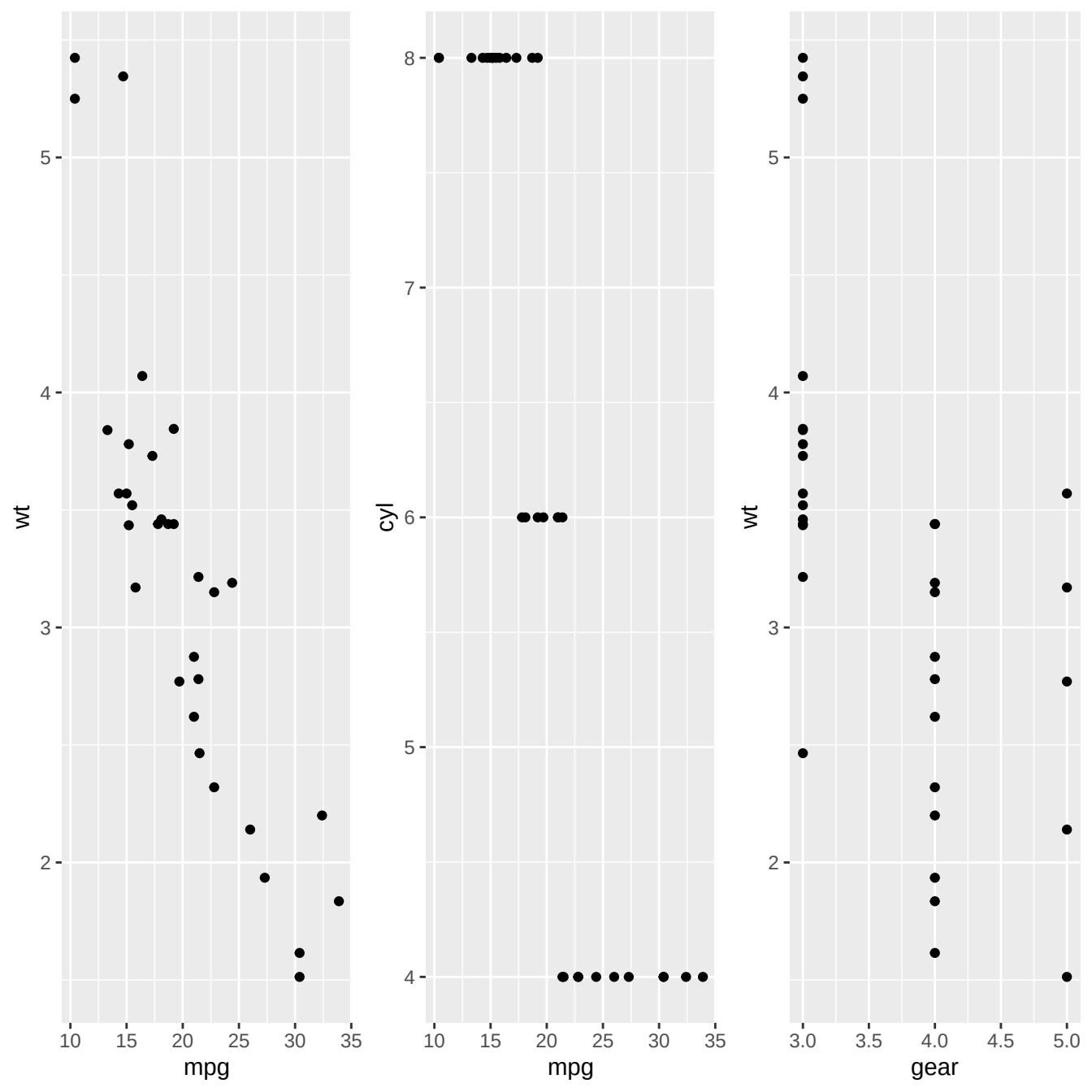
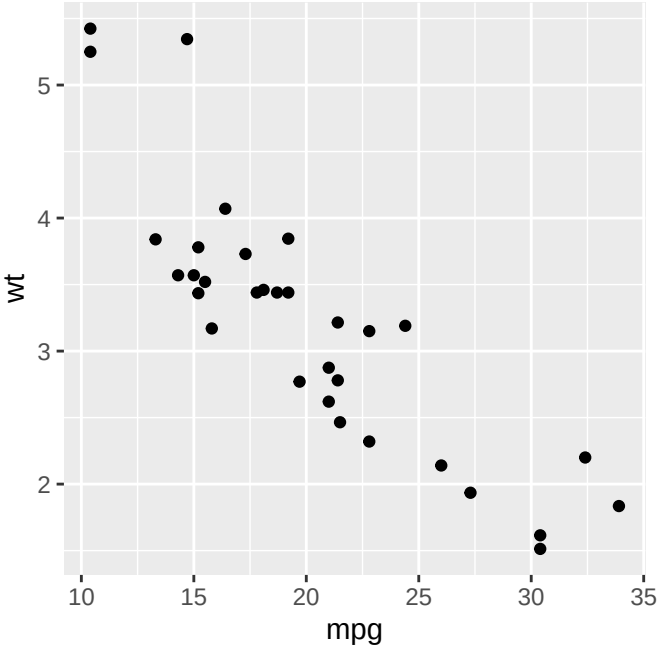

wt
5
4
3
2
10
15
20
25
30
35
mpg
cyl
8
7
6
5
4
10
15
20
25
30
35
mpg
wt
5
4
3
2
3.0
3.5
4.0
4.5
5.0
gear


wt
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4
3
2
10
15
20
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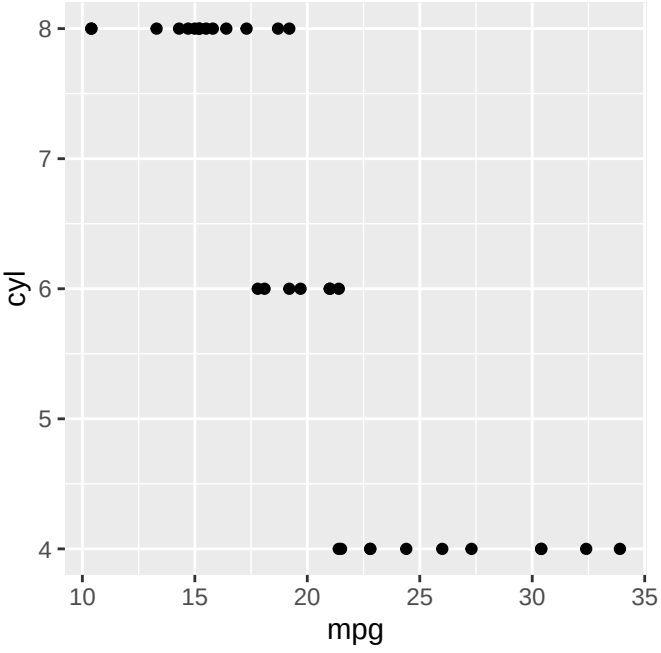
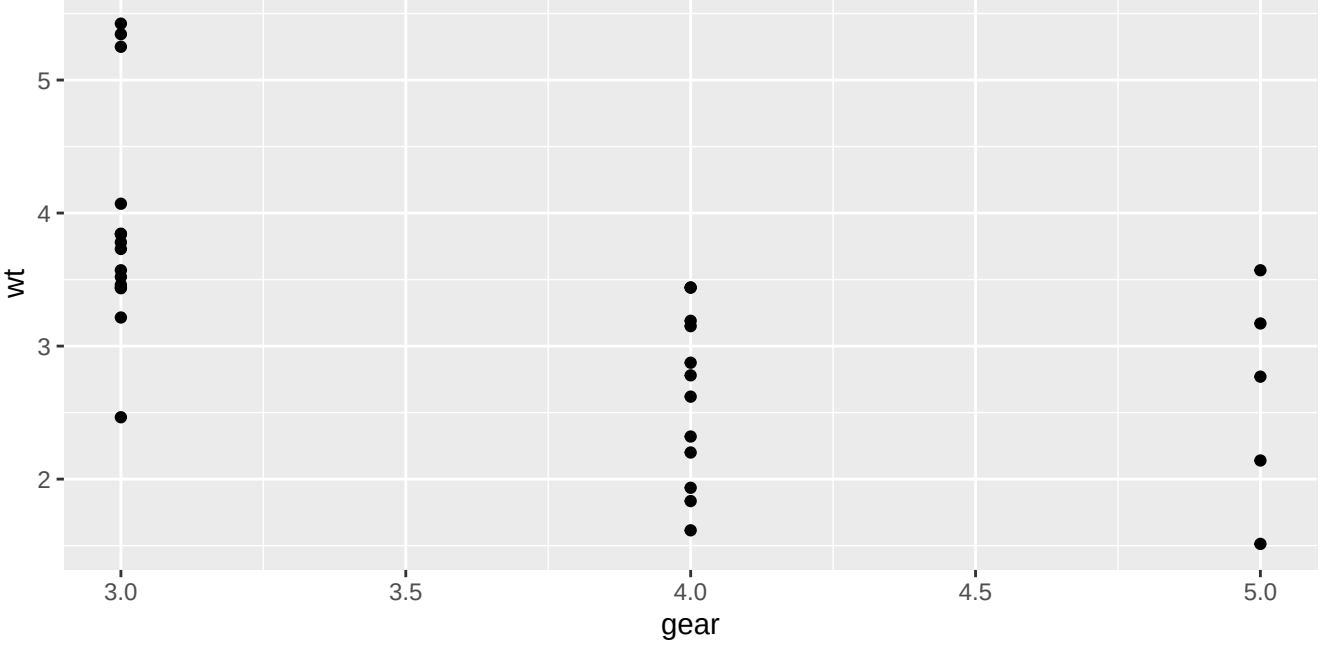
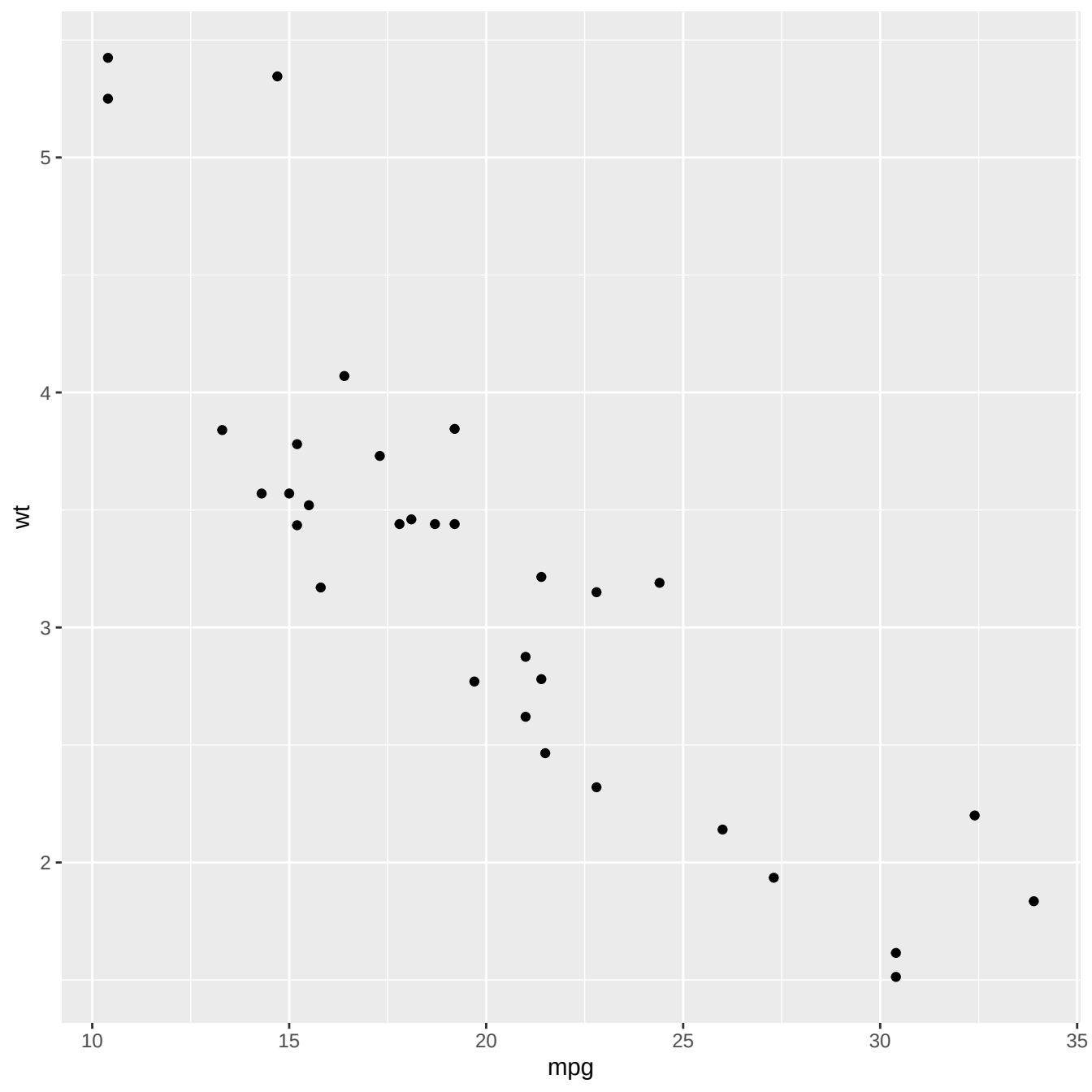
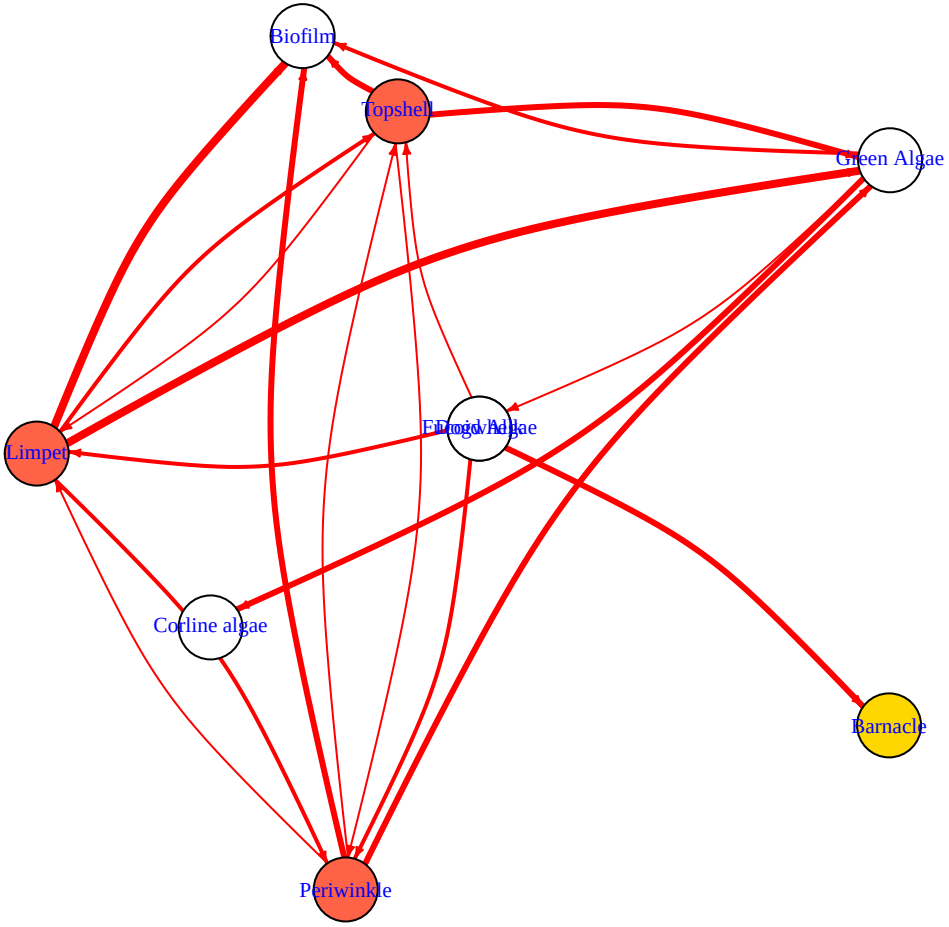
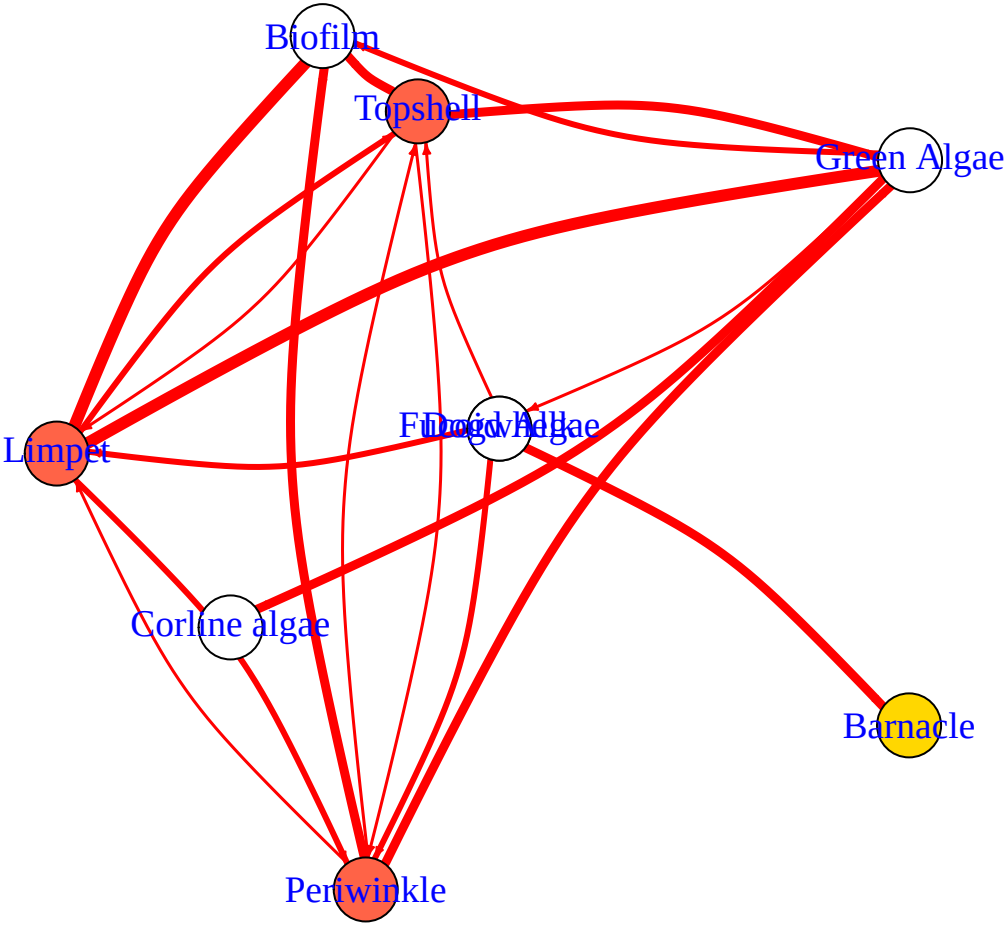
30
35
mpg

