Abstract: It is generally assumed that multi-species fleets operate in a generalist fashion, given diversity of gears employed. An analysis of gears, species and spatial fishing effort allocation can give an indication if those patterns are indeed common in these types of fleets. In this paper we examine the fishing operations of a semi-industrial multi-species fleet that operates at the Campeche Bank, Mexico to define, how fishing effort is allocated depending on the fishing gears employed. The analysis was undertaken based on information of 8,566 fishing trips from logbooks recorded by fishers and information obtained through interviews between the years 2000 and 2003. A non-metric multidimensional scaling analysis (MDS) was used to discriminate operations based on the gears employed and a similarity analysis was used to define species targeted by the identified groups. Results showed that despite that the fleet targets a mix of species, some level of specialization can be observed given the gears employed and the fishing areas where the fleet operates. Two of the fishing gears were more selective than the rest of the gears, which showed some degree of overlap. Spatial allocation of fishing effort also showed preferential operation zones depending on the gear employed. From the analysis was evident that the multi-species fishery uses a mix of mix of specialist and generalists strategies. This analytical approach showed to be useful to identify both the spatial fishing effort allocation and the fishing strategy of commercial fleets.