

Final Report

Aboriginal cultural values and renewal assessment in NSW forests post-wildfires

Gumbaynggirr Lands



**Coffs Harbour & District Local Aboriginal Land
Council**

Acknowledgements

We acknowledge the traditional custodians and owners of this land the Gumbaynggirr Nation and affirm our respect for elders both past and present.

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Due consideration has been given to site conditions and to appropriate legislation and documentation available at the time of preparation of the report. As these elements are liable to change over time, the report should be considered current at the time of preparation only.

The report relies on information supplied by the client and on findings obtained using accepted survey and assessment methodology. While due care was taken during field survey and report preparation, Coffs Harbour & District Local Aboriginal Land Council accepts no responsibility for any omissions that may have occurred due to the nature of the survey methodology.

Conclusions to the report are professional opinions and Coffs Harbour & District Local Aboriginal Land Council cannot guarantee acceptance or consent of the relevant determining/ consent authorities.

EXECUTIVE SUMMARY

The way the Old People had It

Pre-European the original inhabitants of this continent existed within a very different landscape. Country, and everything that belonged to it was managed and looked after from a basis of reciprocal relationship. One mechanism that was practiced (pre-European) to support this reciprocal relationship was a simplistic method of handing down responsibility clearly and concisely via a totemic system. Totemic species were given as a responsibility once tribal members were mature enough, and part of the role given was to look after the totem/s whether it was an element, mineral, plant/tree species or animal. Additionally, part of Aboriginal peoples' duty of care, generally speaking, was to look after Country, the landscape and everything that belongs to it.

Here in Gumbaynggirr country (Bounding the Coffs Coast and Escarpment IBRA Sub-Region) the old people and family clan groups of the Ngagu, Ngaamba, Buurrigadi, Buudabang, Gambalamam, Yuraarla, Bagawa, Mirlagalgi, Gurubida, Marlaambilambari, Garrigalgay, Jaambiny, Munduu and Yunggaya had a self-sustaining and balanced land management system in place that was servicing the needs of the land and all its inhabitants. The old people believed a connection to land and its creator spirit Yuludarla (or Mindi in the North) was the foundation of navigating and reading the lands messages, and understanding its sacred sites and mysteries. The Elders amongst Aboriginal societies were respected and known for their lifelong experience and learnt wisdom of navigating the land with the guidance of Yuludarla, the sacred mother Gawnggan, and hero ancestor and son of Yuludarla "Birrugan", whom of which many sacred sites, songs, dances and stories in Gumbaynggirr country were created.

Tens and thousands of years of accumulated and refined knowledge exists within the range of sacred ceremonies, stories, songs, dances and the everyday social cultural norms and activates attributed to the land, inhabitants and the creator spirit of Gumbaynggirr Country. With an abundance of knowledge comes a structure and order, and in Gumbaynggirr country the order of knowledge was called Maan.gun (Lore), the Lore was closely related to Maan.gu (Ancestral Spirit) which carries the Lore, and the experts on Lore and connection to Spirit were the Elders or Old People. The Old People new just the right time of maturity to share knowledge with young people as they were growing up so that the message/knowledge was well understood and retained by the person in such intimacy that they could recall specific details of the story at any point in time that they needed it. The skill of retaining knowledge through story and learning how to navigate Wajaarr (Land) and Muya (Spirit), through observing the ways of the Old People was key to the thousands of years of generational success on sustainably managing land and resources on Gumbaynggirr Country.

One of the advantages of the old land management system was that the land had many custodians whom of which all new and fulfilled their roles intimately. 'All People' within a clan group in Gumbaynggirr country was given 'and so held' the responsibility of managing country in one way or another. Roles of managing country were diverse, from element, mineral and species protection (totems), land and sea resource gathering and crafting/building, protecting sacred places, cultural burning, fire stick farming, applying natural medicines/antidotes, managing planned hunting grounds, campsite and recreational lands management, and knowledge sharing through ceremony, storytelling, song and dance. There were many totems, many sacred places, many types of country, much country to look after and many roles to fulfill, therefore there were many custodians and many families to look after the land and its specific needs in each locality.

Amongst each clan group were fire practitioners who worked closely with protectors of sacred places. Teams of clan members were called out to service the land, its sacred sites, and/or in times when seasons change prepare the ground for new camps or enhanced hunting/gathering grounds with the application of cultural fire. Many different types of fire were implemented to the land to cater for the people, animals and the country's needs. Fire practitioners learnt to read country in detail and understand its Lore around fire, appropriate burn season for different types of country, breeding seasons, and landscape fire patterns and behaviors. Fire was implemented in a way that was culturally informed and aligned with the spirit of the land, the land and spirit would show Gumbaynggirr people where and when to burn, how much needs burning, in what mosaic shape/pattern, what needs protecting and/or preparations that needed to be undertaken prior to implementing a cultural burn. Cultural burns were implemented aligned with Spirit and the needs of the land from practitioners that held intimate relationships with the land and with Spirit. Guided by Spirit, the land would be giving off spiritual indicators, for example, if the burn is going well as intended or if further protective measures needed to be actioned on the ground (raking around heritage tree sites, forming containment lines around nesting areas etc). The outcomes of the Old People's fire regimes have been expressed in numerous journals from the first European settlers as beautiful and serene well maintained parklands.

The way it currently is

Now more than 200 years since European settlement, the ongoing practice of Contemporary European/Multicultural lifestyle and assimilation of Gumbaynggirr people from Gumbaynggirr culture to modern day contemporary culture, has given rise to a whole range of new consumer-based interests and activities. These additional interests compete against the traditional roles Gumbaynggirr people have and influences impacts to Country and our cultural places and items. Consequently, overtime, the influences of a contemporary culture have caused a reduction of the on-ground capacity of Gumbaynggirr people via stretching Indigenous resources out, and or influencing some Gumbaynggirr people to lose interest in traditional cultural land management values and roles altogether. Some of these consumer-based contemporary activities also have direct adverse impacts to country and cultural sites. Direct impact activities include; clearing for intensive agriculture, logging forests, high intensity prescribed burns implemented with a lack of cultural input, quarrying rock, mining minerals, construction of towns, roads, dams, houses, transport hubs, mines, services for water/power/gas/telecommunications.

There are also many indirect consumption-based activities that overtime and accumulatively adversely impact Gumbaynggirr Country and cultural sites, these include; miss-management of country (lack of cultural knowledge and understanding Country and lack of cultural burning regimens and cultural asset protection – which leads to less than adequate protections for cultural assets, and build-up of fuels for high intensity wildfires), consumption or utilization of conventional products that contaminate the environment (fertilizers, broad scale application of pesticides/insecticides and poisons/bates, synthetic based detergents/fragrances laundry and bathroom products, synthetic paints/adhesives, concrete, plastic products, excessive amounts of water, electricity and timber products that have been produced via clear-felling forests).

Many contemporary activities that are still undertaken today are in direct breach of traditional cultural Lore, which is why Gumbaynggirr elders and knowledge holders know well the causes of the environmental, social, and physical health problems that modern day societies face today. Today we face human, animal and plant pandemics, a global lack of material, mineral and water resources, an unprecedented decline in aquatic and terrestrial species and habitat, deliberate and/or negligent destruction of sacred sites, accelerated rate of sea level rise, world-wide pollution/contamination of once serene environments, and catastrophic out-of-control wild-fires that are intense enough to burn built societies down to the ground. All of which are caused directly and in-directly from singular and persistent breaches in cultural Lore which was designed to preserve, protect and align the correct type of care for Country.

Today, there are several applications in use to protect Country from further catastrophic events such as those seen in the 2019-2020 wildfires. Some of these applications include; Hazard Reduction Burns (Prescribed Burns), fire mitigation activities (including machine fire breaks, containment lines, slashing vegetation and evenly spreading the displacement of fuel loads), Fire Fighting activities (including air and ground application of water and fire retardants, fire smothering techniques via fire blankets, displacement of fuels and applied fire breaks). Fires that are managed by the Rural Fire Service, National Parks and Wildlife Service and Forestry Corporation are planned from the perspective to protect life, property and man-made assets, and are carried out with an aim to reduce fuel loads and fire hazards in order to prevent devastation from future wildfires.

Despite the efforts and the multiple applications and management strategies implemented by government based agencies via the existing fire management legislation and system, the 2019-20 wildfire hit Australia, resulting in unprecedented damages to many colonial assets, farms, stocked resources, landscapes, vegetation communities, native species and habitats, waterways (water quality and sediment deposits), and significant cultural assets (scar trees, camp sites, resource gathering sites and ceremonial sites etc), and as well as the broad-scale social-economic damages of local communities and society.

It is evident the current land management system is in need of change, and a reconstruction of the legislative framework is needed to build Traditional Cultural Values into the system, so that the outer functions of the system are informed by a balance of Traditional Cultural Values and Contemporary Values, overall ensuring both Cultural Land Assets and Contemporary Land Assets are not just protected but cared for in a way that enhances the amenity it provides for society.

Although application of cultural land management practices and cultural fire is still 'poorly misunderstood' amongst the scientific community, there is strong evidence detailing the mechanisms and supporting the application of Cultural Land Management Practice and cultural fire. Furthermore, Gumbaynggirr people have undertaken extensive work to revive knowledge of cultural land management practices and cultural fire applications to protect and enhance Gumbaynggirr country. With the limited funding available today, small groups of Gumbaynggirr Land and Sea Rangers and Fire Practitioners have been established and have been operating since financially able. Durrunda Wajaarr Rangers (established since 2001) and Gumma IPA Rangers have grown a valuable working knowledge of the lands and waters they service in Gumbaynggirr.

The way we want to see it

The dreaming (Vision) for Gumbaynggirr country needs to be aligned with Yuludarla and the visions of the Old People and become broadly known and strong again if we are to see manifest good health for the land and waters and see Country again teeming with life abundance. The Vision includes reconstructing a culturally informed system, that re-establishes custodial responsibilities and roles in community, and fosters the learning and development of reciprocal relationship and understanding of Country. With this foundation, we will work to ensure the health and preservation of all; Cultural Sites/Assets, plant and animal species and their habitats, sustainable management and preservation of all natural resources, and forest/river/ocean/wetland/heath/mountain ecosystems. This will be balanced with a new conception of contemporary living, one which is aligned to socially ethical and environmentally sound practices, putting the needs of Country first.

Essentially a platform needs to be created where Indigenous rangers of different Nations can meet with other land managers and land holders and be involved first-hand in the conversations concerning land management. A platform of sharing information, to move forward and establishing a way to look after Country that stems from combining traditional Knowledge with western understandings of Country.

How we do it

Indigenous people have a longstanding historical relationship to Country. Given this, we believe that the capacity to look after cultural items needs to be re-established. Re-establishing responsibilities and traditional roles, re-developing the resource capacities we once had, and assigning ownership and provisional access to cultural items and places throughout all land tenures on Gumbaynggirr Country. Re-establishing and redeveloping these traditional roles in the modern era will assist in strengthening First Nation Peoples ongoing connection to Country, and developing confidence and competencies in protecting and caring for country.

In order for local Traditional Custodians to fulfill their roles on Country efficiently in this modern era, there are some essential provisions and enabling pathways that are needing to be improved/established, these include:

- Establishing a new act of legislation for a brand new type of land classification for Indigenous Protected Areas which holds equal protection regulations as “National Park” with the difference being the nominated legislative governing body will be the “recognized Traditional Owner Group and/or the Local Aboriginal Lands Council”, all in-acted powers of Australian, State and Local Government will otherwise be revoked and the in-acted powers transferred to be held by the nominated legislative governing body for the IPA. The new legislation will NOT reserve the right of powers for the Australian Government or state authorities to permit any act of legislation without written prior consent and approval from the nominated legislative governing body of the IPA.
- Legislative reform and amendments to all Acts and Regulations specific to land use, protection, and management in-so-that “Country Health” and “Culturally Informed Protocols” are within the center of considerations when establishing and maintaining Laws and Regulations.
- Establishing legislative pathways and capacity development pathways for Local Aboriginal Land Councils to become Consent Authorities for Fire Management Activities within their nation. (Authorising their own burns on Country)
- Creating streamlined burn approval pathways in regards to Cultural Burns (Separate from the complex and often delayed Hazard Reduction Burn Approval Pathway) (Allowance for Hazard Reduction Burn Approval Exemptions for High Priority Cultural Burns – Ridgelines/Peaks/Cultural Sites/Assets).
- The recovery funding provided by government post 2019-20 wildfires needs to become the minimal expected investment each year for land management and conservation. Long-term funding opportunities that allow for Traditional Cultural Land Management Practice learning and capacity development. Long-term funding programs that can support an all-of-Gumbaynggirr Strategic Cultural Fire Regime – with the investment to support 30+ ranger/fire practitioner teams in Gumbaynggirr Country (bringing back the resources we once had 100+ families).

Where to from here (1st step recommendations)

Continuing the trend of broad-scale societal attitude and behavioural change to an embracing approach of Traditional Custodians and Traditional Cultural Values is key to addressing Australia’s Land and Resource Management Issues. This can be done by firstly, acknowledging that we’ve been here, depth of past reciprocal relationship that existed with Country (not just the land but everything that Country extends to), acknowledging that we are still here, still have ongoing deep connection with Spirit and Country. If this is done properly, with good, proper intent – everything will stem from that.

This acknowledgement, and good intent can potentially lead to a relationship with First Nations Peoples, that not only involves Aboriginal People, but also places First Nations within a steering committee that focuses on and sets the standard of what future practices look like when it comes to caring for and managing Country.

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Introduction

Background

This Final Report has been prepared by Coffs Harbour & District Local Aboriginal Land Council (CH&DLALC) in association with the Natural Resource Commission (NRC) Coordinator and the case study steering group, which includes; Fire Sticks, National Parks and Wildlife Service (NPWS), North Coast Local Land Services (NCLLS), Forestry NSW, Department of Industry and Environment (DPIE), Rural Fire Service (RFS), Garby Elders, and Gumbaynggirr Knowledge Holders and Senior Site Officers of CH&DLALC.

Natural Resource Commission has engaged CH&DLALC to lead and deliver post-fire cultural and land impact assessments to highly-affected and culturally significant sites in order to collate and realise land and cultural management values important to Gumbaynggirr. CH&DLALC wish for the values and cultural protection requirements found within this study to be shared and communicated effectively to all agencies responsible for managing and/or providing advice on the management of land tenures within Gumbaynggirr.

An initial Project Plan was developed and endorsed by the steering committee in the early project stages. The Project Plan provided strategies for delivering best practice Post-Fire Cultural Impact Assessments on Gumbaynggirr land. Post-Fire Cultural Impact Assessments are anticipated to inform/recommend further land management and cultural protection strategies and implementation measures for the short term and long term of the subject site/s, in which further financial resource opportunities may then be allocated to or based upon.

The study area of this project encompasses all of Gumbaynggirr land that had been affected by the 2019-20 Wild-Fires. The areas which had been affected by wild-fires have many sites of cultural and environmental significance for local Gumbaynggirr people. Because of this, planned implementation activities should only proceed in partnership and consultation with Gumbaynggirr Elders/Knowledge Holders, Gumbaynggirr Local Aboriginal Land Councils, and Gumbaynggirr Environmental Community groups. This will ensure specific sites and environments are protected from unintended impacts. In particular site-relevant Gumbaynggirr Elders Uncle Mark Flanders, Uncle Brian Flanders, Uncle Fred Buchanan, Uncle Tony Dootson, Uncle Richard Kelly, Uncle Gary Williams, Uncle Buddy Marshall, Uncle Cecil Briggs, Aunty Bridgette Jarrett, Uncle Bully Buchanan, Aunty Luana Ferguson, Aunty Shaa Smith, Aunty Bea Ballangary, Uncle Bernard Kelly, Aunty Deb Dootson, and Uncle Ian Brown were consulted with and/or engaged to supervise the inspection works for each selected Gumbaynggirr site relevant to Country.

Aims

- To trial and further develop the overarching model of cultural values assessment in NSW forests as part of a scalable state-wide approach across forest tenures, through Aboriginal-led, Country-based assessments, monitoring, and research.
- Develop priority listing of post-fire affected cultural sites requiring site/condition assessment.
- Develop best practice methodologies for Gumbaynggirr led Post-Fire Cultural Impact Assessments.
- Conduct several high-priority post-fire cultural site impact assessments over a variety of land tenures and geographical areas relevant to Gumbaynggirr fire affected lands.
- Incorporate a community case study event at a priority cultural site and document shared cultural enhancement and protection values of Gumbaynggirr community groups, knowledge holders and elders.
- Identify/develop strategies, recommendations, opportunities to increase the ongoing implementation of Gumbaynggirr led cultural land management practices to enhance and protect country.
- Provide strategies to restore and protect native plant and fauna species to fire impacted sites.
- Develop strategies to mitigate risks of future-wildfire and arson lit fire impacts to cultural sites.
- Create and develop opportunities for Cultural Activation and Cultural Recreation Use at priority listed sites as a form of cultural enhancement and protection.

Casestudy Steering Committee

The Casestudy Steering Committee for this project had been established on 3rd July 2020. The Steering committee consists of the following agency representatives, elders, knowledge holders, and members of the Gumbaynggirr community:

Louise Askew – NRC
Nathan Brennan (CHDLALC)
Matthew Smith (CHDLALC)
Alexandra Simpson – Department of Premier and Cabinet
Rachael Cavenagh – Firesticks
Oliver Costello – Firesticks.
Uncle David Kennedy – NPWS – Aboriginal Partnerships Officer
Uncle Jamie Bertram (Rural Fire Service)
Simon Hughes – NPWS – Joint Management Officer
Justine Graham – North Coast Local Land Services

Recognized Knowledge Holders and Elders

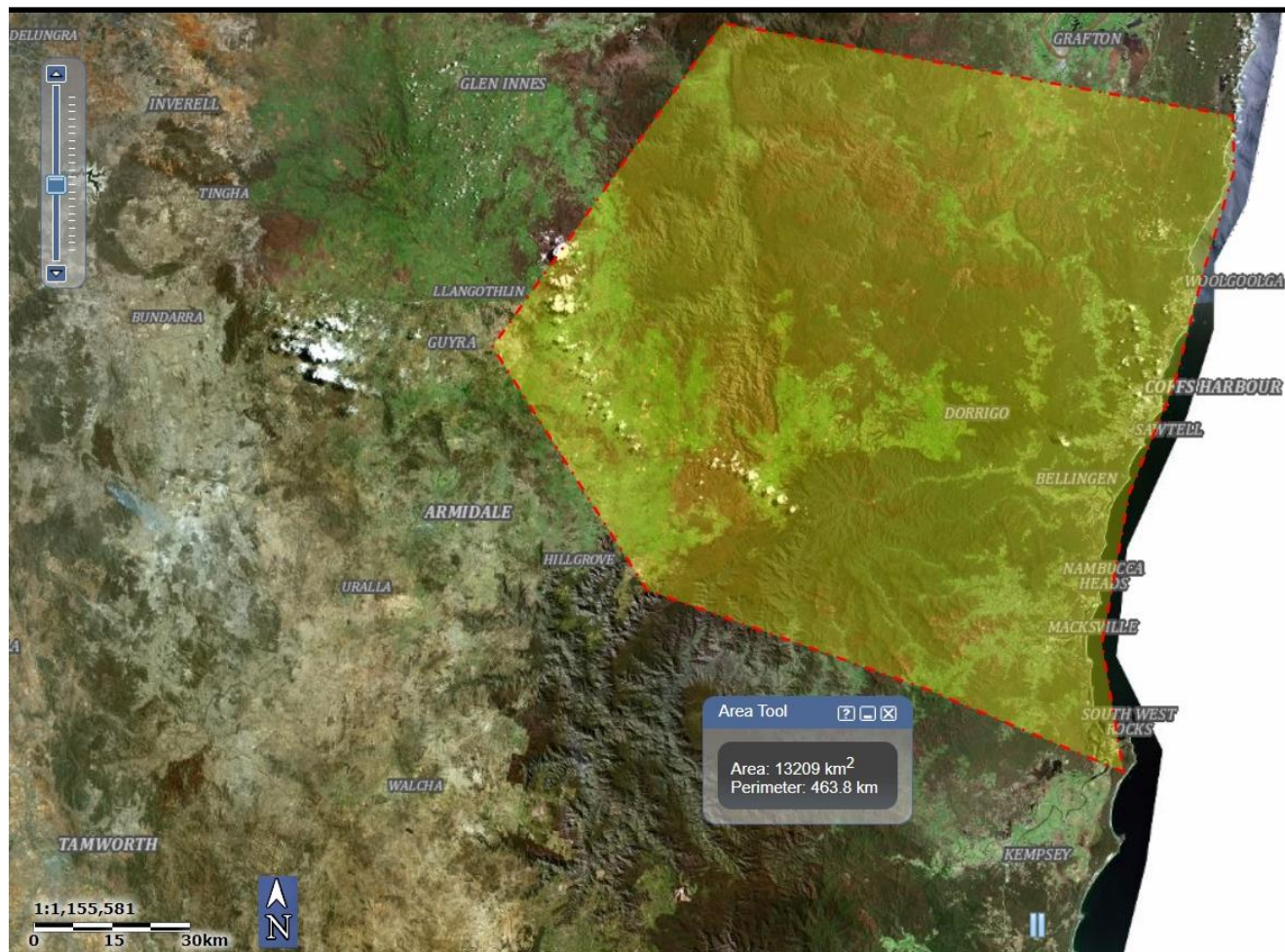
Uncle Mark Flanders – NPWS / Garlambirla-Guuyu-Girra Elders
Uncle Ian Brown – CH&DLALC
Aunty Luana Ferguson – Coffs Harbour – CH&DLALC
Uncle Tony Perkins – Jagun Elders
Aunty Debbie Dootson – Garby Elders
Uncle Tony Dootson – Garby Elders
Uncle Richard Kelly – Wenona Head Native Title Group
Uncle Fred Buchanan – Bowraville LALC
Uncle Brian Flanders – Bowraville LALC
Aunty Anne Edwards - Bowraville
Uncle Buddy Marshall – Nambucca LALC
Uncle Victor (Bully) Buchanan – Valla/Gumma IPA
Uncle Martin Ballangary – Bowraville
Aunty Alison Buchanan – Bellingen
Uncle Bernard Kelly - Bellingen
Aunty Bea Ballangary - Nambucca
Aunty Shaa Smith – Scotts Head
Uncle Robert Wilson - Nambucca
Uncle Colin Jarrett - Nambucca
Uncle Cecil Briggs – Doradong IPA
Aunty Bridgette Jarrett – Nambucca LALC
Uncle Trevor Ballangary – Nambucca Elders Advisory Group
Uncle Gary Williams – Muurrbay Language Center

Geographic Context

Study Area

The study area encompasses all areas within Gumbaynggirr tribal boundary effected by the 2019-20 wild-fires, extending west to Guyra, North West to Nymboida, North to Grafton, North East to Woolli, South East to South West Rocks, South West to Wollomombi. 11 cultural sites that had been affected (or at future risk) by wild-fire have been selected for assessment.

Study Area - Location Map - Post Fire Cultural Impact



Fire Mapping

Post-fire mapping data from 2019-20 wildfires has been overlaid by known cultural sites locations and provided by Department of Premier and Cabinet and National Parks and Wildlife Services for further analysis by CH&DLALC. Mapping information combined with Gumbaynggirr knowledge holder engagement will be used to inform and enable a prioritisation of sites for further on-ground cultural impact assessment.



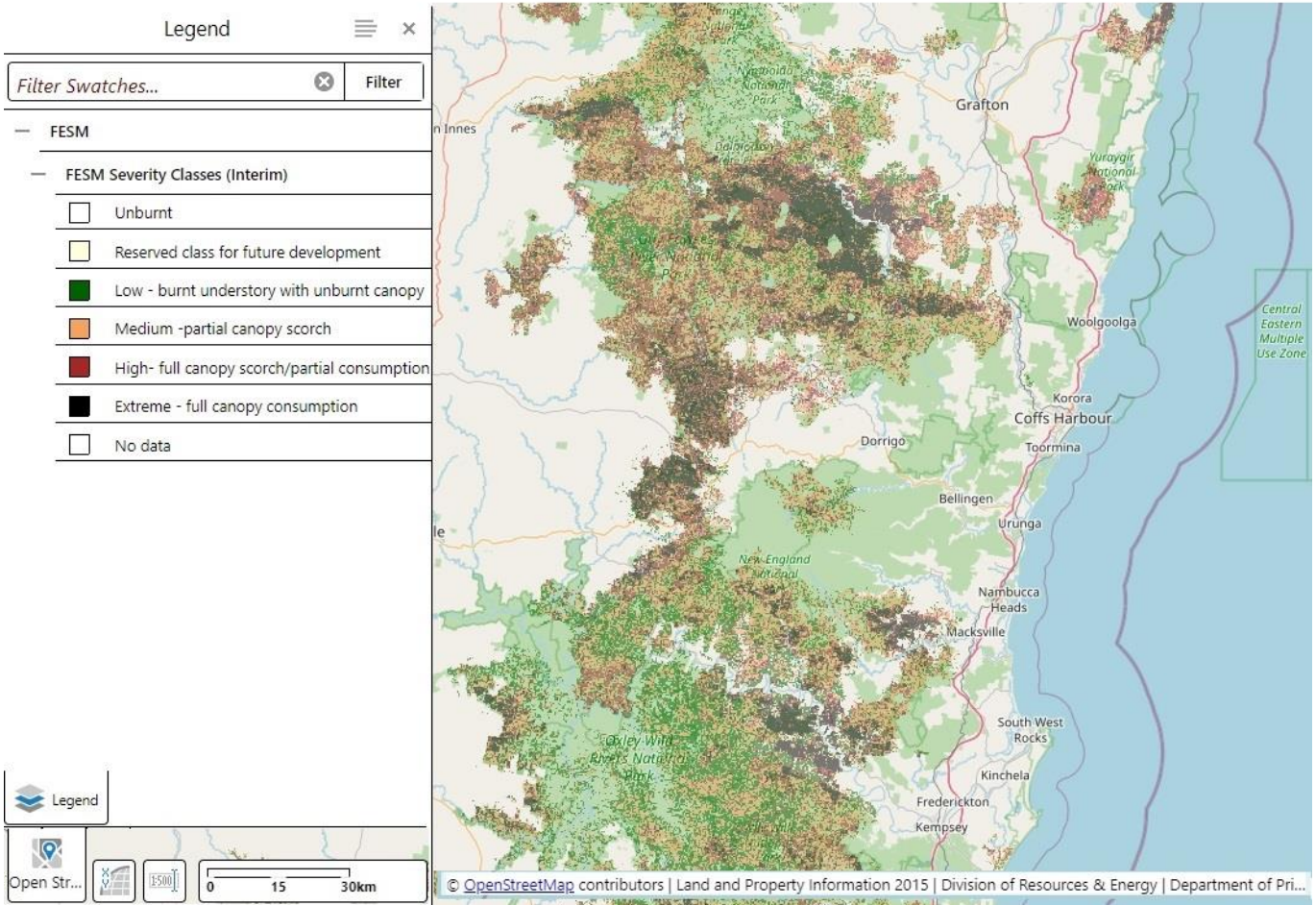
Premier and Cabinet Provided Fire Severity Mapping with Cultural Sites Overlaid.

NPWS Cultural Database Maps



SEED
The Central Resource for
Sharing and Enabling Environmental Data in NSW

Dataset cata



SEED - All of Gumbaynggirr 2019-20 Fire intensity Mapping

Post-Fire Cultural Impact Assessments

Prioritised List of Cultural Sites for Post-Fire Assessment

A priority list of 11 cultural sites for on-ground assessment by Gumbaynggirr Senior Site Officers has been established via consultation with key knowledge holders in reference to provided maps and known sites.

