

# ICOMOS

INTERNATIONAL COUNCIL ON MONUMENTS AND SITES  
CONSEIL INTERNATIONAL DES MONUMENTS ET DES SITES  
CONSEJO INTERNACIONAL DE MONUMENTOS Y SITIOS  
МЕЖДУНАРОДНЫЙ СОВЕТ ПО ВОПРОСАМ ПАМЯТНИКОВ И ДОСТОПРИМЕЧАТЕЛЬНЫХ МЕСТ

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Charenton-le-Pont, 20 September 2024

H.E. Ms Greer Alblas  
Ambassador, Permanent Delegate  
Permanent Delegation of Australia to UNESCO  
Ambassade de l'Australie  
4, rue Jean-Rey  
Paris Cedex 15 75724

## **World Heritage List 2025 – Additional Information Murujuga Cultural Landscape (Australia)**

Dear Ambassador,

ICOMOS is currently assessing the nomination of “Murujuga Cultural Landscape” as a World Heritage property and an ICOMOS technical evaluation mission has visited the nominated property to consider matters related to its protection, management and conservation, as well as issues related to its integrity and authenticity.

In order to allow us to further evaluate this property, we would be grateful if the State Party could provide ICOMOS with additional information on the following points:

### **Boundaries**

The nominated property has an area of 99,881 hectares. The nomination dossier states in particular that “[t]oday the Murujuga Cultural Landscape is an archipelago of 42 islands, islets and rocky outcrops that were previously the high points of an inland desert range. Each island is regarded by Ngarda-Ngarli as both a part of the existing landscape/seascape, as well a remnant of the now submerged ancient landscape, with a direct connection to generations of occupation and cultural sites now hidden beneath the ocean” (p16). It also informs that “[i]n early 2007, a heritage listing decision was deferred until a final boundary was discussed with a range of stakeholders, including industry partners and the boundary was subsequently revised to exclude several strategic industrial areas” (p 107). It would be extremely useful if the State Party could give more clarification on the process that led to the definition of the boundaries as proposed and on which basis and justification these limits have been defined.

In addition, the nomination dossier reveals that “[t]hrough detailed bathymetric mapping of the sea floor, it has been possible for those with the relevant knowledge to identify named places in underwater topographic features” (p 20). ICOMOS would appreciate if the State Party could provide more about these named places, as well indicate their location.

### **Attributes**

The nomination dossier provides a very detailed and comprehensive description of the proposed attributes of the nominated property, in particular on the petroglyphs. It is stated on page 25 that “*McDonald and Veth (2013:73) argue that there was an apparent decline in rock art production at this time [1-1.5ka to present levels] and that this medium could have been replaced by an increase in stone arrangement construction to ‘delimit sacred spaces in the ceremonial cycle’ which were likely to have accelerated due to increased population density*”. ICOMOS would be interested to learn whether there is any source of information confirming the period during which the production of petroglyphs declined and what these would be.

### **Protection, conservation and management**

The nomination dossier informs that “[s]ome developments were given permission to destroy cultural heritage, and these have been excluded from the proposed World Heritage boundary” (p 127). It also indicates that the conservation and management of the nominated property is dictated by an important system brought together under the Murujuga Cultural Landscape Strategic Management Framework, which

includes the Murujuga Cultural Management Plan developed in 2016. Yet, it is not quite clear from the documentation available what has been achieved as part of this plan so far.

ICOMOS would be pleased if the State Party could share more information on these developments and the destroyed cultural heritage. It would also be extremely helpful if further information on implementation status and related timetable of the Murujuga Cultural Management Plan since 2016 could be shared with ICOMOS.

Regarding tourism, the nomination dossier states that “[v]isitation to the Murujuga Cultural Landscape, and associated visitor pressures, are low” (p175). However, the nomination dossier also informs that a proposed Murujuga Tourism Precinct, which “will include different styles of accommodation and visitor services and facilities such as boardwalks, food venues and cultural tourism opportunities” (p.187), with the centrepiece being the “Murujuga Living Knowledge Centre that reflects the living spirit of the Murujuga Cultural Landscape” (p 187) will be developed at Conzinc Bay. It further specifies that “[v]isitor numbers to the Murujuga Tourism Precinct are projected to reach 300,000 visitors 10 years postconstruction” (p 201).

ICOMOS would be grateful if the State Party could share more information about this project and its state of progress, whether and how it is integrated within the framework of the Murujuga Cultural Landscape Strategic Management Framework and whether a tourism development strategy has been developed to frame potential tourism projects.

Lastly, the nomination dossier informs that “there are no people living permanently within the proposed World Heritage boundary” but that it is “a short distance from the towns of Dampier and Karratha which have around 1,060 and 18,750 residents respectively” (p.208). From the maps provided, ICOMOS notes that the town of Dampier is particularly close to the boundaries of the nominated property. It would be useful if the State Party could specify if the town has been subject to any urban planning and how urban development pressure is controlled in this area.

We would be grateful if you could provide **ICOMOS** and the **UNESCO World Heritage Centre** with the above information by **Monday 4 November 2024 at the latest**.

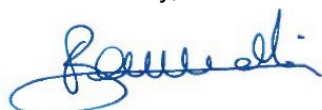
ICOMOS appreciates that the timeframe for providing this additional information is short. Brief responses are required at this stage, and can be discussed further with the State Party if needed during the ICOMOS World Heritage Panel.

We look forward to your responses to these points, which will be of great help in our evaluation process.

Please note that the State Party shall submit a copy of the additional information to the UNESCO World Heritage Centre and a copy to ICOMOS so that it can be formally registered as part of the nomination dossier.

We thank you in advance for your kind cooperation.

Yours faithfully,



Gwenaëlle Bourdin  
Director  
ICOMOS Evaluation Unit

Copy to            Murujuga Aboriginal Corporation  
                         Department of Climate Change, Energy, the Environment and Water  
                         Department of Biodiversity, Conservation and Attractions  
                         Department of Planning, Lands and Heritage  
                         UNESCO World Heritage Centre

**Additional Information submitted by Australia in support of the nomination of the Murujuga Cultural Landscape to the World Heritage List Boundary**

The nominated boundary was developed based on an advanced understanding of the potential Outstanding Universal Value of the Murujuga Cultural Landscape. Due consideration was given to the requirements of the *Operational Guidelines for the Implementation of the World Heritage Convention* for a site with a contiguous boundary, Traditional Owner knowledge and advice, stakeholder input and management effectiveness. The process used to define the proposed boundary considered: the presence of attributes within the cultural landscape; the integrity of the attributes and impacts of previous development; legislative protection and management; stakeholder consent; and the definition of a contiguous boundary.

Specific factors taken into consideration, include:

- The attributes that contribute to the potential Outstanding Universal Value of the nominated property:  
The Murujuga Cultural Landscape, defined in a Ngarda-Ngarli context, is the Country where the world was created and where the natural Lore of the world was first written into Country. What is now the Dampier Archipelago was formerly a complex set of landforms where the world was carved into the creeks, gorges and hills that sat on a vast limestone plain. It is where the majority of rock art records the Law and the lives of people who have lived here; and it is distinguished from the neighbouring Country by the dramatic and complex granophyre rangeland. This defines the landscape within a cultural context, coherent with the continuing living cultural values of the landscape. This area includes the submerged ancient landscape as well as the land and seascape as it exists today.  
Table 2.1 (nomination dossier page 8) lists the attributes of potential Outstanding Universal Value within this area.
- Integrity:  
Areas where previous development may have compromised the integrity and/or intactness were excluded from the nominated property. Maps 4.2 (a) and (b) (nomination dossier pages 177-8) summarise an assessment of land use impacts that was undertaken to identify areas impacted by past land use. Areas subsequently not included in the boundary include the Burrup Strategic Industrial Area; the adjacent Karratha Gas Plant; Port of Dampier; Cinders Road light industrial area; Dampier townsite and developed islands near the Port of Dampier.
- Management:  
Areas included in the boundary are those that can be appropriately managed by the Murujuga Aboriginal Corporation, through joint management arrangements with the Western Australian Government, and those that have adequate legislative protection. As shown in Table 5.1 (nomination dossier page 206) and explained in the *Murujuga Cultural Landscape Strategic Management Framework*, there are seven categories of lands and waters within the nominated boundary. For each category of land, consideration was given to how the area's values are managed and whether sufficient

protection for the attributes and potential Outstanding Universal Value could be provided.