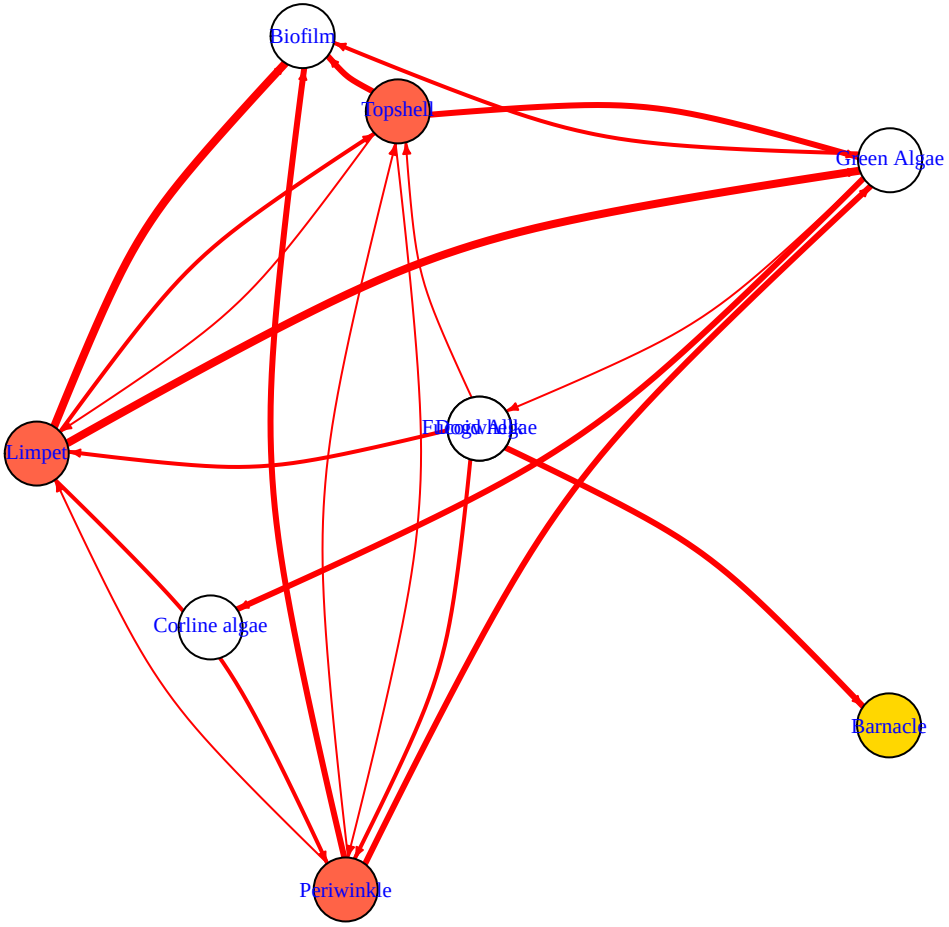

cyl
8
7
6
5
4
10
15
20
25
30
35
mpg

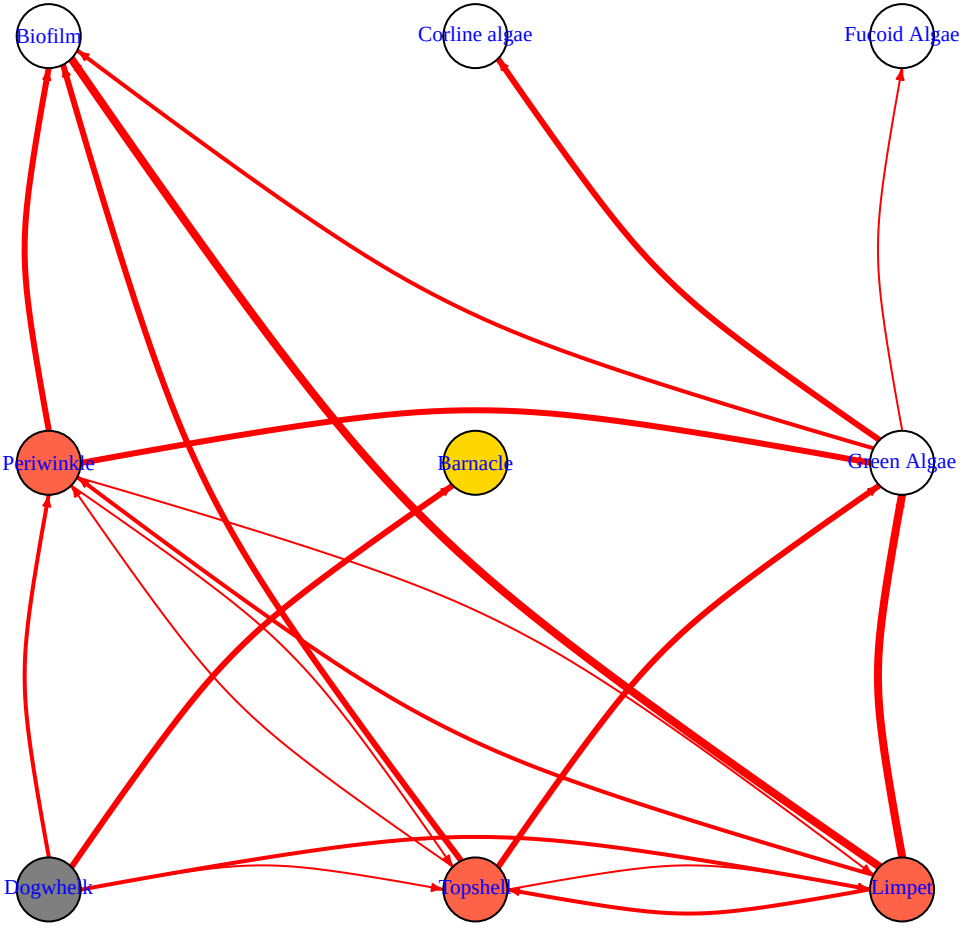

wt
5
4
3
2
3.0
3.5
4.0
4.5
5.0
gear

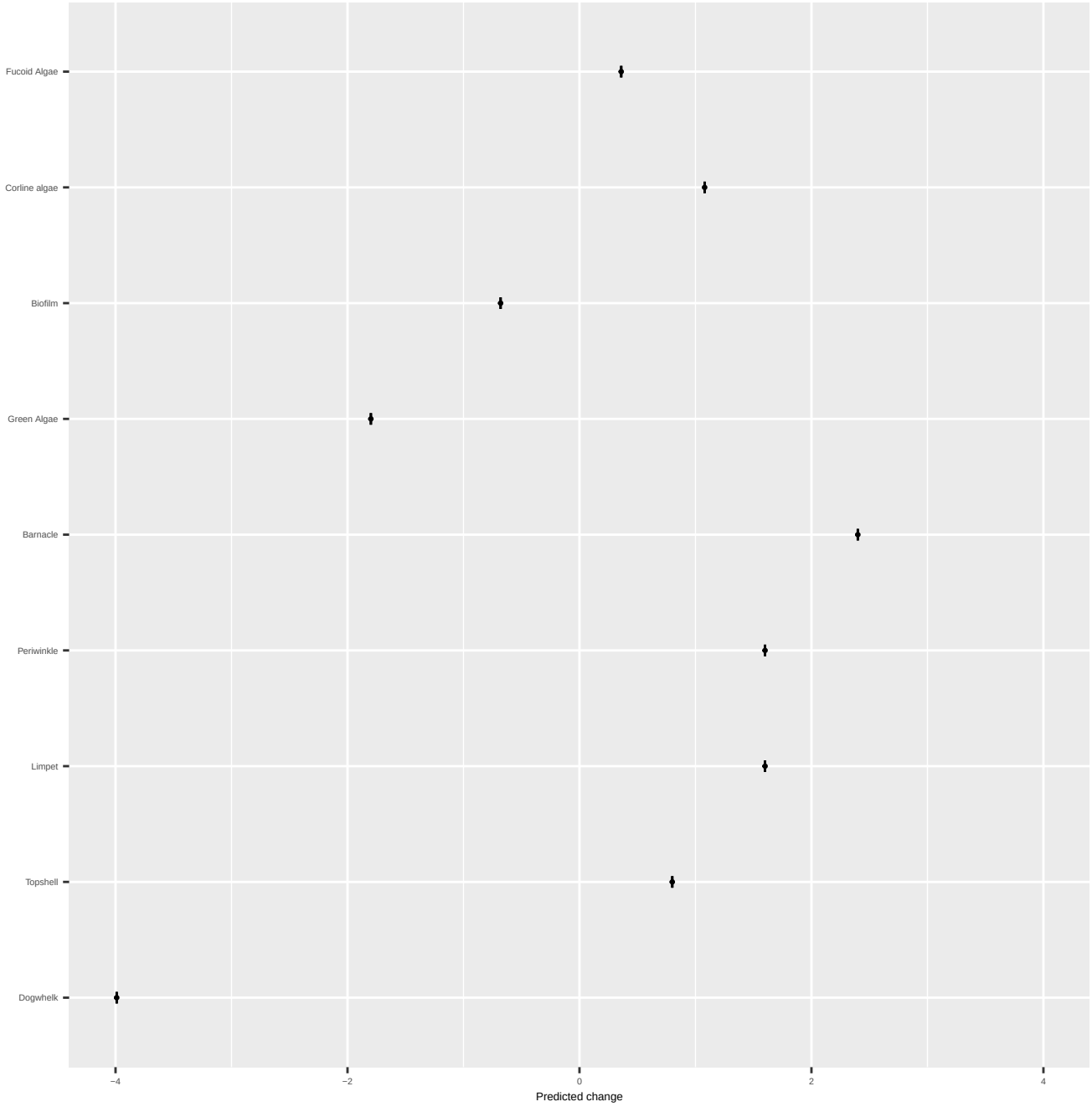

5
4
3
2
wt
10
15
20
25
30
35
mpg

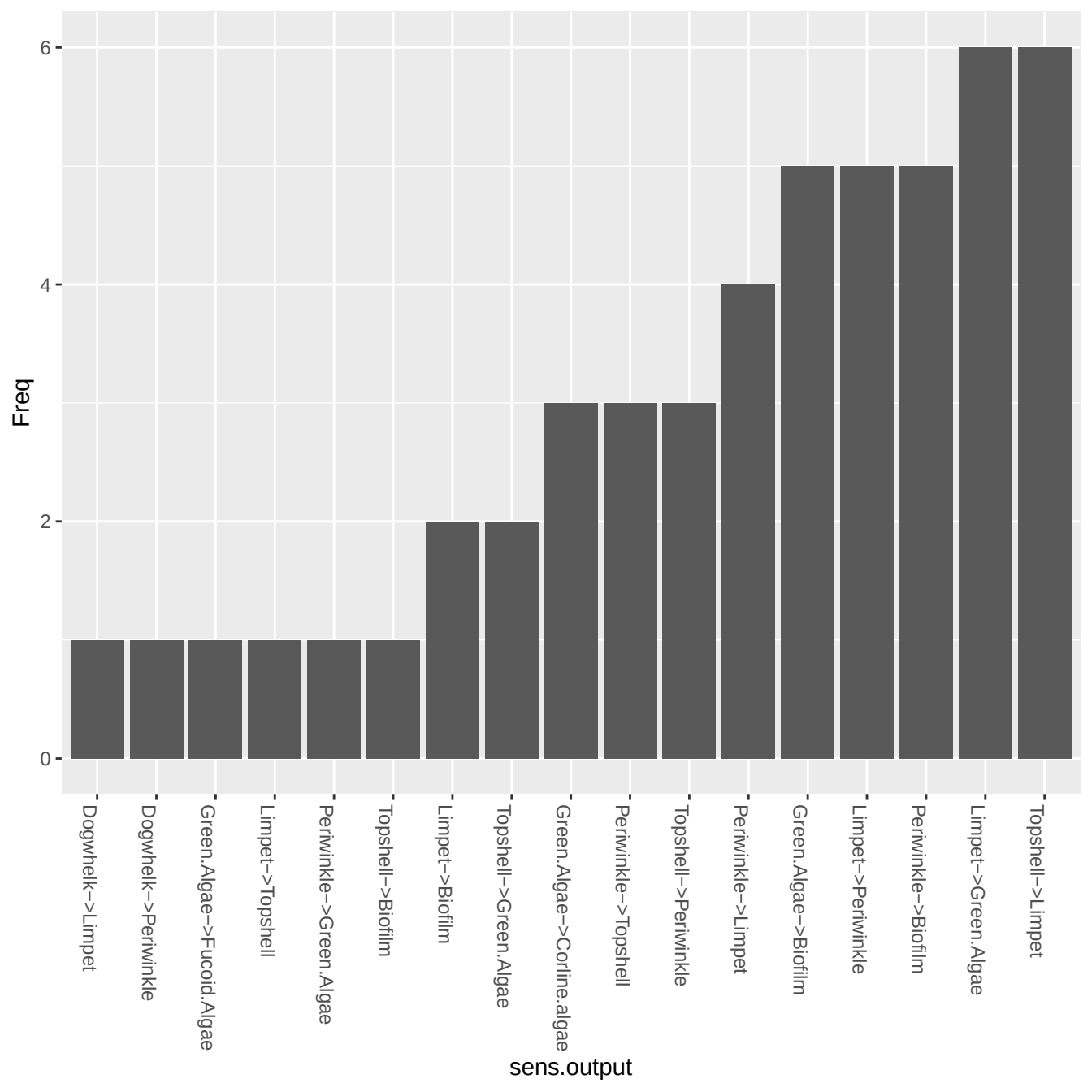

Biofilm
Topshell
Green Algae
Limpet
Brown Algae
Corline algae
Barnacle
Periwinkle

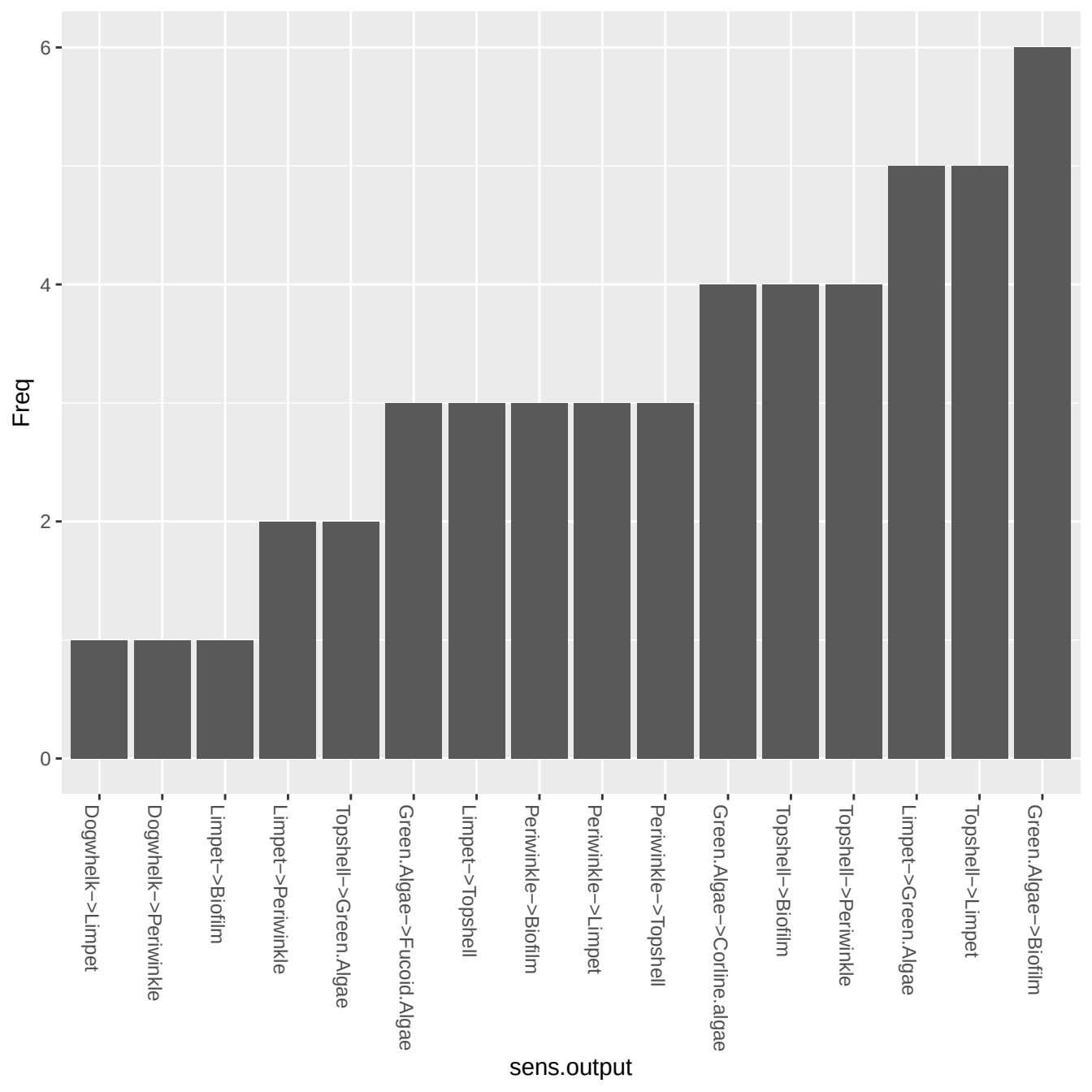

Biofilm
Topshell
Green Algae
Limpet
Corline algae
Barnacle
Periwinkle

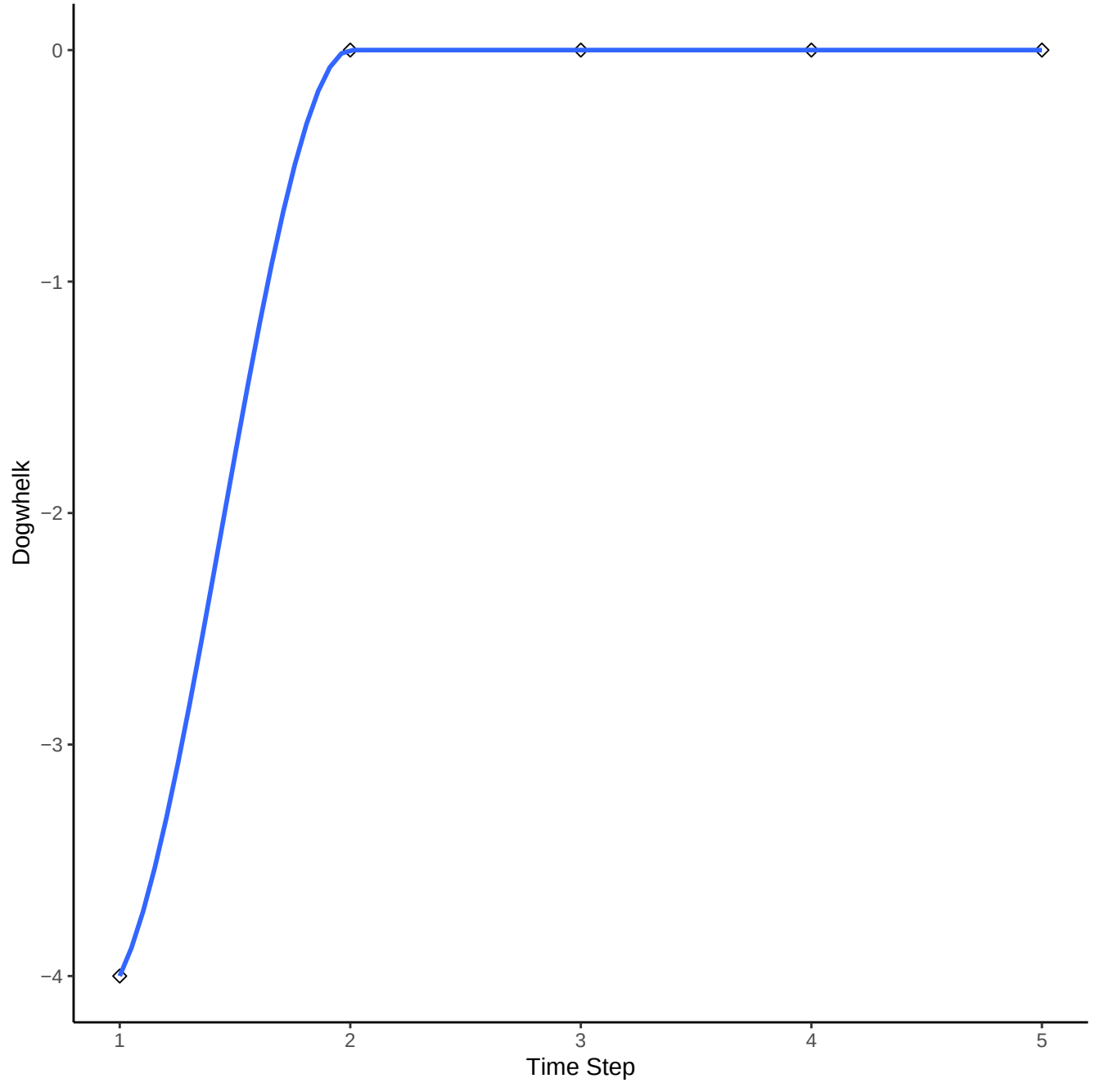

Biofilm
Topshell
Green Algae
Limpet
Brown Algae
Corline algae
Barnacle
Periwinkle

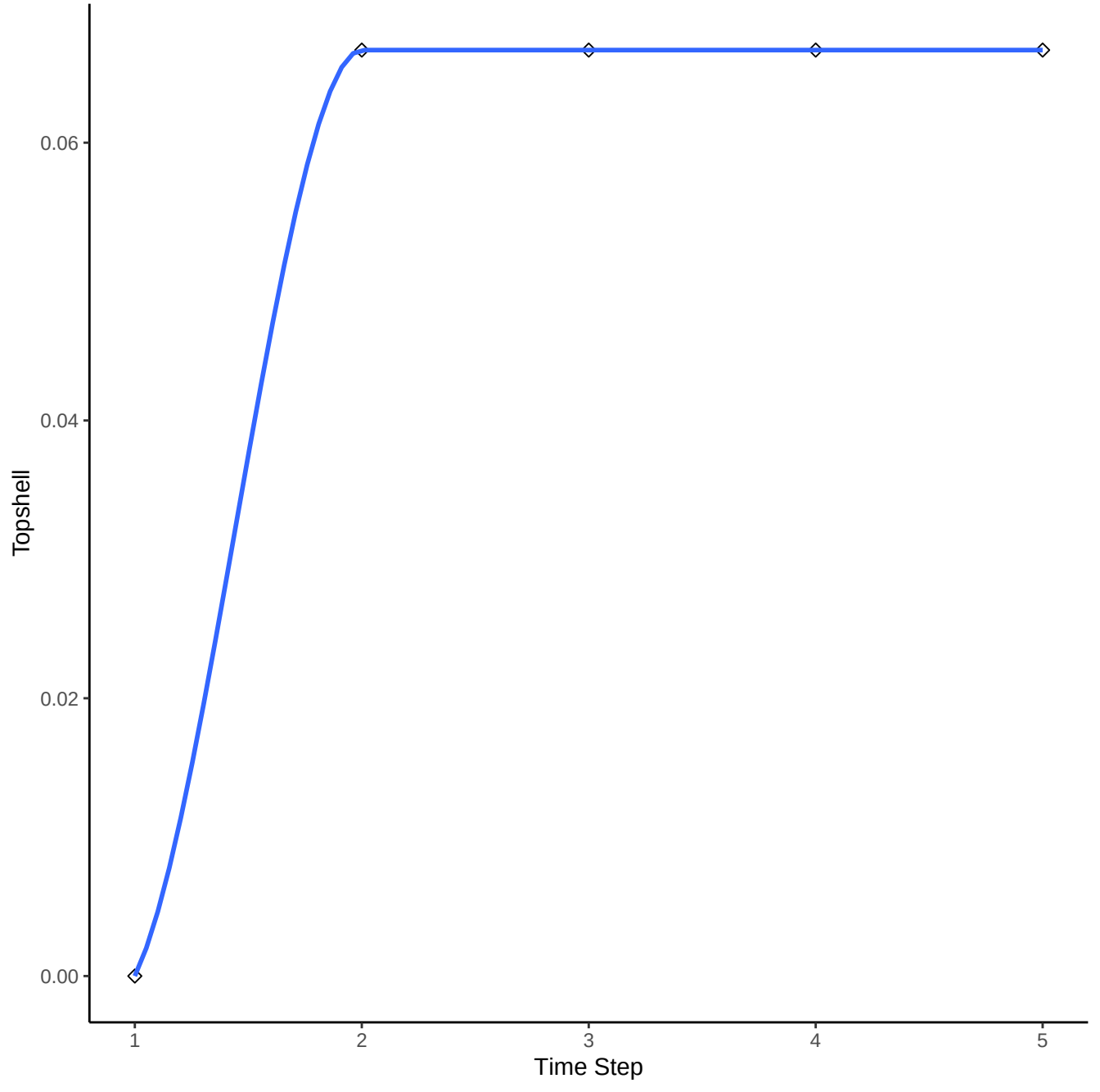

Biofilm
Corline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet

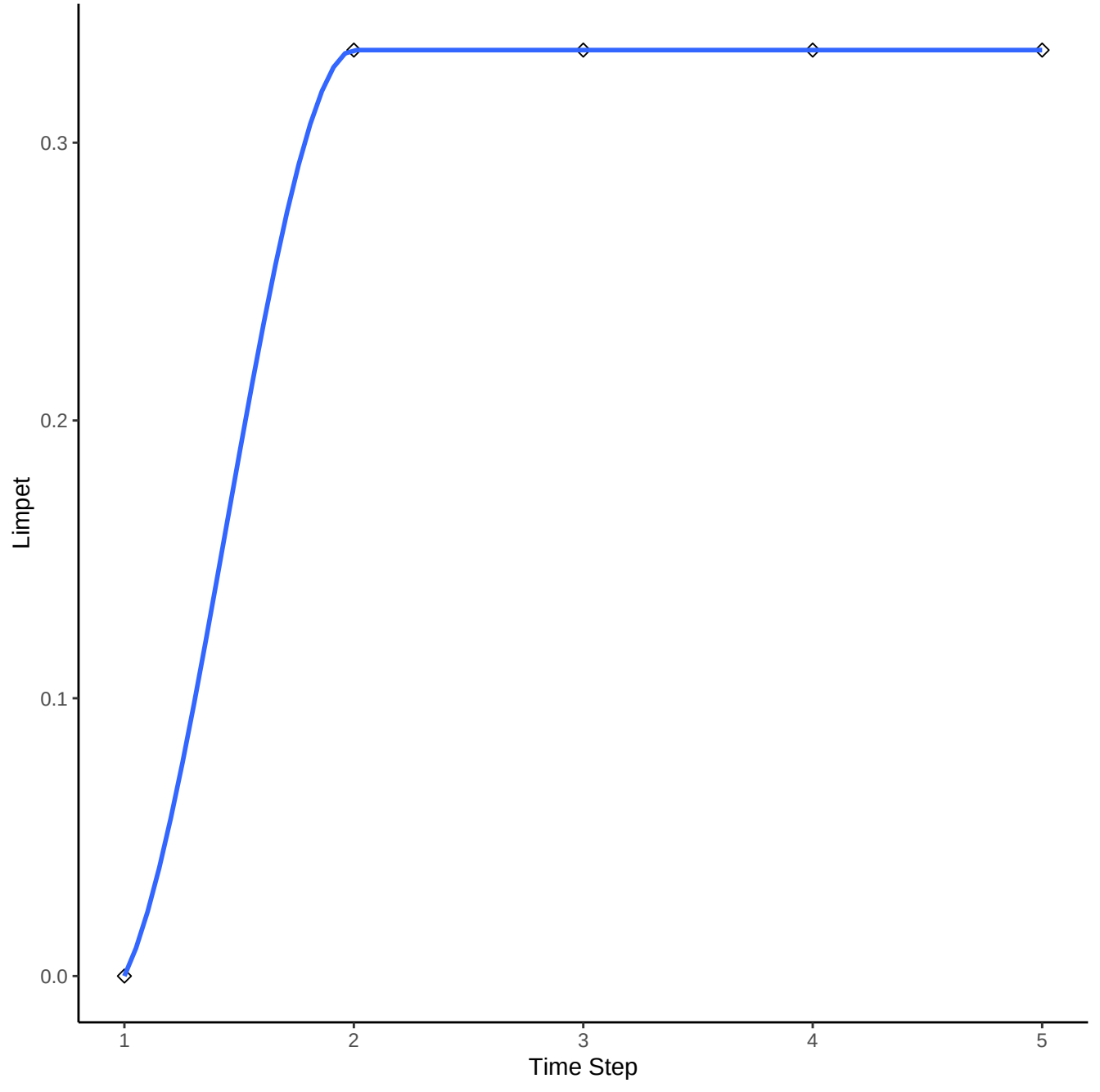

Fucoid Algae
Corline algae
Biofilm
Green Algae
Barnacle
Periwinkle
Limpet
Topshell
Dogwhelk
−4
−2
0
2
4
Predicted change