Site No	Description	Location
1	Garraabugay "Go-on Divide" The Junction – Bloodwood Marker Tree.	Nymboi-Binderay National Park. Little Nymboida meets Nymboida River.
2	Horseshoe Road – Leeuwin Road – Peak Scar Tree	Oaks State Forest
3	Horseshoe Road – Pimple Road – Double Scar Tree Site	Baalijin Nature Reserve National Park
4	Clay Gully – Towallum River – Camp Sites – Artefact Scatters.	Where Clay Gully Road Intersects Towallum River.
5	Black Mountain Road – Artefacts and Hammer Stone – Old Campsite.	Where Black Mountain Road Meets Blue Gum Road – Kangeroo Creek Reserve.
6	Nana Glen - Stone Arrangement and Mens Site.	Nana Glen – West Side of Bucca State Forest.
7	Campsites – Artefact Scatters – Old Walking Track. Cultural Fire for protection of sites/bush	335 Kalang Road, Kalang.
8	Wild Cattle Creek – Artefact Scatters – Old Camp. Salvage Clearing post-2019-20 fires.	Wild Cattle Creek State Forest – Orange Trees Road (North) Fork Rd.
9	Chambigne Reserve – Rock Art	Chambigne Reserve
10	Pidgeon Gully – Yuraygirr National Park	Yuraygirr National Park
11	Brinerville Bora Ground	New England National Park – Upper Bellinger River.

Site Assessment Methodology

Prior to accessing any cultural site, cultural protocols and any known stories for each site were discussed via cultural induction process led by the Senior Sites Officer or Elder.

Site assessments were carried out via physical on-ground site inspection from 2x Senior Site Officers using physical observation and recording methods. Where only 1 Senior Site Officer was available 3-4 junior site officers assisted the Senior Site Officer to inspect the site, with on-the-job oversight and mentoring provided for juniors.

Physical observation methods included the establishment of photo points, observational data and recording of site notes and as required generation of site cards for uploads into AHIMS.

The Site officer was provided with site location maps and coordinates in order to locate and access each site.

1. The Site Map

A colour copy of a recent aerial photograph and shows a scale and orientation (N). It has a title and a legend and may include roads and rivers / creeks and shall also include.

- Previous photo points as marked.
- Locations of significant cultural items.
- Access to and from Site.

2. Observational Data

This information can be collected for a transect, using a tape or string. The rectangular or circular plot should be at least 10mx10m long or 10m in diameter. The plot shall be permanently marked with survey pegs and GPS be referenced to enable easy location when revisiting the site. Marker posts can also be utilized camera/sighter post when undertaking photo points. A Tape Measure will be used to obtain physical dimensions of scar tree, stone arrangement and rock art features.

3. Collecting the Data:

Cameras of 10 Megapixels or greater were used for image capture, mostly via mobile phone and/or stand-alone camera.

Site notes have been recorded in Site Officer Daily Diaries, and via the **Post Fire Cultural Site Assessment Report** Template. Each site on the priority inspection list has been inspected with a Cultural Site Inspection Report established for each site.

4. Documenting the Data

The **Post Fire Cultural Site Assessment Report** includes information about the site (Site Classifications), documented with a name, date, photo point number, a general description and mapping information.

Further site assessment methodology, access and safety considerations are provided in **Appendix 1**.

Common Findings from Site Assessments

There have been many findings recorded from the 11 cultural site inspections performed during this project, some findings are common and others are more site specific. For the complete set of documented finding please refer to Attachment A of this report.

The areas of interest were fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).

General Landscape Observations – High Intensity Fire Areas - (Refer to Site Inspection Report No 1,2,3,4,5 – Attach A).

General Observation of most areas surrounding cultural sites are as follows – As with all other sites heavily impacted by to 2019-20 wildfires, Top of ridges, peaks and upper slopes (particularly North and West Facing Slopes) in the surrounding area tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up). There was also country observed to have greater resilience to wildfire effects which included the shadier/wetter southern slopes of rain forested mountains, and pockets of Country where the rivers wrapped around the landscape combined with a South/Easterly slope or river flat. Evidence of this effect is present in Site Inspection Report 11 (Attachment A).

Rainforest to Eucalypt Forest Transitions - (Refer to Site Inspection Report No 10 – Attach A).

Where rainforest was located at lower slopes and gullies, dry eucalypt was predominantly found at higher slopes and ridgelines. Site inspection reports showed that without a regular protective buffer (via cultural burn) being created around rainforest areas, the rainforest is at risk to being burnt due to built-up dry leaf litter and fuels in surrounding Dry-Eucalypt forest (acting as fire starters if not maintained). Once the fueled-up dry eucalypt forest catches alight in the hotter months, fire starts to move rapidly along the drier ridgelines and develop a pace and intensity strong enough to penetrate the rainforest outer boundaries and burn a patch of forest that historically has never been and should not be burnt.

Wild-Fire Impact on Forest Canopy from Crowning Fires, Logging and Land Clearing Activity.

Wild fires can cause stripping/burning away of large patches of foliage and canopy. This creates larger sun spots on the forest floor and leads to drying out of the ground moisture sooner, and breaking the forests natural defense mechanisms to the

onset of invasive weeds, pests, diseases and higher frequency wildfires. Wild fires can also influence the onset of epicormic growth. Epicormic growth is rapid foliage growth experienced all over a burnt tree/forest and is a sign that the forest vegetation and ground floor is in distress and attempting to enter a state of repair. Ecocormic growth provides much benefit and repair to the forest, however young new leaf and stem shoots are susceptible to the onset of diseases such as Myrtle Rust – posing further risk of species dieback and impacting on species survival rates. During wild-fire and logging/clearing, large patches of trees or canopy foliage are removed or stripped and vegetation is opened up often enabling the onset of invasive weeds to take hold potentially spread. These post-disturbance invasive weeds are likely to be left untreated or unmanaged for years after the wild-fire/logging/clearing event, resulting in; the restriction of native fauna passage (cutting off from food sources), competition (often successfully outcompeting) with native flora species, and can create further imbalances such as extensive shrub like weed habitat for overpopulation of Bell Minors, further effecting the forest or adjacent rainforest with excessive levels of Bell Minor Associated Dieback.

Wild-Fire Impact on native Flora Species of cultural significance.

Wild fire events historically have a high risk adverse impact on native Flora Species, some species of which that hold cultural significance. Cultural Important effective plant/tree species relevant to Gumbayngirr post 2019-20 fire study area include:

The Ganayga (Scrub Turpentine - *Rhodamnia rubescens*) is a Traditional Gumbayngirr resource used for crafting the women's yam digging stick (Ganayga is featured as a main resource in the Ganaygal Story of where the two sisters created the Land and Sea at Look-At-Me-Now Headland). The Ganayga is currently critically endangered and adversely effected by medium to very high severity fire impacts. Being a ground to mid-story tree-shrub of low-height, foliage can be burnt/stripped very easily from wild-fire. However, reshoots have been found on the base of trees inspected on post-wildfire sites of Low to Moderate Fire Severity.(Refer particularly to Site 4 in Attachment A).

North Brother Wattle (*Acacia Courtii*) is currently a vulnerable wattle species native to the Mid-North Coast Region. North Brother Wattle usually grows on steep, alpine rocky country and is under threat for its low rate of redistributing seed and being prone to wild-fire or excessive conventional burning regimes (which if too hot or high in intensity burn away the seed stock laying on dry eucalypt forest floor).

Native Guava (*Rhodomyrtus psidioides*) is currently critically endangered and is threatened by wild-fire being a low-height fruit tree. Native Guava is also highly susceptible to Myrtle Rust, Habitat degradation and clearing due to forestry operations, too frequent/intense fire destroying habitat and individual plants.

Bindarrga – (Hoop Pine – *Araucaria cunninghamii*) is known to have been culturally used as a resin, Bindarrga although not a listed threatened species is particularly susceptible to wild-fire impacts. Moderate to High to Very High intensity fires often causing permanent scorching to the trunk of the tree, can kill a mature hoop pine or at the least severely stunt growth due to a very slow repair process (found evident onsite at Wildcattle Creek). Hoop Pine was extensively harvested and reproduced in plantations in early 1900's due to the tall and straight wooden trunk of the species. The extensive reproduction has had a partial domestication effect, compromising the quality seeds for reproduction and making traditional heirloom species a rare find. The domesticated strand of Hoop pine may be a contributing cause to its current level of susceptibility to fire, where the original Bindarrga may have possessed fire resilient qualities due to the tens and thousands of years of traditional fire management.

Jirriga – (Dorrigo Red Ash – *Vesselowskyia rubifolia*) – likes the cool Temperate Rainforest of North Coast. Jarriga has a finely restricted occupation in the Cool Temperate Rainforest areas of high altitude Gondwana Rainforest areas between Barrington Tops and Northwest Dorrigo. Usually found in the same community as Antarctic Beech (*Nothofagus moorei*) they are of important historical value of being long-surviving species of an ancient Gondwanian Rainforest which were believed to be more prolific in a previous cooler age. Climate Change, severe drought combined with high intensity wildfire is Jarriga and Antarctic Beech Trees greatest current threat.

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast is listed by the Commonwealth and NSW as a Critically Endangered Ecological Community. This forest community is habitat for the Garruulga (White Box – *Eucalyptus Quadrangulata*) and the Gayabarrga (Black Box Tree - *Eucalyptus moluccana*). Both the Garruulga and Gayabarrga are important natural bee keeping and nectar harvesting trees., and were used culturally for resource gathering of honey, nectar and strong bark materials.b Key Threats include; High Intensity Fires and crowning fires

destroy beehives and tree hollows, having follow up impacts on the forests fertilization due to displacement and impacts on bee populations.

Gugiga – (New England Peppermint – *Eucalyptus nova-anglica*). Currently listed within Commonwealth and NSW as Critically Endangered Ecological Community occurring on basalts and sediments in the New England Tableland Bioregion. Mountain Gum *E. dalrympleana* subsp. *Heptantha* tends to grow within the EEC and is usually 8-20 metres tall. The woodland has a predominantly grassy understorey with few shrubs.

Threats include - Creation of informal roads by vehicles driving through Threatened Ecological Community (TEC) in unfenced areas, spreading weeds, destroying soil profile. Grazing and trampling that spreads weeds, destroys understorey, and enriches nutrients. Selectively reduces grazing-sensitive plants, invertebrates and/or fauna. Inappropriate roadside management including slashing. Clearing for grazing and agricultural development. Introduced grasses, blackberry and Ox-eye daisy invading the TEC, competing with native species, and changing species composition. Disturbance and damage caused by the removal of timber for firewood collection. Fragmentation of TEC affecting ecosystem functioning and viability. Potential for New England Dieback syndrome resulting from overclearing, increasing nutrients, loss of insect predators and increasing attacks from insects (repeated defoliation). Threats including weeds, disturbance by vehicles, firewood collection, road maintenance activities. Grazing and trampling caused by goats and deer that spreads weeds and destroys understorey.

Littoral Rainforest – (*Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*)

Commonwealth and NSW listed Critically Endangered Ecological Community occurring on sand dunes and on soil derived from underlying rocks within 2km from the east coastline in the New South Wales North Coast Bioregion. While the canopy is dominated by rainforest species, scattered emergent individuals of sclerophyll species, such as Jandayga (Smooth-Barked Apple - *Angophora costata*), Wurindaga (Coastal Banksia - *Banksia integrifolia*), *Eucalyptus botryoides*, *Jaambalga* (Plum Pine/Brown Pine – *Podocarpus elatus*) and Maan.Garrga (Forest Red Gum - *Eucalyptus tereticornis*) occur in many stands. Pre-European littoral rainforests would have been valuable resource gathering areas for Gumbaynggirr tribes living on the coast line.

Threats to littoral rainforest include - Invasion and establishment of weeds that threaten the structure and changes the floristics of the ecological community. Fire, particularly along the boundary of the community resulting in plant death and gradual loss of extent. Clearing or damage to stand margins resulting in salt and wind damage and loss of canopy integrity. Physical disturbance such as trampling and soil erosion from human visitation. Sea level rise resulting in loss of low-lying stands and resulting in further lack of connectivity to other littoral rainforest patches and inland areas of seed source forest that maintain landscape scale community assembly processes. Rubbish dumping resulting in physical disturbance and weed invasion. Grazing of stock leading to damage to component species and altered species diversity and structure. Clearing and fragmentation of stands not protected by State Environmental Planning Policy 26. Lack of tenure security leading to land management practices that may include clearing, grazing and burning. Infection via pathogens such as Myrtle Rust.

Lowland Rainforest in the NSW North Coast Bioregion is currently listed at Commonwealth and NSW state level as a Critically Endangered Ecological Community occurring on the east coast of NSW, east of the great dividing range. Holding a diverse range of plant species from buttressed roots of the Jagan.ga (Yellow Carrabeen – *Sloanea Woollsii*), Guwanggaga (Moreton Bay Fig - *Ficus macrophylla*), Baliga (Rosewood – *Dysoxylum fraserianum*), Gaagunyga (Sandpaper Fig - *Ficus coronate*), Wiirrinjyaga (Giant Stinging Tree – *Dendrocnide excels*), to rainforest vine species, and to palms including Garranyjiga (Bangalow Palm – *Archontophoenix cunninghamiana*). Lowland rainforests are rich with valuable cultural resources, from medicines, to soaps, fruits, fibre/string, durable crafting wood and bark, and for message stick trees.

Threats include - Clearing from rural, agricultural and urban development leading to edge effects, degradation and further fragmentation. Invasion and establishment of transformer weed species changing community structure and floristic composition. Inappropriate fire regimes associated with burning off and hazard reduction pose a threat to the margins of rainforest stands and the entirety of small stands in fragmented landscapes. Myrtle rust infection of characteristic species resulting in changes to community structure and floristic composition. Grazing and trampling by livestock causing loss of or damage to plants, compaction of soil, erosion, influx of nutrients and dispersal of weeds. Reduced pollination and lack of seed. Bell Miner associated dieback affecting the eucalypts in some remnants. Damage caused by human disturbance including trampling, rubbish dumping, arson, motorbikes, bicycles, and the construction of jumps for bikes within the TEC.

High intensity Wild-Fire, Logging and Clearing Impacts on Fauna Habitat – Native Fauna movements are restricted and refined when forest habitat is impacted by Clearing, Logging and Wild Fire. Wide spread high intensity burns, logging or land clearing that consumes a large area of habitat cause a reduction to fewer and smaller pockets of suitable forest/habitat where food sources and habitat become reduced and more scarce – resulting in a highly competitive environment making it very difficult or if possible to survive. Repeated large scale habitat destruction ultimately poses the risk of species decline within our remaining native forests. Indigenous people had sacred places and increase sites for each of its species – indicating there was a place within the landscape for each species. Original habitats have transformed since European settlement – in some areas there are some species that have moved from one place to another – cultural fire done correctly may direct some species back to their original place on the landscape and allow the original habitat to be restored and original species to flourish. This is not the case for all places – only rapidly transformed or imbalanced vegetation communities. During application of cultural fire, small isolated burn patches, preservation of large fauna corridors, and strategic fire patterns allow fauna passage to continue without threatening the local species.

Wild-Fire, Development, Logging and Clearing Impacts on Native Fauna Species

Gugaamgun (Coastal Emu - *Dromaius novaehollandiae*)

Gugaamgun features in Gumbaynggirr creation stories, with two young men from a camp near Thora decide to boast to their tribe and tell them they are going out to catch lots of fish. They weave the first fishing net out of natural fibres from the inner bark of a tree, however their boasting had upset the spirit's and they wake up the next day to check their nets and do not find any fish at all. One does not want to be seen so he swam up the river and turned into a Muluny (Platypus), and the other young man did not want to be caught by the tribe so he ran down the river and turned into Gugaamgun (Emu) and has been running away from humans ever since.

Gugaamgun (Coastal Emu) is now considered an endangered population in NSW. The species was formerly widespread in north-eastern NSW, but is now restricted to coastal and near-coastal areas between Evans Head and Red Rock. It's preferred habitat being in a range of predominantly open lowland habitats, including grasslands, heathland, shrubland, open and shrubby woodlands, forest, and swamp and sedgeland communities, as well as the ecotones between these habitats.

Threats include - The habitat of the north coast population of Emus has been reduced and fragmented as a result of agricultural and rural and urban development, with consequent declines and isolation of subpopulations and local extinctions, a process that is continuing. Inappropriate fire regimes, rendering habitat unsuitable and loss of breeding habitat, and fires, including control burns, in areas where Emus are nesting. Back-burning operations can also trap and kill Emus fleeing fires. Predation of young and eggs by Red Foxes (*Vulpes vulpes*), feral Pigs (*Sus scrofa*), feral and domestic Dogs, native avian and reptilian predators. Vehicle collisions, with increasing human use and vehicular traffic leading to many deaths of adults and juveniles. Impediments to movement and access to resources through artificial barriers (fences), agricultural development, highway upgrades and urban development.

Rapid change in land use, and land management practice in the Yuraygirr National Park and in the Clarence are required for there to be any chance of Gugaamgun's survival. Gugaamgun was known to hold cultural value in linking song lines between tribes, and being a live indicator on the right timing and place to implement cultural burns across the Gumbaynggirr landscape.

Guruguraw (Topknot Pidgeon - *Lopholaimus antarcticus*)

Currently Protected Species also has a mountain named after it that is visible from Clarence river looking Over the Coldstream River – Numbers have declined due to deforestation, shooting and high intensity wildfire reducing food trees – (Galangga) White Beech tree is a natural food source for it which previously had a decline in its species, however the introduction and widespread of the invasive weed Camphor Laurel has provided a new food source which has picked up the Topknot Pidgeons population numbers again – Pidgeon Gully (Site 10 Attachment A) is believed to be given contemporary name after the Topknot Pidgeon.

Wompoo Pidgeon – *Ptilinopus magnificus*

Listed as vulnerable Conservation status in NSW. Current known distribution from Hunter River NSW to Cape York Peninsula, along the coast and coastal ranges. Although is considered to be rare south of Coffs Harbour. Wompoo pidgeon currently recorded in a region of cultural significance Pidgeon Gully (Site 10 Attachment A), in Yuraygir National Park. Current threats include clearing and fragmentation of low to mid-elevation rainforest due to coastal development and grazing, logging and roading in moist eucalypt forest with well-developed rainforest understorey, non-cultural burning (e.g. wildfire and hot fire/mitigation) which reduces remnant rainforest habitat patches, infestation of rainforest habitat by invasive weeds.

Biliirrgan (Glossy Black-Cockatoo - *Calyptorhynchus lathami*)

Vulnerable conservation status and although uncommon, it is widespread through suitable forests habitats and woodlands. Found inhabiting areas where stands of sheoak occur, with Black sheoak (*Allocasurina littoralis*) and Forest sheoak (*A.torulosa*) being important food sources. Habitats are mostly large hollow-bearing eucalypts for nest sites. Some threats include; Clearing for development, Prescribed (Hot) Burns or wild-fires inducing decline of hollow bearing trees, loss of foraging habitat due to slashing/underscrubbing, changes in distribution of resources (both spatially and temporally).

Ngayiim (Spotted Tail Quoll - *Dasyurus maculatus*)

Baalijin the eastern quoll is featured in creation stories involving the journey over the land bridge at Scotts Headland, Eastern Quoll and Spotted Tail Quoll are exchanged within the story, the quoll can still be seen today as a rock face at Scotts Headland where it had been turned to stone. Currently listed as vulnerable conservation status in NSW, Commonwealth status Endangered. The distribution on the Spotted-tailed Quoll has been heavily impacted since European Settlement. It is now found in eastern NSW Critically Endangered Lowland Littoral Rainforest areas. Current threats to the Spotted-tail Quoll include – loss, fragmentation and degradation of habitat through fire and land clearing for grazing and urban development.

Dungirr (Koala – *Phascolarctos Cinereus*)

Dungirr is heavily featured in the Gumbaynggirr creation stories, particularly in the creation of Yarriabini Mountain (Yarrahappini), the creation stories also mention Dungirr's favorite habitat/feed tree being the Tallowood in which one of the Koala brothers climbed when he created the land bridge across the sea. Since the arrival of Europeans, the Koala has suffered a dramatic decline. The koala has been listed as vulnerable since 1996. Populations today exist in fragmented and isolated areas, most of which are subject to extreme, ongoing pressures.

Threats include – loss and modification/fragmentation of habitat, disease (chlamydia), induced climate change, prescribed burns (hot burns), or wildfires affecting tree canopies, Predation of wild dogs. Durrunda Wajaarr rangers have recorded fresh koala scats in post-cultural fire areas within 6 weeks of burn implementation.

Gimung (Native Mouse)

New Holland Mouse (*Pseudomys novaehollandiae*) – Vulnerable Commonwealth Status. Occupation in Heath Lands, Woodland with Heath Understorey. Threats include – loss and modification of habitat, weed invasion and Phytophthora, Inappropriate fire and disturbance management, predation by introduced species.

Marrgaan (Brushtailed Rock Wallaby - *Petrogale penicillata*)

Name for a special cultural site at Arakoon for Birrugan's tomb (Birrugan is a highly respected Gumbaynggirr Hero Ancestor and is the Son of Gawnggan the Mother and Yuludarla "The Creator"). Marrgaan is currently listed as endangered in NSW, with habitat in rocky outcrops, cliffs and escarpments with a preference for rock crevices, caves and ledges on north facing slopes. Marrgaan feed in and adjacent to high-elevated rocky areas eating grasses and forbs, foliage and fruits of shrubs and trees. The preferred high elevated rocky north facing slopes of Marrgaan leave the species vulnerable to habitat and food resource destruction due to high to very-high intensity prescribed burns or wildfires.

Threats include - Predation by foxes and wild dogs, Competition for forage and refuge areas with feral goats, Loss, degradation and fragmentation of habitat, frequent and high-intensity fire regimes that reduce the abundance and diversity of ground forage, Infestation by invasive weeds causing loss and degradation of foraging habitat, Potential for individuals to be killed on roads, Predation by feral cats.

Dirabulunga (Yellow Bellied Glider - *Petaurus australis*)

Listed as Vulnerable in NSW. Dirabulunga is very mobile and occupies itself in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary in Gumbaynggirr country with latitude and elevation; mixed coastal forests to dry escarpment forests in the north. They feed primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein. Dirabulunga extract sap by incising (or biting into) the trunks and branches of favoured eucalypt food trees, often leaving a distinctive 'V'-shaped scar and have been known to use one favorite feed tree for up to 10 years. Live in small family groups of two - six individuals, den in family groups within hollows of large trees.

Threats include – Loss and fragmentation of habitat, loss of hollow bearing trees and loss of feed trees – miss-managed tall eucalypt and old growth forest present particular threat from fires and logging/clearing operations that destroy habitat and food sources for the glider.

Baangu (Greater Glider – *Petauroi Volans*)

Currently Vulnerable status in the Commonwealth listings. Similar habitat and threats to Yellow Bellied-glider.

Galuuga (Rufous Bettong - *Aepyprymnus rufescens*)

Listed as Vulnerable in NSW. Rufous Bettongs inhabit a variety of forests from tall, moist eucalypt forest to open woodland, with a tussock grass understorey. A dense cover of tall native grasses is the preferred shelter. They sleep during the day in cone-shaped nests constructed of grass in a shallow depression at the base of a tussock or fallen log. At night they feed on grasses, herbs, seeds, flowers, roots, tubers, fungi and occasionally insects

Threats include - Changes to the grassy understorey by inappropriate burning and grazing. Competition from rabbits. Predation by feral cats and foxes, whose numbers appear to increase when dingoes are reduced through baiting. Loss of habitat through clearing, logging and collection of fallen timber.

Most Adverse Impact – High Severity Fire Followed by Salvage Logging via Clearing Methods

Barren Landscapes have been observed in Wild Cattle Creek State Forest, which were caused by Salvage Logging via Clear-fell methods post high-intensity wildfires of 2019-20. Heavy Machinery (i.e. bulldozers) cause direct severe damage to cultural sites and objects, through displacement, scraping and fracture. Salvage Logging/Clearing cause severe habitat loss, and major delays in the natural restoration process of the forest due to disturbance of landscape structure and soil profile. Severe topsoil loss results from High to Very High Fire Intensity Rating during wildfire events. Forest and soil-profile repair via leaf litter dispersal from epicormic growth of surviving trees consequently gets cut-off due to Salvage Logging and post-fire clearing operations – resulting in a barren landscape causing major delays in the forest soil repair process. (Refer to Site Inspection 8 – Attachment A)

High Severity Fire or Clear-fell Harvest Followed by Heavy Rainfall Runoff Events (Flooding)

Post Wild-Fire and clear-felling storm and flood events cause severe erosion to barren landscapes and clear felled areas by stormwater runoff which may also cause damage to access roads, pollute nearby streams and could potentially cause high volumes of topsoil loss – post clear-fell harvest operations. High intensity fires damage/remove/or weaken soil retaining vegetation, releasing loose soil, and producing high volumes of ash, coals and minerals that cover the slopes of the catchment putting the waterbodies at risk of having these minerals and soils deposited into the water. This changes the chemical composition of the water, including PH and Oxygen levels of which all aquatic life depend, which could potentially be a direct cause of fish death. Sediment and soil also deposits in the river and creeks, changing the structure and main channel orientation of the river, building up the river bed, reducing cross section area of the river over time, restricting flow and reducing the flow rate and the rivers ability to move water over time. This leads to floods that become more severe year after year.

Cultural Sites at Greater Risk to Wild-Fire Adverse Impact – Per Site Classification

1. Overwhelmingly Cultural Scar/Marker/Modified Trees - are at highest risk and most vulnerable to the adverse impacts caused by wild-fires. This has been found evident due to the increased dryness and ignitability of old dead trees. Scar trees are at risk of being damaged a variety of way by fire; by high intensity fire completely disintegrating the tree, or by low to moderate intensity fire burning away to one or more sides of the base of the tree (Which may after 2, 3 or 4 fires of this intensity), causing the tree to lose stability, fall to the ground and further decompose. Once a scar tree has fallen to the ground it makes preservation efforts much more difficult to achieve (As fire damage and decomposition becomes more efficient and a higher risk)
2. Special cultural resource sites (Eucalypt or Rainforest) are high on the list for risk and vulnerability for adverse impacts caused by Wild-Fire – some special resource areas are quite small compared to the bushland around it, which can leave it prone to wildfire in drier years if fire buffer zones are not maintained regularly enough (It is vital the correct type of fire is applied to the fringes of rainforest so that to protect and enhance the forest/eucalypt transition strip – these burns must be only applied during winter – so that to put itself out as the cool-fire approaches the rainforest transition strip).
3. Stone Arrangements - Are Moderately to Highly vulnerable to adverse impact due to the risk high-intensity wildfire could have with burning leaf litter and earth in between and underneath stones, burning out earth hollows that cause the surrounding ground to collapse, burning out the base of trees and causing trees to fall/logs to roll onto stones potentially causing stones to become dislodged.
4. Rock Art Sites – Are Moderately vulnerable to high-intensity wild-fire damages, generally most rock art is preserved and protected within caves, however if fuel loads are left to be built-up and buffer zone around site is not-maintained, the high intensity fires in hot and dry conditions could cause excessive flame height and intensity that could potentially cause the ochre and or natural adhesive to wear off or change colour.
5. Stone Artefact Scatters / Old Camp Sites – Old Camp Sites and Stone Artefacts are of Low to Moderate Risk of adverse impact from Wild-fire. All artefacts the survey team have found do not have any distinctive burn marks on them, although it was observed that some stone artefacts appeared more brittle than they normally would be. Stone artefacts are effected on high to very high intensity fire exposure, repeated high intensity fire exposure could potentially cause rupture, cracking, or fracture to selected stone artefacts (based on the type of material they are made of). If artefact rupture and fracture time and time again over many years, it may become unrecognisable as an artefact, which could potentially take away evidence of the existing of campsites and preoccupation of first nations people in some areas. The team noted that in the high ridge sites effected by high-to very high fire intensity, no evidence of stone artefacts was found. It was identified that wild-fire combined with post-fire salvage logging via clearing methods had the utmost damaging impact on determining the accurate and original location of Old Camp Sites and Stone Artefact Scatters (due to dislocation from the use of heavy machinery used for logging, clearing and roading).

