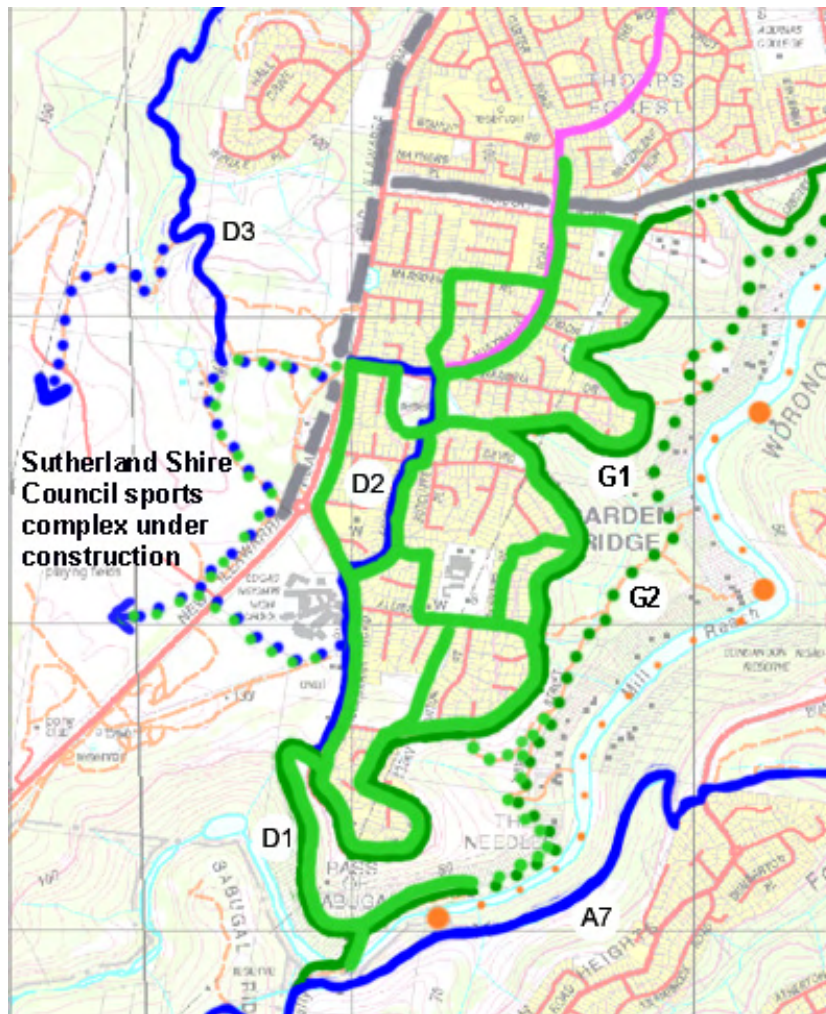


## W5-R Barden Ridge



### Links

- Spine routes W3-A7/A8, W5-D1/D2/D3,
- Shackels routes W5-G1/G2, West Menai and Menai Loops
- Woronora River Canoe Trail,
- Bus 960

### Opportunities

- Strengthen community stewardship of the Needles/Sabugal Pass area
- Incorporate first section of Shackels long term walking route
- Long term connection to shared route circling SSC sports complex

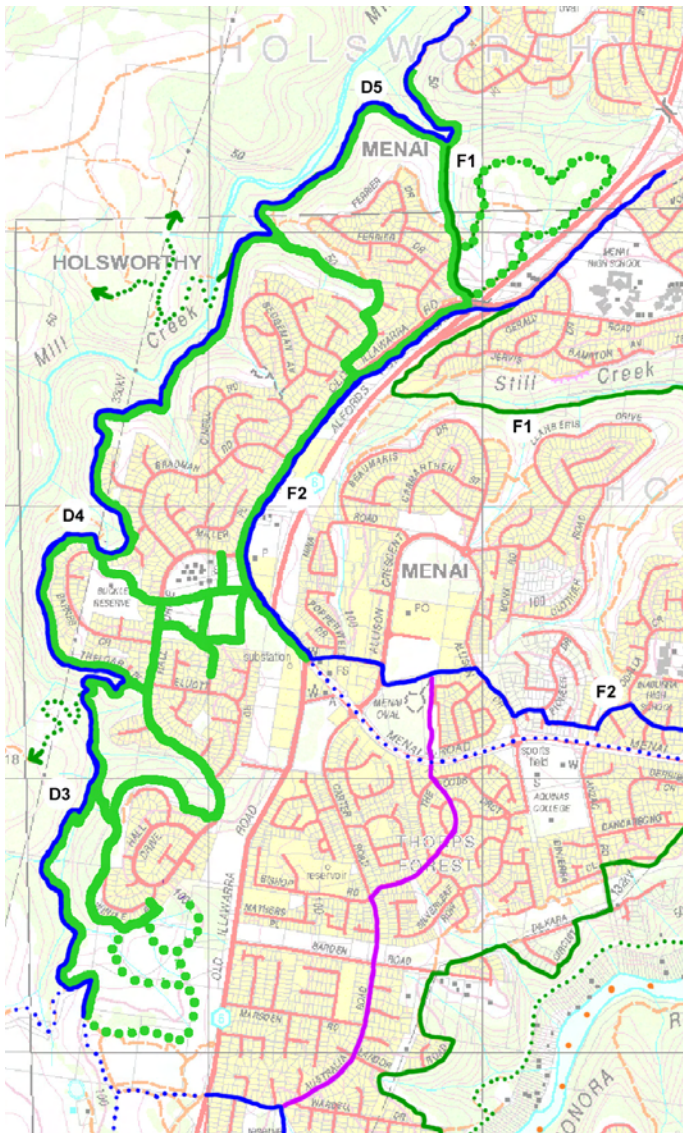
### Issues

- Track network currently severed by construction of Bangor bypass
- Private land tenure below Thomas Mitchell Drive
- Prevention of Illegal Trail bike and 4WD access to Sabugal Pass

### Community

- Lucas Heights HS and PS, Suth. Shire Christian School, St Paul's Church
- Gandangara LALC, Australia Ave. Res., Sorrel Pl. and other Bushcare Groups
- West Menai and Barden Ridge PRA

## W5and6-S West Menai Nature Trail



### Links

- Spine routes W5-D3, W6-D4/D5, Connector W6-E2
- Barden Ridge, Menai and Menai High School Loops
- Bus route 960/62/63

### Opportunities

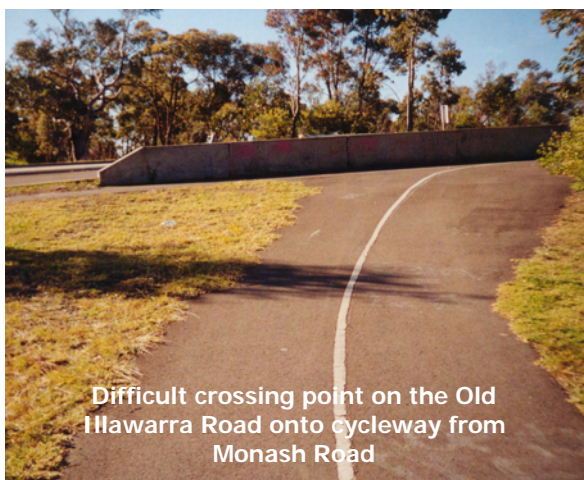
- Subject of SSC project - allocated funds \$50K50
- Strengthening of partnership with Menai PS to provide walks for Physical Education

### Issues

- Preventing Trail Bike and unauthorised 4WD access

### Community

- Menai Public School, Scouts, Sports Clubs, PCYC, Hall Drive Bushcare Group
- Gandangara LALC, West Menai and Barden Ridge PRA



Difficult crossing point on the Old Illawarra Road onto cycleway from Monash Road

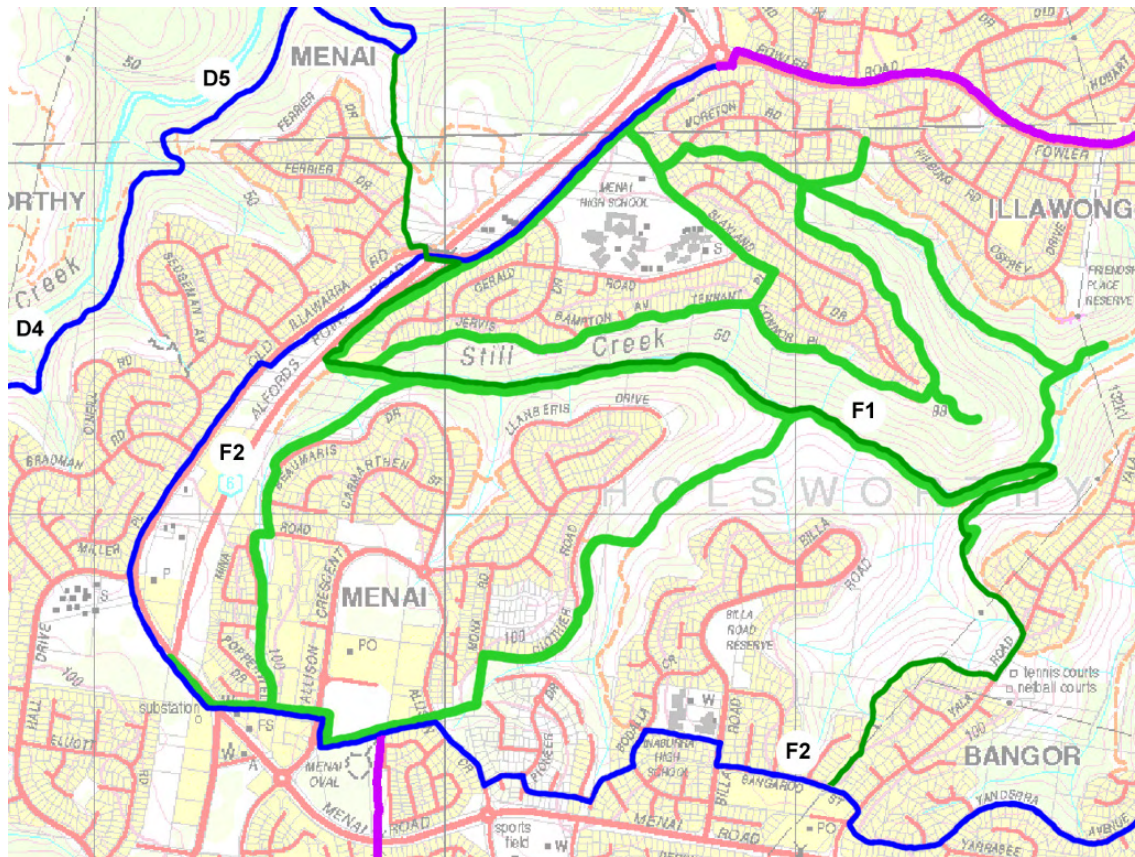


Monash Heights

<sup>50</sup> Potential for \$100K pending successful bid to DIPNR for matching Metropolitan Greenspace Funding



## W6-T Menai and Menai High School



### Links

- Connector E2 (pedestrian and hared), Bangor, West Menai, Illawong Loops
- Menai Marketplace and Menai Metro Shopping Centres
- Bus 960/62/63

### Opportunities

- Naming and "adoption" of Still Creek tributaries - Schools Projects
- Creek restoration, weed eradication in Still Creek and tributaries

### Issues

- Private Land Tenure
- Management Trails severely eroded in places
- Bridging of Still Creek

### Community

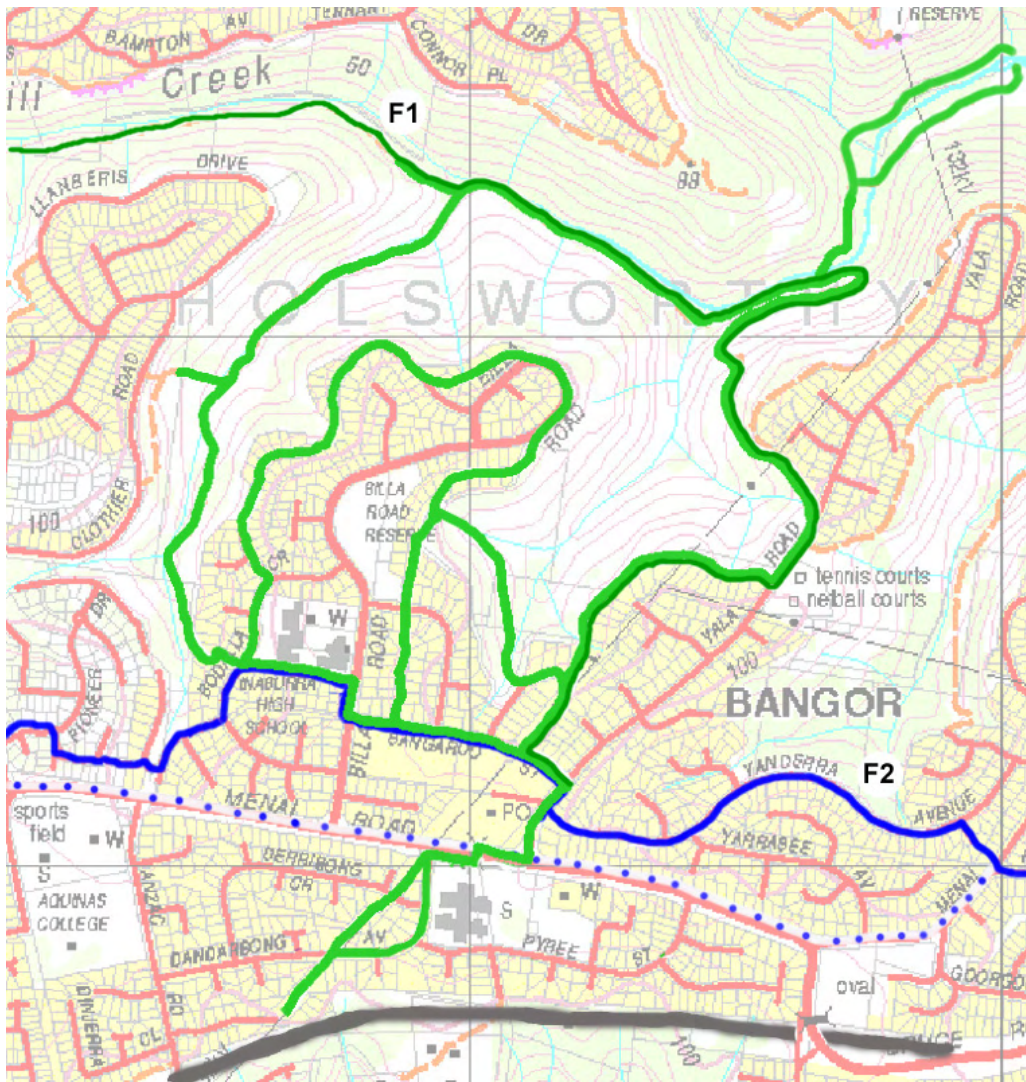
- Menai HS, Tharawal PS, Illawong and Alford's Point Progress Assoc., Illawong Bushfire Brigade, Menai Youth Centre, Church Groups, Scouts and Guides
- Parc Menai and Fern Circuit Bushcare, Illawong and Alford's Point Progress Assoc.