- Stakeholder Consent:  
Stakeholder consultation with landholders confirmed awareness of the significance of the potential Outstanding Universal Value and requirements to protect and conserve these values under relevant legislation. Support for inclusion of lands and waters within the nominated boundary was granted from all relevant stakeholders or landholders prior to submission of the nomination.
- Cultural landscape features:  
Places have been included in the boundary to ensure the continuation of cultural landscape features, either through physical or intangible attributes, that contribute to the values of the property.
- Contiguous boundary:  
Consideration was given to whether a nomination of non-contiguous component parts would fulfil the requirement defined in Paragraph 137 of the *Operational Guidelines for the Implementation of the World Heritage Convention*, for each component part to “contribute to the Outstanding Universal Value of the nominated property as a whole in a substantial, scientific, readily defined and discernible way”. As the islands and landscape features included in the boundary are part of a coherent cultural landscape, it is not plausible to define individual component parts, and a contiguous boundary was developed.

The State Party acknowledges that the Murujuga Cultural Landscape presents a complex boundary. These complexities were discussed during the evaluation mission and seen on site by the mission expert. The State Party would be happy to discuss the inclusion or exclusion of specific areas during the panel meeting.

*In addition, the nomination dossier reveals that “[t]hrough detailed bathymetric mapping of the sea floor, it has been possible for those with the relevant knowledge to identify named places in underwater topographic features” (p 20). ICOMOS would appreciate if the State Party could provide more about these named places, as well indicate their location.*

Through bathymetric mapping a number of underwater topographic features and sites have been identified. These include:

- Wonky Hole:  
In Flying Foam Passage artefacts have been found underwater, associated with a submerged freshwater spring (wonky hole). This location has been confirmed to be part of a jinna (songline) that is still sung today. Elders who can sing this jinna, which crosses present day terrestrial and underwater Country, have never seen the underwater component of this songline. This suggests the songline may have been created more than 7,000 years ago, when the sea level was lower. This site was observed on the evaluation mission by underwater drone.
- Cape Brugieres:  
This is the location of Australia’s first underwater Aboriginal site, with more

than 260 underwater artefacts found.

It has an associated complex terrestrial site which includes the largest collection of stone arrangements at Murujuga – over 50 stone arrangements potentially identifying a task specific site for hunting and processing of marine animals. This site was visited on the evaluation mission.

- **Madeleine Shoals:**

Bathymetric mapping has identified underwater topographic features at Madeleine Shoals that closely resemble terrestrial landscape features where petroglyphs are typically found. The bathymetric mapping has allowed Ngarda-Ngarli to identify where particular jinna travel through the submerged landscape. Specific landscape features that pinpoint parts of the Seven Sisters jinna and the fish jinna have been identified through high-resolution bathymetric mapping.

There are a number of submerged landscape features that are known to Ngarda-Ngarli and are described in language in the same way as the terrestrial landscape. Some of these have been provided in the attached map.

However, it is through an ongoing process of collecting high-resolution bathymetry data for the submerged landscape that Ngarda-Ngarli are able to identify the precise location of known and named underwater landscape features.

A map providing the locations of these sites is attached (**Attachment A**).

### **Attributes**

The argument posed by McDonald and Veth in their 2013 paper *Rock Art in Arid Landscapes: Pilbara and Western Desert petroglyphs*, that there was a decline in rock art in the last 500 years, is entirely theoretical. This paper acknowledges that it is unclear whether engraved rock art continues to be produced through this period, and chronologies of art phases proposed by researchers working at Murujuga generally assume production continuing up to contact (McDonald and Veth 2006; Mulvaney 2011, Mulvaney 2013, McDonald 2014).

The relative chronology that has been developed for Murujuga assumes that the most recent rock art would be of the highest contrast state (CS5), but there is no specific date with which this contrast state is correlated. Certainly, there is a smaller assemblage of rock art motifs that demonstrate a high contrast state, but it is not currently understood how quickly the weathering of rock art would change the visibility of a motif from Contrast State 5 to Contrast State 4. Victoria Wade recently completed her PhD focused on the Holocene rock art at Murujuga and proposed that “*Art produced during the most recent period, indicated by CS5, was either of a short duration or indicates a decline in art production accompanying the most recent occupation.*” (Wade 2023:112)

The focus in McDonald and Veth (2013) on limited contact subject engravings (horses, ships, clothed human figures) to support a decline in rock art production assumes that increased contact with Europeans would lead to a change in engraved subject matter to depict European materials. Ngarda-Ngarli are of the view that rock art production would continue only in accordance with Law and be undertaken by Marrga (or Marrga working through individuals) and may begin to

incorporate European materials in an effort to incorporate this new aspect of Country into the existing Lore, but would not replace traditional Lore or Law.

This theory remains largely untested without any mechanism for directly dating the engraved rock art at Murujuga.

### **Protection, conservation and management**

As discussed above in relation to the boundary, areas impacted by industrial development have been excluded from the nominated boundary.

In the mid-1960s, the town of Dampier, port facilities (including Parker Point, East Intercourse, Mistaken and Mid-Intercourse Islands) and a causeway connecting Dampier Island (now the Burrup Peninsula) with the mainland were constructed prior to any heritage protection legislation in Western Australia. The extent of damage to cultural heritage from these works is unclear, but was likely extensive.

In the 1980s, archaeological surveys for Woodside's North-West Shelf Project recorded 720 sites, of which only 315 were protected at the time. Aboriginal people were not consulted on the development and no cultural sites were identified.

The development of Woodside's Pluto operations in 2007 included detailed archaeological and ethnographic surveys and resulted in the State Government issuing a Ministerial Consent under s.18 of the *Aboriginal Heritage Act 1972* (Western Australia) to impact 355 out of 381 recorded sites. However, the consent determinations did include specific requirements to protect sites and landscape features of significance that remain intact within the existing Woodside Pluto plant. Conditions of the Ministerial Consent included the development of a Cultural Heritage Management Plan that details the salvage and relocation requirements for cultural heritage material that was to be impacted in consultation with Traditional Owners and Custodians.

In 2012, Yara Pilbara Nitrates obtained Ministerial Consent under s.18 of the *Aboriginal Heritage Act 1972* (Western Australia) to disturb four Aboriginal cultural heritage sites, subject to salvage and relocation of heritage material prior to ground disturbance.

In 2021, Perdaman Industries obtained Ministerial Consent under s.18 of the *Aboriginal Heritage Act 1972* (Western Australia) to disturb four Aboriginal cultural heritage sites, subject to salvage and relocation of heritage material prior to ground disturbance.

These most recent developments have been through assessment and approvals processes via the relevant State and Federal legislation as detailed in Section 5C of the nomination dossier. Rock art and other cultural material that has been relocated from impacted development areas to the 'Compound' was discussed and shown to the mission expert during the technical mission. This was to demonstrate how the authenticity and integrity of the values associated with these motifs have changed in relation to what they were in their original context, but should not be considered compromised given their meaning within a living cultural landscape.

All future developments within and outside the nominated boundary will be required to undergo assessment and approval processes as detailed in Section 5C of the dossier, to ensure the integrity of both the National Heritage listed values and potential Outstanding Universal Value are safeguarded.

The Murujuga Cultural Management Plan (MCMP) is nearly ten years old and is due to be reviewed and updated. Since the adoption of the MCMP, Murujuga Aboriginal Corporation has grown significantly and there are dedicated policies, processes and human resources that take responsibility for actions and work that was initially held by the Ranger Team.

However, the implementation of goals and actions established in the MCMP continues to progress in line with the original intention of the Plan. A short summary on the current implementation status is included as **Attachment B**.

### **Tourism Precinct**

Planning, management and monitoring of tourism development is integrated within the Murujuga Cultural Landscape Strategic Framework. The strategic management framework provides the overarching structure to meet the obligations set out in the World Heritage Convention and Operational Guidelines. The framework identifies legislative and regulatory measures at national and local levels that provide for the conservation of the property and protection against development and change that might negatively impact the Outstanding Universal Value, including the integrity and/or authenticity of the property. Visitation levels and the scope and extent of the proposed Murujuga Tourism Precinct will be carefully assessed and managed through the existing legislative framework. The Murujuga Aboriginal Corporation and relevant Australian and Western Australian government agencies work together to ensure integration and consistency with other planning documents across the Murujuga Cultural Landscape, to protect the nominated property's values, and among other things, ensure tourism development opportunities are available to meet projected future demands.

