

Appendix 3 – Biodiversity Offset Management Actions

Action	Objectives	Implementation guidelines
Domestic stock grazing exclusion	To promote natural regeneration of native vegetation in plant communities where grazing has a detrimental effect and regular biomass removal is not necessary. To allow remnant vegetation to be restored naturally (without the need for replanting) to Moderate to Good Condition. Where one or more of the structural components of the vegetation (trees, shrubs, ground layer species) is below benchmark for the Vegetation Type, the removal of grazing may allow these to regenerate without the need for supplementary planting or direct seeding action. Low Condition vegetation adjacent to remnant vegetation may in some circumstances also regenerate naturally if grazing is removed. If this can be achieved then this is likely to be a cheaper and ecological preferable method of achieving an expansion of remnant size compared to supplementary planting or replanting. To prevent degradation of understorey habitat structure and components through trampling, compaction, biomass removal, increased nutrient levels, spread of weed species, loss of litter layer etc, or to allow habitat recovery from such damage due to past domestic stock grazing. Stock exclusion may also be desirable to prevent damage to certain tree species (Stringybarks, for example) through the chewing or rubbing of bark or hoof damage to tree surface roots.	Permanent total exclusion of domestic stock is required by this action. This can be achieved using existing fences or by constructing new fences around the remnant, where necessary. Additional fencing may not be required where only cropping occurs adjacent to the offset area. Fencing must be maintained in good order to ensure stock from the property or neighbouring properties do not gain access to the PVP offset or incentive area. Where sensitive riparian areas are to be fenced off, if necessary pipe river water to troughs for stock watering purposes. In the PVP process, this action is mutually exclusive of applying the Strategic stock grazing management action. Thus, landholders can only select one of these two actions for each PVP offset or incentive Vegetation Zone.
Feral and/or native herbivore control/exclusion fencing	Sometimes it will be important to reduce grazing and browsing pressure on native vegetation to allow regeneration and assist recovery of threatened species and their habitats. Goats, rabbits, hares and other feral animals, as well as native herbivores can have a major impact in preventing regeneration of native	Target species may include rabbits, hares, goats, deer, camels, horses, kangaroos and wallabies. Particularly in cases where threatened flora is being impacted by browsing, the erection of permanent exclusion fencing in conjunction with initial and/or ongoing culling is likely to be

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	vegetation, including many threatened flora species. Dams provide access to water for feral herbivores and some kangaroo species that can maintain high population numbers which can cause adverse grazing impacts on native vegetation. Restricting access to artificial water supplies can reduce feral and native herbivores, particularly in for Western grey Kangaroos in western NSW. Only select this action if browsing damage is identified as having an adverse impact within the offset area and it is practical and affordable to firstly control feral animal populations and then to construct effective fencing to keep feral animals out. Consider the potential impact of the proposed method of reducing browsing pressure on non-target species, especially threatened species.	required for the positive effects of this action to be ongoing. Most of the larger feral species will be easily controlled before or after fencing is erected by mustering, trapping, shooting or poisoning as appropriate to assist in control and reduce risk of animals breaching the fencing. Use humane and effective methods that are not destructive to the habitat or plant community. Rabbit control, however, may need particular attention. There are several means of rabbit control, depending on the level of infestation and the type of country. Control methods suitable in areas of remnant vegetation are: - Poisoning with either Pindone® or 1080; - Laying baits laced with Rabbit Calicivirus Disease (available soon); - Removal of extensive warren systems by either blasting or ripping, followed by rehabilitation of the disturbed areas; and - Trapping (using cage traps or rubber jawed trap) or shooting, in areas with low populations. Any control program needs follow up monitoring to ensure its effectiveness, including periodic checking of fencing. Monitoring is undertaken by measuring impacts on the vegetation and by spotlighting rabbits at night. Removal of rabbit harbour (i.e. fallen timber and dense shrubs) is not recommended as this provides habitat for fauna. Erect appropriate fencing or individual guards for targeted

