



**Interim Report** Project 1.1

# Indigenous specific CIA: scoping review of the literature and methods

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## Abbreviations

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BC	British Columbia
CEA	Cumulative Effects Assessment
CEF	Cumulative Effects Framework
CEMA	Cumulative Environmental Management Association
CHM	Cultural Heritage Management
CHMP	Cultural Heritage Management Plans
CIA	Cumulative Impact Assessment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPBC	Environmental Protection and Biodiversity Conservation
ESIA	Environmental and Social Impact Assessment
FN	First Nations
IEK	Indigenous Ecological knowledge
ILUA	Indigenous Land Use Agreement
MCFN	Mikisew Cree First Nation
SIA	Social Impact Assessment
SLO	Social License to Operate
ToR	Terms of Reference
VEC	Valued Environmental and Social Components

# 1.0 Background and context setting

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Cumulative Impact Assessment (CIA) as it relates to Indigenous Australians is an emerging area. This report reviews the available English language literature – internationally and within Australia – on CIA, Indigenous peoples and the extractives sector.<sup>1</sup> The internet search has specifically been for literature with these three foci. However, relative to the science of environmental and social impact assessment (ESIA), this nomenclature of CIA is recent, and its application to Indigenous interests, even more so.

CIA has developed as a distinct area of assessment concerned with two particular contexts where specific forms of assessment are required. Drawing on Banks (2013), these contexts are:

- Where a proposed project’s effects are likely to attenuate the effects of other trends and processes in the broader impact area, and
- Contexts in which there are multiple projects proposed across a region or area that will have effects that are not captured by individual project ESIA’s.

When this term ‘cumulative impacts’ is used in this review, it is referring to:

Successive, incremental and combined impacts (both positive and negative) of one or more activities on society, the economy and the environment – resulting from the aggregation and interaction of impacts on a receptor and it may be the product of past, present and future activities (Franks *et al.* 2013).

As an evolving practice there is inconsistent and unsystematic attention to cumulative impacts in conventional approaches to ESIA. While it has been observed that CIA remains a weakness within most impact assessment regimes, this is particularly the case in the licensing of mining projects on Indigenous lands globally (Larson *et al.* 2018).

In the Australian context, many of the largest mines are on, or adjacent to, the formally recognised Indigenous estate – as native title or state-based land rights. This estate comprises just over 50% of the continent. Beyond this, across Australia Indigenous peoples still hold customary forms of attachment to land, even where these rights and interests may not be formally recognised.

In Australia there has not been a specific methodology developed for Indigenous CIA in relation to the resources sector. There are however, a range of methodologies that are more useful and relevant than others, as they begin to address Indigenous specific interests.

These methods include community and participatory Social Impact Assessment (SIA), as well as land management tools and resources that Indigenous groups have established to care for their Country. A fundamental element in developing an effective Indigenous CIA method is to ensure that it is able to identify what these specific interests are; including valued environmental and social components. This

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<sup>1</sup> Note that this report is also summarised in Chapter 4 of the larger project ‘Towards a Framework for Regional Cumulative Impact Assessment, Project 1.1’ and is included in the report as Appendix 5.

can only be done in collaboration with the Indigenous groups and knowledge holders, and requires qualitative and quantitative methods.

In the Australian context there are several stages to engaging with Indigenous groups in relation to mining on their lands. These are via the initial environmental and social impact assessment (ESIA) for the proposed project, in the negotiation of benefit sharing agreements or Indigenous Land Use Agreements (ILUAs), and in the ongoing cultural heritage assessment surveys, often as part of cultural heritage management plans (CHMPs). Even if Indigenous groups don't have an agreement or ILUA with a company, they will be engaging via a state based Aboriginal cultural heritage regulatory regime.<sup>2</sup>

The experience within Australia indicates that it is often within the cultural heritage management stage that cumulative impacts may be considered. The approach for CIA across jurisdictions in Australia is inconsistent, with various policy and regulations applied within each state (Chapter 3). In light of the very limited Australian literature on the topic, it is clear that the gap in CIA literature is illustrative of a gap in practice.

When the focus is on CIA and the on-going impacts of mining on Indigenous peoples and their Country, it is overwhelmingly in terms of their cultural heritage. And if there are considerations of cumulative impacts on cultural heritage, the way in which this heritage is defined has been a significant limitation.

Cultural heritage is commonly defined in terms of moveable or tangible cultural heritage: as codified and/or interpreted as such in much Aboriginal cultural heritage legislation. An essential element in any Indigenous focused CIA methodology will entail broadening the definition of valued environmental and social components (VECs) and ways in which the 'significance' of a site or place is established. This includes accommodating a more encompassing understanding of Indigenous culture not only to include intangible cultural heritage (customary practices and cultural knowledge), but also to integrate culture and environment as an eco-cultural landscape. Thus, while we need to expand our understanding of 'cultural heritage', we also need to expand our understanding of what Indigenous peoples can contribute to CIA. Such a process will be outlined in general terms in Section 6, below.

## 2.0 Methodology

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The literature review has been targeted at applied research materials where the authors specifically reflected on their roles in CIA as a legislative or regulatory requirement, or they have reviewed the practice of Indigenous CIA in a particular jurisdiction. As such, the Google search words were variously a combination of the following terms: cumulative impacts, cumulative impact assessment, cumulative

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<sup>2</sup> All states and territories have regulatory protections in place for Indigenous cultural heritage. Though these legislations vary significantly in terms of strength of protection and exactly what types of heritage is afforded protection, and so on.

effects assessment, social impact, Indigenous peoples, First Nations, cultural heritage, mining region, resources sector.

Of secondary interest were collaborative and participatory SIA methodologies focusing on Indigenous peoples and development on their lands. This material is very useful for establishing methods and frameworks for engaging Indigenous peoples in CIA. Likewise, other materials in this applied category of land management planning on Indigenous lands were also drawn upon. These materials, such as Healthy Country Plans, are especially useful in gaining a perspective on Indigenous priorities and approaches to Caring for Country and land management planning.

Such a targeted approach – via a focus on the language of CIA - necessarily excludes the mountain of longitudinal ethnographic research undertaken globally and in Australia on the transformative impacts of the extractives industry on Indigenous peoples' livelihoods and cultures (see Bainton and Skrzypec 2021). Such ethnographic research, based on localised (often long-term) fieldwork, tends to take a holistic approach to the impacts of the industry on Indigenous peoples and their life worlds. This social science method does not often use the terms CIA or Cumulative Effects Assessment (CEA) and so was not captured in the literature review search. However, this body of research<sup>3</sup> routinely engages with the impacts and effects of industry at multiple levels, integrates the social, political and environmental domains and reflects on the intersections of historical legacies, such as colonisation and the extractive industries (see Ferguson 1999, Altman and Martin 2009; Keeling and Sandlos 2015; Chaloping-March 2017). Such an approach necessarily considers the ways in which multiple impacts converge, new issues arise and where locally understood thresholds may be crossed.

