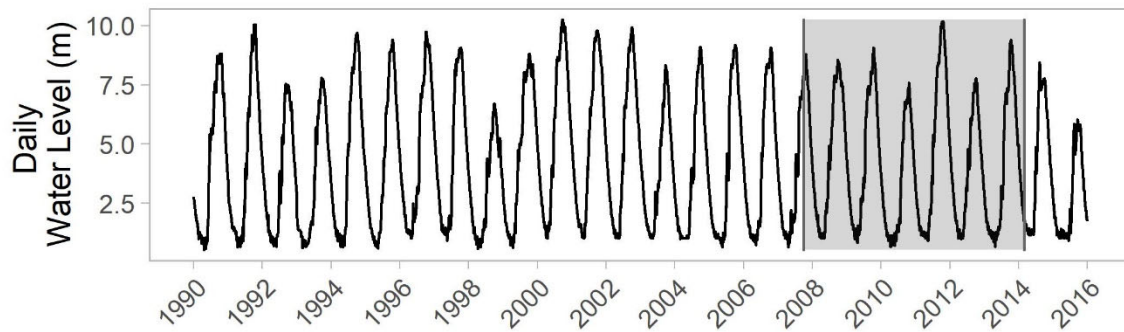
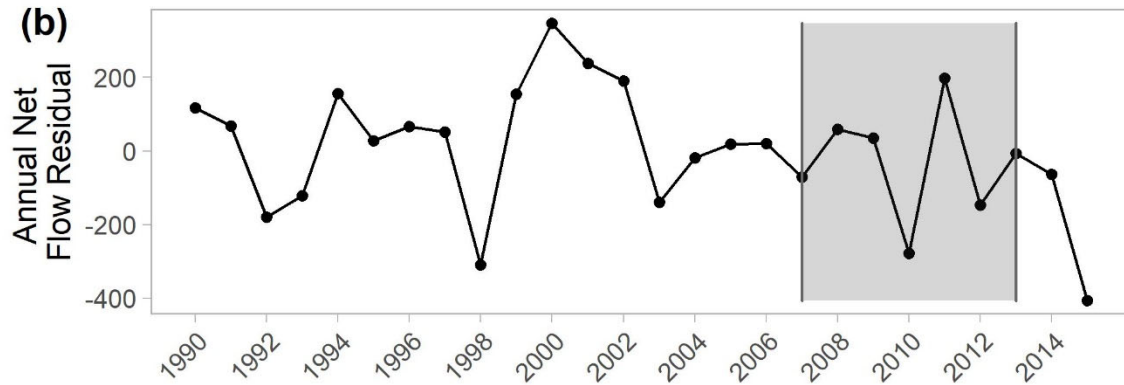


