Index of Abundance Using
Sum Landings for Charleston Harbor
(Total Lbs. Landed/# Pots Pulled)

Discussion MRK - I need help. I don't know what's going on with these results, as they show no significant relationship between Landings CPUE and any of the abundance metrics! These relationships were the best I'd ofund in previous data exploration. I did have to recalculate the way I counted mature female, but that should have nothing to do with the size (Juv, Subadult and adult) regressions. I trust my code from the exploratory analyses from earlier better than this, but this is good plot code. I should be able to fix the input data when I sniff out what is going on. It could be the way I built the lm for the poly_stat_eq. . .
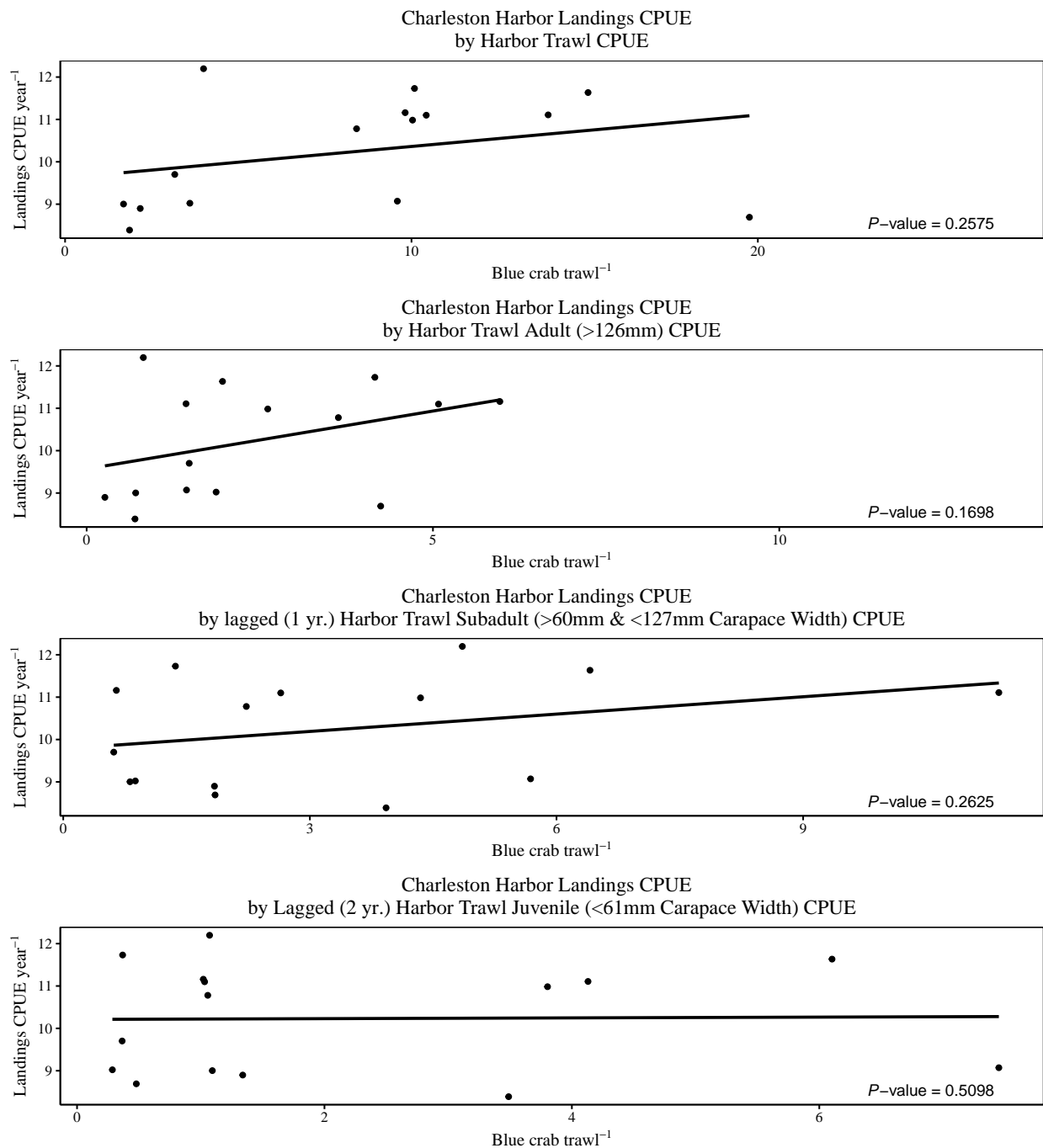
Figure 1: Ordinary Least Squares (OLS) regression of Charleston Harbor watershed (Ashley River, Cooper River, Wando River and Charleston Harbor) total landings (dependent variable) in total poundslanded/# pots pulled by CRMS Harbor Trawl abundance CPUEs (independent variables). Mean annual subadult CPUEs (>59mm & <127mm carapace width) are lagged 1 year, and mean annual juvenile CPUEs are lagged 2 years.