For the purposes of this review, it is the method of longitudinal ethnographic research that is of note for the development of an Indigenous CIA. Such a method provides insights that most survey based, time limited and compliance-based approaches to SIA cannot capture.

Though the new language of CIA and CEA is an important step in recognising the need to mitigate the multiple and intersecting local, regional and global (ie climate change) effects of the extractive industries, and other development, it is important that any method does not simply take an additive approach (ie as a list of impacts to mitigate) that extends from a baseline established at the outset of a particular project. This is important in colonial contexts in particular, as the legacies of dispossession and inter-generational trauma also often inform Indigenous peoples' perspective of any particular project, and thus their understanding of cumulative impacts. Some of the literature that discusses this issue of legacies, though not specifically in the language of CIA, is discussed.

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<sup>3</sup> The practitioners of this research are anthropologists, human geographers and political scientists.



## 3.0 Overview of the literature, and its geographic focus

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Most of the research located focuses on the qualitative and quantitative methods to incorporate Indigenous Ecological knowledge (IEK) into environmental impact assessment (EIA) and/or social impact assessment (SIA). Other related research focuses on engagement, governance and integration practices within and across these fields of IEK, EIA and SIA.

Of note, articles focusing on the specific nexus between CIA (as a field of SIA), Indigenous peoples and the resource sector were very few. In Australia, only two research articles with this specific focus were located. However, it is an emerging field internationally with a recent report from Canada focusing specifically on SIA methods for predicting cumulative effects involving extractive industries and Indigenous people (Da Silva *et al.* 2020). Other international research articles focusing on this nexus were from Brazil (1 paper; Athayde *et al.* 2019)<sup>4</sup>, Sweden (3 papers; Larsen *et al.* 2018, Osterlin and Raitio 2020, Raitio *et al.* 2020) and Canada (2 papers; Lawe *et al.* 2005, Atlin and Gibson 2017).

The Da Silva *et al.* report (2020) from Canada is a noteworthy resource as it summarises much of the global (English language) research. However, a significant number of the sources they draw on do not focus on CIA in any detail, rather CIA often forms one element in a broader SIA framework. This is the case for the two Australian case studies they draw on from the Kimberley region (Ross 1990) and the Northern Territory (Lane *et al.* 2003).<sup>5</sup> A point the Da Silva *et al.* report makes, in relation to consultation and decision making in Environmental Impact Statement (EIS) processes, is that the lack of Indigenous voices in decision-making is clearly evident in the literature (2020, p.7).

### 3.1 International literature: Swedish and Brazilian

The four papers from Sweden and Brazil focus on the regulatory gaps and limitations in these respective jurisdictions. In Brazil for instance, the authors note that the two policy instruments that are supposed to address cumulative impacts at the project scale (environmental and social impact assessment - ESIA) and the basin/regional scale (Environmental Impact Assessment - EIA) are both ill-equipped to tackle the challenges of the proliferation of dams (large and small). While several of the

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<sup>4</sup> This article is not strictly on the extractives, but rather small and large hydropower plants – that involve damming sections of rivers – so managing water as a natural resource.

<sup>5</sup> Other articles and grey literature the Da Silva report draws on – note especially Table 4 on pages 22-23 - that are not focused on CIA at all, include Koutouki *et al.* (2018), while others including Harris and Harper (1999) are not extractives focused.



environmental impact assessments (EIAs) examined failed to report on social consequences to local traditional communities, claiming lack of information about them (Athayde *et al.* 2019).

The three Swedish papers are focused on Sami Indigenous lands in northern Sweden and the increased pressure that the extractive industries are placing on the Sami livelihood of reindeer herding. Raitio *et al.* indicate that 12 of the 15 Swedish metals mines are in traditional Sami territories (Raitio *et al.* 2020). However, they found that the narrow scope and the weak status of CIA in Swedish EIA legislation and practice, and the weak recognition of Sami reindeer herding as a “property right” during the permit review process was not able to balance competing land uses.<sup>6</sup> This has become an urgent issue for Sami herders as the accumulated area of land designated for mining in their territories has already more than doubled between 2010 and 2017, and the number of mineral exploration permits issued per-year has increased from less than ten between 2002-2004, to 40 to 60 permits per-year between 2014-2016 (Raitio *et al.* 2020).

The question of whether voluntary corporate actions improve the CIA of mining companies on Sami lands has also been explored in the absence of specific government regulation (Larsen *et al.* 2018). The authors found that progress on voluntary actions in regard to assessing CIA (they use the term CEA – cumulative effects assessment), has only led to cosmetic improvements in the actual CIA outcomes. Instead, Larson and co-authors indicate that a stronger regulatory role of government and recognition of the right of Indigenous communities to lead or co-manage impact assessments on their own lands is needed (2018). This theme is taken up further below and in the Australian context.

### 3.2 Canadian literature and regulatory environment

In Canada, the legislative context is markedly different from the jurisdictions discussed above (and in Australia). Canada established requirements to consider Cumulative Effects Assessment (CEA) in the 1995 *Canadian Environmental Assessment Act* as a mandatory component of a project-level environmental assessment. Some provinces – such as British Columbia (BC) - have since established their own CEA framework (2014), because, as they indicate:

The State formal environmental assessments consider cumulative effects when evaluating large projects; however, many proposals are small in size and do not require such assessments. BC’s answer to this potential problem is the cumulative effects framework [CEF]. This... framework is a set of policies, procedures and decision-support tools that helps identify and manage cumulative effects consistently and transparently across British Columbia's natural resource sector.<sup>7</sup>

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<sup>6</sup> The right to herd reindeer in Sweden is a Sami usufruct right, which means that reindeer can graze on land irrespective of the title and ownership of the land. Herding depends on having access to large tracts of land. But this is not an exclusive property right.

<sup>7</sup> See <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework>

Importantly, as part of the CEF:

Engagement with First Nations is an expectation established under the [CEF] interim policy when values are either selected or assessed and when management options are defined. Collaboration through government-to-government agreements on cumulative effect issues, including assessment, management and cross jurisdictional governance are also underway in some areas of the province.<sup>8</sup>

A paper from 2005 in relation to the oil sands region of NE Alberta, in the Mikisew Cree First Nation (MCFN) traditional lands, was an early starter in identifying the need for CEA in relation to this resource rich region (Lawe *et al.* 2005). A Cumulative Environmental Management Association (CEMA) was established as a multi-stakeholder initiative with over 30 organisations. The CEMA mandate was to make recommendations on how best to manage cumulative impacts and protect the environment of the region. However, the MCFN were unhappy with the CEMA outcomes and engaged a consultant who found that there were extensive gaps between identified concerns and monitoring initiatives. These included inadequate community involvement in designing follow-up monitoring programs following environmental approval, lack of integration of scientific and traditional knowledge, and lack of MCFN involvement in designing monitoring programs. They noted that trust in the CEA process was vital, and that this concept and others, including honesty and transparency, were not part of the CEMA vision, yet were critical to this First Nations group.