Cycleway between Menai High School and Old Illawarra Road



## W6-U Bangor



### Links

- Connector E2, Shackels High Level Route
- Menai and Menai High School Loops
- Bus 960/62/63, Bangor Shopping Centre

### Opportunities

- Naming and "adoption" of Still Creek tributaries - Schools Projects
- Creek restoration, weed eradication in Still Creek and tributaries
- Provide kissing gate stiles to facilitate access at fire trail gates
- Improve road crossing safety

### Issues

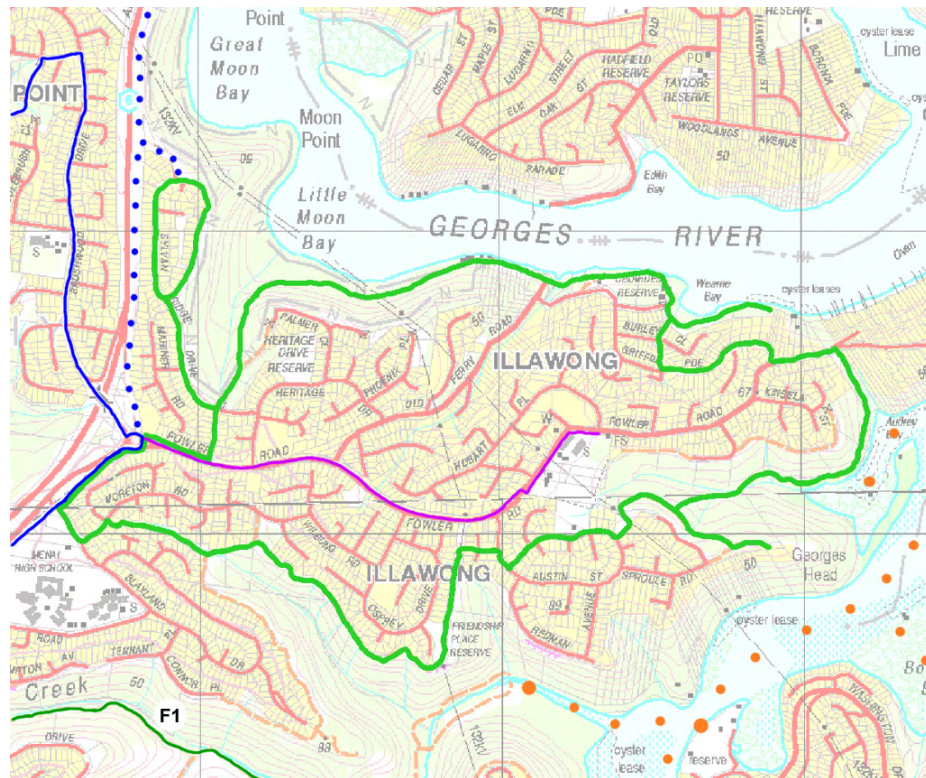
- Footbridge is only safe crossing point on Menai Road, which lacks formal kerb and footway pavement on south side
- Private land tenure

### Community

- Bangor PS, Inaburra School, Holy Family Cath. PS, St Aquinas Coll. Scouts and Guides
- Church Groups, Bangaroo St. and Ballina Place Bushcare Groups



## W6-V Illawong



### Links

- Fowler Road Cycleway, West Menai Nature Trail, Menai School, Alford's Point Loops
- Georges River National Park, Illawong Shopping Centre, Bus 962

### Opportunities

- Create almost 1.5 km of the Georges River foreshore walkway linking GRNP, Old Ferry Wharf
- Delardes Reserve and Werne Bay - Future section of Georges River Way walking route
- Potential connection to north bank dependent on Alford's Point Bridge duplication scheme
- On street loop via Sylvan Ridge to visit look out across Georges River and Salt Pan Creek
- Partnership with 1st Werne Bay Scouts to mark and adopt route along foreshore between Delardes Reserve and Burley Close
- Naming of local creeks and adoption by local schools
- Stream restoration and bush regeneration in Audrey Creek, Loudon Reserve

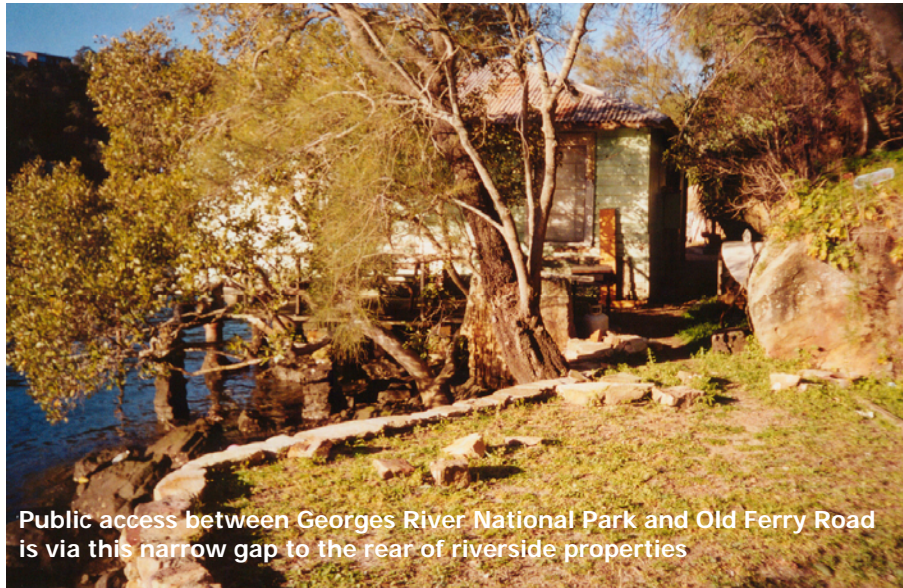
### Issues

- Cost of river foreshore stabilisation and track restoration works - approx. \$250K
- Suggest staging works - SSC to fund using Section 94 developer contributions
- Steep tracks through Loudon Reserve and fire trails liable to erosion
- Liaise with NPWS re. incorporating section of GRNP walking track in loop
- Clarify status of route through backyards of riverside properties at end of Old Ferry Road in liaison with residents
- Private land tenure

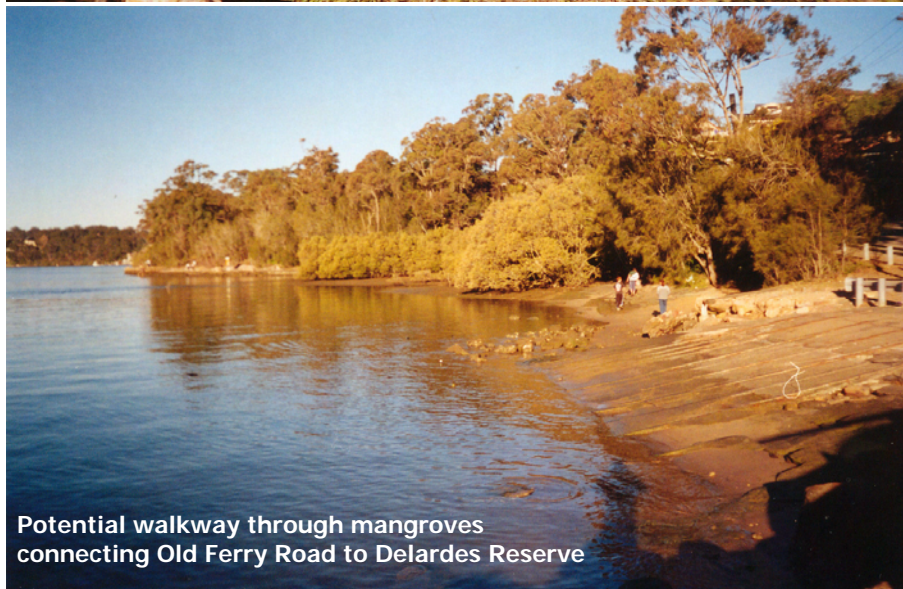
### Community

- Illawong and Alford's Point Progress Assoc., Loudon Avenue Bushcare Group, 1st Werne Bay Scout Group, Illawong Bush fire Brigade, Illawong Community Centre, Illawong PS, Menai HS, Tharawal PS, Church Groups, Sports Clubs





Public access between Georges River National Park and Old Ferry Road is via this narrow gap to the rear of riverside properties



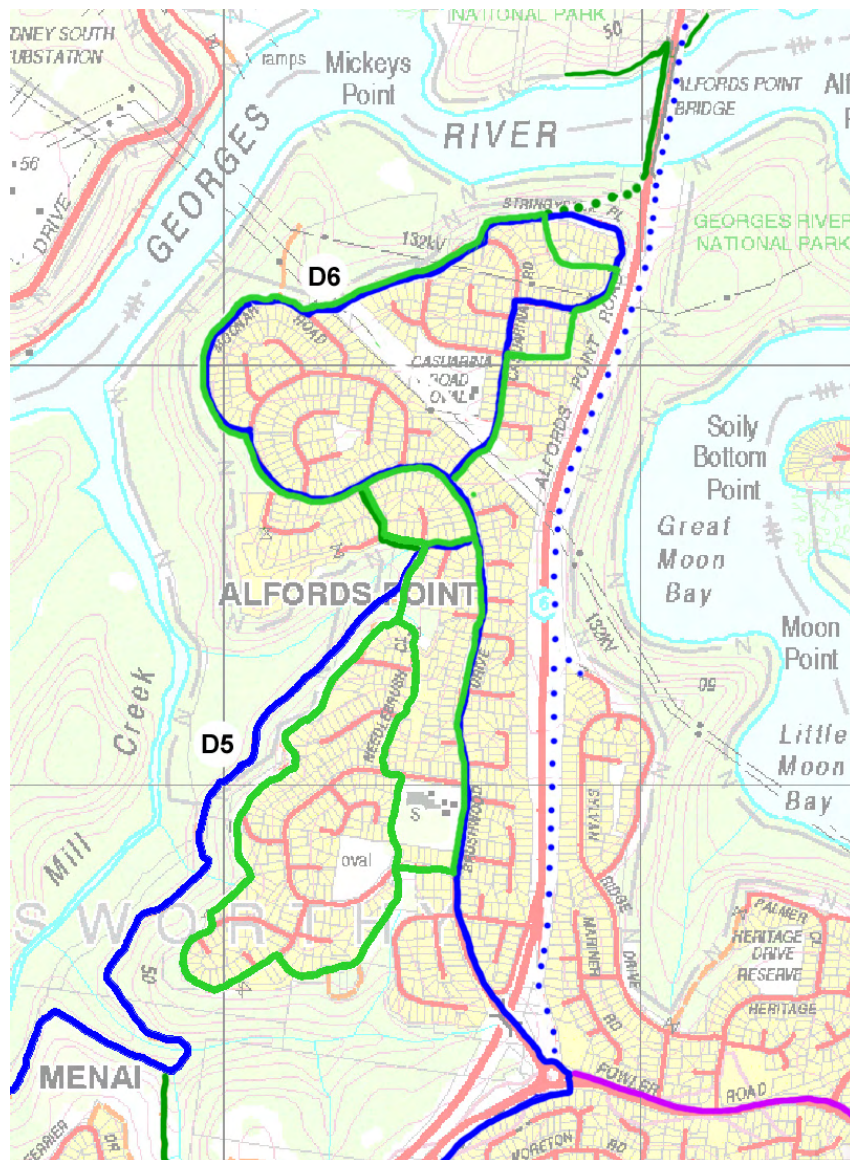
Potential walkway through mangroves connecting Old Ferry Road to Delardes Reserve



Georges River National Park and Illawong foreshore from Sylvania Ridge Drive



## W6-W Alford's Point



### Links

- Spine W6-D5/D6 GLR ?
- Loops - Illawong, West Menai Nature Trail
- Alford's point Shopping Centre, Bus 962

### Opportunities

- Integrate north and south of suburb via local streets and fire trail system
- Improved voluntary surveillance of National Park boundary
- Increase number of local bushcare groups

### Issues

- Liaise with NPWS re integration of GRNP walking tracks in loop

### Community

- Illawong and Alford's Point Progress Assoc., Casuarina Road Res. Bushcare Group, Alford's Point Community Centre, Alford's Point PS, Church Groups, Sports Clubs, Illawong Bush Fire Brigade



## ***Benefits of the Pedestrian Loop Concept***

Developing circular walks in partnership with local groups has several potential social and environmental benefits, which are discussed under the following categories:

1. Implementing spine routes for the Way
2. Promoting cross community ties
3. A focus for social and environmental projects
4. A focus for schools and educational projects
5. Contributing to more liveable communities
6. Health fitness and well being
7. Life long learning

### **1. Implementing spine routes for the Way**

The routes of the Woronora Way and Two Rivers Link pass close to surrounding residential suburbs, and can be easily integrated into circular walks developed in partnership with the community.

### **2. Promoting cross community ties and positive social change**

The process of choosing suitable routes, naming and marking them can bring together a mixture of different age groups, occupations, and ethnic backgrounds - a greater cross-section of society, promoting broader social and cultural understanding.

The opportunity to bring together Aboriginal and non-Aboriginal people in a spirit of cooperation assisting in reconciliation. There are many Aboriginal residents living in the catchment, individual elders and elders groups, Gandangara Local Aboriginal Land Council. Also, Kurranulla Aboriginal Corporation is a general support group based in Jannali which has the potential to be a focus for Jannali and Bonnet Bay community loop projects.

### **3. A focus for social and environmental projects**

The loop walks can be a focus for a wide range of projects, from helping local people to understand their immediate surrounds and the natural processes at work, to enabling direct "eco-action" by residents to improve a creek or bushland remnant for example. Suitable projects might include:

#### ***Community Biodiversity Surveys***

These can provide important information on which to base future community bushcare, species recovery programs and stream restoration work. The NPA and NPWS have developed an excellent manual<sup>51</sup> explaining all aspects of surveys from inception to completion and review. Two types of survey are suggested: baseline survey and comprehensive.

The baseline survey is for groups with little or no previous experience, requires fewer resources to set up and is likely to suit the majority of communities along the Way. It utilises data collection methods, which are easy to follow. Scientific experts can support groups in choosing a suitable local habitat, setting up "transects" - a single line usually between 200 and 500m long. Along the transect are sampling points every 100 m where birds mammals and reptiles are surveyed and a 20m x 20m Square area or "quadrant" in the middle used to survey invertebrates and plants.

The baseline survey results can be used to share knowledge with neighbouring communities to build up a larger picture of flora and fauna; produce local fact sheets and educational material for schools; and contribute to Council rezoning and plans of management decisions.



<sup>51</sup> National Parks Association of New South Wales & National Parks and Wildlife Service. (2001). Community Biodiversity Survey Manual - 2<sup>nd</sup> Edition.

### ***Bush regeneration***

The loop walks have the benefit of providing access to bushland reserves and of raising awareness of weed infestation and other issues which could be the focus for new voluntary bushcare groups, or new initiatives, such as indigenous seed collection, by existing groups supported by SSC Bushcare team.



### ***Creeks and bushland monitoring***

Loop walks provide access to local creeks and riparian zones affected by natural and man made processes. There are opportunities to support existing Streamwatch Groups set up under a Sydney Water Corporation program and start new ones to monitor catchment health.

### ***Constructed wetlands***

The Stormwater Trust administered by SSCMB has grants available for community groups supported by Council and other resource providers. Constructing small wetlands in riparian areas is a way of filtering urban run off and catching pollutants before they enter the river system. The loop track could link several of these to showcase the efforts of volunteers.



