Ocean aquaculture - Supplemental Information

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```
knitr::opts_chunk$set(echo = FALSE,warning=FALSE,message=FALSE)

library(tidyverse)
library(spasm)
library(patchwork)
library(paletteer)
library(knitr)
library(beyonce)
```

This document includes the supplemental information for ocean aquaculture impacts manuscript.

Figure S1

Farm impacts over time for a high value open access fishery. In each plot the level of attraction is varied. Top plots represent one large farm at 20% total coverage (A, B), and the bottom plots represent the 20% farm area broken into several smaller farms (C, D). Biomass and catches are in relative to the base scenario with no farm (farm scenario/no farm scenario).
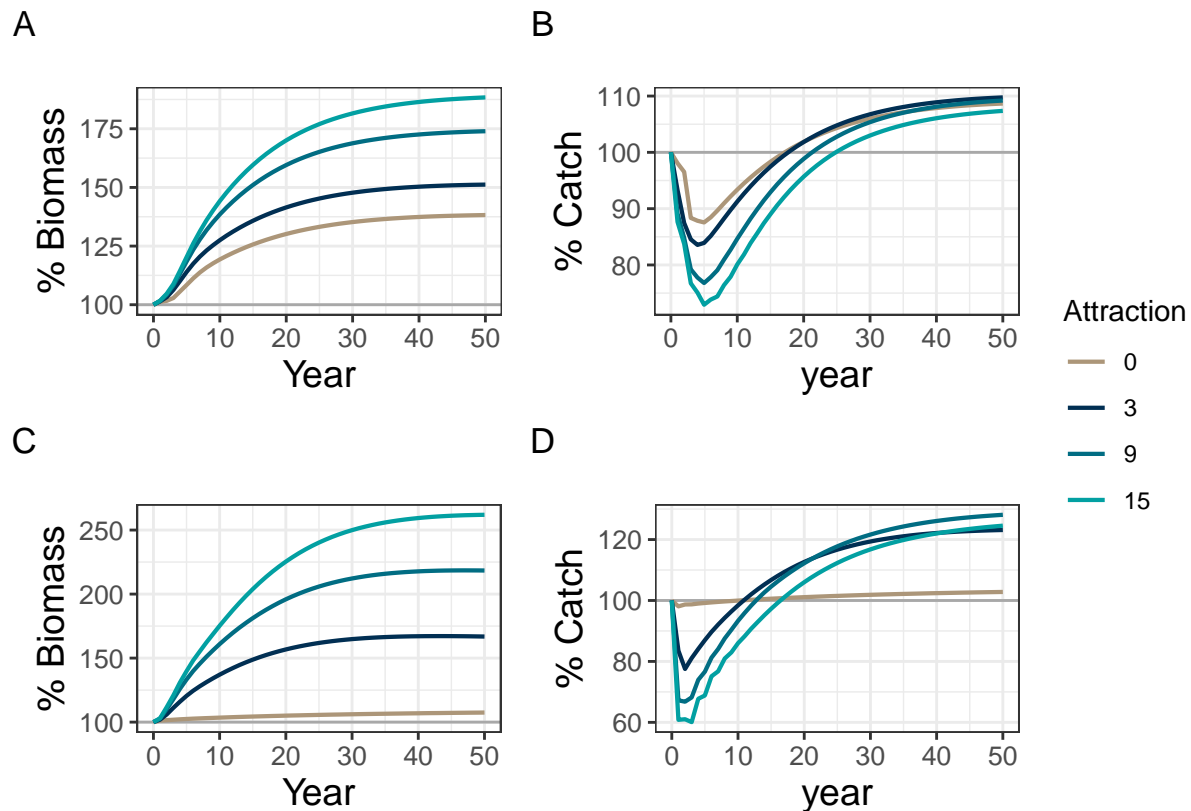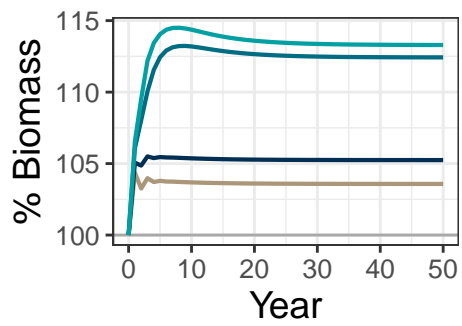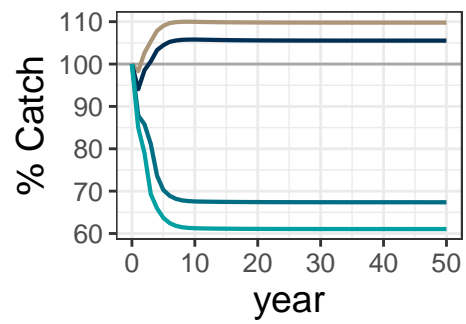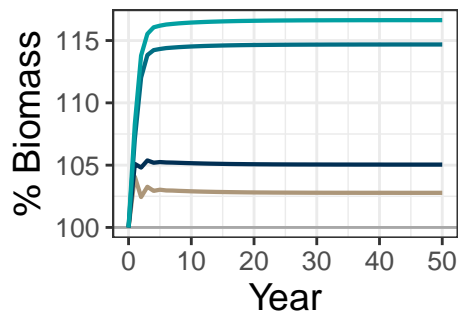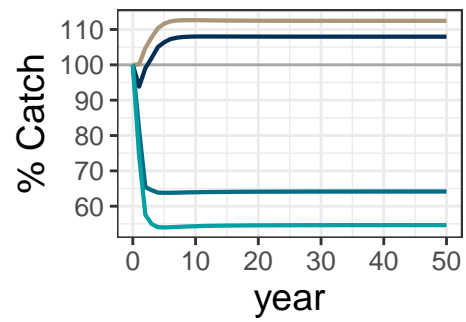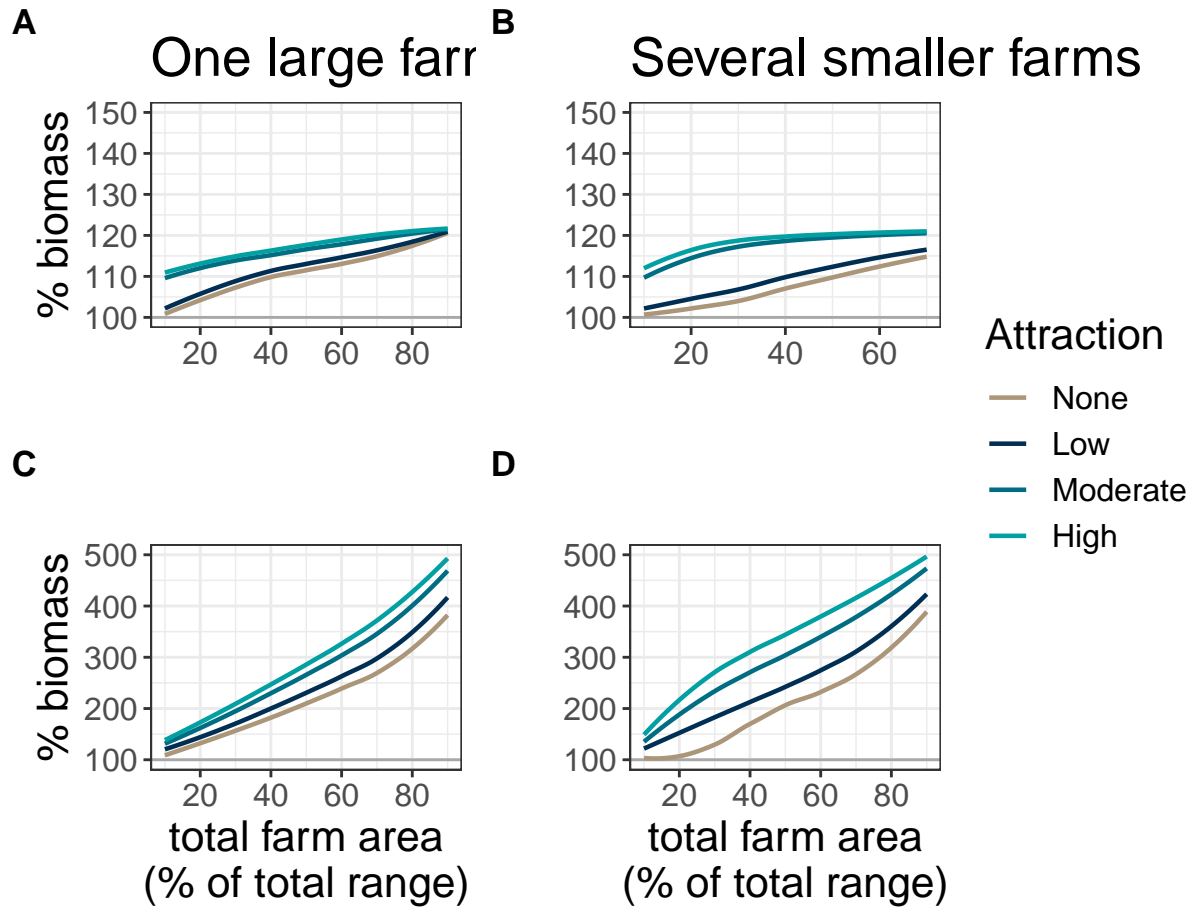
Figure S2

A

B

C

D

Attraction
— None
— Low
— Moderate
— High

2

Figure S3

Equilibrium biomass differences given different levels of attraction to farms with farms of varying total area coverage for (A) one large contiguous farm and (B) total farm area broken up into smaller separate farms. Catch biomass difference is calculated as the difference between catch biomass with the farm scenario and a scenario with no farm.