Charleston Harbor Landings CPUE
by Creek Trawl CPUE

Charleston Harbor Landings CPUE
by Creek Trawl Adult (>126mm) CPUE

Charleston Harbor Landings CPUE
by lagged (1 yr.) Creek Trawl Subadult (>60mm & <127mm Carapace Width) CPUE

Charleston Creek Landings CPUE
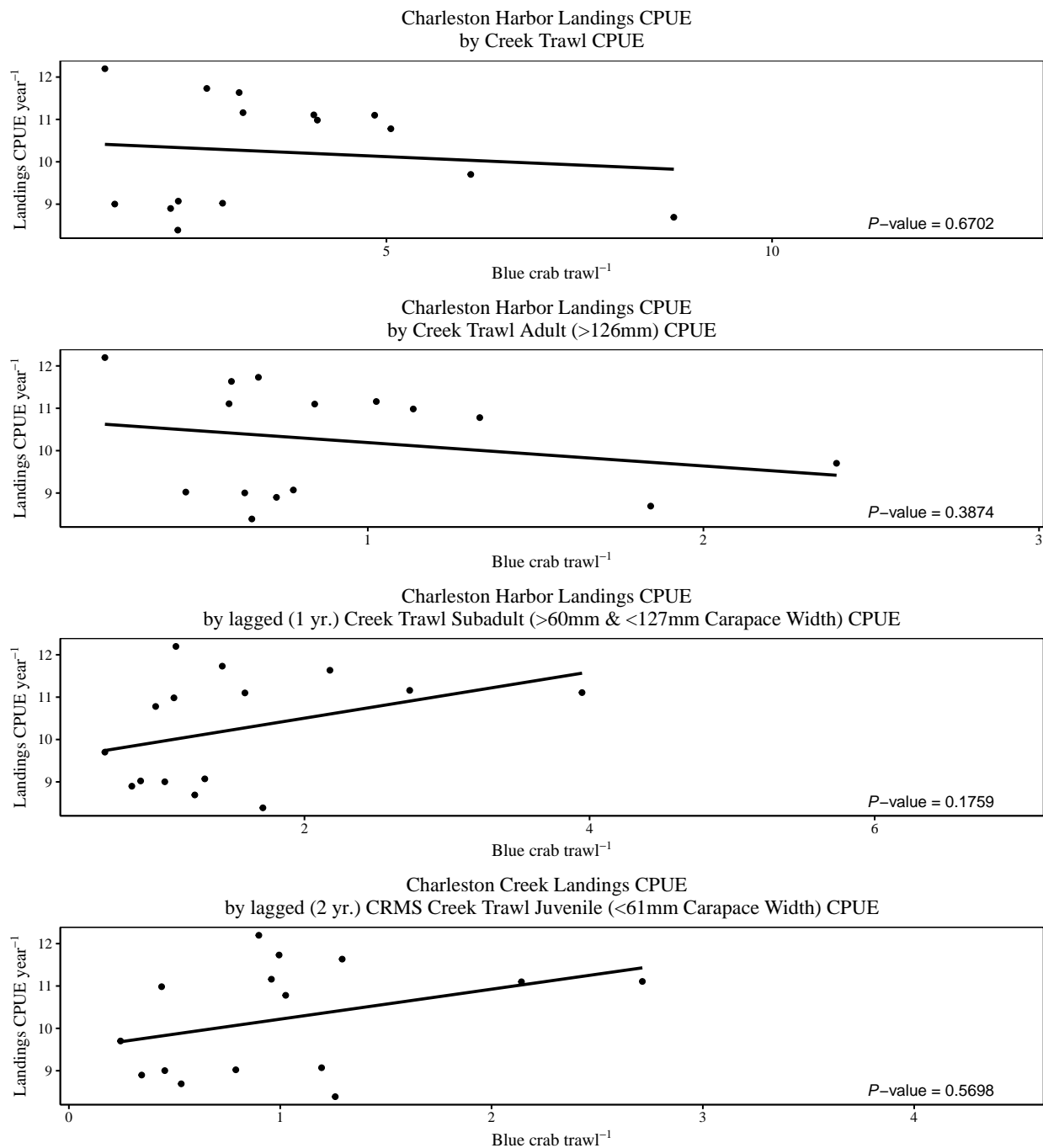**by lagged (2 yr.) CRMS Creek Trawl Juvenile (<61mm Carapace Width) CPUE**

