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Nature Conservation Council of NSW

Healthy Ecosystems Program

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Healthy Ecosystems Program

The Nature Conservation Council of NSW Healthy Ecosystems Program continues to work towards ecologically sustainable and culturally appropriate natural resource management - working with hundreds of rural landholders and peri-urban households to achieve healthy communities and healthy landscapes.

Through partnerships and collaborations, the Nature Conservation Council of NSW (NCC) Healthy Ecosystem Program (HEP) delivers community-based programs aimed at supporting land management strategies to maintain, enhance or reinstate biodiversity and cultural values and landscape resilience. The aim of the HEP is to provide high quality extension, community engagement, education and training services to communities to plan for and implement coordinated strategies to improve ecosystem functionality, cultural identity and landscape resilience. This operates on the assumption that people are an integral component of the decision making processes required to develop and maintain healthy landscapes. It is also reliant on holistically addressing land management decision making processes.

The program operates across tenure and landscapes through a multitude of delivery models ranging from broader landscape consortium frameworks, specific culturally and ecologically connected landscape pathways through to individual property planning. Importantly, these delivery models operate as a collaborative alliance to achieved clearly defined broader landscape-scaled outcomes.

These community engagement services include the Bushfire Program, the Hotspots Fire Project, the Firesticks Project and the Upper Coldstream Project.

The Bushfire Program

The Bushfire Program was established to “ensure that all Bushfire Management activity is ecologically sustainable while protecting life and property”. The program has been actively involved in fire management, bushfire education and advocacy for sustainable land policy since 1979. Under the *Rural Fires Act 1997* NCC has had statutory rights to appoint conservation representatives to the Bush Fire Coordinating Committee (BFCC), Rural Fire Service Advisory Committee (RFSAC), and 67 Bush Fire Management Committees (BFMCs) around the state.



The Hotspots Fire Project

The award winning Hotspots Fire Project is a community fire management workshop program which provides an opportunity for neighbouring landholders to improve their knowledge and skills on how to plan for and implement safe and appropriate fire management strategies within their property and across landscapes.



The Firesticks Project

The Firesticks Project aims to re-invigorate the use of cultural burning by facilitating cultural learning pathways. Working within 6,700 hectares of Aboriginal owned lands on the NSW north coast and tablelands; Firesticks is using integrated fire, weed and pest management strategies to enhance ecosystem health, habitat condition and connectivity. Importantly, this project is enabling and empowering Aboriginal and non-Aboriginal communities to work collectively towards resilient landscapes.



The Upper Coldstream Project

Working with over 44 properties and impacting on over 20,000 hectares, this project seeks to holistically instigate landscape-scale rehabilitation and restoration activities across a highly significant coastal corridor for the NSW north coast. Underpinning effective landscape restoration includes relying on implementing collaborative fire management strategies that maintain and enhance the natural environment while reducing the risk of wildfire for this region.





Bushfire Program

The Bushfire Program promotes ecologically sound fire management, policy and planning through its statutory role on bush fire management committees in NSW, including the Bush Fire Coordinating Committee, the Rural Fire Service Advisory Committee and the Bush Fire Management Committees. The program supports NCC representatives on Bush Fire Management Committees across the state, and aims to elevate science and practical knowledge as the foundations for good bush fire management through the preparation of detailed submissions and by participation on fire management and policy panels.

Established in 1979 to 'ensure that all bushfire management activity is ecologically sustainable while protecting life and property', the program also disseminates peer-reviewed science and encourages knowledge exchange between fire and land management agencies, scientists, conservationists and community members. It has held nine biennial bushfire conferences and over 70 issues-based workshops and forums.

Biennial bushfire conference

This year's conference will be the tenth biennial bushfire conference that the Bushfire Program has held, with all conferences exploring the role of fire in communities and landscapes. The most recent conference (June 2013) examined the importance of holistic fire management in increasing the resilience of our landscapes and communities in a changing climate. The Conference introduced the concept of socio-ecological resilience, which focused on the dynamic interrelationship between people and the environment and how to incorporate resilience into environmental, social and economic systems.