## Supplemental Materials

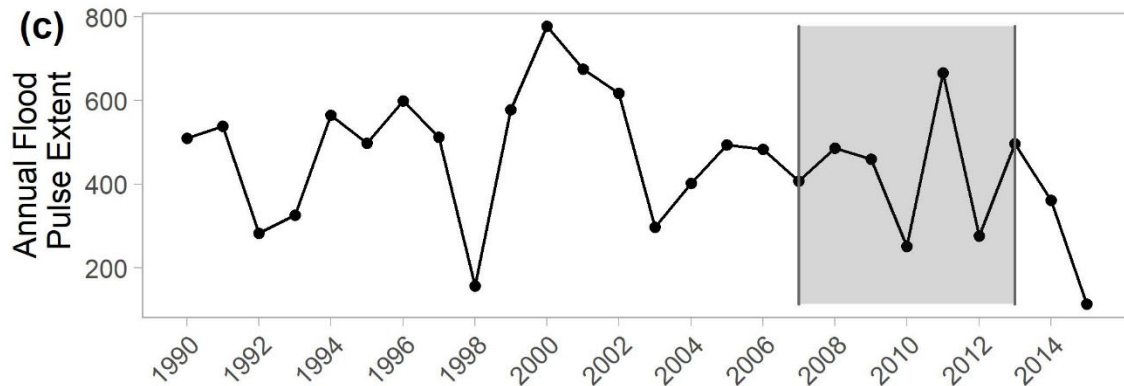
### (a) Hydrology at Tonle Sap River



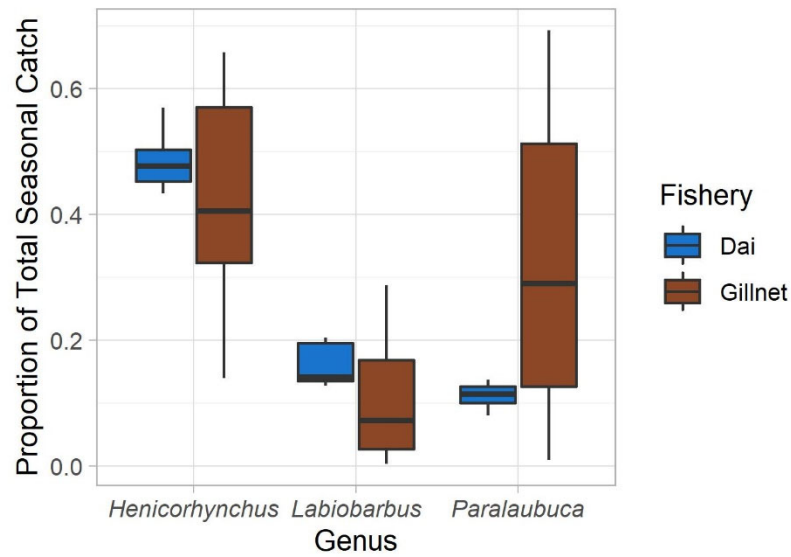
### (b)



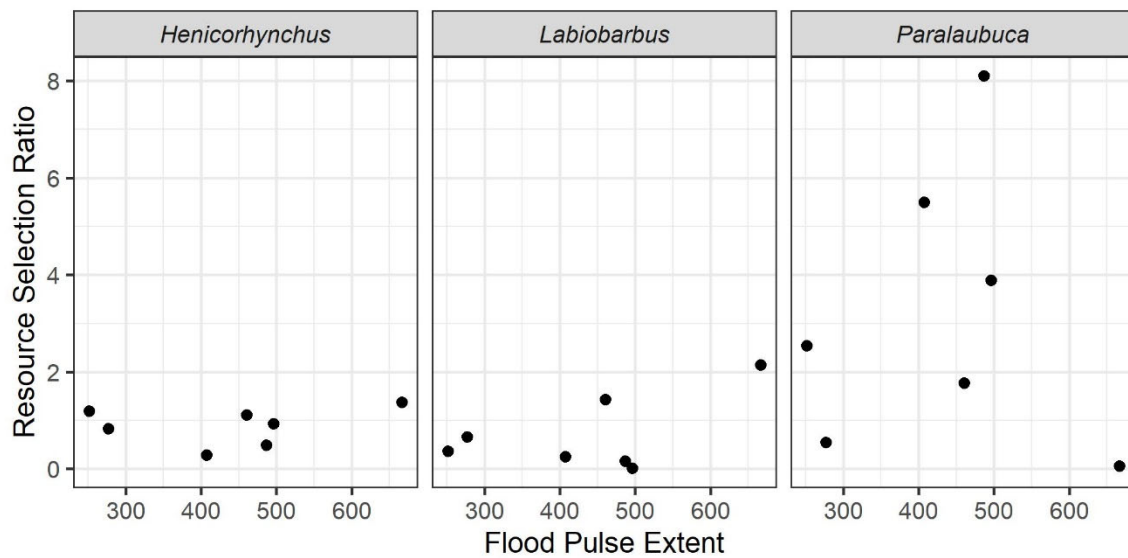
### (c)