Aitlin and Gibson (2017) provide some perspective on the implementation challenges of the Canadian CEA frameworks and legislation. They indicate that though the recognition of cumulative effects has been seen as an important symbolic advance in environmental assessment design, practical results have been disappointing. Though their focus is not specifically on First Nations (FN) they note that in some FN territories where CEA processes have been established through land claim agreements, environmental effects have been defined broadly to also include social, economic, and cultural as well as biophysical effects. However, they note that even in these jurisdictions biophysical effects have often received most attention in assessment practice (Aitlin and Gibson 2017). Using the example of the Ring of Fire region (northern Ontario) in the Matawa Tribal Council jurisdiction, they seek to demonstrate the unmet opportunity where a sustainability-based, regional strategic CEA would be beneficial. This approach, they argue, would avoid the currently narrow focus on 'significant adverse effects' and where instead mines are used as 'bridges to more sustainable futures'.

The authors establish five characteristics of what they describe as 'best practice' CEA. These CEA characteristics are: multi-dimensional; long term; credible; authoritative and accountable. They

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<sup>8</sup> <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework/engagement>

usefully apply these 5 CEA best practice characteristics in a comparison of adherence, in table form, to the case of the Ring of Fire region (see 2017, p.48).

## 2.3 Australian Literature: CIA through the lens of cultural heritage management

The two Australian articles that specifically focus on the intersection of CIA practice, Indigenous interests and the mining industry, do so via a cultural heritage management (CHM) lens. Both articles, by archaeologists, draw case material from mining regions on the east coast. Godwin's article (2011) draws on his applied research in the coal and coal seam gas regions in Qld, while the Sutton *et al.* (2013) article is based on collaborative research in the Hunter Valley coal mining region.

Though Godwin does not detail the regulatory drivers for CIA in Queensland he states that the Terms of Reference (ToR)<sup>9</sup> for EIS related to projects demand that "consideration be given to the cumulative impacts of [mining] development on Aboriginal cultural heritage". These ToR mirror those that are issued to ecologists and air quality specialists with a heavy emphasis on 'quantifiable data'. This focus on a natural science model for CIA encourages archaeologists to 'disaggregate' complex sites in order to assess heritage values and adverse impacts of specific tangible components (i.e. a stone tool workshop), rather than assess landscape level values and thus also include intangible elements of a place.

Godwin argues that in addition to this lack of specific guidance and methods for assessing the potential cumulative impacts on cultural heritage, the data necessary for determining the effects of cumulative impacts on cultural heritage does not exist. Further, Godwin indicates that the fundamentals necessary for determining the CIA on cultural heritage require determining the datum; determining an acceptable threshold and; determining when the threshold has been exceeded.

An alternative approach is the continuing application of qualitative processes such as significance assessment, the social license to operate (SLO)<sup>10</sup> and the limits of acceptable change (see Stankey *et al.* 1984). Godwin maintains that these approaches provide a more robust framework for determining CIA in relation to CHM. One of the key reasons for this is demonstrated in the Queensland context where there is no definitive data set (such as cultural maps or a site register) readily at hand for consultation either by a development proponent or by the state itself. Likewise, the cultural heritage management

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<sup>9</sup> That he works to and as set by the state for industry.

<sup>10</sup> The concept of SLO has been critiqued as a deficit discourse. For instance, a 'social license' can be bought through agreements that are inequitable, where the right to negotiate (under the native title act) is a very limited and time constrained right, and that can serve to silence dissent. As a concept that emerged from industry – it is not concerned with sustainable development, but securing compliance locally. As a result, it is particularly problematic in remote regions where there is structural inequality. See also Kemp and Owen, 2013. "Social License and Mining: a critical perspective". In *Resources Policy* 38: 29-35.

plans (CHMPs) that need to be developed prior to approvals are in no way a thorough cultural inventory. Indeed, this is the case across Australia.

The Sutton *et al.* (2013) article found that one of the key issues in the assessment of cultural heritage under the EIS regime in New South Wales (NSW) is the lack of consideration of cumulative impacts of mining, and the relationship of these prolonged cumulative impacts on social and psychological health and community well-being. They reference Godwin's (2011) statement that reliably quantifying such impacts is impossible – but strongly articulate that it is crucial to attempt an assessment, especially in such intense mining regions as the Hunter Valley.<sup>11</sup> The authors draw on the concept of “solastalgia”, that emerged from this region, to assist in promoting dialogue with CHM on this issue.

The solastalgia concept, developed by environmental psychologist Albrecht (2005), describes the feeling of powerlessness and distress experienced by Hunter Valley residents who were watching environmental destruction and transformation of landscapes around their homes in this coal mining region. As Albrecht states, solastalgia is the “‘lived experience’ of the loss of the present as manifest in a feeling of dislocation; of being undermined by forces that destroy the potential for solace to be derived from the present” (2005, p.45). He also argues that solastalgia is experienced at a potentially deeper level by Indigenous people due to their strong spiritual and emotional connections to ‘Country’ with distress manifest from the ongoing destruction and transformation of the landscape since colonisation.

Indeed, as Sutton and co-authors also point out, the inter-relationship between Indigenous well-being, cultural heritage and the environment is not a new one and there is a body of literature illustrating these connections. However, an awareness of these integral inter-connections does not form part of the EIA process, and the authors describe the emotional distress they witnessed by Indigenous custodians as a feeling of disempowerment in the process. This is in relation to the determination of project approvals and a perception of a lack of adequate SIA: “that the mine will always go ahead no matter what”. In this context, cumulative impacts are felt by Indigenous groups as exasperation, cynicism and ceasing to engage with CHM in EIS processes.

In terms of tangible archaeological sites, Sutton and co-authors indicate that the site registration and heritage assessment process is still coming to grips with how to define, describe and assess cumulative impacts and its relationship to rarity, representativeness and significance. For instance, sites which may have originally been assessed by an archaeologist as common (and therefore of lower scientific value) may become rare through increased attrition due to development.

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<sup>11</sup> Sutton *et al.* indicate that when they were writing there were approx. 24 open-cut and 10 underground coal mines, not including proposed mines awaiting project approval or undertaking exploratory works.

