**Differential equation term explanations:**

dN dt-1: seagrass biomass density (g m-2 t-1) =

+ SG growth

– SG death by sulfide

dM dt-1: organic matter density (g m-2 t-1) =

+ OM capture by SG

+ external OM input

– OM breakdown

dS dt-1: sulfide concentration (μmol L-1 m-2 t-1) =

+ OM breakdown into sulfide

– sulfide diffusion out of system

– joint-detoxification by SG

– consumption by Loripes

dL dt-1: Loripes density (individuals m-2 t-1) =

+ Loripes recruitment

– Mutualism breakdown (seagrass loss causes Loripes loss)

**List of differential equations:**

dN dt-1: seagrass biomass density (g m-2 t-1) =

+ rN(1 – N / k)

– pN(1 – e -aS)

dM dt-1: organic matter density (g m-2 t-1) =

+ dN

+ theta

– bM

dS dt-1: sulfide concentration (μmol L-1 m-2 t-1) =

+ zbM

– gS

– S(yeiN/(1+yeiN))

– LS(1 – e-cN)

dL dt-1: Loripes density (individuals m-2 t-1) =

+ uL(1 – e-mL)

– wL(1 – (xevN/(1 + xevN)))