

Supplement C: Additional Tables

Supplementary Table S.C.1. Mean (1 SD) change in biomass (kg/ha) of species groups from the baseline simulation without AC for different scenarios. Scenarios are as follows: high detritus in the AC diet (AC_HD), low detritus in the AC diet (AC_LD), no detritus in the AC diet (AC_ND), larval fish in the AC diet (AC_LF), and high phosphorus loads (AC_HP). An asterisk indicates the baseline simulation for this scenario was the simulation without AC but with high phosphorus loads. See Table 1 for full species group names.

Groups	AC_HD	AC_LD	AC_ND	AC_LF	AC_HP*
DCCM	0.02(0.02)	0.02(0.01)	0.02(0.02)	0.02(0.02)	0.03(0.02)
MERG	0.08(0.06)	0.09(0.07)	0.07(0.06)	0.1(0.07)	0.09(0.08)
WAE_L	0(0)	0(0)	0(0)	0(0)	0(0)
WAE_Y	-0.01(0)	-0.01(0)	-0.01(0)	-0.01(0.01)	-0.02(0.01)
WAE_J	-0.08(0.13)	-0.12(0.1)	-0.08(0.12)	-0.11(0.13)	0.14(0.16)
WAE_A	-0.71(1.01)	-0.93(0.84)	-0.65(0.99)	-1(1.04)	1.13(1.13)
YEP_L	-0.01(0.02)	0(0.01)	-0.01(0.01)	-0.03(0.03)	0.02(0.01)
YEP_Y	-0.04(0.08)	-0.03(0.07)	-0.04(0.07)	-0.15(0.12)	0.06(0.04)
YEP_J	-0.09(0.26)	-0.08(0.26)	-0.11(0.26)	-0.42(0.39)	0.3(0.19)
YEP_A	0.26(0.89)	0.21(0.91)	0.2(0.92)	-0.76(1.52)	1.54(1.02)
GIZ	-7.82(3.08)	-7.26(2.75)	-7.16(2.64)	-7.45(3.72)	0.34(2.54)
RBT_A	-0.06(0.06)	-0.07(0.06)	-0.07(0.05)	-0.01(0.08)	-0.2(0.11)
LWF	0.08(0.07)	0.07(0.05)	0.07(0.07)	0.07(0.07)	0.1(0.09)
BBT	-0.02(0.03)	-0.03(0.02)	-0.02(0.02)	-0.02(0.02)	-0.06(0.03)
WHP	-0.88(1.96)	-1.63(1.4)	-1.29(1.35)	-0.75(1.49)	-5.15(2.7)
WHB	-0.31(0.87)	-0.38(0.72)	-0.47(0.73)	0.22(0.75)	-2.19(1.8)
SMB	0.04(0.05)	0.04(0.05)	0.04(0.05)	0.06(0.04)	0.05(0.07)
FWD	-0.1(1.03)	0.19(1.89)	-0.09(1.22)	-0.37(0.96)	1.56(1.47)
ALW	-0.74(0.6)	-0.8(0.54)	-0.72(0.63)	-0.73(0.5)	-1.13(0.73)
LKT_A	-0.02(0.01)	-0.01(0.01)	-0.01(0.01)	-0.02(0.02)	-0.01(0.01)
RBS	-1.77(1.7)	-1.75(1.53)	-1.53(1.56)	-2.84(2.17)	-1.1(0.86)
CMP	-0.01(0.05)	-0.01(0.06)	-0.01(0.05)	-0.02(0.07)	0.02(0.05)
RGB	-0.46(0.48)	-0.67(0.38)	-0.61(0.49)	-0.3(0.33)	-1.12(0.7)
SUK	0.17(0.19)	0.18(0.18)	0.13(0.11)	0.23(0.36)	0.18(0.37)
EMS	-4.03(2.16)	-4.54(2.13)	-4.58(1.95)	-1.14(2.51)	-12.09(5.11)
CAT	0.02(0.03)	0.03(0.03)	0.03(0.03)	0(0.03)	0.07(0.04)
PanF	0.02(0.02)	0.03(0.06)	0.03(0.08)	0.03(0.04)	0.03(0.1)
OthF	-0.57(0.59)	-0.79(0.53)	-0.79(0.56)	-0.51(0.46)	-2.54(1.49)
DREI	-22.45(20.1)	-24.74(17.3)	-25.61(22.0)	-22.84(18.5)	-29.1(24.5)
AMPH	0.18(0.22)	0.24(0.18)	0.2(0.17)	0.17(0.17)	0.54(0.27)
CHIR	2.54(1.51)	2.5(1.34)	2.25(1.14)	2.07(1.17)	4.78(2.15)
OLIG	0.25(0.16)	0.22(0.11)	0.12(0.14)	0.14(0.12)	0.47(0.28)
MOLL	-0.29(0.27)	-0.31(0.18)	-0.23(0.15)	0.21(0.41)	-0.79(0.3)