This article also discusses the use of ‘offset strategies’, such as Cultural Heritage Offset Areas, Conservation Areas and Heritage Management Zones, specifically for their Aboriginal and/or scientific values. These strategies will be discussed in the Methods Section (Section 6).

## 4.0 Gaps in the literature and in practice

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A recent Canadian paper (Proverbs *et al* 2020) observed that a gap in CIA literature includes methods to evaluate impacts on cultural landscapes. This language of ‘cultural landscapes’ is becoming recognised by some cultural heritage practitioners as a more encompassing term to incorporate intangible and tangible landscape features that are important for subsistence harvesting and well-being and/or that are culturally important for land management and political, spiritual, religions or educational reasons. The Proverbs *et al* paper, discussed in the methods section below, specifically addressed a First Nations (Gwich’in) cultural landscape. This gap in CIA addressing cultural landscapes is also apparent in the two Australian papers just discussed, as they only focused on tangible archaeological sites.

Another paper from the Arctic, on cumulative impact assessments of hydrocarbon activities in that region, found that cumulative impacts assessments for new projects are generally lacking. They also found that so too are methodological guidelines, as well as a lack of resources to undertake CIA during the impact assessment process (Kirkfeldt *et al.* 2017).

Closer to home, gaps in practice also include, for instance, the Western Australian (WA) government “Cumulative Environmental Impacts of Development in the Pilbara region” (2014) report, under the WA EPA 1986 Act. This report does not mention Indigenous interests. Likewise, nor does the BHP Billiton Iron Ore Strategic CIA Report (2015) for this same region.<sup>12</sup> The report notes that “this CIA is a first of its kind for the Pilbara and represents a significant contribution by BHP Billiton Iron Ore to provide an analysis of the potential effects of iron ore mining development in the Pilbara...” (2015: Executive Summary ii). Though the focus was environmental, the results are nonetheless revealing. They list five species from the region that are ‘vulnerable’ or ‘endangered’ according to the Environmental Protection and Biodiversity Conservation Act (EPBC Act 1999). All of these species, which include the olive python, the greater bilby, and the northern quoll, also have great significance for Traditional Owner/native title groups. Yet, there appears to have been no engagement with

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<sup>12</sup> See [https://www.bhp.com/-/media/bhp/regulatory-information-media/iron-ore/western-australia-iron-ore/0000/impact-assessment-report/160316\\_ironore\\_waio\\_pilbarastrategicassessment\\_commonwealth\\_appendix4\\_part1.pdf](https://www.bhp.com/-/media/bhp/regulatory-information-media/iron-ore/western-australia-iron-ore/0000/impact-assessment-report/160316_ironore_waio_pilbarastrategicassessment_commonwealth_appendix4_part1.pdf)

Indigenous interests in this CIA process, though the region has significant areas of recognised native title lands.<sup>13</sup> These are just two examples of opportunities lost in engaging Indigenous interests in CIA.

#### 4.1 Limitations and opportunities of SIA

Gaps in practice also apply to the standard approach to SIA, as this is often incorporated into a state's EIS regulatory process. Before a methodology for CIA can be developed that integrates Indigenous interests and values, it is useful to consider the ways in which standard SIA does not adequately address these interests.

Though most SIA methods claim to be inclusive, the prevailing practices tend to reflect the dominant interest groups' methods and cultural practices, and rarely Indigenous interests and concerns (McGregor *et al.* 2003). In industrialised countries, such as Australia, the standard approach to social impact assessment is to document the existing socio-economic conditions within which a proposed development is to occur, assess its likely impacts and identify strategies to minimise and mitigate these negative effects (O'Faircheallaigh 2011). This baseline is then used to evaluate ongoing impacts from the project.

Though the limitations of this method for the Australian Indigenous context were pointed out over three decades ago (see Ross 1990), mainstream SIA methods still tend to be applied to this group. This is notably problematic in regions with high levels of social vulnerability which includes remote and regional Indigenous Australia. While the lack of attention to pre-existing negative impacts may be acceptable in some mainstream SIA contexts, maintaining the status quo in contexts of colonial dispossession and marginality is not good enough. This is because applying a 'no harm' approach in this context renders invisible the particularities of local Aboriginal needs and interests (O'Faircheallaigh 2011; Holcombe 2021). In such contexts, proposed developments, such as mining, offers the opportunity to shift this baseline, rather than maintaining it.

Indeed, Ross found that the Indigenous communities in the Kimberley region preferred a long-term cumulative view to assessment of any single impact, such as the Argyle Diamond Mine, and laid emphasis on the early contact period. This work was undertaken as a "community social impact assessment" as part of the broader East Kimberley Impact Assessment Project (in WA). This finding suggests that if SIAs are led and directed by Indigenous interests they will inevitably include cumulative impacts. In this East Kimberley SIA various historical impacts were included: the Halls Creek gold rush of 1886; the eight recorded massacres within 100km of the Warmun community; the pastoral phase and land dispossession; up to the intensive mineral exploration of the late 1970s.

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<sup>13</sup> See <http://www.nntt.gov.au/assistance/Geospatial/Pages/Maps.aspx>

Likewise, the Lane *et al.* (2003) article on SIA and Indigenous knowledge in relation to the controversial Coronation Hill mining project in Kakadu National Park, also explicitly incorporated an historical understanding of colonisation in their consideration of cumulative impacts (Lane *et al.* 2003).

Though this ‘long view’ of non-Indigenous driven impacts over many generations may seem beyond the purview of a regional CIA, from an Indigenous perspective such historical context is clearly relevant in understanding their current perspective as they engage with proposed developments on their Country.

## 5.0 What are cumulative impacts for Indigenous peoples?

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Though for Indigenous peoples there will of course be many of the same elements of cumulative impacts as for the mainstream population who also reside in the impacted region (such as the impact of dust, noise and aesthetic amenity), additional impacts are also felt for this group. Such additional cumulative impacts may include:<sup>14</sup>

- loss of access to sites of spiritual significance and/or destruction of sites
- loss of access to cultural places, including customary harvest places (light pollution can affect feeding and breeding patterns, vegetation clearing leads to the destruction of roosts, removal of water courses and destruction of water catchments and sedimentation of pools and creeks affects fishing)
- loss of cultural integrity of cultural places through destruction of country in close proximity
- loss through indirect impacts such as increased dust, vibration, noise
- diminishment of amenity and visual integrity
- compounding historical effects of loss of control over development decisions on Country can lead to feelings of powerlessness and lack of well-being.

