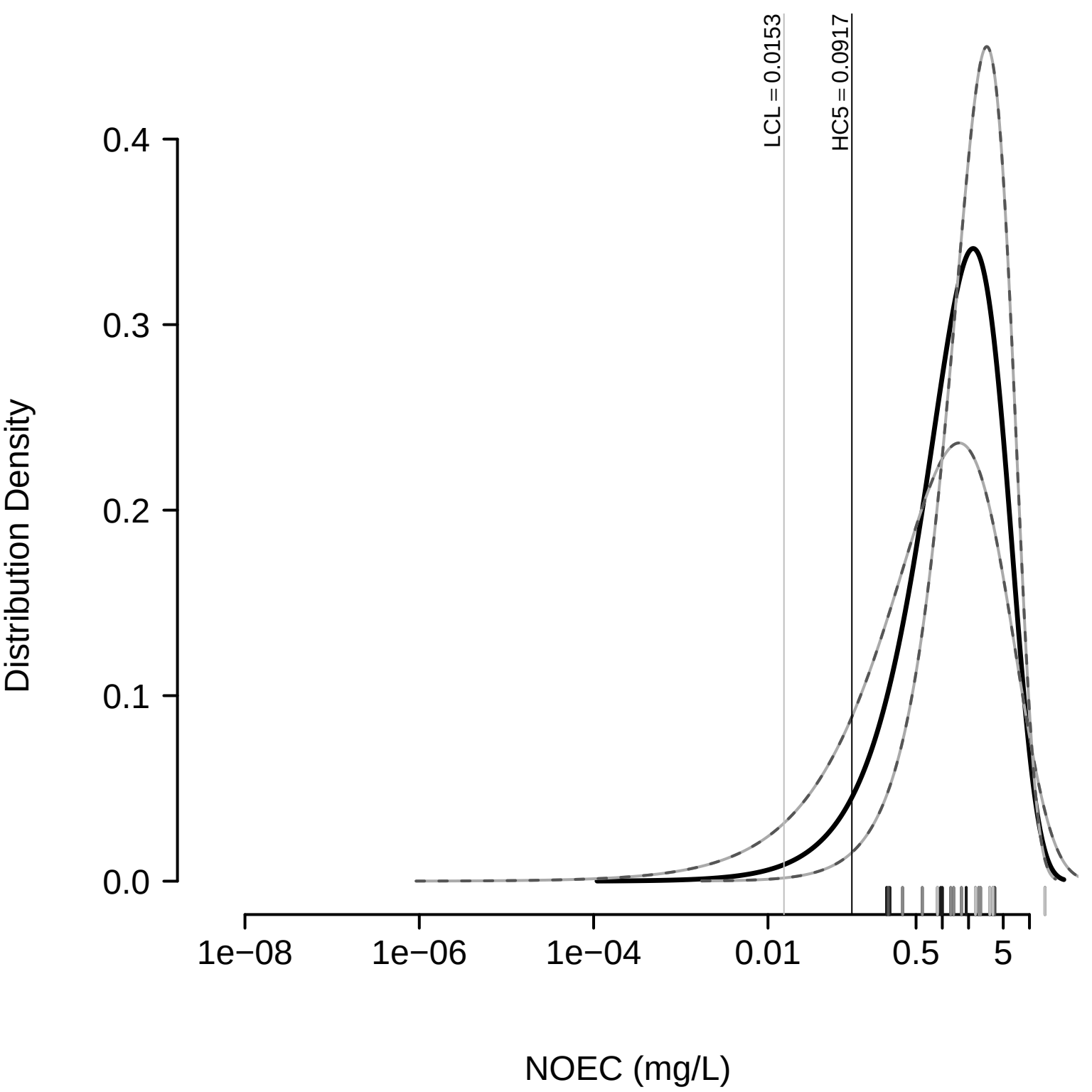

LCL = 0.0542
HC5 = 0.0958
Distribution Density
0.3
0.2
0.1
0.0
1e−08
1e−06
1e−04
0.01
0.5
5
NOEC (mg/L)

Weibull
distribution fit


LCL = 0.0153
HC5 = 0.0917
algae
macrophyte
algae
algae
invert
invert
algae
fish
invert
invert
invert
fish
fish
algae
invert
invert
fish
macrophyte
fish
Probability
1.0
0.8
0.6
0.4
0.2
0.0
1e−08
1e−04
0.01
0.5
10
NOEC (mg/L)


fish
macrophyte
invert
algae


Distribution Density
0.0
0.1
0.2
0.3
0.4
0
5
10
15


LCL = 0.0153
HC5 = 0.0917
0.4
0.3
0.2
0.1
0.0
Distribution Density
1e−08
1e−06
1e−04
0.01
0.5
5
NOEC (mg/L)