Figure 2: Ordinary Least Squares (OLS) regression of Charleston Harbor watershed (Ashley River, Cooper River, Wando River and Charleston Harbor) total landings (dependent variable) in total pounds landed/# pots pulled by CRMS Creek Trawl abundance CPUEs (independent variables). Mean annual subadult CPUEs (>59mm & <127mm carapace width) are lagged 1 year, and mean annual juvenile CPUEs are lagged 2 years.

**Charleston Harbor Landings CPUE
by Ashley Potting Survey Legal–Sized (>126mm) CPUE**

P–value = 0.4585

**Charleston Harbor Landings CPUE
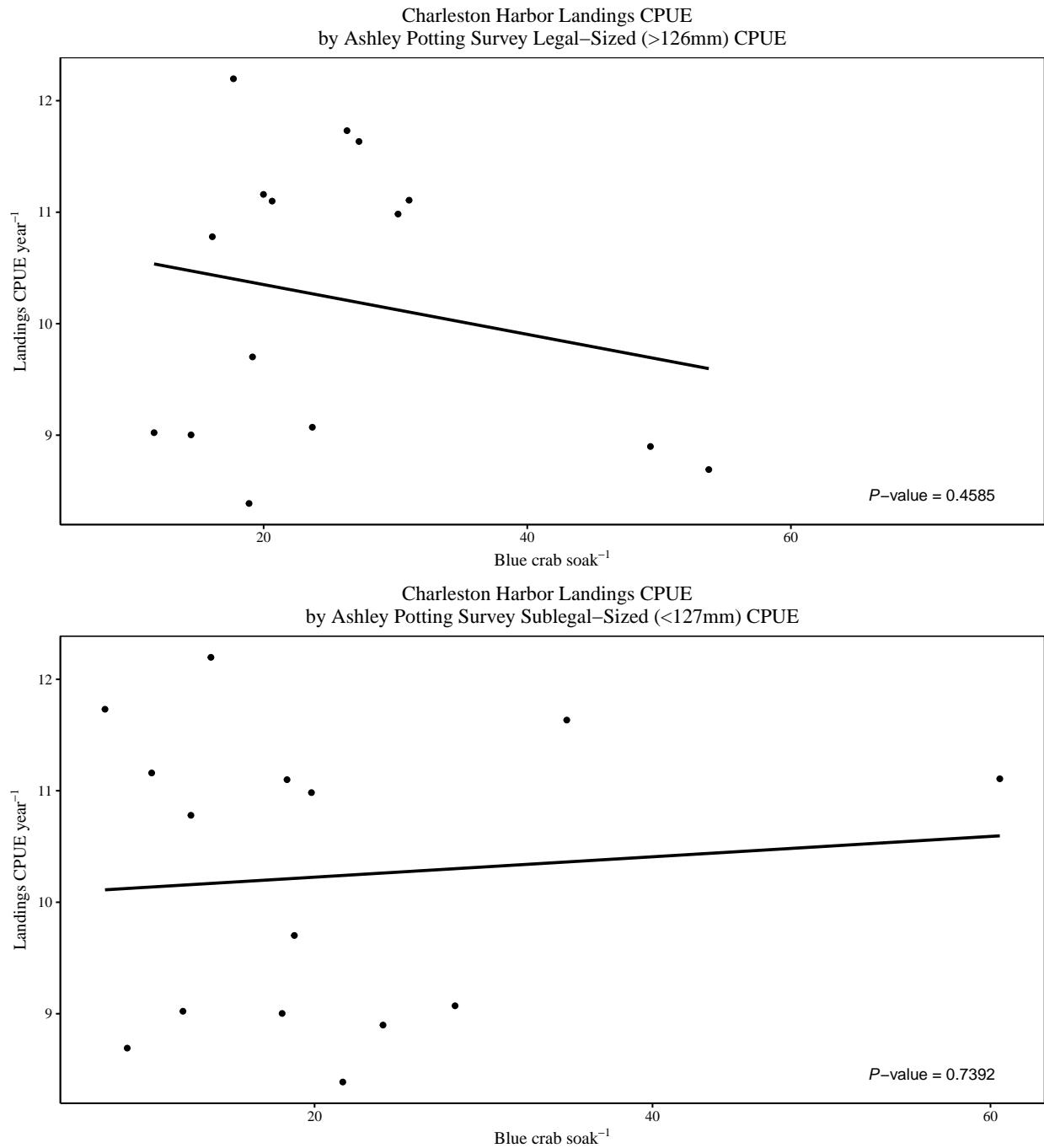by Ashley Potting Survey Sublegal–Sized (<127mm) CPUE**

P–value = 0.7392

Figure 3: Ordinary Least Squares (OLS) regression of Charleston Harbor watershed (Ashley River, Cooper River, Wando River and Charleston Harbor) total landings (dependent variable) in total lpounds landed/# pots pulled by Ashley River potting survey abundance CPUEs (independent variables). Mean annual sublegal CPUEs (<127mm carapace width) are lagged 1 year

Charleston Harbor Landings CPUE
by SCECAP Open Water Trawl CPUE

P−value = 0.1577

Charleston Harbor Landings CPUE
by SCECAP Creek Trawl Adult (>126mm) CPUE

P−value = 0.194

Charleston Creek Landings CPUE
by lagged (1 yr.) Creek Trawl Subadult (>60mm & <127mm Carapace Width) CPUE