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<sup>14</sup> Elements of this list were derived from Submission 50 Wintawari Guruma Aboriginal Corporation to the Parliamentary Inquiry into the Juukan Gorge incident [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Joint/Northern\\_Australia/CavesatJuukanGorge/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Northern_Australia/CavesatJuukanGorge/Submissions) See also Holcombe, S. and Fredericks, B. 2021. “Beyond Juukan Gorge: the relentless threat mining poses to the Pilbara cultural landscape”. In *The Conversation*. Feb 25. <https://theconversation.com/beyond-juukan-gorge-the-relentless-threat-mining-poses-to-the-pilbara-cultural-landscape-155941>



Though these are all possible individual impacts, the ways in which these impacts intersect with each other, compound the effects and are transformative, are crucial considerations in CIA. *CIA is more than the sum of the individual impacts* and it is in the way in which they intersect and interact that the effects are most acutely felt. For example, if there are restrictions on accessing Country, this leads to multiple intersecting impacts including the ability to practice cultural activities, such as customary harvest and ceremonial / spiritual activity which in turn leads to loss of connection to Country and thwarts intergenerational knowledge transfer. Likewise, customary harvest can also play an important role in supplementing nutritional needs and supporting a healthy diet, assists in augmenting food supplies during off-pay weeks and provides wellbeing and mental health benefits.

In particular, the destruction of significant sacred sites can have social and cultural impacts that are ongoing for years after the incident. Lewis and Scambary (2016) have mapped this social fall-out from the destruction of a significant site in the Bootu Creek region in Northern Territory and others, including the women's barramundi Dreaming site that was destroyed to build the Argyle diamond mine in WA. The *cumulative social and cultural impacts* included:

- The perceived complicity of some traditional owners in the destruction of the site, which is in turn the cause for continuing tension and ill-feeling within the Aboriginal community.
- More broadly, and perhaps more insidiously, the site damage can reinforce a sense of powerlessness and alienation within the community.
- At the individual level, site damage is generative of emotional distress and grief. And is often associated with physical illness and death, with the grief being likened to the death of a close relative, or serious physical injury.
- At the collective level, site damage incidents constitute social rupture and imbalance, that may result in temporary or permanent cessation of ceremonial activity related to the site.
- At both the individual and collective level, site damage often results in shame – a powerful social force of humiliation, where custodians lose face for failing to protect their sites, regardless of cause, blame or ability to prevent damage (2016, p.244).

To sum up, destruction, or threats of destruction, of places of significance is a threat to Aboriginal peoples' abilities to order their social and cultural relationships (Lewis and Scambary 2016, p.242).

## 6.0 Potential useful methods, tools and approaches

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This section introduces a range of methods, tools and approaches that may be useful in applying to Indigenous CIA. One of the most fundamental mechanisms for achieving effective CIA for Indigenous peoples is to include it into all social and environmental impact assessments. However, as the limited literature reveals, unless this is done systematically with an agreed standardised method, then this in itself is not adequate.

Likewise, as the previous section also discussed, if CIA is undertaken only on a project-by-project basis or is proponent driven for permitting and compliance, rather than on a collaborative regional basis with state support and coordination, then the effectiveness and scope of the CIA is compromised.

The limited literature on the issue of Indigenous SIA and EIA in Australia focuses on integration (Stoeckl *et al.* 2013). Often, the standard impact assessment approach is to commission separate studies of the environmental, social and economic components. However, this is a false demarcation for Indigenous groups, as they experience these components as an intersecting whole – notably in the Australian context the environmental and the social. This integration is recognised as the most relevant for Indigenous customary land owners in Australia and for Indigenous groups internationally.

It is important to emphasise current challenges, such as defining ‘significance’, that will need to be considered in any Indigenous CIA. Below, the core elements that will need to be considered when establishing a methodology for Indigenous CIA are outlined. It is in no way a thorough-going or complete overview of what is required. Indeed, given the limited case material available, we are not yet in a position to establish a methodology. However, we can provide pointers as to what may be included; such as the participatory processes of engagement, the need for multi-disciplinarity, a multi-dimensional and integrative approach, and a long-term strategic regional approach to development.

## 6.1 Core elements to consider in establishing a methodology for Indigenous CIA<sup>15</sup>:

- Defining a ‘region’: within which the impact will take place, ie the boundaries of a native title claim (though may not be ideal – re: a judicial or political decision), or the boundaries of a resource rich region
- Establishing the datum: this involves a qualitative and quantitative exercise
  - a cultural mapping exercise (inventory) of both tangible and intangible cultural sites and places – including important areas for customary harvest and fauna breeding grounds
  - plus a range of quantitative data required for any baseline (health, housing, employment, formal education, etc)
- Establishing indicators: against which change can be measured and which are agreed by the Indigenous group/s:
  - will be both qualitative (via ethnography) ie: how often people undertake customary harvest; visit Country; and may include broad indicators such as social vitality, economic viability and political efficacy
  - quantitative ie: cultural keystone species frequency and distribution

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<sup>15</sup> This has been adapted and built on from Godwin, L. (2011) Noting that his focus was limited to Indigenous cultural heritage.

- Defining the threshold<sup>16</sup>: this is a largely qualitative assessment, though quantitative scientific assessment will have input
  - Need to ensure the equal weight of value judgements of the ‘experts’ (environmental scientists / archaeologists / anthropologists) and the customary land owners in defining this threshold and the levels of significance
- Knowing when the threshold has been crossed (or is in imminent danger of being crossed): this assumes that a comprehensive cultural mapping inventory has been undertaken (taking into account that there is transparent data available about current and future industry plans, including associated infrastructure).

## 6.2 Defining ‘values’ and ‘significance’

An essential element in establishing an Indigenous CIA Method is to develop the parameters around how values and significance are defined for each element of the datum. In the two Australian papers that focus on cultural heritage management (CHM) and CIA these concepts are central. In these two articles the authors (Godwin 2011; Sutton et al. 2013) indicate that there is confusion in the definition of values and significance as used in the significance assessment process in legislation, policy and practice.<sup>17</sup> Likewise, Sutton *et al.* (2013) state that the Burra Charter (the independent Australian standard for CHM) is also ambiguous in the definitions of these concepts.<sup>18</sup> Indeed, their discussion – though focusing on CHM – is directly pertinent to the broader issues of decision-making within SIA and CIA, as value judgements about the relative importance of different, often competing, criteria have to be made. Who gets to make these value judgements? This is a crucial consideration since any society will only make an effort to conserve things it values.<sup>19</sup>

In the case of CHM, archaeologists often understand that significance and values embodied within a place and are objectively quantifiable; the Burra Charter states that cultural significance is intrinsic to a place. However, this can then lead to a ‘score-card’ approach with the archaeologist measuring objective truth with a focus on remnant physical evidence of Indigenous occupation. Such a method places as secondary, if considered at all, Indigenous intangible heritage values – such as the customary relationships to place and spiritual values. As Sutton *et al* (2013: 3) state: “values cannot be objectively

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<sup>16</sup> It may not be viable to adopt a ‘threshold’ approach – but the concept may provide an important discussion point about what the core or fundamental tangible and intangible components of the Valued Environmental and Social Components (VECs) are that people want maintained and even strengthened and improved upon.

