Assessing the suitability of habitat for wintering Siberian cranes (*Leucogeranus leucogeranus*) at different water levels in Poyang lake area, China

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**INTRODUCTION**

In the past few decades, wetlands have been damaged extensively by land reclamation and development, which seriously threaten the survival of waterbirds (Liang et al. 2004, Mistry et al. 2008, Mackinnon et al. 2012). Assessments of habitat suitability for endangered waterbirds that are threatened by habitat loss are needed for their conservation (Ali et al. 2010, Cao et al. 2010, Ma et al. 2010). There are currently insufficient field survey data for ecological analysis and planning. A combination of remote-sensing and geographic information system (GIS) technology has supported considerable progress in wildlife habitat assessment research (Ali et al. 2010, Nagendra et al. 2012, Imam and Kushwaha 2013). Remote-sensing technology can help to identify and distinguish species’ habitats and thus to predict their spatial distributions. The technology also helps to analyze habitat changes that are caused directly by natural processes or by human activities (Kerr and Ostrovsky 2003, Bradley et al. 2012). Satellite-based remote sensing applications in ornithology has been used increasingly for assisting in habitat evaluation, habitat modelling and other conservation and management objectives effectively (Gottschalk et al. 2005).