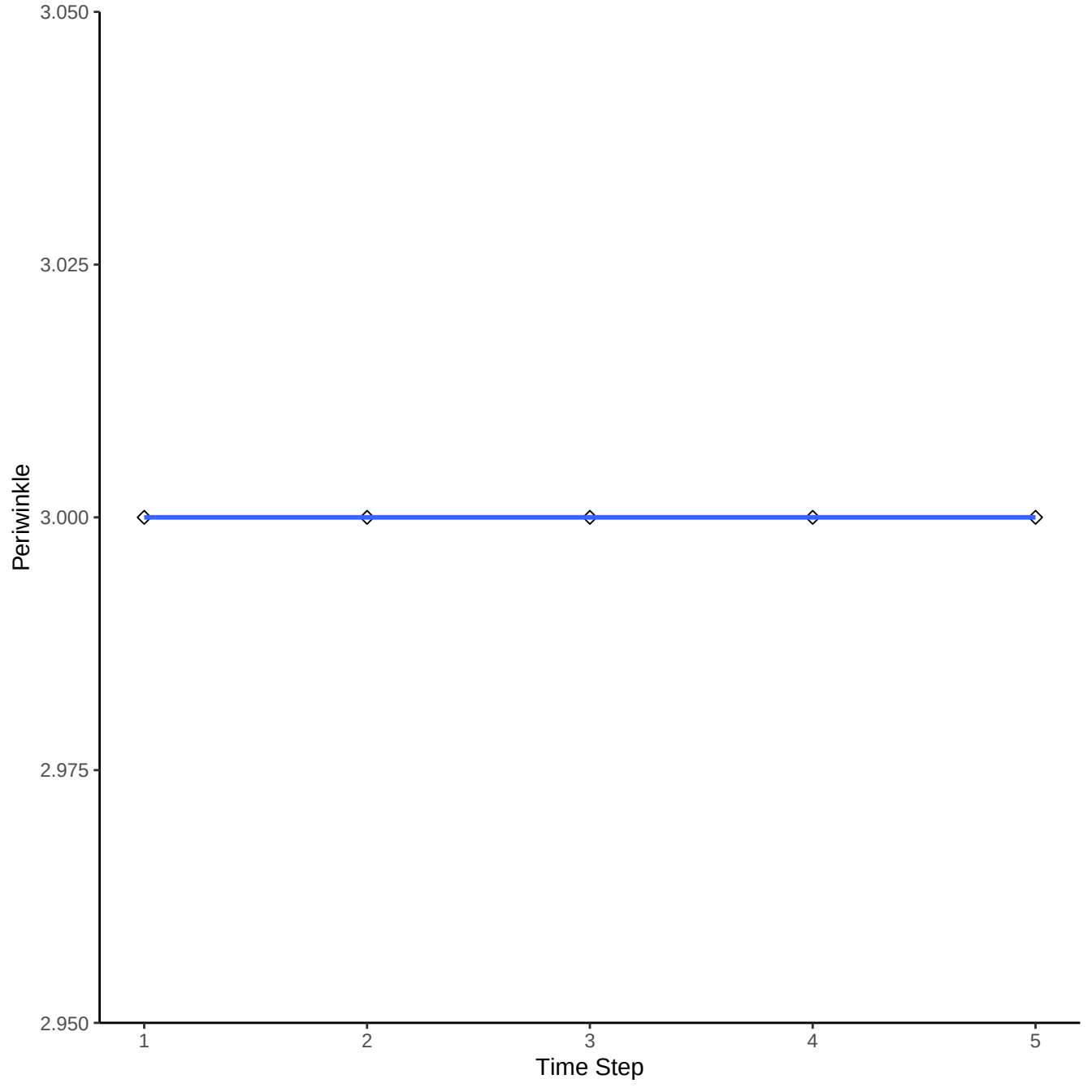

Freq
0
2
4
6
Dogwhelk->Limpet
Dogwhelk->Periwinkle
Green.Algae->Fucoid.Algae
Limpet->Topshell
Periwinkle->Green.Algae
Topshell->Biofilm
Limpet->Biofilm
Topshell->Green.Algae
Green.Algae->Corline.algae
Periwinkle->Topshell
Topshell->Periwinkle
Periwinkle->Limpet
Green.Algae->Biofilm
Limpet->Periwinkle
Periwinkle->Biofilm
Limpet->Green.Algae
Topshell->Limpet
sens.output

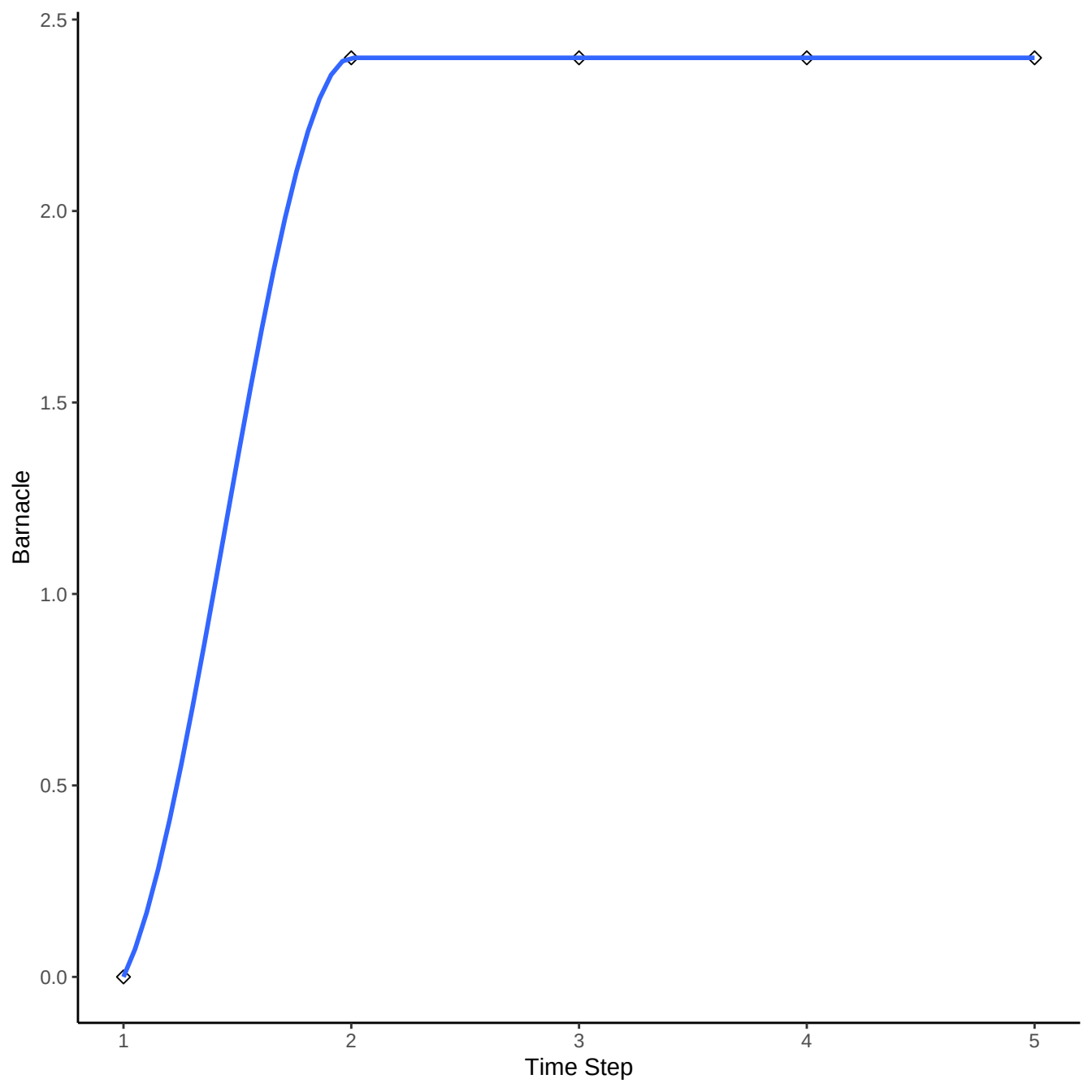

Freq
6
4
2
0
Dogwhelk->Limpet
Dogwhelk->Periwinkle
Limpet->Biofilm
Limpet->Periwinkle
Topshell->Green.Algae
Green.Algae->Fucoid.Algae
Limpet->Topshell
Periwinkle->Biofilm
Periwinkle->Limpet
Periwinkle->Topshell
Green.Algae->Corline.algae
Topshell->Biofilm
Topshell->Periwinkle
Limpet->Green.Algae
Topshell->Limpet
Green.Algae->Biofilm
sens.output