<sup>17</sup> A separate CRC TiME project (P1.4/2.1) examines values, though not with discussion of Indigenous values.

<sup>18</sup> See <https://australia.icomos.org/publications/burra-charter-practice-notes/>

<sup>19</sup> Note that there is also a recent review by the Valuer General of NSW which has not been included in this review. “Forms of Cultural Loss and the Method for Quantifying Compensation for Compulsory Acquisition”. June 2021.

<https://www.valuergeneral.nsw.gov.au/about-us/announcements/2021/vgs-review-of-forms-of-cultural-loss>

identified within places, landscapes or objects; they originate and dwell within the hearts and minds of people”.

Ensuring that Indigenous knowledge-holders – as customary land holders – are also engaged in determining these valued components and establishing ‘significance’ is essential in CIA. Nevertheless, some values are more amenable to objectification than others (such as water quality and fauna distribution) and there will be a mixture of objective and subjective values, that may also overlap. Environmental values (as defined by ecologists) will also have social values, and some social values – such as economic well-being - will have objective indicators.

The concept of ‘valued environmental and social components’ or VECs, is widely used in CIA as a framework that allocates indicators to the values in order to monitor the condition of the values over time. In terms of an Indigenous CIA, how these VECs are chosen and who chooses them will be a key element in a participatory methodology. Such a method will ensure that the VECs are valid for the potentially impacted Indigenous customary landholders.

### 6.3 The place of ‘culture’ in Indigenous values

As discussed, formal legislated processes of Indigenous cultural heritage management are often the most routine engagement between customary landowners and the extractives sector when it comes to the environment. As a result, any CIA that is relevant for Indigenous peoples will have to actively ensure that what comprises ‘culture’ is not limited to, or reduced to, the physical or tangible aspects of culture that are often defined by archaeologists in cultural heritage management.

A more inclusive approach to understanding culture will be needed to ensure that it is not bracketed, or somehow seen as optional, from the environmental and economic aspects of a CIA, such that one can live without ‘culture’, but not without the environment or the economy.<sup>20</sup> Any Indigenous specific CIA framework has to encompass the raft of elements that are embraced within this concept of ‘culture’. For Indigenous people this concept bundles the economic and environmental factors together with the social to make ‘the cultural’. As a result, in a CIA context applying the concept of Indigenous landscapes or cultural landscapes is also more appropriate.

This concept of *cultural landscapes* is also becoming recognised as a far more useful and evocative means to understand the interconnection between people and place. A landscape level approach not only takes into account the interconnections between spiritual sites – as Dreaming ancestors travelled between places that they created - but also the relational values a person’s / groups’ customary estate

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<sup>20</sup> A methodology for understanding and engaging effectively with Indigenous culture is a gap that needs to be addressed in CIA.

holds for them. Rights and responsibilities to care for Country are attached to particular areas or regions in a reciprocal human-nature relationship.

## 6.4 “Country” as a value

“Country” is an Aboriginal English term. When this term is used by Indigenous peoples they are referring to more than just a geographical area; “it is shorthand for all of the values, places, resources, stories and cultural obligations associated with a geographical area” (Smyth 1994, in Russell *et al* 2020: 4). The Country concept evokes the landscape as sentient and requiring constant renewal for its health. Such renewal can be seen in cultural burns (cool burns) and increase ceremonies<sup>21</sup>, for instance. As a result, ensuring accessibility to Country is essential to maintain this renewal. As Debbie Bird Rose stated:

People speak to country, sing to country, visit country, worry about country, feel sorry for country and long for country...country knows, hears, smells, takes notice, takes care, is sorry or happy (1996, p.7).

Russell *et al* (2020) have developed what they refer to as a “Connection as Country” framework in an effort towards understanding the relational human-country ontology and the multidirectional ways that people connect to human and non-human realms through Country. For example, as the authors indicate;

Indigenous people receive ‘environmental services’ or ‘nature contributions’ in the form of resources acquired through hunting species. However, receiving resources is not unidirectional, this transaction is embedded human-nature relationships that come with concurrent reciprocal responsibilities.

The Connection as Country framework encompasses four domains of relational value (to the environment), they comprise:

- spirituality
- reciprocal kinship
- knowledge and education, and
- cultural subsistence

Russell *et al* (2020, p. 5) promote this framework as a “valuable early step in making relational values visible to promote inclusion in environmental management and decision-making”.

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<sup>21</sup> Increase ceremonies are ritual activity that is conducted by senior custodial experts to aid in ensuring that a particular species will remain in healthy numbers: it could be flora and/or fauna.

Of note, there has been a trend in the last decade where the ‘Country’ has been the lead author on academic papers. For instance, from the NT, Bawaka Country *et al* (2013) “Caring as Country: Towards an ontology of co-becoming in natural resource management”. This idea that the Country is sentient and with agency has, as a result, translated into Country – as the standard nomenclature in the context of Indigenous knowledges and perspectives, rather than the noun country.

## 6.5 Establishing cultural indicators

Another mechanism for addressing and incorporating into CIA the social, ecological and spiritual values that Country holds for Indigenous peoples is to draw on the concept of “cultural keystone species” (Garibaldi and Turner 2004). This concept derives from the scientific concept of ecological keystone species and offers a bridge to dialogue between Indigenous ecological knowledge (IEK) and environmental science, and to subsequently integrate them. It has been used in mine land reclamation in Canada (Garibaldi 2009) and the concept has been explored in relation to closure of the Ranger Uranium Mine in the Northern Territory (Smith 2009).

According to the ethnobiologists Garibaldi and Turner, cultural keystone species are “culturally salient species that shape the cultural identity of people in a major way, as reflected in the fundamental roles these species have in diet, material and/or spiritual practices” (2004, p.5). For instance, in the area of the Ranger mine, surrounded by Kakadu National Park, examples of cultural keystone species include barramundi – freshwater and saltwater fish used for food and an important totemic species for many clan groups, and the sand palm - used extensively for medicine, dyes, fibre and food (Smith 2009).

Though the cultural keystone species concept is not widely used in Australia (Walsh et al. 2013), and not at all in Indigenous CIA, it offers a culturally meaningful tether for communities with landscapes in transition. And, as it is derived from the scientific concept of “ecological keystone species”, it provides a shared language, or communication bridge, between Indigenous land management practitioners and environmental scientists.

Methodologically, utilising this concept will also provide a meaningful guide to draw out the locally valued flora and fauna species in customary terms, and so begin the conversation on culturally valued criteria that may be possible to quantify. This method may provide both quantitative and qualitative tools for Indigenous CIA.