The importance of strengthening relationships between fire authorities, land managers and communities was a central theme that arose from the conference. Fire management is multidisciplinary and only through the collaboration, cooperation and communication of all stakeholders will effective and sustainable fire management be achieved.

Contributions to fire management policy

With a representative on the NSW Bush Fire Coordinating Committee and Rural Fire Service Advisory Committee and representatives on Bush Fire Management Committees across the State, NCC undertakes a primary legislative role in advocating for fire management with good environmental outcomes. The Bushfire Program's long-standing rapport with agency representatives at all levels

“The Bushfire Program has been active in fire management, education, advocacy and policy development for over three decades. The Biennial Bushfire Conferences provide a valuable platform for fire agencies, scientists, conservationists, Aboriginal groups, land management agencies and the wider community to share their knowledge and experiences of bush fire management.”

has helped to increase cooperation between agencies and ongoing collaboration in the preparation and review of specific bushfire planning processes. The Program prides itself in providing detailed, practical and constructive input into policy review and development. Submissions are based on the best available science, operational knowledge and regional input from the NCC BFMC representatives and other land management agencies.

Workshop program

The Bushfire Program delivers two interactive workshop programs. The Preparing for Fire workshops focus on providing information to help protect homeowners in peri-urban communities where bushland areas of high conservation value and high bushfire risk exist. The Fire and Restoration workshops investigate risk management issues relevant to individual locations as well as enabling agency participants to share information and explore new ways of using fire to restore the health of degraded natural areas. Each workshop is targeted to address the issues specific to individual communities, and is designed to introduce the importance of shared responsibility, covering topics such as fire behaviour, Bush Fire Survival Plans, house and property preparation and fire ecology.

The main objective of all workshops is to assist in building cohesive and resilient communities that are better prepared for bush fires, and more connected to and aware of their local natural environment. The workshops provide an opportunity for participants to discuss their risk mitigation needs as well as exploring the role of fire for managing the natural values of the surrounding bushland.



Commissioner Fitzsimmons NSW Rural Fire Service addresses the Ninth Biennial Bushfire Conference



Preparing for Fire peri-urban community workshop held at Hornsby © A. Miehs



NCC Bushfire Program representatives regularly contribute to fire management policy





HOTSPOTS FIRE PROJECT

Co-delivered by the NSW Rural Fire Service (RFS) and the Nature Conservation Council of NSW (NCC) and under a nine partnered Advisory Committee¹, the Hotspots Fire Project (Hotspots) provides landholders and land managers with the skills and knowledge they need to participate in fire management planning. Hotspots operates on a core belief that well-informed and well-prepared communities complement the roles of land managers and fire agencies and that a shared approach to fire management is critical to any form of planning.

Established in 2005, Hotspots has delivered over 110 workshops to 1,400 landholders, leading to the production of 670 property fire management plans covering over 140,000 hectares.



Landholder at the Burra workshop discuss the ecological values of the region and its relationship to fire © L. Andrews

The workshop program

The Hotspots community fire management workshop series provides an opportunity for local landholders to improve their knowledge and skills, including how to plan and implement safe and appropriate fire management strategies. The program includes two workshop days and follow-up from relevant agencies to support landholders to develop:

- knowledge on fire behaviour
- knowledge on who is involved with fire management in the local area and their roles
- knowledge on different vegetation types and how they respond to fire
- an understanding of the threatened species identified within the local area, and where known, recommended fire management strategies
- an understanding of how to plan for and conduct a safe burn
- an understanding of how to undertake fire management that is ecologically sustainable
- improved confidence in implementing a safe planned burn on their property

“A careful balance is required to achieve benefits for fuel reduction, whilst maintaining important values of the natural environment. There is an opportunity for a whole section of the community to be involved in the decision making process. Planning together would lead to cross tenure, cross border outcomes.”