Given the size, the relative isolation and the inaccessibility of most of the Murujuga Cultural Landscape, the Tourism Precinct is a critical consideration for the management of visitation, especially with the expected increase in visitation that may result from inscription on the World Heritage List. The current tourism infrastructure at Murujuga is limited and independent access to the northern Burrup and the islands of the Dampier Archipelago is challenging to monitor.

The development of a road and northern and southern day use areas reduces visitation pressure on the limited tourism infrastructure on the Southern Burrup. The Living Knowledge Centre and associated accommodation and food venues will provide critical infrastructure for Ngarda-Ngarli to educate visitors and locals about the important heritage and cultural values that exist across the Murujuga Cultural Landscape and how these can be protected for future generations.

*Tourism Development Strategy:*

An Interpretive Masterplan has been developed by the Circle of Elders and an interpretive designer which identifies the numerous cultural tourism opportunities within the Tourism Precinct and broader National Park. The Interpretive Masterplan has also informed the design of the proposed built-form and landscape, including a cultural spine which connects the Living Knowledge Centre with Sea Country.

An opportunity within the Tourism Precinct and broader National Park is hiking trails. MAC has engaged Common Ground Trails to undertake the concept design of a 45km trail network. The project is currently in an evaluation phase where heritage and environmental surveys will be undertaken.

*State of Progress:*

A Partnership has been secured with the City of Karratha who have taken on responsibility for the design and construction of the Murujuga National Park Access Road. Once completed, the road reserve will be vested with the City of Karratha who will then be responsible for the repair and maintenance of the road. A Tripartite Agreement with the City of Karratha, MAC and DBCA will inform and approve the design of the proposed two-lane sealed road.

As part of the partnership, the City of Karratha is contributing \$3M towards the cost of the road, while the balance of funds (\$24.9M) are being provided by the State of Western Australia. The City of Karratha is supporting the project due to their commitment to local economic diversification through Aboriginal tourism and their desire to strengthen their working relationship with traditional custodians

All technical studies have been completed for the road and the two day-use areas including heritage, flora and fauna, coastal hazard, hydrological, geotechnical, turtle and shorebird monitoring

The schematic design for the Tourism Precinct has been completed and a Design Review has been undertaken with the Western Australian Government's Office of the Government Architect.

The detailed Business Case for the Tourism Precinct will go before the MAC Board for consideration in November or December this year. If approved, the next 12 months will be focused on securing funding, environmental approvals, and engagement of an operator to assist with detailed design and preparation for the operational phase.

**Adjacent town planning**

The town of Dampier is outside the nominated boundary. The size of the town and any urban planning and development is constrained by neighbouring boundaries. The City of Karratha Dampier Masterplan provides a summary of the physical town constraints and an overview of short, medium and long term urban planning:



[20~035 - Dampier Masterplan Boards - 02.02.2022\\_A0.indd \(karratha.wa.gov.au\)](#)

Additionally, the Dampier local planning scheme has zoned land immediately adjacent to the proposed boundary as 'conservation, recreation and nature landscape' and 'parks, recreation and drainage' (see **Attachment C**).

The *Environmental Protection, Conservation and Biodiversity Act 1999* (Commonwealth) requires that any action that may have a significant impact on the values of a World Heritage place are referred to the Australian Minister for the Environment and Water for consideration. This includes actions that may take place outside of the World Heritage boundary and would apply to any significant actions in the town of Dampier.

### Murujuga Cultural Management Plan – summary of progress against goals and actions

GOALS and ACTIONS	SUMMARY of IMPLEMENTATION	Progress
		Good progress
		Some delays
<b>GOAL 1: We will continue to actively manage Murujuga Land and Sea country, to keep Country healthy and people safe</b>		
<i>Action 1: MSLU to increase Ranger presence on Murujuga Country</i>	Ranger roles have increased since the Cultural Management Plan was developed. There are now three ranger teams: The Murujuga National Park Rangers; Murujuga Land and Sea Rangers; and the Murujuga Rock Art Monitoring Rangers.	✓
<i>Action 2: MSLU to offer cultural inductions to all visitors coming onto Murujuga land</i>	The Rangers continue to consolidate and expand cultural awareness programs to enhance knowledge and generate understanding of our culture and to provide cultural safety to those who visit and work on Country. For example, in the 2023/24 financial year, MAC Rangers delivered Cultural Awareness Training to 678 participants, conducted 176 Rock Art tours with 1252 participants and completed 25 school visits reaching 1484 students.	✓
<i>Action 3: MSLU to continue cultural zoning on Murujuga Country and map areas that are culturally safe.</i>	Mapping is continuing and is being recorded through the cultural heritage management system (CHMS). This must be undertaken in a culturally appropriate way and is a long-term process.	✓
<i>Action 4: MSLU to produce and promote protocols for visitors to Murujuga, which align with Ngarda-Ngarli cultural beliefs.</i>	MSLU and DBCA have produced interpretation materials presenting these protocols. MAC has updated information on its website about cultural safety when visiting Murujuga. There are plans to expand this with a 'Murujuga pledge'.	✓
<i>Action 5: MSLU will liaise with Parks Council and stakeholders to control visitor access to Murujuga National Park and surrounding areas.</i>	MAC and MSLU engagement with Park Council is well established and ongoing. Access and recreation planning has been an important component of planning for the joint management of the Dampier Archipelago Nature Reserves.	✓
<i>Action 6: MSLU to monitor and protect our rock art</i>	There is an ongoing Murujuga Rock Art Monitoring Program (MRAMP). The MSLU also maintains the rock art recording and monitoring database: the Cultural Heritage Management System.	✓

## ATTACHMENT B – Murujuga Cultural Management Plan progress (as at Sept 2024)

	Other relevant ongoing programs include annual rock art field schools; graffiti removal; and participation in research projects.	
<i>Action 7: MSLU to monitor and protect our plants and animals</i>	MSLU rangers work together with DBCA to monitor and protect plants and animals through ongoing and successful programs, including cultural burning, weed management and rehabilitation.	✓
<i>Action 8: MSLU to have access to all information about the effects of industry on Murujuga Country</i>	Ongoing engagement with industry through the Murujuga Rock Art Monitoring Project (MRAMP).	✓
<i>Action 9: MSLU to investigate the least intrusive management and monitoring methods and provide greater access to Murujuga Country</i>	Ongoing partnership with DBCA in managing access and management practices.	✓
<i>Action 10: MSLU to investigate options for further protection of Murujuga Country</i>	Continuing dialogue through Park Council, with outcomes including: World Heritage nomination; limiting the industrial footprint on Murujuga; significant expansion of joint management to include the Dampier Archipelago; CoE involved in all decision making; partnerships continuing to grow and the Cultural Heritage Management System in operation.	✓

<b>GOAL 2: We will continue to practice culture on Murujuga Land and Sea Country</b>		
<i>Action 1: MSLU to increase Ranger presence on Murujuga Country</i>	Ranger roles have increased since the Cultural Management Plan was developed. There are now three ranger teams: The Murujuga National Park Rangers; Murujuga Land and Sea Rangers; and the Murujuga Rock Art Monitoring Rangers.	✓
<i>Action 2: MSLU to continue to practice culture on Murujuga Country</i>	MSLU maintains strong connections between traditional knowledge and Elders and Ranger work on Country; including recording cultural knowledge and undertaking cultural practices.	✓
<i>Action 3: As part of cultural practice men and women Rangers will work on Murujuga Country</i>	Men and women are employed as Rangers and cultural practices are sometimes discussed in separate sessions, guided by the Circle of Elders.	✓

## ATTACHMENT B – Murujuga Cultural Management Plan progress (as at Sept 2024)

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<b>GOAL 3: We will promote Murujuga Land and Sea Country and the work of the Rangers</b>		
<i>Action 1: MSLU to increase Ranger presence on Murujuga Country</i>	Ranger roles and staff have increased since the Cultural Management Plan was developed. There are now three ranger teams: The Murujuga National Park Rangers; Murujuga Land and Sea Rangers; and the Murujuga Rock Art Monitoring Rangers.	✓
<i>Action 2: MSLU to offer cultural inductions to all visitors coming onto Murujuga land</i>	The Rangers continued to consolidate and expand our cultural awareness programs to enhance knowledge and generate understanding of our culture and to provide cultural safety to those who visit. MAC has also updated information on its website about cultural safety when visiting Murujuga.	✓
<i>Action 3: MAC and MSLU to prepare a communications strategy</i>	Communications strategies are prepared for specific projects and a dedicated Communications Officer is employed at MAC. Specific Cultural and Intellectual Property Protocols are currently being developed.	✓
<i>Action 4: MAC and MSLU to prepare a tourism strategy.</i>	MAC is developing Tourism Precinct planning documents including research and planning documents relating to recreation planning. With DBCA MAC is drafting a Recreation Master Plan and has developed relevant interpretation materials.	✓
<i>Action 5: MSLU Rangers to continue to build a strong presence in the community.</i>	MAC and MSLU engage with the community at key events, such as at local festivals; in schools and youth programs; and through a strong social media presence.	✓

