Table S1 Species included in Rpath functional groups and sources for diets

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| --- | --- | --- |
| Group | Species based on | Diet based on |
| Shark | *Carcharhinus leucas* | (De Mutsert et al. 2017) |
| R Drum | *Sciaenops ocellatus* | (De Mutsert et al. 2017) |
| Seatrout | *Cynoscion arenarius, Cynoscion nebulosus* | (De Mutsert et al. 2017) |
| B Drum | *Pogonias cromis* | (De Mutsert et al. 2017) |
| Catfish | *Ariopsis felis, Bagre marinus* | (De Mutsert et al. 2017) |
| Sm Scianids | *Micropogonias undulates, Leiostomus xanthurus, Bairdiella chrysoura* | (De Mutsert et al. 2017) |
| Sheepshead | *Archosargus probatocephalus* | (De Mutsert et al. 2017) |
| Flounder | *Paralichthys lethostigma* | (De Mutsert et al. 2017) |
| Pinfish | *Lagodon rhomboides* | (De Mutsert et al. 2017) |
| Menhaden | *Brevoortia tyrannus* | (De Mutsert et al. 2017) |
| Mullet | *Mugil cephalus* | (De Mutsert et al. 2017) |
| Anchovy Silverside | *Anchoa mitchilli, Menidia beryllina, Membras martinica* | (De Mutsert et al. 2017) |
| Gar | *Atractosteus spatula* | (Goodyear 1967; Geers 2012) |
| Stingray | *Hypanus sabinus* | (Geers 2012) |
| Gulls and Terns | *Gelochelidon nilotica, Hydroprogne caspia, Larus argentatus, Leucophaeus atricilla, Larus delawarensis, Larus marinus,* *Rynchops niger, Sterna forsteri, Sterna hirundo, Sternula antillarum, Thalasseus maximus, Thalasseus sandvicensis* | (McGinnis and Emslie 2001; Geers 2012) |
| Pelicans | *Fregata magnificens, Pelecanus erythrorhynchos, Pelecanus occidentalis, Phalacrocorax auritus, Morus bassanus* | (Fogarty et al. 1981; Clapp et al. 1982; Hingtgen et al. 1985) |