## 6.6 Cultural Mapping

Another tool for Indigenous CIA is cultural mapping. This technique can include spatial overlay analysis to quantify and map the potential overlap between environmental disturbance and cultural features

(Proverbs *et al.* 2020). However, any such mapping needs to be a well-resourced and highly collaborative endeavour with knowledge governance protocols built into the method.<sup>22</sup>

In the Canadian paper about the Gwich'in Cultural Landscape by Proverbs *et al.* (2020), spatial overlay analysis was utilised in this Gwich'in region to quantify and map cultural landscapes. The methods they used included:

- 1) cultural feature density
  - a. historic harvesting trails
  - b. named places (sacred and location names)
  - c. traditional land use areas
  - d. archaeological sites
- 2) cumulative environmental disturbance, and
- 3) potential overlap between disturbances and cultural features

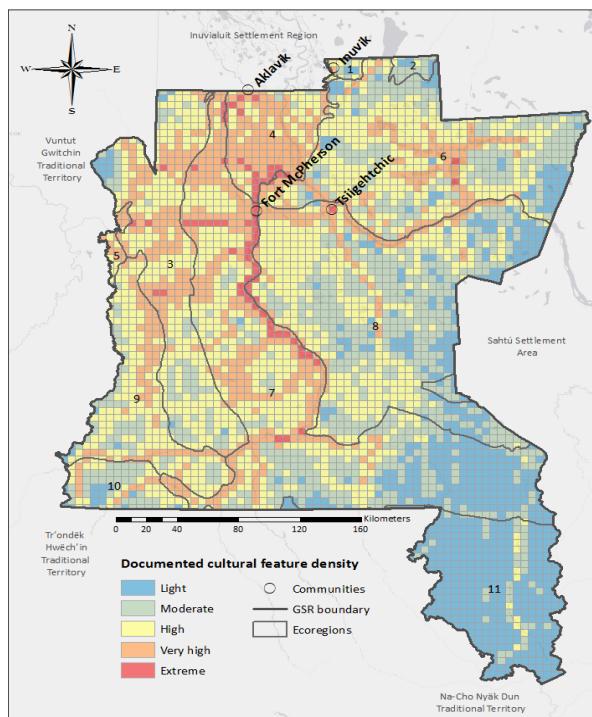


Figure 1. Map of the density of documented cultural features per planning unit across ecoregions in the Gwich'in Settlement Region (from Proverbs *et al.* 2020)

<sup>22</sup> Indigenous data sovereignty has become a major consideration in any Indigenous intercultural research.



They indicate that this method is particularly useful for well-documented cultural landscapes. Indeed, the Gwich'in have a Social and Cultural Institute and, as part of this, a Place Names Atlas.<sup>23</sup> However, they also note that demarcating cultural locations on a map may fail to fully represent the knowledge, relationships and collective memories associated with tangible and intangible cultural features. Importantly, not all features can be made publicly available (ie sacred sites or harvesting locations), hence the need for knowledge protocols.

The resourcing to undertake such a cultural mapping exercise, as the baseline prior to development, is a crucial element in the inclusion of Indigenous values in any regional CIA. Cultural mapping exercises have been undertaken in some areas in the NT, notably in areas of Aboriginal land and sea, where there are fishing, tourism and other commercial or development pressures.

In relation to tangible cultural heritage, we often hear that it is a non-renewable resource. And while there are sacred sites/places of spiritual power that are deeply significant (either as tangible, intangible or both), it is also true as Godwin states that “the cultural landscape is not some static entity that can be catalogued and inventoried once and for all; it is continually evolving and expanding” (2011, p. 9). Yet, the application of CIA is predicated on the premise that the ‘datum’ can be established once and for all. As a result, any cultural mapping method for establishing this baseline datum would also have to encompass the concept that there are both physical / tangible sites that can be mapped (ie hills, rivers, caves, soakages, a grove of trees) as well as qualitative features that may shift over time.

The concept of cultural mapping is becoming popularised to some extent with a collaboration between Google Earth Outreach and Winyama, an Aboriginal business focusing on digital mapping and geospatial capacity building.<sup>24</sup> Google supported and attended an Indigenous Mapping Workshop in 2019 during which a set of icons to assist Aboriginal and Torres Strait Islander communities to map cultural and natural resources were developed. These icons represent a broad range of Indigenous experience including subsistence harvesting, cultural and sacred sites, and burial places.<sup>25</sup> The icons include: wind, camp, track, kangaroo, rainbow serpent, bush tomato, massacre, etc. This Indigenous iconography is free to download (approx. 35 images).

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<sup>23</sup> The Gwich'in Place Name and Story Atlas is an interactive online Atlas that invites visitors to explore the culture, history, traditional knowledge and land use of the Gwich'in through Gwich'in place names. The Atlas is the result of more than two decades of collaboration between the Gwich'in Social and Cultural Institute, Gwich'in Elders and traditional land users living in the Gwich'in Settlement Region communities of Aklavik, Fort McPherson, Inuvik and Tsiigehtchic. The Atlas was created in partnership with the Geomatics and Cartographic Research Centre at Carleton University and the maps in partnership with MDT Communications Ltd. See <https://atlas.gwichin.ca/index.html?module=gwichin.module.main>

<sup>24</sup> See <https://www.winyama.com.au/>

<sup>25</sup> See <https://www.imwaustralia.com/resources>

## 6.7 Healthy Country Plans

Healthy Country Plans are widely used in Australia in relation to managing Indigenous Protected Areas and more broadly in regions where there are established Indigenous ranger groups.<sup>26</sup> The plans are based on an adaptation of the open standards for the practice of conservation.<sup>27</sup> Many of these land management plans are available on-line and are an invaluable resource for determining the local and regional priorities of Indigenous groups for managing their land and culture. Groups in mining regions, such as the Pilbara, have also developed these plans. Any region with an established ranger program will have a Healthy Country Plan.

For example, according to the Yinhawangka Healthy Country Plan (in the Pilbara region of WA), it was developed to:<sup>28</sup>

- 1) identify areas of special cultural/environmental interest
- 2) assess the current health of their Country
- 3) determine the current and future management requirements of their Country.

Of note, they also state that “all traditional and cultural knowledge in this plan is the cultural and intellectual property of Yinhawangka Traditional Owners...”, so no other information will be quoted. In broad terms the range of issues that are covered by this and other plans can be overviewed. They tend to include:<sup>29</sup>

- healthy country assets (including trends, targets for action)
- threats to Country and culture (including measuring and understanding threats)
- projects and monitoring (including how progress is measured)

Clearly these resources are valuable tools and directly useful in the development of any regional CIA that seeks to also address Indigenous interests.