<b>GOAL 4: The Circle of Elders will continue to give guidance and cultural advice to the Rangers and everyone working on Murujuga</b>		
<i>Action 1: MSLU to develop the mentor program that supports the Rangers</i>	The Murujuga Ranger Team meet monthly with the MAC Circle of Elders (CoE) to update the CoE on ranger activities, seek advice on matters of culture or cultural safety and to continue their cultural education alongside their ranger qualifications. MAC also has regular culture days on country with rangers, MAC staff, elders and other cultural knowledge holders, as well as annual culture camps with rangers, elders and the MAC Heritage team.	✓
<i>Action 2: CoE to provide continual guidance for Rangers to achieve management of Murujuga Country.</i>	CoE processes and practices have developed to guide support for the Rangers. This has included an increase in time on Country and recording of information in the CHMS.	✓

ATTACHMENT B – Murujuga Cultural Management Plan progress (as at Sept 2024)

<p><i>Action 3: MSLU to ensure that Rangers have a full and strong workforce at all times.</i></p>	<p>Introduction of significant employee benefits and increased salaries for rangers to remain competitive with increased cost of living pressures. Introduction of senior ranger roles to provide career progression opportunities. Increased training and certification opportunities (SCUBA diving, drone training, Conservation and Land Management certification, coxswain ticket, etc) to support individual aspirations of rangers to specialize in aspects of heritage, culture and country management.</p>	<p>✓</p>
<p><i>Action 4: MLSU to ensure that all consultants work under the control and leadership of the Murujuga CoE.</i></p>	<p>MAC requires cultural inductions for all consultants working on Murujuga and consultants working with Murujuga’s heritage and cultural record are engaged directly by MAC, with expectations set out clearly in contracted Scopes of Work. MAC has instituted processes for CoE endorsement of results and recommendations relating to heritage work on Murujuga, including compensation for time and expertise. The CMP is promoted as a reference resource, including in association with the World Heritage nomination.</p>	<p>✓</p>

<p><b>GOAL 5: We will generate knowledge and will pass knowledge on to future generations.</b></p>		
<p><i>Action 1: MSLU will continue to gather information.</i></p>	<p>Continuing successful work gathering cultural knowledge with the Elders, including using new techniques such as drone and lidar imagery. The Murujuga CHMS allows for consistent recording, safe storage and culturally controlled access to heritage and cultural information.</p>	<p>✓</p>
<p><i>Action 2: MSLU will repatriate all that has been taken from Murujuga.</i></p>	<p>Introduction of MAC Cultural Heritage Management System has allowed repatriation of heritage and cultural data from researchers, universities, industrial proponents, government agencies and individuals who have worked and collected information at Murujuga for decades. Negotiated access to cultural material held temporarily by industrial proponents whilst awaiting a permanent keeping place on Murujuga (Murujuga Living Knowledge Centre).</p>	<p>✓</p>
<p><i>Action 3: MSLU will safely store cultural items and information and make them available to those for whom it is safe.</i></p>	<p>The planned Murujuga Living Knowledge Centre will include a designated permanent keeping place where items can be safely stored. Cultural material that had been historically relocated to ‘The Compound’ has been separated according to cultural safety protocols and the fencing removed to allow for access by senior knowledge holders responsible for monitoring the ongoing cultural danger associated with the changed context of this material.</p>	<p>✓</p>
<p><i>Action 4: MLSU and MAC to integrate both cultural and tertiary education for Rangers.</i></p>	<p>Rangers receive cultural education and guidance from Elders, in culturally appropriate contexts. Tertiary education and training is an important component of ranger roles.</p>	<p>✓</p>

## ATTACHMENT B – Murujuga Cultural Management Plan progress (as at Sept 2024)

<i>Action 5: MSLU and MAC to conduct feasibility study on setting up a tertiary level institution under MAC, in partnership with an Australian university</i>	Alternative arrangements provide for tertiary level qualifications to be attained for different aspects of Ranger work.	✓
<i>Action 6: MSLU to create opportunities for young people to become involved with the MLSU Rangers.</i>	MAC Rangers engage regularly with local primary and high schools to ensure that they are aware of the work that MAC Rangers do and the opportunities that are available for young people looking for work when they graduate. MAC participates in a high school vocational education and training (VET) placement program, where students from local high schools get school credit for working and learning with the MAC Ranger Team once a week. MAC participates in the REPAY WA Juvenile Justice program, where young people are provided the opportunity to work with MAC Rangers as part of their court ordered work program.	✓

<b>GOAL 6: We will protect our cultural information and keep it strong.</b>		
<i>Action 1: MLSU to produce and promote protocols for visitors to Murujuga, which align with Ngarda-Ngarli cultural beliefs.</i>	Visitor Protocols have been developed, published and are promoted to all visitors.	✓
<i>Action 2: MSLU will produce a clear set of protocols to outline the way in which researchers can undertake activities on Murujuga, to align with cultural beliefs and cultural safety.</i>	MAC requires cultural inductions (including annual refresher courses) for all researchers undertaking activities on Murujuga. MAC has instituted processes for CoE approval of proposals which includes compensation for time. MAC has developed a research protocol for incorporation into research collaboration agreements. MAC has developed an information consent form, a CHMS ICIP protocol and a CHMS accession form that work together to ensure that cultural knowledge holders retain control over any information that they share.	✓
<i>Action 3: MSLU to establish processes for responding to breaches of Murujuga Cultural Protocols.</i>	Although MAC protocols don't have any legislative enforcement, where possible they are incorporated into formal agreements with industry, researchers and management partners. Visitor protocols are managed through a combination of education and establishment of enforceable expectations signposted in high visitation areas at Murujuga.	✓
<i>Action 4: MLSU to ensure items are safely stored</i>	The CHMS has been developed with clear IP protocols. Cultural materials will be stored in the Living Knowledge Centre.	✓


## ATTACHMENT B – Murujuga Cultural Management Plan progress (as at Sept 2024)


<b>GOAL 7: The Circle of Elders must be included in all decisions affecting Murujuga.</b>		✓
<i>Action 1: MAC and MSLU will review internal governance</i>	MAC has engaged part time Legal Counsel on staff to support governance across the Corporation, including internal governance.	✓
<i>Action 2: MSLU will promote the Murujuga Cultural Management Plan as a voice for CoE and Rangers, and as a resource for visitors.</i>	The MCMP is promoted as a reference resource, including in association with the World Heritage nomination. The promotion of MAC's research guidelines in the MCMP and the (update in progress) MAC research protocol, the CoE are required to endorse all research, media and publications that speak about Murujuga's culture or heritage to ensure that anything published or presented by researchers working with MAC is culturally appropriate.	✓
<i>Action 3: MSLU will initiate and welcome contact with organisations that have industrial, research and tourism interests on Murujuga.</i>	MAC has many strong ongoing partnerships with community, industry, tourism and research organisations. The CoE has established an independent research priority list that is used to preferentially endorse research that is in the best interest of MAC's understanding and management of the Murujuga Cultural Landscape and actively seek out researchers to support their aspirations for increasing knowledge about this landscape.	✓
<i>Action 4: MSLU will play a leading role in managing infringements on Murujuga Country.</i>	MAC Rangers are currently training to become authorised officers under the <i>CALM Act 1984</i> , which allows them to issue infringement notices and work with the Department of Biodiversity, Conservation and Attractions (DBCA) to enforce penalties under the <i>CALM Act 1984</i> . MAC rangers may work with other authorities on a case by case basis to encourage compliance with other legislation relating to heritage, land and waters across the Murujuga Cultural Landscape.	✓
<i>Action 5: MSLU will communicate with related organisations and build partnerships regarding access to and ownership of greater areas of Murujuga Country.</i>	MAC and MSLU maintain good working relationships with local government, State Government and industry. Successful advocacy has led to the return of all Future Industrial Reserves delegated under the BMIEA to MAC for incorporation into the Murujuga National Park / Dampier Archipelago Nature Reserve. A strong partnership with DBCA has allowed for the voluntary negotiation of a Joint Management Agreement over the Dampier Archipelago Nature Reserve.	✓



# Town of Dampier Local Planning Scheme conservation and recreation zones and the proposed Murujuga Cultural Landscape nominated World Heritage property boundary

Local Planning Scheme - Zones and Reserves (DPLH-071)

 Conservation, recreation and nature landscape

 Parks, recreation and drainage



0 1,000 2,000 Meters



Additional Information submitted by Australia in response to the ICOMOS interim report and additional information requested on the Murujuga Cultural Landscape World Heritage nomination.