## **4. Focus for schools and educational projects**

There are at least 40 primary, secondary and tertiary educational institutions located within the study area and all are within 2 km of the two main spine routes. The loop walks are a potential venue for a variety of educational programs which can be tailored to meet core curriculum or extra-curricula requirements for different age groups including:

### ***Physical Education***

Promoting walking as a physical activity for children not involved in team sports. One benefit is its non-competitive nature. A small pilot project emerged from the Feasibility Study on which future school involvement might be modelled;



### **Menai Public School - Pilot Project May to August 2003**

The Project team responded to a request by teachers at Menai Public School concerning local tracks that could be walked as part of physical education for students in years 4, 5 and 6. Students discovered more about the project concept, the Aboriginal Dreaming Story of the Kia'mia, and located their homes in relation to the track network and natural features via a large scale map of the catchment.

An initial guided walk was conducted along a section of Burnum Burnum Track (W6-D4) overlooking Barden Creek valley. For the rest of the winter term, different walks of increasing length were undertaken by staff and students, including a visit to the tidal section of Mill Creek. Staff have reported:

- Improvements in children's fitness, stamina and mental well-being.
- Impromptu biology classes were held on route.
- Some children were inspired to revisit tracks with parents/carers at the weekend.
- Species encountered included: Rock Wallabies, Pelicans, New England Honey Eaters, Yellow Robins, Silver Eyes, blue wrens, Sulphur Crested Cockatoos, Rock Hoppers and a Fox (unconfirmed).
- Trail bike tracks have appeared on some routes.

Students and staff have both benefited from the program and feel that it should be repeated next winter as part of the curriculum.



#### ***Environmental Education***

Using the tracks to access different habitats, vegetation communities, rivers and creeks, cultural and heritage sites to study biology, ecological processes, flora and fauna, geology, geography, indigenous and non-indigenous cultural and social history.

#### **Cultural Education**

Learning about Aboriginal occupation and the significance of the area to indigenous people. Bush foods, medicines, spiritual links to the land, Dreaming, the meaning of "Country". Learning to respect protocols and traditions.

In providing a facility for life long learning by people of all ages the loop walk project has potentially a valuable contribution to make to "Learning for Sustainability" Program - part of NSW Environmental Education Plan 2002-2005.

### **5. Contributing to More Liveable Communities**

Improved walking networks can contribute to sustainable transport options within a neighbourhood. By connecting community facilities and public transport routes they can help reduce dependency on private motor vehicles for short trips.

## ***Natural Realms***

Walks can link the four "natural realms" of the neighbourhood and improve opportunities for people to encounter the natural environment and feel connected to the web of life. Recent research by NSW National Parks and Wildlife Service<sup>52</sup> suggests that people tend to mentally construct 4 natural realms:

1. Urban paces, yards, streets - these are places made by humans for humans to live in. Only attractive and beneficial or harmless forms of wildlife are considered appropriate here - small attractive birds, lady bugs, blue-tongue lizards, kookaburras, frogs, butterflies and earthworms.
2. Urban nature – local parks and gardens - these are considered leisure places with lawns and manicured trees. Their purpose is human recreation. A wider range of wildlife is appropriate here, but needs to make room for humans.
3. Accessible bush - urban bushland, bush reserve/parks. These are managed bush areas e.g. Burnum Burnum Sanctuary, Bonnet Bay. They should be reasonably safe for humans to visit. Nevertheless they are basically there for the wildlife.
4. The natural environment - unspoiled original nature, not really intended for humans. Visits may involve discomfort and a degree of danger i.e. snakes, spiders wasps.

## ***Home Range***

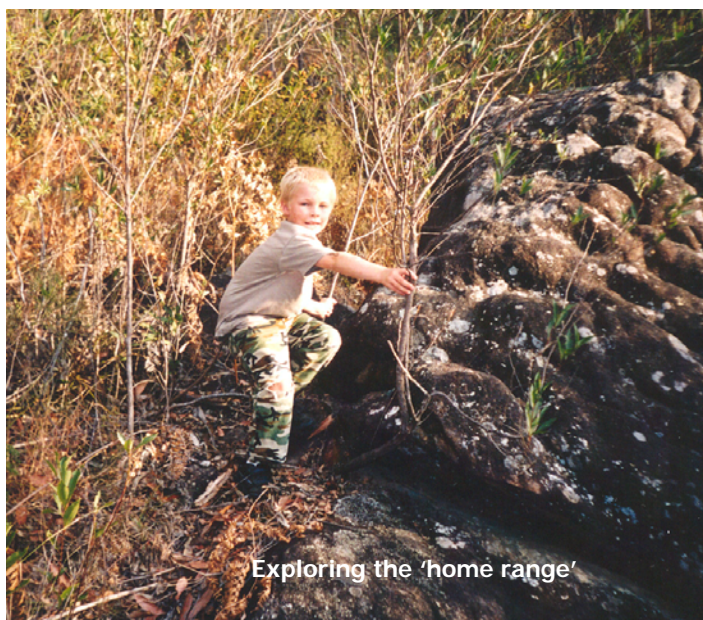
"Home range" is the territory within which a person's day to day movements and activities normally take place. It increases as children grow up. Historically planners have placed barriers to people movement, which have severely limited young people's home range.

The development of loop walks has the potential to widen the home range and increase young people's freedom for independent exploration.

Children and young people require access to diverse learning experiences to discover their natural talents and develop their abilities. By providing safe accessible routes, ideally linking public open spaces of varying character such as bushland and parks (natural realms) in close proximity to residential areas, opportunities are created which can complement formal schooling. These include:

- exercising and developing physical and mental abilities;
- meeting and playing with other children, developing independence and competence through exploration and having fun; and
- appreciation of the natural environment.

The Woronora Valley has many places to explore – creeks which drain the plateaux are a habitat for an array of fish, birds, reptiles, small mammals, insects, and plants for children to discover and observe. Large rock formations, rock shelters and caves have cultural significance and provide great interest.



Exploring the 'home range'

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<sup>52</sup> Woolcott Research. (2001). Urban Wildlife Renewal - Growing Conservation Urban Communities. NPWS Sydney.



## 6. Community Health Fitness and Well-being

Loop walks have been suggested (refer to maps above) of varying length and grade, to cater for different needs and levels of mobility. Typically there are short street based walks on the plateau, and longer combination walks including more challenging bush tracks.

Where previously the main focus of resources has been on organised sports and activities, State land managers, recreation and health agencies are increasingly acknowledging the value of informal recreation close to home.

The health benefits of walking are widely recognised. Through careful promotion, loops have potential to provide:

- a focus for a healthy walks program;
- a facility for aged and probus groups;
- routes for families with strollers and the less mobile;
- routes for joggers and power walkers; and
- an informal facility for people seeking exercise or guided exploration of the neighbourhood before, during and after work where time is a constraint.

### *Community Loop Implementation Strategy*

#### **Jannali and Bonnet Bay Example**

This section considers the practical implementation of the ideas discussed above, using the Jannali and Bonnet Bay Loops (W1-J) as an example.

The table below summarises a suggested staged approach involving a full range of stakeholders along the lines of Local Agenda 21 active community partnering initiatives.

<b>Staging</b>	<b>Community Involvement</b>
<b>Stage One - Develop a Community Partnership</b>	
Identify key Community Groups Identify local champions Identify resource agencies: SSC, SSEC/GREA, DIPNR, SSCMB, Sydney Water, Gandangara LALC, DSR, SESAHS, DET, CDEP, CVA Formalise the Partnership	Kurunnulla Aboriginal Corporation, Jannali and Bonnet Bay Community Halls, local bushcare groups, local schools and colleges, church groups, scouts and guides, sports clubs, PCYC, Family Centre, Billies Bushies, Sutherland Shire Canoe Club, Sutherland Shire Bushwalking Club, private land owners.

<p><b>Stage Two - Bare Foot Mapping</b></p>	
<p><b>Community Partnership to organise Barefoot Mapping exercise, open to all interested groups and individuals</b></p> <p>"Barefoot Mapping" is a name given to ecosystem mapping, which does not rely on high-tech tools or specialised knowledge. Ecosystem mapping takes into account all of the natural and human-made features of a neighbourhood.</p> <p>Mapping is a way for local people to get to know and reconnect with the place they live in. It has potential to empower people to protect their community, its natural and built environment and shape it in ways that work now and for future generations.</p>	<p>A practical tool for exploration and awareness building. A way for the communities of Jannali and Bonnet Bay. to record walking tracks and nearby features, significant landforms, trees, vegetation communities, evidence of wildlife, cultural and historical features - items which are important to them.</p> <p>The idea is to build up a holistic picture of the immediate environment including threats such as weed infestation, pollution, dumping waste, vandalism and so on.</p> <p>From the findings of the mapping exercise the community can better choose suitable community access loops and become aware of environmental issues relating to the chosen routes.</p>
<p><b>Stage Three - Action Planning</b></p>	
<p>Produce a Plan based on the findings of the mapping exercise as a tool for gleaning funding and support in the wider community:</p> <ul style="list-style-type: none"> <li>▪ Routes selected by community</li> <li>▪ Chosen themes and use of routes</li> <li>▪ Priority of Development</li> <li>▪ Private land tenure/consent requirements</li> <li>▪ OHandS Risk Assessments of Routes</li> <li>▪ Other Issues</li> <li>▪ Estimated Costs and Funding Sources</li> <li>▪ Actions and responsibilities</li> <li>▪ Long term Stewardship and maintenance arrangements</li> </ul>	<p>Plan owned by Community Partnership</p> <p>Produced with support of SSC and SSEC/GREA resources</p>
<p><b>Stage 4 Completion</b></p>	
<p>Secure funding for:</p> <ul style="list-style-type: none"> <li>• Track construction and upgrade</li> <li>• signage, track infrastructure</li> <li>• Brochures and educational material</li> <li>• Involve state and commonwealth program in support of volunteers to carryout on ground works</li> </ul>	<p>Construct missing links with help of Conservation Volunteers Australia, CDEP, 1<sup>st</sup> Offenders and other teams</p> <p>Seek VCA s with private landowners and Council where applicable</p> <p>Community partnership to organise naming and marking events.</p> <p>Build on Bushcare network to establish Stewardship Group to monitor use of trail and access support from Council for associated bush regeneration works</p>



## Woronora River Canoe Trail



The Woronora River has excellent potential as the venue for a recreational canoeing trail. Canoeing is a sensitive way to explore the steep sided middle reaches of the river between Woronora village and the Needles, and its promotion would enhance people's experience of the river without increased environmental impact.

A silent mode of travel, the craft used for recreational canoeing are sturdier more comfortable than racing boats. They are designed for more leisurely speeds. They provide a means to interact with nature at close quarters, watching birds and other river life, admiring the scenic qualities of the river. At high tide on the Woronora it is possible to investigate small creeks such as Forbes and Loftus, and discover areas difficult to reach by other means, such as Mangrove Island.

A canoe trail is consistent with the objective of promoting sustainable movement through the valley. Integrated with proposed bushwalking and cycling routes, it facilitates exploration of areas such as the Mill Reach section of the river where there is no defined bush track along the foreshore, and where the construction of a new track would have a negative impact on wildlife habitats.

### ***History of Canoeing on the Woronora***

The River has a rich association with canoeing and canoeists. Indeed the Woronora Amateur Canoe Association, formed on 26<sup>th</sup> February 1933, is the oldest canoe club in New South Wales.

#### ***Woronora Amateur Canoeing Association<sup>1</sup>***

The WACA, was originally known as the Upper Woronora River Social and Sports Club, and at its peak boasted a membership of 75. Its activities included dancing, parties at members' homes, foot racing and canoe racing. The River Canoe Club based at Tempe was formed 2 years later and the 2 clubs often got together for racing and social events, including bushwalking in the winter.

<sup>1</sup> ref. Joan Morison, CanoeNSW Founder & Archivist and Co-founder of Sutherland Shire Canoe Club

The races were from WACA's Prince Edward Park "home" to Como Railway Bridge and back, a distance of 13km, and many of the keener "paddlers" would train for the events by pulling their oyster barges along by canoe!

In the early 1940s several intrepid canoeists from the Salt Pan Creek area, spent 3 days exploring the upper reaches of the river beyond the needles, pool hopping to Woronora Dam and back.

Sadly the majority of the male membership of WACA never returned from the 2<sup>nd</sup> World War and the club folded.

### **Recreational Canoeing and Existing Canoe Trails**

Several facts reinforce the popularity of recreational canoeing/kayaking as opposed to competitive sport canoeing/kayaking:

- According to a 1990 survey (NSW Dept. Sport and Recreation) canoeing as a passive secondary recreational pursuit makes up approximately 80% of all canoeing activity - 20% is competitive.
- It is estimated that one in every four homes in Australia owns a canoe or kayak (1990 Australian Canoeing)
- On average 600 canoes or kayaks are sold per month in New South Wales (NSW Canoeing 2003).
- Surveys also show that 90% of people who own/paddle a canoe or kayak do so independently of canoeing organisations and clubs.

Yet, according to the peak state body NSW Canoeing, there are no formally recognised recreational canoe trails in New South Wales.

However, other States have applied the concept on several rivers. For example, in Queensland there are the Ipswich and Pine Rivers Canoe Trails.

Ipswich City Council has developed a promotional brochure for Trails on the Brisbane and Bremmer Rivers. The brochure provides trail maps showing access/egress points and a wealth of information on flora and fauna, heritage, as well as safety and river care codes.

### **Benefits of Canoeing for participants**

- Canoeing is by nature a passive recreational pursuit
- Paddling can reduce stress, provides exercise, fresh air and a sense of well being
- Excellent sport for improving self esteem
- Disabled paddlers report that it improves their mental health and self esteem
- Calming influence on young offenders - communing with nature
- Ideal for families as a bonding exercise - youngsters "can do their own thing" in their kayak or canoe, but don't mind parent(s)/carer(s) being there for they are essential for getting them and their craft on the water.

### **The advantages of canoeing for the environment**

- Canoes and kayak craft do not create wash and therefore do not contribute to riverbank and shallow river bed erosion, unlike motorised craft.
- Canoes do not pollute the river with exhaust emissions
- Canoes are quiet and allow opportunities to observe native flora and fauna without disturbing
- Do not require expensive hard landscaped facilities such as boat ramps for launching
- Canoes can be launched from shallow beach or grassed areas of the foreshore

### **The Suitability of the Woronora River for a Canoe Trail**

The Woronora River is highly valued by those living within its catchment, and many people living within the Sydney Metropolitan area for its recreational values.



Citizens living in the valley have noted the importance of being able to swim and canoe safely and the role that maintaining and protecting aquatic ecosystems can play in ensuring a cleaner water quality<sup>1</sup>.

The Woronora has advantages as a location for a Canoe Trail including:

1. **Safety** - Hypothermia on the open water. The Georges River is less sheltered, carries larger boats and more and faster crafts – such as jet skis. The River is sheltered by hills on either side, protecting the open water from rough weather. Large motor boats are prevented from accessing the upper river by the low bridge height next to the Bushfire HQ, though occasionally youths speed along in tinnies. A large sandbar across the estuary of the Woronora protects the river from Sharks although a shark was once reported seen next to Prince Edward Park during the severe drought year of 1920! Personal Flotation Devices are to be recommended on all literature associated with the trail.