| Wading Birds | *Ardea alba*, *Ardea erodias*, *Charadrius semipalmatus*, *Calidris pusilla*, *Pluvialis squatarola*, *Butorides virescens*, *Egretta tricolor* | (Boyle et al. 2012; Deehr et al. 2014) |
| Dolphins | *Tursiops truncatus* | (Barros and Odell 1990; Bowen 2011; Bowen-Stevens et al. 2021) |
| Killifishes | *Fundulus* spp. | (De Mutsert et al. 2017) |
| Panaeids | *Farfantepenaeus aztecus, Litopenaeus setiferus* | (De Mutsert et al. 2017) |
| Blue Crab | *Callinectes sapidus* | (De Mutsert et al. 2017) |
| Carn Insects |  | Expert opinion |
| Grass Shrimp | *Palaemonetes* spp. | (De Mutsert et al. 2017) |
| Other Crabs | *Rhithropanopeus harrissii* | (De Mutsert et al. 2017) |
| Herb Insects |  | Expert opinion |
| Zooplankton |  | (De Mutsert et al. 2017) |
| Oyster | *Crassostrea virginica* | (De Mutsert et al. 2017) |
| Oyster Drill | *Thais haemastoma* | (De Mutsert et al. 2017) |
| Mollusks | Clams | (De Mutsert et al. 2017) |
| Benthic Inverts | Amphipods, isopods, annelids | (De Mutsert et al. 2017) |
| Marsh Plants | *Spartina alterniflora, Juncus roemerianus* |  |
| SAV |  |  |
| Benthic Microalgae |  |  |
| Phytoplankton |  |  |
| Detritus |  |  |
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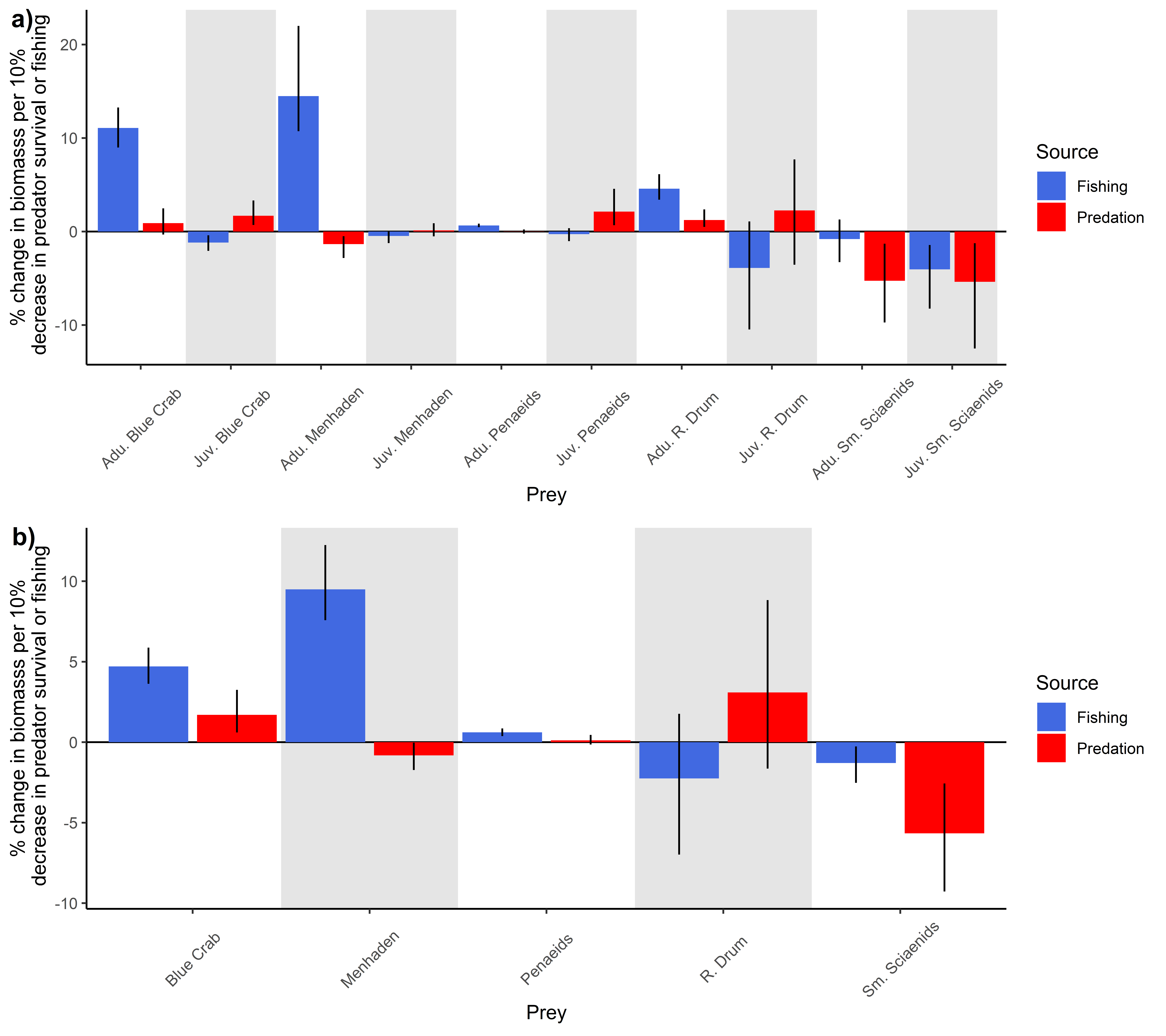


Fig. S1 Direct and indirect responses from generalized equilibrium model of fish and invertebrate biomass to changes in a simultaneous change in predator productivity across predator groups and changes fishing effort with stanzas a) dynamically unlinked and b) combined into one homogenous functional group. Bars are at median of the Monte Carlo simulations and error lines represent the interval covering the middle 50% of simulations.