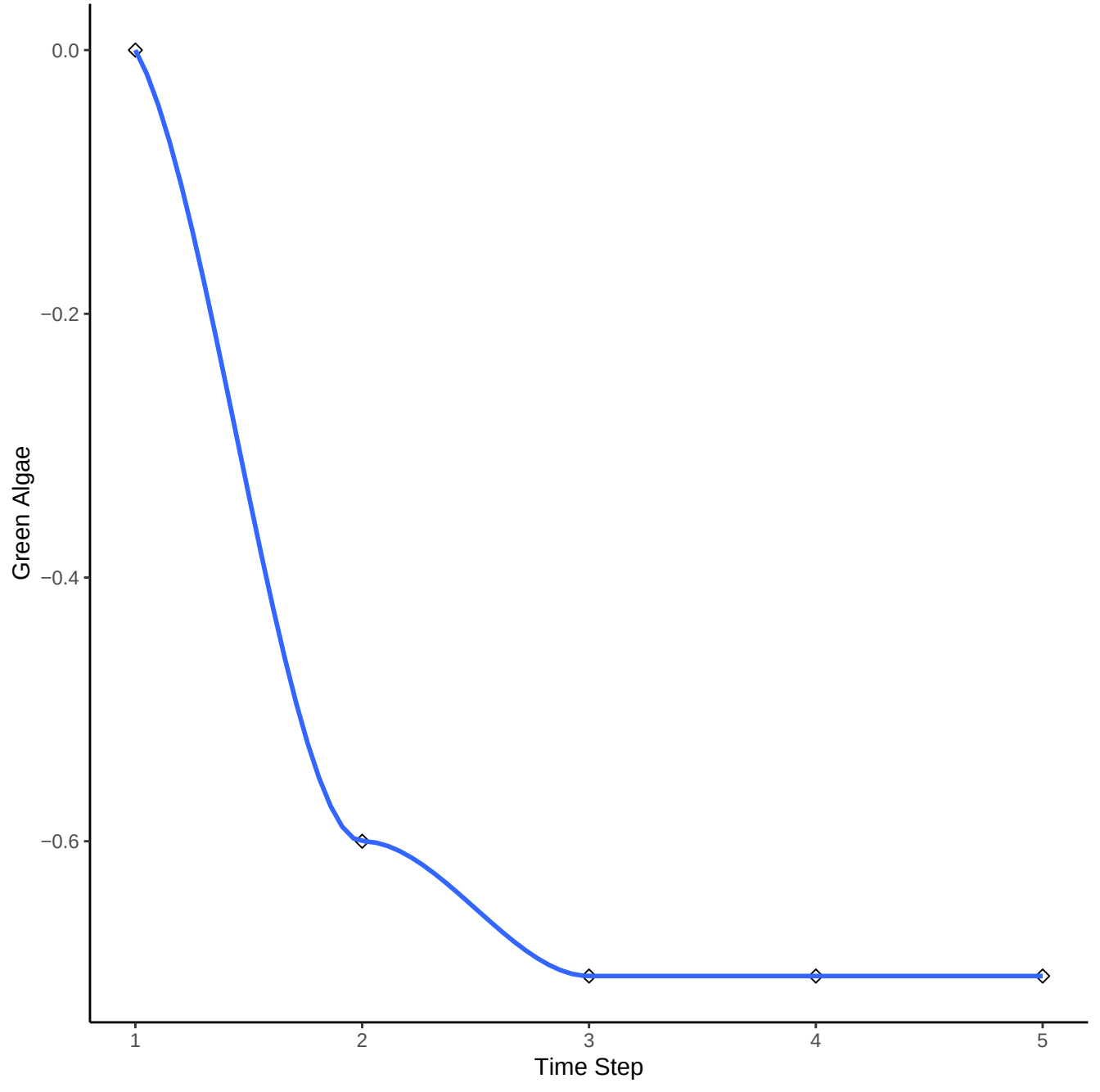

0
−1
−2
−3
−4
Dogwhelk
1
2
3
4
5
Time Step

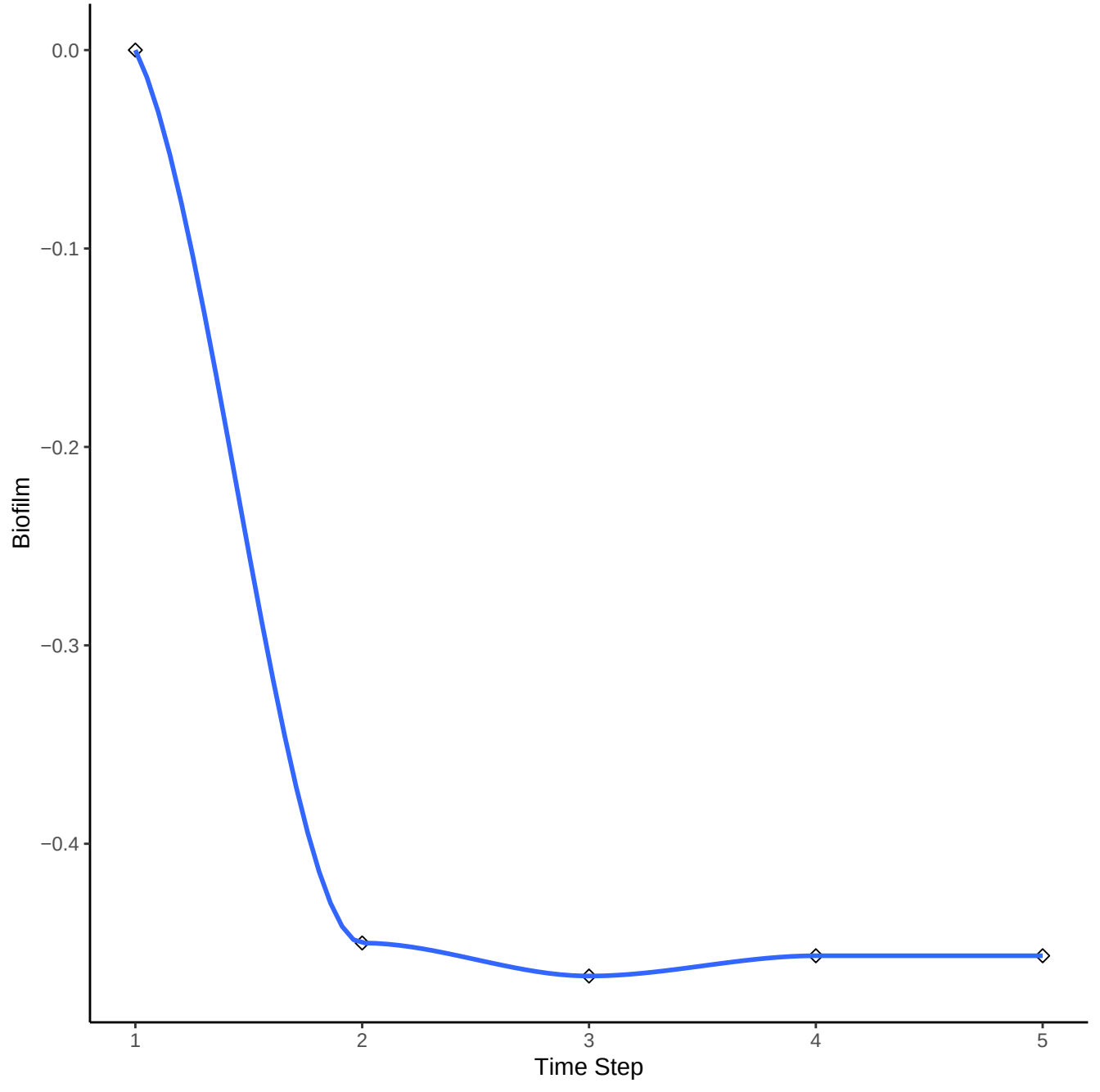

0.06
0.04
0.02
0.00
Topshell
1
2
3
4
5
Time Step

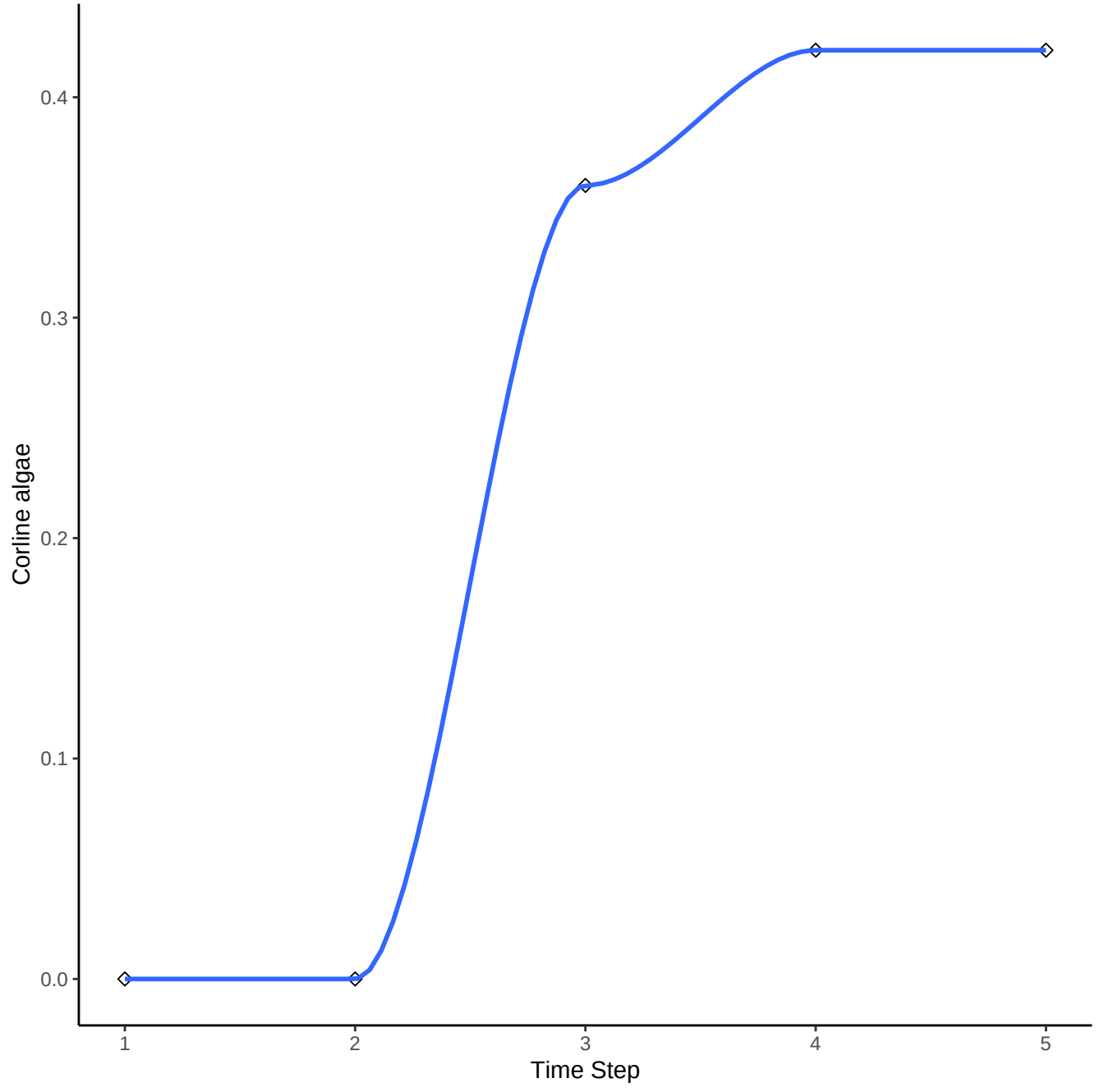

0.3
0.2
0.1
0.0
Limpet
1
2
3
4
5
Time Step

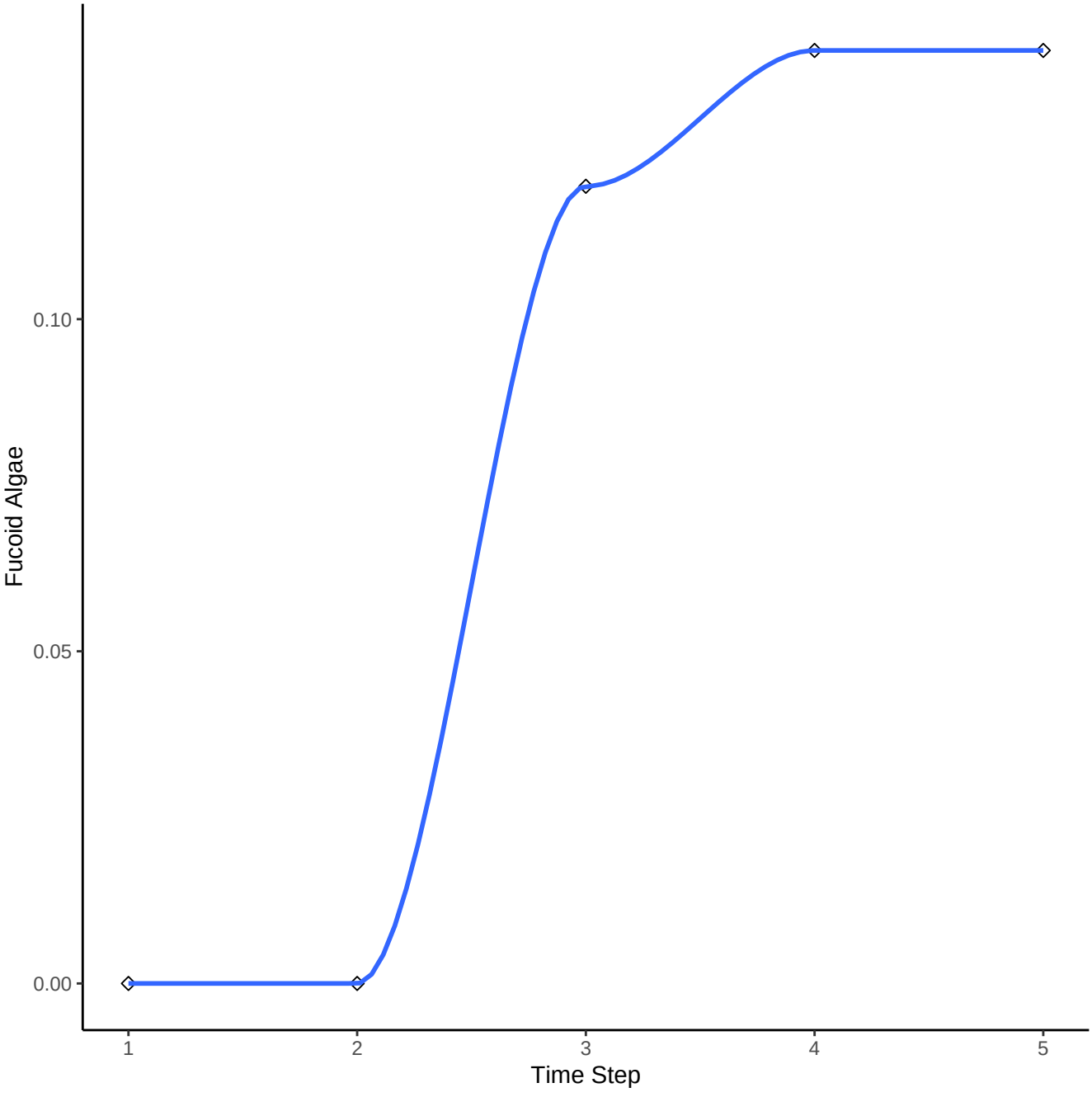

3.050
3.025
3.000
2.975
2.950
Periwinkle
1
2
3
4
5
Time Step

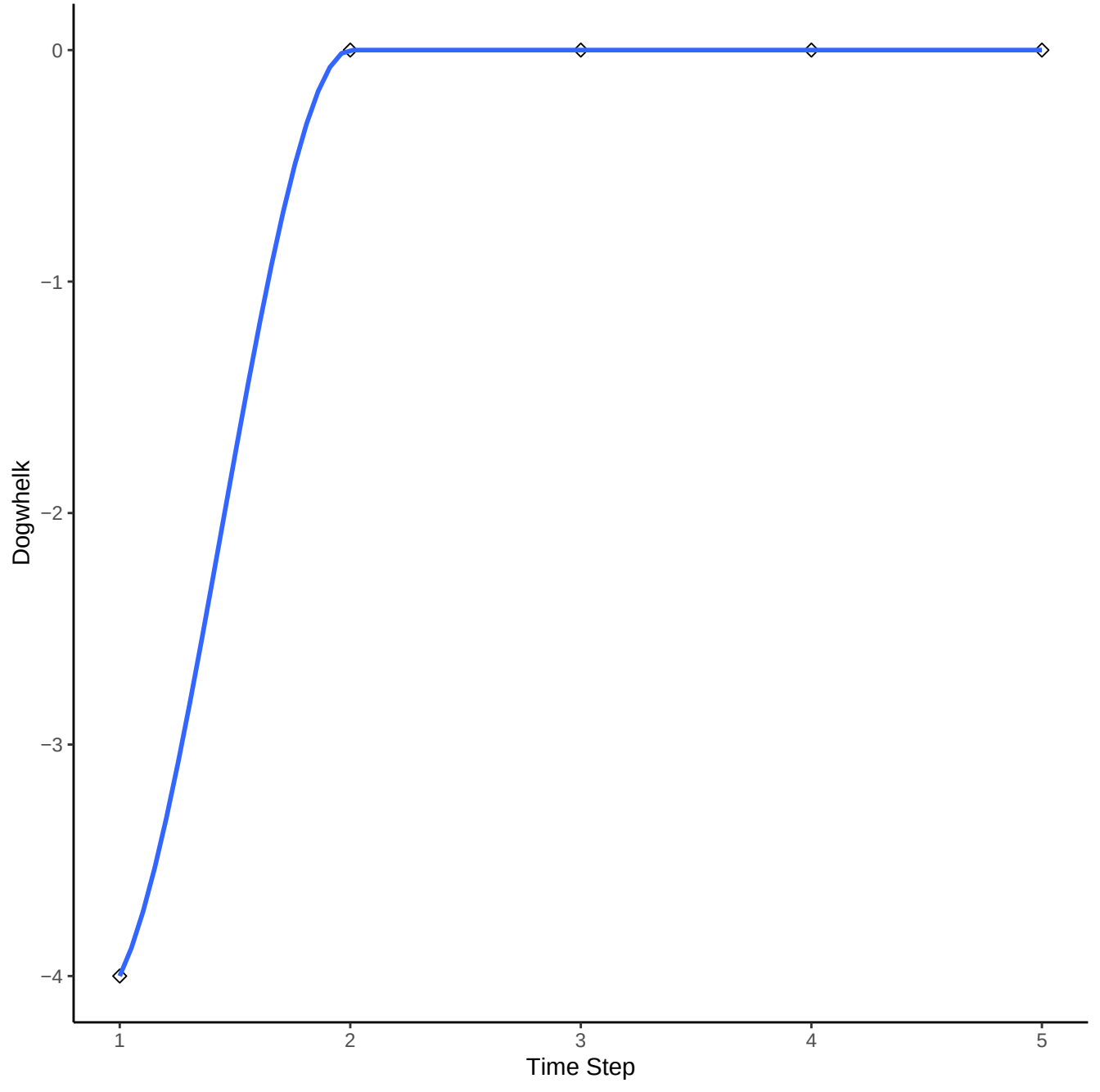

2.5
2.0
1.5
1.0
0.5
0.0
Barnacle
1
2
3
4
5
Time Step

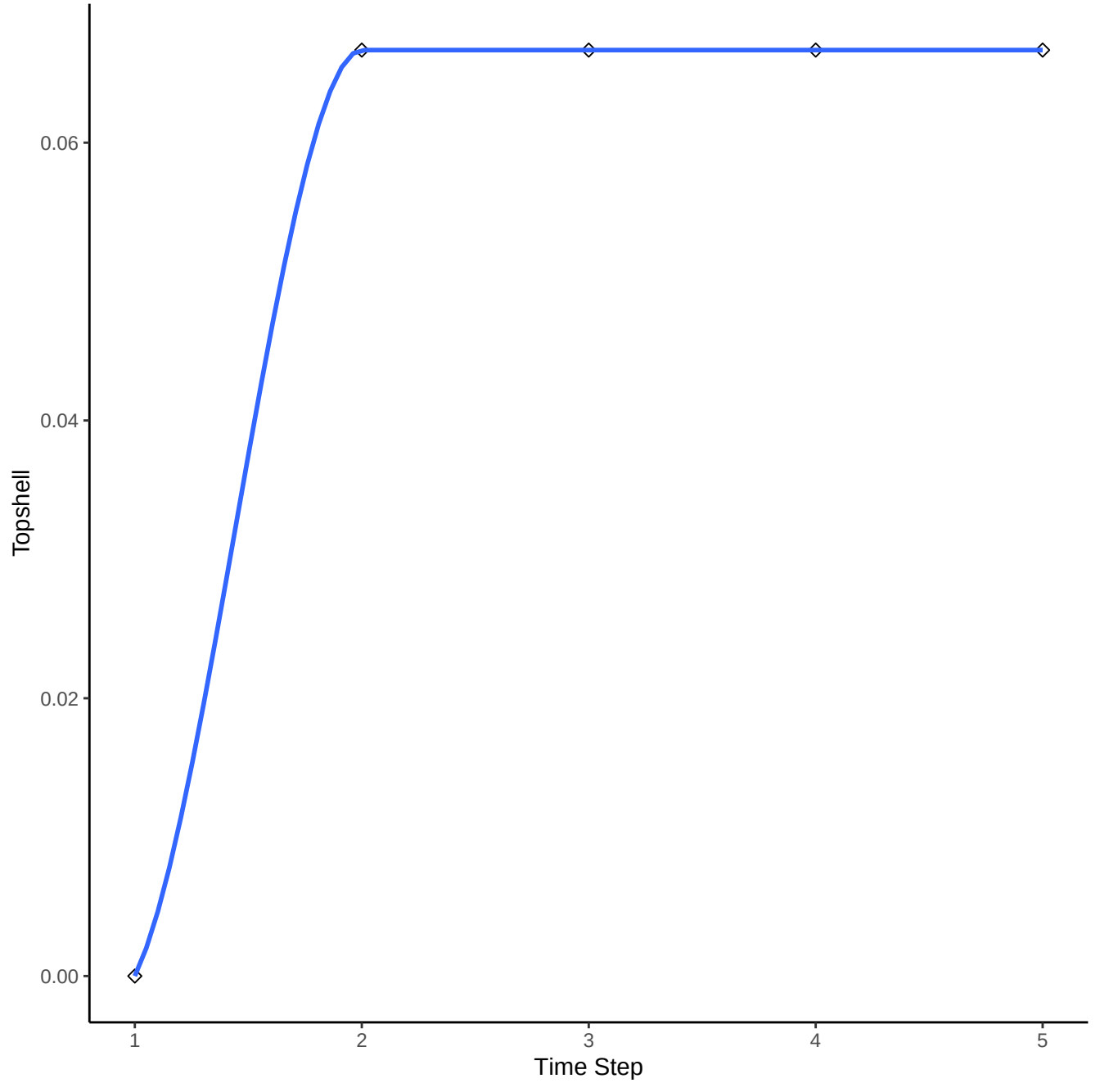

0.0
−0.2
−0.4
−0.6
Green Algae
1
2
3
4
5
Time Step

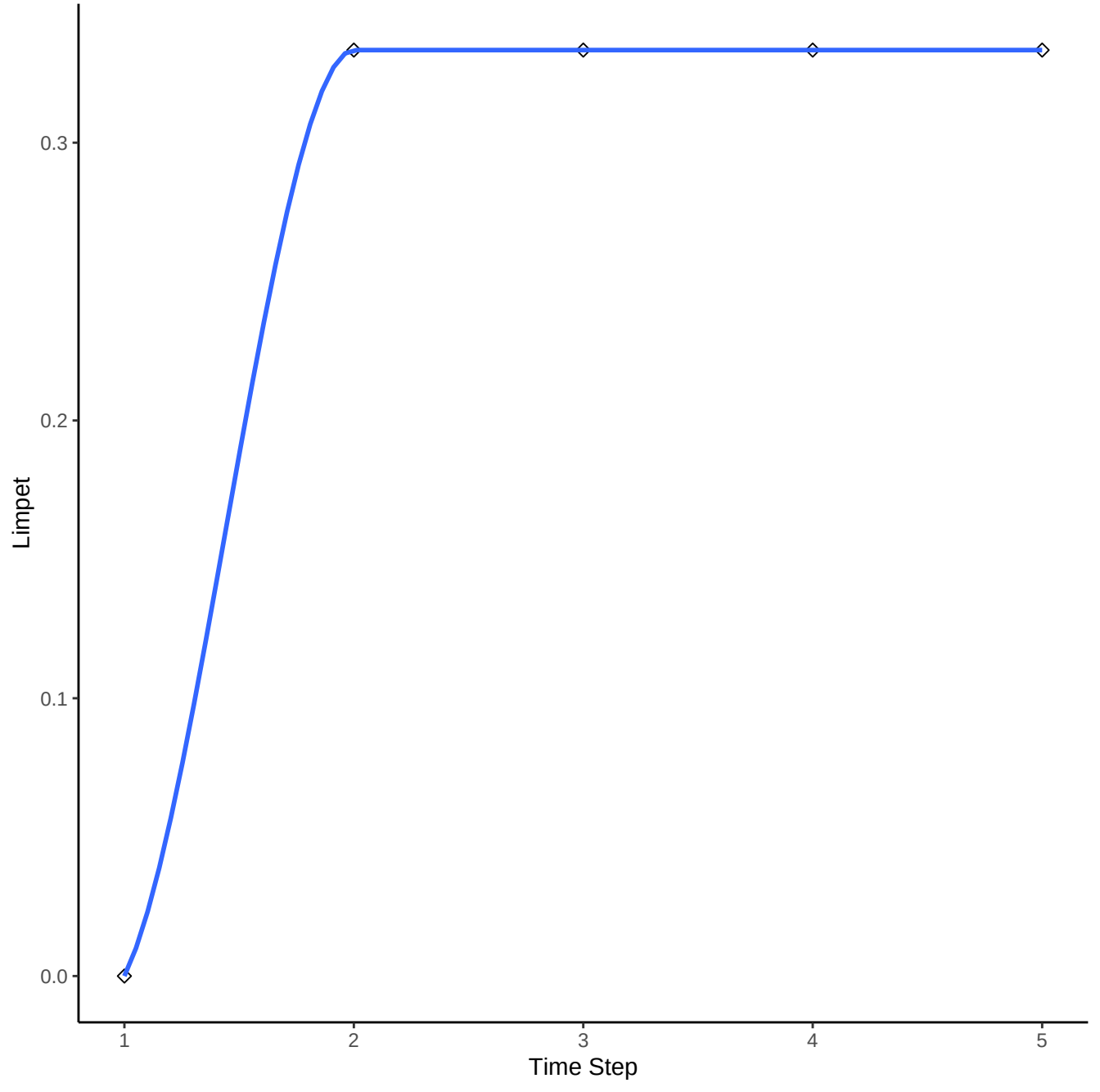

0.0
−0.1
−0.2
−0.3
−0.4
Biofilm
1
2
3
4
5
Time Step

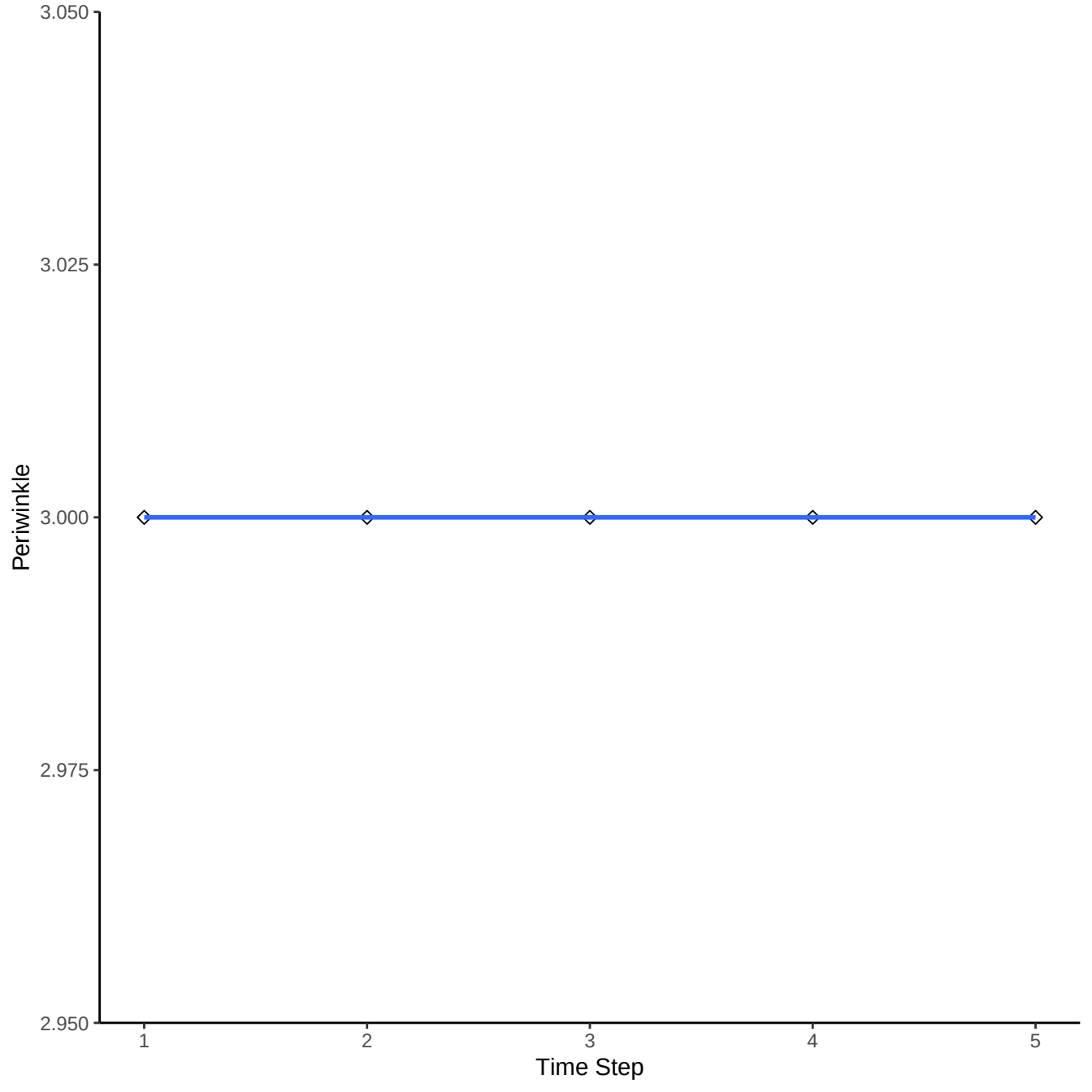

Corline algae
0.0
0.1
0.2
0.3
0.4
1
2
3
4
5
Time Step