- Phil Paterson (Hotspots Facilitator)

Fire management planning

In collaboration with their neighbours and with advice and support from the Hotspots team and local experts, participants at the Hotspots workshops develop their own property fire management plans. Examples of actions arising from the plans include:

- joint burns between public and private neighbours
- undertaking NSW RFS FireWise training (for property protection)
- joining and supporting the local fire brigade
- supporting ecological surveys for threatened species
- monitoring of demonstration burns for ecological outcomes.



Landholders at Ashby participate in small demonstration burn © M. Graham

Regional fire management plans

Aimed at encouraging community input into localised fire management planning, Hotspots strategically targets neighbouring landholders and land managers (both private and public lands) to participate in the workshop program collectively. Not only does the Hotspots team facilitate neighbour to neighbour discussions but also incorporates talks on both risk mitigation strategies and ecological values across the broader landscape in support of collective cross tenure and cross border planning. This strategy ultimately becomes the underlying basis of Hotspots regional fire management plans.

Experience with fire

During the workshops participants discuss strategies to improve property preparedness for fire and how to undertake collaborative burns. Discussions at the workshops include fire behaviour, techniques for burning under suitable climate conditions, lighting patterns and how to apply for a Hazard Reduction Certificate. Importantly, participants have the opportunity to be part of a small demonstration burn, providing hands on experience in viewing the nature and behaviour of a low intensity burn.

¹. The Hotspots Fire Project operates under a nine partnered Advisory Committee which includes the NSW Rural Fire Service, the Nature Conservation Council of NSW, Local Land Services, Office of Environment and Heritage, National Parks and Wildlife Services, Forestry Corporation of NSW, Southeast Queensland Fire and Biodiversity Consortium, NSW Farmers Association and the University of Wollongong.



*firesticks

The Firesticks Project is paving the way forward for Aboriginal communities to use fire proactively on their lands to protect significant ecological and cultural values. Working within 6,700 hectares of Aboriginal owned lands including four Indigenous Protected Areas (IPAs) and three Local Aboriginal Land Councils (LALCs) on the NSW north coast and tablelands; Firesticks is supporting the implementation of innovative integrated fire, weed and pest management strategies to enhance ecosystem health, habitat condition and connectivity. Importantly, this project is enabling and empowering Aboriginal, non-Aboriginal communities and external stakeholders to work collectively towards resilient landscapes.



Location of Firesticks project partners

Funded by the Australian Government's Clean Energy Future Biodiversity Fund, the Firesticks Project is creating culturally relevant pathways forward for Aboriginal communities to use fire proactively on their lands to protect significant ecological and cultural values. Firesticks project partners including Boorabee and the Willows, Wattleridge and Tarriva Kurrukun, Minyumai and Ngunya Jargoona IPAs; Gugin Gudduba lands, Ngulingah LALC and Nimbin Rocks Working On Country Project, Casino Boolangle LALC; the Office of Environment and Heritage; the University of Technology, Sydney, and with valued support from the NSW Rural Fire Service, are working collectively to explore opportunities to find new and innovative approaches to managing Aboriginal lands and the broader culturally connected landscapes.

Collectively Firesticks partners are exploring ways to further support the recognition and management of Aboriginal lands in NSW that are vulnerable to increased pressures from development, invasive weeds and animals and increased wildfires. This is being achieved through the development of integrated property plans and providing opportunities to gain further experience and training in fire management whilst harbouring the cultural intent of burning.

What is Cultural Burning?

Fire is known by many terms and in many languages. The Firesticks Project uses the term cultural burning to describe burning practices used by Aboriginal people to protect and enhance the health of land and its people. Cultural burning means different things to different people. It could include burning (or preventing burning) for the health of particular species such as native grasses, emu, black grevillea, potoroo, bushfoods, threatened species, or biodiversity in general. It may involve patch burning to create different

“Aboriginal people's living knowledge systems can help support contemporary fire management concerns facing our society and environment.