## BOUNDARIES

***Will these changes imply any modification of the boundaries of the nominated property as proposed in the nomination dossier, and if so, could the State Party please provide a revised map showing the changes made to the boundaries and indicate the time frame for the completion of this extension?***

The announcements made by the Western Australian Government in 2024 relate to areas that are already included within the nominated boundary, where attributes demonstrate potential Outstanding Universal Value (OUV), and conditions of integrity and authenticity are met. Subsequently, no modification to the boundary is required.

The presence of attributes of potential OUV within these parcels of land is a significant reason for the decision to return them to Ngarda-Ngarli and is consistent with Section 4.B(i) of the nomination dossier (page 191), which outlines the Western Australian Government's commitment to limiting the land available for industrial development and transferring unused portions of the industrial estate into the conservation estate.

A map indicating these additions in relation to the proposed boundary is provided at **Attachment A**, along with a table indicating the land parcels/islands, future tenure status and indicative timeframes for their addition to the conservation estate.

Once these tenure changes are completed, these areas will be jointly managed by the Murujuga Aboriginal Corporation (MAC) and the Western Australian Department of Biodiversity, Conservation and Attractions (DBCA) as either part of the Murujuga National Park or the Dampier Archipelago Nature Reserves.

***How is the continuity of Murujuga as a cultural landscape ensured? Is there any legal and/or traditional protection in place to ensure that these sites are maintained?***

In developing the boundary, guidance was taken from UNESCO's [Preparing World Heritage Nominations \(2<sup>nd</sup> edition\) 2011](#), particularly the flow chart on page 95 outlining the suggested sequence for preparing a nomination.

Although there are tangible and intangible attributes that complement the potential OUV for the Murujuga Cultural Landscape that continue far beyond the nominated boundary (as described in Section 2.A of the nomination dossier pages 72-81), the nominated boundary has been determined on the basis of that which best expresses the interrelationship between Ngarda-Ngarli and the environment in the past and present, and where the land is under the care of MAC or another formal protective mechanism is in place. Importantly, all areas are free from future threats thereby ensuring the integrity of the nominated property.

The nominated property of almost 100,000 hectares, contains all of the necessary elements required to demonstrate the interconnectivity of Law, culture and Country. Although the industrial areas do include attributes that would be contributory to the nominated property, the storying and human modification of the industrial areas are not critical to the expression of OUV within the property boundary.

Parts of the cultural landscape where there are cultural components not included within the nominated boundary have been excluded because they are located on industrial lease areas where there is an historic section 18 'Consent to Certain Uses' issued under the Western Australian *Aboriginal Heritage Act 1972*. These areas include land within the Woodside Pluto Lease, the Woodside Southern Expansion Lease, and the Pilbara Ports Authority Lease. The consent may only be used for the particular purpose for which it was granted and not for any other purpose. Importantly, the consents also establish conservation areas where there are significant cultural values within the industrial leases. These have been incorporated into the boundary of the nominated property, consistent with the requirements of the *Operational Guidelines for the Implementation of the World Heritage Convention* (Operational Guidelines).

Areas outside of the nominated boundary remain subject to full heritage impact assessments prior to any activity that may impact on the heritage or cultural values of the land, including consultation with Traditional Owners and Custodians about any impacts on the cultural landscape as a whole. This includes an assessment under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Further information on the legislative protection offered by the EPBC Act is provided below, and in Section 5 of the nomination dossier.

The continuity of Murujuga as a cohesive cultural landscape is further supported through continuing consultation, provision of access and monitoring arrangements between industrial proponents and Ngarda-Ngarli, as the living Traditional Owners and Custodians of Murujuga. MAC and its members regularly access and participate in environmental and heritage work across the industrial leases that are outside of the nominated boundary and maintain their rights and interests according to customary traditional practice.

Research about the Murujuga Cultural Landscape is ongoing and future minor amendments to the boundary will be considered, to incorporate any additional areas where attributes of OUV are identified and can be managed and protected in accordance with the Operational Guidelines.

***ICOMOS would be pleased if the State Party could provide further explanation as regards the rationale for the delineation of the boundaries in the marine area.***

The nominated boundary with regard to the seascape / submerged landscape has been determined firstly on the basis of what was considered the extent of the Murujuga Cultural Landscape prior to inundation. This includes the high rocky rangeland, limestone ridgelines and outcropping hills (now islands) that would have been prominent features on a vast plain, as well as the valleys, gullies, creeklines and flats that create the diverse micro-habitats to support subsistence (Figure 1).



*Figure 1: Murujuga Cultural Landscape and surrounding terrain at the probable time of initial human occupation.*

The specific boundary in relation to the marine component of the property has been delineated on the basis of:

- Inclusion of all known submerged landscape features that have archaeological or cultural value.
- Inclusion of submerged landscape features that have not yet been explored in detail with Traditional Owners, but which are likely to be part of Murujuga’s deeply storied landscape on the basis of being identifiable features on a relatively featureless limestone plain.
- Inclusion of waters within the more relatively recent seascape that are known, managed, traversed and utilised by Ngarda-Ngarli for the purpose of maintaining connection with and exploiting resources across the archipelago.
- Exclusion of areas with significant historic dredging and impact to the submerged land surface.
- Exclusion of waters that that have been declared under the jurisdiction of the Pilbara Ports Authority under the Western Australian *Port Authorities Act 1999*, where Pilbara Ports Authority has control and responsibility for managing activities within the declared areas for development proposals and maintenance of shipping lanes (Port waters).
  - There are no specific attributes of potential OUV known within the submerged landscape of the excluded Port waters that necessitated its inclusion within the boundary.

- The traditional use of the seascape by Ngarla-Ngarli within the excluded Port waters has been compromised by the shipping lanes and Ports anchorage and it was determined that the exclusion of these waters was appropriate.
- Pilbara Ports Authority agreed to the inclusion of a section of Port waters where the impact of contemporary industrial use is significantly less in order to secure a contiguous boundary for the property.

The proposed boundary was further defined on the basis of traditional language group boundary lines, as Ngarluma takes management responsibility for Nickol Bay to the east and the Dampier Marine Park to the north-east.

The boundary has also been defined by the Operational Guidelines' requirements for a single contiguous property boundary, hence some marine areas are included to join significant island and terrestrial areas within this boundary.

## BUFFER ZONE AND WIDER SETTING

***ICOMOS would welcome clarification from the State Party as regards how activities in the immediate and wider setting are regulated in order to ensure that the attributes supporting the proposed Outstanding Universal Value are adequately protected in the long term.***

The EPBC Act requires that any action that may have a significant impact on the values of a World Heritage property are referred to the Australian Government Minister for the Environment and Water for consideration. This includes actions that may take place outside of the World Heritage boundary. In practice, the EPBC Act works as a legislative, unlimited buffer zone.

Case law supports this protection, with the "[Nathan Dam Case](#)" preventing the development of a dam nearly 300 kilometres from the Great Barrier Reef World Heritage property.

A step-by-step guide to the EPBC Act referral process is [available online](#).

The Australian Government's [Significant Impact Guidelines 1.1 - Matters of National Environmental Significance](#), provides more information. Note the section for World Heritage properties from page 15 includes examples of significant impacts to World Heritage values that are considered during the referral process.

***ICOMOS would be grateful if the State Party could specify how this threat is being controlled or mitigated. What regulations are in place to control levels of emission from industries in the region? ICOMOS understands that studies are currently being undertaken to assess the impact of these industries on the petroglyphs and on the nominated property. ICOMOS would appreciate to receive the results of these studies in their current state.***

A draft copy of the Murujuga Rock Art Monitoring Program: Monitoring Studies Report 2024 (2024 Technical Report) is provided at **Attachment B**. In consideration of the significant length and detail provided in the report, the lead scientists have prepared a cover letter to guide the assessors to the sections of the report most relevant to the queries outlined in the Interim Report. Please note that the 2024 Technical Report includes approximately 400 pages of data in appendices that is provided for reference only should it be required.