Cultural Sites with No to Little Risk to Wild-Fire Adverse Impact – Per Site Classification

1. Women’s Sacred Birthing Sites and Waterholes - are perhaps the least directly impacted by wild-fire effects due to being based in water bodies and waterholes. Indirect impacts could potentially effect the women’s sacred birthing sites and waterholes due to contamination and pollution of water due to upstream rainfall and runoff sediment and erosion where high intensity fires have impacted land within or near to the riparian/catchment of the waterbody. High volumes of sediment build up could potentially fill in waterholes and change the course of the river overtime – which would be devastating for sacred waterholes.
2. Ceremonial/Bora Ring Sites - have been maintained by cultural fire for thousands of years prior, Wildfires should not effect Bora Rings all too much, although if bora rings include stone arrangements as part of the site, High Intensity fires could cause stones to crack, chip and fracture. High Intensity fires if exposed to site may also kill off the native seed bank and open up the site to the infiltration of invasive weeds.
3. Creation Story Places / Increase Sites / Sacred Places – are usually of intangible nature, however in Gumbaynggirr country there are a many sacred places and/or story sites that do have tangible points of reference on where characters of the story were and where they went and what they did, and what happened to them. The tangible reference points amongst the landscape and its features are significant for the Gumbaynggirr culture and people to keep undamaged and protected. Most tangible landscape reference points are large in size and can withstand the elements and exposure to fire. The largest threat to Story Places / Increase Sites / and Sacred Places remains as construction/development/clearing work.

Recommendations from Site Assessments -

(Refer to Site Inspection Report No 1,2,3,4,5,6,7,8,9,10,11 – Attach A).

1. Establish close coordination and communication with the Landholder Representative and/or Cultural Officer and Ranger – keep informed of plans for delivering mitigation measures and protections.
2. New Cultural sites to be plotted using GPS, site card generated and upload into AHIMS – (Pending Elder Approval)
3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
4. Cultural Asset Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
5. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
6. Regular funding be established to allow for further planning and applied land management.
7. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.
8. High frequency cultural burns (once every 3-5 years) to create protective buffer around cultural assets to keep fuel loads down (Typical buffer between 30 to 40m radius).
9. Establish dedicated Gumbaynggirr Fire Mitigation Teams for Northern and Western Gumbaynggirr with focus priority on preserving and protecting cultural assets.
10. Establish improved communication/telecommunications with RFS Fire Control Centres (NPWS, Forestry NSW), gain access to real-time bush-fire information during emergency fire response operations (Ignitions, Fire Direction, Potential Fire Pathways, Speed of travel, timing information, human and plant resource allocations, Response Times).

SPECIFIC SCAR TREE SITE PROTECTIONS / REPAIRS - (Refer to Site Inspection Report No 1 – Attach A).

11. New Contemporary marker scar tree/s to be constructed by Gumbaynggirr Community and plotted using GPS, site card generated and upload into AHIMS.
12. Relocating the large upper section of burnt trunk to on top of the remaining root mass
13. Relocating the adjacent section of Red Gum log to be part of a border to protect the scar tree site.
14. Utilizing large river stones close by with the aid of an excavator to form the remaining circular border to protect the scar tree remains from pedestrians and campers.
15. Planting species endemic to the location surrounding the scar tree site, these include Red Ash & Water Gum

SPECIFIC STONE ARRANGEMENT SITE PROTECTIONS - (Refer to Site Inspection Report No 6 – Attach A).

16. Discussions to continue between CH&DLALC and Landholder for the ongoing management, maintenance and preservation of the site, and to consider plotting the site boundary and stone arrangement coordinates using GPS, site card generated and upload into AHIMS as Restricted Site (Permission from elder groups must be sought prior to any AHIMS Upload regarding this site).
17. **Cultural Protocols** – No photos of cultural stone arrangements to be taken, photos containing any cultural features to be kept strictly on usb stick or on secure computer storage device and kept on Gumbaynggirr country or in office of CH&DLALC. Keep site clean of rubbish and foodscraps – MEN ONLY.
18. Weed treatment and cultural fire needing to be implemented to site by Gumbaynggirr Rangers and Fire Practitioners using culturally safe approach – Follow up maintenance of site to occur regularly – establish and maintain trails.

RIDGELINE CULTURAL BURNING - (Refer to Site Inspection Report No 7 – Attach A).

19. Cultural Fire Regimes to be developed and implemented for wild-fire cultural and ecological impact prevention and ecology enhancement.
20. Promotion and Education campaigns about the benefits and differences of cultural fire and the importance of ridgeline burning in Gumbaynggirr Country to all types of Landholders/Owners.
21. Promotion of active Gumbaynggirr Fire Practitioners, Rangers and Land Management Teams.
22. Ideal ridge burn frequency for sites with elevations above 200m is once every 5 to 7 years – with no fire required for lower slopes and gullies. A 5 to 7 year frequency (5 to 7 years of forest fuel build up) will be much safer, more

controlled with less intensity and more preservation and enhancement outcomes for the ridgetop sections of eucalypt forest.

FORESTRY SPECIFIC RECOMMENDATIONS - (Refer to Site Inspection Report No 8 – Attach A).

23. 100% area of all Forestry Harvest Operations to be planned and assessed with CH&DLALC and Grafton Ngerrie LALC – Select Logging Only – No Salvage Logging (Post Wildfire) or Clear Felling of any areas.
24. Strategic Measures to be implemented within Forestry NSW to include ecological-sustainable criteria for logging co-designed, reviewed and endorsed by Local Elder Groups; and to apply the following rules to all operations. > Must not in any circumstances clear-fell after a wild-fire or high intensity fire event. Always choose Green Logging over Salvage Logging, and select felling over clear-felling – retain >80% of mature trees and overall canopy area in any given location, Number of trees harvested per 10,000m² not to exceed 6 and must be evenly spaced in mosaic patterns, and not be grouped/clustered together – Foliage of selected trees for harvest must not be adjoining other selected trees. The measure of 1 tree may be equivalent to 10m Diameter in canopy and does not put a limit on the number of trees within that 10m Diameter (e.g. 3 trees may be harvested as a cluster and count for one tree if all contained in 10m diameter of canopy). Retain at all times the mother tree of the species within the planned harvest area.
25. The above parameters and strategic measures is consistent with cultural Lore and resource gathering practice and would prevent/reduce the influx of pests, disease, soil loss, habitat loss, species loss, and forest loss or degradation.

SPECIFIC ROCK ART CAVE SITE PROTECTIONS - (Refer to Site Inspection Report No 9 – Attach A).

26. Discussions to continue between Grafton Ngerrie, CH&DLALC and NPWS for the ongoing management, maintenance and preservation of the site, and to consider plotting exact coordinates using GPS, site card generated and upload into AHIMS as Restricted Site (Permission from elder groups must be sought prior to any AHIMS Upload regarding this site).
27. Make more frequent site visits between Grafton Ngerrie and CH&DLALC.
28. **Cultural Protocols** - Rock art depictions photos to be kept strictly on usb stick or on secure computer storage device and kept on Gumbaynggirr country or in office of (Grafton Ngerrie and/or CH&DLALC and/or NPWS nearest office location). Keep site clean of rubbish and food scraps.

RAINFOREST/EUCALYPT TRANSITIONS – CULTURAL RESOURCES_- (Refer -Site Inspection Report No 10 – Attach A).

29. Regular cultural fire and maintenance regime for (Eucalypt forests that surround unique rainforests/special resource gathering places – providing protective buffer zone)
30. Establishment and maintenance of walking tracks to ease future access and supplement weed treatment efforts through or to cultural sites/EEC's.
31. Coordination of Biodiversity surveys (species survey to identify species of cultural significance and/or protected, endangered and vulnerable species).
32. Consider planting fire retardant trees/plants on rainforest perimeter / outer boundary of special cultural resource site.

ADDITIONAL RECOMMENDATIONS FOR THREATENED FLORA AND FAUNA SPECIES OF CULTURAL IMPORTANCE

33. Biodiversity Surveys accompanied with Cultural Surveys to be undertaken prior to any prescribed burn and be culturally informed to; identify and adhere to any necessary cultural protocols, identify and understand cultural significance of species identified/found/based in the area.
34. Establishing new flora reserves placed in Traditional Custodial Management to protect high-density areas of Culturally Important Threatened Species from the impacts of logging, development, Wildfire impacts and/or the effects of high frequency high intensity prescribed burns.

Casestudy – Community Events – Cultural Interviews and Film Production

Due to circumstances within Gumbaynggirr community, flooding, Site Access issues, and Covid-19 Restrictions in 2021, it was decided by the Steering Committee for CH&DLALC to deliver case study events via video documentary and/or interviews.

Event No 1 and 2 – Documentary Film interviewing Cultural Survey Team and knowledge holders on Cultural Site Inspection Findings, answering key focus questions on Renewing Forest Management in Gumbaynggirr Country, and Cultural Burn footage and interviews at 335 Kalang Road – Gumbaynggirr Community Event.

Online Access Links to the Trailer and Documentary

Gumbaynggirr Land Case Study – Aboriginal Cultural Values and Renewal Assessment in NSW Forests Post-Wildfires.

(Note both the below links are now publicly accessible)

Please see below link to the 7 Minute Trailer.

<https://youtu.be/1O1rqaZWBF0>

With Below link to the 71 Minute Full Length Documentary.

<https://youtu.be/fmIjQqSNB9g>

Please refer to Appendix 4 for the Structure and Timing of Full Length Documentary.

Refer to Cultural Values Mapping sheet below for CH&DLALC's answers on case study questions for 2 out of 11 of our selected post-fire cultural inspection sites.

Cultural Values Mapping – Coffs Harbour and District LALC Workshop Days

Location		Case study criteria		Case study questions			
	Tenure(s) – Aboriginal-owned, State Forest, National Park, Crown Land, TSRs	Percentage (%) burnt by bushfire	What are the cultural values? What was the condition of values prior to the fires?	How has fire impacted those values and how does this vary in forest types/tenures?	Are there any gaps in knowledge about the condition of those values and why?	What risks to the values have changed because of the fires and are there any risks?	What innovative tools, resources and processes can better address these risks in the future?
Site 1:	National Park	99%	Prior to the fires there was a 1000+ year old double Marker Bloodwood Scar Tree still standing and in a stable condition. This scar tree was a ceremonial tree and was of very high significance to Gumbaynggirr. Many Elders still alive today visited this tree.	The 2019-20 fire has absolutely devastated the cultural value of The Junction Scar Tree with 99% burn damage, only some of the roots are still where positioned where the tree was originally. 1% of the volume of the tree is remnant in left over branches. position on the North-West Slope	The Gaps of knowledge would be knowing the details of the ceremonies that were performed by our Gumbaynggirr ancestors with the tree. The reason for the knowledge gap is assimilation into western civilisation (By force initially and then by choice later due to modern ways.	Remnants of the tree are now loose on the ground surface place over tree root location. A High Level Flood event could potentially wash away the remaining pieces of the scar tree. The site being stripped bare of its earth retaining vegetation is at risk of erosion and scour.	A new Designated Gumbaynggirr Bushfire Mitigation Crew based in the North and Western region of Gumbaynggirr Country. Improved realization and coordination of skilled resources across multiple agencies and CHDLALC. Fire Regime
Site 10:	National Park	90% of the ground surface. 20% Vegetation above ground.	Prior to the fires, it was not recognised in recent times for having cultural value. There is no doubt now after seeing it today and realising it must have been an important resource gathering place. Being the only Low-Land Littoral Rainforest in Yuraygir National Park an EEC.	The fires had consumed 90% of the ground surface of pidgeon gully, however on the day the wind must of provided the right conditions to not kill off too many mid and canopy natives. It has amazingly suppressed the weeds and allowed for ease of access into the forest.	Not knowing if the Gumbaynggirr ancestors in this location had a story associated with Pidgeon Gully, a favourite food, fibre, clay or stone they used to collect from this rainforest. Difficulty to source current day elders who have that detailed knowledge.	Fuel Loads have reduced significantly since the wildfire affected pidgeon gully – therefore the threat of fire is currently low. Lantana has been suppressed very well – there is a risk of reinvasion if action is not taken soon to treat the weeds before the take hold.	Maintain communications and coordination with NPWS Yuraygir Parks Ranger and Ngerrie LALC. CH&DLALC to offer cultural burn planning advice and offer on-ground assistance with protective buffer zone burns to reduce the fuels in the surrounding Eucalypt.

Final Recommendations

- **Simplified pathway for cultural burn approval** – (Exemption from Hazard Reduction Burn Certificate – for ridge lines, ridge tops and ridge peak burns). **Give Local Aboriginal Land Councils Consent Approval Authority to Plan, Authorize and Implement Cultural Burns.**
- While Land Council's are waiting for legislation to change >> **Rural Fire Service to set minimal response times for assessing and issuing Hazard Reduction Burn Certificates** (Maximum 6 Weeks – Employ more resources or train people to become assessors)
- **National Parks and Wildlife Services >> Provide all parks access through gates to approved Gumbaynggirr Ranger and Cultural Site Officer Teams.**
- **New Designated Gumbaynggirr Bushfire Mitigation Crews based in the North and Western region of Gumbaynggirr** – No 1 Priority - actively Protect/Preserve Cultural Assets.
- **Culturally Informed and Strategic planning and Involvement for all planned timber harvest operations, construction/clearing developments, and planned burns in Gumbaynggirr Country**, consult and engage with your nearest based Local Aboriginal Lands Council.
- **Much More Cultural Burning** – Prepare an all of Gumbaynggirr Country Fire Regime – Areas prioritized for burning include; Cultural Sites Buffer Zones, Ridge lines and Peaks.
- **More Gumbaynggirr or Indigenous Rangers and Fire Practitioners on country.** >> Target 10x more ranger crews by 2030 – 30 or more Ranger Crews for Gumbaynggirr Country.
- **Forestry NSW to engage local elder groups and LALC's, and allow pre-harvest planning to be co-designed, reviewed with feedback implemented; and to apply the following rules to all operations.** > **Must not in any circumstances clear-fell after a wild-fire or high intensity fire event.** Always choose Green Logging over Salvage Logging, and select felling over clear-felling – retain >80% of mature trees and overall canopy area in any given location.



Further Photos of this burn in Site 7 Inspection Report – Attachment A.

References

[Gumbaynggirr Dictionary & Learner's Grammar \(S.Morelli 2008\)](#)

[Gumbaynggirr Yuludarla Jandaygam - Gumbaynggirr Yuludarla Jandaygam Gumbaynggirr Dreaming Story Collection \(S.Morelli, G.Williams, D.Walker 2016\)](#)

[CH&DLALC Land and Sea Country Plan \(CH&DLALC 2018-2022\)](#)

[Mangroves to Mountains – A field Guide to Native Plants of South-east Queensland \(2017\)](#)

Native Guava >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20342>

North Botherer Wattle >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10011>

Scrub Turpentine >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20341>

New England Peppermint >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10558>

Cool Temperate Rainforest >>

<https://www.environment.nsw.gov.au/threatenedspeciesapp/VegClass.aspx?vegClassName=Cool%20Temperate%20Rainforests>

Littoral Rainforest >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10867>

Lowland Rainforest >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20073>

White Box - Yellow Box - Blakely's Red Gum Grassy Woodland >>

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10837>

Coastal Emu >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10250>

Topknot Pidgeon >> <http://www.wiresnr.org/topknotpigeon.html>

Wompoo Pidgeon >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10707>

Glossy Black-Cockatoo >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10140>

Spotted Tail Quoll >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10207>

Koala >> <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-animals/native-animal-facts/koala>

<https://koala.nsw.gov.au/portfolio/gumbaynggirr-good-koala-country-plan/>

Brushtailed Rock Wallaby >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10605>

Greater Glider >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20306>

Yellow Bellied Glider >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10601>

<https://www.environment.nsw.gov.au/resources/nature/landholderNotes03YellowBelliedGlider.pdf>

Rofous Bettong >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10033>

New Holland Mouse >> <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20253>

Fire Severity Mapping >> [https://geo.seed.nsw.gov.au/Public_Viewor/index.html?viewer=Public_Viewor&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED_Catalog.254.FESM%20Severity%20Classes%20\(Interim\)](https://geo.seed.nsw.gov.au/Public_Viewor/index.html?viewer=Public_Viewor&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED_Catalog.254.FESM%20Severity%20Classes%20(Interim))

Appendix 1: Post Fire Cultural Site Assessment Methodology

A Post-Fire Cultural Site Impact Assessment would require the following suitable resources and methodologies to conduct the investigation.

Personnel Required – 1x Gumbaynggirr Senior Cultural Site Officer and 1x Gumbaynggirr Cultural Site Officer Or Junior Cultural Site Officer. Allocate as per Culturally Appropriate.

Project Induction – Relevant SWMS and JSA must be reviewed for the purpose of site investigations relevant to this project. Post Fire-Ground hazards will be identified and communicated to site officers prior to accessing site.

Cultural Induction – A Senior Cultural Leader (Elder, Knowledge Holder or Senior Sites Officer) must perform a cultural induction to participants prior to accessing sites of Cultural Sensativity, Spiritual significance, or have stories linked to them. The content of the induction and restrictions, rules and preparation applied will be based on the Cultural Leader's discretion.

Personal Protective Equipment – Steel-Cap lace up boots are required to be worn by all site offices on this project. In addition, Long sleeve shirts and pants with adequate UV protection rating is advised.

Site Vehicle – A suitable and reliable 4wd site vehicle with good maintenance history to be used for accessing site – Site Vehicles must be fitted with UHF and First Aid Kit as a minimum – ideally be fitted with a winch and amber light. Site officer/s whom use their personal vehicle will be paid a \$/km rate agreed to with CH&DLALC.

Site Map Location – A clear and easily understood site map should be generated by Project Coordinator and provided to site officers to aid in locating the site required to be inspected – Directions to site be provided and nearest crossroad.

Site Inspection Duration – The duration of a site inspection would vary depending on the number and extent of cultural features and artefacts identified and the travel-time required to access site. For the purpose of this project each site will be given a maximum of 16hours of investigation or 8 hours for a 2x officer investigation.

Site Inspection Equipment – All Site Officers will be equipped with tape measures, GPS Navigator and Plotter (Garmin), high-quality device to capture photos (IPAD, SMART Phone), notebook, inspection checklist and pen to document site observations.

Accessing Site – Site officers to park as near to site as reasonably practical in safe location off the fire trail or access road/track to prevent blocking access for other road users.

Inspection Methodology – Physically walk the site and if site location known physically identify location of site, and inspect the known site and the surrounding landscape and vegetation for a 50m radius. Identify site type/classification – if multiple types of cultural sites are identified in one area provide details In writing. Measure cultural item dimensions and record, take photos and store securely, Record GPS Coordinates using a GARMIN or equivalent GPS Plotting/Mapping Device/program.

Take photo of land context (Landscape), Artefact Location, Artefact Features, Ground conditions, any hazardous features of the land they may pose risk of impacting cultural object.

Photos are to be kept documented on secure device and cultural features to be restricted access. Access to cultural feature photos may be provided at the location of the CH&DLALC Head Office.

Inspection Report

As a minimum - Detail Site Type, Location, Coordinates, site notes of inspection from site officer (Measurements, no of artefacts/ types etc) and list recommendations for further protection.

Create Site Card and Upload to AHIMS.

Appendix 2: Fire Management Plan

Fire Plan – All planned burns must be Authorised by the appropriate consent authority prior to engaging in any burn preparation activities. The Rural Fire Service (RFS) Local Command Centre must be informed of the planned burn and given a minimum of 24 hours' notice. Conditions of the Environmental Approval and Authorised Burn Plan must be followed accordingly.

Prestart – Prior to commencement of any fire management activities the team Supervisor is to be nominated and must conduct a prestart to assess risks associated with site and activities, and include all safety requirements, Communicate requirements and procedures of Fire Plan/Emergency Fire Response Plan/Emergency Evacuation Plan for the site, Complete Risk Assessment and Safety Checklist attached to prestart form, ensure all team members understand risks/rules/obligations/responsibilities and sign and date to confirm understanding.

Access to Site – Maintain Fire Trails (2.5m minimum width) and Gate Access, ensure all signage is visible and trails are clear from debris

Manage Fuel Loads – Annually reduce/redirect fuel loads via Cultural Fire/Cultural Recreation Use and/or Thinning/pulling down thick or dead vegetation (dead branches leaning up to canopy etc) – Ensure Approved Burn Plans are followed, notification is given to relevant authorities (RFS, NPWS) for each day a burn is planned.

Fire Fighting Skill Sets – Ensure the greater majority of the team are qualified and skilled in emergency fire response, Operate Chainsaws, and four-wheel drive vehicle operations.

Fire PPE and Equipment – Ensure all fire response rangers have available fire approved Safety Boots, Pants, Jacket, Gloves and are equipped with UHF Radios, Eye Protection, Hard Hats, Fire Blankets, First Aid (Burns), Long Handled Fire Rakes (Macleods Tool), Fire Unit is full of water prior to driving out to fire affected site, Site vehicle is equipped with Winch, UHF Radio and RED and BLUE flashing light.

Establish Emergency Evacuation Zone – Prior to commencing with Cultural Burning or Fire Fighting establish a suitable easily accessed emergency evacuation zone, ensure ranger team is aware of the indicators that would present an evacuation situation (Fire Intensity increase, sudden change of wind direction, increased heat, 1hrs of applied water with no reduction in intensity/burn area), establish clear calls for evacuation "Burn Over".

Communications – Ensure all Rangers report back to the supervisor/programs manager on an hourly basis to update on progress and for safety check purposes, once fire is out and under control notify supervisor/manager before leaving site.

Reporting – Supervisor or Programs Coordinator to provide written report via document or correspondence to Land Holder, Fire Authority or Client within 48 hours.

Key Contacts

Field Supervisor - -0411 143 699 – Dan Flanders

Programs Manager Contact – 0417 419 344 – Matthew Smith

Emergency Contact – 0408 264 887 – Chris Spencer

Appendix 3: Cultural Land Management Plan

Cultural Land Management Considerations

Cultural Protocols – All investigations to be led by a Senior Sites Officer or have a cultural induction by a relevant Elder to the specific site. Cultural safety must remain a strong focus in Land Management based work on Gumbaynggirr Country. When the site being accessed for work or inspection is culturally sensitive, has strong spiritual significance, or has a story linked to it or may expect to have any of the before mentioned linked to the site, the project coordinator must arrange for a cultural induction or information meeting to take place between all team members and a Cultural Leader (Gumbaynggirr Knowledge holder, Elder or Senior Sites Officer). The cultural leader will then, based on their discretion of the site, nature of the works, and people involved; set site specific cultural protocols (Site Rules) for all participants, may restrict access to site for single gender or for certain age and/or maturity, may lead the team for certain preparations in order to access site safely, and/or choose to lead the participants on the initial day (or every day as required) to access site and supervise/coordinate the events of the day at the cultural site. There are very important reasons why cultural protocols are adopted for specific sites and the land in general, these include; providing adequate respect to the land/site/custodian spirit of the site, receiving the right spiritual guidance whilst navigating country and performing activities, prevention of danger whilst navigating country, and prevention of spiritual curses and/or hauntings.

Cultural Fire – Ancestral Guidance, Reading the Landscape, Fire Indicator Species, Nesting/Breeding Seasons, Temperature/Humidity, ground surface moisture, Indigenous Fire Practitioners Skill Set, required Resources/Tools/Equipment, Available Water Sources, PPE Requirements, Risk Assessment, Fire Plan and Burn Sequencing, Ignition Points, Habitat Protection, Cultural Site Protection, Intensity Control – Fuel Loads, Fire Containment Controls, Community Involvement and Promotion, Notifications required (minimum 24 hours notification to RFS and adjacent Land Holders/Owners).

Cultural Protection – Maintain and protect cultural sites, ground modifications, scar trees, rock outcrops, art, and artefact scatterings within the site, monitor condition of cultural assets over time and pre and post wildfire events (or other events) that are likely to cause impact, Follow Cultural Finds Procedure – Report and Document (Include recommendations in regards to further cultural protection mitigation measures), Develop visitation and maintenance plan for each cultural site, Training provided to Rangers to enhance skills in artefact identification and documentation, Stories of the site if rediscovered need to be appropriately documented for cultural preservation.

Cultural Recreation – Vegetation Resource gathering and utilization, Camping, Bushcraft Workshops, Bushtucker/Medicine Walks, Bushtucker Planting, Hut Making, Hunting, weaving workshops, bush walks/observing nature, Species Spotting, Spotlighting, Song, Dance and Ceremony, Painting using Ochre found onsite, Cultural Artefact Knowledge sharing, Story Telling.

Cultural Activation – Gumbaynggirr people accessing land, Acknowledgements of Ancestors, Singing-Up Country with Gumbaynggirr Language, Use of Cultural Fire, Ceremonies, Dance, Corroborees, Knowledge Sharing, Story Telling.

Documenting the accumulative history of cultural use of the land is important in protecting the land due to the creation of evidence of cultural occupation of Gumbaynggirr peoples, which also builds an educational resource that can be passed down over generations.

Appendix 4: Structure and Timing of Full Length Documentary

Title of Film/Study - Aboriginal cultural values and renewal assessment in NSW forests post-wildfires – Gumbaynggirr Land Case Studies

- 1. 0:00.00 - Title Of Film**
- 2. 0:00.07 - Project Coordinator Introduction**
- 3. 0:00.35 - Background of Study**
- 4. 0:01.59 - Study Structure – Steering Committee Involvement, Mapping and Cultural Heritage Site Register Collation and Prioritisation of the 10 sites to assess.**
- 5. 0:05.14 - Formation of Cultural Impact Survey Team – Led by Uncle Ian Brown – Senior Cultural Heritage Sites Officer of CHDLALC. Introductions to each team member.**
- 6. 0:11.10 - Common Findings from Site Assessments in Post-WildFire Gumbaynggirr Country**
- 7. 0:16.40 - Reflections on the Traditional Methods of the Old People in the Management of Land, Forests and Culture.**
- 8. 0:29.45 - Key Questions Answered by Fire Practitioners, Rangers and Knowledge Holders:**
 - 0:29.45 - “What was the condition of cultural values prior to the fires?”**
 - 0:31.31 - “How Has fire Impacted each of those values and how does this vary across forest types?”**
 - 0:36.33 - “Are there any gaps in knowledge about the condition of these values and why?”**
 - 0:37.47 - “What risks to the values have changed because of the fires and are there any merging risks?”**
 - 0:41.40 - “What Innovative tools, resources and processes can be developed to better address these risks in the future?”**
 - 0:45.57 - Key Overarching Theme Question:
“To What Extent are Aboriginal Values, Knowledge and People Involved in Forest Management and Decision Making?”**
- 9. 0:52.58 - Final Recommendations from Gumbaynggirr Rangers, Fire Practitioners and Knowledge Holders.**
- 10. 1:03.56 – Final Recommendations of the Study**

List of participants Names and Roles:

Cinematography and Sound Recording – Sarah George

Film Editor – Pete Gailey

Wildfire Imagery – Stephen Dupont

Uncle Ian Brown – Senior Cultural Heritage Sites Officer of Coffs Harbour and District Local Aboriginal Lands Council and Member of Garby Elders.

Uncle Bernard Kelly-Edwards – Gumbaynggirr Knowledge Holder and Traditional Artist.

Aunty Luana Ferguson – Cultural Heritage Sites Officer of Coffs Harbour and District Local Aboriginal Lands Council.