I see Firesticks as a way to build stories, share the relationship and meaning of fire, people and country and to explore the common ground on how burning makes us all feel. Collectively people and Country can teach us this.”

– Oliver Costello, Firesticks Coordinator

fire intervals across the country or it could be used for fuel and hazard reduction. It may be used to increase access and amenity for people or as a part of culture heritage management. It is part of ceremony to welcome people to country or it could also be as simple as a campfire around which people gather to share, learn, and celebrate.

Cultural Indicators of Healthy Country

Traditional bush foods and medicinal plant uses and their collection are a significant component of Aboriginal identity and practice. For Aboriginal people, the Australian bush contains an array of locally identified food types, medicines and material resources. The maintenance and promotion of these traditional resources is an important aspect of fire management and can include aspects such as:

- Identifying specific burning strategies that result in the replenishment, expansion and/or protection of native species of cultural and ecological importance
- the engagement of local Aboriginal understandings of country, including the development of seasonal fire calendars to help provide indicators of seasonal changes in country and its relationship to fire
- the design and implementation of culturally appropriate evaluation and monitoring tools to further gain further understandings of appropriate fire regimes and intervals

Established scientific monitoring sites

The Firesticks Project has also established a series of long term monitoring plots within partnering IPAs. These systematic surveys target fire responsive fauna groups and their habitats, including ground and low foraging birds, large owls and arboreal marsupials, small terrestrial mammals, low foraging micro-bats and introduced pest species. These fauna groups, or biodiversity indicators, have been selected as the most suitable for monitoring to assess short to medium term responses to the application of cultural burning practices in the IPAs. Selection of the 2ha plots within the IPAs provides a representative sample of the most extensive and characteristic vegetation communities and also those areas most likely to have had a history of Indigenous fire management.



Fire management planning at Ngunya Jargoon IPA includes protecting cypress pine country and the sugarbags, both culturally important



David (Firesticks ecologist) works with Daniel and Ian (Minyurnai IPA rangers) to identify monitoring plot locations © O. Costello



UPPER COLDSTREAM PROJECT

Co-delivered by the Clarence Environment Centre and the NCC, and funded by the Australian Government Clean Energy Future Biodiversity Fund, the Upper Coldstream Project is an alliance of 44 private landholders and public land managers. The alliance works collectively to implement whole-of-landscape works to protect and enhance nationally and internationally significant conservation values across 25,000 hectares of the Upper Coldstream catchment. This project is staging a number of workshops and field days and coordinating activities to control the spread of weeds and pest animals, improve habitat condition, reduce the risk of destructive wildfire, maximise carbon storage and to enhance ecosystem resilience and connectivity within this major coastal corridor. Scientific and community monitoring is an integral component of the project, providing a sound basis for demonstrating the benefits of landscape scale rehabilitation and restoration efforts.

This project is focusing on the endangered coastal emu as a flagship species which will achieve ecological restoration outcomes and deliver upon cultural aspiration for the Upper Coldstream catchment. This includes coordinating community strategies to protect and enhance important food resources for the emu, improving habitat connectivity and reducing the current impacts from wildfire.

The north coast emu - an endangered population

Geographically isolated from inland populations, the north coast emu population is declining. The 2014 census suggested only approximately 85 birds remain.

Fire plays an important role in maintaining conditions required for the coastal emu, particularly by promoting a diverse shrub layer with fruit and seed bearing native plants. Broad-scale high intensity wildfires in recent years in areas occupied by the emu are thought to have contributed to their ongoing decline, both through destruction of nesting sites and adult mortality. Maintenance of a diverse mosaic of post-fire regeneration including recently burnt and long unburnt areas is likely to be needed for the survival of the emu.

The team is also involved in the establishment of feral animal control programs targeting wild pigs that cause great damage in and around creeks and billabongs.