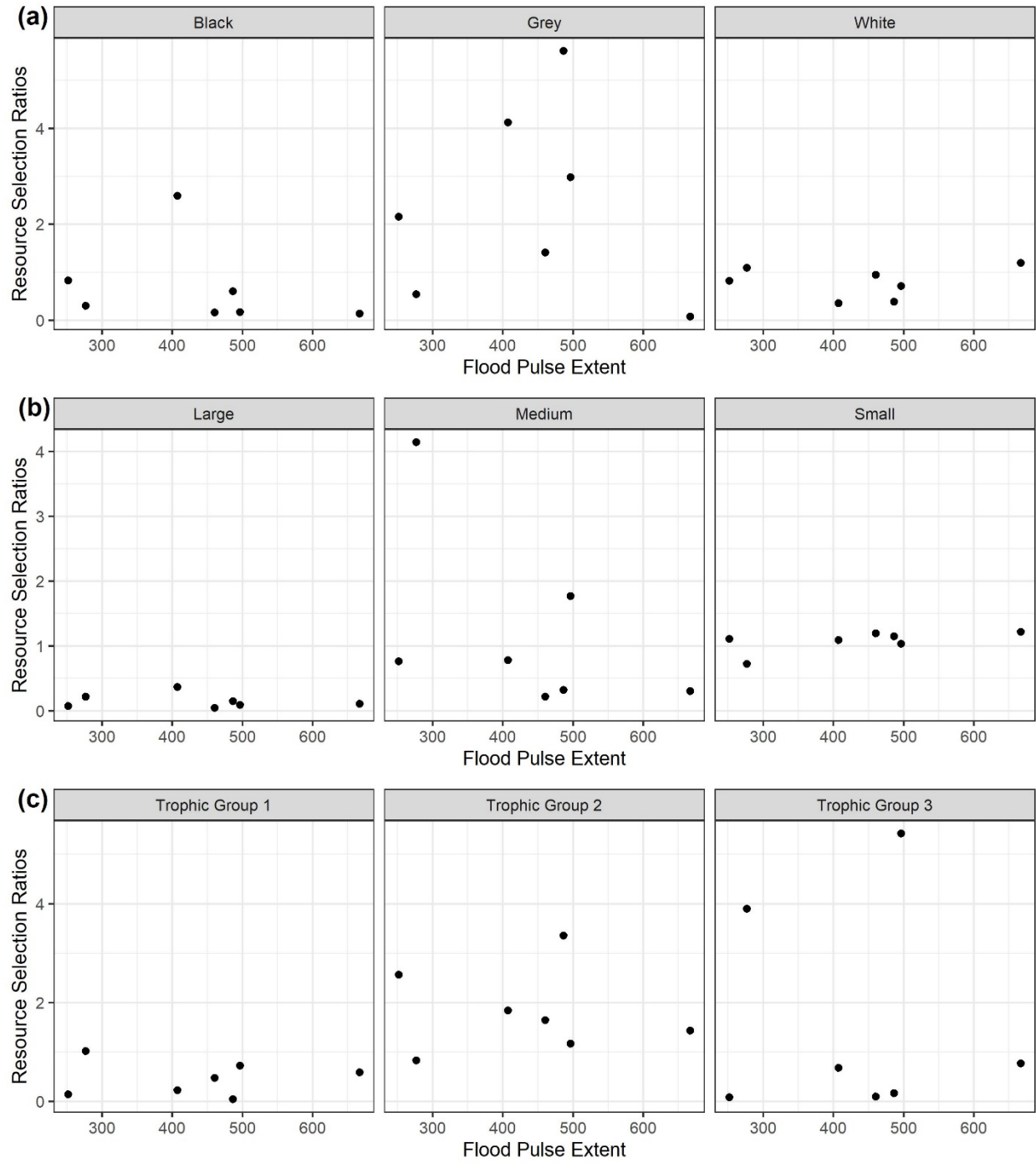
**Figure S1.** The seven years included in this study are highlighted in gray and include a mix of wet (2011 and 2013) and dry years (2010 and 2012). (a) Daily water level data are used to calculate two methods of flooding extent: (b) net annual residuals flows and (c) annual flood pulse extent. These two methods were significantly correlated for the entire time series of the water level data (Fig S1,  $P < 0.01$ , Pearson's correlation = 0.44). This correlation was higher for the 7 years of fish data ( $P = 0.02$ , Pearson's correlation = 0.84).



