This study examined the endohelminth parasite communities of alligator gar (*Atractosteus spatula*) and spotted gar (*Lepisosteus oculatus*) from a unique study habitat (Sabine Lake Estuary). A helminth survey of 40 alligator gar and 40 spotted gar was conducted on specimens captured from Sabine Lake in the spring and summer of 2018. Linear regression, mixed effects modeling, and other statistical analyses were used to determine if habitat salinity and host size impact parasite community diversity and infection intensity in these two species of gar.