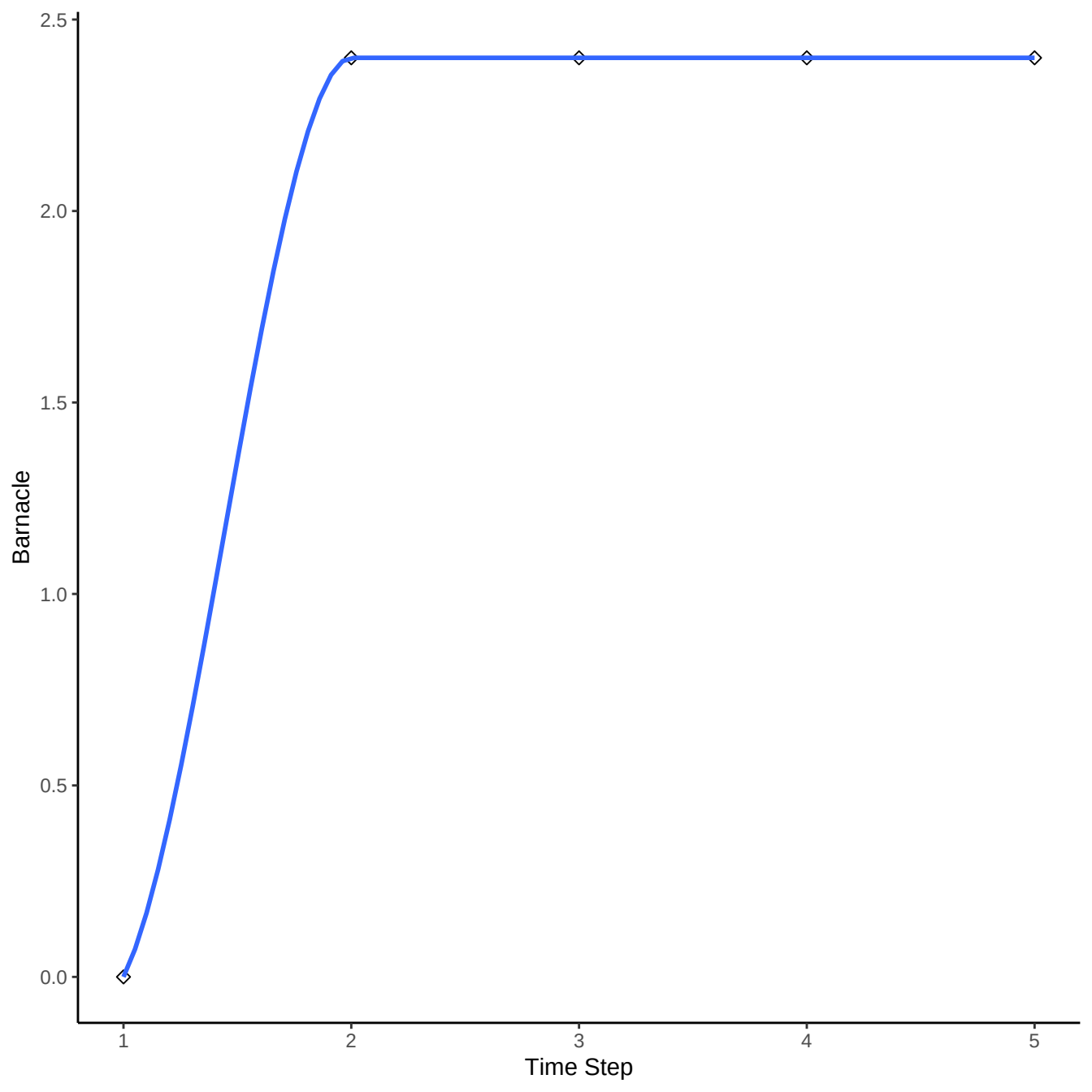

Fucoid Algae
0.10
0.05
0.00
1
2
3
4
5
Time Step

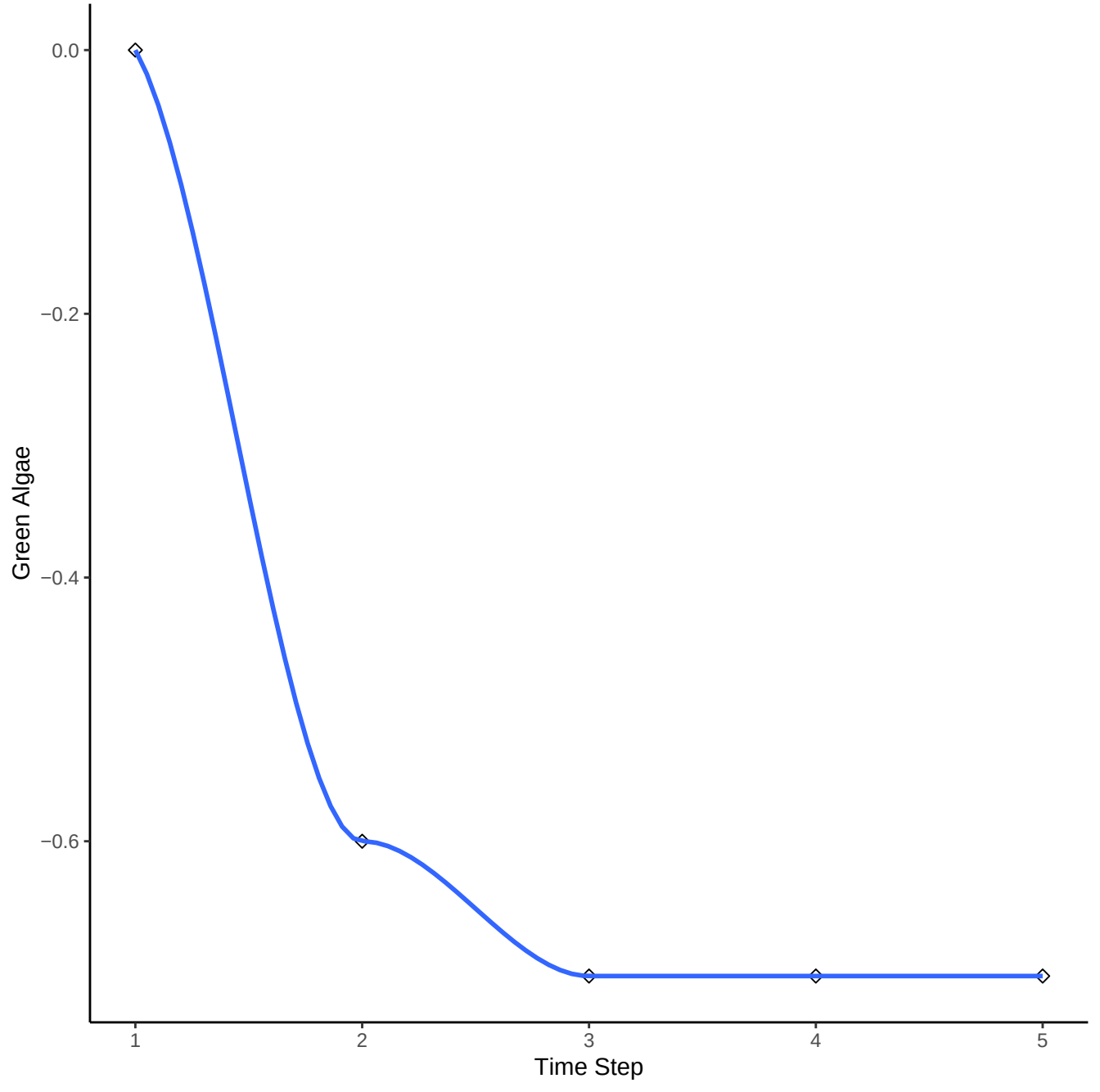

0
−1
−2
−3
−4
Dogwhelk
1
2
3
4
5
Time Step

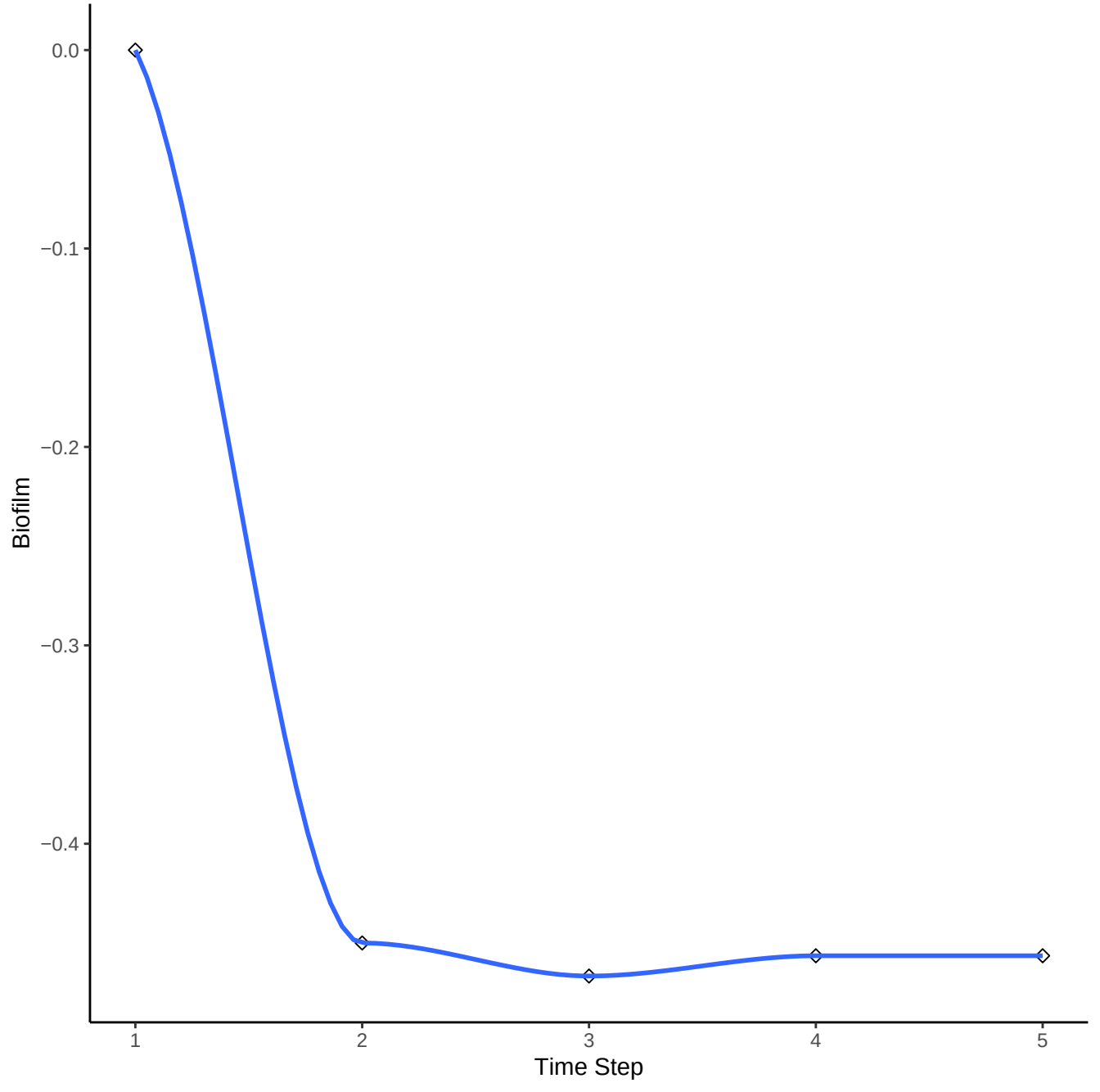

0.06
0.04
0.02
0.00
Topshell
1
2
3
4
5
Time Step

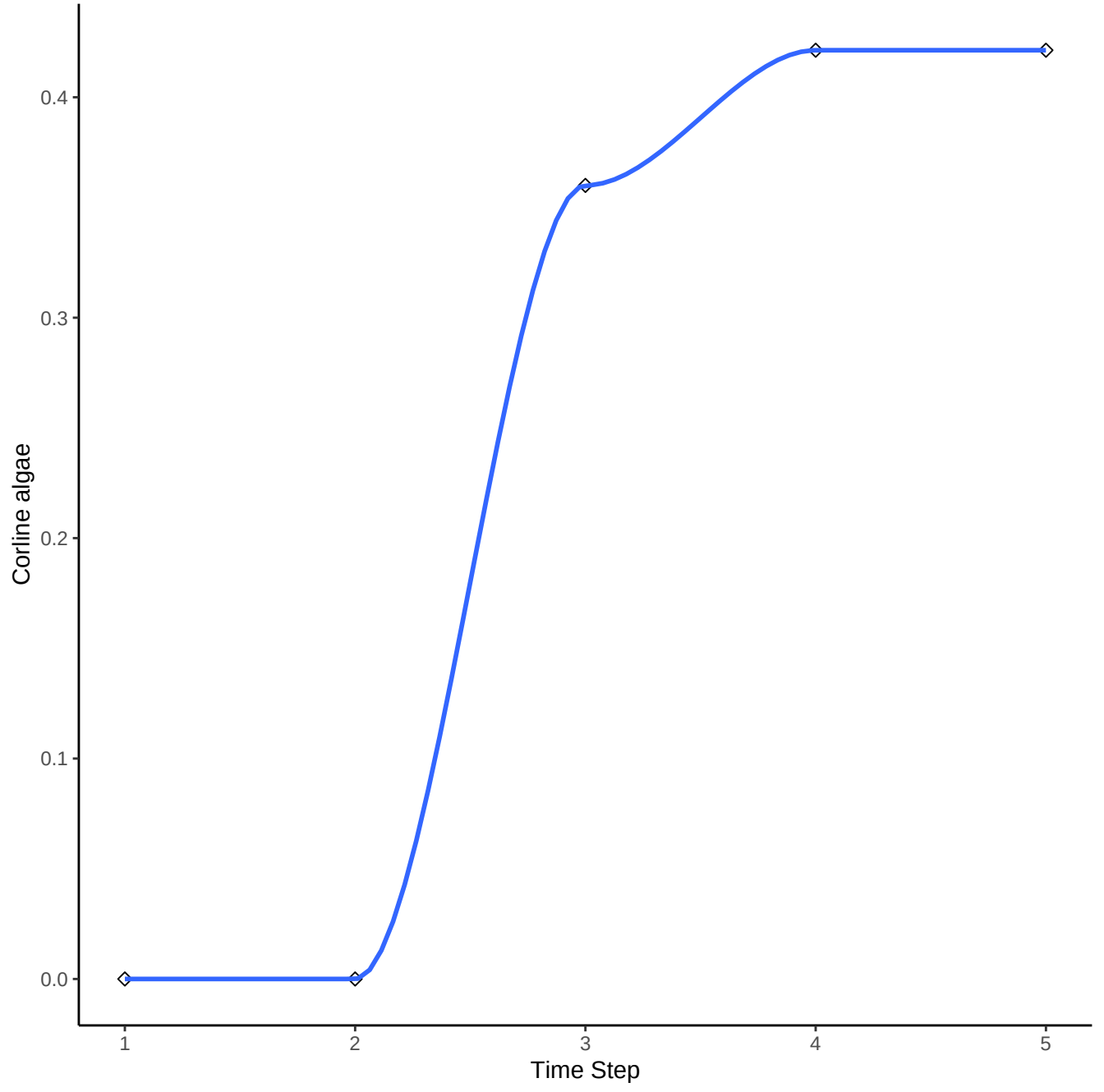

0.3
0.2
0.1
0.0
Limpet
1
2
3
4
5
Time Step

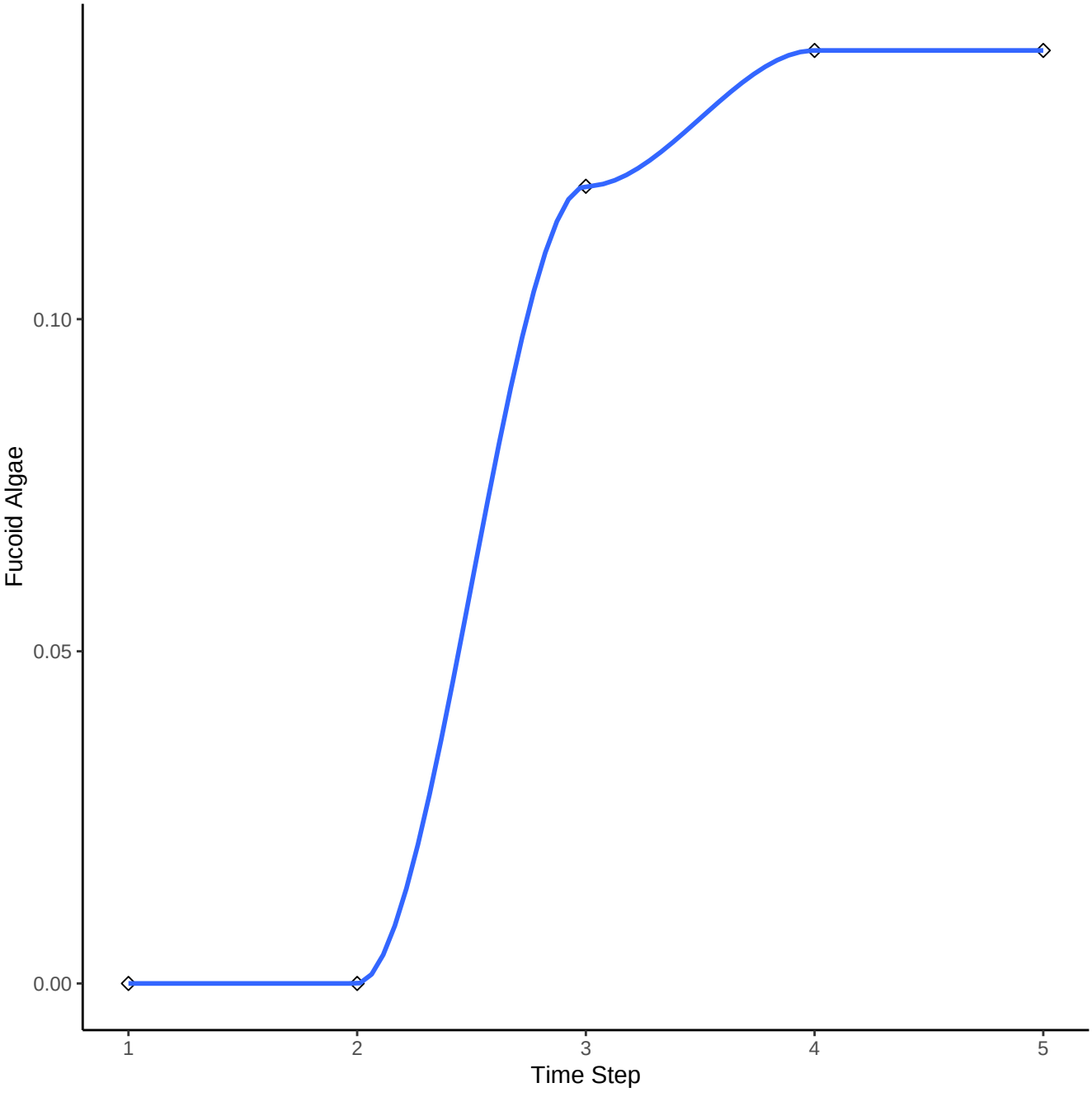

3.050
3.025
3.000
2.975
2.950
Periwinkle
1
2
3
4
5
Time Step

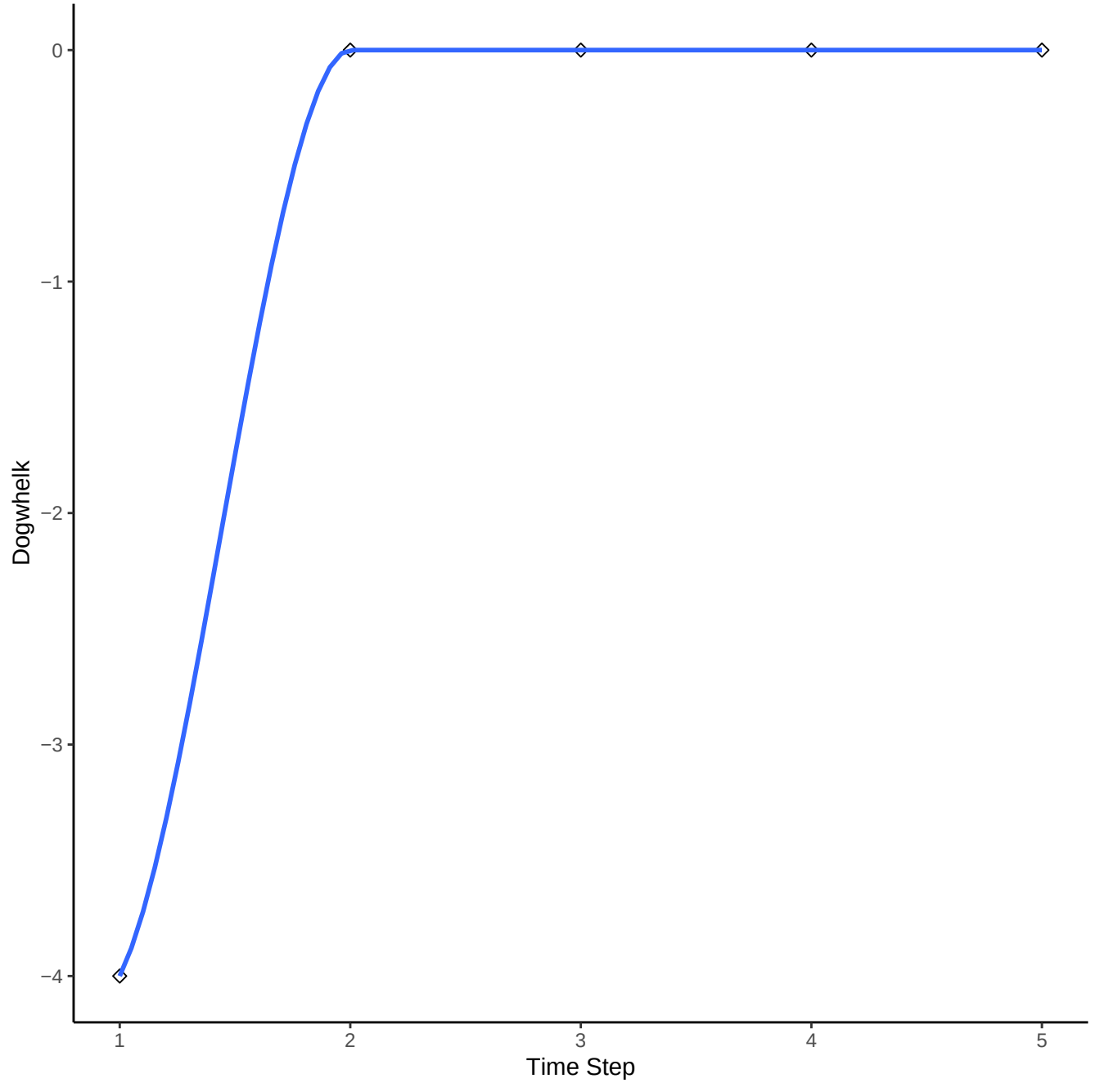

2.5
2.0
1.5
1.0
0.5
0.0
Barnacle
1
2
3
4
5
Time Step

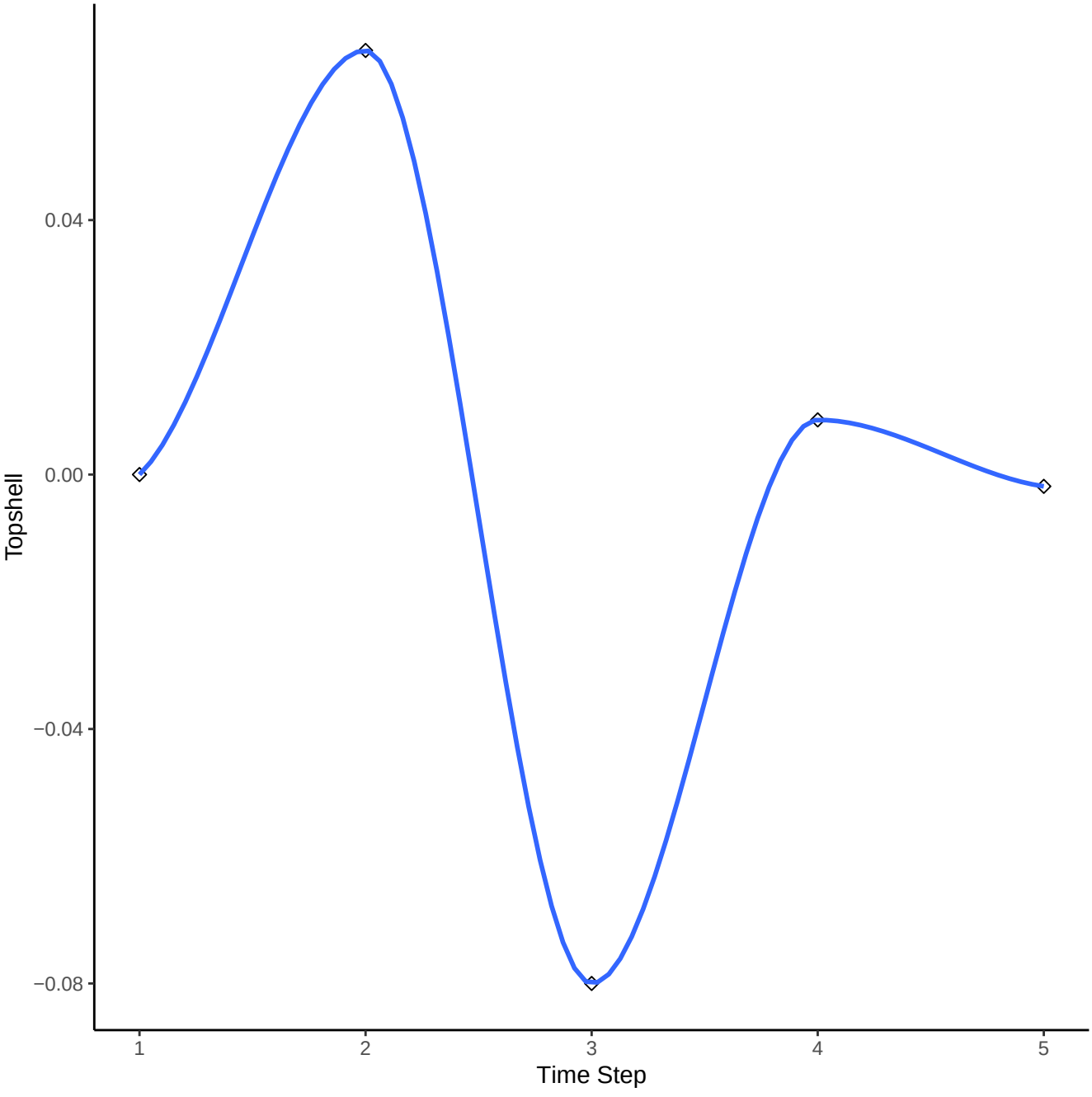

0.0
−0.2
−0.4
−0.6
Green Algae
1
2
3
4
5
Time Step

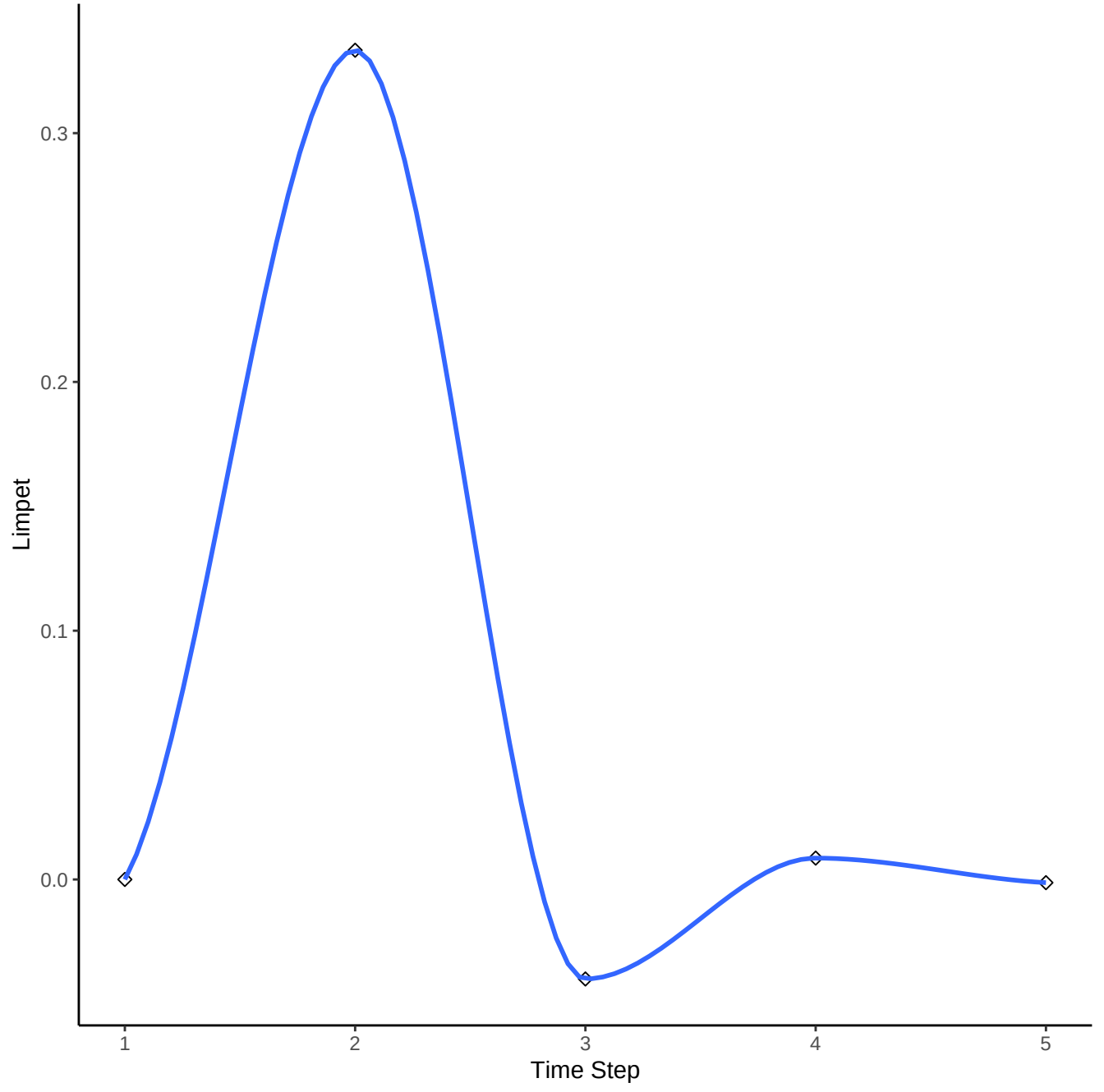

0.0
−0.1
−0.2
−0.3
−0.4
Biofilm
1
2
3
4
5
Time Step

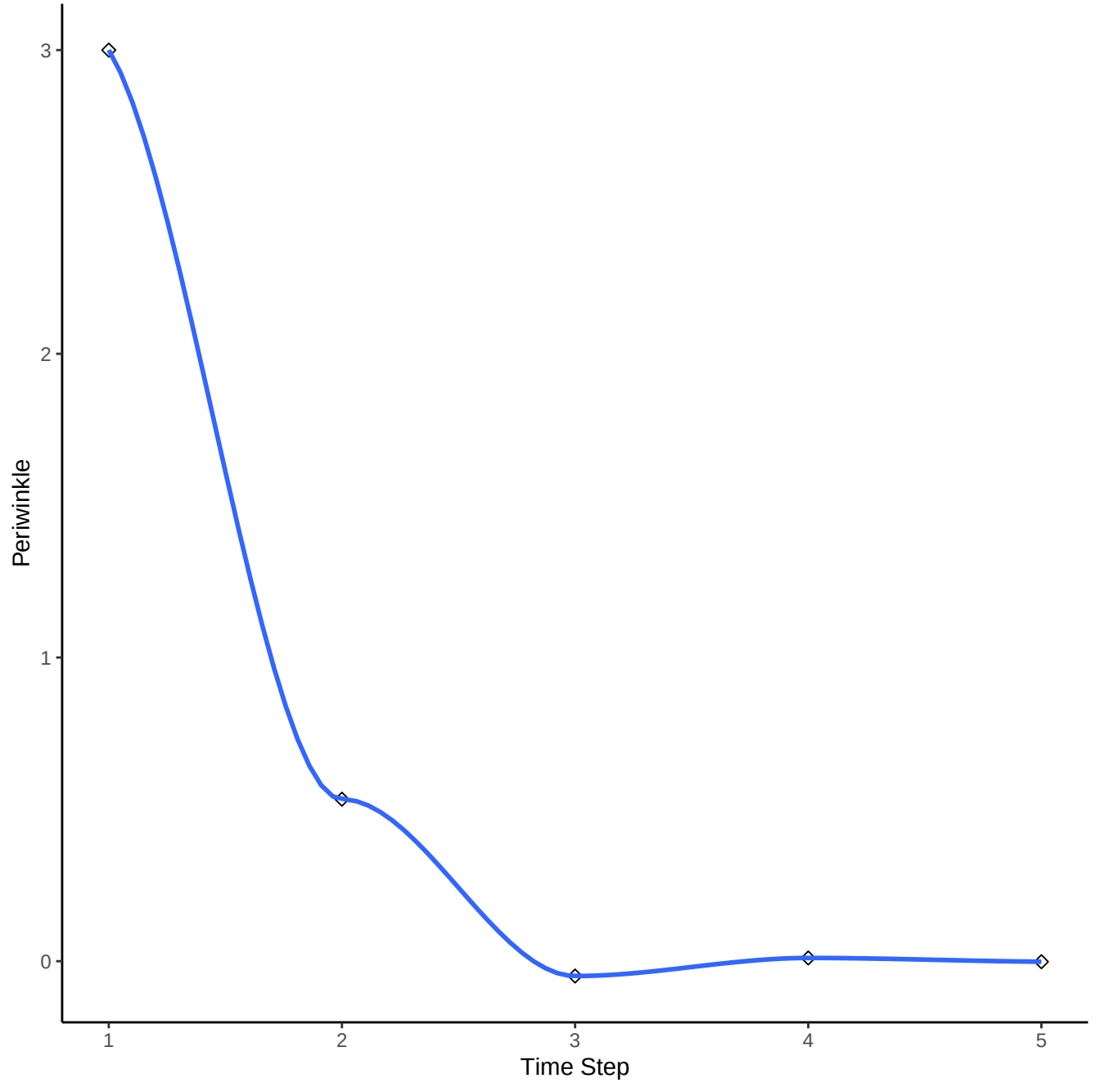

