3 tools to prioritise, implement and evaluate bushland resilience

Overview

Ku-ring-gai Council has developed 3 tools to prioritise, implement and evaluate bushland resilience:

1. Bushland Prioritisation Matrix (BPM) - prioritises bushland reserves and guides resources, investment and decision making through with non-arbitrary targets.
2. Site Management Plans - allow council to implement appropriate and effective resilience programs and break sites into relevant management zones.
3. Bushland Condition Ratings - facilitates monitoring and evaluation and allows for continual improvement of the program. Bushland Condition Ratings are then fed back into the Bushland Prioritisation Matrix (Step 1).

Background

The Ku-ring-gai Local Government Area covers 85 km^2 with about 1,164 ha of Council bushland reserves, many of which are contiguous with National Parks or large bushland reserves, including; Ku-ring-gai Chase, Garigal, Lane Cove National Parks and Dalrymple-Hay Nature Reserve. The natural resources and extensive bushland form the character of Ku-ring-gai and make Ku-ring-gai a biodiversity hotspot, with a variety of plant associations and habitat types that support over 770 plant species, at least 170 fungi and over 496 fauna species including invertebrates and fish.

With limited resources available for bushland management and biodiversity conservation, Council required a mechanism to prioritise bushland reserves and guide investment decisions. The three step process of the Bushland Prioritisation Matrix, Site Management Plans and Bushland Condition Ratings was created to fill that gap. It further promotes transparency of decision making and provides easily interpreted monitoring data to measure program outcomes.

In addition to improving the results and efficiency of bushland management in Ku-ring-gai, the 3 step program of prioritisation, implementation and evaluation also provide for increased community understanding of the value inherent to the natural environment and highlights local environmental issues and impacts.

Implementation

The first step in the process is the Bushland Prioritisation Matrix which Council has developed to guide investment in Council's bush regeneration program. Ku-ring-gai's bushland reserves are rated based on (i) the significance of the vegetation community / species within the reserve; (ii) the resilience of the reserve; and (iii) the site impacts (or threats) occurring within the reserve. Those reserves that receive the highest ranking (highest value / lowest threats) are prioritised for funding, within the available budget. The matrix provides an improved

understanding of the values of each reserve and the extent of site impacts / pressures that need to be addressed in order to maintain those values.

The next step is the development of Site Management Plans for specific reserves. Site Management Plans allow council to implement appropriate and effective regeneration programs and divide sites into relevant management zones. Site Management Plans are created through collaborative agreement between departments as directed through informal and formal discussions, biodiversity management group meetings and stakeholder consultation.

The final step is the Bushland Condition Ratings where the methodologies, outcomes and objectives are evaluated against the Site Management Plans. As part of the Bushland Condition Ratings, monitoring and ranking is conducted on the resilience, weeds and threats within each management zone within the relevant Site Management Plan.

The Bushland Condition Ratings consider:
- Resilience - the percentage of resilience or capacity the site has for recovering from a disturbance event.
- Weeds - the total weed severity and density occurring on site.
- Threat score - the percentage range of site impacts occurring.

By conducting the Bushland Condition Ratings, Council is able to review the effectiveness of the actions taken within a reserve and then use these ratings to inform the Bushland Prioritisation Matrix, and start the process again.

The general philosophy of the program is to identify high value, low threat areas and prioritise these areas for bush regeneration and resource allocation. On evaluation of these sites, the value should increase and the threat levels decrease, and as such, other areas are able to be prioritised for resource allocation.

Outcomes

Council has updated and used the Bushland Prioritisation Matrix to allocate budget and resources in the 2015/16 financial year. A total of 38 reserves have been ranked through the matrix. Council has also developed Site Management Plans for a number of its bushland reserves, which ensures best practice regeneration is implemented within high priority reserves.

Council has managed to protect and map much of its critically endangered and endangered ecological communities, conducting weed works, ecological burns and erecting fencing to protect from predation and disturbance.

Over the last 12 months, Council staff have conducted 4 ecological burns and an additional 6 hazard reduction burns which together have benefited 53.4 ha of bushland within the Kur-ring-gai LGA. These works have protected 550 properties and a number of flora and fauna, some of which are endangered, threatened or locally significant to Ku-ring-gai.

Council has continued to monitor its bushland reserves and evaluate its bushland programs, surveyed threatened species, and developed a fauna monitoring program to focus on impacts to fauna associated with ecological burning.

Council also monitors the reserves using remote cameras, which have helped to understand the abundance and distribution of native species, as well as the movement and need for management action of feral species. This process provides data to be incorporated in the Bushland Prioritisation Matrix, with high native species diversity and presence of rare, threatened or significant fauna adding value to a reserve.

This monitoring has also allowed for engagement with the community, building support for bush regeneration activities, and providing insight into the valuable work being conducted.

Key Learnings

Whilst much has been achieved by incorporating rigorous monitoring as part of the Bushland Ratings System, major opportunities exist in the expansion of surveys and monitoring.

Fauna monitoring has been conducted previously but by focusing effort on priority reserves and including monitoring results in the decision making process, trends in abundance and distribution, and response to management actions can begin to be understood. Technology such as remote cameras and Anabats allow for more passive survey methodology, and there are exciting opportunities to continue to include these methodologies.

There are many significant challenges, including the implementation of long term monitoring programs which are able to provide real and informative data. This process is ongoing and constantly being modified.

The next step in the process includes the development of more Site Management Plans for the reserves identified through the Bushland Prioritisation Matrix. Site Management Plans represent a significant initial investment, but are a crucial component of the 3 step process, leading to the Bushland Condition Ratings.

The 3 step bush regeneration program is the opportunity to resource conservation and regeneration activity and provides demonstrable results, to support natural environment policies, planning and decision making.

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