P−value = 0.5383

Charleston Creek Landings CPUE
by lagged (2 yr.) SCECAPCreek Trawl Juvenile (<61mm Carapace Width) CPUE
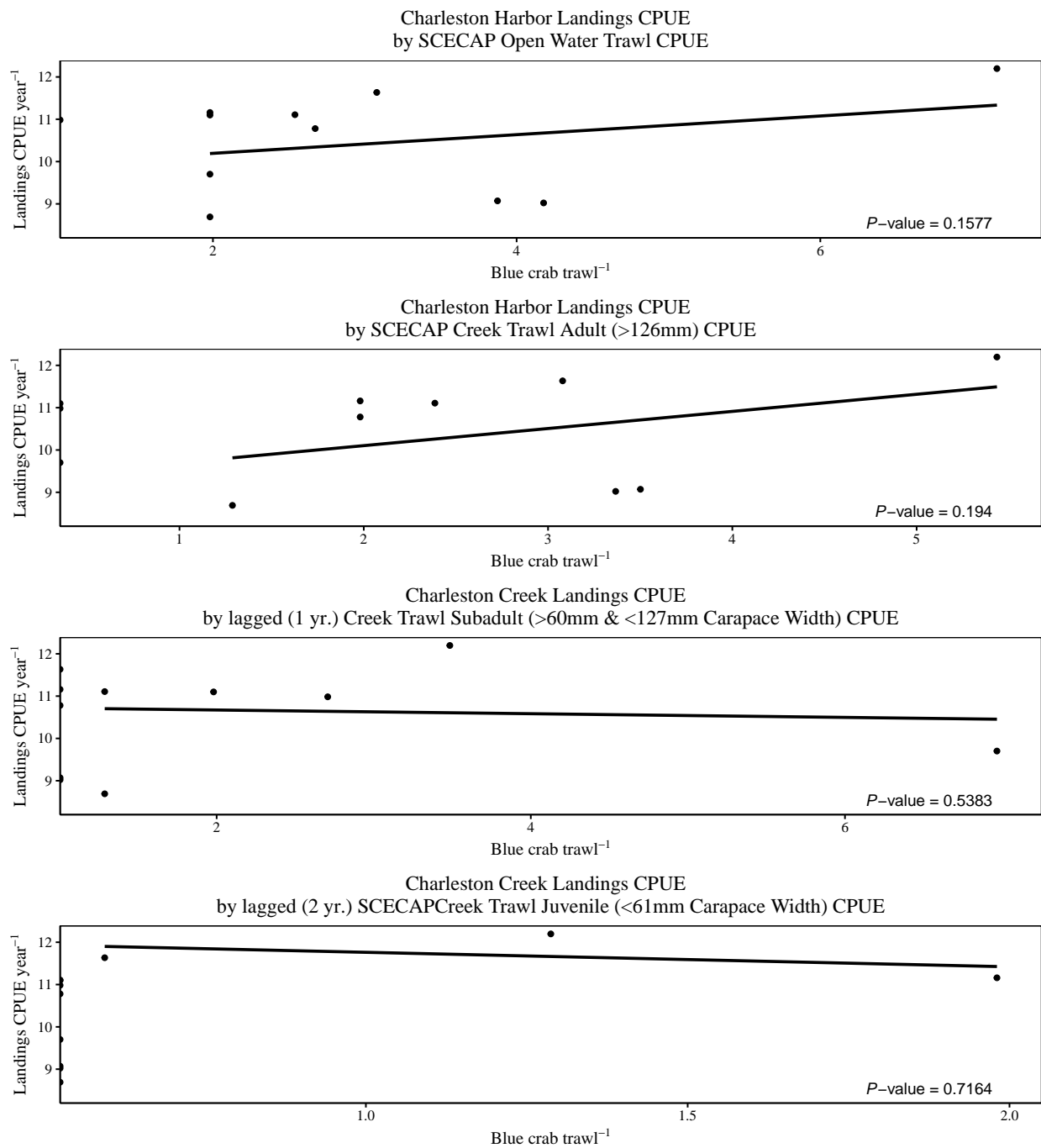
P−value = 0.7164