Corline algae
0.0
0.1
0.2
0.3
0.4
1
2
3
4
5
Time Step

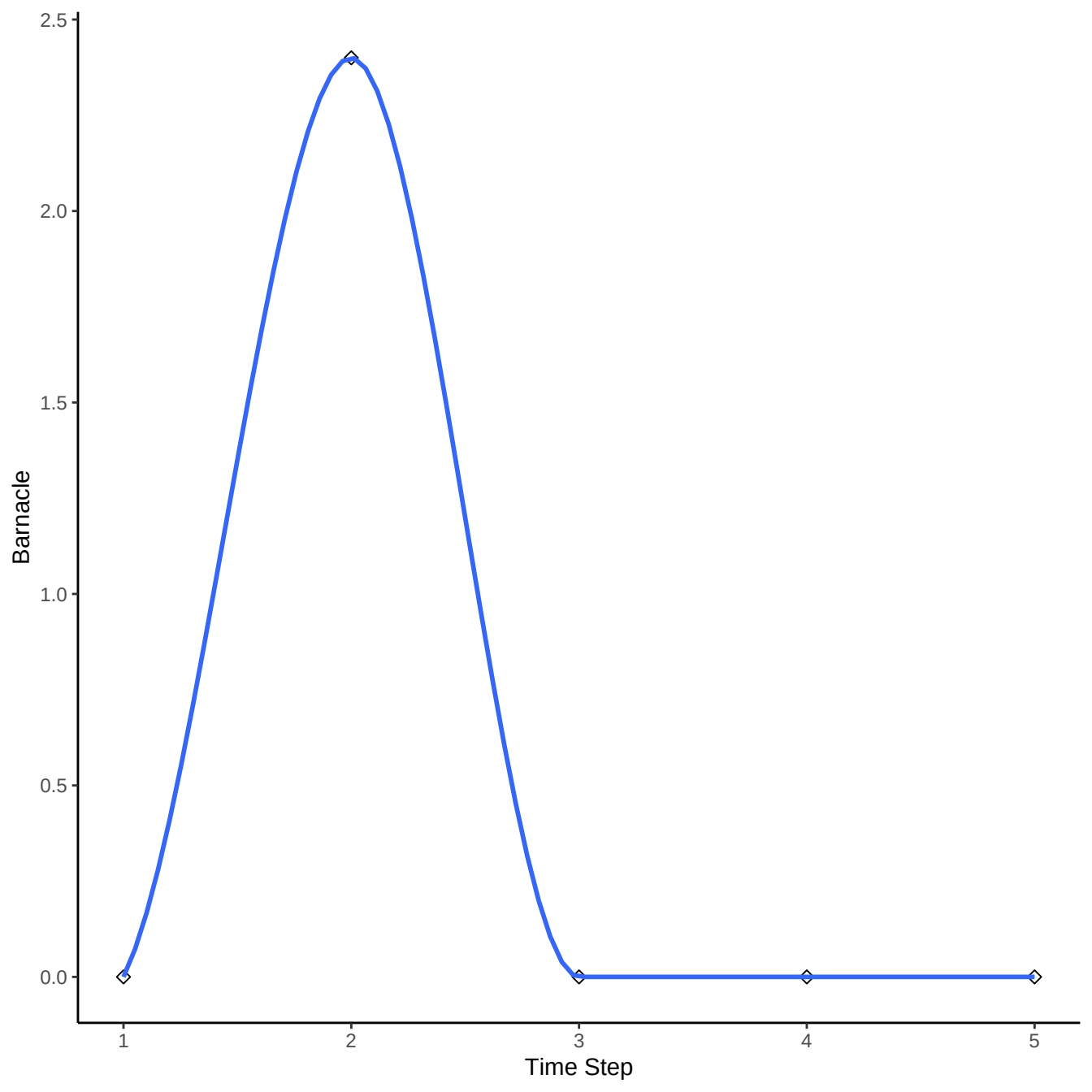

Fucoid Algae
0.10
0.05
0.00
1
2
3
4
5
Time Step

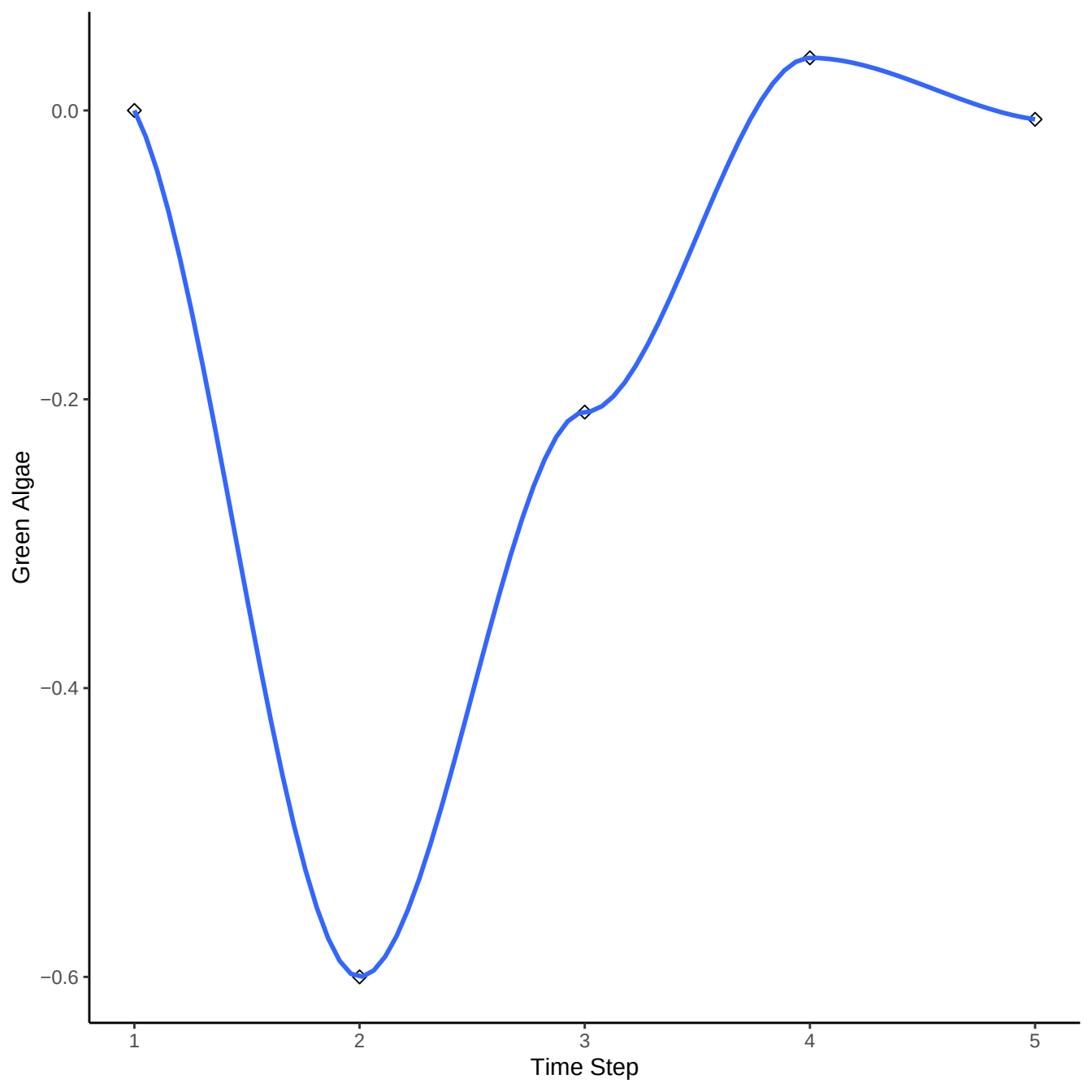

0
−1
−2
−3
−4
Dogwhelk
1
2
3
4
5
Time Step

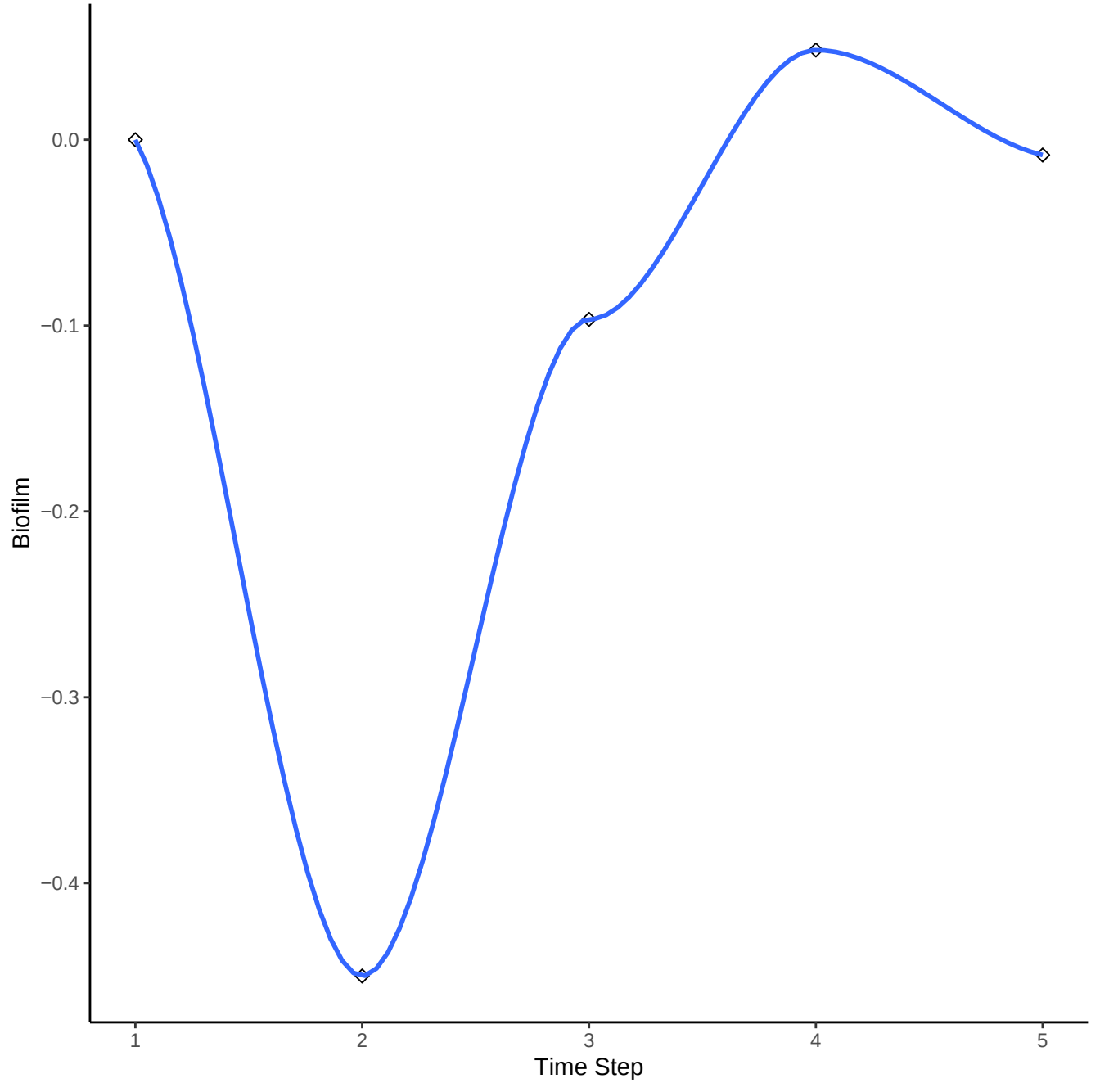

0.04
0.00
−0.04
−0.08
Topshell
1
2
3
4
5
Time Step

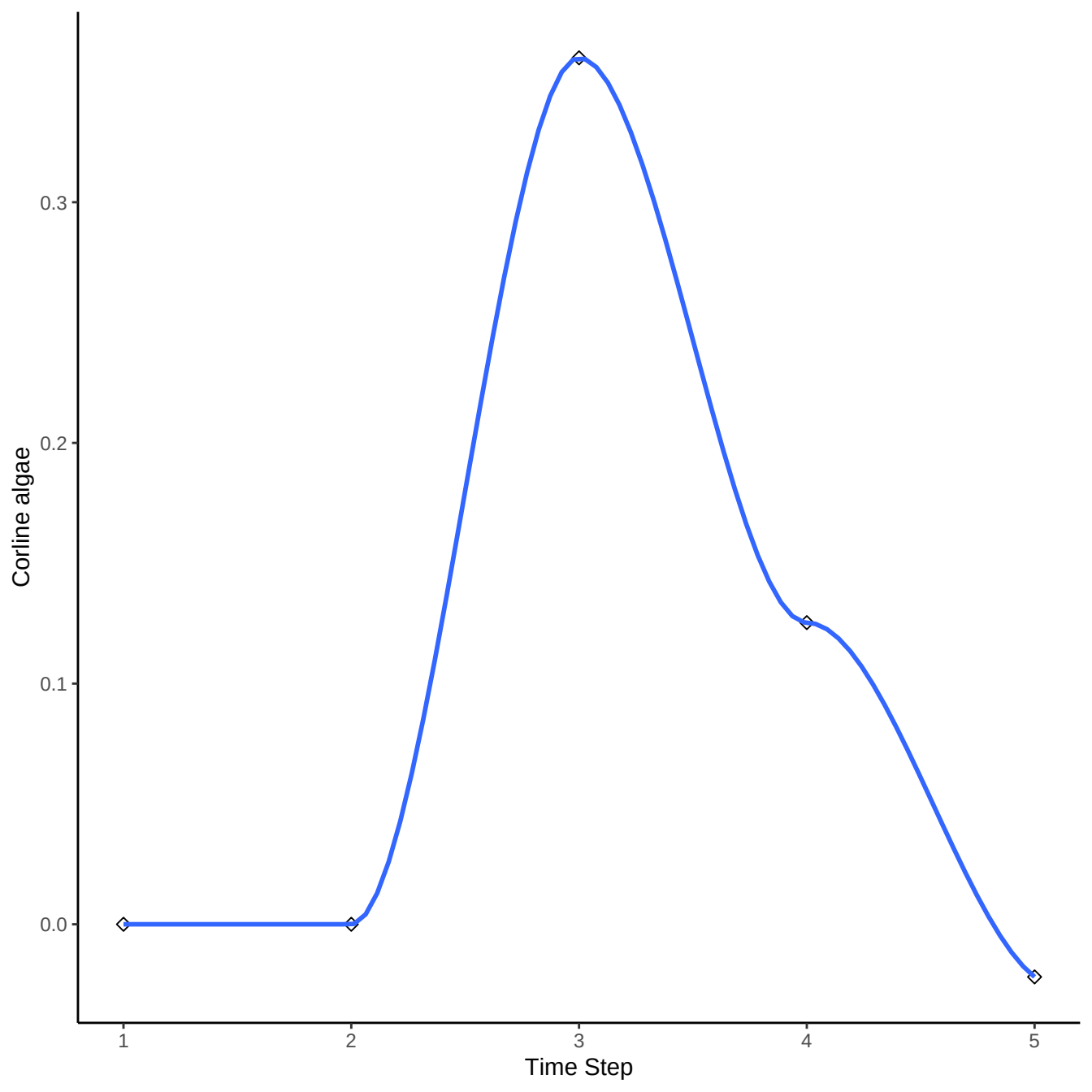

0.3
0.2
0.1
0.0
Limpet
1
2
3
4
5
Time Step

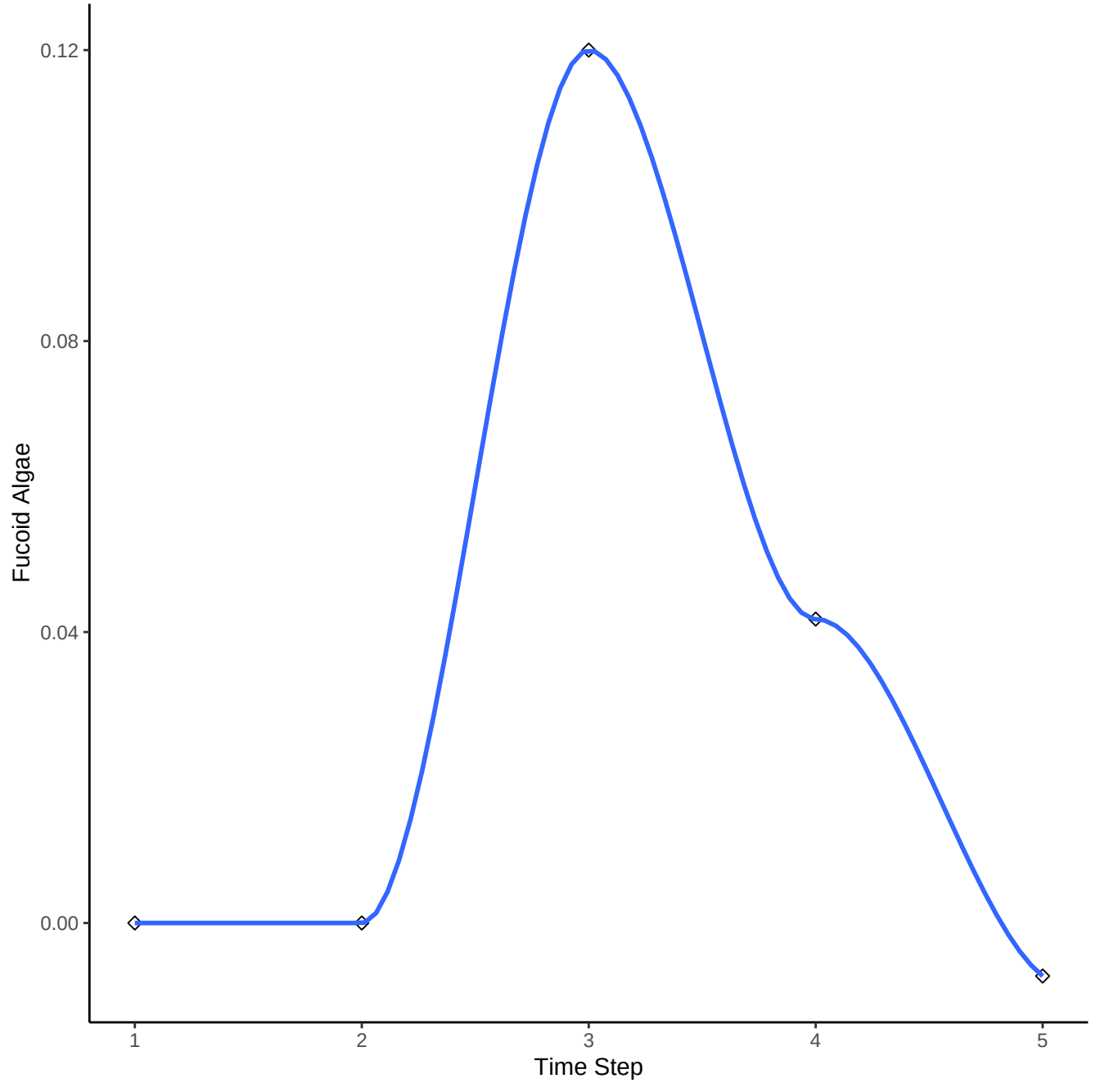

3
2
1
0
Periwinkle
1
2
3
4
5
Time Step

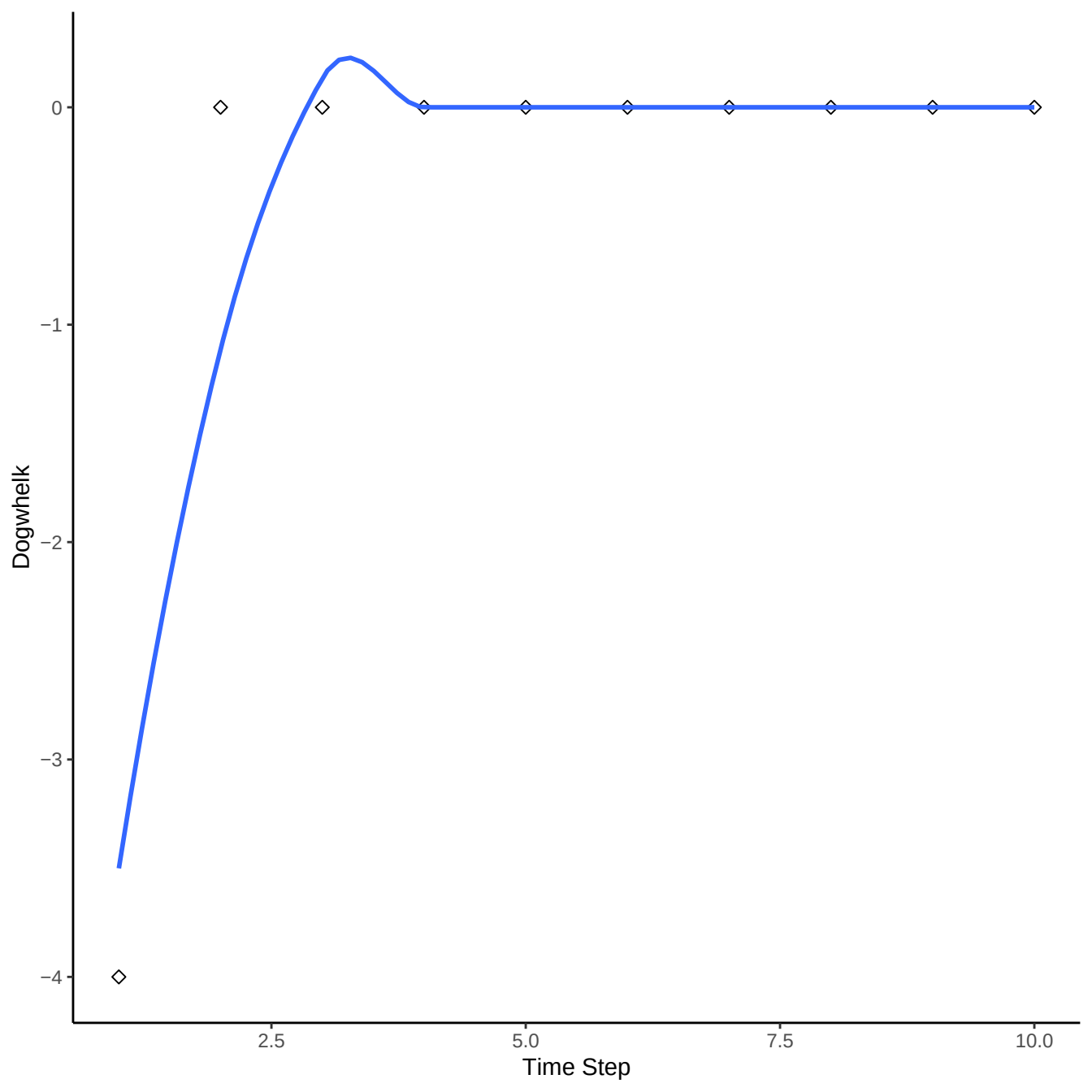

2.5
2.0
1.5
1.0
0.5
0.0
Barnacle
1
2
3
4
5
Time Step

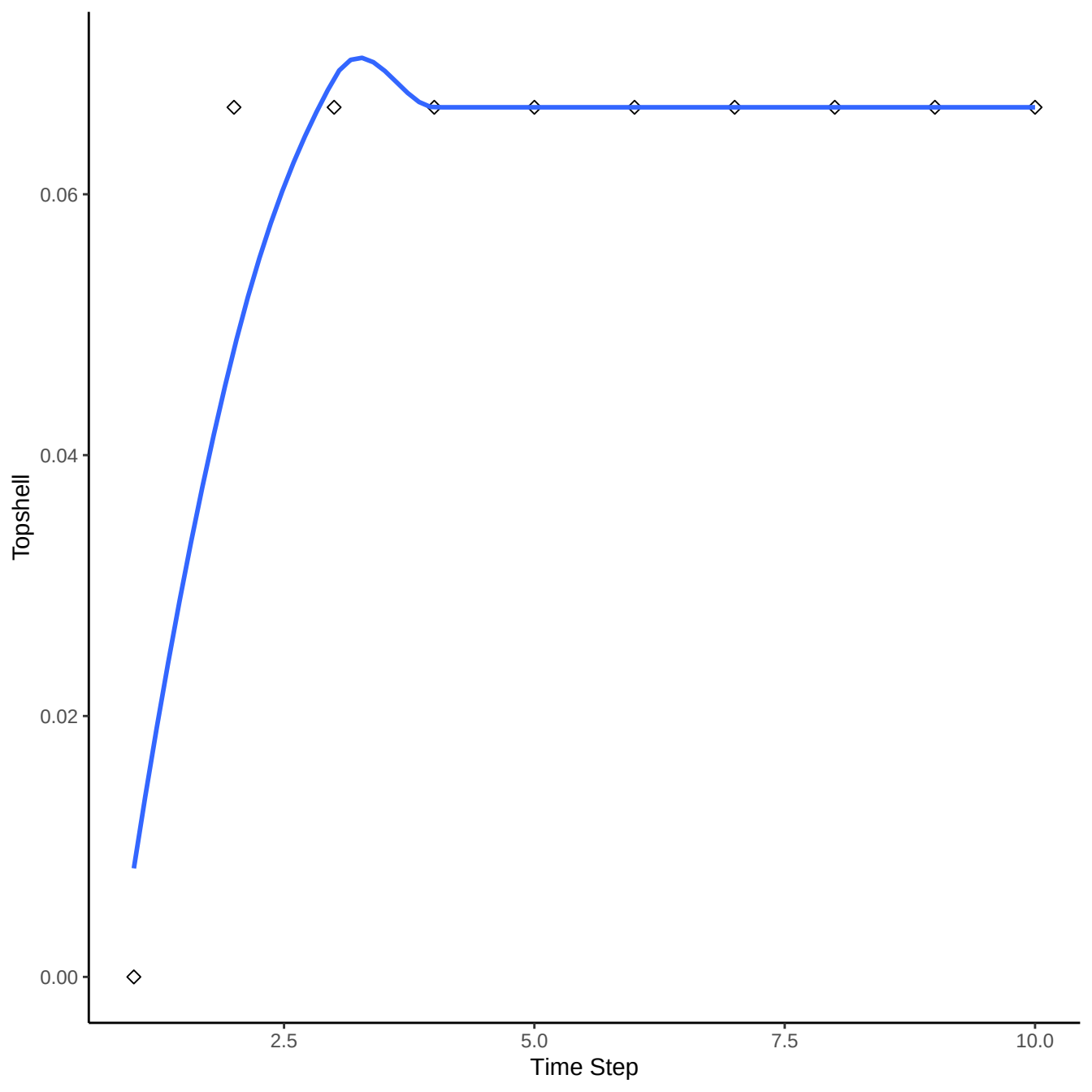

0.0
−0.2
−0.4
−0.6
Green Algae
1
2
3
4
5
Time Step

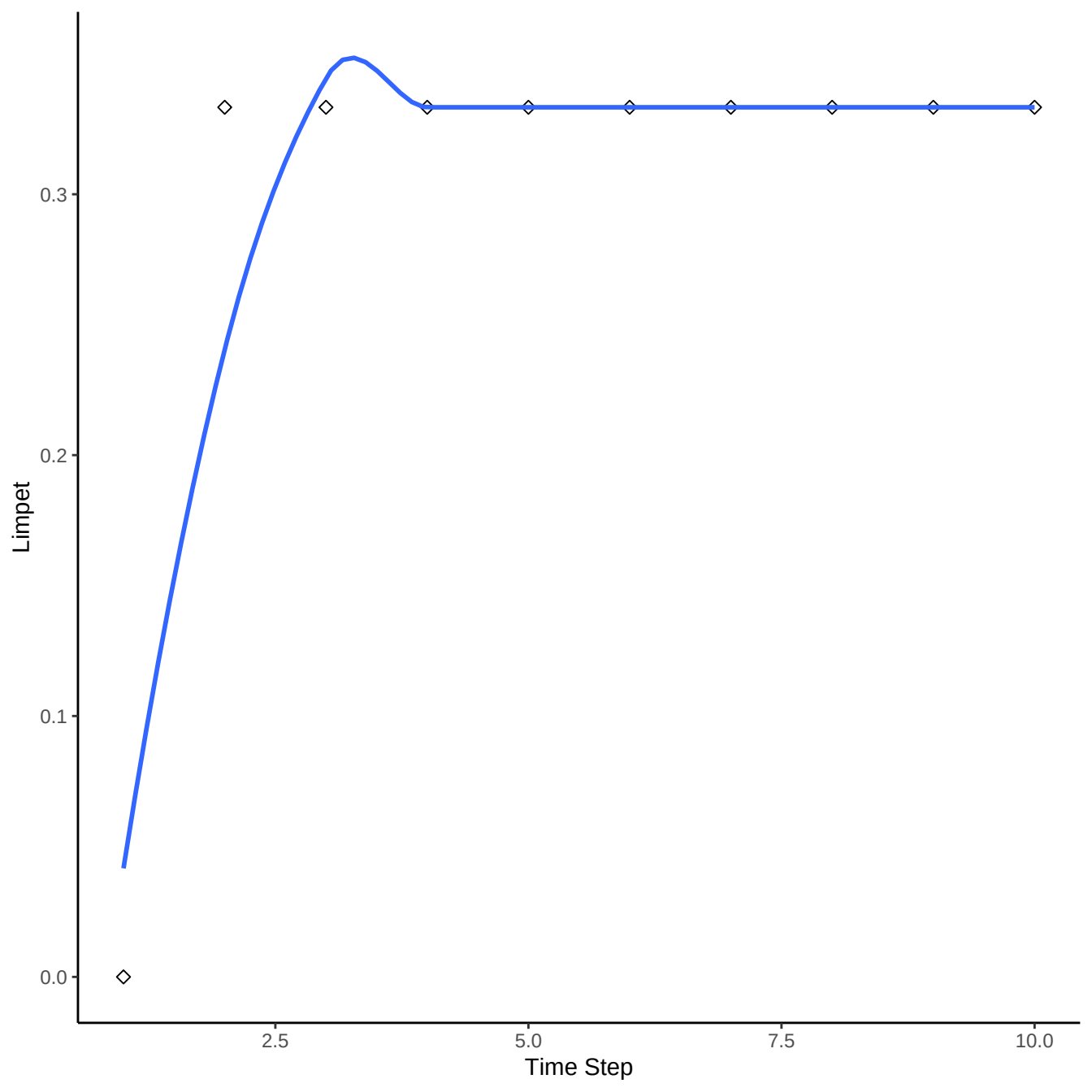

0.0
−0.1
−0.2
−0.3
