

The effectiveness of conservation covenants in enhancing the breeding activity of wedge-tailed eagle (*Aquila audax fleayi*) and white-bellied sea-eagle (*Haliaeetus leucogaster*) on private land in Tasmania.



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SUMMARY

Over the last two decades conservation covenants have become the primary mechanism for securing important biodiversity values outcomes on private land in Tasmania, including the protection of threatened eagle nests. Eagle ecology in Tasmania and the role of conservation covenants on nests is a complex issue with environmental and social components both playing an influencing role. With a view to understanding the effectiveness of conservation covenants in providing adequate protection of eagle breeding sites, University of Tasmania Master of Environmental Management student Erin Harris, under the supervision of Dr. Andrew Harwood (UTAS), Dr. Sally Bryant (TLC) and Nick Mooney, documented the activity status of eagle nests during the 2018-2019 breeding season across three management regimes: Private land protected by Covenants; Permanent Timber Production Zones and unprotected private freehold land. Furthermore, Erin also conducted social surveys and interviews with private landholders of covenanted and non-covenanted properties to understand why landholders engage in conservation covenanting programs, their attitudes towards these programs and eagle nest protection and how covenants change their land management practices.

In total 157 nests were surveyed; 56 nests on covenanted land, 55 nests on Permanent Timber Production Zones (PTPZ prescriptions) and 46 nests on non-protected land. An analysis of nest activity rates revealed no significant relationship between the proportion of active nests across the three management regimes. This lack of a significant relationship between nest activity and management regime deserves careful consideration and contextualisation, especially given the high

levels of protection through management prescriptions for nests on both covenanted and PTPZ properties compared to nests with no protection in place. This result is just a small snapshot in time and further yearly nest surveys need to be conducted on these properties to understand how often the eagles are using the nests and to gauge whether non-active nests are actually being used in future breeding seasons as population trends are unlikely to become apparent until after several generations. To further add to this result, a selection of environmental and anthropogenic attributes that are likely to contribute to the disturbance of eagles and their breeding activities were also selected for analysis where two variables were found to have a statistically significant relationship with the activity status of the nest: nests were less likely to be active in locations with a higher percentage of forest cover within 5000 m; and nests were also more likely to be active when located further away from roads.

Survey and interviews with landholders of covenanted and non-covenanted properties revealed that the respondents of covenanted properties were motivated to covenant their land primarily to 'protect biodiversity' whereas 'protecting an eagle nest' and 'financial incentives' were the primary motivations for non-covenanted landholders possibly joining a covenanting program. Furthermore, the results from the survey give evidence to support the notion that covenants are reducing certain activities on these properties, such as grazing, firewood harvesting, land clearing, hunting and recreation. However, despite covenant restrictions and regulations, 'no change' was evident to some degree across all reviewed land management activities since the covenant was adopted. This result highlights the importance of on-going monitoring of compliance which is minimal or entirely lacking according to covenant interviewees. Overall, surveys and interviews highlighted a generational shift towards a more positive relationship between landholders and eagles with both covenant and non-covenant landholders indicating a general desire to protect eagles on their property.

The results of Erin's study have shed light on the ability and adequacy of conservation covenants to safeguard valuable eagle nesting sites on private land in Tasmania through identifying the areas where conservation covenants succeed in protecting eagles and the areas where improvement in nest protection is further needed on private land.