Matthew Smith – Project Coordinator of Coffs Harbour and District Local Aboriginal Lands Council

Daniel Flanders – Cultural Heritage Sites Officer and Team Supervisor of Durrunda Wajaarr at Coffs Harbour and District Local Aboriginal Lands Council

Alita Carberry - Cultural Heritage Sites Officer and Team Supervisor of Durrunda Wajaarr at Coffs Harbour and District Local Aboriginal Lands Council

Narina Ferguson – Cultural Heritage Sites Officer and Trainee Land and Sea Ranger of Durrunda Wajaarr at Coffs Harbour and District Local Aboriginal Lands Council

Rhys Brown - Cultural Heritage Sites Officer and Land and Sea Ranger of Durrunda Wajaarr at Coffs Harbour and District Local Aboriginal Lands Council

Cassie Mckechnie - Land and Sea Ranger of Durrunda Wajaarr at Coffs Harbour and District Local Aboriginal Lands Council

Nathan Smith – Team Supervisor of Gumma IPA at Coffs Harbour and District Local Aboriginal Lands Council

Tamika Buchanan – Cultural Heritage Sites Officer and Land and Sea Ranger of Gumma IPA at Coffs Harbour and District Local Aboriginal Lands Council

Shreeka Jarrett – Trainee Land and Sea Ranger of Gumma IPA at Coffs Harbour and District Local Aboriginal Lands Council

James Donovan - Trainee Land and Sea Ranger of Gumma IPA at Coffs Harbour and District Local Aboriginal Lands Council

Jarwin Carey – Maintenance Supervisor and Fire Practitioner at Coffs Harbour and District Local Aboriginal Lands Council

Steven Spencer – Maintenance Worker at Coffs Harbour and District Local Aboriginal Lands Council

Appendix 5: Executed Action Plan

Item No	Item Name	Date Planned	Description	Actual Completion
1.0	Data Review – AHIMS, NPWS Post Fire Maps			
1.1	Send available Post-Fire State Agency Mapping to CHDLALC	July/Aug 2020	Post Wild-fire Maps with Cultural Site Location Overlay Provided to CHDLALC by NPWS and DPIE.	Completed July/Aug 2020
1.2	AHIMS – Search in Post Fire Affected Areas to identify priority sites to inspect. Use also CH&DLALC Owned Site Maps.	Feb-April 2021	Conduct AHIMS Search and search CH&DLALC site mapping database – to assist with assessing cultural site information and prioritization.	Completed - 30 Dec 2020
1.3	Consult with Uncle Mark Flanders and David Kennedy on existing post-fire Cultural Site surveys completed for NPWS.	Feb-April 2021	Uncle Mark Flanders has commenced post-fire cultural site surveys for NPWS, consult to identify priority sites of high cultural value that have or have not been assessed.	Completed - 30 Dec 2020.
1.4	Establish Priority Sites for CHDLALC Inspection – 10 Sites.	Feb-April 2021	Using Post-Fire Maps, AHIMS Search Results, and Consultation with NPWS Cultural Site Officers – Identify up to 10 priority sites for inspection for this project.	Completed - 30 April 2021
2.0	Site Assessments			
2.1	Assess up to 10 Cultural Sites from Priority List.	Feb-June 2021	Conduct post-fire cultural impact condition assessments using methodology –See App 1.	Completed - 30 Nov 2021
2.2	Complete Cultural Site Condition Assessment Reports	Feb-June 2021	Complete individual reports for each site assessment conducted. See Attachment 1.	Completed - 30 Nov 2021
3.0	Analysis – Comparison and Learning			
2.3	Develop common findings and comparisons report.	July 2021	Extract Common finds/recommendations and comparisons and collate into Report. Findings and comparisons presented in trailer and full film documentary + Final Report.	Completed -7 Dec 2021
4.0	Case Study Report			
4.1	Hold 2x Community Events at Suitable Cultural Site/s.	May/June 2021	Facilitate casestudy community event at priority listed cultural site – document findings. Cultural Fire and Casestudy Interviews with Senior Site Officers and CH&DLALC Rangers.	Completed - 17 Sep 2021
4.2	Prepare and Publish Case Study Report	July-Aug 2021	Collate and expand on cultural values shared by Casestudy Steering Committee. Develop, Publish and Release to Steering Committee – Trailer and Full Film Documentary.	Completed - 18 Sep 2021
5.0	Final Project Report			
4.3	Final Project Report Prepared and Submitted to Client	September 2021	Final report summarising progress, key findings, recommendations, participant feedback.	Completed -8 Dec 2021

*Action Plan Last Updated on 07/12/2021



Coffs Harbour & District Local Aboriginal Land Council

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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 1 – The Junction – Nimboi-Binderay National Park
Client contact name	Louise Askew
Local Government Area	Bellingen Shire Council
Landholder	National Parks Wildlife Services

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Mark Flanders & Matthew Smith ; Uncle Ian Brown and Daniel Flanders
Date	20 th of February 2021 and 15 th June 2021.
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
Large numbers of worked stone artefacts, debitage and flakes, grey wacke, mudtone and siltstone.	None	None	Yes likely an Old Campsite.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
1 Double Marker Tree Bloodwood – Destroyed by Fires.	None	None	None	

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- *The Junction* is located where Little Nymboida and Nymboida Rivers Meet in Nymboi-Binderay National Park. A special Marker scar tree was severely damaged hear from the 2019-20 wildfires, remnants of this ancient Bloodwood include; the root system on the ground (approx. 5m Diameter), and large fallen pieces of the trunk of the tree (Scar features are no longer distinguishable). The Scar tree was located 30m from the edge of the East Bank of the Nymboida River downstream 50-100m of where Little Nymboida flows into Nymboida River. Prior to the 2019-20 Wildfires the Bloodwood Scar Tree was in a well preserved condition with both scar features clearly distinguishable. Two scars were previously marked on the tree, one facing upstream direction of Little Nymboida the other facing upstream direction of Nymboida River. Bloodwood scar trees were often used for ceremonial purposes pre-european settlement.
- >20 mixed worked stone artefact debitage, flakes and broken cobbles were found on site made of various stone materials including Grey Wacke, Silt Stone and Mudstone. Indications an Old Campsite once occupied The Junction near to the scar tree.



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- Multiple areas of Scorched stone were also observed onsite in various locations – Fire effected stone feels more brittle and flaky then what it would have been like unburnt.
- General Observation – The Junction Campground is on the base of a North-West Facing Slope, North and/or West Facing Slopes appeared to be more severely burnt than other aspects of the mountain (Due to increased sun exposure throughout the year), resulting in higher levels of damage and cultural site impacts. Further contributing factors for cause of higher intensity fire and impacts found from site observations include: Higher Wind prone area in the open valley (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up), No designated fire mitigation crew concern for cultural assets in the area at time of wildfires (NPWS Aboriginal Mitigation Crew based in Bowraville – Nil based in North Gumbaynggirr Country).

Recommendations

1. Establish close coordination and communication with the National Parks Cultural Officer and ranger – keep informed of plans for delivering mitigation measures and protections.
2. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group – Interpretive Sign Installed.
3. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
4. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
5. Regular funding be established to allow for further planning and applied land management.
6. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.
7. High frequency cultural burns (once every 3-5 years) to create protective buffer around cultural assets to keep fuel loads down (Typical buffer zone of 30-40m radius around site).
8. Establish a dedicated Gumbaynggirr Fire Mitigation Team for Northern Gumbaynggirr with focus priority on preserving and protecting cultural assets.
9. Establish improved communication/telecommunications with RFS Fire Control Centres (NPWS, Forestry NSW), gain access to real-time bush-fire information during emergency fire response operations (Ignitions, Fire Direction, Potential Fire Pathways, Speed of travel, timing information, human and plant resource allocations, Response Times).

SPECIFIC SCAR TREE SITE PROTECTIONS

10. New Contemporary marker scar tree/s to be constructed by Gumbaynggirr and plotted using GPS, site card generated and upload into AHIMS.
11. Relocating the large upper section of burnt trunk to on top of the remaining root mass
12. Relocating the adjacent section of Red Gum log to be part of a border to protect the scar tree site.
13. Utilizing large river stones close by with the aid of an excavator to form the remaining circular border to protect the scar tree remains from pedestrians and campers.
14. Planting species endemic to the location surrounding the scar tree site, these include Red Ash & Water Gum

Observations compiled by Programs Coordinator, Matthew Smith and Senior Sites Officer Uncle Mark Flanders, Daniel Flanders and Uncle Ian Brown.

Report approved and signed off by:

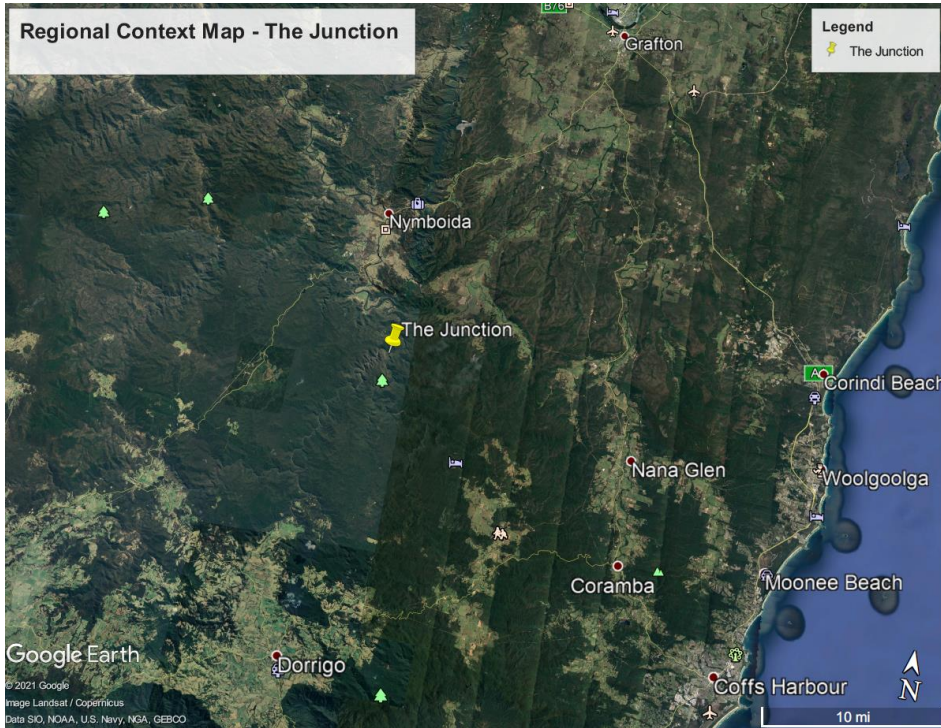
Matthew Smith
Programs Coordinator
CH&DLALC
18th June 2021



Coffs Harbour & District Local Aboriginal Land Council

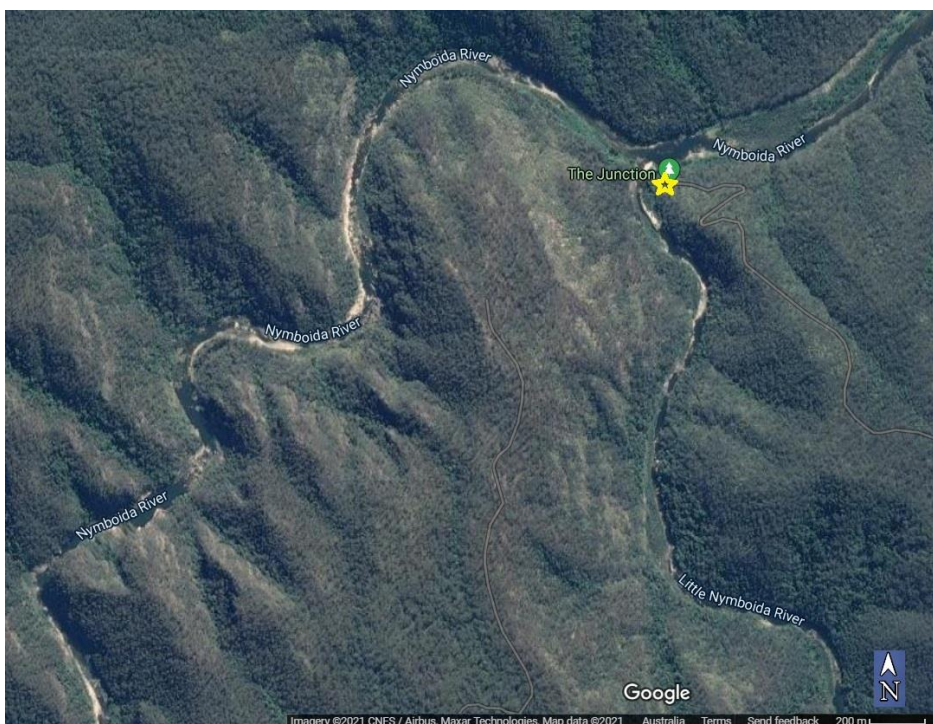
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps



Map 2 – Site Location

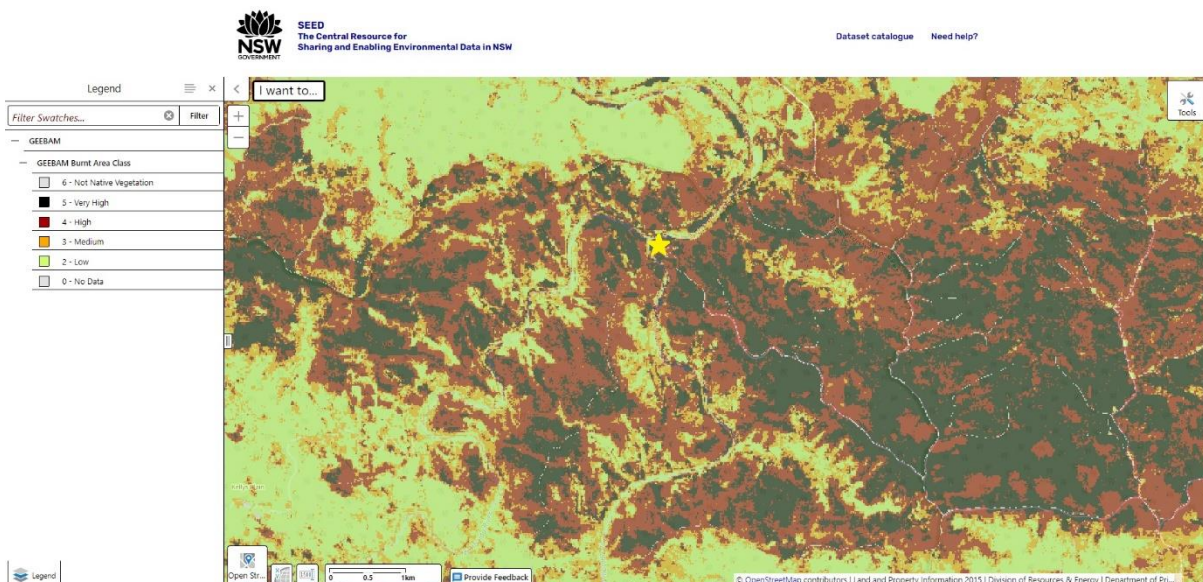


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Map 3 – Site Area Inspected



Map 4 – Fire Severity Map – Site 1 – High to Very High Severity 2019-20 Wildfires Site.



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Appendix C – Site Context Photos



Photo 1 – Location of Bloodwood Scar Tree at the Junction - 30m from Edge of Nymboida River
– Fire Affected Site No 1.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 2 – Horseshoe Road, Kalang NSW
Client contact name	Louise Askew
Local Government Area	Bellingen Shire Council
Landholder	Forestry NSW

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown and Daniel Flanders
Date	17 th of May 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
None - Identified	None	None	None	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
1 – Not yet Registered on AHIMS.	None	None	None	> 7 large Burnt Trees potential to have been Scar Trees. Areas of Scorched stone.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- 1x Medium-Large Mature Scar Tree of about 0.7m base diameter found at Top of Peak towards West Facing Slope. Tree is alive bloodwood and foliage in healthy condition, size of tree indicates approximate age of 30 to 45 years confirming scar creation took place post-European settlement late 1900's, minimal swelling indicates the scar may have been created with a sharp knife rather than the use of steel axe (no steel axe marks are visible around scar heal over section), Moderate to High Burn Damage exists to tree base with Approximate Burn Penetration 70mm half way around trunk. 1x Small In-tact scar with low level of aesthetic damage – located 1.5m above ground. Scar is about 0.8m long and up to 40cm wide. Scar is facing Eastern Direction – scar features are easily distinguishable – Aesthetic damages are Mainly around edges of healed over section of tree, with about 30% of the scar face moderately blackened out, heal over lip thickness measures 40mm right around circumference of scar. Ground conditions at base are currently stable, although the combination of heavy burn damage to one side at the base plus the tree being positioned on a tangent between highly steep and flat ground poses concern on the trees future state of ground stability. (Images Stored in CH&DLALC Photo Register).



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- Multiple >7x Severely Burnt Old Mature trees were found onsite that have more than 50% disintegrated – These trees were located on all slopes leading up to the mountain peak. Many burnt out shapes where the trees have disintegrated resemble probable remnants of scar trees.
- Multiple areas of Scorched stone were also observed onsite in various locations – Fire effected stone feels more brittle and flaky then what it would have been like unburnt.
- General Observation – Top of ridges, peaks and upper slopes tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Above mentioned scar trees to be revisited and plotted using GPS, site card generated and upload into AHIMS.
2. Establish close coordination and communication with the Oaks State Forest Cultural Officer for Forestry NSW – keep informed of plans for delivering mitigation measures and protections.
3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
4. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
5. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
6. Regular funding be established to allow for further planning and applied land management.
7. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.

Observations compiled by Programs Coordinator, Matthew Smith and Senior Sites Officer Uncle Ian Brown.

Report approved and signed off by:

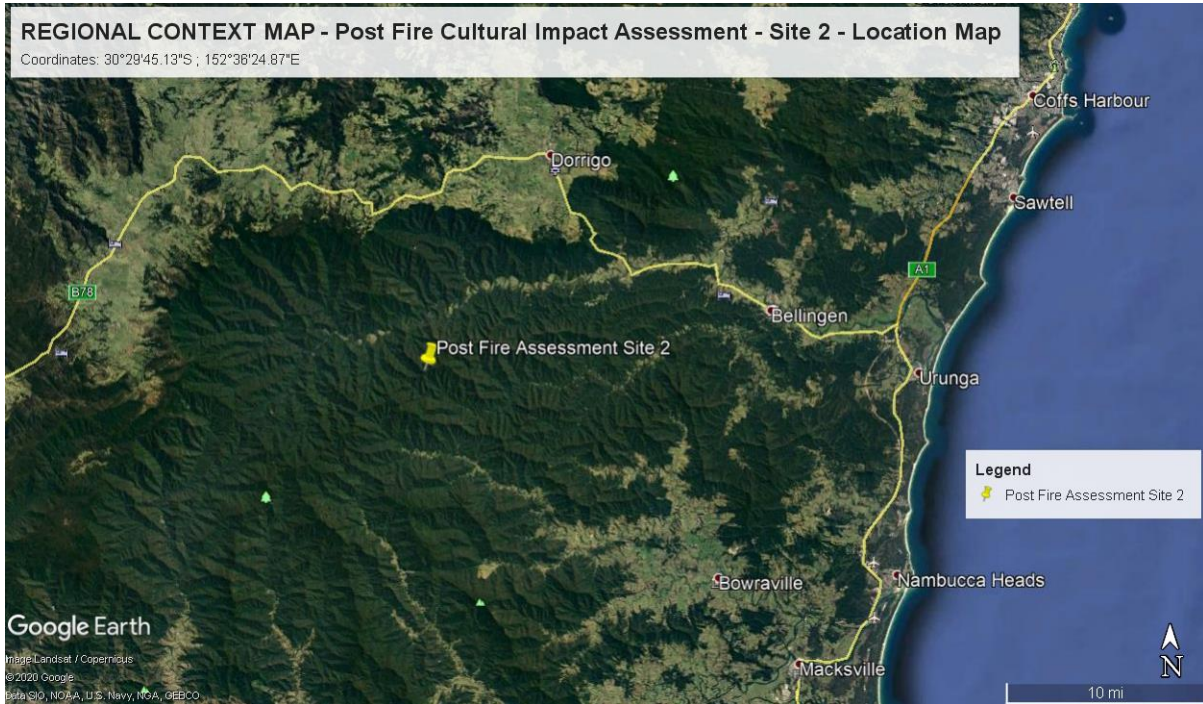
Matthew Smith
Programs Coordinator
CH&DLALC
18th May 2021



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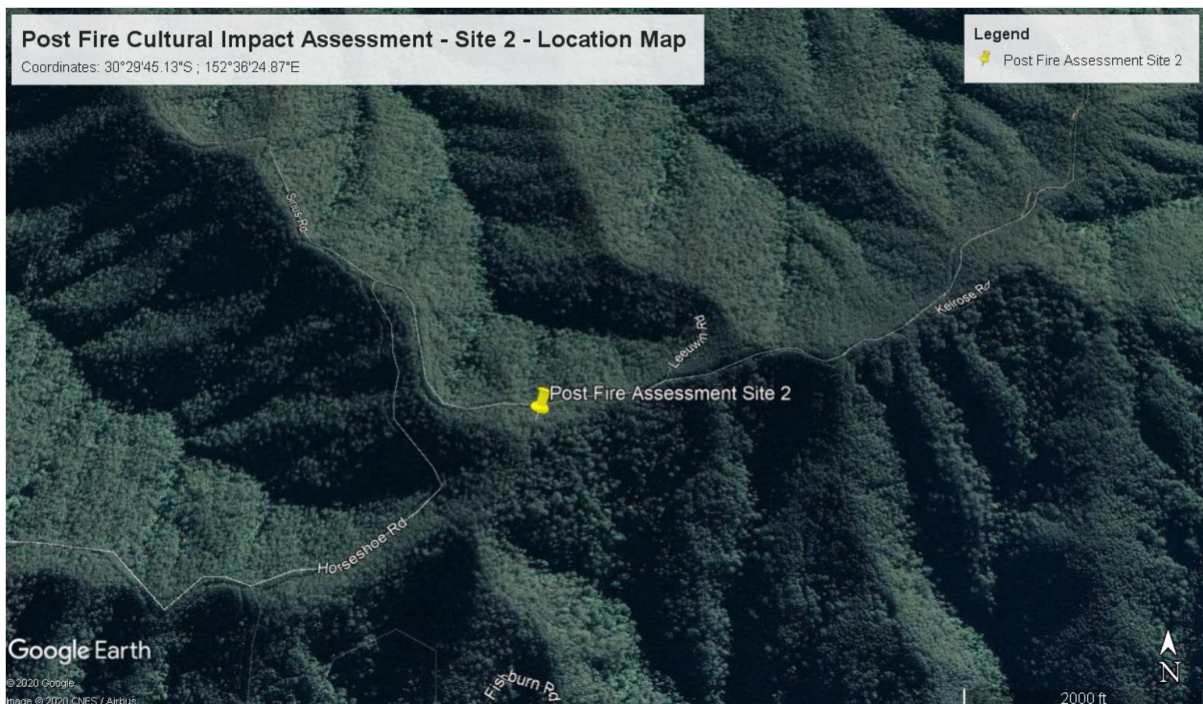
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

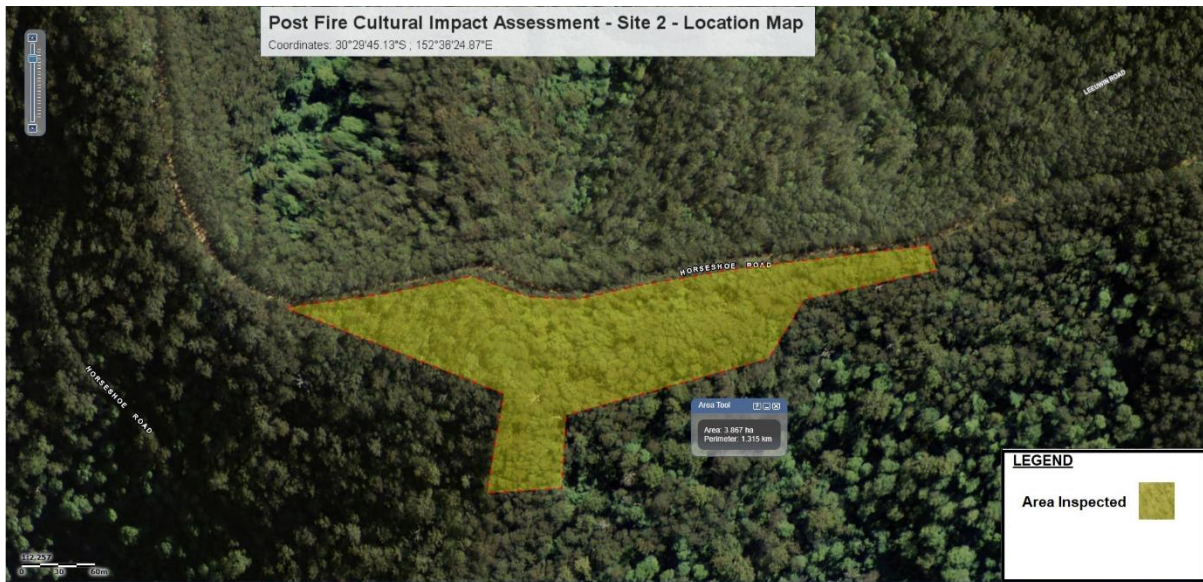


Map 2 – Site Location

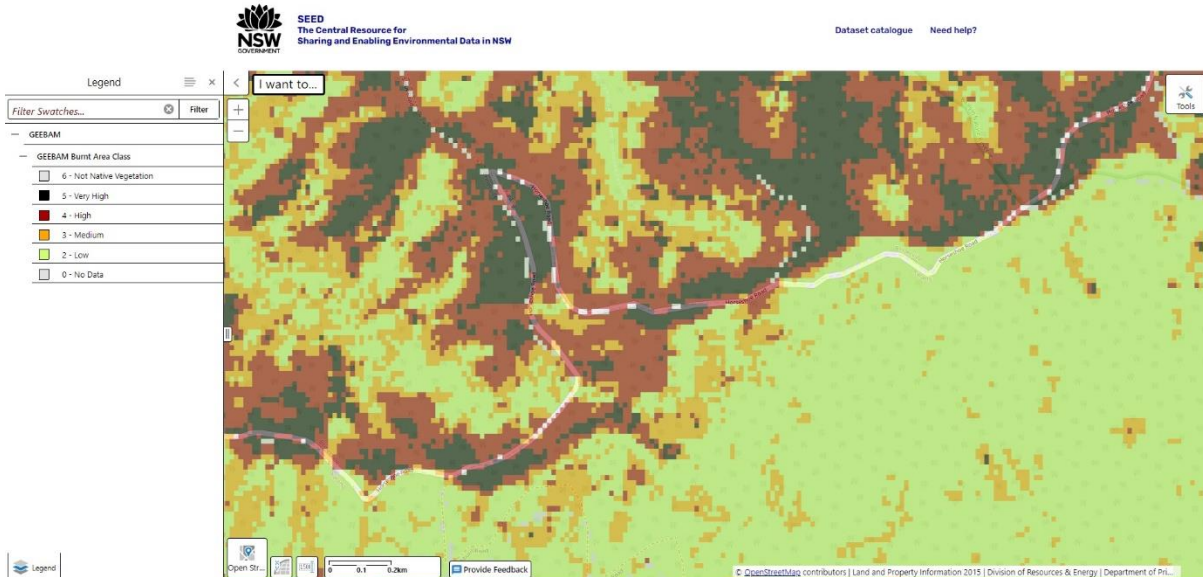


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Map 3 – Site Area Inspected



Map 4 – Fire Severity Map – Site 2 – Very High Severity 2019-20 Wildfires Site.



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Appendix C – Site Context Photos



Photo 1 – Top of Peak West Elevation looking down the Slope – Fire Affected Site No 2.



Photo 2 – High South Facing Slope - Burnt Out Tree – Site No 2.