2. **Variety** - The river valley has tremendous variety of scenery, topography, landforms, heritage, and flora and fauna as it makes its relatively short journey from the freshwater catchment down to the confluence with the Georges at Como. - approximately 11kms from The Needles to the mouth of the river.
3. **Access** - There are several existing points of safe public access to the river for canoeing concentrated in the central reach of river from Lakewood City Reserve at Bonnet Bay upstream to Prince Edward Park. Most have car parks and toilets as well as other facilities. A central starting point such as the Star Boatshed is ideal. A trail can be followed upstream or downstream dependent on the participants involved. The Boatshed is located opposite Prince Edward Park where the Woronora Way walking and cycling routes and the canoe trail join. A combination of routes is then possible.
4. **Achievable** - The River has a high standard of existing access facilities. The main items requiring development are community consultation, installation of trail markers and trail promotion through brochures/maps.
5. **Location** - in close proximity to large population - The Woronora catchment has accommodated significant urban development in the last 10 to 15 years, increasing the population to an estimated 53,000. The Canoe Trail can contribute significantly to the management of increased recreational demand placed on the river by the emerging population and the existing population of Sutherland Shire (200,000 in total), It provides a sustainable recreational use of the river, has potential to raise awareness of the rivers intrinsic values, and contributes to life long learning for the community.

## Aspects of a Woronora River Canoe Trail

### Trail users

Different trail options to suit all levels of skill (beginner, average, experienced) in both canoe and kayak. For example family Groups (parent(s)/carer(s) kids), seniors, singles or couples, school or

<sup>1</sup> ref. Healthy Rivers Commission of New South Wales, June 1999

youth groups, disabled groups. Trail to benefit as many people as possible from beginners to experienced.

Three main groups of users need to be catered for:

1. **Independent** canoeists bringing their own craft to the access points from outside the valley
2. **Local** paddlers - most waterfront properties have at least one canoe
3. **Individuals** and groups hiring craft from the Star Boatshed

### Trail markers

Various points of interest and access points will be marked with signposts designed to complement the natural environment. They will carry a reference number to link them to brochures/maps as well as the distance in kilometres from Boatshed. It may be better not to provide information on approximate times for beginners/least experienced paddlers, as it may be misleading and raise liability issues. Perhaps a mini-map should be made available to people hiring canoes.



**Canoeing beside Jockeys Cap on the "Bitter Water Paddle" upstream of Woronora Village**

### Trail Routes

Maps W1, W2 and W3 illustrate the potential format for a Canoe Trail, suggesting 3 river "tours" utilising a central start point at the Woronora Boatshed:

1. a lower estuary tour
2. an upper river tour
3. a short tour of tributary creeks suitable for beginners

A breakdown of access and stopping points, as well as suggested points of interest is provided in below.



## Woronora River Canoe Trail - Suggested Format

### TOUR 1: MAJESTIC ESTUARY PADDLE - 16 km or \*18 km return trip

Location Points of Interest/ Access/Rest	Facilities	The Great Kai'mia Way Links		Distance from Boatshed and notes
		Spine routes	Other routes	
1 Star Boat-shed "Woronora River Canoe Centre"	Launch Rest Point Canoe/boat hire Shop	Woronora Way W2-A5 W2-C3	Prince Edward Park Track/ Sutherland Loop Jockeys Cap Spur track Shackels High Level Route	0km
2 Prince Edward Park Boat Ramp/	Launch/Beach Rest point Car Park Toilets Play/Picnic	Woronora Way W2-A5	Prince Edward Park Track/ Sutherland Loop Jockeys Cap Spur track Shackels High Level Route	0km
3 Old Bridge (Stopping point at beach on east bank of river)	Launch/Beach Accommodation Car park Toilets Shops Picnic Café	Woronora Way W2-A5 W2-C3	Jannali Reserve tracks Jannali/Bonnet Bay Community Loop	1.2km
4 Jannali Foreshore Reserve	Launch/Beach Suth. Shire Canoe Club HQ Car Park Toilets Play/Picnic	Woronora Way W1-A4 W1-C2	Jannali Reserve tracks Jannali/Bonnet Bay Community Loop	1.5km
5 Bonnet Bay Reserve	Launch Car Park Toilet Play/Picnic	Woronora Way W1-C2	Jannali/Bonnet Bay Community Loop	2.2km
6 Oyster Lease				2.7km Mangroves Quiet backwater for wildlife viewing
7 Still Creek	Rest Point	Georges River Way ?	Still creek FT Menai High School Loop Bangor loop	3.3km Tidal Creek Saltmarsh
8 Lakewood City Reserve	Beach Rest point/Car park Toilets Play/Picnic	Woronora Way W1 - C2	Bonnet Bay Loop	4.0km
9 Bonnet Bay				5.4 km Mangroves Oyster leases
10 Audrey Bay			Spur tracks to Illawong School	6.5 km Mangroves Oyster leases
11 Mangrove Island		Woronora Way Long term boardwalk		8.0 km Important habitat historic oyster lease
13 *Como Marina	Private launch Rest point Car Park Café Como Pleasure Grounds	Woronora Way W1 - A1 Paruna	Como Heritage and Environment Trail	8.6 km Heritage Location
14 *Scylla Bay	Launch Rest Point Car park Toilets	Woronora Way W1 - C1	Como Heritage and Environment Trail	9.0 km Historic Como Hotel Reserve Pier

\* N.B. to reach these two destinations entails negotiating the confluence of Woronora and Georges Rivers, a large expanse of open tidal water - hazards include:

- exposure to stronger winds
- cross currents
- jetskis
- wash from large motor boats

**recommended for participants accompanied by a qualified guide only**

## TOUR 2: "BITTER WATER" PADDLE - 11 km return trip

Location Points of Interest/ Access/Rest	Facilities	The Great Kai'mia Way Links		Distance from Boatshed and notes
		Spine routes	Other routes	
1 Star Boat-shed	Launch Canoe hire Shop	Woronora Way W2-A5	Prince Edward Park Track Sutherland Loop	0 km
2 Prince Edward Park Boat Ramp	Launch Point Car Park Toilets Picnic Play	Woronora Way W2-A5	Prince Edward Park Track/ Sutherland Loop	0 km Confluence of Woronora river and forbes Creek
15 Scout Camp	Beach Rest point Picnic Camp		Woronora Nature Trail Shackles High level route	0.7 km Saltmarsh Riverflat Forest
16 Jockeys Cap	Beach Rest Point		Woronora Nature Trail Shackles Low level route	1.5 km Cathedral rock Jockeys Cap Old Stone Foundations
17 Old Sunday School Camp	Beach Rest point Camp		Woronora Heights Circuit	3.0 km Riverflat forest
18 Shackels Beach	Beach Rest point		Shackles low level route	3.8 km Hairpin River bend Site of Azalea gardens
19 The Needles	Sabugal Causeway Access Tracks	Woronora Way W3-A7 Woronor/Georges Link W5-D1	Shackles High and Low Level routes	5.5 km Rock formations Rapids Freshwater Pools
<b>20 Freshwater Pools</b>	Option for fit and experienced canoeists to explore freshwater pools upstream of the needles. Requires carrying of canoes over land for 300 m			

## TOUR 3 - "TWIN CREEKS" LOOP

Location Points of Interest/ Access/Rest	Facilities	The Great Kai'mia Way Links		Distance from Boatshed and notes
		Spine routes	Other routes	
1 Star Boat-shed	Launch Canoe hire Shop	Woronora Way W2-A5	Prince Edward Park Track Sutherland Loop	0 km
21 Forbes Creek			Sutherland Loop	1.0 km Waterfall Casuarinas
22 Loftus Creek		Engadine Alternative W2-E1	Loftus Loop	1.25 km Riverflat Forest
1 Star Boat-shed	Launch Canoe hire Shop	Woronora Way W2-A5	Prince Edward Park Track Sutherland Loop	2.5 km



## Stakeholders

- **Australian Canoeing**

Since 1949 Australian Canoeing (AC) has been the Peak Industry Body for canoeing in Australia. They are very supportive of the idea of a Woronora River Canoe Trail

- **NSW Canoeing**

Formed in 1953, the peak state body is also extremely supportive of the idea and keen to be a partner. Canoe NSW help to provide training and implement the AC award scheme for guides, instructors, and participants. They see the Woronora as being a suitable river for a prototype Canoe Trail in NSW because of:

- The proximity of the river to urban Sydney
- The location of access facilities in the central reach of the river
- The position of the Sutherland Shire Canoe Club facility on the banks of the river.

- **Sutherland Shire Canoe Club**

The local canoe club was established in 1972 and has been based in Jannali Reserve at its current location since 1980.

The SSCC's mission is "to promote recreational canoeing in the Sutherland Shire by providing a facility and safe environment where participants of all ages can learn the basic skills in all types of canoe and kayak to further their enjoyment of not only the waterways of the Sutherland Shire but all the rivers of Australia." They have a number of qualified instructors and coaches and are willing to assist in the establishment of a Woronora River Canoe Trail. The Club fully supports the trail concept, seeing it as a way to encourage more canoeists, potential members and assist in the Club's long term plan to set up a Canoe Centre for Sutherland Shire at the northern end of Bonnet Bay Reserve next to the boat ramp.

- **Lilli Pilli Kayak Club**

Formed in the early 1960s, the Lilli Pilli Kayak Club promotes mainly competitive canoeing and kayaking including sprints, marathons, middle distance, whitewater, flat water, slalom, but they are keen to acknowledge the worth of a recreational canoe trail. Their 40 plus members utilise the Woronora River for training and races because of its sheltered conditions.

- **The Local Community**

The local community is likely to benefit considerably from the establishment of a canoe trail. Virtually every waterfront property along the river has a canoe or kayak.

The *Woronora Valley Precinct Residents Association* have indicated their preference for canoeing/boating against walking/cycling as the way to explore the more environmentally sensitive areas reaches of the river upstream of Deepwater.

*The Star Boatshed* hires out canoes, kayaks and small boats and is ideally placed to benefit financially from an increase in visitors. Since the construction of the high level road bridge across the river in 2000 there has been a steady fall-off in casual customers, as traffic no longer has to drop down into the valley.

Other businesses are likely to benefit including the *Woronora RSL Club* and the *Riverside Café* and *Woronora Caravan Park*

- **Sutherland Shire Council**

Council manages a range of assets along the river foreshore including the boat ramps and car parks at Prince Edward, Jannali and Bonnet Bay Bay Reserves - the main access points for the trail.

In the case of The Brisbane River and Bremmer Canoe Trails in Queensland, Ipswich City Council was responsible for promoting the trail through education and publicity materials.

The support of council will be vital to help fund a brochure and manage any increase in use of Reserves.

- **Gandangara Local Aboriginal Land Council**

The entire Woronora River downstream of Heathcote Road below the high water mark is currently under claim by Gandangara Local Aboriginal Land Council, under the Aboriginal Lands Rights Act 1983 legislation. Also the Land Council has lodged claims on crown land along both banks of the river.

Whilst DIPNR is investigating the claims no development can take place without the consent of the Land Council. This includes the construction of any new canoe launching facilities such as floating timber slats.

There is an opportunity for involvement of the Land Council and the indigenous community in the future management of a Trail including organised guided tours focussing on the significance of the river for Aboriginal people.

### **Issues to Address**

- **Water Quality/Health/Flooding**

- The large natural areas of the upper Woronora catchment provides an important source of clean water to counterbalance the polluted water emanating from the urbanised lower catchment and the larger Georges River catchment. While the lower estuary is fairly rapidly "flushed" (every two to five days) by the Georges River water, the water is generally of poorer quality. However in prolonged dry spells there is little inflow from the freshwater river and/or the immediate tidal catchment.
- Certainly canoeing should be avoided for up to three days after rain when stormwater run off and sewage overflow contribute to poor water quality in the river.
- The gross pollutant trap in Forbes Creek is close to the central launch point for the Canoe Trail and increased maintenance of the trap is desirable. Local people feel that the trap has caused more erosion and led to muddying and siltation of the lower creek.
- For general safety, Canoe trail literature will advise that canoeing should not take place in the event a flood.

- **Access**

Although the existing access provision is quite extensive, it is suggested that as part of the project better facilities be provided for disabled canoeists, including separate vehicle parking and an on/off water access facility eg pontoon.

- **Cultural Heritage and Significance**

The river and its shores have played a central role in the lives of Aboriginal people, providing places for birth and ceremonies. Also Aboriginal people were dependent on the river for food supply, including fish, worms, freshwater mussels, prawns, and yabbies.

- **Links to other recreation activities**

Primary e.g. swimming, and secondary e.g. boating, picnicking.

Increased pressure on number of car park spaces at Prince Edward Park and Jannali Boat Ramp, in particular.

- **Plan of Action**

- Develop the concept map
- Involve the community along the river - WVPRA, SSCC, SSC, individual residents
- Field investigations and consultations
- Consult regarding points of interest
- Develop design of trail markers
- Seek funding to produce a brochure - SSC, Star Boatshed, NSWCanoeing, NSW Sport and Recreation
- Seek funding to provide timber ramps next to concrete boat ramps in Prince Edward Park and Jannali Foreshore Reserve





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## CHAPTER 5

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### Coordination

The Great Kai'mia Way traverses twelve local government areas, tracts of Crown Land, National Parks, Aboriginal Land Council land, private land, Sydney Water Land and land belonging to other government authorities and agencies. Many sections of the Way already exist, but the standards of access and signage vary considerably. Many sections of the Way are missing and commitment from landholders varies from area to area. These issues are part of the discussions in Chapter 3 and 4. A consistent theme in the feedback the project team received in meetings with stakeholders in the Great Kai'mia Way study was the need for a coordinated approach.

The project team identified four aspects of the Great Kai'mia Way that require coordination:

5. Sustainability and safety
6. Signage
7. Use of materials
8. Implementation

This Chapter is concerned with the first three. Chapter 6 will discuss the fourth issue.

### Sustainability and Safety

One of the goals of the creation of the Great Kai'mia Way is to provide appropriate access to the Woronora and Georges River foreshores. Land managers, the community in general and track users all have a role to play in ensuring that ecological values of the foreshores are not compromised. All parties also have a role to ensure that safety is a key consideration in both working on and using the Way.

As part of the feasibility study carried out for this report, the project team developed a safety code (reproduced in Appendix 5).

#### Recommendation:

4. **That the safety code developed by the Great Kai'mia Way project team be adopted as the minimum standard for work carried out on the Great Kai'mia Way.**<sup>53</sup>

### Risk Management and Liability

The staged development of the Great Kai'mia Way raises potential liability issues, and the management of risk to the public and landowners from using the Way is an important consideration for Councils and other land managers.

Consultations with Sutherland Shire Council (SSC)<sup>54</sup>, for example, indicated that the following actions might be undertaken as part of a package of measures to minimise risk:

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<sup>53</sup> Councils and government agencies, and other landholders and managers will have more detailed occupational health and safety procedures. These will, of course, be the ones applicable for works on their land. The recommendation here is for *minimum* standards only.

<sup>54</sup> Sutherland Shire Council Parks and Waterways Draft Report on The Great Kai'mia Way October 2003

- Council would only be responsible for parts of the Great Kai'mia Way within the Sutherland Shire on land under its care and control, ownership or properties providing easements for the route.
- Provide risk warnings on brochures and signs specifying latent dangers including steep grades, uneven surfaces, loose rocks, falling branches and service vehicles.
- When requesting consent from owners, including Crown Lands and Gandangara LALC, Council is likely to be required to provide owners with indemnity against public liability on the track.
- Council will need to demonstrate a certain level of maintenance on the track. This would include an appropriate inspection regime.