Please note that the 2024 Technical Report and materials in Attachment B are not publicly available at this stage and details of the report should remain confidential until the State Party notifies of the public release of the final document.

**Attachment B** also includes a summary from the Western Australia Department of Water and Environmental Regulation (DWER) on the Murujuga Rock Art Strategy, as well as the existing controls, mitigation and regulation of industry emissions and the framework for future control of industry emissions based on the results of the Murujuga Rock Art Monitoring Program.

As highlighted in the DWER summary, there is also Australian Government legislation that applies to managing pollutants of concern. The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* is the primary Australian Government legislation that gives effect to the International Convention for the Prevention of Pollution from Ships (MARPOL). MARPOL is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. A full list of Australian Government legislation giving effect to MARPOL is available [online](#). This includes *Marine Order 97 (Marine pollution prevention – air pollution) 2022* which sets out the requirements for the prevention of air pollution by vessels. Emissions can also be considered through the EPBC Act referrals process, as outlined above.

## Underwater cultural heritage and biodiversity

***Are there any studies also undertaken regarding underwater biodiversity? Could the State Party please specify how the underwater cultural heritage and biodiversity are being managed and protected?***

Maintaining the high marine and island terrestrial biodiversity at Murujuga is a priority for MAC and DBCA and is monitored through internal and external surveys such as those listed in **Attachment C**, as well as through regular land and sea patrols to observe and document priority and pest species in order to direct specific management measures.

The *Dampier Archipelago island reserves draft joint management plan* outlines management strategies to protect the natural and cultural values of the terrestrial planning area as well as the adjacent marine area, in recognition that they are intrinsically linked and together form an important part of the Murujuga Cultural Landscape. Management strategies are aimed at conserving and protecting values, minimising impacts and increasing knowledge of values and threats and establishing monitoring programs including climate resilience, responding to pollution incidents, seeking to reduce marine and coastal debris, increased visitor management and education/interpretation.

***The nomination dossier informs of the existence of the Underwater Cultural Heritage Act 2018. ICOMOS would be grateful if the State Party could share this document. Is there any other legal or management document which would allow to ensure that the underwater cultural heritage and biodiversity are properly preserved?***

The Australian Government's *Underwater Cultural Heritage Act 2018* is available online at the [Federal Register of Legislation](#).

Underwater heritage within three nautical miles of the Western Australian high-water mark is also protected through the Western Australian *Aboriginal Heritage Act 1972*.

Areas of sea Country included within the existing National Heritage boundary have existing protections under the EPBC Act. Inscription on the World Heritage list will increase legislative protections under the EPBC Act for sea Country, as the World Heritage boundary incorporates larger areas, and will protect to the attributes of potential OUV as described in Section 2.A and 3.1.A of the nomination dossier (Tables 2.1 and 3.1; pages 8-11 and 116-117), including underwater cultural heritage and associated natural attributes of the landscape.

The Murujuga Cultural Landscape Strategic Management Framework (Table 1, page 19) provides a list of legislation relevant to the protection of underwater cultural heritage and biodiversity, with columns specific to the 'Dampier Archipelago waters' and 'Port lands and waters'.

## Tourism strategy

### ***Would it be possible to share the Tourism Precinct Project design with ICOMOS? Has the State Party conducted a Heritage Impact Assessment for this project?***

The proposed Murujuga Tourism Precinct is a MAC project, and the MAC Board of Directors and Circle of Elders are committed to a development that minimises impact to the cultural landscape. MAC's priority is the protection and promotion of heritage and cultural values and a design that is appropriate and complementary to Ngurra.

MAC has undertaken extensive archaeological and ethnographic assessments to inform the design of the Tourism Precinct project and to ensure that the project does not have a detrimental impact on the significant heritage, cultural and environmental values recorded within the Murujuga Cultural Landscape. A draft of the schematic design is provided at **Attachment D**.

The Murujuga Tourism Precinct and Living Knowledge Centre design has been shared for review by the Western Australian Office of the Government Architect and the State Design Review Panel in October 2023, which found that:

*The Murujuga Tourism Precinct and Living Knowledge Centre (LKC) vision and progress to date has been carefully considered and the presentation material provided for review was of high quality. The Panel commends Murujuga Aboriginal Corporation (MAC) for engaging a high-calibre project team and using their technical and design skills to full benefit. The Panel also congratulates the project team for comprehensive and continuous engagement with the Circle of Elders to inform the approach to site configuration, built form and landscape. This has ensured that understanding of Country has been central to the project and that significant cultural features and practices have contributed to its uniqueness.*

The Murujuga access road (referred to in the nomination dossier as the two-wheel drive access road) and the Living Knowledge Centre will go through Western Australian and Australian Government environmental and heritage approvals, including a heritage impact assessment, as part of the EPBC Act referral process once the final design schematics are approved by the MAC Circle of Elders, MAC Board of Directors and the Murujuga Park Council.

Please note that the schematic design at Attachment D is currently a draft that requires approval from the MAC Circle of Elders and Board of Directors and should remain confidential.

***A Recreation Master Plan has been developed for the Murujuga National Park and the jointly managed islands of the Dampier Archipelago. ICOMOS would appreciate if the State Party could share this document.***

The Recreation Master Plan for the Murujuga National Park and jointly managed islands of the Dampier Archipelago is currently in draft form. The Master Plan is a subsidiary document to the *Murujuga National Park management plan 78* and the *Dampier Archipelago island reserves draft joint management plan*. As the *Dampier Archipelago island reserves draft joint management plan* is also still in draft and yet to be released for its statutory two-month public consultation period, finalisation of the Recreation Master Plan has been postponed until public comment on the management plan has been received and the management plan is finalised, as this may further inform content of the Recreation Master Plan.

A draft version of the Recreation Masterplan is provided as **Attachment E** and shared with ICOMOS as a confidential document demonstrating the level of recreational planning that has been undertaken to manage visitors and present the potential OUV of the nominated property.

Please note that the Recreation Master Plan is currently a draft that requires approval from the MAC Circle of Elders and Board of Directors and should remain confidential until the State Party notifies of its public release.

## Use of the terms ‘petroglyph’ and ‘rock art’

***Is there a preferred term for the Ngarda-Ngarli that could be standardised for future publications and signage? And could the State Party share a list of the terms used by the traditional owners and custodians of the nominated property?***

These terms have been used somewhat interchangeably in the draft Statement of Outstanding Universal Value. This can be standardised within the final Statement of Outstanding Universal Value, and it is the preference of Ngarda-Ngarli that the term ‘petroglyph’ be used.

The Ngarda-Ngarli do not have a direct translation for ‘petroglyph’ or ‘rock art’. The assemblage is not viewed as a collection, but as individual elements that all have their own meaning and varying levels of significance. To standardise terminology for future signage and publications, the term ‘petroglyph’ is preferred.

Ngarda-Ngarli sometimes use the term ‘marni’, to refer to the markings left behind by human/animal/ancestral interaction with their surroundings. This term may be used to refer to the brands placed on men during Law Time, animal tracks, or a landscape feature created by the movement of ancestral spirits. Although the term ‘marni’ does not translate to rock art, it is often used colloquially (see for example Vince Adams quote page 71) to connote the broader concept of meaning derived from markings.

A list of Traditional Custodian terms is included within the Key Terms for the nomination dossier (pages xv - xvi), with additional language terms for select flora and fauna provided in Section 2.A (Tables 2.12 and 2.13; pages 86 and 88). Dictionaries for languages spoken by Ngarda-Ngarli and further resources are available through the [Wangka Maya Pilbara Aboriginal Language Centre website](#).

## Transmission of knowledge

***ICOMOS would appreciate if the State Party could indicate if, and how, the transmission of this culture is still ensured from older to younger generations today.***

Law, Culture and Business is traditionally practised and transmitted within a broader Law network rather than individual language groups. Yaburara people typically follow Birdarra Law, along with Ngarluma, Yindjibarndi, Marthudunera and Wong-Goo-Tt-Oo people, which is still practiced today. During Law Time, the language groups come together, and cultural knowledge is passed on through ceremony, song, dance, story and the recreation of jinna (songlines).

More secular cultural knowledge is taught to children as a normal part of their social education regarding their Galharra skin; their roles and obligations in cultural and social situations; and the connection that they have to other people within their immediate communities and the broader cultural network.