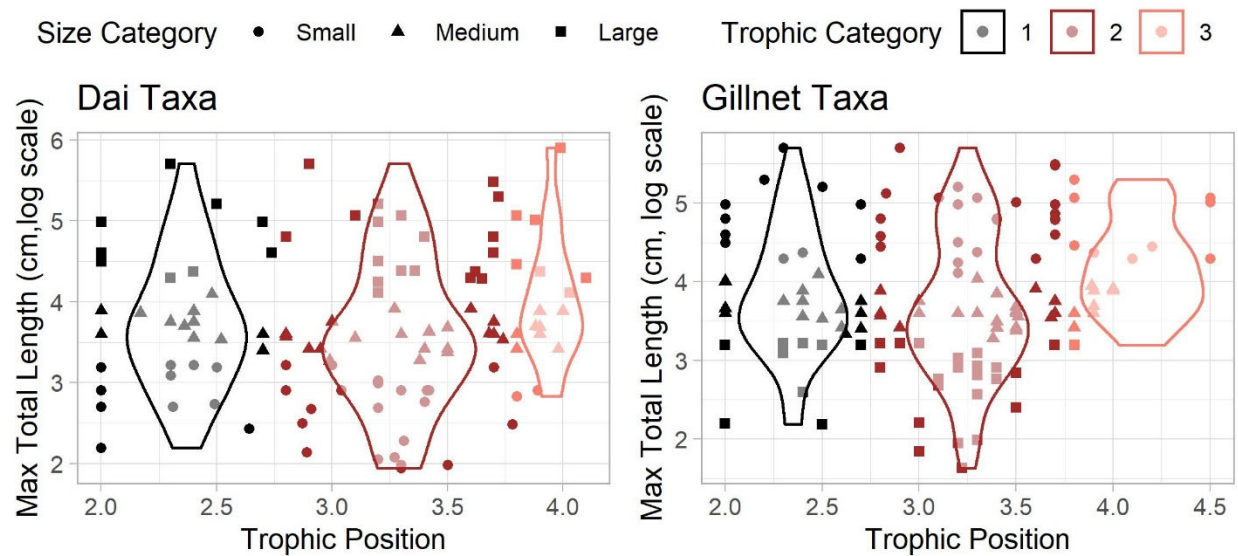
**Figure S2.** Interannual variation in the proportion of catch that is represented by the three most common genera is higher in the gillnet fishery than in the Dai fishery.



**Figure S3.** Flood pulse extent does not predict resource selection ratio for the three common genera in the gillnet and Dai fishery.