−0.4
Biofilm
1
2
3
4
5
Time Step

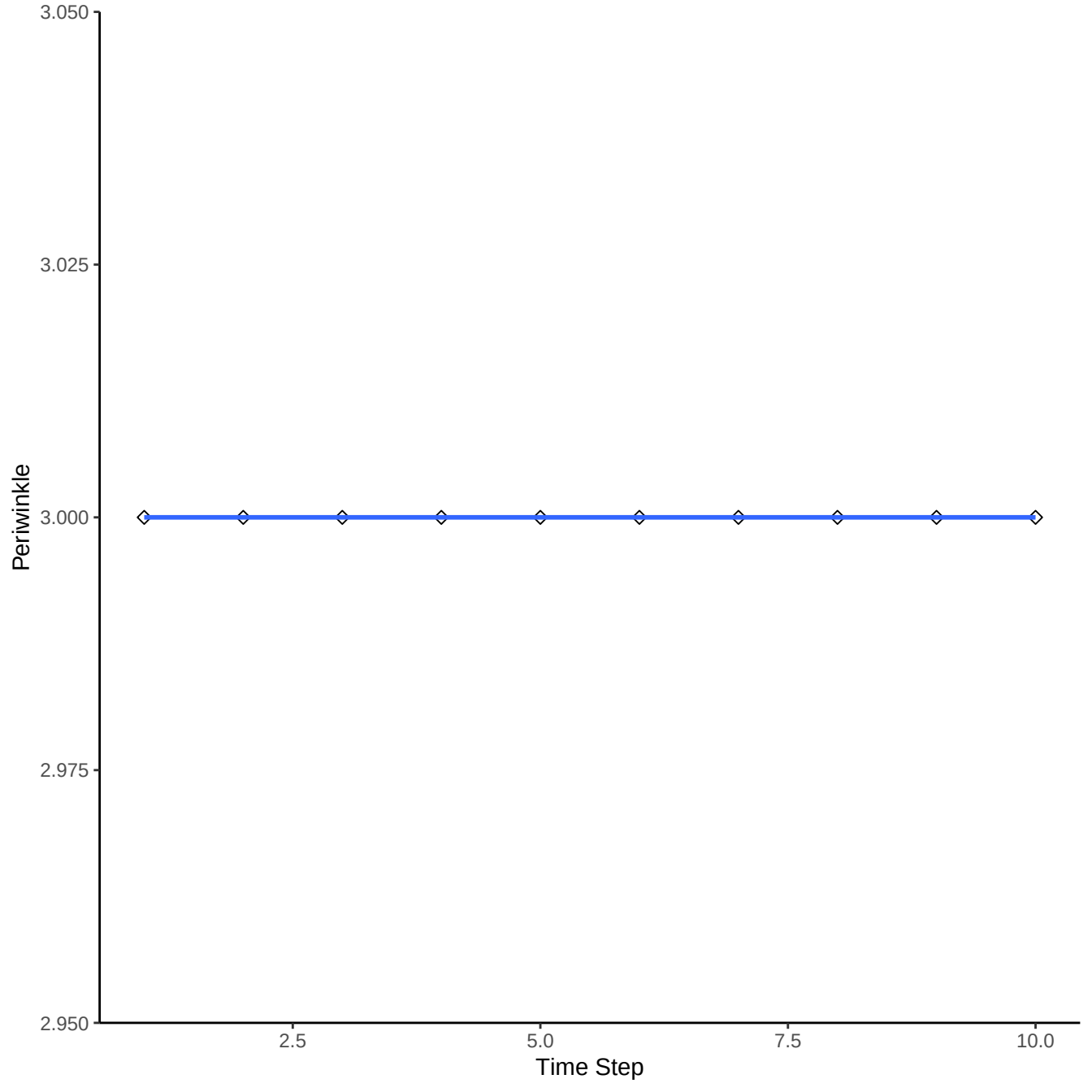

Corline algae
0.0
0.1
0.2
0.3
1
2
3
4
5
Time Step

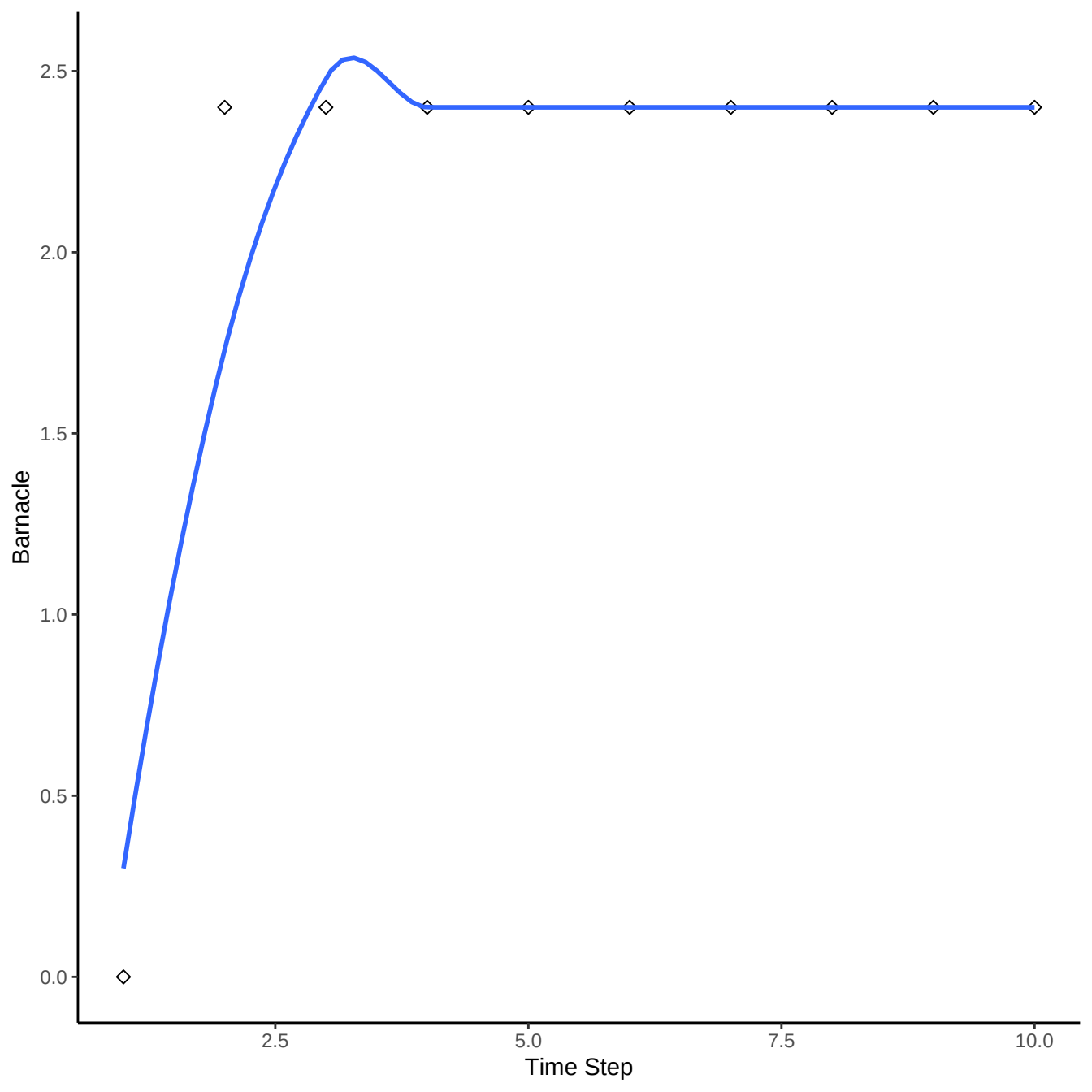

0.12
0.08
0.04
0.00
Fucoid Algae
1
2
3
4
5
Time Step

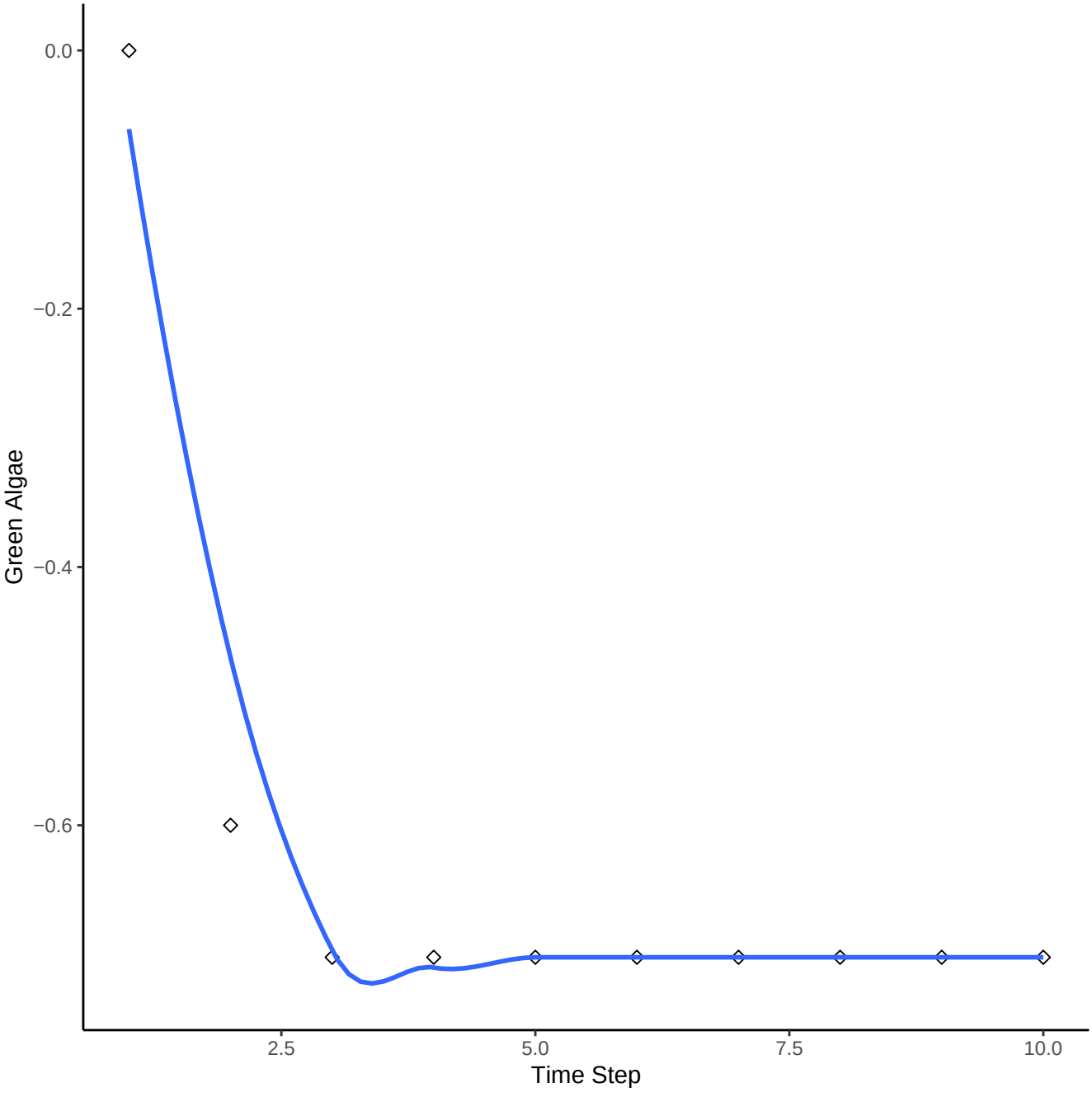

0
−1
−2
−3
−4
Dogwhelk
2.5
5.0
7.5
10.0
Time Step

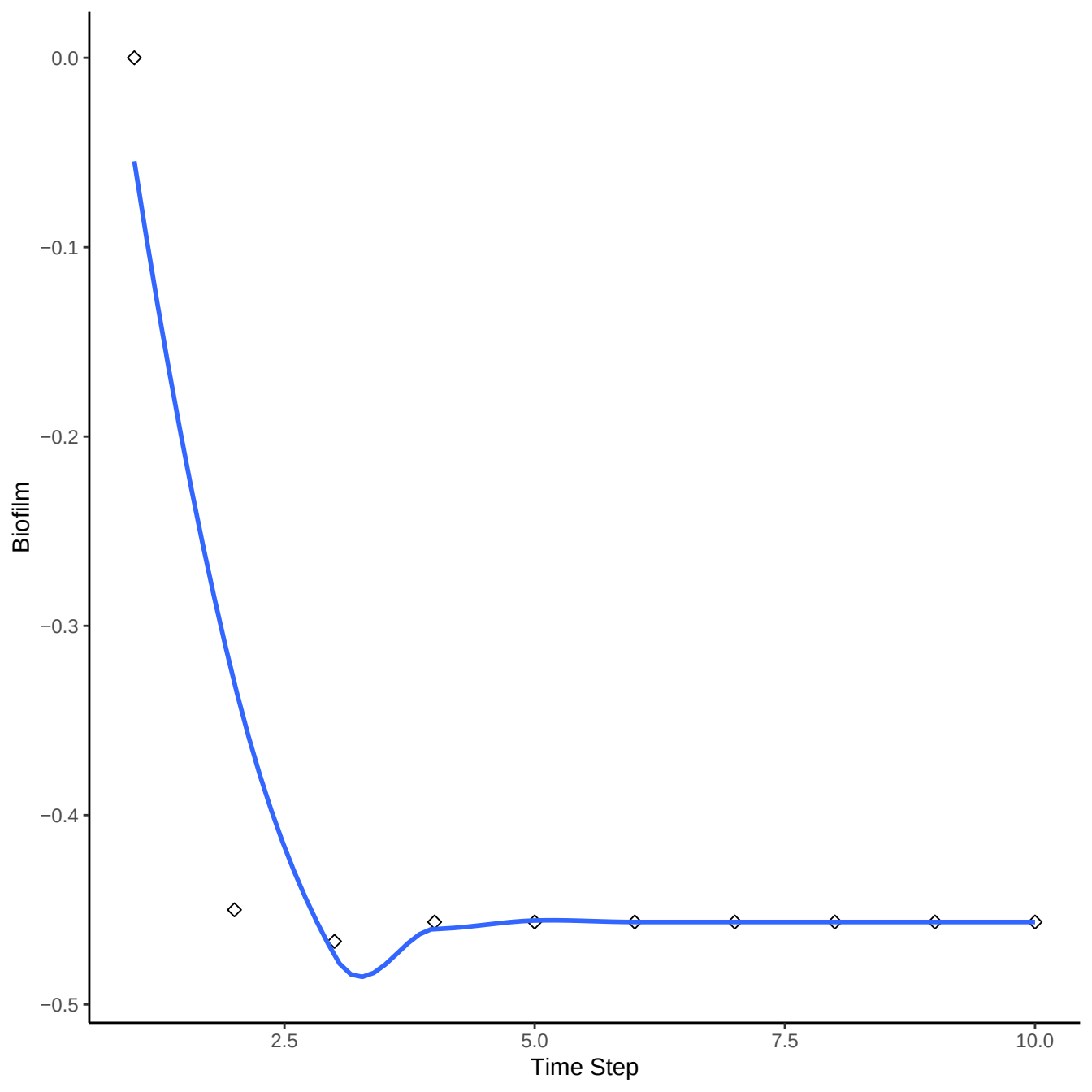

0.06
0.04
0.02
0.00
Topshell
2.5
5.0
7.5
10.0
Time Step

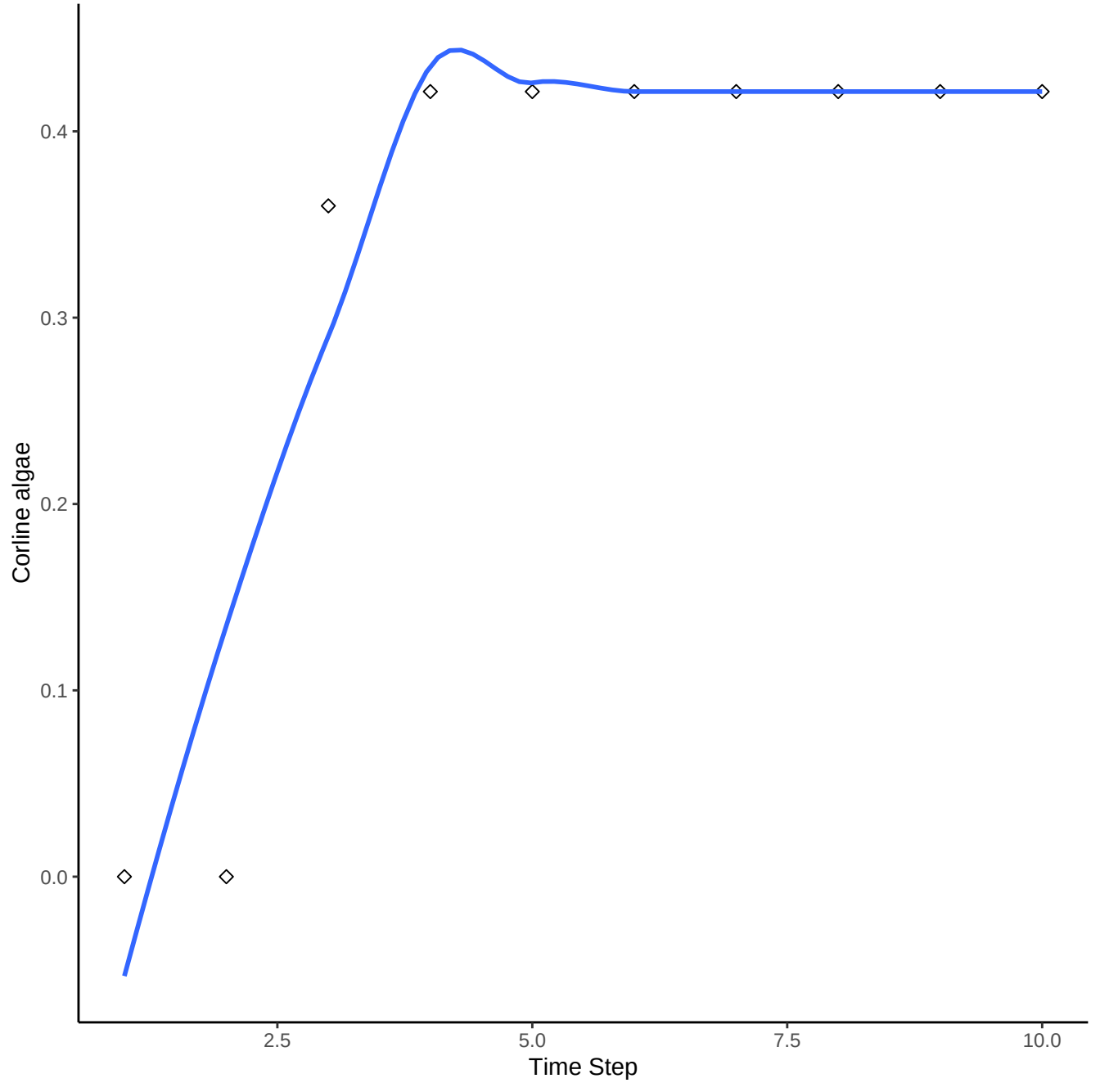

Limpet
0.0
0.1
0.2
0.3
2.5
5.0
7.5
10.0
Time Step

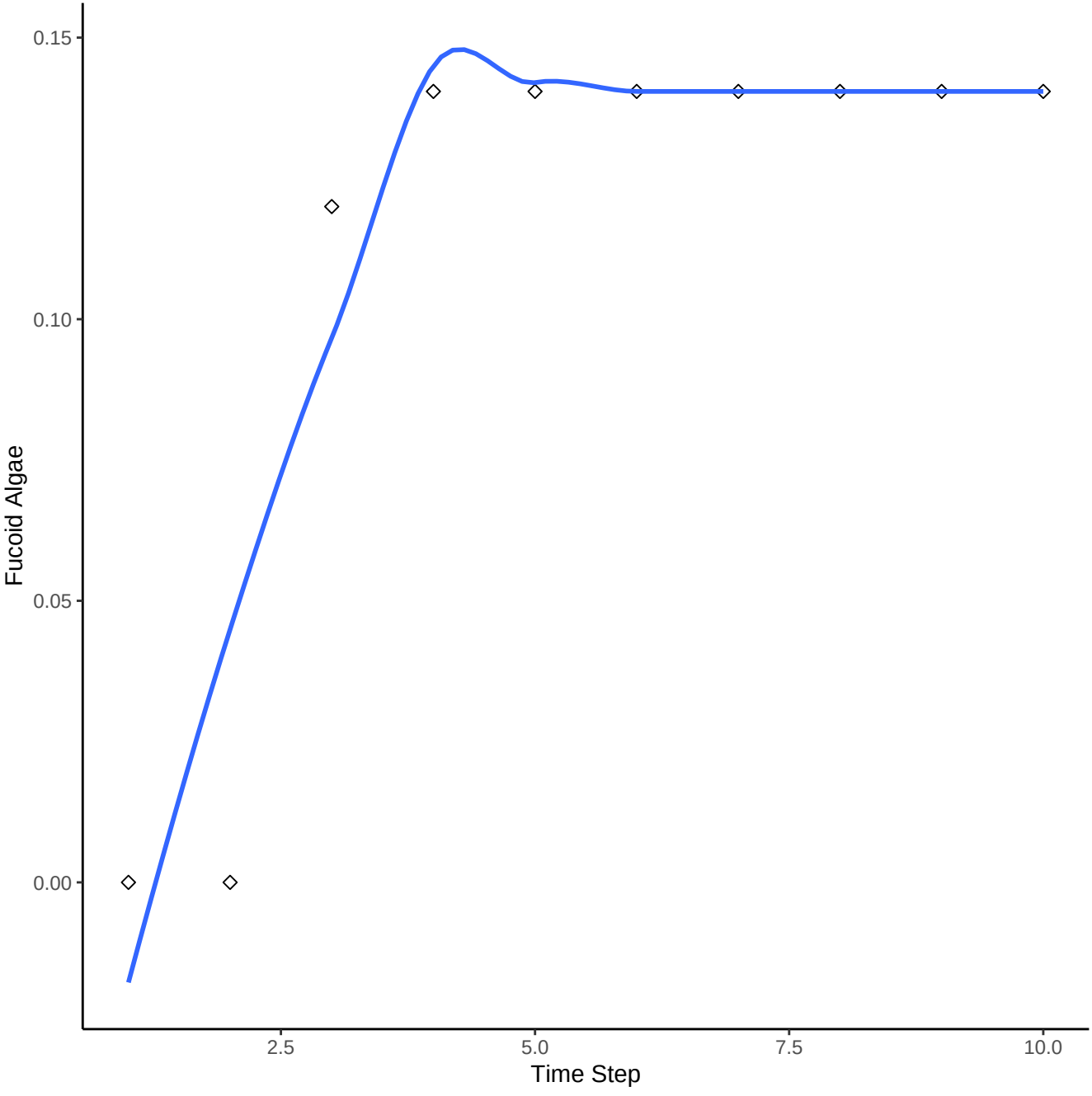

3.050
3.025
3.000
2.975
2.950
Periwinkle
2.5
5.0
7.5
10.0
Time Step

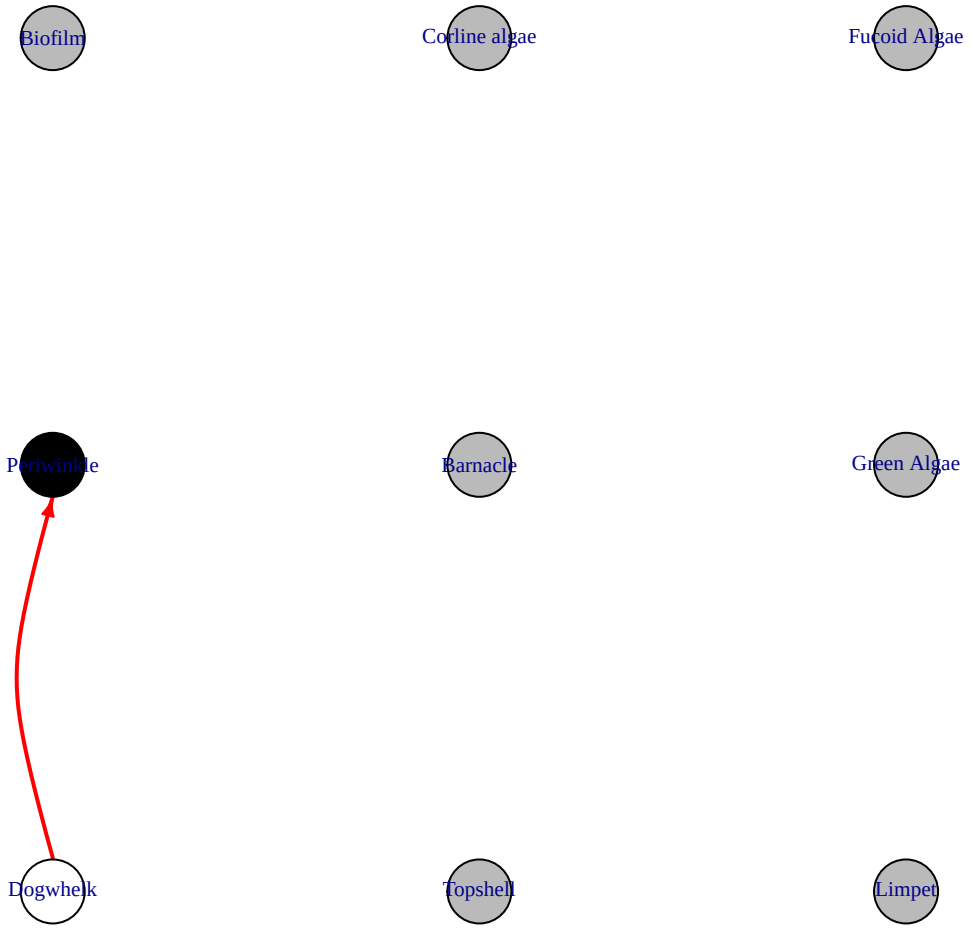

Barnacle
2.5
2.0
1.5
1.0
0.5
0.0
2.5
5.0
7.5
10.0
Time Step

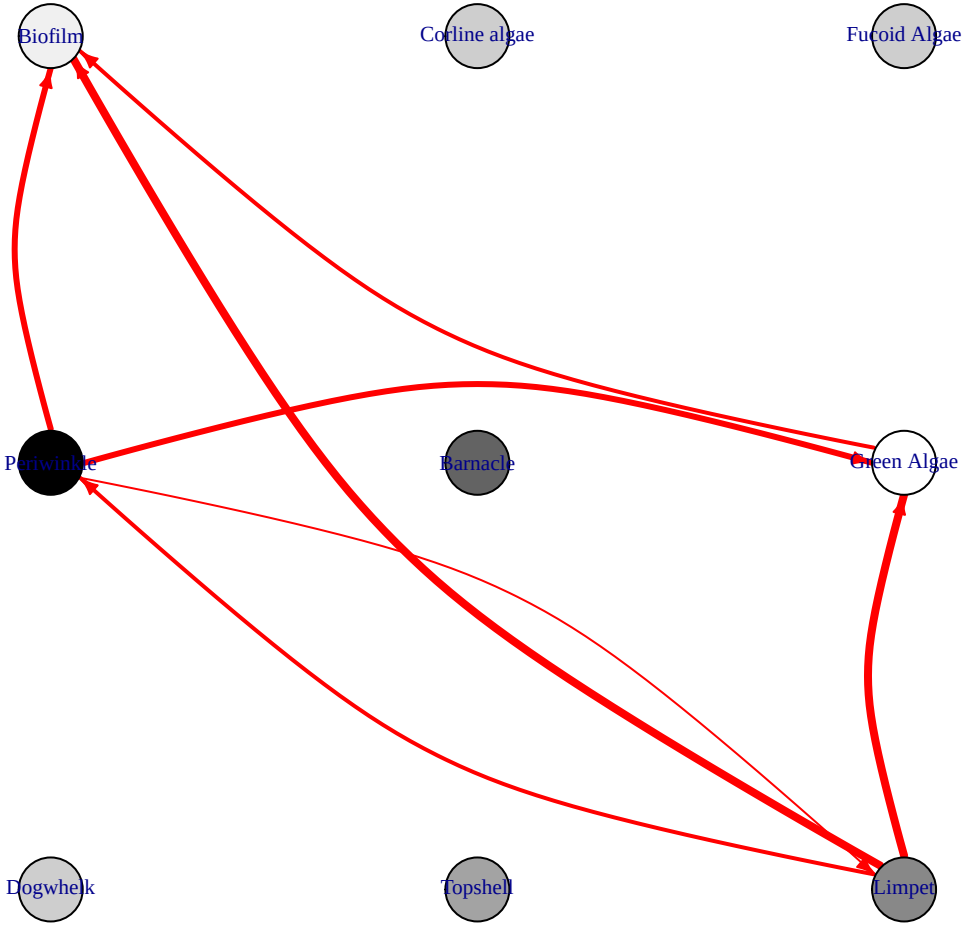