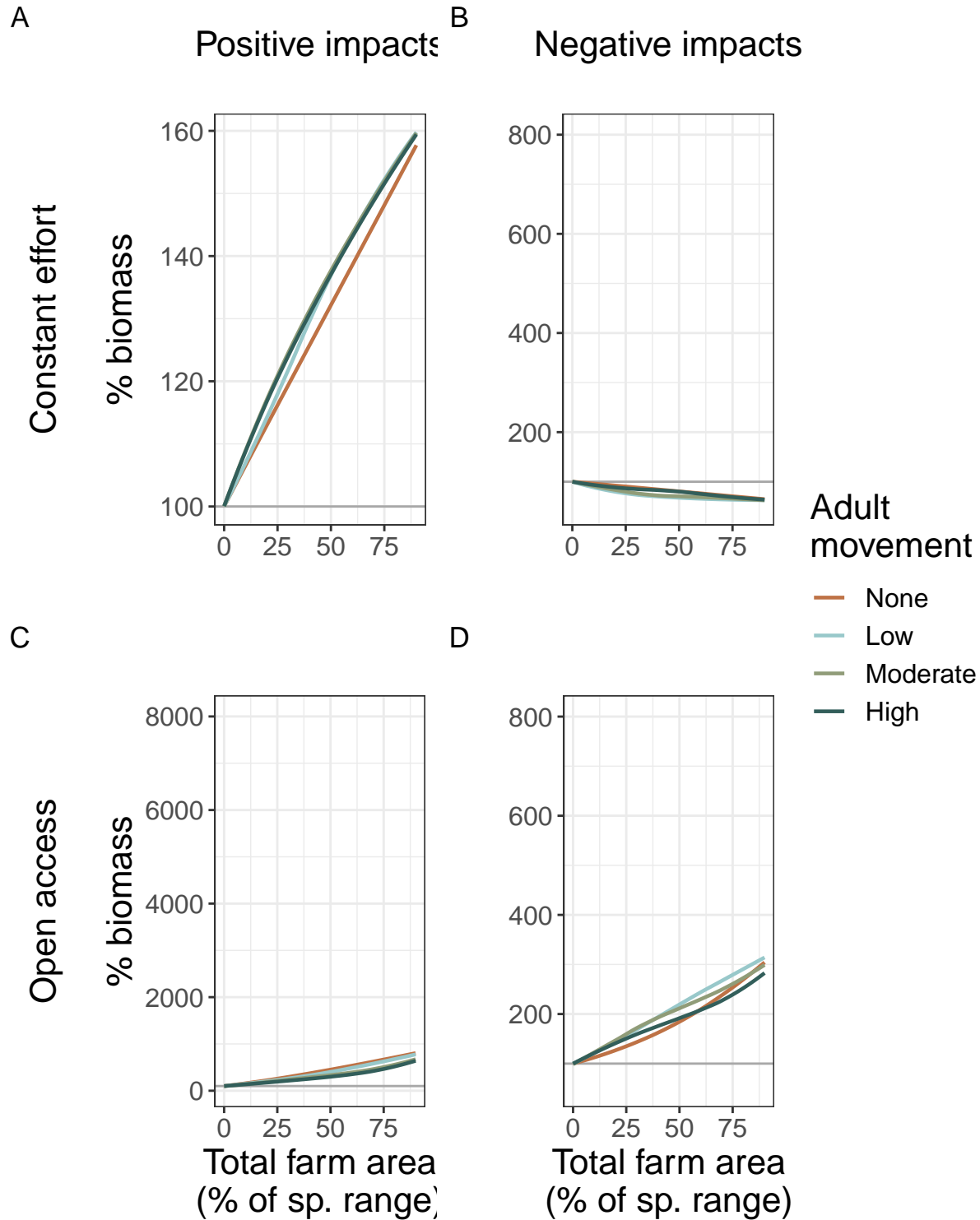
Figure S4

Equilibrium differences in total biomass and catch biomass for different species based on adult movement for farm scenarios with very damaging effects on the wild population (damage > fishing mortality). Different farm designs are tested by farm size resulting in the indicated number of farms.