Traditionally, culture was transmitted gradually over decades spent with Elders on Country. Given the competing obligations of mainstream society, the amount of time spent on Country today is far more limited and so MAC supports their members with practical initiatives to safeguard the ongoing transmission of language, culture and land management.

The MAC Rangers work closely with the MAC Circle of Elders to learn the places, stories and rules for Murujuga and ensure that there is ongoing care and protection for the cultural and heritage values that imbue the landscape. Rangers are engaged in the day-to-day management of land and sea Country and the education and protection of visitors to the property, as is in keeping with traditional obligations for custodians of Ngurra. MAC co-ordinates regular meetings with rangers and Elders, cultural days, culture camps, visits to significant places with rangers and Elders, and ensures that senior law people accompany the rangers whenever they are visiting unknown parts of the property.

MAC Rangers and Elders also engage with the broader community to support the transmission of culture, language and land-management beyond MAC. Rangers undertake regular visits to local schools and school camps, participate in [NAIDOC week](#) events and host work experience students on Country, with 24 students coming and working with the rangers at MAC in 2024.

MAC has a Cultural Heritage Management System (CHMS) that records heritage sites and places, language, stories, jinna, events, management areas, flora and fauna. The CHMS is designed so that information is uploaded with specific restrictions, and the demographic information associated with an individual's login determines what they can see. This ensures that members can access culturally appropriate information that is recorded in the CHMS without compromising the confidentiality of restricted information.

As well as providing the tools for day-to-day management of heritage, cultural and environmental values, the CHMS feeds into the development of resources such as the Seasonal Calendar, language posters and apps, educational training programs and junior ranger programs.



**List of attachments:**

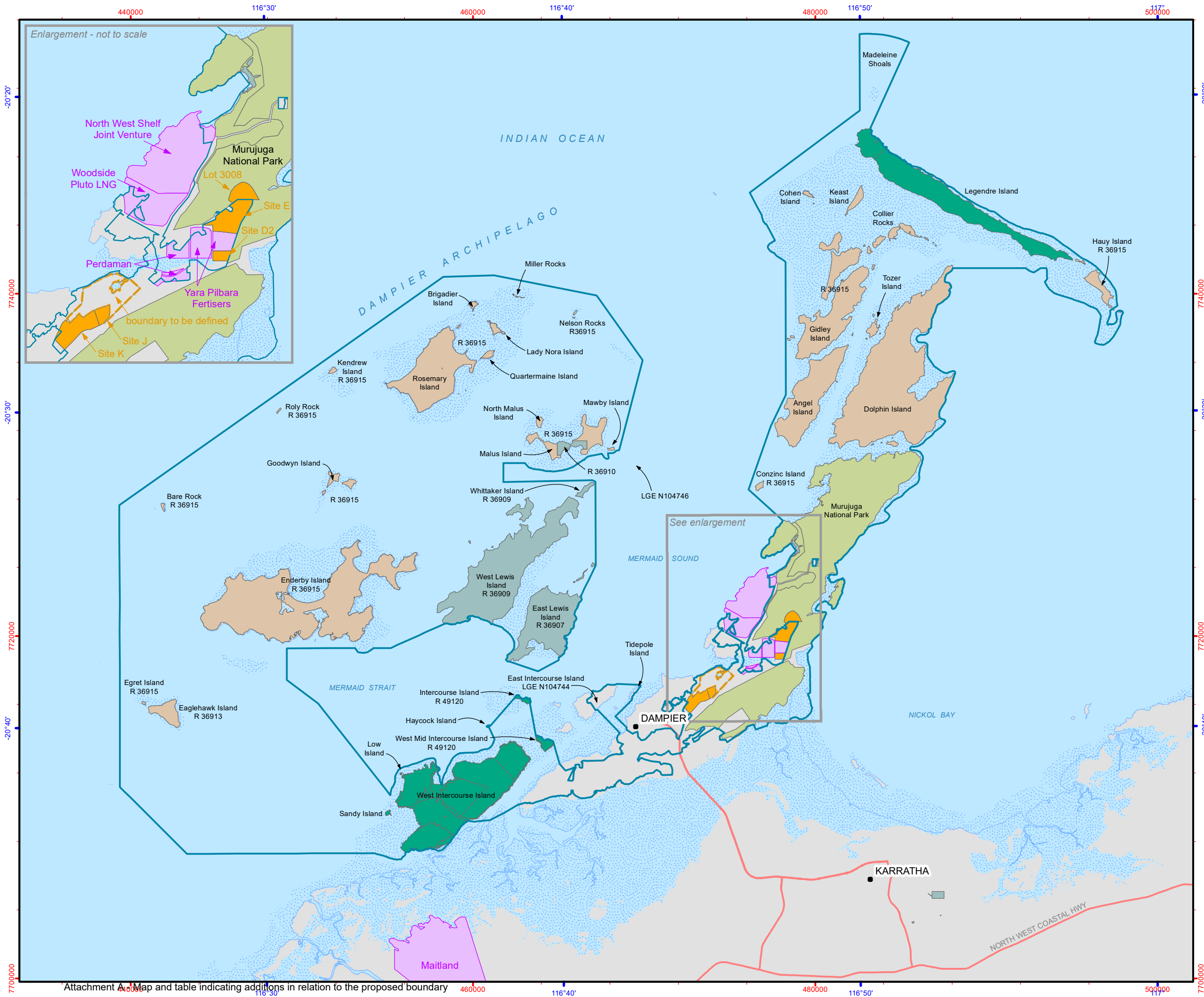
Attachment A: Map and table indicating additions in relation to the proposed boundary

Attachment B: Murujuga Rock Art Monitoring Program report and attachments [CONFIDENTIAL]

Attachment C: List of marine and terrestrial biodiversity surveys

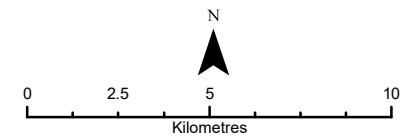
Attachment D: Schematic design of the Living Knowledge Centre precinct [CONFIDENTIAL]

Attachment E: Draft Recreation Master plan [CONFIDENTIAL]

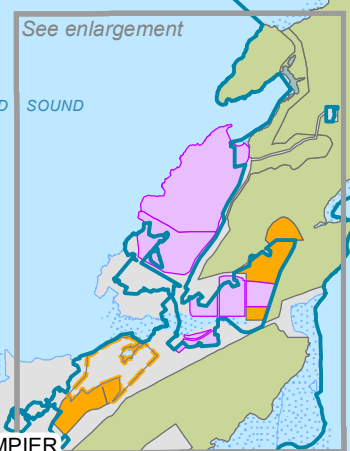
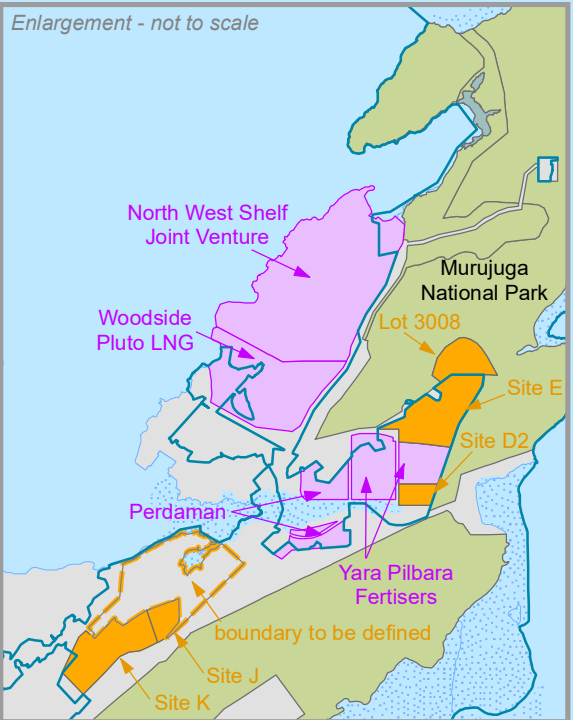
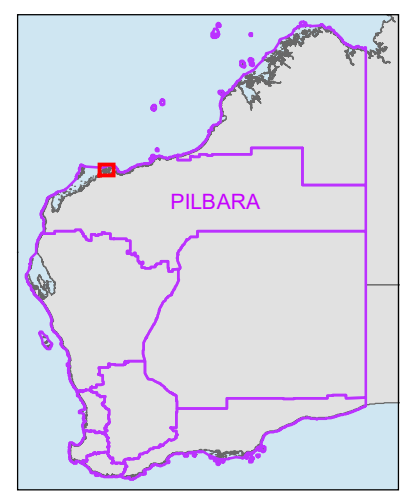


