

Geospatial assessment to predict potential African olive (*Olea europaea* spp. *cuspidata*) infestation sites in remnant vegetation communities

Doug Campbell

Upper Hunter Weeds Authority, PO Box 122, Muswellbrook, New South Wales, Australia
(uhwa@muswellbrook.nsw.gov.au)

Summary African olive (*Olea europaea* ssp. *cuspidata*) is a highly invasive evergreen exotic tree whose African native range is similar climactically to the New South Wales' (NSW) Upper Hunter Valley. Its ability to form dense monocultures has led to it being listed as key threatening process for native vegetation communities in NSW. Presently, infestations are widespread in the lower Hunter Valley with the upper Hunter Valley recording a relevantly small number of isolated infestations. Changing land use, notably the cessation in grazing, has been linked to an increase African olive range, with avian seed dispersal considered a key factor in its spread. This study used existing information on infestation

locations, avian dispersal range, land use and vegetation type to develop maps via geospatial analysis. All new infestations identified during this study were in areas where grazing had been excluded, with 73% of these previously unknown infestations recorded on roadsides. The link between grazing and seedling recruitment can be used to inform both surveillance and control programs, resulting in a more effective and efficient control program on African olive, which will assist in maintaining the biological integrity of remnant vegetation in Upper Hunter.

Keywords African olive, avian seed dispersal, biodiversity, geospatial analysis, Hunter Valley, *Olea europaea* ssp. *cuspidata*.