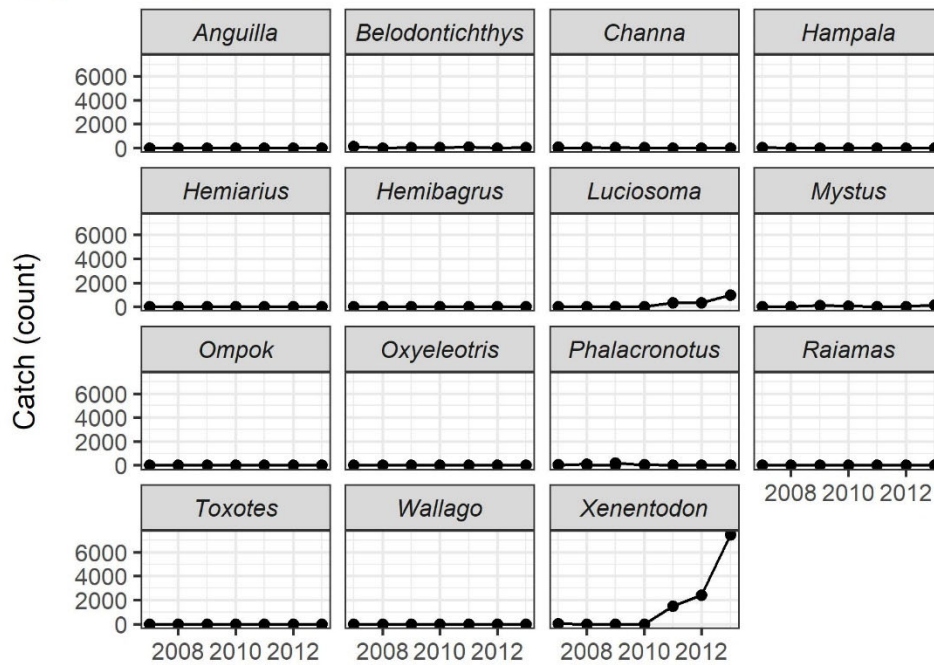


**Figure S4.** Flood pulse extent does not predict resource selection ratios for the traits groups of (a) migration guild, (b) body size, and (c) trophic group. See main text for description of traits.

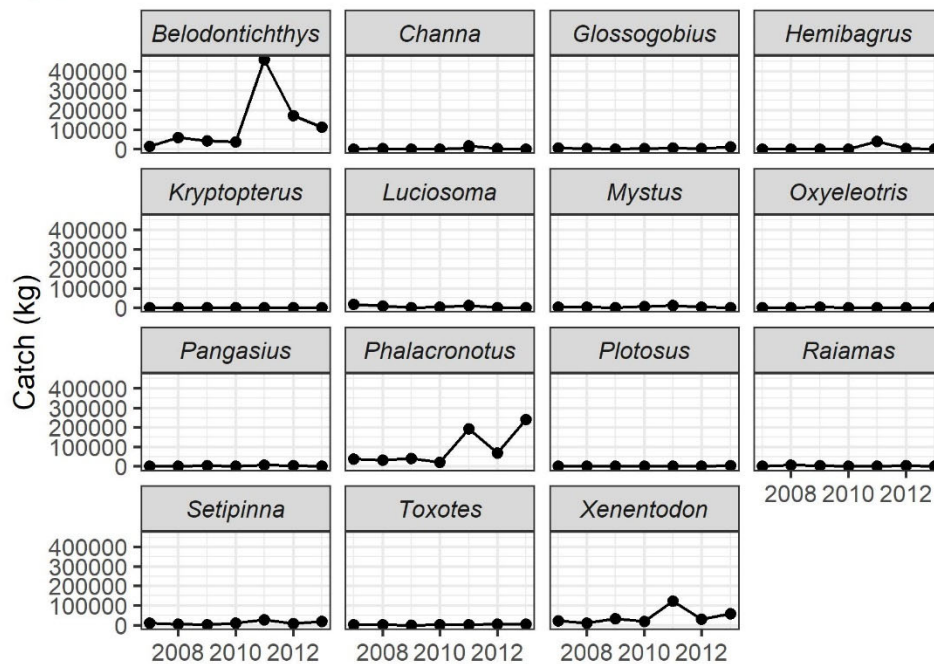


**Figure S5.** The three trophic categories encompass a wide range of maximum total length for taxa that are found in both the Dai fishery and the gillnet fishery.

**(a) Trophic Group 3 Fish in Gillnets**



**(b) Trophic Group 3 Fish in Dai**



**Figure S6.** The increase in the resource selection ratios for trophic group 3 fish in (a) gillnets are likely driven by an increase in the abundance of *Xenentodon*, the genus of needle fish, a trend that was not seen in (b) the Dai fishery.