SSC and NSW Rural Fire Services (RFS) have discussed potential impacts of increased use of the firetrail in west Menai as a result of promoting the Burnum Burnum Track. Currently the public use the firetrails for walking and cycling without any controls. It is considered that through the use of Kai'mia Way signage an opportunity will be created to close the trails to the public during extreme bush fire hazard conditions or during hazard reduction activities. "Track Closed" signs will be incorporated into information signs at both ends of the Burnum Burnum Track. Maintaining good lines of communication with National Parks staff should ensure that trail closures across the catchment are coordinated.

## Minimal Impact Recreation - Treading Lightly Protocols and Codes of Conduct

Increasing access to bushland requires a "tread softly" approach.

### Recommendation:

5. **That the codes of conduct detailed in the Great Kai'mia Way report<sup>55</sup> be noted on signage and on literature relating to the Way for the three main categories of non-motorised recreational uses: walking, cycling and canoeing.**

### Walking in the natural areas of the Way

#### *The Kai'mia Code for Walkers*

**Stay on the track** even if it is rough and muddy. Walking on track edges and cutting corners on steep 'zigzag' tracks increases damage, erosion and visual scarring, as well as causing confusion about which is the right track. Cutting new tracks is illegal and marking tracks with cairns, tape or other materials is unsightly and can confuse other walkers.

#### **Avoid sensitive vegetation.**

Both fresh and salt-water wetlands, heath and forest understorey – eg. vegetation are easily destroyed by trampling. Stay on rocks and hard ground whenever possible.

**Respect** all flora and fauna. Do not remove any Aboriginal artefact.

**Walk softly.** Choose appropriate footwear for the terrain. Solid but lightweight walking boots are best. Sandshoes can be used on most tracks in summer. Wear sandshoes around bush campsites.

**Leave only your footprints and take your litter home with you.**



<sup>55</sup> *The Great Kai'mia Way: Chapter 5.*



## ***Planning your trip***

**Let someone know before you go bushwalking.** Tell them about your party, your route, when you plan to return and the equipment the party is carrying. Remember to contact them when you return.

**Keep your party small** (ideally 3-8). Large parties (of more than eight people) have more environmental impact and can adversely affect the experience of other visitors.

**Weather changes very rapidly.** So be prepared.

**In remote country where there are no toilet facilities, minimise your impact** by taking a hand trowel for burying toilet wastes. Bury at least 100 metres away from watercourse.

Carry enough **drinking water** for your trip

## **Cycling the Way**

### ***Management Issues***

The Great Kai'mia Way project team acknowledges that cycling is a legitimate recreational pursuit in some natural areas, where permitted. It has many advantages to participants and to the community including health and leisure benefits for the individual and a reduction or non-production of greenhouse and other pollutants. Most roads in the Georges River catchment are not suitable for safe cycling and there is a need for safe commuting and recreational routes for cyclists, in the rapidly expanding catchment population.

Parts of the Way is intended for shared use by walkers and cyclists (where permitted). Mountain biking (MTB) is a relatively 'new' use of trails compared with traditional established use such as bushwalking, with potential conflict between the two user groups. The speed of bikes when approaching walkers is a frequently noted concern. Collisions are all too common and have caused widespread opposition to the use of traditional walking tracks by cyclists.

Another concern is that some cyclists use walking tracks illegally. An increasingly significant proportion of MTBs (estimated 25%)<sup>56</sup>, are deliberately seeking experiences away from their permitted realm (i.e. management trails), using more challenging arenas such as walking tracks and undisturbed bushland. Mountain bikes/cycles have a greater potential to erode unsealed trails than the footsteps of walkers because of the continuous contact of the wheels with the surface which cause a groove that will channel water. The tracks they use, therefore, need to be constructed and managed differently.

Inevitably the negligent behaviour of some MTBs has negative impacts:

- Compromises the safety of bush walkers;
- Increases track/soil erosion, leading to siltation of watercourses;
- Fragments and destroys ecological communities, spreads weed seeds; and
- Is an ongoing drain on limited maintenance resources.

The NPWS (National Parks and Wildlife Service) are attempting to manage the impacts of cycling activity in Royal National Park through the Trial Cycling Management Plan developed in consultation with representatives from biking, bushwalking and resident groups, yet damage is still being caused by a minority who ignore the agreed regulations and protocols of the trail.

There is clearly a need for a wider regional strategy to support the efforts of NPWS and others to appropriately manage the access of bikes to sensitive areas. The Way offers a potential framework for coordinating a whole of government approach to inappropriate cycle use throughout the Georges River Catchment.

### **Recommendation:**

- 6. That a regional strategy be developed to provide opportunities for cycling experiences that also: identifies the type of cycling experience appropriate to particular tracks;**

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<sup>56</sup> MTBA and state bodies

**incorporates protocols for the use of shared trails; and incorporates legislative controls against unauthorised use of trails and inappropriate conduct on shared trails.**

A range of legislative and management tools could be considered including penalties and enforcement (for example, powers for managers to confiscate the front wheels of bikes caught off limits in National Parks and Reserves), but also pro-active initiatives such as providing MTB "Parks".

### ***Planning for Adventure Cyclists***

The following is a suggested plan for providing affordable and accessible alternative facilities for cyclists:

1. The 12 Georges River catchment councils, DIPNR, Local Aboriginal Land Councils and other land managers identify suitable public and private land assets, away from protected and significant natural areas (such as might be provided by private landowners who are seeking a profitable use for land which they are unable to develop).
2. The chosen sites are assessed for natural, cultural and historical significance with the help of Council Science Units, NPWS, NPA, and others.
3. User groups are invited to participate in the design of routes of varying degrees of difficulty and danger, in consultation with Police, landowners and managers. Liability issues must be addressed.
4. Track modifications such as boardwalks and ramps to be installed to minimise surface damage. Measures to protect significant trees, landforms and vegetation communities; and silt traps installed to protect watercourses.
5. Boundaries of the park must be clearly marked on ground and on map display boards at the entrance to the trail. Well-designed entrance points need to include parking, clear signage and educational material, and code of conduct for park users. Official bike clubs to contribute to policing of the park and liaising with land managers.



**Mountain Bikers on a management trail in East Heathcote**

New Zealand and Canada already have such purpose-built parks. For example cycle parks in Whistler<sup>57</sup>, British Columbia have been designed to strict environmental standards respecting ecological integrity.

### ***Great Kai'mia Way Cycling Access Policy***

Organisations such as *Australian Association of Bush Regenerators (AABR)*, *National Parks Association (NPA)* and *Nature Conservation Council (NCCNSW)* have developed policies and principles concerned with cycle access and environmental protection. *The International Mountain Biking Association (IMBA)* has suggested a hierarchy of options for managing track user conflict. The project team has drawn on this work to produce a Great Kai'mia Way Cycling Access Policy.

The policy has three strands:

- 1 Track planning and construction
- 2 Track management
- 3 Track users code of conduct.

<sup>57</sup> DeBoer, Andrew. "Whistler Trail Standards - Environmental and Technical Trail Features" First Draft, Resort Municipality of Whistler, September 2001

## **1 Planning and Construction**

- Restrict new bicycle paths to non-bushland areas.
- No construction of bicycle paths through or adjacent to any Endangered Ecological Community.
- No construction of bicycle paths in linear reserves in or adjacent to remnant bushland areas where construction of a path and associated landscaping will compromise ecological values.
- Where bicycle paths are adjacent to bushland, all potential impacts must be taken into account, including landscaping, noise, scent, litter and light, and the paths must be made impact neutral.
- The creation of on-road bicycle friendly or alongside road shared routes near to bushland with points of access to the bushland to encourage cyclists to travel to those areas.
- The provision of bicycle storage facilities (racks) at access points to bushland walking tracks.

## **2 Management**

- Land managers such as Councils, to manage cycling activities so that there is minimal impact on the environment, natural and cultural heritage values.
- Managers to adopt a hierarchy of options for managing user conflicts beginning with the most preferred option - informative signage, to least preferred - close the area to cyclists altogether.
- Option 1 - develop signage and literature promoting appropriate track use protocols - e.g. Kai'mia Code (see below). Display Panels and brochures to present good maps to show tracks that are shared, where cycling is permitted and which are walking only tracks. (Refer to "Family of Signs" in section below)
- Option 2 - develop education programs targeted at those using bushland areas for informal cycling. Work with schools, colleges, youth groups, cycling clubs, walking clubs and Councils to educate cyclists and potential cyclists about low impact use and consideration for other users. Ensure that cyclists who care, but don't know the proper etiquette, have enough information to monitor themselves.
- If the more preferred options are failing, then patrolling the track, restrictions, separate routes for walkers and cyclists should be considered, with closing all tracks to cyclists as a last resort when all other efforts have proven ineffective.
- Managers to investigate provision of MTB parks - see above

## **3 The Kai'mia Code for Cyclists**

**Ride on roads and management vehicle tracks only.** Even roads are susceptible to damage when wet; they cannot be used when they are seasonally closed. Walking tracks are managed for walkers and are not available for use by bicycles.

**Respect the rights of others.** Other track users have the same rights as you do, so let them go about their activities without interference. Keep speeds down to avoid frightening other users.

**Wear your helmet** whenever you are cycling. It is required by law even on management trails.

**If you meet walkers**, announce your presence, slow down, signal with sound (ring a bell or call a greeting) and give them right of way as you pass.

**Avoid skidding.** Skidding damages tracks by removing the harder surface layer. This can lead to erosion. Cutting corners also causes erosion. Don't cut corners, stay on the track.

**Stay away from wet, muddy areas.** Muddy areas are very prone to damage. The tracks you leave behind channel the water when it rains and this leads to erosion.

**Check before you leave.** It is a good idea to check with local land managers to find out about track closures and fire regulations, limits on camping or other general information.

**Respect** all flora and fauna and do not remove any Aboriginal artefact. Take your litter home with you.



#### 4 *Planning your trip*

**Let someone know before you go** mountain bike riding. Tell them about your party, your route, when you plan to return and the equipment the party is carrying. Remember to contact them when you get back.

**Keep your party small** (four to eight people). Large parties have more environmental impact, affect the experience of others and are harder to manage.

**In remote country where there are no toilet facilities, minimise your impact** by taking a hand trowel for burying toilet wastes. Bury at least 100 metres away from watercourse.

Carry enough **drinking water** for your trip.

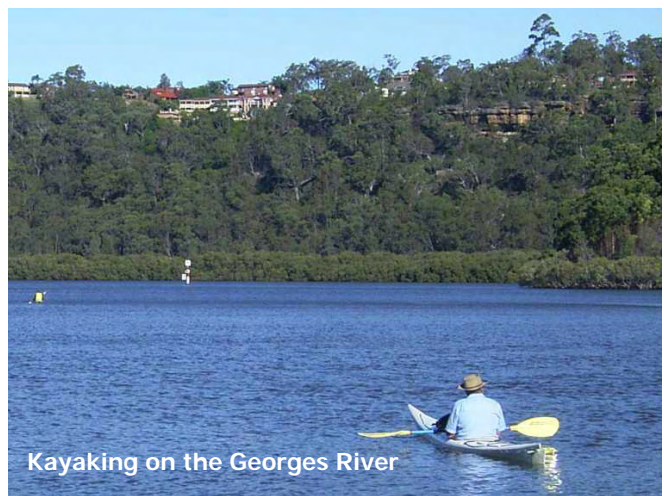
### Canoeing

Canoeing is an enjoyable activity but it is not without risks. Accidents often occur through parties being ill-prepared or failing to observe necessary safety precautions.

#### *The Kai'mia Code for Canoeists*

If you do the right thing travelling to and on the river, environmental impact can be minimal.

- Keep vehicles to formed roads and tracks. Craft must be carried to the water.
- If other groups are there, stagger launchings to avoid congestion and social impacts.
- When you camp, try to avoid camping with other groups and choose a site with a robust bank or beach on which landing and launching of craft will have least impact.
- **Respect** all flora and fauna and do not remove any Aboriginal artefact. Leave only your footprints and take your litter home with you.



#### **Safety on the river**

- Ensure river heights are suitable before departure.
- Ensure all craft are designed for the type of paddling you intend to carry out, are adequately equipped with fixed buoyancy, handholds, spraycovers (if necessary) and are in good order.
- Carry appropriate group equipment including repair kit, comprehensive first aid kit, spare food and matches.
- Carry appropriate individual equipment including throw rope, buoyancy/life vest, helmet, personal first aid kit, adequate protection against cold, wet, hot and sunny weather.
- Keep the party in sight of one another at all times.
- Keep well away from trees, snags and other obstacles.

Be familiar and comply with the Australian Canoeing safety code.<sup>58</sup>

#### **Planning your trip**

- **Keep your party small.** Large parties (of more than eight people) have more environmental impact and can adversely affect the experience of other visitors.
- **Ensure prior knowledge of the river.** The leader of the trip should have experience of the river and have leadership skills
- **Only take appropriately skilled party members.** Be sure your party members are capable of:

<sup>58</sup> Available on line from NSW Canoeing website [www.nswcanoe.org.au](http://www.nswcanoe.org.au)

- swimming confidently; and
- rescuing themselves and other party members from a capsized.
- **Protect yourself and other group members** against sunburn, cold, wind and rain. Protect your skin and always wear a long-sleeved top, a hat and sunscreen.
- **Plan your escape routes.** Carry maps and be familiar with potential escape routes should a mishap occur which necessitates walking out. Have appropriate walking gear (shoes, day pack, map, compass, torch) in case this should be needed.
- **Let someone know before you go** on the river. Tell them about your party, your planned day of return, and the equipment you are carrying. Remember to contact them when you return.
- **In remote country where there are no toilet facilities, minimise your impact** by taking a hand trowel for burying toilet wastes. Bury at least 100 metres away from watercourses.
- Carry enough **drinking water** for your trip.

## Track Facilities

### Infrastructure

Car parking areas, toilets, picnic tables, BBQ areas and benches are important components to consider in the planning of a regional recreational access network. They also have significant land use implications.

The Way has been routed to take advantage of existing facilities in parks, foreshore reserves and suburban centres and there is a presumption against the construction of new facilities.

As the Way becomes established and use patterns emerge, the need for additional facilities can be more accurately evaluated and new or expanded facilities properly located and designed.

Where new toilet facilities are needed, it is suggested that "Enviro-loo" (as seen at bush camping locations in the Royal and Heathcote national parks) or similar products, which do not require mains plumbing or water supply, are considered if demand can be demonstrated. Their future location should be at the discretion of track management agencies with input from all relevant stakeholders.



### *Drinking Water*

Often a neglected issue in planning for recreation is the issue of access to clean drinking water.

The more remote sections of the Way to the South and West of the catchment offer a different user experience to the more urbanised sections of the Way: a taste of wilderness, an opportunity to seek solitude and to appreciate sensitive habitats and the native flora and fauna they support. Information materials and signage at access points should be produced to encourage users to be self reliant. Freshwater creeks may provide clean water, but generally caution should be observed. The Kai'mia code recommends that users carry enough drinking water to last the duration of the intended journey.

#### **Recommendation:**

7. **That trackside benches and drinking fountains, such as bubblers, be provided where mains water supply is available at strategic access points along the Way, generally at roadside stops.**

## Encouraging Legitimate Access

Management of the Great Kai'mia Way should actively encourage legitimate non-motorised access to public lands, and have programs to patrol, remove dumped materials from and improve the

appearance of roadside access points. Access points should also have limited, formal, well-defined parking spaces, and provide robust bicycle racks made of tubular steel pipe.

The access point should have a locked pipe gate and associated barriers to control aggressive access. A device which allows through pedestrian access but acts as a barrier to trail bikes should be considered - known as a kissing gate made from galvanised steel or solid hardwood with self closing gate (see below for more details). Kissing gates can be designed to allow stroller access for families and wheelchair access.