0.0
−0.2
−0.4
−0.6
Green Algae
2.5
5.0
7.5
10.0
Time Step

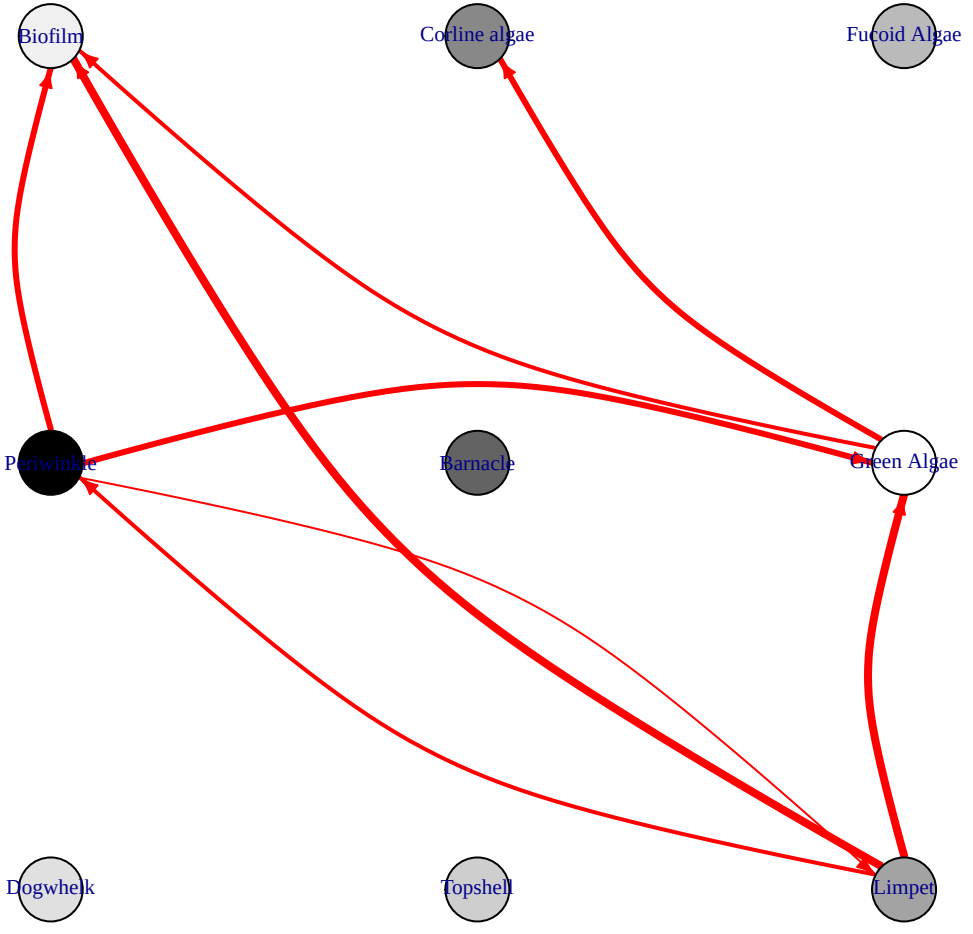

0.0
−0.1
−0.2
−0.3
−0.4
−0.5
Biofilm
2.5
5.0
7.5
10.0
Time Step

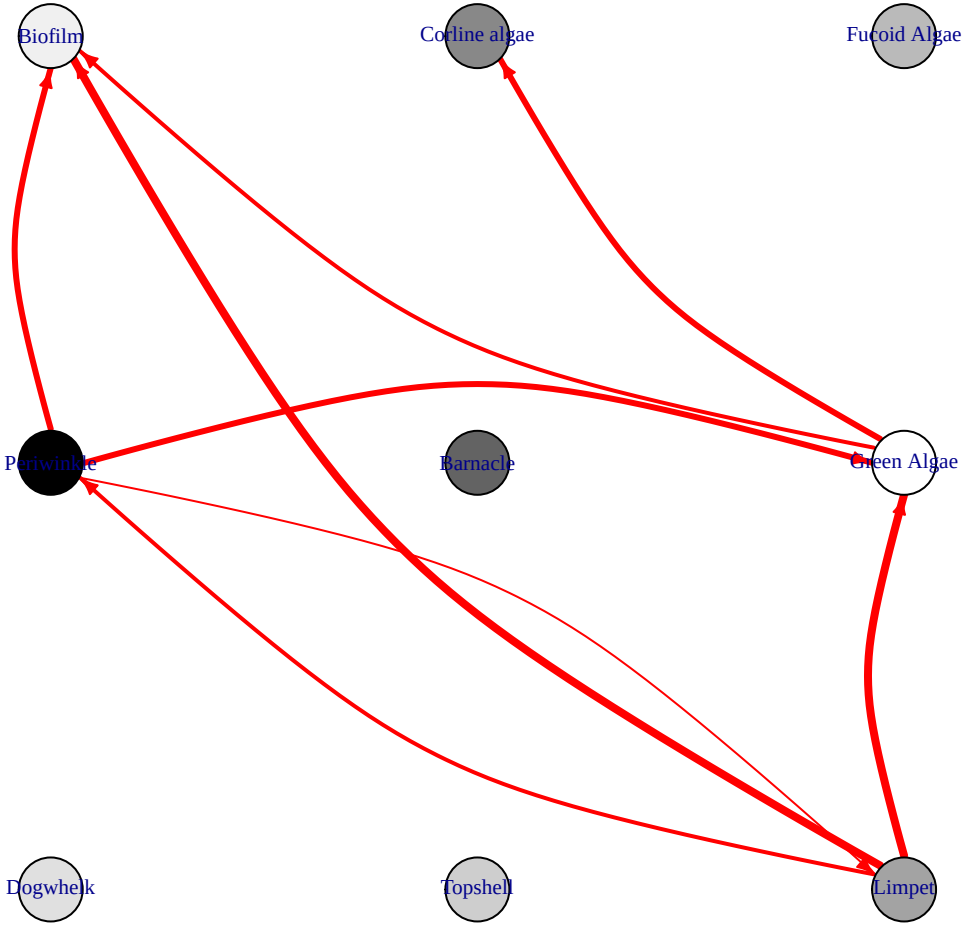

Corline algae
0.4
0.3
0.2
0.1
0.0
2.5
5.0
7.5
10.0
Time Step

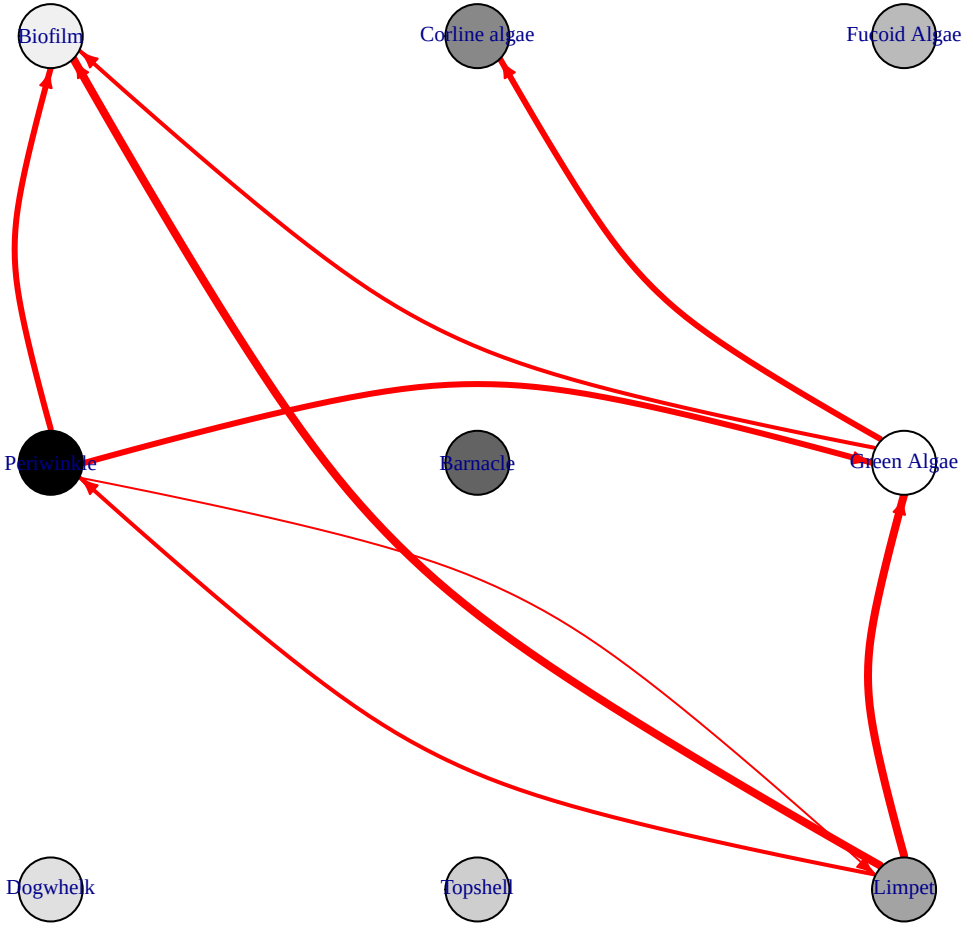

0.15
0.10
0.05
0.00
Fucoid Algae
2.5
5.0
7.5
10.0
Time Step


Biofilm
Corline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet


Biofilm
Corline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet


Biofilm
Coeline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet


Biofilm
Coeline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet


Biofilm
Coeline algae
Fucoid Algae
Periwinkle
Barnacle
Green Algae
Dogwhelk
Topshell
Limpet