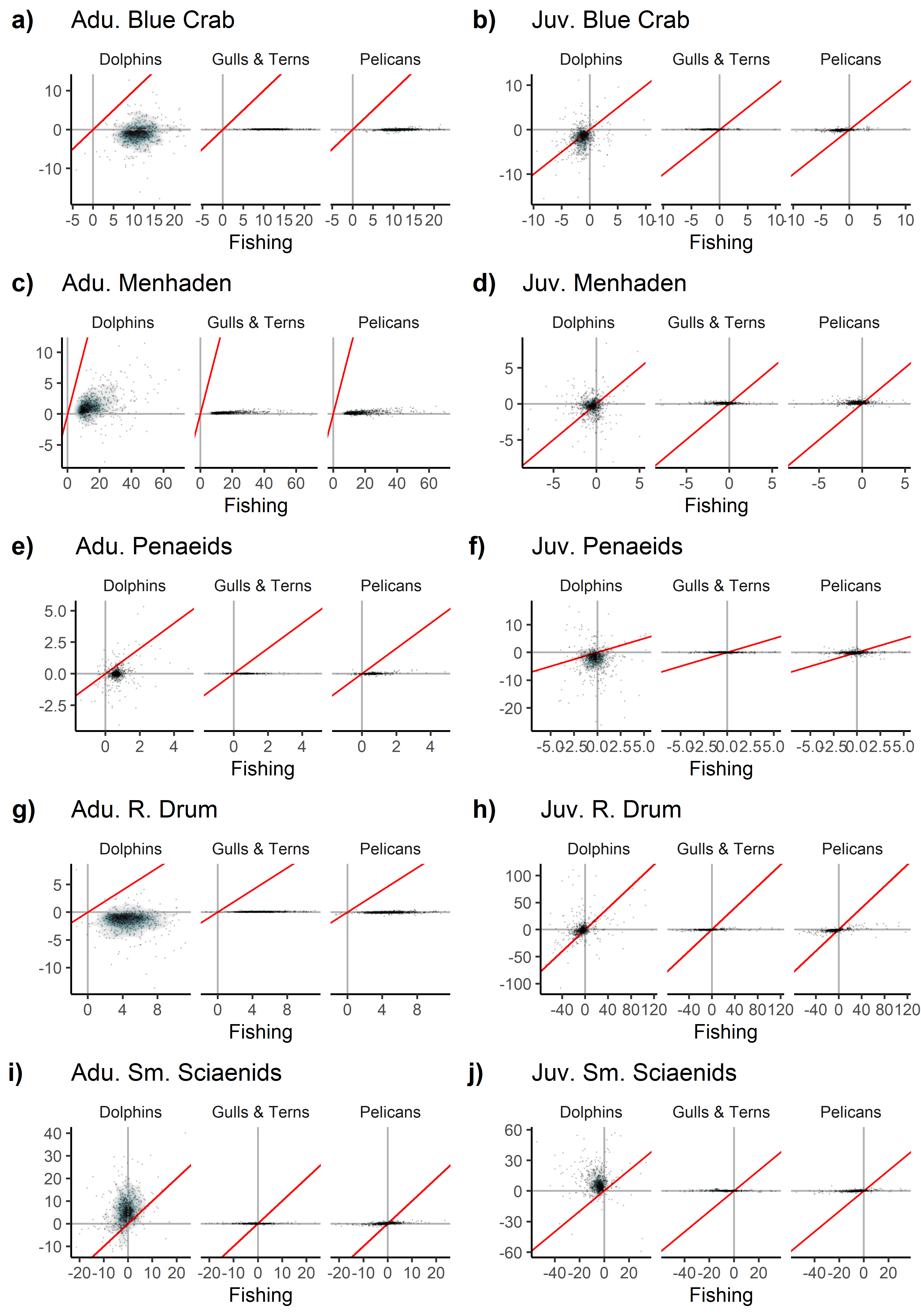


Fig. S2 Percent change in biomass in response to a 10% change in fishing effort vs 10% change in respective predator productivity for five focal functional groups. Red line is 1:1. Points are overlaid on top of density plot, with bluer colors indicating higher point density and grayer/white colors indicating lower point density. Only models falling in the middle 95% of responses for all four sources for both stanzas of all five focal functional group are plotted (667/1000 models).