§2 p1

~~Agreat~~

Introduction.

Many nest boxes are made and installed each year, mainly to provide habitat ~~structures~~ for wildlife, but also with thought to education and delight. Some of these nest boxes are installed by Landholders or ~~small very~~ small organisations such as landcare groups, schools, ~~scout organisations~~, friends groups, and NGO's. While individual efforts are not always large, the cumulative total across all of ~~these org~~ participants most likely corresponds to large biodiversity outcomes, and large ~~amounts of~~ ~~expendi~~ investments of ~~est~~ resources and personal efforts.

Despite nest box installation projects being ~~so~~ widespread in the Adelaide region, there does not appear to be a well known best-practice protocol or guide for monitoring the outcomes ~~of~~ of these projects. Nest boxes do not come without their problems. Low uptake, poor breeding success, occupation by feral species, and nest-box collapse or failure have all been raised as issues, and in some cases are well-documented problems. Ideally, any significant effort directed to nest box installations will be accompanied by ~~a to~~ on feedback of information to help ~~understand the outcome~~ assess the outcome, and understand ~~any~~ the challenges ~~to achieving the desired that might be impacting that.~~ that might be present.

This protocol is an attempt ~~to~~ at a broad, flexible system that can be used in different contexts, while still ~~givi~~ providing high quality information that is ~~to~~ easy to share between ~~across~~ groups. It aims to be an ecologically ~~attuned~~ -attuned guide that helps groups to engage in ~~on-ground~~ monitoring efforts ~~of varied kinds~~ with the ~~knowledge that~~ confidence that the information they're gathering is high-quality, and can ~~help to create better biodiversity improve projects~~ ~~in the~~ be shared to help improve biodiversity project more broadly. This protocol is a part of a collaborative effort to make any standard used the best possible; it is not rigid, and it is a part of a process of exploring other practices already in use as well.

Scope of the Monitoring protocol.

Many elements of the protocol are to do with habitat structures rather than any one target species. ~~The cumulative effort of nest boxes installations is There are several reasons for this.~~ ~~Broadly speaking~~ The cumulative effort of nest box installation is spread across many ~~species~~ target species, and many installations are opportunistic, being based on whatever nest boxes are at hand; the efforts are ~~general in~~ to increase habitat structure ~~generally, as much as they are to help any one species~~ ~~to help biodivers~~ improve biodiversity in general. Furthermore, many of the ~~most~~ more rigorous studies involving species of conservation interest ~~actually~~ ~~pay close attention~~ to ~~the habitat structure~~ focus on the habitat structure, inadvertently or not.

~~Studies involving~~ ~~Conservation~~ ~~actions for endangered species sometimes~~

Surveys of nest boxes installed for at-risk species are often surveyed for presence/absence, and this is for any species, since competition ~~there~~ for nest sites could be impacting the target species. ~~Some~~ Meanwhile Several surveys of natural hollows ~~have~~ seen used by a target species are also extended to hollows used by other species, ~~and~~ and unused hollows, in order to understand nest site requirements – and consequently, limitations ~~– more accurately~~. These sorts of studies are done ~~to with~~ ~~a~~ a target species ~~in mind but~~ ~~often~~ contain information which is collected to understand use of the structures ~~more generally~~ in general. Nest sites ~~are crucial~~ ~~to the lifecycle for~~ are crucial for the lifecycle ~~of many~~ obligate hollow users, including ~~(most Australian parrots)~~ [edit]; a limitation in nest sites may ~~mean a limitation in~~ limit the population. Furthermore, the crucial nest site resource is part of a ~~landscape phenomena involving~~ dynamic ~~resource involving~~ resource interacting with a whole community of species. // Rigorous studies are able to reflect the above view of tree hollow ecology. ~~But lots~~ Lots of nest boxes are ~~put up informally or~~ installations are often done casually ~~"installed without a formal monitoring protocol"~~, ~~casually~~, or ~~are not monitored~~ as part of programs that ~~lack the resources to follow up with detailed monitoring~~ ~~only have the resource to~~ ~~monitor nest boxes~~ cannot ~~consistently monitor nest boxes~~ follow up with consistent monitoring. The bare minimum seems to be checking for target species occupation, – a task that still requires a survey effort. There does not seem to be ~~a way to~~ guide ~~to improve the in place~~ to help improve ~~the~~ quality of monitoring ~~surveying~~, or to ~~make us wrong~~ ~~understand of~~ the implications of investing more or less effort. ~~When installations are done generally, for many species but not necessarily one in particular~~, a guide to monitoring. In cases where any installation is general, for several species but