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		threatened plants. Fencing is regarded as the most effective and reliable means to control damaging grazing impacts from feral and native herbivores. The fencing of stock dams and provision of an appropriate alternative water source for stock that is not accessible to target feral or native herbivores may be an alternative for reducing herbivore browsing pressure in some areas. The complete removal of stock dams is another option to reduce impacts from native and feral herbivores in some situations.
Retention of all dead (and alive) timber.	Fallen and standing timber (coarse woody debris and dead branches, snags, stumps etc) provides essential or important Breeding or Foraging or Shelter habitat for many threatened species. Tree hollows and hollow logs are a vital habitat element for many fauna in forest and woodland communities. Standing dead trees often contain hollows that continue to provide important denning and nesting habitat Sticks and leaf litter provide essential Foraging and nesting habitats for many fauna species.	Retain all dead timber, including both standing and fallen trees and tree stumps. Protect live trees from threats such as ringbarking by stock. Avoid pruning older trees with hollows. Avoid removing ground litter for the purposes of tidying up. Avoid burning, heavy grazing, and the collection of small branches and sticks. In a few cases where the offset is large it may be justified to allow a very small amount of timber extraction for on-farm purposes. In this case removal should focus on younger solid trees that do not contain hollows.
Retention of all dead (and alive) timber (cont.)	Disturbance of this layer can also impact on threatened plants. The retention of fallen timber in streams and other water bodies may also be important in providing perching habitat for birds and Shelter for threatened fish species.	The amount that can be removed should be specified. Landholders should be encouraged to relocate timber resulting from legally-sanctioned vegetation-clearing into PVP offset and incentive areas and placed in strategic locations to provide additional habitat. Where it is necessary to remove fallen timber from other areas landholders should be encouraged to relocate this into retained vegetation in PVP offset or incentive areas.
Exclusion of fire	Some species and ecological communities are highly vulnerable to fire	Avoid deliberate burning of sites. Develop appropriate fire-

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	and require habitat that has not been burnt for long periods. Whilst some fire sensitive species are likely to survive an occasional fire, many of these will not tolerate fires in relatively frequent succession. Some plant species are killed by fire and are slow to regenerate from a fire event. Fires in frequent succession can eliminate species from an area. Where fire sensitive species are known to be likely to be present in an offset or incentive area then the exclusion of fire as far as practically possible is a desirable action. It is accepted that for most sites it may not be possible to prevent the occasional severe wildfire. If the exclusion of fire has been scored as a positive management action for a species then this is an indication that experts have identified that the species is susceptible to too frequent burning.	breaks and prepare a local fire suppression strategy to minimise the risk of wildfire spreading into the site. Where hazard reduction burning is essential, the fire frequency and area allowed to be burnt should be clearly specified. In such cases it is recommended to apply mosaic burns within the hazard reduction zone to minimise impact of fire on sensitive threatened species populations.
Control of feral pigs	Feral pigs can have a major impact in destroying and preventing regeneration of native vegetation, including many threatened flora species, particularly herbaceous ground layer species. Areas disturbed by pigs can also become colonised by weed species. Only select this action where feral pig damage can be identified as a problem within the offset area, or is likely to become a problem.	Use humane and effective methods including shooting, cage traps and poisoning.
Retention of rocks	Rocks provide essential habitat for several threatened fauna species and sometimes provide protection from herbivore grazing for native plants. This habitat may occur as loose surface rocks, rocks embedded into the soil, rocky outcrops, rock piles, caves or cliff faces.	Retain and avoid disturbance to all rocks and rock features on the site. Avoid disturbance to cave entrances, including the vegetation near cave entrances.
Retain regrowth	Any disturbed areas where regrowth is, or may occur (including Invasive Native Scrub (INS)) have potential to become significant habitat to a range of native flora and fauna species.	Retain all regrowth in previously disturbed areas.

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No fertiliser application	Fertiliser application can reduce native plant species richness and increase richness of exotic species. This potentially changes vegetation community composition and structure, therefore reducing habitat available for native flora and fauna species.	Do not apply fertilisers at any time.
Permitted Routine Agricultural Management Activities (RAMA5)		The landholder must not clear native vegetation for routine agricultural management activities (RAMAs), except when the landholder is clearing native vegetation for the following routine agricultural management activities: - the operation and maintenance only of permanent fences only (as permitted by s. 22 and s. 11(1)(a) Native Vegetation Act 2003 and cl 20 Native Vegetation Regulation 2005); - the removal of noxious weeds under the Noxious Weeds Act 1993 (as permitted by s. 22 and s. 11(1)(b) Native Vegetation Act 2003); - the control of noxious animals under the Rural Lands Protection Act 1998 (as permitted by s. 22 and s. 11(1)(c) Native Vegetation Act 2003); - any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property (as permitted by s. 22 and s. 11(1)(i) Native Vegetation Act 2003). The clearing of any vegetation in contravention of this clause is excluded from being an activity permitted to be carried out under Part 3 Division 3 s.22 of the Native Vegetation Act 2003.
Weed control (non-statutory exotic pest species only)	Woody or herbaceous weeds can be highly invasive and if not controlled may replace many native plant species, leading to a decline in habitat quality. Sensitive removal of weeds may allow populations of some threatened plant species to increase in response to greater availability of habitat.	Monitor and remove all weeds in high and medium condition sites annually. Non-herbicide based weed removal methods including

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		strategic stock grazing or hand pulling preferred. Registered herbicide use must be limited to targeted non-drift spray methods. Pre-emergent herbicides should not be used. When treating areas adjacent to the remnant for weeds, the remnant must be protected from herbicide drift. This can be achieved by nominating a buffer beyond the remnant where herbicide application is by non-drift methods only.