### Murujuga Cultural Landscape World Heritage nominated property: additions to the conservation estate

- Legend**
- Murujuga Cultural Landscape proposed World Heritage boundary
  - Additions to Murujuga National Park
  - Future addition, boundary to be defined
  - Additions to Dampier Archipelago Nature Reserve
  - Strategic Industrial Area
  - National Park
  - Nature Reserve
  - Section 5(1)(h) Reserve



Datum: Geodetic Datum of Australia 1994  
Projection: Map Grid Australia Zone 50  
January 2025



**Table of additions to the conservation estate within the proposed Murujuga Cultural Landscape World Heritage property.**

Site name	Conservation estate addition	Within proposed World Heritage boundary	Timeframe for addition
Lot 3008	Murujuga National Park	Yes	End 2025
Site E	Murujuga National Park	No (due to impacts of prior land use)	End 2025
Site D2	Murujuga National Park	No (due to impacts of prior land use)	End 2025
Site J	Murujuga National Park	Yes	End 2025
Site K	Murujuga National Park	Yes	End 2025
Haycock Island	Dampier Archipelago Nature Reserves	Yes	End 2025
Intercourse Island	Dampier Archipelago Nature Reserves	Yes	End 2025
Legendre Island	Dampier Archipelago Nature Reserves	Yes	July 2026
Low Island	Dampier Archipelago Nature Reserves	Yes	End 2025
Sandy Island	Dampier Archipelago Nature Reserves	Yes	End 2025
West Intercourse Island	Dampier Archipelago Nature Reserves	Yes	End 2025
West Mid Intercourse Island	Dampier Archipelago Nature Reserves	Yes	End 2025

<b>Species</b>	<b>Project</b>	<b>Researchers</b>
hawksbill ( <i>Eretmochelys imbricata</i> ), flatback ( <i>Natator depressus</i> ) and green ( <i>Chelonia mydas</i> ) turtles	<ul style="list-style-type: none"> <li>Population studies on hawksbill, flatback and green turtles</li> <li>Remigrant studies of hawksbill, flatback and green turtles</li> <li>Nest success studies on hawksbill, flatback and green turtles</li> </ul>	DBCA
Flatback and Green turtles	Genetic sampling of Flatback and Green turtles	DBCA
Fairy terns	Small tern research looking at habitat use of Fairy Tern	Dr Claire Greenwell
Northern Quoll	Quoll population studies on Dolphin Island including feral animal monitoring and control (foxes and cats)	DBCA + Murujuga Aboriginal Corporation
Wedge Tailed Shear water	Survey looking at the impacts of light pollution on Wedge tailed shearwater rookeries	MAC + Pendoley Environmental
Sea Snakes	Surveys of species, genetic data and population of different sea snake species Genetic connectivity and individual movements across the seascape Studying active acoustic telemetry using a hydrophone	University of Adelaide
Air quality monitoring	Comprehensive and statistically-sound analysis of whether anthropogenic emissions are affecting Murujuga's rock art and also establish an Environmental Quality Management Framework to address any impacts of project emissions on rock art.	Murujuga Aboriginal Corporation and Curtin University
Coral	Coral larval recruitment in north-western Australia predicted by regional and local conditions	CSIRO + Rich Evans (DBCA)
Herbivorous fish	The limited role of herbivorous fishes and turf-based trophic pathways in the functioning of turbid coral reefs	DBCA, University of Tasmania, UWA, James Cook University
Fish: spanish flag, dory snapper, blue spotted emperor	identify the sources of primary production supporting mesopredatory fish	DBCA et al.
Australian humpback dolphins and bottlenose dolphins	<ul style="list-style-type: none"> <li>Using drones to estimate the surface availability of Australian humpback dolphins to inform aerial surveys on availability bias</li> <li>Using drones to collect blow samples from Australian humpback dolphins and bottlenose dolphins</li> <li>Boat surveys for photo ID and biopsy sampling of (Australian humpback dolphins and bottlenose dolphins)</li> </ul>	DBCA

<ol style="list-style-type: none"> <li>1. Broad range of taxa from benthic habitat to fish species</li> <li>2. Seagrass and dugong</li> <li>3. Corals</li> <li>4. Mangrove - <i>Avicennia marina</i> and <i>Rhizophora mangle</i> Blue spotted emperor - <i>Lethrinus punctulatus</i>)</li> <li>5. hawksbill (<i>Eretmochelys imbricata</i>), flatback (<i>Natator depressus</i>) and green (<i>Chelonia mydas</i>) turtles</li> </ol>	<p>Distribution, patterns and key processes of major marine communities and large marine fauna</p> <ol style="list-style-type: none"> <li>1. Connectivity <ul style="list-style-type: none"> <li>○ investigated the connectivity of Pilbara marine habitats and their associated taxa, revealing genetic differentiation of important benthic habitat forming species and some associated fishes between the Kimberley, Pilbara and south of Ningaloo.</li> </ul> </li> <li>2. Seagrass/dugong <ul style="list-style-type: none"> <li>○ characterise seagrass communities and their relationship to dugong abundance and distribution.</li> <li>○ Aerial surveys including dugongs</li> </ul> </li> <li>3. Corals targeted by the aquarium trade <ul style="list-style-type: none"> <li>○ distribution, abundance and ecology of corals targeted by aquarium trade collectors. Information on their growth rates, sizes at maturity, population connectivity and ecology.</li> </ul> </li> <li>4. Primary productivity and energy transfer <ul style="list-style-type: none"> <li>○ juvenile fish abundance and diversity</li> <li>○ Macroalgae, seagrass, mangrove and coral structure and productivity</li> <li>○ Quantifying mangrove densities and growth</li> <li>○ Temperature loggers</li> <li>○ Coral post-bleach surveys</li> <li>○ Aging of juvenile blue spotted emperor</li> <li>○ Stable isotope analysis of the major primary producers, corals, sediments and consumers (fish and invertebrates)</li> <li>○ Sediment particle size and carbon percentage</li> </ul> </li> <li>5. Photogrammetric aerial surveys of turtle nesting beaches <ul style="list-style-type: none"> <li>○ identify key marine turtle nesting sites and densities of hawksbill, flatback and green turtles</li> </ul> </li> </ol>	<p>DBCA – offset for Woodside (Pluto offset), and funding from Wheatstone Development project (for seagrass/dugong monitoring)</p>
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Humans	Describe patterns and trends in human use in the proposed Dampier Archipelago Marine Park	Woodside (Pluto) offset with DBCA
Sea cucumbers	Ecological risk assessment for the Western Australian sea cucumber resource	DPIRD
Large pelagic fish: billfish (sailfish, black marlin, blue marlin and striped marlin), mackerel species, cobia and temperate species (samsonfish, yellowtail kingfish, southern bluefin tuna)	Ecological risk assessment for the Western Australian Large Pelagic Fish Resource	DPIRD
Black Lip Rock Oysters	Northern Australia Rock Oyster Project - coordinating the deployment of the hatchery-grown oysters (spat), monitoring the grow-out, managing the aquaculture infrastructure and training Murujuga Aboriginal Corporation rangers in aquaculture monitoring and management techniques	DPIRD, Maxima, Murujuga Aboriginal Corporation
Threadfin bream and herring	Otoliths of south-western Australian fish: a photographic catalogue <ul style="list-style-type: none"> <li>Distribution of threadfin bream and herring from Dampier Archipelago to southern Western Australia</li> </ul>	DPIRD
Demersal scale fish (over 60 species) Indicator species: red emperor, bluespotted emperor and rankin cod	Fisheries science update - Pilbara Demersal Scalefish	DPIRD
Aquarium fish: scribbled angelfish, margined coralfish Aquarium corals: large polyp stony coral, bubbletip anemone, delicate anemone, giant elongate clam	Ecological risk assessment for the marine aquarium fish resource	DPIRD
Broad range of coral species	Benthic monitoring as apart of their dredging programs looking at coverage and diversity of coral species	Rio Tinto
Broad range of coral and fish species	Fish and coral abundance and diversity since the implementation of the artificial reef off Parker Point	Rio Tinto
Water quality testing	Looking at salinity, sediments (and sampling), pH and range of contaminants as part of their dredging program	Rio Tinto

Six tropical marine species identified including intertidal rock oysters	SWASP – State-wide array surveillance program Monitoring for invasive marine species	DPIRD, Rio Tinto and Pilbara Ports Authority
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