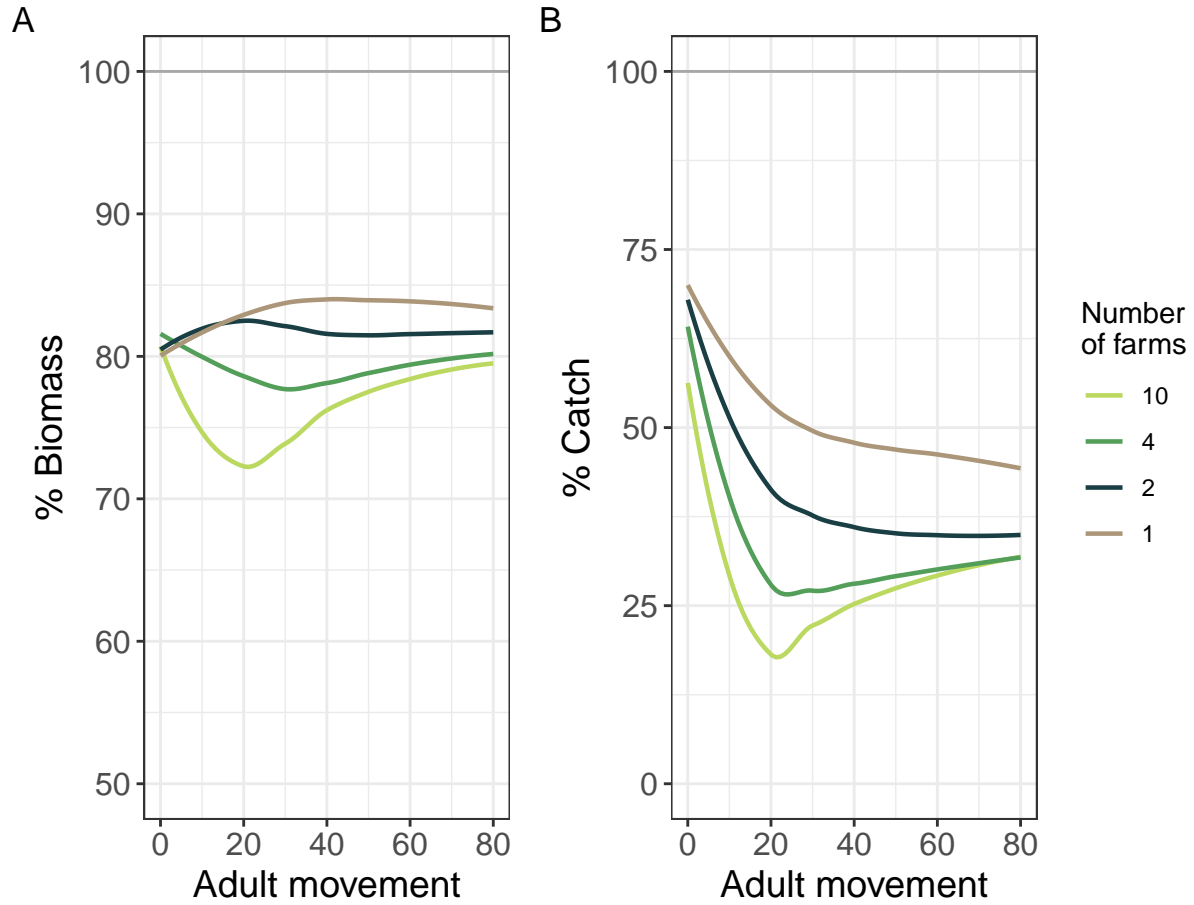
Figure S5

Relative differences in total biomass compared to no farm over a range of total farm areas. Farms are all divided into several smaller farms. Farm scenarios with positive (A, C) and negative impacts to the wild population (C, D), under strong (A, B) and weak (B, D) fishery management.

Figure S6

Relative differences in total biomass and catches compared to no farm over a range of total farm areas. Farms are all divided into several smaller farms. Here farms have no impact on wild population natural mortality rates.