Photo 3 – Burnt Stones on Ground – Variation in colour due to 2019-20 Wildfires.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 3 – Horseshoe Road, Pimple Rd Kalang NSW
Client contact name	Louise Askew
Local Government Area	Bellingen Shire Council
Landholder	NPWS

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown and Daniel Flanders
Date	18 th of May 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
None - Identified	None	None	None	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
1 – Not yet Registered on AHIMS.	None	None	None	

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- 1x Large Dead Double-Sided Scar Tree of about 1.6m base diameter found at 30m walk from Road on South Facing Ridgeline. Tree species is Unidentifiable, size and age of tree indicates approximate age of 400 to 1000 years, Indications tree-modification took place pre-European settlement, Moderate to High Burn Damage exists to tree base with Approximate Burn Penetration 70mm half way around trunk. 2x Large In-tact but partially eroded scar with high levels of aesthetic damage – bottom of scar located 300mm above ground. Scar is about 1.8m long and up to 90cm wide. Scars are facing Northern and Southern Direction – scar features (Cuttings) are difficult to distinguish – 100% of both scar faces are burnt out forming a hollow or shelter like structure – Can see through one scar section to outside the other, heal over lip thickness measures 150mm right around circumference of scar. Ground conditions at base are currently stable, only concern is tree being positioned on a moderately steep slope and the underground hollows that had formed from the 2019-20 wildfires have created loose ground conditions >30m away from base of tree. (Images Stored in CH&DLALC Photo Register).



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- General Observation – Top of ridges, peaks and upper slopes tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Above mentioned scar trees to be revisited and plotted using GPS, site card generated and upload into AHIMS.
2. Establish close coordination and communication with the Baalijin Nature Reserve Parks Ranger – keep informed of plans for delivering mitigation measures and protections.
3. Regular Inspection/visitation
4. Potential biodiversity surveys to identify any further plants/animals of cultural significance.
5. Development of further detailed cultural resource and heritage surveys with local Elder groups.
6. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
7. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
8. Regular funding be established to allow for further planning and applied land management.
9. Cultural Fire Regimes to be developed and implemented for surrounding sclerophyll foresting , providing buffer zone and encouraging prevention of wildfires.

Observations compiled by Programs Coordinator, Matthew Smith, Durrunda Wajaarr Ranger Cassandra McKechnie and Senior Sites Officer Uncle Ian Brown.

Report approved and signed off by:

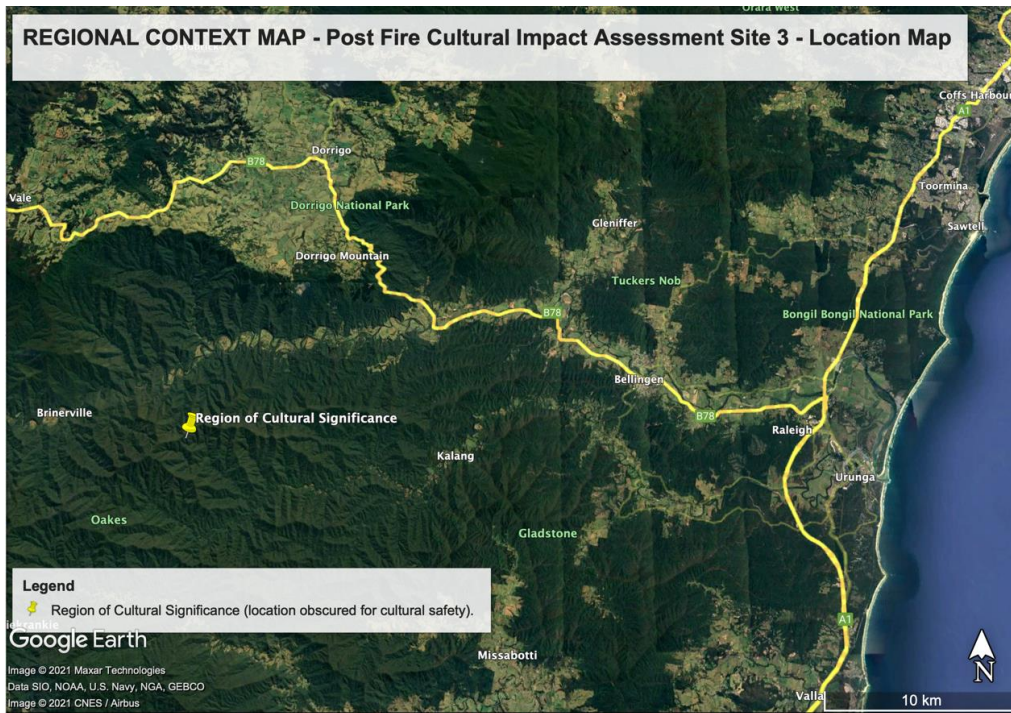
Matthew Smith
Programs Coordinator
CH&DLALC
18th May 2021



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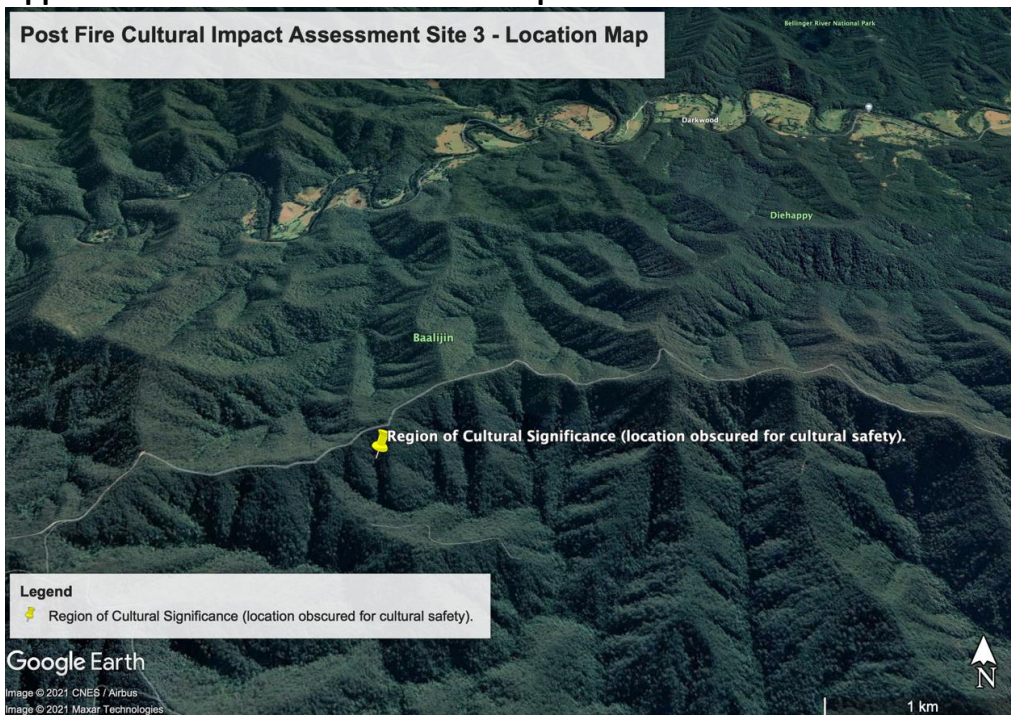
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

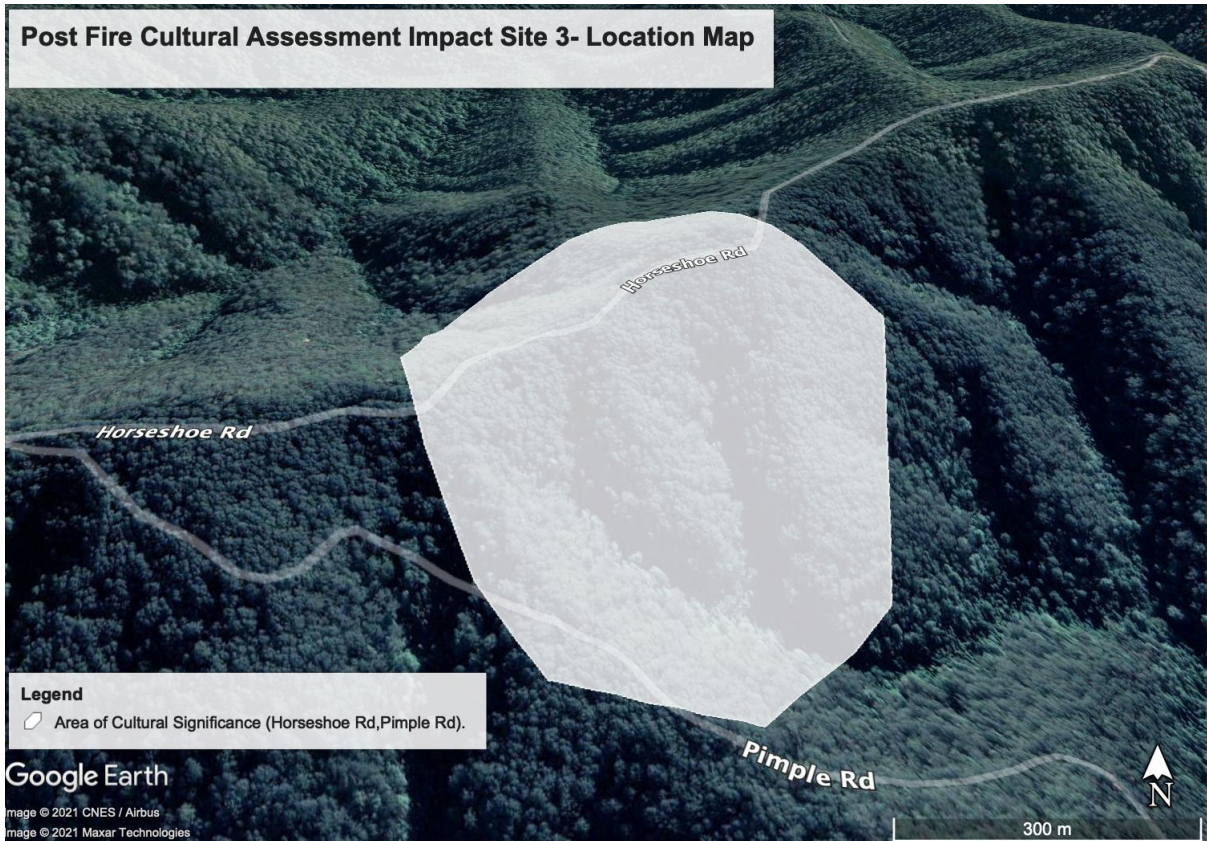


Map 2 – Site Location

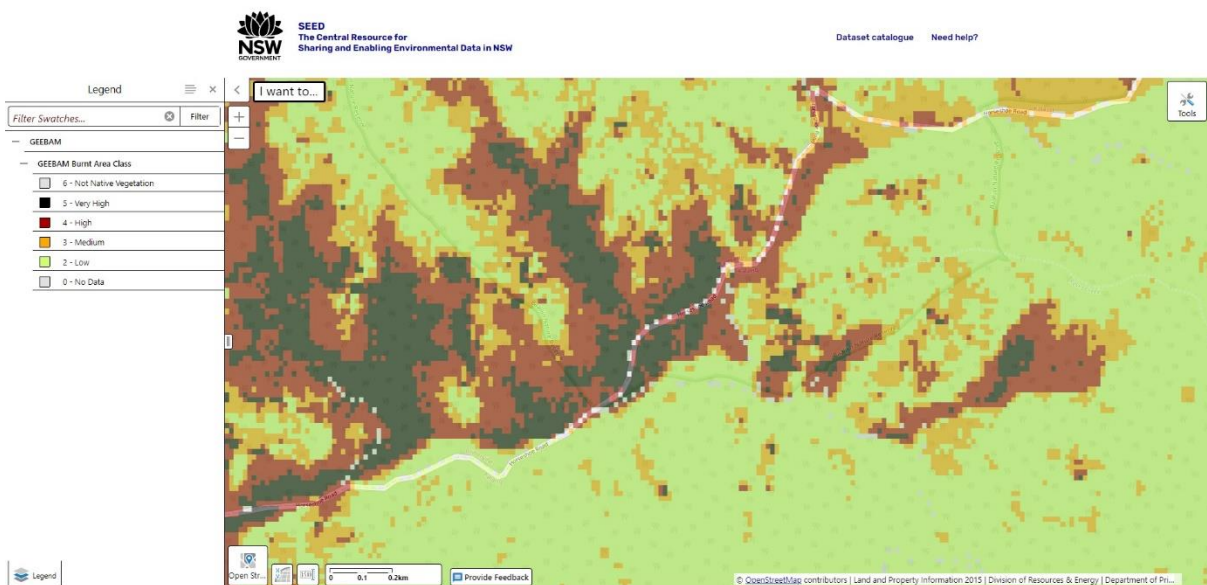


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Map 3 – Site Area Inspected



Map 4 – Fire Severity Map – Site 3 – Very High Severity 2019-20 Wildfires Site.



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Appendix C – Site Context Photos



Photo 1 – Surrounding ground and vegetation – Fire Affected Site No 3.



Photo 2 –Mountain scape view – From Ridgeline Trail – Fire Affected Site No 3.



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Photo 3—Surrounding ground and vegetation – Fire Affected Site No 3.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 4 – Towallum River, Clay Gully Rd NSW
Client contact name	Louise Askew
Local Government Area	Clarence Valley Council
Landholder	Forestry NSW

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown & Aunty Luana Ferguson
Date	19 th of May 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
>30 x flake artefacts, split cobbles, and Debitage.	None	None	Strong evidence that old campsite existed	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None	None	None	None	Resource Gathering Site at Upper Towallum River, Large population of Grass Trees, Scrub turpentine & Native yams.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- Most adverse impact -ground and mid-story species suffered great losses. Culturally Important and critically endangered species Scrub Turpentine (Ganayga) found damaged due to wildfire – stem and foliage burnt off with positive signs of new shoots and foliage beginning to form.
- Post WildFire Storm and flood events have loosened soil and made ground unstable in places, toppling over a small percentage of trees, Erosion caused by stormwater runoff causing damage to access roads and polluting stream. Repairing roads using heavy machinery due to storm effects have direct impacts to worked stone artefacts. Most artefacts at Towallum site found in windrows and stockpiles from last road repair job (which appeared to occur only within 1 month prior to inspection).
- Physical evidence of an old campsite - >30 artefacts found with the majority on the southern side of the Towallum River. A variety of split cobbles, flakes and debutage artefacts made of various



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materials including; grey wacke, mudstone, siltstone and calcite. A large population of cultural resources were found amongst the vegetation species; including Scrub Turpentine, Yam Daisy, Grass Trees, Lomandra and Kangaroo Grass.

- General Observation – Top of ridges, peaks and upper slopes in surrounding areas tend to be more severely burnt than lower lying areas and valleys, Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Above mentioned scar tree to be revisited and plotted using GPS, site card generated and upload into AHIMS.
2. Establish close coordination and communication with the Cultural Officer responsible for this site specifically within Forestry NSW – keep informed of plans for delivering mitigation measures and protections.
3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
4. Potential biodiversity surveys to identify any further plants/animals of cultural significance.
5. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
6. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
7. Regular funding be established to allow for further planning and applied land management.
8. Cultural Fire Regimes to be developed and implemented regularly to the forested high slopes, ridgelines and peaks within the boundaries of this property for wild-fire cultural impact prevention.
9. Forestry Harvest Operations to be planned and assessed with CH&DLALC and Grafton Ngerrie LALC, Cultural burn regime to repair country post-harvest activities – Select Logging Only.

Observations compiled by Programs Coordinator Matthew Smith, Durrunda Wajaarr Ranger
Cassandra McKechnie and Senior Sites Officer Uncle Ian Brown.

Report approved and signed off by:

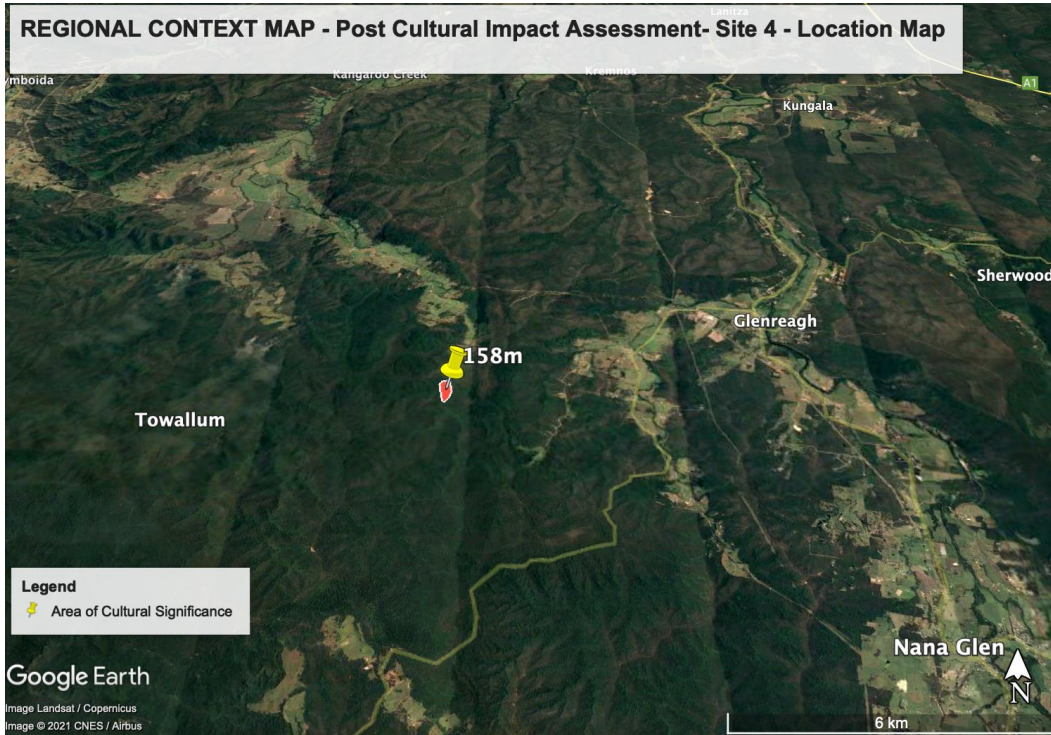
Matthew Smith
Programs Coordinator
CH&DLALC
19th May 2021



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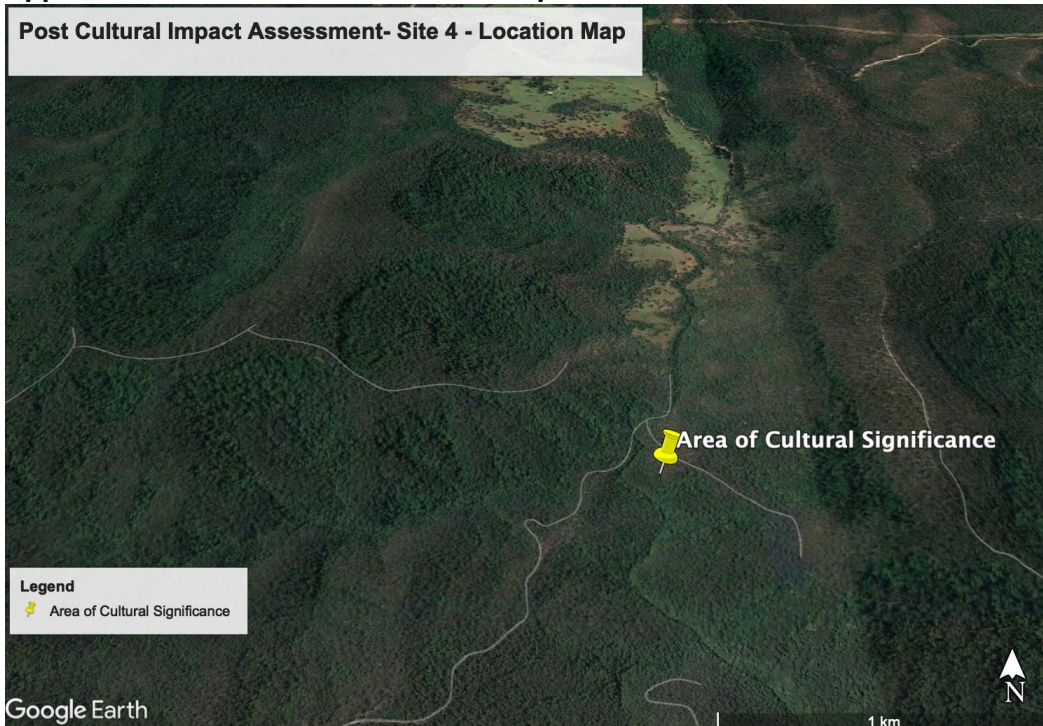
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

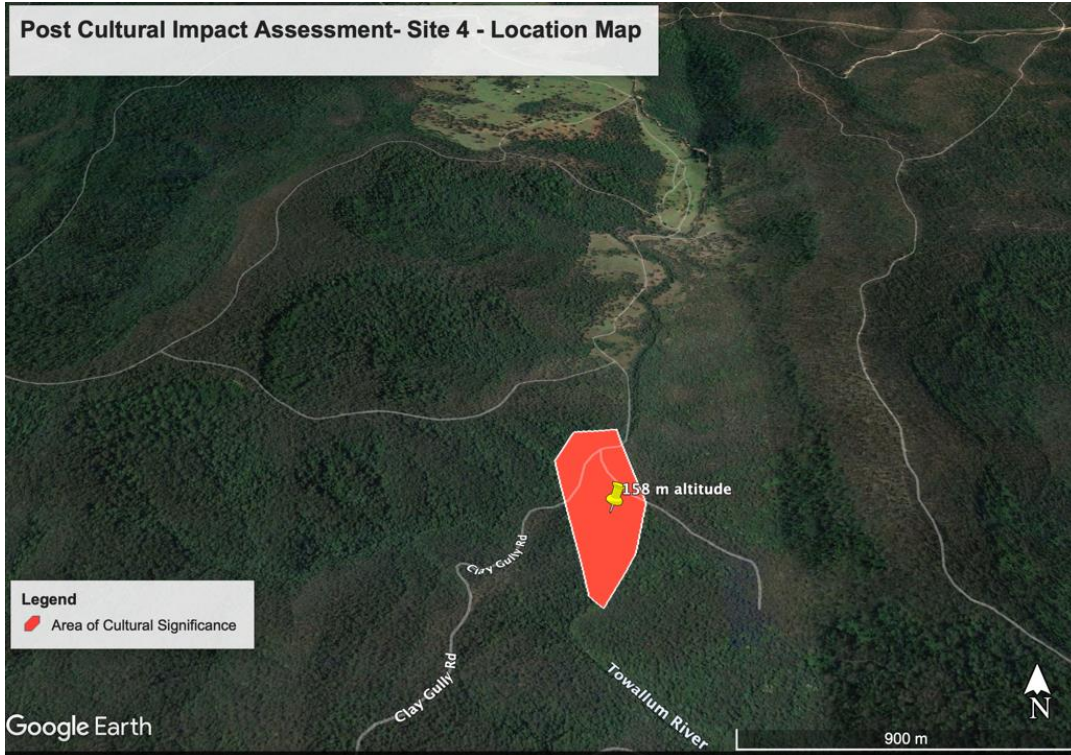


Map 2 – Site Location

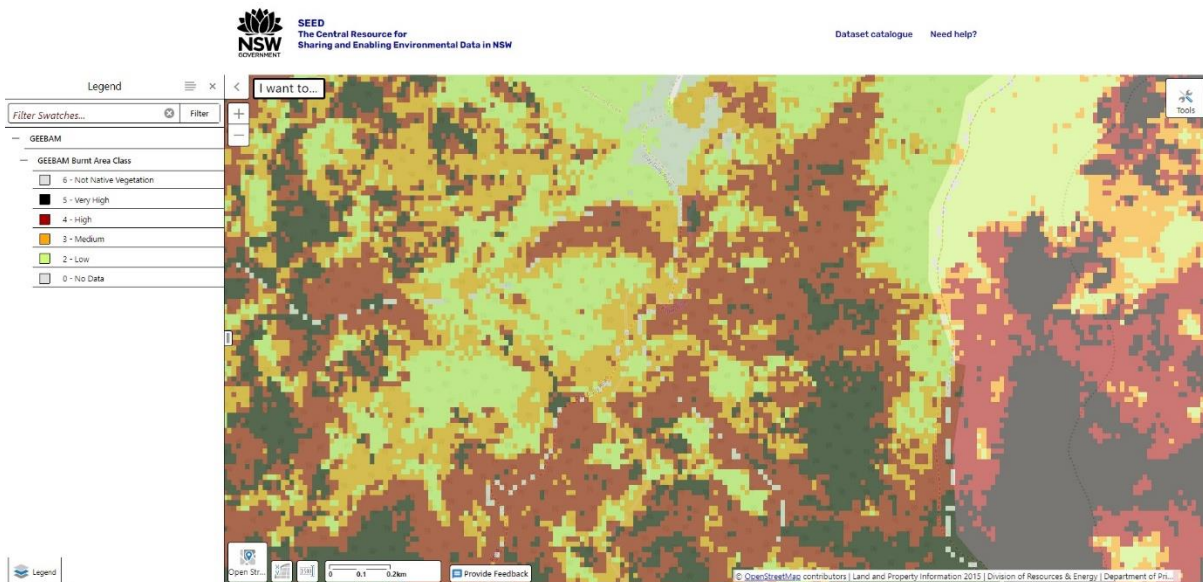


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Map 3 – Site Area Inspected



Map 4 – Fire Severity Map – Site 4 – Low to Medium Severity 2019-20 Wildfires Site.



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Appendix C – Site Context Photos



Photo 1 – Northern side of site where artefacts were found – Fire Affected Site No 4.

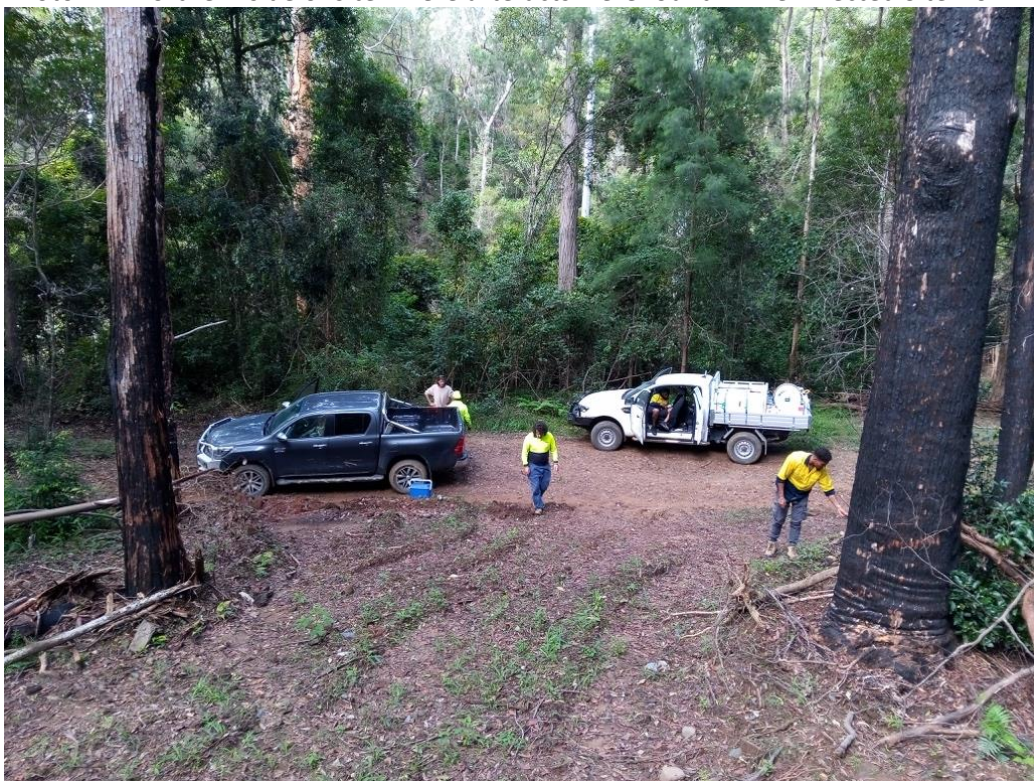


Photo 2 – Southern side of creek where artefacts were found – Fire Affected Site No 4.



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Photo 3 – Grey Wacke Artefact found Towallum Southern end – Fire Affected Site No 4.