In addition, at hotspots of aggressive access such as new Illawarra Road and surrounding areas at West Menai, signs should carry penalty notices for misuse of the track. The dollar amount of the fine should be visible on signs<sup>59</sup>.



### Recommendation

- 8. Access to the Great Kai'mia Way should encourage legitimate non-motorised transport through appropriate and tidy access control and the provision of bike racks and parking.**



### Encouraging Access by Less Mobile People

Opportunities to mark level or gently sloping sections of the Way (less than 1 in 20 gradient) as multi-user routes for wheelchair, families with strollers and other less mobile users should be actively pursued in consultation with Disabled Access Agencies at local and state level; Councils; Special Schools and Family Support Groups; Probus, Church, Elders, and Seniors Groups<sup>60</sup>.

Trail users with mobility limitations should also be able to gauge the difficulty of route sections before they embark on the Way. The grading, surfacing differences and approximate times should be reproduced in promotional brochures and visible on

display panels<sup>61</sup>.

### Recommendation

- Level or gently sloping sectors of the Way with good access should be developed and promoted to provide opportunities for less mobile people to use the Great Kai'mia Way.**

### Preventing Illegal Access by Four Wheeled Drive Vehicles and Trail Bikes

Illegal access<sup>62</sup> by four wheeled drive (4WD) vehicles and trail bikes in areas such as Gandangara and Dharawal Land Council lands, West Menai, Garrawarra and Sydney Catchment Authority lands where parts of the Great Kai'mia Way may traverse, are currently damaging tracks and fragmenting bush including endangered ecological communities at an alarming rate.

Apart from the damage they cause to the natural and cultural attributes of these lands, the vehicles compromise the safety of walkers and cyclists on management trails.

<sup>59</sup> For example, the fine for trespass on Sydney Catchment Special Areas is \$11,500. Notices are posted at regular intervals on the south side of Woronora Dam Road.

<sup>60</sup> Refer for example to W1 - B3 in Chapter 4)

<sup>61</sup> Refer to the family of signs recommendations later in this Chapter.

<sup>62</sup>



A variety of programs are currently in place and being discussed by land managers and owners to better manage their control and access including cooperative action with police and Memorandums of Understanding (MOUs) with 4WD clubs. SSEC, NPA (National Parks Association) and TEC (Total Environment Centre) have commissioned the EDO (Environmental Defenders Office) to report on the legal status of 4WD vehicles in NSW and other jurisdictions to provide all concerned parties with better background information for strategic management of these vehicles. This report is reproduced in Appendix 13.



**Recommendation:**

**10. Bans on the use of 4WDs and Trail Bikes on the Great Kai'mia Way should be reinforced with:**

- **A whole of Government approach to the management of 4WD and trail bike access to sensitive areas;**
- **Provision of alternative places to go which are affordable;**
- **Police and rangers should have powers to confiscate bikes;**
- **System of fines and heavy penalties for transgressing law;**
- **Amendment of laws to ban their use on the Great Kai'mia Way;**
- **More frequent patrols by rangers backed up by police enforcement teams; and**
- **Signage<sup>63</sup>**

**Arson and Bushfires**

Arson is an issue in much of the river catchments. Walkers can be trapped by fires deliberately lit. The presence of increasing numbers of legitimate eco-friendly users will help to deter those who are intent on destructive activities.

Council and other track managers should have powers to close routes by posting signs in severe fire danger periods.

Track markers together with brochure maps will improve user orientation and navigation to roads and safe areas in the event of fire.



**Recommendation**

- 11. That land managers adopt a protocol for closing routes during severe fire danger periods, and maps show routes to enable quick exit in case of emergencies.**



**Sustainable Transport and Equity of Access**

The Way network, described in Chapters 3 and 4, is designed to integrate with local amenities and public transport facilities. The integration is especially advanced in the more detailed system of the Woronora Catchment with the identification of loops and link tracks to public transport nodes and on and off road bicycle routes.

Promotional material, maps and Way notes should highlight the links to sustainable transport. Opportunities

<sup>63</sup> For example: Trail Bikes and all unauthorised vehicles prohibited - Max Penalty \$11, 500.

should also be explored to provide information about the Way at train stations. One method may be through single sided display boards as illustrated in “Family of Signs” section later in this chapter.

Creating convenient and attractive alternatives to motorised transport for reaching foreshore reserves and main spine routes will reduce the burden on existing facilities such as car parks and will suppress the need to build costly new ones. Another long-term benefit may be a culture shift as people are introduced to public transport services in general, furthering regional efforts to encourage more sustainable modes of travel to the private car.

### Recommendation

12. That the Great Kai'mia Way maximises the potential for people to use public transport and local amenities.

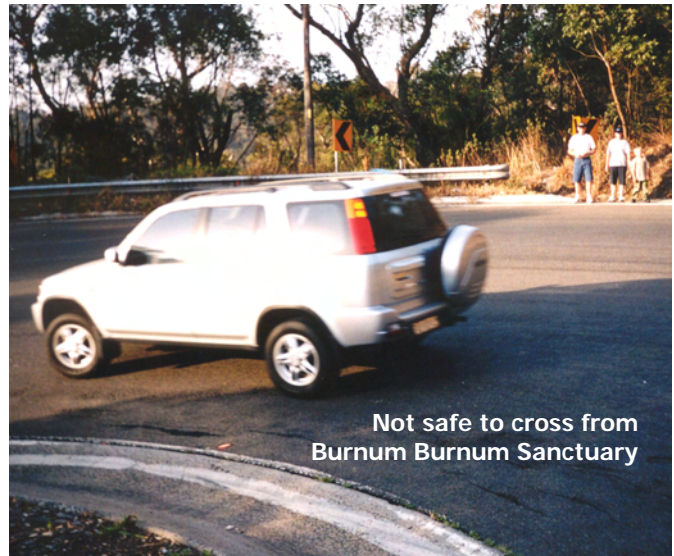
## Cars and pedestrians

The possibility of conflict between motor vehicles and Way users is a serious safety concern. Routes have been selected, where possible, away from main roads. Inevitably some roads do bisect the Way, from quiet residential streets to busy arterial roads. For example, Heathcote Road is a major constraint to safe continuation along the pipeline road into Heathcote National Park<sup>64</sup>.

The project team has made every effort to ensure that the Way route utilises marked pedestrian crossing facilities, other traffic-calmed areas, or light controlled intersections, when intersecting with roads.

A few crossing, however, will require action to increase safety: Along the Woronora

Way at Washington Drive between sections W1-A2 and A3; at a short connection from W1-A4 to RTA shared use route across the new bridge; and at Bundanoon Road where the crossing must be negotiated to continue access along the Sydney Water Pipeline Road.



On-road cycle routes, highlighted on maps in chapters 3 and 4, are suggested as important connectors to the access sections of the Way, particularly the shared use section of Woronora Way. The majority are designated local Council mapped routes - either existing or proposed. They are not an integral part of the Way, with one exception; W4-C4 which utilises Woronora Dam Road from Sarahs Knob track junction to Princes Highway, 5.2 km.

Cyclists have no alternative but to use the road, for reasons discussed in Chapter 4. It is a twisting and relatively narrow two-way road at just six metres wide, with a speed limit of 60 kph and used extensively by heavy vehicles. It poses potential risks to inexperienced cyclists. Traffic calming in

the form of on road speed humps and reduction of the speed limit to 50 kph are two measures suggested to improve safety and reduce risk.

<sup>64</sup> This issue is discussed in Chapter 4 W3-A8, W4-A9.

## Recommendation:

13. That traffic calming measures and associated signage be installed at intersections of roads and the Great Kai'mia Way

## Dogs and Companion Animals

Uncontrolled animals on routes pose a threat to native flora and fauna, through noise, scent and disturbance. They may cause stress and potentially death to vulnerable species.

For this reason, the project team recommends restrictions on domestic pets on routes where their presence would create an environmental or safety conflict, such as in Bushland Reserves specifically set aside for wildlife protection.

The imposition of any restriction would be the responsibility of each managing agency<sup>65</sup>. No companion animals are allowed in National Parks, State Conservation Areas or Nature Reserves, except for assistance animals accompanying a person(s) with a disability<sup>66</sup>.

## Signage

Because the scope of the planned network of routes is extensive – over 200 km – it will be important to maintain a consistent form of track identification to aid the orientation of track users. Signs also have a role to play in meeting safety and sustainability goals.

The following information is intended to aid land managers, track planners and community groups with advice on<sup>67</sup>:

- Signage Principles
- Information Content
- Grouping of Signs
- Common Design Elements
- Layout of Signs

## Recommendation

14. That land managers be encouraged to adopt the guidelines for signage recommended in the report and develop a “family of signs” for the Way.

## Principles for use of signs

- 1 The number of signs be kept to an absolute minimum. Avoid clutter and visual vandalism.
- 2 Wording on signs should be brief, clear and complete. No unnecessary words should be used.
- 3 Signs may be used to inform, advise, direct, limit, restrict, warn, forbid and threaten.

## Information Content

Signs of different scale to include one or more combinations of information types, based on AS 2156.1-2001 Section 3.2<sup>68</sup>:

- Advisory - in the form of a track users code as discussed above: for example, take all litter home, stay on the track, do not remove flora and fauna, do not damage Aboriginal artefacts or rock features.
- Descriptive - Large map depicting routes in sub section on one side panel; smaller catchment map on the other panel; type of route and grading, features of interest.
- Interpretive - e.g. indigenous, biodiversity, heritage related to the Way as a whole and sub section in particular.

<sup>65</sup> NSW Government Companion Animals Act 1998 - Section 14

<sup>66</sup> NSW Government Companion Animals Act 1998 - Section 59

<sup>67</sup> These guidelines are based on the recommendations made in the NPWS Signs Manual

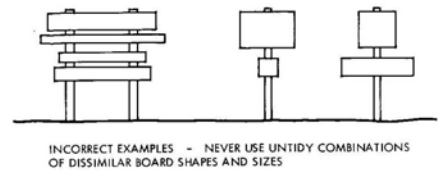
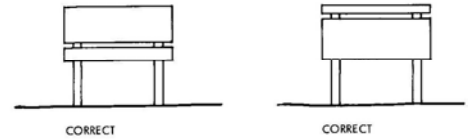
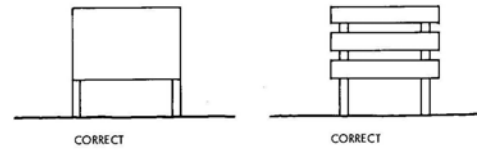
<sup>68</sup> AS2156.1/2001. Standards Australia. GPO Box 5420, Sydney NSW 2001.



- Regulatory - eg walking only or it is offence to light fires, etc.
- Warning signs - eg Use track at your own risk and statements of the danger; for example steep drop from rock shelf.

## Grouping of Signs

The accompanying illustration shows the neat and correct grouping of signs (examples of bad practice in signs) that should be applied along the Way.



## Common Design Elements

The common design elements should be:

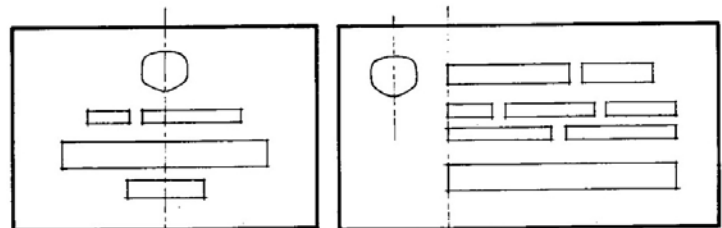


- Graphics - The full Gymea Lily as the track emblem to be shown on every sign<sup>69</sup>.
- Lettering - Arial lettering/font type.
- Colour Scheme - White Lettering on River Gum



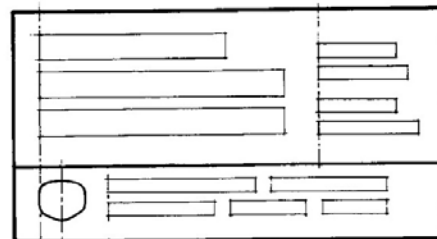
Green Signs and markers.

- Materials:
  - Natural Areas - Recommend Tallow wood boards in natural areas mounted on hardwood posts.
  - In urban settings consider recycled plastic profiles mounted on finished recycled plastic posts as a more robust solution where vandalism is a problem. These require bolting to in ground concrete mountings.



GOOD COMPOSITION  
Completely symmetrical layout

GOOD COMPOSITION  
Asymmetrical layout balanced by emblem



GOOD COMPOSITION  
Completely asymmetrical but balanced layout

## Layout of Sign Boards

The accompanying photo shows examples of good sign layout composition and should be used as a guide. Common Design Elements

<sup>69</sup> Subject to agreement with NPWS officers, it is suggested that in Heathcote and Georges River National Parks and Dharawal and Garrawarra State Conservation Areas, the Gymea Lily logo be attached to existing NPWS signboards/direction signs

## The Great Kai'mia Way "Family of Signs"

Combining the elements analysed above, the project team recommends the adoption of a "family" of signs for the Great Kai'mia Way, to cater for different environments (location of signs); different usage and ownership patterns; ensure the network is user friendly; and to maximise economy in construction.

The proposed family of signs includes four main categories:

- 1 Display shelter/board
- 2 Access control "slats" sign board
- 3 Orientation "slats" sign board
- 4 Track markers/bollards

### 1 *Display Panel/Shelter*

#### Location

Display shelters are intended for use as an attractive educational and promotional addition to popular foreshore reserves and parks, which have existing passive recreation facilities linked by the Way. For example Como Pleasure Grounds, Oatley Park, Prince Edward Park (Woronora).

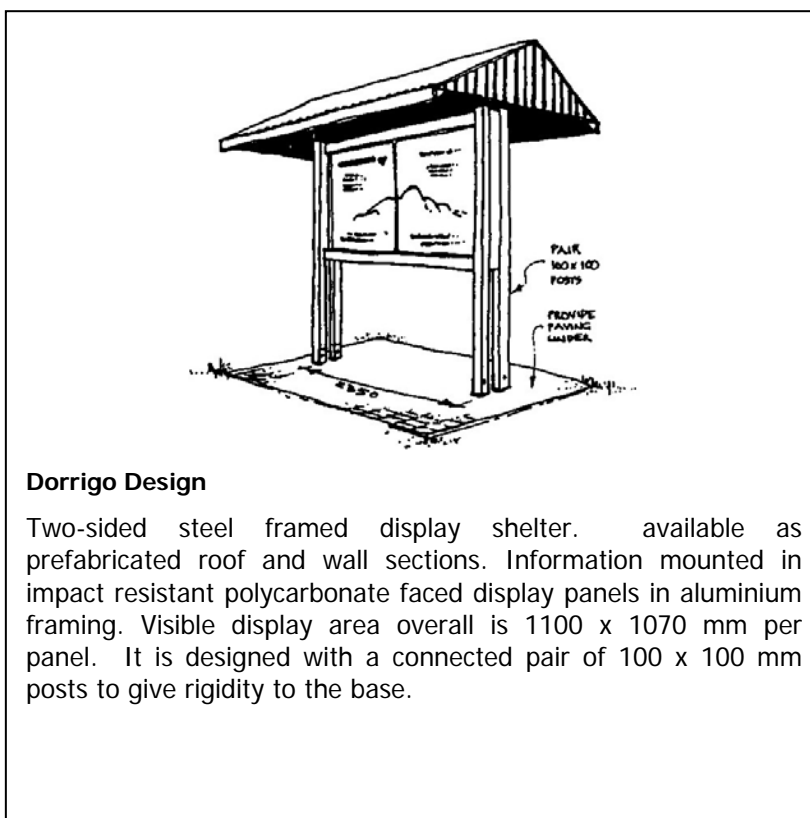
Also smaller shelters are recommended at major access points to community led initiatives where available funding permits. For example, for the proposed Burnum Burnum Track at West Menai, the likely major access points are at Treloar Place or Buckle Reserve (Menai) and Bottlebrush Place (Alfords Point)<sup>70</sup>.