Wherever possible, the regeneration team will impart their knowledge of best practice weed control techniques to landholders so that this important work can be maintained and continued into the future.

“ So many landowners in the Pillar Valley want to manage their property for wildlife like the Emus and Glossy Black Cockatoos.....the Upper Coldstream Project provides the opportunity for us to work together to get lots of environmental work done across a big area and share ideas and experiences.”

–Upper Coldstream Landholder

The regeneration team

To support Upper Coldstream landholders in achieving a range of weed and pest animal targets, a restoration team comprising qualified bush regeneration professionals are working across private and public lands to tackle some of the highest priority sites.

Initial works are focussing on gullies, waterways and wetlands which interconnect across multiple properties and achieve habitat connectivity; a vision that the project seeks. These moist habitats also contain highly significant ecosystem values such as lowland rainforest, rare plants and important fauna refuge.

Cultural Connections

Like the many landscapes and features in the north coast, the north coast emu is of cultural significance to the Aboriginal people of the Bundjalung, Yaegl and Gumbaynggirr Nations.

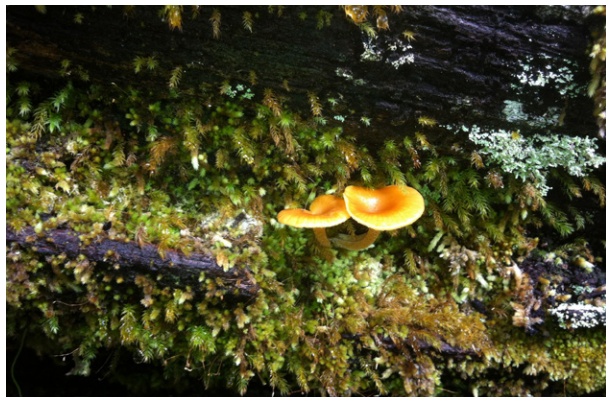
The Upper Coldstream Project is working closely with the Firesticks Project and the Yaegl community to seek opportunities to undertake survey work and fire management planning and to implement mosaic burns on Birrigan Gargle Lands and the broader landscape of the Upper Coldstream for the emu.



With the likelihood of only 85 birds remaining, the Upper Coldstream Project is seeking ways to coordinate actions across the landscape to save the coastal emu



