PROTECTED AREA PLANNING FOR THE FOREST BIOME

Following the completion of the national forest type classification, a process was initiated to develop a systematic protected area planning framework for the forest biome. Such a decision-support tool would assist DWAF in selecting and designing a protected area network that is representative of forest biodiversity (including the protection of representative samples of the national forest types). This would enable DWAF and the relevant conservation agencies (national and regional) to follow a more objective and systematic approach to forest protected area planning. The main objectives of this process was to determine the relative conservation values (irrplaceability ratings) of forest patches; to assess the the relative socio-economic values of forest patches and threats to these forests; to identify priority forests for protection and to propose appropriate IUCN protection categories for the various forest patches.

Consultants were appointed to develop the decision-support system with the aid of GIS-based and expert data analysis computerised systems, with funding support from DFID. This process followed the well-tried C-plan model applied to other biomes such as the Cape Floral Kingdom and the Succulent Karoo. Biodiversity data on the forest biome was gathered as a first step, and the forest patches of the National Forest Inventory (NFI) were used as the units of analysis, supplemented with other data to fill in some gaps of the NFI.

At a public workshop during March 2003 conservation targets were determined for the forest biome with stakeholder inputs. These targets reflect ecological patterns (such as a base target of a minimum of 15% of all forest types to be protected, adjusted upwards depending on species density etc.) and ecological processes (such as maximising connectivity between forests to accommodate fauna and flora migration). An irreplaceability analysis was done for about 21 000 forest patches, based on the conservation targets and the available biodiversity data. GIS maps and supporting spreadsheet databases were generated, indicating a range of conservation values for forests from high irreplaceability (high conservation value) to low irreplaceability (low conservation value).

Socio-economic spatial data was incorporated into the GIS analysis of forest patches, using national sensus data for communities within a 5km radius of forest patches, and extrapolating from that the socio-economic use value and opportunity costs of these forests. A threat prediction model was also done using drivers (e.g population density) and triggers (e.g. poverty level or availability of electricity) and modifiers (e.g. the standard of forest management) to predict the threat level to forest patches. Finally the suitability of the IUCN protected area categories were evaluated for the priority forest patches (those with a high conservation or irreplaceability rating). Where the irreplaceability rating would assist decision-making on which forests to prioritise for protection, the suitability analysis would assist in determining which protected area categories should be considered for each of these forests.

At a second public workshop held in May 2004 the draft results of the process (conservation targets, irreplaceabiltiy analysis etc.) were reviewed by key stakeholders, and the way forward was discussed. The project was concluded with an expert workshop held in Knysna in September 2004, whereafter the final report was delivered to DWAF, together with the GIS maps and databases indicating priority forests for protection and suitable IUCN protected area categories. At this workshop it was concluded that while the product is a useful tool for national strategic planning, it should be finetuned for the regional level of forest protected area planning. The next phase will be to refine this national protected area planning framework or support system for forests for implementation at the regional level, by gathering information on the forest subtype level and re-running the analysis process on these sub-types. Consultation with relevant conservation agencies will continue in the development of this decision-support tool, and in its eventual apllication to protected area planning.