Single sided display panels at City Rail and bus stations are suggested as the Way develops, beginning with a trial along the Illawarra line from Oatley to Helensburgh and at Connex bus stations within the Woronora catchment.

#### Design Elements

The Display Panel should include all the Australian Standard information types as listed above in Information Content section, together with:

- The Aboriginal Dreaming Story of Kai'mia.
- Acknowledgment of the traditional custodians of the land<sup>71</sup>.



#### Dorrigo Design

Two-sided steel framed display shelter. available as prefabricated roof and wall sections. Information mounted in impact resistant polycarbonate faced display panels in aluminium framing. Visible display area overall is 1100 x 1070 mm per panel. It is designed with a connected pair of 100 x 100 mm posts to give rigidity to the base.

<sup>70</sup> Refer to Chapter 4 - W5 - D5

<sup>71</sup> This may be done, for example, with the addition of Aboriginal artworks to the edging frame, and interpretation of the historical experiences and events shared by Sydney Aboriginal people. A separate project involving local Aboriginal Elders, indigenous groups, schools and TAFE could help with design and content of signs.





## Design

Designs should be similar to NPWS layout. The use of "slat" boards allows flexibility. Individual slats can be added to suit a particular section.

Beginning at the top of the sign:

Slat 1 – Compulsory - GWK title and Gynea Lily emblem

Slat 2 - Optional – title and emblem to be decided by community partnership

Slat 3 - Compulsory – main destinations e.g. foreshore reserves

Slat 4 – Optional – content varies according to groups and funding bodies involved in partnership

Slat 5 – Compulsory – track users and grading symbols<sup>72</sup> and safety information

Suggested Icon	Australian Standard#	Suggested Nomenclature
		Class 1 All Access Path
		Class 2 Graded Path
		Class 3 Walking Track
		Class 4 Hiking Track
		Class 5 Marked Route
		Class 6 Unmarked Route

\* Australian Standard AS 1551 - 2001 (Public Works, Part 7: Classification and signage, 4/00/00/01)  
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NSW NATIONAL PARKS AND WILDLIFE SERVICE



# The Great Kai'mia Way

## Jannali Nature Walk



Look for the snake emblem on track markers

<b>Burnum Burnum Sanctuary</b>	<b>800 m</b>
<b>Woronora River 1.7 km</b>	<b>(steep descent)</b>

<p>A joint venture involving:</p> <ul style="list-style-type: none"> <li>Kurunulla Aboriginal Corporation</li> <li>Jannali Reserve Bushcare Group</li> <li>Jannali Schools</li> <li>Sutherland Shire</li> <li>Environment Centre</li> </ul>	<p>Funded by:</p> <ul style="list-style-type: none"> <li>Sydney Water</li> <li>Sutherland Shire Council</li> <li>Southern Sydney CMB</li> </ul>
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 <p>Walking Only</p>	<p><b>To Report Bush Fires Phone 000</b></p> <p><b>To Report Illegal Use of Track Phone *****</b></p> <p>Tread Lightly and Follow the Kai'mia Code</p>
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<sup>72</sup> Designed by Kerry Cooper, Community Programs Unit, NPWS Northern Directorate. Corresponds to AS 2156.1-2001 Walking Tracks Part 1: Classification and signage

### 3. Orientation "Slats" Sign Board

#### Location

These signs are a modified version of Sign 2. Their aim is to clarify direction of travel and distances at main track route intersections, or where there is more than one route beginning from the same access point. The example illustrated (see accompanying illustration) is a potential sign located in Sabugal Gully<sup>73</sup> guiding track users at the junction of the two main spine routes - Woronora Way and Woronora Georges Link.

#### Design

Again the design is flexible in that slats can be added or removed to suit different situations:

Slat 1 Compulsory - GKW title and Gymea Lily emblem

Slat 2 Variable - Woronora Way Shared Use Route indicated by walking and cycling symbols. Distances to the nearest settlement (in this case Engadine) and next major feature.

Slat 3 Variable - Woronora Georges Link is identified as a pedestrian only route by the walking symbol. Distance to the nearest settlements/suburbs.

Slat 4 Variable - Informs cyclists wishing to use walking route on slat 3, of the correct procedure and reinforces the "tread lightly" message.



<sup>73</sup> Refer to W3-A6/A7, Chapter 4.

## 4. Track Markers/Bollards

### Location

Posts to be installed at key points of interest along the route, and at places where the route is ambiguous. Where tracks intersect the addition of simple directional arrow(s) conforming to Australian Standards (AS 2899.1 standard symbol sign: 101) is recommended.

Along bushwalking tracks the number of markers should be kept to an absolute minimum, to minimise visual intrusion without compromising user safety and ease of navigation.

On streets and along management trails it is recommended that route markers are located at 1 km intervals as a minimum standard.

### Design

After considering several options, including recycled plastic bollards, hardwood timber posts, concrete and steel products, the project team recommends an aluminium square tube design in powder coated river gum green. Dimensions are 90 x 90 mm square, and 1300 mm in length, with a cross piece welded on for in-ground concrete mount.

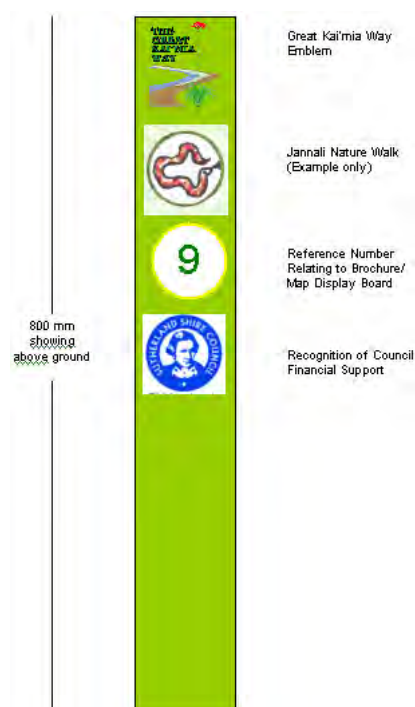
Aluminium was singled out as a cost effective solution (half the price of equivalent steel posts) for its durability in fire prone areas and ability to host track emblem stickers. Recycled Plastic Posts were considered as an even cheaper option, but stickers peel off easily and they are liable to burn in bush fires, releasing potentially toxic fumes.

A standard requirement of all markers is that they carry the Great Kai'mia Way emblem. Other information is optional, including:

- The logo of a circular walk - as chosen by the community - where that route incorporates a section of the Way
- The logo of the relevant Council or another sponsor
- A number to match against printed information, which could be produced separately.
- Directional arrows to be attached where tracks intersect<sup>74</sup>

The project team suggests that the Great Kai'mia Way emblem and other information on marker posts be produced in bulk on weather and UV proof stickers for attaching as needed. These stickers are hard wearing and require some effort to remove but are easy to replace and have proven a relatively successful means of reducing the consequences of sign vandalism<sup>75</sup>. They should also have a reflective finish to assist users in identifying the track in conditions of reduced visibility, complying with requirements of class 2 materials in AS/NZS 1906.1.

Stickers also offer a cost-effective way of adding the Great Kai'mia Way emblem to signage installed by Councils and track managers on existing routes.



<sup>74</sup> AS 2899.1 Standard symbol sign 101

<sup>75</sup> These stickers have been used along the route for the *Bundeena Maianbar Heritage Walk*.



# Use of materials

## Track Construction

The Great Kai'mia Way is based around maximising the use of existing routes, however there are significant links to be made where new sections of track, bridges and structures are necessary.

Track standards should be a function of route, track condition alignment, width, length, steepness of grade and the kind of natural and man made barriers, which must be traversed, combined with the type of use planned for.

### Recommendation:

- 15. That a standard be adopted for construction and upgrade of track works, consistent with existing Australian Standards for walking track classification signage and infrastructure AS 2156.1-2001 and AS 2156.2-2001: a combination of Class 2, Class 3 and occasionally Class 4 out of 6 classes, where 6 is the least developed class<sup>76</sup>**

This Standard is meant for use by land and recreation managers in parks and reserves and is not as applicable to the urban and shared use sections of the Way. It is recommended that three categories be adopted which cover the majority of routes along the Way based on AS 2156-1978 and adapted by NPWS:

- Walk - A well-constructed and hard surfaced path designed for high use by persons of all ages and physical condition. Easy grades suitable for disabled use may be required with bridges or boardwalks where necessary. Development costs of "Walks" are high but means lower maintenance costs.
- Track - Well defined and suitable for people of average fitness with some experience. These routes are benched and drained as necessary to account for erosion and water damage.
- Route - Lightly marked for well-equipped and experienced walkers. Routes are unconstructed except for erosion control work; there are examples of this in sections in Dharawal State Conservation Area.

## Track Surface

### *Bushland Situation - (Preferred Methods of Bushcare Groups)*

The simplest form of track surfacing and the first option always to be considered is to use the mineral soil found in-situ. With correct drainage this will often be adequate to carry normal intermittent foot traffic.

When surfacing is required, a suitable material indigenous to the area, such as local sandstone, should first be considered before importing material. However do not remove habitat!

Edgings to both sides of the track are not recommended as they tend to concentrate gullying, leading to break up of the stone surface.

In a situation where a track is cut along a contour line, the lower track edge can be retained by either fallen timber, provided it is not habitat, or sustainably sourced hardwood sections

### *Management trails*

Generally based on roadstone, surfaced with crushed granite or sandstone occasionally bluemetal gravel. These trails are prone to erosion from maintenance vehicle use, stormwater, and trail bike use. Tar-sealed sections often break up under heavy vehicle use.

Roadstone, recycled crushed concrete and blue metal change the pH of the soil in sandstone areas making track edges nutrient rich and promoting weed growth.

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<sup>76</sup> Refer to Appendix 6 for a summary of relevant track classifications

Crushed sandstone held together with binding agent<sup>77</sup> should be the preferred material for use on management trails.

The binding agent leaves the surface permeable but resistant to erosion. This technique is particularly suited to repairing gullied steeper grades or as a preventative treatment on steep grades. A less satisfactory solution is to tar seal the steeper sections.

## Steps and Stairs

A popular material for constructing steps and stairs has been CCA treated pine product. Recently, however, there are increasing doubts about its safety. Many councils, such as Brisbane City Council now ban its use. It is allegedly connected to cancers in children from exposure in playground areas. When on fire, it releases potentially fatal toxic fumes.

### Recommendation:

#### **16. That infrastructure on the Great Kai'mia Way is free of all CCA treated pine products.**

Alternatives are:

- Durable hardwood sourced from plantation; for example, tallowwood.
- Recycled Plastic - post user HDPE and LDPE - non toxic. Life expectancy is approximately 40 years. It has a lower combustable threshold than timber and is "less toxic" according to research in USA. Kosziosko National Park is rebuilding Charlottes Pass walking track replacing treated pine steps with plastic profiles. Royal National Park is trialling "floating mesh " walkways using plastic profiles to support galvanised metal panels at \$120 per metre
- Stone - best for achieving least visual impact. When firmly constructed, it will last indefinitely and survive most flood and bushfire conditions. A concrete bed may be used discreetly to secure rocks in position. Cost \$50 per step. Either Sandstone from site (preferable) or imported sandstone can be used.
- Timber from site.
- ACQ (Alkaline Copper Quad) treated "naturewood" timber.

## Track Structures

### Bridges

Bridges are key elements of any track system for linking previously separate networks and opening up access to new areas, maximising the potential of the network. They are expensive items but their value cannot be underestimated.

- The concept of a pedestrian bridge spanning Heathcote Road is a discreet engineering project in its own right and should be considered as a long-term venture partnership open to all relevant stakeholders.
- Small bridges are required as tracks are upgraded in the urban bushland areas to span creeks and gullies. Designs should be in keeping with the surroundings and a proper engineering drawing prepared. Materials to be considered are sustainably sourced hardwoods for bearers or steel for larger spans with hardwood or non-slip recycled plastic decking depending on the setting.



<sup>77</sup> such as modified timber resins from sustainable plantation forests manufactured by " Warajay" a NZ company

## Boardwalks

Boardwalks can be an attraction in their own right. A major boardwalk is proposed as a central feature of the Como Heritage and Environment Trail, physically linking the foreshores at the confluence of the Woronora and Georges Rivers under Como Railway Bridge.

They require heavy engineering solutions in many instances increasing the cost of installation to as much as \$1,200 per linear m<sup>78</sup>. The cost of a 100m stretch of boardwalk could potentially pay for 1 km of sandstone surfaced track.

In sub section tables for the Way, they have been proposed for foreshore access where there are physical constraints or where traditional methods of track construction, e.g. cut and fill, are unsustainable - such as cutting a path along a steep gradient, through sensitive wetlands and foreshore vegetation.

Recycled materials such as plastic profiles can be used for decking purposes, but are yet to be proven for structural supports.

N.B. Professional help should be sought in the design of boardwalks and all track structures with regard to foundation bearing, live loadings and stability. Design is to be in accordance with the applicable Australian Standards AS 1170 as referred to in AS 2156.2-2001 section 2.



Boardwalk

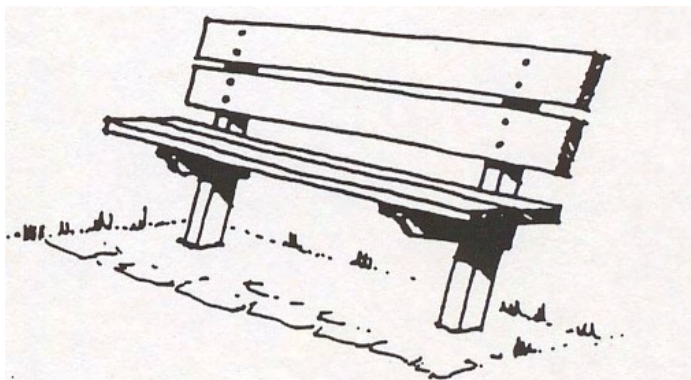
## Raised walkway

Examples of raised walkways include sections of the Coast Track in the Royal National Park where an innovative Floating Mesh design has been installed where previously a severely eroded track existed on thin heathland soils. Overuse had trampled and fragmented the sensitive vegetation. Mesh sheets are supported on recycled plastic bearers held in place by the weight of the steel alone allowing the vegetation to flourish beneath.

At \$120 a metre in construction costs it compares favourably with crushed sandstone and will last longer. This technique can be applied to short stretches such as look out decks.



Mesh walkway



## Benches

A simple bench design, 1.8 metres long, is suggested with hardwood planks for durability and aesthetic. Seats to be installed at key access control points where surveillance is possible. Community groups should select on track sites such as at vantage points and look outs suitable for a bench seat, taking account of fire risk, vandalism and safety.