Photo 4 – Calcite Artefacts found at Towallum Northern end – Fire Affected Site No 4.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 5 – Black Mountain NSW
Client contact name	Louise Askew
Local Government Area	Clarence Valley Council
Landholder	Forestry NSW

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown & Aunty Luana Ferguson
Date	18 th of May 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
1 x hammer stone 2 x flake artefacts	None	None	Evidence of old campsite from findings.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
Potentially 1 large scar tree – cut out for shelter purposes.	None	None	None	Unusually flat wide open landscape for top of a Mountain – Good Hunting Ground.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- Harvested area, approximately 30 years ago. Some old, mature trees still remain, resembling probable remnants of an old shelter resource scar tree, however difficult to tell given disintegrated burnt out shape.
- Axe marks are not visible around scar heal over section, Moderate to High Burn Damage exists to tree base with Approximate Burn Penetration 70mm half way around trunk. 1x large heavily impacted scar– located from the ground – 1.5m high. Scar is about 0.8m wide. Scar is facing Eastern Direction – scar features are easily distinguishable – Aesthetic damages are Mainly around edges of healed over section of tree, with about 30% of the scar face moderately blackened out, heal over lip thickness measures 150mm right around circumference of scar. Ground conditions at base are currently stable.
- Multiple areas of Scorched stone were also observed onsite in various locations – Fire effected stone feels more brittle and flaky then what it would have been like unburnt.
- General Observation – This relatively flat open woodland country at a high elevation burnt hot and uniformly during the 2019-20 fires. Top of ridges, peaks and upper slopes tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying



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Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Above mentioned scar tree to be revisited and plotted using GPS, site card generated and upload into AHIMS.
2. Establish close coordination and communication with the Cultural Officer responsible for this site specifically within Forestry NSW – keep informed of plans for delivering mitigation measures and protections.
3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
4. Potential biodiversity surveys to identify any further plants/animals of cultural significance.
5. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
6. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
7. Regular funding be established to allow for further planning and applied land management.
8. Cultural Fire Regimes to be developed and implemented regularly to the forested high slopes, ridgelines and peaks within the boundaries of this property for wild-fire cultural impact prevention.
9. Forestry Harvest Operations to be planned and assessed with CH&DLALC and Grafton Ngerrie LALC, Cultural burn regime to repair country post-harvest activities – Select Logging Only.

Observations compiled by Programs Coordinator Matthew Smith, Durrunda Wajaarr Ranger Cassandra McKechnie and Senior Sites Officer Uncle Ian Brown.
Report approved and signed off by:

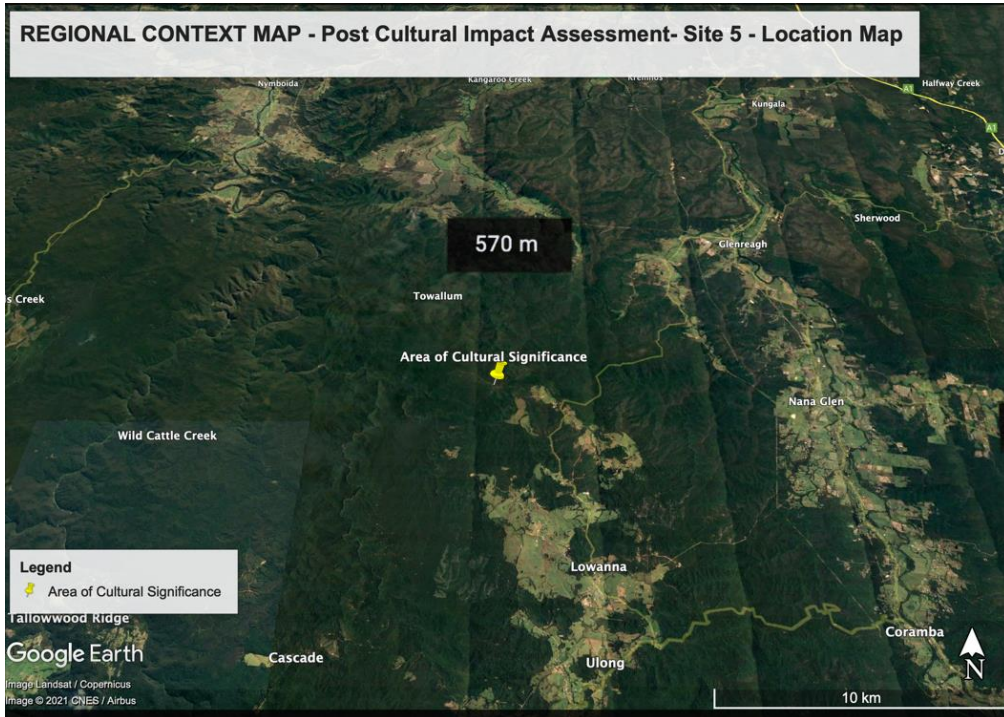
Matthew Smith
Programs Coordinator
CH&DLALC
18th May 2021



Coffs Harbour & District Local Aboriginal Land Council

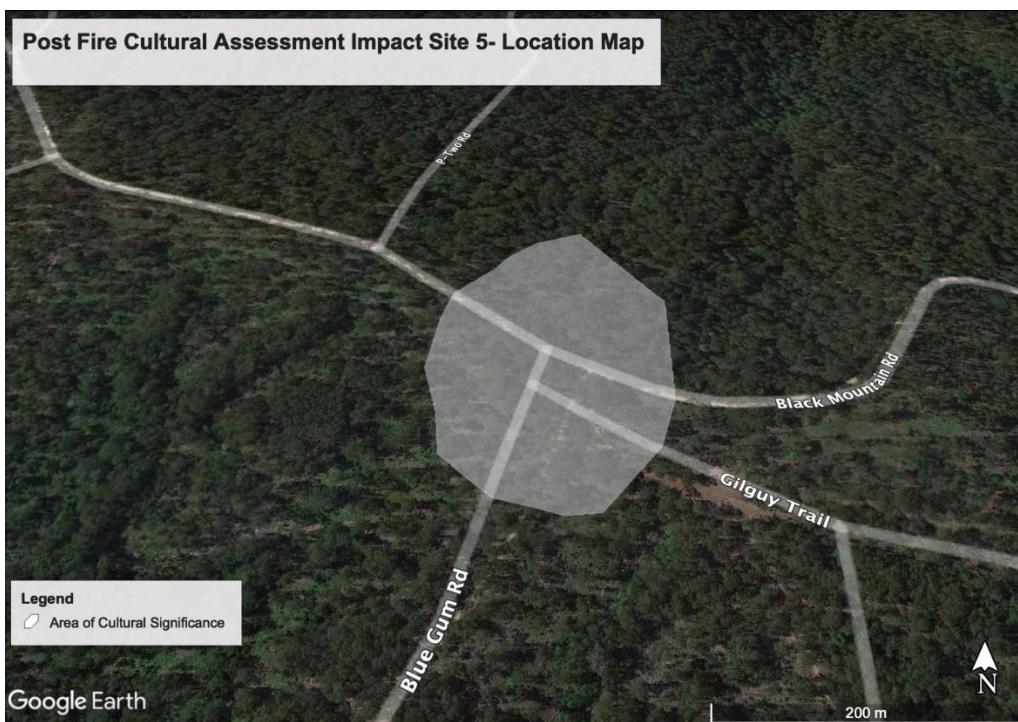
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

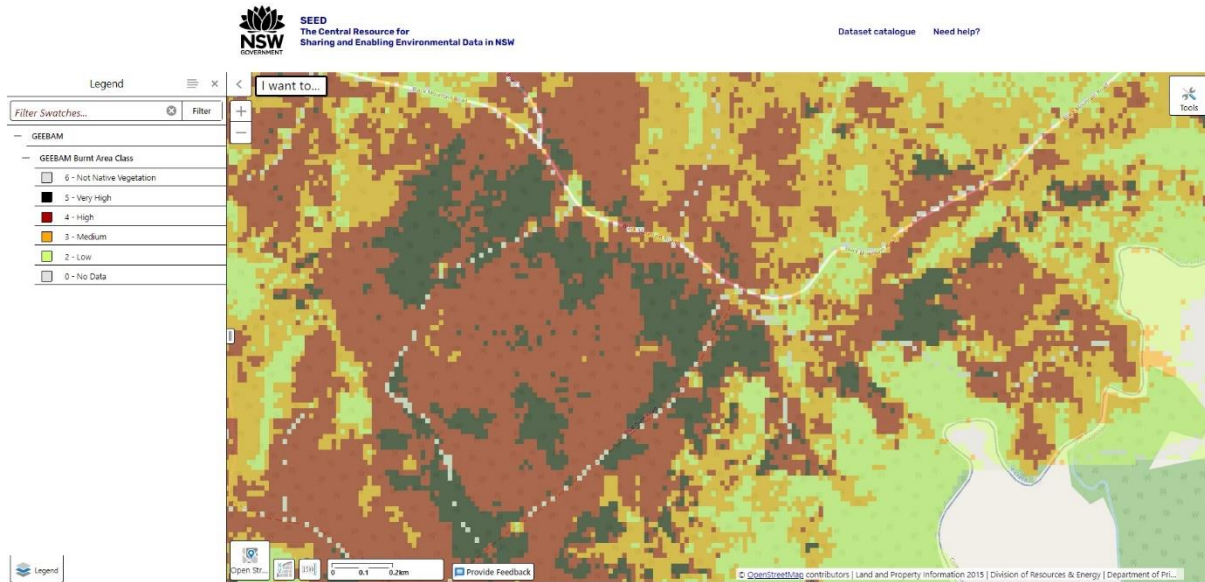


Map 2 – Site Area Inspected and Location Map



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Map 3 – Fire Severity Map – Site 5 – High-Very High Severity 2019-20 Wildfires Site.

Appendix C – Site Context Photos



Photo 1 – Photo demonstrating size of flake mudstone and grey wacke artefacts – Fire Affected Site No 5.



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Photo 2– Surrounding burnt landscape – Fire Affected Site No 5.



Photo 3 – Photo showing hammer stone – Fire Affected Site No 5.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 6 – Nana Glen Mens Site
Client contact name	Louise Askew
Local Government Area	Coffs Harbour City Council
Landholder	Private Property

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown and Daniel Flanders.
Date	10 th of August 2021
Start Time	10:30am – 15:30pm
Nature of the works	Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
None	Potential.	None	None.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None Found.	None Found.	None.	Mens – Potentially Initiation Site or most probably Mens Training Site.	Stone Arrangement Site >20 circular dome shaped stone formations.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Special Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- *The Nana Glen Stone Arrangement Mens Site* is located in the mountains east of the Orara River and South of Bucca Creek.
- A large series of stone arrangements were found positioned on the high elevation of a north facing slope. Each stone arrangement is made of large stones (between 250-600mm diameter) arranged in individual circular concave patterns of various sizes (measuring between 0.7m-4m in diameter with outer circumference rock walls from 300-900mm high above the centre of a dome like arrangement). More than 20 individual circular stone arrangement were found onsite. High leaf litter and fuel loads are present in and immediately surrounding the stone arrangement site. (Current Risk - High intensity fire could potentially loosen soil and cause dislodgment of stones from their original formation).
- Above findings give Indications of a Mens Site, potentially used as an initiation site and/or mens training/learning site.
- The immediate area (within 200m) surrounding the Stone Arrangement Site had not been burnt for at least 20 years, nearest 2019-20 wildfire impacts were found >4-6km from the site.
- General Observation – The Mens Site is located at a high elevation of 150 - 200m on a steep slope (Exact locations kept confidential at this point in time). High Slopes, Ridges and peaks and North and/or West Facing Slopes appeared to be more severely burnt than other aspects of the mountain



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range (Due to becoming drier from increased sun exposure throughout the year and faster drainage after rain). Further risk factors for cause of higher intensity fire and impacts found from site observations include: Higher Wind prone area at the higher elevation (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Establish close coordination and communication with the Landholder – keep informed of plans for delivering mitigation measures and protections.
2. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
3. Cultural Asset Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
4. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
5. Regular funding be established to allow for further planning and applied land management.
6. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.
7. High frequency cultural burns (once every 3-5 years) to create protective buffer around cultural assets to keep fuel loads down.
8. Establish a dedicated Gumbaynggirr Fire Mitigation Team for Northern Gumbaynggirr with focus priority on preserving and protecting cultural assets.
9. Establish improved communication/telecommunications with RFS Fire Control Centres (NPWS, Forestry NSW), gain access to real-time bush-fire information during emergency fire response operations (Ignitions, Fire Direction, Potential Fire Pathways, Speed of travel, timing information, human and plant resource allocations, Response Times).

SPECIFIC STONE ARRANGEMENT SITE PROTECTIONS

10. Discussions to continue between CH&DLALC and Landholder for the ongoing management, maintenance and preservation of the site, and to consider plotting the site boundary coordinates using GPS, site card generated and upload into AHIMS as Restricted Site (Permission from elder groups must be sought prior to any AHIMS Upload regarding this site).
11. **Cultural Protocols** – No photos of cultural stone arrangements to be taken, photos containing any cultural features to be kept strictly on usb stick or on secure computer storage device and kept on Gumbaynggirr country or in office of CH&DLALC. Keep site clean of rubbish and foodscraps – MEN ONLY.
12. Weed treatment and cultural fire needing to be implemented to site by Gumbaynggirr Rangers and Fire Practitioners using culturally safe approach – Follow up maintenance of site to occur regularly.

Observations compiled by Programs Coordinator, Matthew Smith, Site Officers Uncle Ian Brown and Daniel Flanders.

Report approved and signed off by:

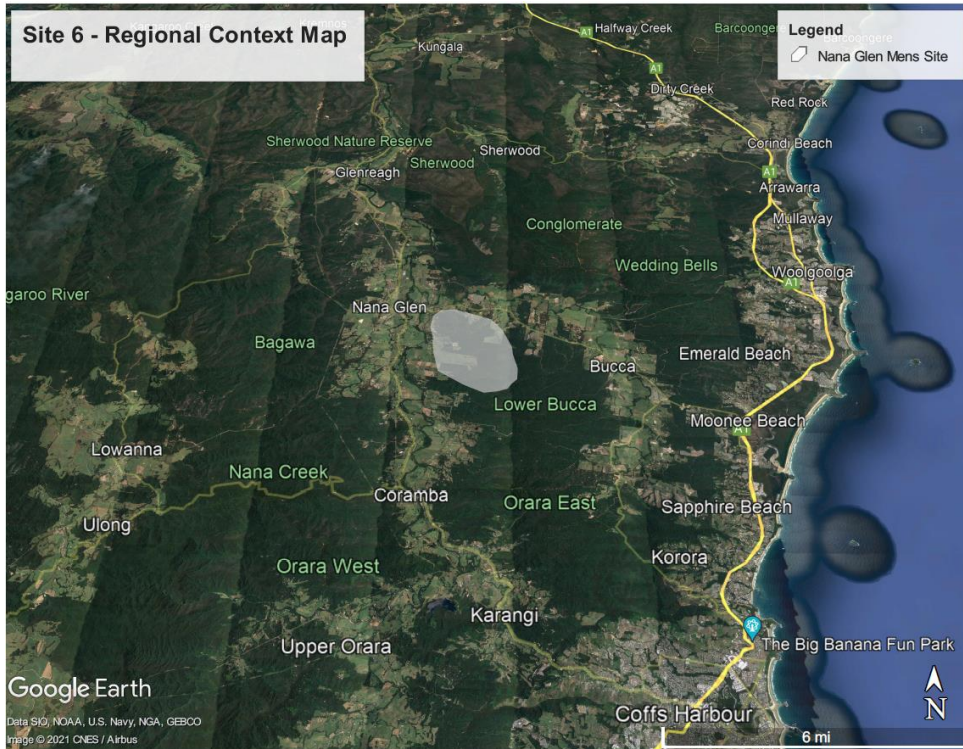
Matthew Smith
Programs Coordinator
CH&DLALC
29th August 2021



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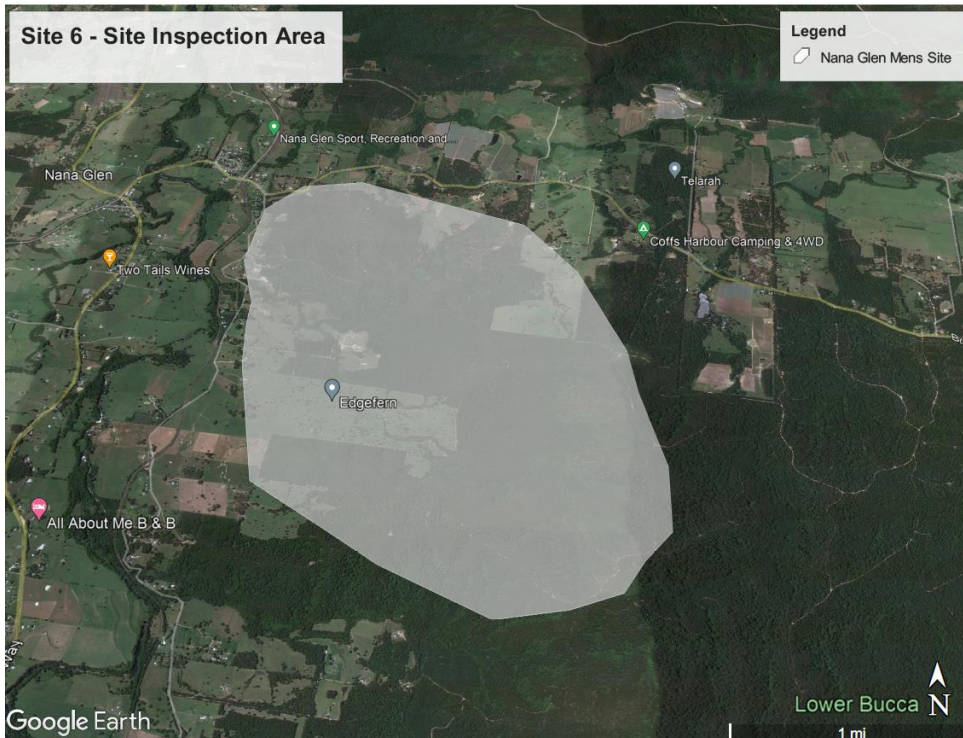
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

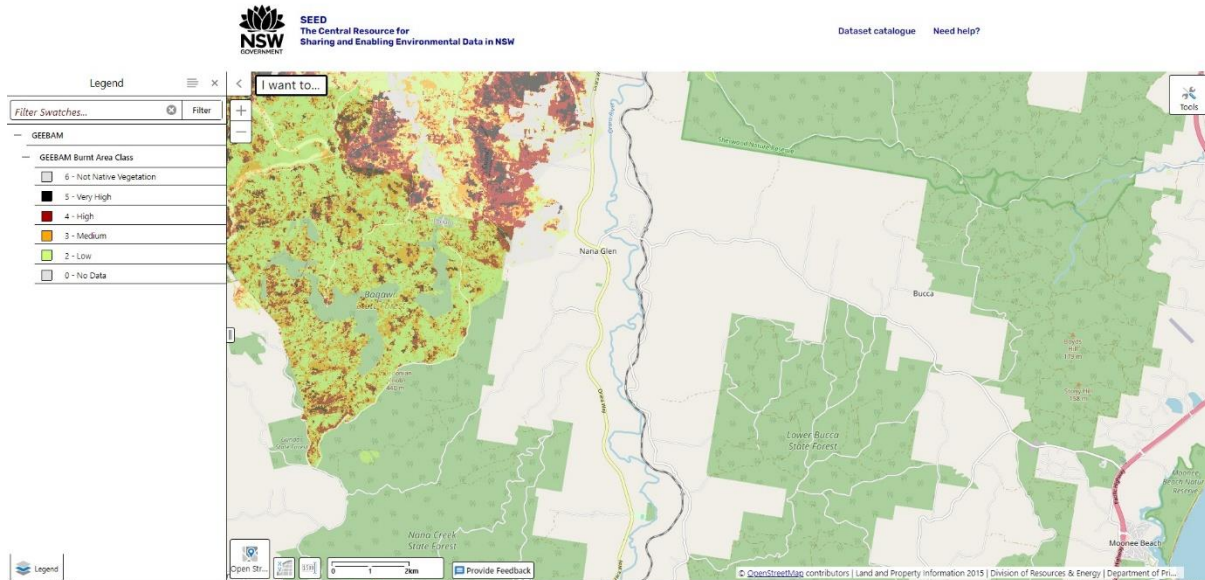


Map 2 – Site Area Inspected



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Map 3 – Fire Severity Map – Site 6 – No Data Site - 2019-20 Fire 4-6km from Site

Appendix C – Site Context Photos



Photo 1 – Vegetation looking down the northern slope from the Peak of Mountain Knob – Site No 6.



Photo 2 – Trig Point – Directly North from site.



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Photo 3 – Ground vegetation at the Peak of Mountain Knob – Site No 6. (Infiltration of lantana to site).



Photo 4 – Natural Stone scatter on lower North facing slope – Leaf litter and debris build up storing dry fuels on the ground and in between stones. (Cultural Stone Arrangements not shown for cultural safety)



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 7 – Horseshoe Road, Kalang NSW
Client contact name	Louise Askew
Local Government Area	Bellingen Shire Council
Landholder	Private landholder – Sarah George

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Uncle Ian Brown & Aunty Luana Ferguson
Date	15 th of September 2021
Start Time	10:30am – 15:30pm
Nature of the works	Cultural Site Condition at Cultural Burn location

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
Yes, debitage, flakes and spear tips.	None	None	Yes, Old Campsite on 2 crests along single ridge line.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None	None	None	None	Old ridgeline walking trail – Old People walking from Bowraville to Bellingen.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- Using ground surface observation methods > 10 combination of flakes and debitage from Greywacke, Siltstone and Mudstone. 2x Worked Stone spear tips (Grey Wacke found within 200m of each other along ridge line), and 1x Spilt Cobble. (Measuring 70mmx40mmx25mm). Higher Density scatters in 2x locations on the peaks of the same ridgeline about 350m apart.
- Findings - Artefacts did not have scorch marks, they don't appear to have suffered any structural damage from cultural fire performed in Late August/ Early Sept 2021. (Performed at low intensity and in accordance with Cultural protocols). No adverse damage was caused to existing canopy and mid-story tree species, evidence of healthy diverse understorey recovery. Topsoil layer (humus) still intact. Epicormic growth (stress growth) not present, indicator that trees aren't under stress post-application of cultural fire. Future application of the right kind of fire will assist in gradually returning the Country to health. (Further Images Stored in CH&DLALC Photo Register).
- Given that tops of ridges, peaks, upper slopes are at risk of more severe damage both ecologically and culturally (refer to following contributing factors), these areas are of high priority for ongoing application of cultural fire.
- Noted contributing risk factors for wild fire/heat intensive burn from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for



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longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up),

- Dry Eucalypt Ridges not maintained with fire, build up with dry leaf litter and fuels, and act as fire starters and pathways for wildfire to move rapidly over the landscape, moving fast in the hotter months with a higher intensity that can penetrate lower and wetter eucalypt forests and rainforest slopes and gullies.

Recommendations

1. Above mentioned sites to be revisited and plotted using GPS, site card generated and upload into AHIMS.
 2. Maintain coordination and communication with the Private Landholder for site– keep informed/involved of/with plans for delivering mitigation measures and protections.
 3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
 4. Biodiversity surveys to identify any further plants/animals of cultural significance.
 5. Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds).
 6. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
 7. Regular funding be established to allow for further planning and applied land management.
- Ridgeline Burning
8. Cultural Fire Regimes to be developed and implemented for wild-fire cultural and ecological impact prevention and ecology enhancement.
 9. Promotion and Education campaigns about the benefits and differences of cultural fire and the importance of ridgeline burning in Gumbaynggirr Country to all types of Landholders/Owners.
 10. Promotion of active Gumbaynggirr Fire Practitioners, Rangers and Land Management Teams.
 11. Ideal ridge burn frequency for this site is once every 5 to 7 years – with no fire required for lower slopes and gullies. A 5 to 7 year frequency (5 to 7 years of forest fuel build up) will be much safer, more controlled with less intensity and more preservation and enhancement outcomes for the ridgetop section of eucalypt forest.