Groups	AC_HD	AC_LD	AC_ND	AC_LF	AC_HP*
EPHE	0.28(0.64)	0.22(0.55)	0.26(0.53)	0.2(0.52)	1(1.1)
OthB	0.85(1.32)	0.81(1.29)	0.67(1.36)	0.38(1.42)	0.66(1.2)
CLAD	-4.47(3.5)	-6.1(3.87)	-6.54(4.48)	-5.21(2.97)	-9.85(5.81)
COPE	-4.96(3.63)	-5.09(3.02)	-4.44(2.87)	-4.5(2.55)	-7.13(4.26)
ROTI	-1.54(1.63)	-1.45(1.17)	-1.24(1.2)	-1.36(1.22)	-1.98(1.57)
PRED	-0.58(0.42)	-0.65(0.4)	-0.61(0.41)	-0.69(0.43)	-0.75(0.49)
PROT	0.67(1.15)	1.06(1.29)	1.09(1.75)	0.74(0.88)	0.4(1.47)
BACT	-5.4(4.16)	-5.12(2.93)	-4.44(2.87)	-4.61(2.82)	-5.45(3.51)
PICO	0.2(0.15)	0.26(0.16)	0.3(0.28)	0.28(0.22)	0.47(0.29)
EDIB	1.73(1.15)	0.82(0.71)	-0.22(1.59)	0.6(0.63)	0.57(1.25)
CYAN	-1.16(1.14)	-1.4(1.12)	-1.33(1.32)	-1.1(0.77)	-1.03(0.94)
DETR	-3.2(4.93)	-3.43(4.42)	-2.62(3.94)	-2.43(3.55)	-2.59(1.89)

Supplementary Table S.C.2. Mean (1 SD) percent change in biomass of species groups from the baseline simulation without AC for different scenarios. The scenarios include: high detritus in the AC diet (AC_HD), low detritus in the AC diet (AC_LD), no detritus in the AC diet (AC_ND), larval fish in the AC diet (AC_LF), and high phosphorus loads (AC_HP*). An asterisk indicates the baseline simulation for this scenario was the simulation without AC but with high phosphorus loads. Changes greater than $\pm 25\%$ were highlighted. See Table 1 for full species group names.