Figure 4: Ordinary Least Squares (OLS) regression of Charleston Harbor watershed (Ashley River, Cooper River, Wando River and Charleston Harbor) total landings (dependent variable) in total pounds landed/# pots pulled by SCECAP Tidal Creek Trawl (<100m width) CPUEs (independent variables). Mean annual subadult CPUEs (>59mm & <127mm carapace width) are lagged 1 year, and mean annual juvenile CPUEs are lagged 2 years. Independent variables were logarithmically transformed due to a large outlier
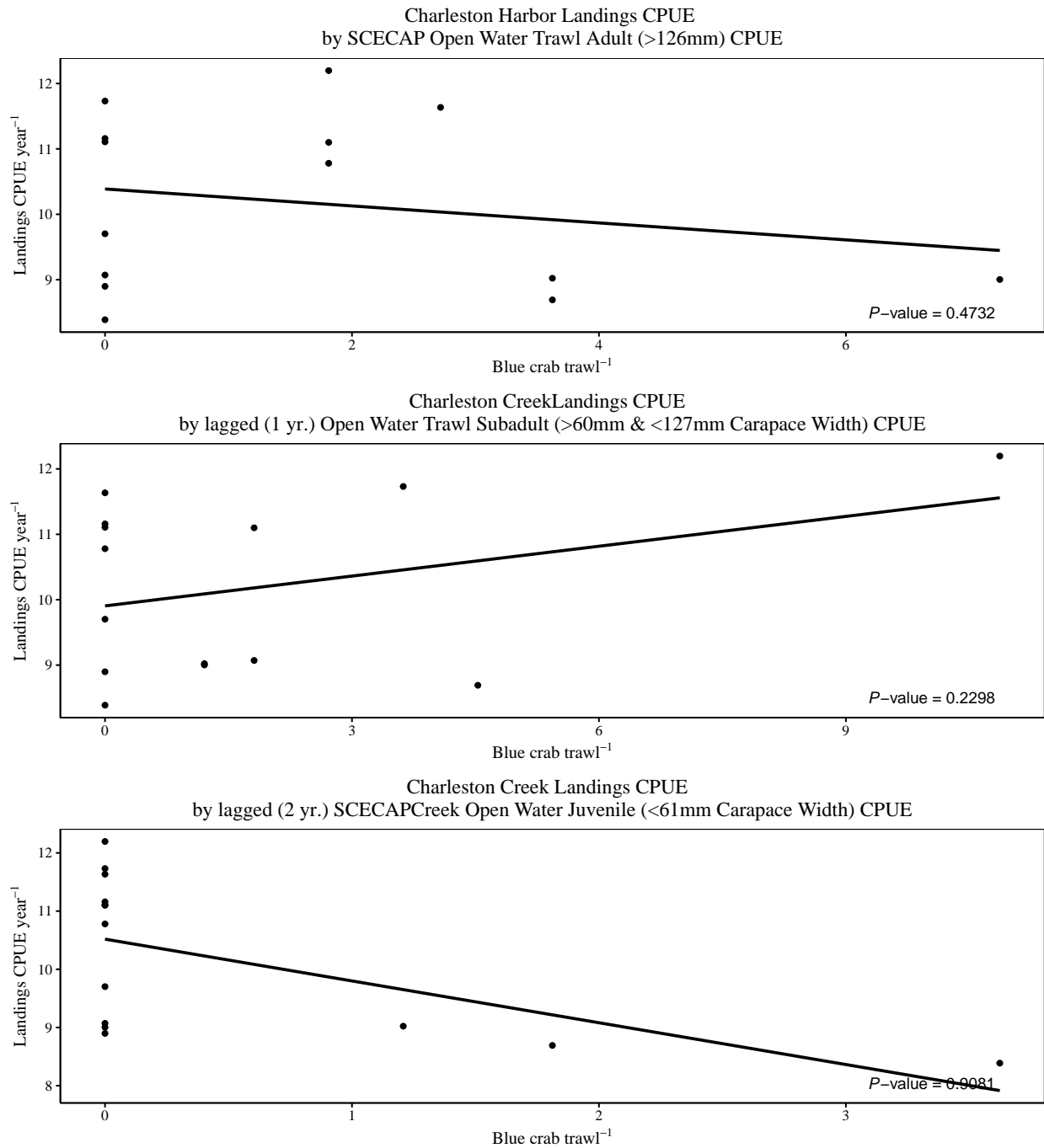
Figure 5: Ordinary Least Squares (OLS) regression of Charleston Harbor watershed (Ashley River, Cooper River, Wando River and Charleston Harbor) total landings (dependent variable) in total pounds landed/# pots pulled by SCECAP Open Water Trawl (>100m width) CPUEs (independent variables). Mean annual subadult CPUEs (>59mm & <127mm carapace width) are lagged 1 year, and mean annual juvenile CPUEs are lagged 2 years.