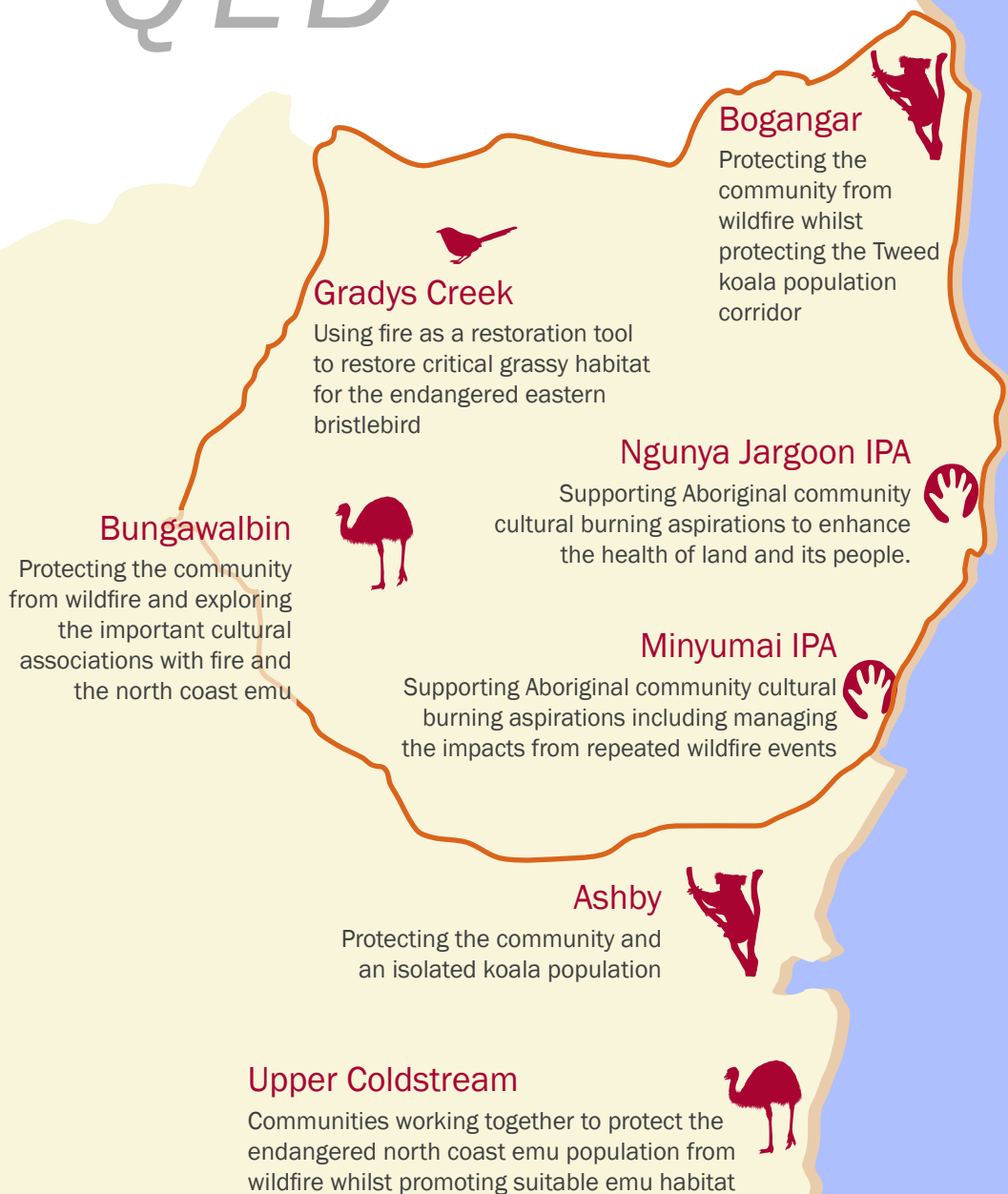
Regional stakeholder field day © J. Keating



The natural wonders of the Upper Coldstream © M.Graham



QLD



Bogangar

Protecting the community from wildfire whilst protecting the Tweed koala population corridor

Gradys Creek

Using fire as a restoration tool to restore critical grassy habitat for the endangered eastern bristlebird

Bungawalbin

Protecting the community from wildfire and exploring the important cultural associations with fire and the north coast emu

Ngunya Jargoona IPA

Supporting Aboriginal community cultural burning aspirations to enhance the health of land and its people.

Minyumai IPA

Supporting Aboriginal community cultural burning aspirations including managing the impacts from repeated wildfire events

Ashby

Protecting the community and an isolated koala population

Upper Coldstream

Communities working together to protect the endangered north coast emu population from wildfire whilst promoting suitable emu habitat

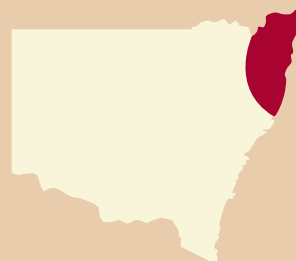
NSW

Corindi Valley

Supporting fire management for landholders in an area of extreme bush fire risk

Examples of NCCs work within the NSW North Coast

A variety of fire programs are working collaboratively within the NSW north coast in support of appropriate fire management strategies in areas of extreme and high bush fire risk, and to improve biodiversity and cultural values. These programs include the Bushfire Program, Hotspots Fire Project, Firesticks Project, Upper Coldstream Project working with the Northern Rivers Fire and Biodiversity Consortium.





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