

Restoration of *Lantana camara*-invaded deciduous forests in Mudumalai Tiger Reserve

Madras Crocodile Bank Trust

ASSESSMENT OF IMPACTS OF PROPOSED PROJECT

Environmental Impacts (OP 4.01)

The PI has conducted research on the effect of *Lantana* removal on native plant communities (Prasad 2010) and has found that it has no negative effects on richness or composition. Rather, species richness of understory plants increased upon *Lantana* removal. Reduced tree seedling survival, and overall abundance of seedlings and native understory species as a result of *Lantana* removal is likely due to greater exposure to herbivory (Prasad 2010). Other invasive plants have also been shown to confer protection to native seedlings (Gorchov & Trisel 2003) This outcome may be expected when dominant understory ‘nurse plants’ (Garcia & Obeso 2003) are removed; initial decreases in seedling survival and overall understory herb and shrub abundance following *Lantana* removal are likely to be succeeded by increases once tall grass, followed by other dominant native plant species (which shield seedlings and smaller plants from browsing), recolonize areas from which *Lantana* has been removed.

Socio-economic Impacts

Impacts on Indigenous Peoples (OP/BP 4.10)

The project will be conducted inside Mudumalai Tiger Reserve, in areas where there are no human settlements (restoration sites will be located at least 5 km from any human habitation). Consequently, the experimental removal of *Lantana* and the identification and establishment of long-term *Lantana* removal and forest restoration sites across the landscape within MTR will have no impact on indigenous communities. Additionally, most of our field staff will be from these communities and their involvement in the project will provide them a source of income, build better rapport between their communities and scientists and conservation practitioners, increase and improve the potential for the use of traditional ecological knowledge (TEK) in science and conservation, and create greater awareness regarding invasive species, forest degradation and ecological restoration within these communities.

Involuntary resettlement (OP/BP 4.12)

As mentioned above, the sites at which the project will be implemented has no human settlements. Therefore, the issue of resettlement is not relevant to this project. Further with respect to ‘Restriction of Access to Resources’ we affirm that the identification of long-term *Lantana* removal and forest restoration sites in Mudumalai, and the subsequent removal of *Lantana* from these sites followed by forest regeneration monitoring will, in no way, restrict or reduce the access of local communities to resources that they currently have access to. Therefore, our project will, in no way, alter existing levels of legally permitted access to resources within Mudumalai to any community, indigenous or otherwise.

References

- Garcia, D. & Obeso, J. R. 2003. Facilitation by herbivore-mediated nurse plants in a threatened tree, *Taxus baccata*: local effects and landscape level consistency. *Ecography* 26, 739-750.
- Gorchov, D. L. & Trisel, D. E. 2003. Competitive effects of the invasive shrub, *Lonicera maackii* (Rupr.) Herder (Caprifoliaceae), on the growth and survival of native tree seedlings. *Plant Ecology*. 166, 13-24.
- Prasad, A. E. 2010. The effects of an exotic plant invasion on native understory plants in a tropical dry forest. *Conservation Biology*. 24, 747-757.