

Overview of kingfish health issues – draft paragraphs for SARDI cuttlefish report

Yellowtail kingfish (*Seriola lalandi*) farming in South Australia experienced progressive and unusual mortalities between April 2011 and September/October 2012. While initial investigations ruled out notifiable and infectious disease, it became apparent that kingfish mortalities were related to nutritional deficiencies.

Investigations to rule out disease were conducted by independent veterinarians, researchers and PIRSA Fisheries & Aquaculture's aquatic animal health unit. A range of diagnostic tests were conducted, including histopathology, PCR, electron microscopy, cell culture and infectivity trials.

The primary pathology contributing to mortalities was identified as chronic gut enteritis, with multiple associated (secondary) pathogens including coccidians, myxidia, cryptosporidia and mixed bacterial species, all of which are endemic to the area. These conditions were suggestive of poor immunocompetence. Epidemiological analyses ruled out a number of factors, with the resultant conclusion suggesting that nutritional deficiencies contributed largely to the mortalities. Subsequently, top coating pelleted feed with an essential amino acid (shown to be lacking in feed) has recently returned mortalities to normal levels, resolving kingfish health issues.