It is also of note that these plans closely articulate the relationship between healthy country and healthy people. This inter-relationship has been understood for decades (Kingsley *et al.* 2009). The establishment of over 120 ranger groups across the country is an indicator of the popularity of this Indigenous land management work (Barnes *et al.* 2020). Because Indigenous land management has been successful in providing meaningful employment, there has been concerted research on their

<sup>26</sup> The Australian Government established the Indigenous Protected Area (IPA) program in 1997 as part of the national reserve system. While in the NT joint management of national parks (NP), starting with Gurig NP in 1981, was the catalyst for ranger work in that jurisdiction and there are now over 120 Indigenous ranger groups across Australia.

<sup>27</sup> These standards are used by conservation organisations, community groups and government departments and conservation funders globally. See <http://conservationstandards.org/wp-content/uploads/sites/3/2020/12/CMP-Open-Standards-for-the-Practice-of-Conservation-v4.0-English.pdf>

<sup>28</sup> See <http://www.yinhawangka.com.au/wp-content/uploads/Yinhawangka-Healthy-Country-Strategic-Plan.pdf>

<sup>29</sup> See the Mimal Rangers Plan in the NT <https://kkt.org.au/assets/PDFs/Mimal-HCP.pdf>

success factors. The benefits of the Ranger work (for practitioners and their communities) include that the programs are: culturally based and Indigenous led; directed by Indigenous governance and co-governance arrangements; provide livelihoods that generate multiple benefits, including social, spiritual and physical health and; intergenerational knowledge transfer (Garnett *et al* 2009; Mackie and Meacheam 2016). Any Indigenous CIA would seek to tap into and build on these benefits and expertise.

## 6.8 Community-based monitoring programs

Ensuring Indigenous customary landowners have a significant role in establishing the valued environmental and social components (VECs) and the subsequent indicators for a regional CIA is appropriate. Establishing a community-based monitoring program was raised in several papers (Lawe *et al.* 2005, Parlee *et al* 2012). One important element of such a system (which has been implemented in British Columbia Canada for over two decades) is to build local capacity to collect, deliver, and use ecological information to facilitate sustainable decision-making. It has been noted that ultimately the use of this approach to monitoring will begin to reflect the value base of all area residents. This will in turn increase trust in the data in overall management decisions.

Such an approach is also a key aspect of adaptive management, as those who live in a region notice new potential resource impacts more quickly than scientists who live elsewhere.

## 6.9 Cultural Off-sets

The concept of cultural off-sets and conservation areas have been developed as an attempt to mitigate cumulative impacts, including “compound emotional stress and the destruction of sites and landscapes...and intergenerational equity” (Sutton *et al.* 2013: 10). In the “Why Cultural Heritage Matters” Guide it states that cultural offsets, like biodiversity and environmental offsets, should exceed the life of the operation and be designed to continue into the future without operational support (Rio Tinto 2012).

However, the Guide also states that cultural offsetting is a difficult area to navigate, as it is very hard to compare or substitute one type of heritage value for another similar or different type of value. Monetary compensation can also be negotiated to compensate for site destruction, though this form of offset is clearly not aligned with an intergenerational equity purpose.

The Sutton *et al.* (2020) paper from the Hunter Valley mining region also indicates that the practice of rescinding or partially rescinding land based offset packages (upon which project approvals have been issued) by coal mining companies has been a disturbing trend in this region over the last decade.

The “Cultural Heritage Matters” Guide provides examples of cultural offsets, including:

- documenting local oral histories, genealogies or other significant intangible heritage
- the documentation or research (interpretation/publication) of significant tangible cultural heritage places
- establishing museums or cultural centres

- the conservation or preservation of other culturally significant landscapes or features outside the operation area
- initiation and continuation of cultural programs that focus on local cultural programs.

Social and cultural offsets also have the potential to create divisions and conflict within affected groups. The destruction of one site for the protection of another may seem ‘balanced’ but, when different subgroups have responsibility for particular sites this amounts to picking winners within a community or landholding group.

## 6.10 Distribution of risks

Any CIA that includes Indigenous interests would start from the understanding that the Indigenous customary landholders generally bear the brunt of environmental and social risk.

A paper from the United States developed what the authors refer to as an “equity assessment to evaluate impacts to trust resources, watersheds and eco-cultural landscapes” (Harris and Harper 1999: 1). They identified three major steps in assessing what they refer to as the “inequitable distribution of risks”. They include:

1. knowing what is relevant to the community
2. knowing how to measure relevant impacts, and
3. knowing how to aggregate different kinds of risks into a meaningful whole.

Kemp *et al.* (2016) have also found that the mining industry's usage of the term ‘social risk’ does not clearly differentiate between *risk to people* and *risk to the project*. This lack of clarity invites questions about what is viewed as constituting a *risk*, and who or what is considered to be *at risk* in the context of mining (Kemp *et al.* 2016).

## 7.0 Conclusions

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A suite of qualitative and quantitative methods will need to be developed in collaboration with affected Indigenous groups and multi-disciplinary experts to effectively undertake a CIA that incorporates Indigenous customary land owners’ values and priorities. The literature clearly articulates that community participation is even more important when dealing with Indigenous knowledge, land and peoples.

A stronger regulatory role of government has been found as essential in all of the literature. The current project by project approach to engaging with CIA evident in the literature is inadequate to the task of a strategic regional approach to planning. The very limited material on engaging with the rights and interests of Indigenous groups to lead or co-manage impact assessments on their lands indicates a lack of recognition of said rights and interests. Yet, there are a raft of readily available resources, including Healthy Country Plans and cultural mapping technologies that can be harnessed for CIA. There is also an emerging raft of Indigenous land management expertise in the growth of ranger

groups caring for Country. These groups are currently engaging with a range of introduced threats and have developed mitigation strategies that, in many instances, align with CIA methods.

The Parliamentary Inquiry into the destruction of the Juukan Gorge in the Pilbara region focused concerted attention on the impacts from the resources industry on cultural heritage and many of the 172 submissions focused on cumulative impacts.<sup>30</sup> However, expanding what is meant by ‘cultural heritage’ is fundamental – not only within the remit of cultural heritage management, but more broadly. A landscape level approach to managing cultural heritage is now increasingly recognised, while the values embodied in the concept of ‘Country’ are also being made more explicit through Healthy Country Plans. And frameworks such as ‘Connection as Country’ are also assisting in making relational values visible to promote inclusion in environmental management and decision-making.

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<sup>30</sup> See

[https://www.aph.gov.au/Parliamentary\\_Business/Committees/Joint/Northern\\_Australia/CavesatJuukanGorge/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Northern_Australia/CavesatJuukanGorge/Submissions)

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