Observations compiled by Programs Coordinator, Matthew Smith, Durrunda Wajaarr Ranger
Cassandra McKechnie and Senior Sites Officer's Uncle Ian Brown and Aunty Luana Ferguson.
Report approved and signed off by:

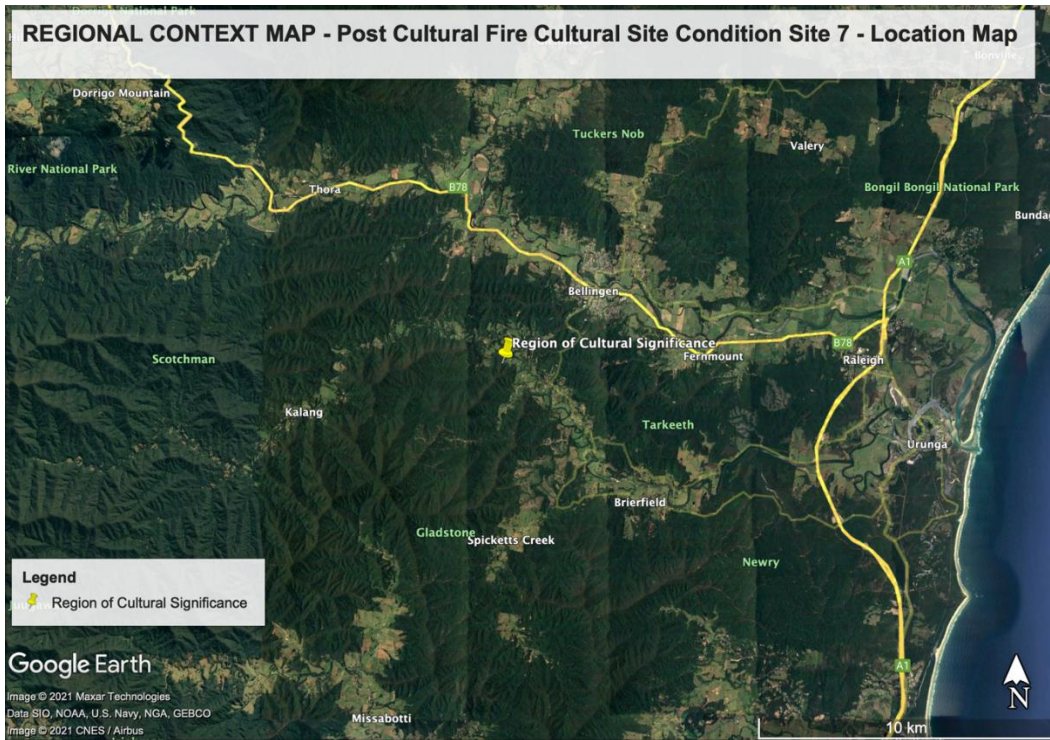
Matthew Smith
Programs Coordinator
CH&DLALC
15th September 2021



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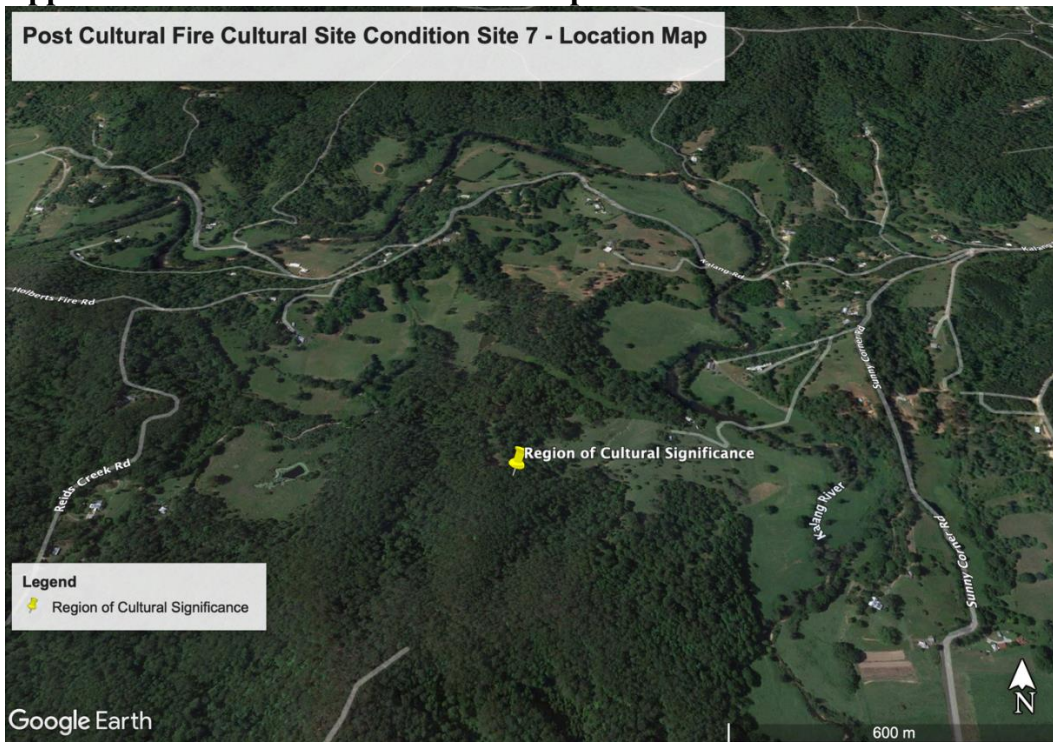
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

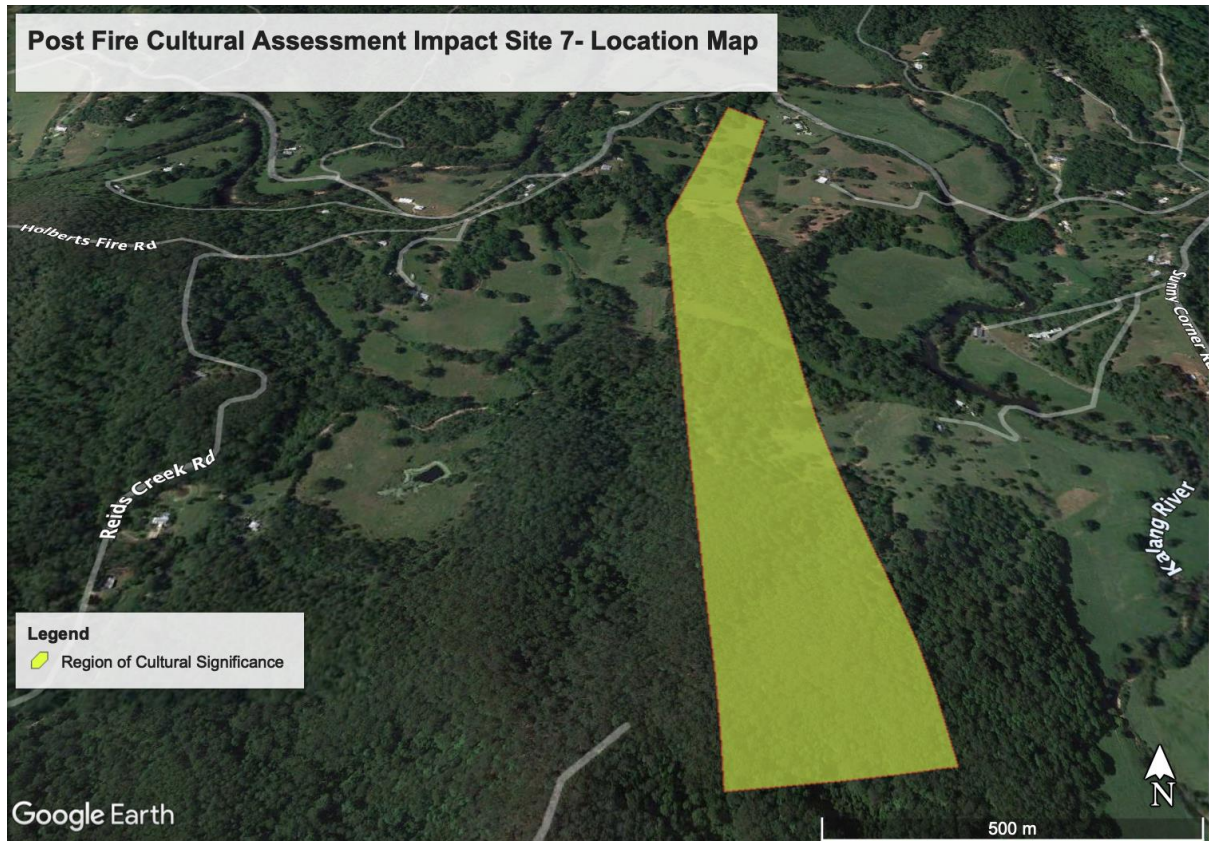


Map 2 – Site Location

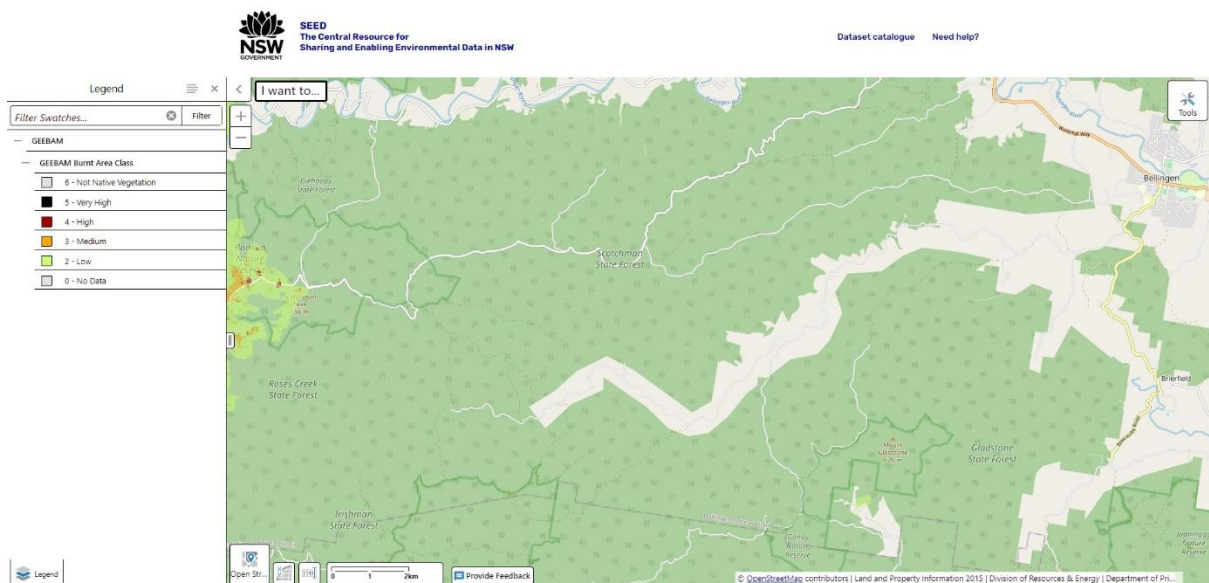


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Map 3 – Site Area Inspected



Map 4 – Fire Severity Map – Site 7 – No Data Site – Approx 10km from 2019-20 Wildfires.



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Appendix C – Site Context Photos



Photo 1 – Team member partaking in cultural assessment for site –Site No 7.



Photo 2 – Artefacts identified in cultural assessment – Peak of Lower Ridge – Site No 7. (Excluding finished stone tools found onsite – Speartips).



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Photo 3 – Ridgeline Walking Trail – Trail between 2 campsites - cultural site assessment –Site No 7.



Photo 4 – Picture of upper region of affected tree from previous wildfire 30 years prior – Site No. 7



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Photo 5 – Picture of Top of ridge prior to cultural burn implementation – Over 30 years of fuel build up. Elevation 250-300m.



Photo 6 – Picture of Top of ridge during cultural burn implementation – Over 30 years of fuel build up. Elevation 250-300m. Senior Elder Uncle Ian Brown supervising the burn with 6-person Gumbayngirr ranger team.



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Photo 7 – Picture of Top of ridge post cultural burn – Over 30 years of fuel build up. Elevation 250-300m. No canopy tree loss, all habitat trees preserved, 97% of ground habitat logs preserved, No damage to cultural items and sites, protective buffer zone now established for lower rainforest gully.



Photo 8 – Picture of 3-month natural regrowth - Top of ridge post cultural burn. Multiple variety of sapling Eucalypts, new grass trees, lomandra, kangaroo grass, native ground cover, native vines.



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Photo 9 – Picture of 3-month natural regrowth - Top of ridge post cultural burn.
Sapling Eucalypts, new grass trees, lomandra, kangaroo grass, native ground cover.



Photo 10 – Picture of 3-month natural regrowth - Top of ridge post cultural burn.
Sapling Eucalypts, kangaroo grass, and native ground cover (Native asparagus vine).



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Photo 11 – Picture of 3-month natural regrowth - Top of ridge post cultural burn.
Sapling Eucalypts, new grass trees, lomandra, kangaroo grass, native ground cover.



Photo 12 – Picture of 3-month natural regrowth - Top of ridge post cultural burn.
Four new Eucalypts, lomandra, kangaroo grass, native ground cover.



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Photo 13 - Culturally Burnt on right side (healthy regrowth) – unburnt on left side (weeds).



Photo 14 – Picture of 3-month natural regrowth - Lower ridgeline slopes post cultural burn. New and old unburnt bracken ferns, blady-grass, mid-storey and canopy trees undamaged.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 8 – Wild Cattle Creek, Orange Trees Road (North) NSW
Client contact name	Louise Askew
Local Government Area	Clarence Valley Council
Landholder	Forestry NSW

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Daniel Flanders & Aunty Luana Ferguson
Date	9 th of Nov 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
>14 x flake artefacts, and Debitage (Mudstone and Grey Wacke).	None	None	Evidence that old campsite existed.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None	None	None	None	

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of High Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- Most adverse impact – Barren Landscape caused by Salvage Logging via Clear-fell methods post-high intensity wildfires of 2019-20. Heavy Machinery (i.e. bulldozers) cause direct severe damage to cultural sites and objects, through displacement, scraping and fracture. Severe habitat loss, and major delays in natural restoration of the forest due to disturbance of landscape structure and soil profile. Severe topsoil loss had resulted from the Very High Fire Intensity Rating (Map 4) during the wildfire event. Forest and soil-profile repair via leaf litter dispersal from epicormic growth of surviving trees has consequently been cut-off due to Salvage Logging and post-fire clearing operations – resulting in a barren landscape causing major delays in the forest soil repair process.
- Post Wild-Fire and clear-felling storm and flood events cause severe erosion to barren landscapes and clear felled areas by stormwater runoff which may also cause damage to access roads and pollute nearby streams.
- Physical evidence of an old campsite - >14 artefacts found on the Northern End of Orange Tree Road (Map 2). A variety of flakes and debutage artefacts made mostly of grey wacke and mudstone were found in clear-felled areas, in windrows and stockpiles.
- Another 3 artefacts were found on the Southern End of Orange Tree Road (Map 3).
- General Observation – Top of ridges, peaks and upper slopes in surrounding areas tend to be more severely burnt than lower lying areas and valleys, Noted contributing factors for this from site



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observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).

Recommendations

1. Above mentioned site to be plotted using GPS, site card generated and upload into AHIMS.
2. Establish close coordination and communication with the Cultural Officer responsible for this site specifically within Forestry NSW – keep informed of plans for delivering mitigation measures and protections.
3. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
4. Conduct biodiversity surveys to identify any further plants/animals of cultural significance.
5. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
6. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
7. Regular funding be established to allow for further planning and applied land management.
8. Cultural Fire Regimes to be developed and implemented regularly to the forested high slopes, ridgelines and peaks within the boundaries of this property for wild-fire cultural impact prevention.

Forestry Specific Recommendations

9. 100% area of all Forestry Harvest Operations to be planned and assessed with CH&DLALC and Grafton Ngerrie LALC – Select Logging Only – No Salvage Logging (Post Wildfire) or Clear Felling of any areas.
10. Strategic Measures to be implemented within Forestry NSW to include ecological-sustainable criteria for logging co-designed, reviewed and endorsed by Local Elder Groups; and to apply the following rules to all operations. > Must not in any circumstances clear-fell after a wild-fire or high intensity fire event. Always choose Green Logging over Salvage Logging, and select felling over clear-felling – retain >80% of mature trees and overall canopy area in any given location, Number of trees harvested per 10,000m² not to exceed 6 and must be evenly spaced in mosaic patterns, and not be grouped/clustered together – Foliage of selected trees for harvest must not be adjoining other selected trees. The measure of 1 tree may be equivalent to 10m Diameter in canopy and does not put a limit on the number of trees within that 10m Diameter (e.g. 3 trees may be harvested as a cluster and count for one tree if all contained in 10m diameter of canopy). Retain at all times the mother tree of the species within the planned harvest area.
11. The above parameters and strategic measures is consistent with cultural Lore and resource gathering practice and would prevent/reduce the influx of pests, disease, soil loss, habitat loss, species loss, and forest loss or degradation.

Observations compiled by Programs Coordinator Matthew Smith, Durrunda Wajaarr Ranger
Cassandra McKechnie and Senior Sites Officer Uncle Ian Brown.

Report approved and signed off by:

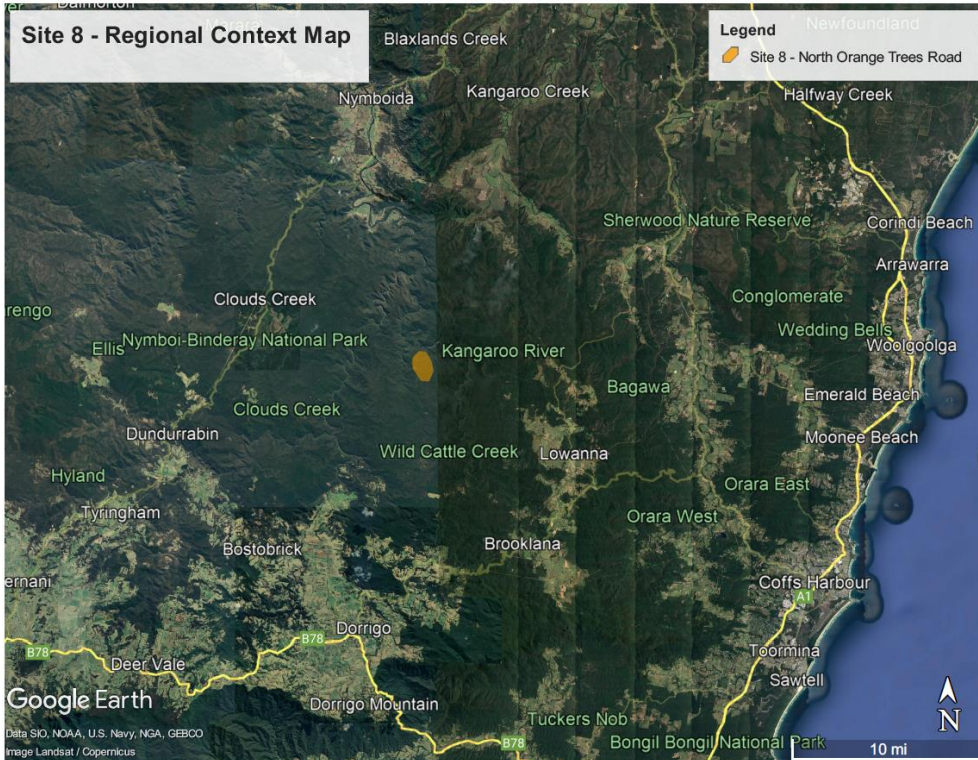
Matthew Smith
Programs Coordinator
CH&DLALC
9th Nov 2021



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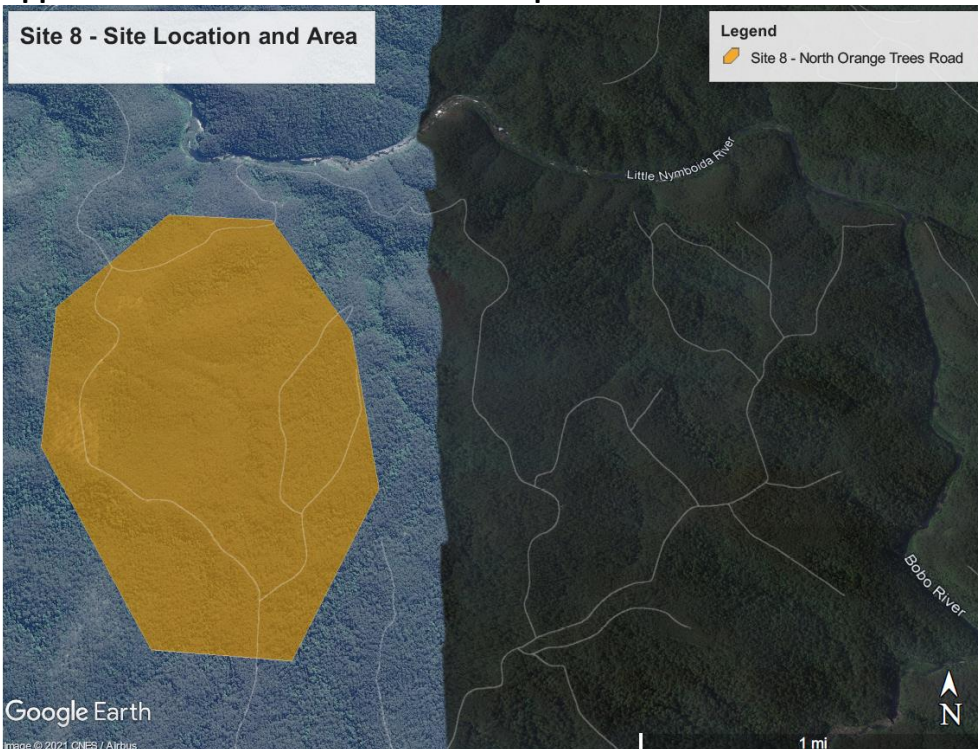
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

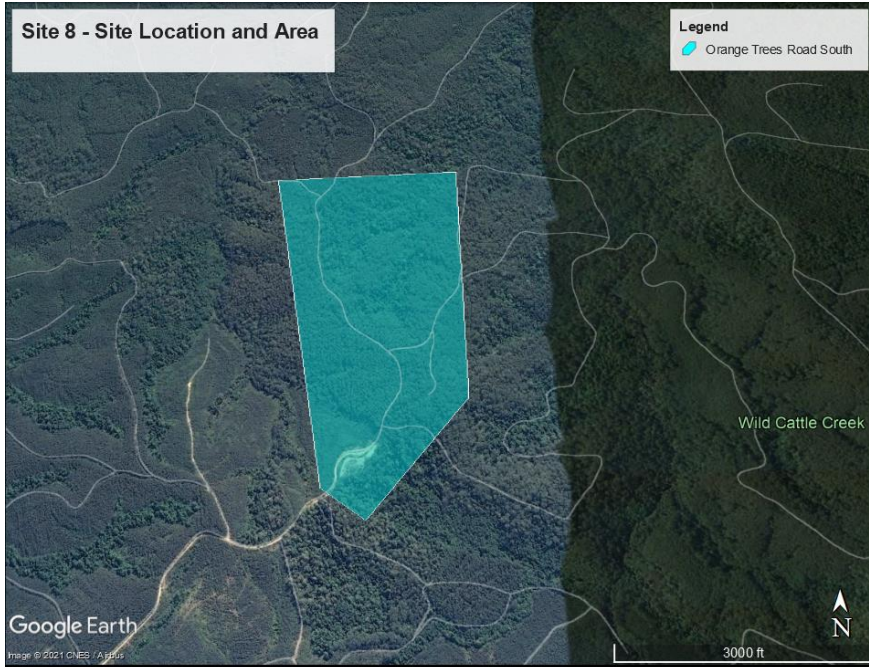


Map 2 – Site Location and Inspection Area – North

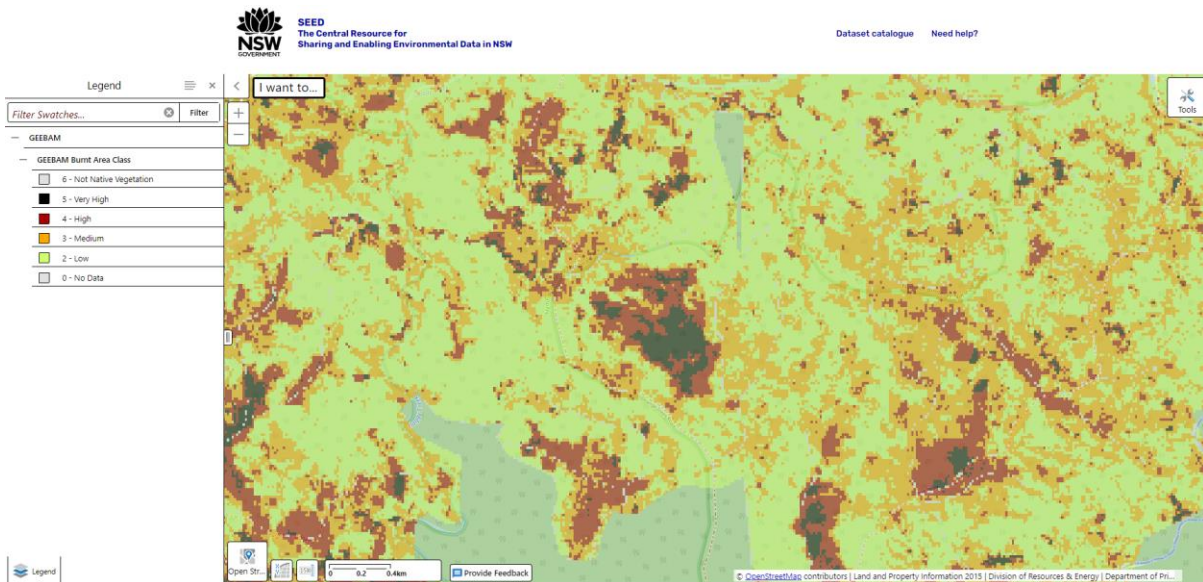


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Map 3 – Site Location and Inspection Area – South



Map 4 – Fire Intensity Map – Site 8 – High to Very High Severity 2019-20 Wildfire Site (North End of Orange Trees Road).



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Appendix C – Site Context Photos



Photo 1 – Northern side of site where artefacts were found – Fire Affected Site No 8. Evidence of salvage logging via clear-fell methods. Heavy Machinery used for clear-felling poses higher risk of stone artefact displacement and damages (fractures) than wild-fires. Displacement of artefacts is of high concern to Gumbaynggirr cultural site officers as the history of pre-European becomes more fragmented and difficult to record the story of the landscape with accuracy.



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Photo 2 – Northern Site Orange Tree Road – Fire Affected Site No 8. Evidence of Post-Wildfire Salvage Logging – further degrading site and reducing habitat, creating a barren landscape.



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Photo 3 – Multiple Grey Wacke and Mudstone Artefacts found at North End of Orange Tree Road Wild Cattle Creek - Fire Affected Site No 8.



Photo 4 – Grey Wacke Artefacts found at southern end of Orange Tree Road – Fire Affected Site No 8.



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 9 – Chambigne Nature Reserve
Client contact name	Louise Askew
Local Government Area	Clarence Shire Council
Landholder	National Parks Wildlife Services

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Aunty Luana Ferguson and Narina Ferguson in the presence of National Parks Rangers and representatives from Grafton Ngerrie Lands Council.
Date	29 th of November 2021
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
>10 worked stone artefacts, debutage and flakes, mudstone.	Dreaming Associated with Rockart – Serpent in Rockart Depictions, with Spirit Man Figure.	None	None.	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None.	Yes – Human Bone Fragments found on-site.	Potentially.	Confirmed to be mutual gender site.	

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Special Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- *Chambigne Rock Art Site* is located downstream from Shannon Creek Dam in the mountains adjacent to Shannon Creek and Deep Creek, Chambigne.
- Both male and female site officers inspected the site, and approached the site with cultural awareness and ease – the feeling was good with no bad or sick feelings reported by the group and no other cultural warning signs to vacate the site were received by the group.
- The large cave measuring 15m long, 4-5m high and 7m deep has kept the rock art paintings well preserved and sheltered from the weather. Paintings on the rock face easily accessed via walk in cave entry. Rock art depictions include serpent like figure on left hand face and a spirit man figure with 3 fingers on one hand and 5 fingers on the other hand (located on right hand face of the cave).
- >10 worked mudstone artefacts of debutage and flakes were found on site, plus potential human bone fragments found under a large rock within the cave (Bone fragments would need to be confirmed if human or animal).



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- Above findings give Indications of a common use dreaming site where young men and women would have learnt of the dreaming story associated with the Rock Art.
- The immediate area (within 200m) surrounding the Rock Art Cave Site had not been burnt for at least 20 years, nearest 2019-20 wildfire impacts were found >1km from the site.
- General Observation – The Rock Art Cave is located at a high elevation of 120-150m on a steep slope (Exact locations kept confidential at this point in time). High Slopes, Ridges and peaks and North and/or West Facing Slopes appeared to be more severely burnt than other aspects of the mountain (Due to becoming drier from increased sun exposure throughout the year and faster drainage after rain). Further risk factors for cause of higher intensity fire and impacts found from site observations include: Higher Wind prone area at the higher elevation (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up), No designated fire mitigation crew focused on cultural assets in the area at time of wildfires (NPWS Aboriginal Mitigation Crew based in Bowraville – Nil based in North Gumbaynggirr Country).

Recommendations

1. Establish close coordination and communication with the National Parks Cultural Officer and ranger – keep informed of plans for delivering mitigation measures and protections.
2. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
3. Cultural Asset Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds, tree stability works as required).
4. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
5. Regular funding be established to allow for further planning and applied land management.
6. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.
7. High frequency cultural burns (once every 3-5 years) to create protective buffer around cultural assets to keep fuel loads down.
8. Establish a dedicated Gumbaynggirr Fire Mitigation Team for Northern Gumbaynggirr with focus priority on preserving and protecting cultural assets.
9. Establish improved communication/telecommunications with RFS Fire Control Centres (NPWS, Forestry NSW), gain access to real-time bush-fire information during emergency fire response operations (Ignitions, Fire Direction, Potential Fire Pathways, Speed of travel, timing information, human and plant resource allocations, Response Times).

SPECIFIC ROCK ART CAVE SITE PROTECTIONS

10. Discussions to continue between Grafton Ngerrie, CH&DLALC and NPWS for the ongoing management, maintenance and preservation of the site, and to consider plotting exact coordinates using GPS, site card generated and upload into AHIMS as Restricted Site (Permission from elder groups must be sought prior to any AHIMS Upload regarding this site).
11. Make more frequent site visits between Grafton Ngerrie and CH&DLALC.
12. **Cultural Protocols** - Rock art depictions photos to be kept strictly on usb stick or on secure computer storage device and kept on Gumbaynggirr country or in office of (Grafton Ngerrie and/or CH&DLALC and/or NPWS nearest office location). Keep site clean of rubbish and foodscraps.