Groups	AC_HD	AC_LD	AC_ND	AC_LF	AC_HP*
DCCM	36.1(35.8)	39(33.5)	48.8(41.1)	39.8(36.6)	59.3(32.6)
MERG	75.7(53.7)	82(62)	64.8(61.2)	95.6(62)	29.3(24.6)
WAE_L	-4.5(2.9)	-5.8(3.1)	-5.9(3.7)	-9(7.6)	-6.7(3.4)
WAE_Y	-12.3(7.6)	-15.8(5.9)	-14.3(6.7)	-19.2(12.3)	-18.5(6.3)
WAE_J	-8.3(13.1)	-12.2(10.4)	-8.4(12.3)	-11.5(13.4)	9.2(10.7)
WAE_A	-9.4(13.4)	-12.3(11.2)	-8.7(13.2)	-13.3(13.8)	11.3(11.3)
YEP_L	-5.9(15.2)	-4.3(14.5)	-5.9(14.6)	-29.1(28.4)	21.1(16.9)
YEP_Y	-12.2(21.9)	-9.3(20.4)	-12.4(20.6)	-42.1(34)	41.4(29)
YEP_J	-8.2(23.7)	-6.9(23.5)	-10(23.7)	-38.5(35.6)	53.6(33.4)
YEP_A	4.3(14.8)	3.5(15.1)	3.4(15.4)	-12.7(25.3)	25.9(17.1)
GIZ	-26.5(10.4)	-24.6(9.3)	-24.3(9)	-25.3(12.6)	2.4(17.6)
RBT_A	-13.3(12)	-15.3(13.1)	-15.1(10.9)	-1.6(16)	-23.6(13.2)
LWF	7.3(7)	6.9(5.1)	6.9(6.2)	6.5(6.4)	6.8(5.9)
BBT	-12.1(15)	-14.9(12.7)	-12.8(11.5)	-13.6(12.1)	-23.2(13.1)
WHP	-24.7(55.4)	-45.9(39.5)	-36.4(38)	-21(42)	-25.2(13.2)
WHB	-9.9(27.9)	-12.1(22.9)	-15.2(23.4)	7.1(23.9)	-19.5(16)
SMB	16(16.7)	13.9(17.6)	13.2(17)	22.1(13.9)	8.6(13.2)
FWD	-0.8(9.2)	1.7(16.7)	-0.8(10.8)	-3.3(8.5)	7.4(7)
ALW	-15.4(12.3)	-16.6(11.2)	-14.9(13.1)	-15(10.4)	-14.8(9.6)
LKT_A	-7.4(6.6)	-5.5(5.6)	-4.7(5)	-8.5(7.6)	-9.4(4.6)
RBS	-9.1(8.7)	-9(7.8)	-7.9(8)	-14.5(11.1)	-7.2(5.6)
CMP	-0.9(4.7)	-0.8(4.8)	-0.6(4.3)	-1.4(6.1)	1.2(2.8)
RGB	-3.5(3.7)	-5.2(2.9)	-4.7(3.8)	-2.3(2.6)	-5.4(3.4)
SUK	2.2(2.5)	2.3(2.3)	1.7(1.4)	3(4.6)	1.7(3.5)
EMS	-32.3(17.3)	-36.3(17)	-36.6(15.6)	-9.1(20.1)	-40(16.9)
CAT	4.7(7.2)	5.3(6.3)	6(6.1)	0.8(6.4)	11.8(6.8)
PanF	2.4(2.6)	3.7(6.4)	3.7(8.7)	3.5(4.3)	2.1(6.8)
OthF	-14.5(15)	-20.1(13.5)	-20.1(14.3)	-12.8(11.6)	-17.2(10.1)
DREI	-0.7(0.6)	-0.8(0.5)	-0.8(0.7)	-0.7(0.6)	-0.7(0.6)
AMPH	2.3(2.8)	3(2.3)	2.5(2.1)	2.2(2.1)	6.2(3.1)
CHIR	3.8(2.2)	3.7(2)	3.3(1.7)	3.1(1.7)	5.3(2.4)
OLIG	0.5(0.3)	0.4(0.2)	0.2(0.3)	0.3(0.2)	0.7(0.4)
MOLL	-3.8(3.5)	-4(2.4)	-3.1(2)	2.7(5.4)	-4.1(1.5)
EPHE	7(15.8)	5.3(13.6)	6.4(13)	5(12.8)	9.3(10.3)
OthB	5.8(9)	5.5(8.8)	4.5(9.2)	2.6(9.7)	1.6(2.8)
CLAD	-10.5(8.3)	-14.4(9.1)	-15.4(10.6)	-12.3(7)	-14.1(8.3)
COPE	-13.9(10.2)	-14.2(8.5)	-12.4(8)	-12.6(7.1)	-12.1(7.2)

Groups	AC_HD	AC_LD	AC_ND	AC_LF	AC_HP*
ROTI	-9.2(9.8)	-8.7(7)	-7.5(7.2)	-8.1(7.3)	-6(4.8)
PRED	-21.4(15.4)	-24.2(14.9)	-22.5(15.2)	-25.4(16)	-19.8(13)
PROT	2.4(4)	3.7(4.5)	3.8(6.2)	2.6(3.1)	0.6(2.3)
BACT	-13.8(10.6)	-13.1(7.5)	-11.4(7.3)	-11.8(7.2)	-8.7(5.6)
PICO	1(0.7)	1.3(0.8)	1.5(1.3)	1.3(1.1)	2.2(1.4)
EDIB	1.5(1)	0.7(0.6)	-0.2(1.4)	0.5(0.5)	0.4(0.9)
CYAN	-1.7(1.7)	-2.1(1.7)	-2(2)	-1.6(1.1)	-1.1(1)
DETR	-0.2(0.3)	-0.2(0.3)	-0.1(0.2)	-0.1(0.2)	-0.1(0.1)