Observations compiled by Programs Coordinator, Aunty Luana Ferguson and Narina Ferguson.
Report approved and signed off by:

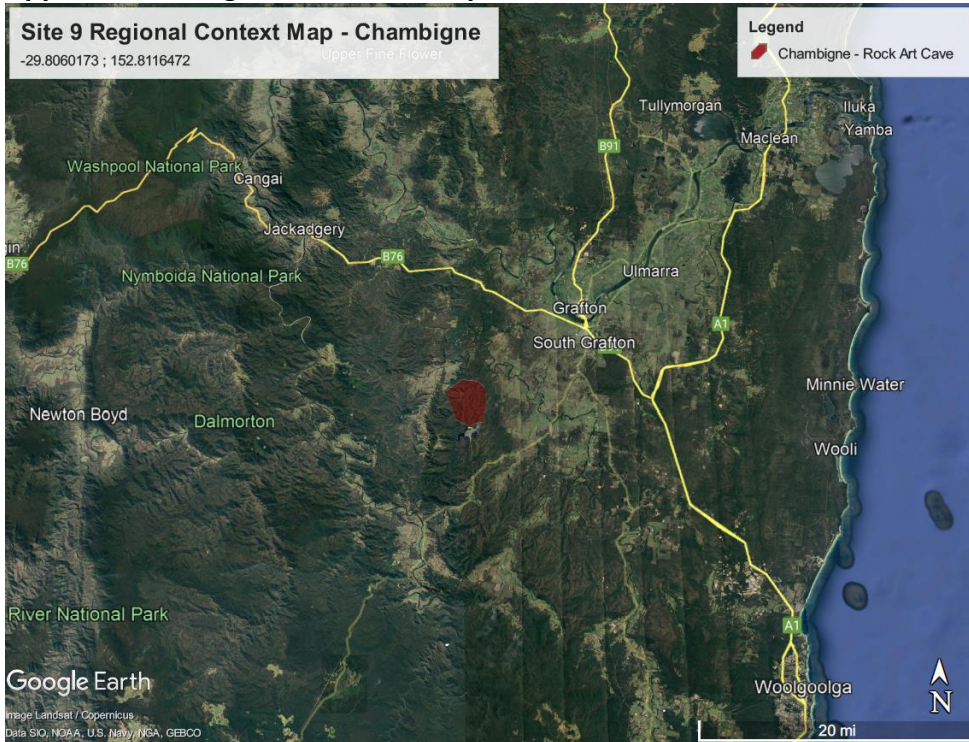
Matthew Smith
Programs Coordinator
CH&DLALC
29th Nov 2021



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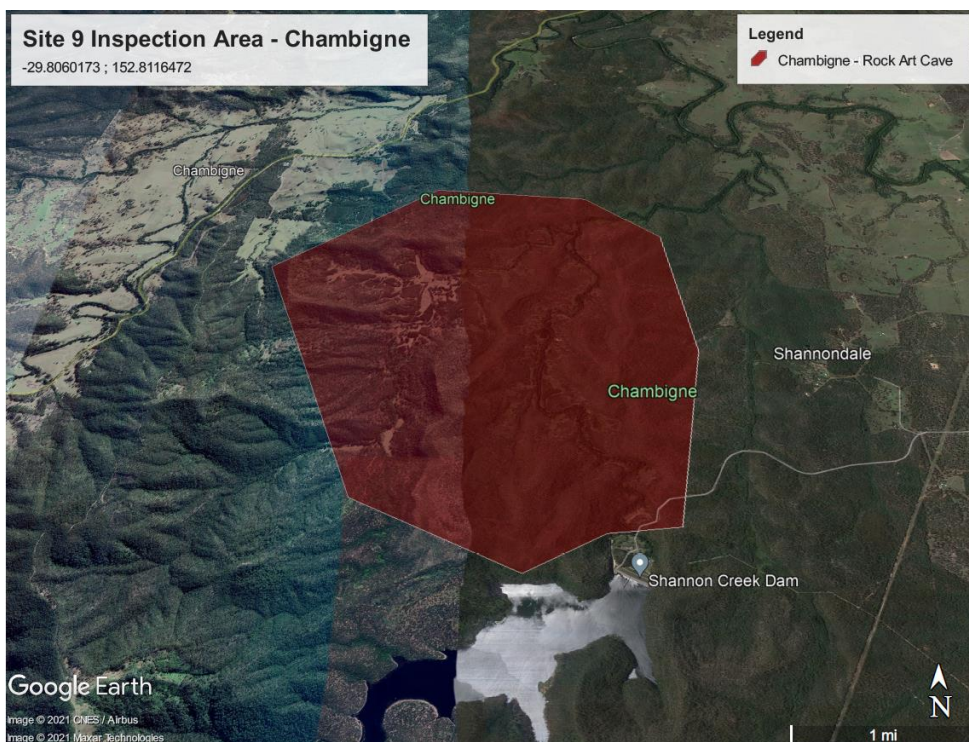
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

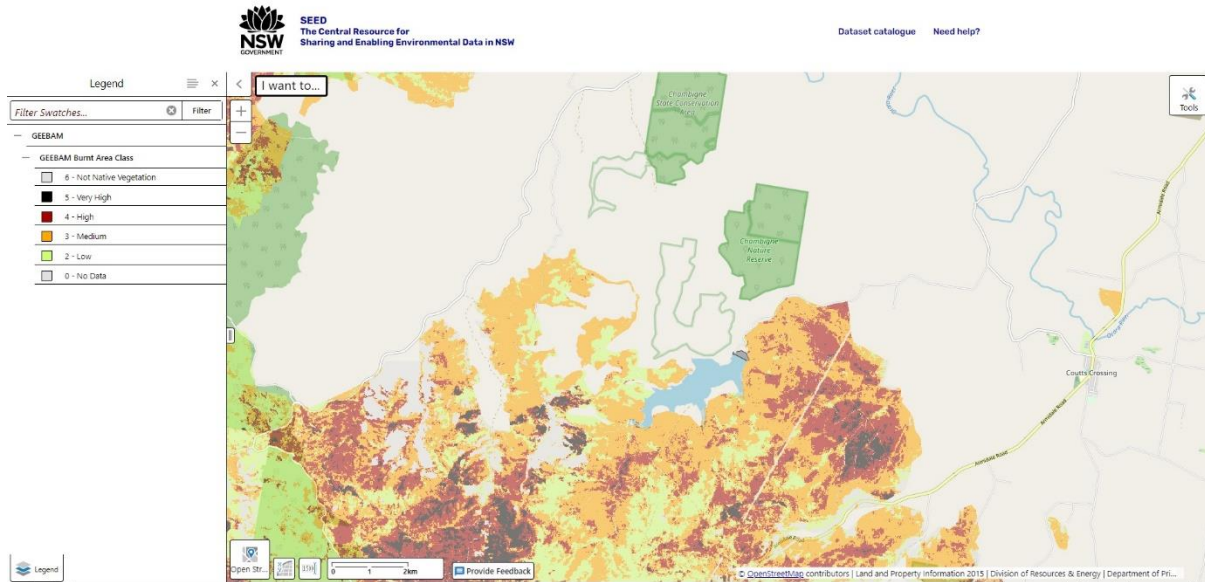


Map 2 – Site Area Inspected



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Map 3 – Fire intensity Map – Site 9 – No Data area – 2019-20 Fire 1-2km from Site

Appendix C – Site Context Photos



Photo 1 – Left Edge of Rock Art Cave and Surrounding Vegetation and Landscape (Grafton Ngerrie CEO – Darren)



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Photo 2 –Right Edge of Rock Art Cave and Surrounding Vegetation and (Site Officer Narina Ferguson)



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 10 – Pidgeon Gully, Yuraygir Crown Reserve, Bald Knob Tick Gate, Halfway Creek NSW
Client contact name	Louise Askew
Local Government Area	Clarence Valley Council
Landholder	National Parks and Wildlife Services NSW

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Senior Site officer name	Aunty Luana Ferguson
Date	30 th of November 2021
Start Time	10:00 – 14:00
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
None - Identified	None	None	None	None
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None	None	None	None	Area of habitat Wompoo Pidgeon (native Endangered species). Special place for cultural resources – The only Sub-Tropical Littoral Rainforest in Yuragirr National Park – Endangered Ecological Community.

Notes – Sites Officer only

- The area of interest was fully examined by the Site Officer and Senior Sites Officer via visual inspection methods, Site Notes and documented photographs. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- Yuraygir Crown Reserve (Bald Knob Tick Gate) provides access to Sub Tropical Littoral Rainforest known as Pidgeon Gully. Given that Pidgeon Gully is the only sub-tropical littoral rainforest within Yuragirr National Park it is marked as a special place for cultural resources.
- Sub-tropical littoral rainforests along the NSW North Coast are listed as Endangered Ecological Communities. This area was burnt in 2019-20 wildfires, via ignition of lightning strike. Weeds have been suppressed due to wildfire impacts, enabling access to perform post-fire follow up weed treatment work and establish walking tracks for enhanced site access.



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- Cultural resources amongst vegetation species include; Cabbage Tree Palm, Bangalow Palms, amongst other species.
- General Observation – Surrounding areas consist of sclerophyll forest, ridges, peaks and slopes. In other sites that were assessed the tops of ridges, peaks and upper slopes tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted factors that may increase risk for future uncontrolled burns from site observations include: Higher Wind & Sun Exposure (Drying Out) in surrounding areas, Higher Ground stays drier for longer than lower ground, the pigeon gully valley is small area of 8 Hectares and sits relatively high at 150-165m above sea level and is prone to Easterly Winds (Potentially Fuelling Hot-Fires), High fire risk due to being surrounded by predominantly dry eucalypt forest country, a lack of Applied Fire Regime could be catastrophic for pigeon gully if fuels are left to be built up in surrounding eucalypt forest areas (Original Cultural Fire Practices not maintained – ground fuel debris build up – potential to cause fire path run-up to the gully).

Recommendations

1. Regular fire and maintenance regime (Cultural burning of surrounding sclerophyll forest – providing protective buffer zone)
2. Establishment of walking tracks to ease future access and supplement weed treatment efforts.
3. Coordination of Biodiversity surveys (species survey specific to Wompoo pigeon and other protected species).
4. Establish close coordination and communication with the Yuraygir National Park Ranger and Cultural Representative for NPWS and Ngerrie LALC – keep informed of plans for delivering mitigation measures and protections.
5. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
6. Post-Fire Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds).
7. Further detailed cultural resource and heritage surveys with local elder groups,
8. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
9. Regular funding be established to allow for further planning and applied land management.
10. Broadscale Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.

Observations compiled by Programs Coordinator, Matthew Smith, Durrunda Wajaarr Ranger Cassie Mckechnie, and Senior Sites Officer Aunty Luana Ferguson.

Report approved and signed off by:

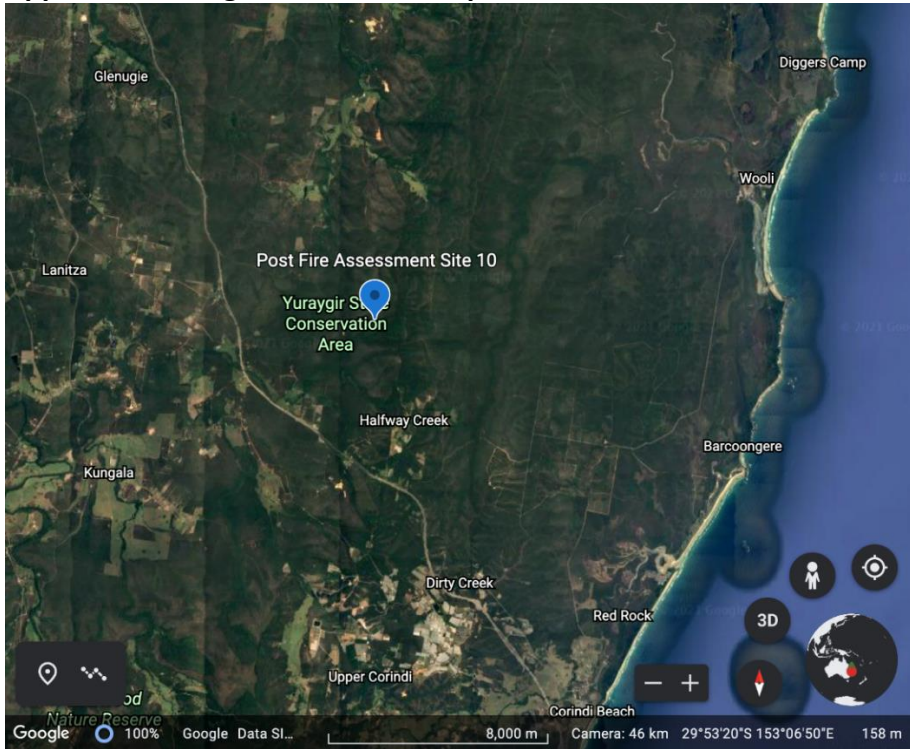
Matthew Smith
Programs Coordinator
CH&DLALC
1st December 2021



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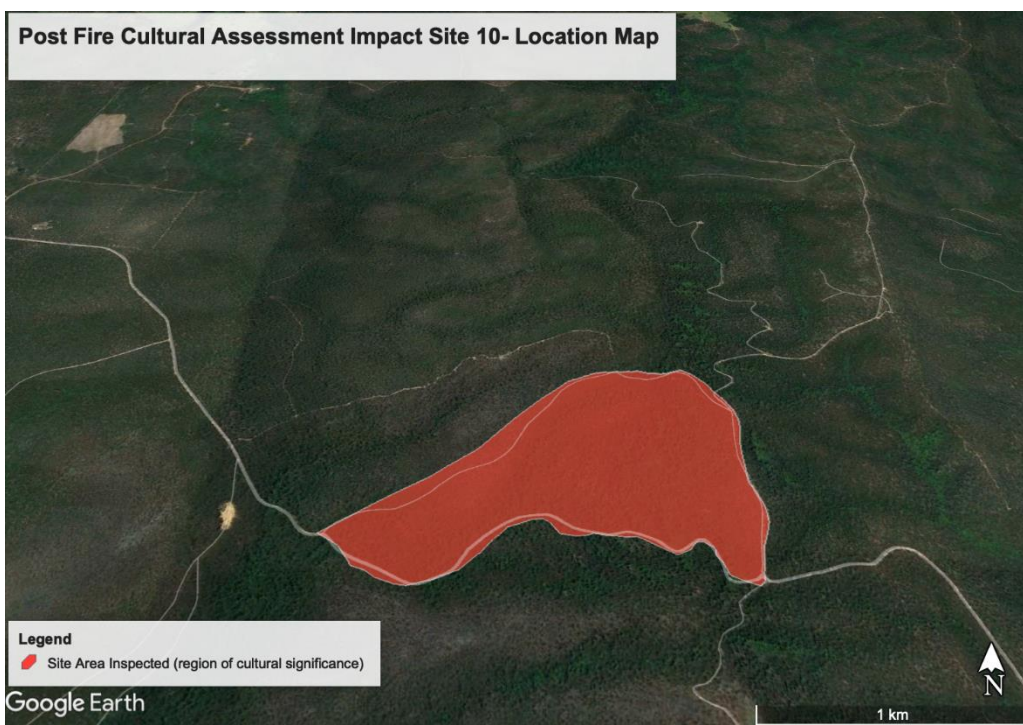
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps

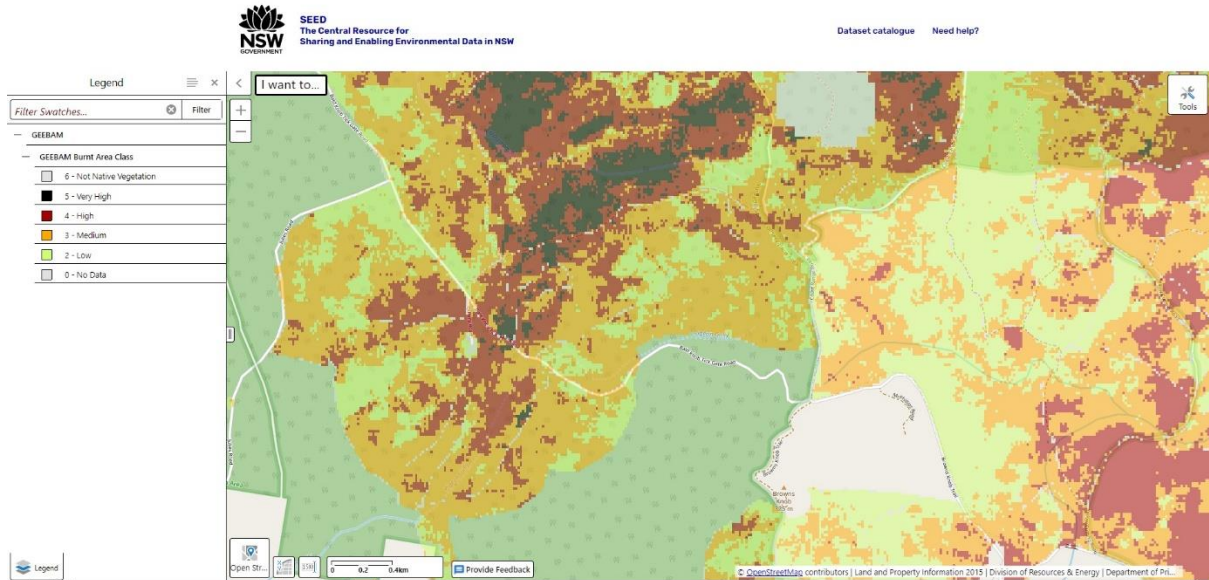


Map 2 – Site Location and Area Inspected



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Map 3 – Fire Severity Map – Site 10 – Predominantly Medium Level of Severity to Site from 2019-20 Wildfires.

Appendix C – Site Context Photos



Photo 1 – 100m down Bald Knob Tick Gate Rd (east of intersecting road Browns Knob Trail) – Fire Affected Site No 10. Dry sclerophyll forest surrounding the sub-tropical rainforest



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Photo 2- Inspection of Pidgeon Gully – Fire affected Site No 10



Photo 3- Elevation view of Pidgeon Gully Forest – Fire affected Site No 10



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PROJECT DETAILS

Client Name:	Natural Resources Commission
Site for inspection	Post Fire Assessment Site 11 – Bellinger River, Brinerville NSW
Client contact name	Louise Askew
Local Government Area	Bellingen Shire Council
Landholder	National Parks

COFFS HARBOUR AND DISTRICT LOCAL ABORIGINAL LAND COUNCIL

Site officer name/s	Matthew smith and Daniel Flanders
Date	27 th of October 2020
Start Time	10:30am – 15:30pm
Nature of the works	Post Fire Inspection of Cultural Site Condition

SITE OFFICER OBSERVATIONS

Artefacts	Dreaming site	Midden material	Campsite	Ceremony ground
None - Identified	None	None	Likely Campsite near Bora Ground	Bora Ground
Scar trees	Skeletal remains	Increase site	Men/Women's area	Other (specify)
None - Identified	None	None	None	Ceremonial Ring

Notes – Sites Officer only

- The area of interest has been attempted to be fully examined by two Site Officers via visual inspection methods, Site Notes and documented photographs. The Site Officers were unable to access the site due to a large log blocking site access road about 1km away from site. (The extended photo register Access is Restricted – For Cultural Safety Protocols – Photos of Cultural Significance are excluded from this report – however may be accessed on permission at CH&DLALC Head Office).
- In reference to Fire Severity Map – The Ceremonial Bora Ring was unaffected by the 2019-20 wildfires, with the fire affecting all other areas apart from the landscape bound by the river. It is evident the natural landscape and river shape has capacity to naturally protect from wild fire impacts due to shape and orientation of the land and river (perhaps the old people new this and designed it that way).
- If fire were ever to affect this site, it would only clean up the ground vegetation resulting in easier accessibility and benefit for cultural purposes in future. It is likely cultural fire was used to clean and prepare entry to the Ceremonial Site – cultural fire may have also been used to prepare camping grounds which is likely to have been setup near-to the bora ground. Physical evidence of campsites is usually in the form of stone artefact scatters – which will be looked for next inspection of this site.
- General Observation of the region– As with all other sites heavily impacted by to 2019-20 wildfires, Top of ridges, peaks and upper slopes in region tend to be more severely burnt than other areas, resulting in higher levels of damage and cultural site impacts. Noted contributing factors for this from site observations include: Higher Wind & Sun Exposure (Drying Out), Less Annual Rainfall (Higher Ground stays drier for longer than lower ground), Higher Wind prone area (Fuelling Hot-Fires), Remote Location (Site visited and maintained less frequently), Lack of Applied Fire Regime (Original Cultural Fire Practices not maintained – ground fuel debris build up).



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Recommendations

1. Arrange a second site visit (with large chainsaws) – clear access to site and physically inspect.
2. Establish close coordination and communication with the New England National Parks Ranger and Cultural Officer for National Parks – co-coordinate plans for delivering mitigation measures and protections.
3. Biodiversity surveys to identify other flora/fauna species of cultural significance.
4. Cultural context and original stories to be developed at a later stage for the site via engagement of a working knowledge holders group.
5. Cultural Protection Measures to be developed and implemented for the site (Regularly cleaning sites from debris build up, treating problematic weeds).
6. Regular inspections (once every 6 months) and increased frequency of visits to site for cultural recreation/reactivation and to assess, plan and implement land management practices.
7. Regular funding be established to allow for further planning and applied land management.
8. Cultural Fire Regimes to be developed and implemented for wild-fire cultural impact prevention.
9. Perform cultural ceremonies at the site to enhance habitat, fertility and health of vegetation and animal species - with permission sought from local elders.

Observations compiled by Programs Coordinator, Matthew Smith and Durrunda Wajaarr Rangers Daniel Smith and Cassandra McKechnie.

Report approved and signed off by:

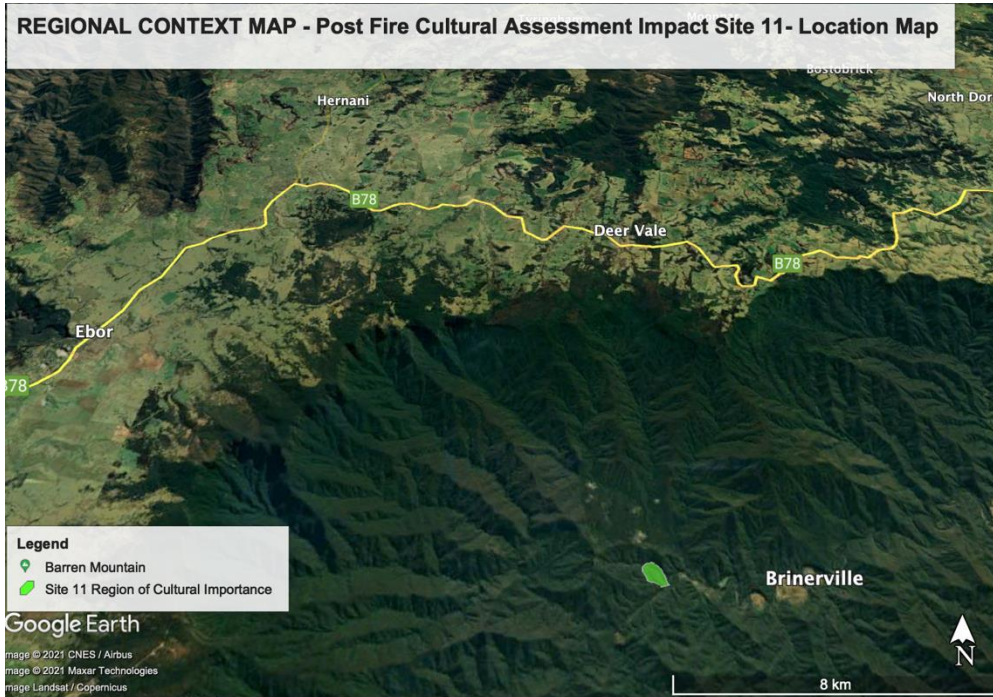
Matthew Smith
Programs Coordinator
CH&DLALC
27th October 2021



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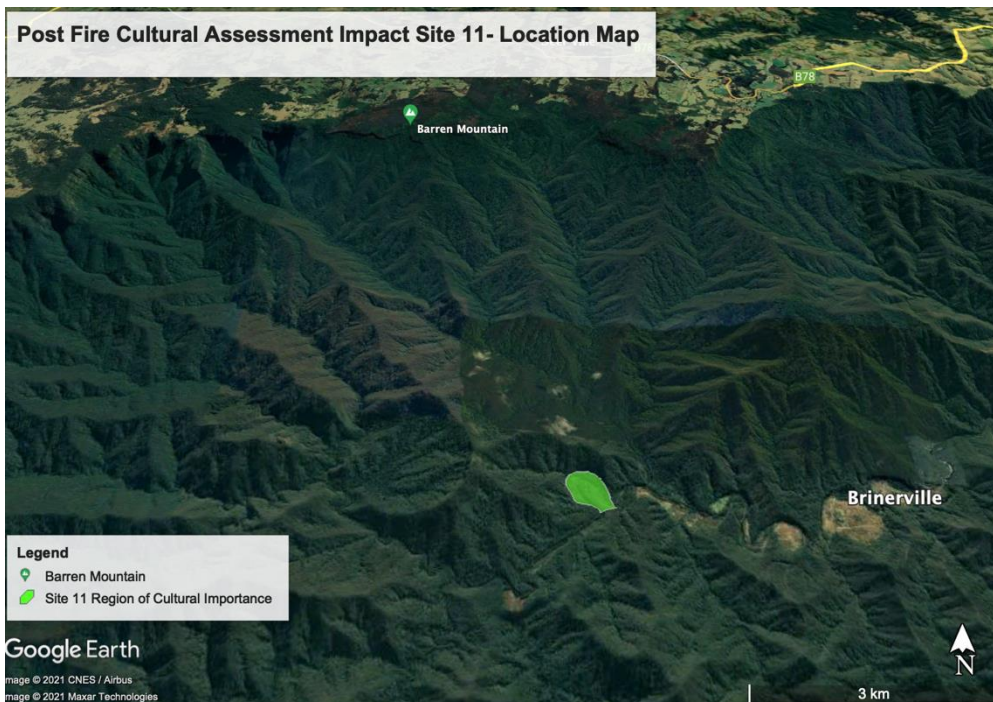
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Appendix A – Regional Context Map



Map 1 – Regional Context Map

Appendix B – Site Location and Area Maps



Map 2 – Site Location



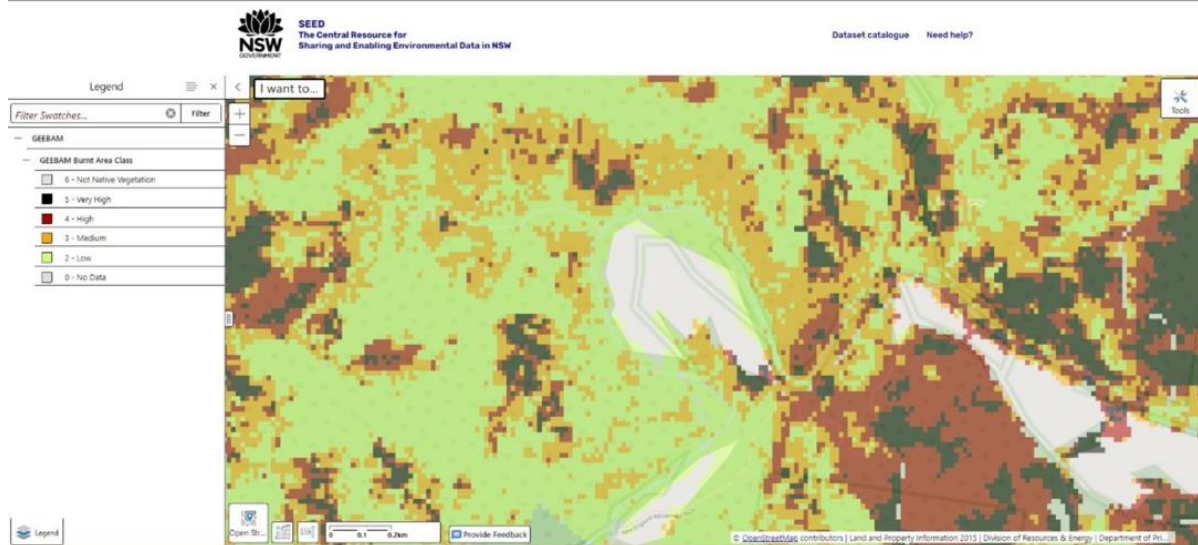
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Post Fire Cultural Assessment Impact Site 11- Location Map



Map 3 – Site 11 – Area of Cultural Importance



Map 4 – Fire Severity Map – Site 11 – Bora Ring Not Affected by Fire.