<sup>78</sup> 1.5 m wide hardwood boardwalk at Lugarno by Hurstville City Council - GRFIP Project



# Access Control Infrastructure

## Signage

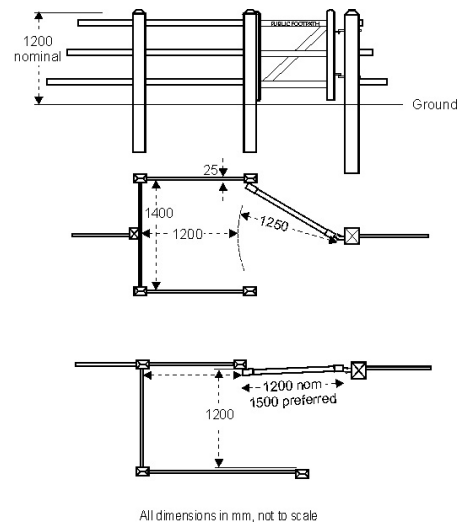
Suitable Signage materials are outlined in the signage section above and summarised in the material application tables below.

## Gates and Barriers

In aggressive access situations; that is where trail bikes and 4WD activity is a problem, use galvanised pipe for the frame of the gate, such as currently seen blocking fire trail access at several locations of the Great Kai'mia Way. Use galvanised steel double rope for barriers where possible - similar to the barrier surrounding parts of the Dharawal Aboriginal Land Council land. This is the only design that has proved robust enough to cope with attempts to break through by 4WD (winching, etc).



In situations where there are barriers on either side of a gate and a gap which allows universal access, it is recommended that a kissing gate type structure be installed. A kissing gate is a pedestrian gateway that prevents bikes and horses from passing through. It allows access to families with pushchairs and some wheelchairs. 2 designs are illustrated - galvanised steel circular and square hardwood timber.



### Recommendation:

17. Effective measures be implemented to exclude trail bikes and 4WDs from sensitive areas by using, for example, gates made from galvanised steel pipe, fencing made from galvanised steel double rope, and kissing gates to enable access by legitimate users.

## Railings and Safety Barriers

AS 2156.2-2001 section 3 states that barriers shall be provided on walking track structures to reduce the risk from falling.

In providing barriers, track managers should:

- carry out site specific risk assessments for each location; and
- calculate "effective fall height" (which varies according to track classification), by adding "actual fall height" within a distance of 2 m from the proposed barrier position to the "impact surface value" - this varies from -0.5 "Benign" (a surface presenting features that will tend to reduce the effect of impact e.g. deep moss) to +3.0 "Hazardous" (a surface presenting features that will seriously harm regardless of the effect of fall to the initial impact point).

The most likely application of railings on the Way is where a look out platform is proposed, above a steep drop. e.g. along the Burnum Burnum Track overlooking Mill Creek<sup>79</sup> It is recommended that type A barriers should be installed. These are a minimum of 1.0 m high and have the following:

No openings anywhere below the top rail which will permit the passage of a sphere 125mm in diameter

There should be no components providing a toe-hold between the heights of 150mm and 760mm above deck (or stair nosing) level. Horizontal rails are acceptable if the barrier geometry is such as will prevent children under six climbing over the top.

For steps, the triangular opening formed by the riser, tread and bottom rail at the open side of the stairway shall be such a size that a 125 diameter sphere cannot pass through it.

**Recommendation:**

**18 That Type A barriers, as described in AS 2156.2-2001: Track Infrastructure be installed at lookouts and other relevant locations for safety and risk management, at the discretion of track managers, based on an assessment of effective fall height.**



<sup>79</sup> Refer to W6-D4/D5, Chapter 4

## Material Application Tables

Standard current practice methods as well as innovative methods of construction have been evaluated and summarised in the table below. The information is a subjective only<sup>80</sup>, to guide the on ground works of Councils, community groups and other agencies involved in implementation of the Way.

The sustainability index is a sliding scale of comparison from zero to five - with five being the most sustainable. Specific suppliers and sources and have been included in italics where known.

### Stone and Stone Products

	Uses			Applications to GKW	Sustain . Index
Stone in situ	Step risers Edgings Backfill	Affordable Accessible Aesthetic Native	Habitat removal Cultural issues N/ renewable	Steps and edgings in Bushland	3
Cut sandstone	Step risers Edgings Seats	Durable Long lasting Aesthetic	Heavy lifting Non Renewable Cost	Steps in Bushland Reserves	3
Crushed sandstone	Surface Backfill Drainage	Plentiful Supply Affordable Local Geology Permeable	N/ renewable Perishable Erodable	Backfill steps in Bushland Upgrade and repair of bush tracks and FTs	3
Decomposed granite	Surface Backfill Drainage	Plentiful supply Affordable Aesthetic Permeable	Alters soil ph Perishable N/renewable Erodable	Upgrade and repair of similar surface on FTs	2
Blue Metal Stone	Surfacing Backfill Drainage	Plentiful supply Affordable Permeable	Alters soil ph Erodable N/ Renewable	N/A	2
Recycled Roadbase/ Demolition Waste <i>SSC</i>	Fill Hard Standing	Affordable Ethics Re-use	Alters soil ph Availability aesthetic	Base fill of new shared track urban settings Standing for Shelters/Signs and ACPs	3
Concrete	Surface Barriers Bollards Hard standing	Familiar practice Smooth Surface	Alters soil ph Aesthetic Slumping N/renewable	For on street and shared routes Steps in urban loactions Post mounts	1
Bitumem/ tar Seal	Surface	Smooth surface Impermeable	Alters soil ph Leacheates Aestahetic N/renewable	Repairs to existing tar sections Steep grades if warajay option fails	1

<sup>80</sup> It is recommended that full life cycle analysis (LCA) studies for track construction and infrastructure materials are considered in track design and planning.



### Timber and Timber Products

Material	Uses			Application to GKW	Sustain. Index 0-5
Timber in situ	Posts Step Risers Edgings Benches	Affordable Workable Aesthetic Accessible	Habitat Removal Durable	Eg where bushcare groups wish to enhance existing tracks in unique way	4
CCA treated Pine	Posts Rails Decking Step risers Edgings Benches Signs	Ubiquitous Workable Affordable Durable	Potentially toxic residue Lethal fumes when on fire Dressed	N/A	0
ACQ Treated Pine <i>Osmose "Nature Wood"</i>	As above	Workable Durable	Availability No studies on safety Imported Dressed	In ground such as edgings, pegs	1
Sustainably sourced Hard woods eg Tallowood <i>NPWS Northern Directorate Dorrigo Design</i>	As above Bridges Boardwalk structures Balustrades Shelters Customised gates	Aesthetic Untreated Rough sawn Durable	Greying Cost Workable	Benches Picnic Tables Shelters Sign Boards and Kissing gates in bushland and parkland ACPs	3

### Metal and metal products

	Uses			Application to GKW	Sustain Index 0-5
Galvanised Steel	Posts Unistrut bearers Pipe gates Weldloc Mesh Walkway Ballustrades Barriers Kissing gates Padlocks Hinges	Durable Fire Resistant Vandal proof	Affordable Heavy lifting N/renewable	Pipe gates prevention of aggressive access ACPs Barriers Bollards Kissing gates Shelter frames Short elevated sections of track and barriers	3
Aluminium <i>NPWS</i>	Posts	Lightweight Fire resistant Affordable	N/renewable Vandal proof	Marker posts Display frames	3

### Synthetic and Other Products

	Uses			Application to GKW	Sustain. Index 0-5
Recycled Plastic Profiles <i>Replas</i>	Non - slip decking Step risers Edgings Marker Posts Sign Boards Weldloc supports Bollards Seats Picnic tables	Lightweight Workable Re-use Inert Rot free Durable Affordable Robust	Aesthetic Expansion rates Rigidity Flammable Original source is n/renewable Difficult to attach stickers Sourced interstate	Sign boards "slats" in urban situations Non-slip decking for bridges and baordwalks Elevated sections of track lookouts Replace rotten step risers on long staircases	2
Laminate Plastic <i>Moduplay</i>	Backing for sign boards Translucent display panels	Rot free Durable Routing reveals colour underneath	Affordable N/renewable Flammable Brittle	Wall mounted signs in urban locations Display shelters	1
Vinyl stickers <i>Slick Screenshot</i>	Track info, ID and Emblems Directional arrows	Durable Visible Affordable Flexible	Source materials toxic N/renewable	To identify track markers	1
Recycled Tyre Units <i>Ecoflex</i>	Management Trail Construction	Durable Free Draining Rigid Inert	Heavy eng. More suited to vehicle tracks Surface unbound	N/A to walk and cycle tracks Long term solution to FT reconstruction	3
Pine Resin <i>Warrajay</i>	Track surface binding agent	Prevents erosion Permeable	Affordable Imported Un-proven	Bind surface on steep FT grades and ACP hard stands	3







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## CHAPTER 6

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### The future of the Great Kai'mia Way

This report delivers information necessary for the progressive implementation of the Great Kai'mia Way. It details where routes could best be allocated, the priority for implementation of sections of the route and guidelines for the coordinated implementation of the project.

Many stakeholders have been involved in the provision of information for this report, and many stakeholders will need to be involved to realise the vision presented by the Great Kai'mia Way. The following table lists the categories of stakeholders, some of the benefits they could gain from continuing involvement in the Great Kai'mia Way project and the role they might play.

The project team has endeavoured to engage a full range of stakeholders in developing the information presented in Chapters 3 and 4. In addition, Chapter 5 has begun to detail the issues that should be considered during implementation and maintenance of the Great Kai'mia Way. Recognising that more work should be done on this aspect of the project and to ensure that the information is utilised appropriately, it is recommended that stakeholders adopt this report as a guideline:

**Recommendation:**

**19. That stakeholders adopt the feasibility study as a guideline for the development of the Great Kai'mia Way through a signed memorandum that commits them to:**

**19.1 a project staging plan;**

**19.2 a coordinated strategy for implementation of the Great Kai'mia Way, including:**

**19.2.1 common signage as detailed in Chapter 5;**

**19.2.2 ongoing communication between stakeholder groups to ensure appropriate route linkages;**

**19.3 adoption of the principles of sustainability in the implementation of the Great Kai'mia Way backed by increased research into the aspects of sustainable management;**

**19.4 adoption of the planning checklist for development as detailed in Chapter 5.**

The following table summarises the actions required by stakeholders for implementation of the Great Kai'mia Way and the benefits that will accrue to them working in a coordinated way on this project.

**Stakeholder Benefits Table**

<b>Stakeholders</b>	<b>Actions Required for implementation</b>	<b>Benefits for Stakeholders</b>	<b>Timeframe</b>
<p><b>12 Georges River Catchment Councils</b></p> <ul style="list-style-type: none"> <li>✓ Canterbury</li> <li>✓ Hurstville</li> <li>✓ Kogarah</li> <li>✓ Rockdale</li> <li>✓ Sutherland</li> <li>✓ Bankstown</li> <li>✓ Holroyd</li> <li>✓ Fairfield</li> <li>✓ Liverpool</li> <li>✓ Campbellton</li> </ul> <p>wn</p> <ul style="list-style-type: none"> <li>✓ Wollondilly</li> <li>✓ Wollongong</li> </ul>	<p><b>Plan, design, construct and maintain Way network traversing lands under Council management.</b></p> <p>Promotion and community education</p>	<p>Cooperation with project increases the likelihood of Councils gaining funding from grants with aims of promoting regional improvements.</p> <p>Effectiveness of the Way networks can complement sports facilities and improve promotional opportunities for advancing fitness, community building, youth involvement, community stewardship and sustainability – Agenda 21</p>	<p>12 years; network implementation and ongoing commitment to maintenance.</p>
<p><b>Department of Infrastructure, Planning and Natural Resources (DIPNR)</b></p>	<p>Funding support to enable implementation and promotion of the Way. Support at Ministerial and interdepartmental level.</p>	<p>High profile regional planning project providing an excellent example of where DIPNR can take a significant role in moving forward the sustainability agenda by utilising community requirements for recreation and learning experiences.</p>	<p>At least three years; support through planning instruments and funding.</p>
<p><b>Roads and Traffic Authority (RTA)</b></p>	<p>The Great Kai'mia Way to be incorporated into RTA departmental plans, particularly for cycleways and ensuring safe pedestrian crossing areas</p>	<p>Advances RTA's 2010 Vision and Rail Trail cycleways – boosts usage of their network – higher profile gives RTA improved cycleway/walkway budget prospects</p>	<p>12 years; implementation phase and on-going</p>
<p><b>NSW National Parks and Wildlife Service (NPWS)</b></p>	<p>Cooperation and liaison with Great Kai'mia Way planners, coordination of trail maintenance, signage and interpretive materials for Way sections through NPWS lands.</p>	<p>Promotional opportunities -could be incorporated into NPWS brochures – improved way of marketing their message to community</p>	<p>12 years; implementation phase and ongoing</p>

<b>Sydney Water (SW)</b>	Cooperation and liaison with Great Kai'mia Way planners, coordination of trail maintenance, signage and interpretive materials for Way sections through Sydney Water lands.	Promotional opportunities could be incorporated in Sydney Water literature. Provides Sydney Water with opportunities to work with the community to increase good land stewardship.	12 years; implementation phase and ongoing
<b>NSW Waterways Authority (WA)</b>	Riverkeeper Program – cross-program liaison, and joint community actions and promotion	Opportunities to explore synergies in the projects to improve care of access in the river systems.	Ongoing
<b>Department of Sport and Recreation</b>	Identification of opportunities for utilising Way for Department programs. Identification of funding sources for program implementation.	Provides another venue for Department activities. Enables opportunities for the Department to build upon a community initiative.	Ongoing
<b>Education Department</b>	School involvement in bush regeneration, trail related projects, environmental education, safe walking/cycling and fitness	Provides another venue for Department activities. Enables opportunities for the Department to build upon a community initiative.	Ongoing
<b>NSW Depart. of Aboriginal Affairs</b>	Assist with indigenous community project participation such as through interpretive signage and Dreaming stories	Provides another venue for Department activities. Enables opportunities for the Department to build upon a community initiative.	Ongoing
<b>Tourism NSW</b>	Promote Great Kai'mia Way benefits statewide	Tourism potential to explore urban and rural Australia within Sydney	Ongoing
<b>NSW Environment Protection Authority (EPA)</b>	Ensure that stormwater program is incorporated into environmental initiatives based on the Great Kai'mia Way. Could also be used to extend project funding to improve pedestrian access to artificial wetlands and for educational purposes.	Provides a medium to promote environmental messages and best practice	Ongoing
<b>Federal Government Agencies,</b> particularly the Department of Defence and Department of Finance and Industry.	Liaise with Project Advisory Board – on future land transfers and general access, safety and environmental issues. Transfer lands at Mill Creek to NSW NPWS	Provides good opportunities to work with the community and provide public benefit	Ongoing
<b>Non-government organization and individuals</b>	Active involvement in stewardship, bushcare, rivercare and other implementation and maintenance programs	Provides opportunities to fulfil community and individual objectives for caring for neighbourhoods and the environment, and extending recreational and learning experiences.	Ongoing



Local Government plays a crucial part in the implementation of the Great Kai'mia Way. Not only does it manage much of the land over which the Way traverses, it has the capacity to influence development. It is, therefore, recommended that the Great Kai'mia Way be written into planning documents, such as Local Environment Plans (LEPs) and Development Control Plans (DCPs), and that its implementation be supported on a consistent basis through yearly budget allocations and the allocation of S94 contributions. Such consistent budgetary allocations will also enable ongoing planning which is more likely to attract State and Federal Government grant funding.

**Recommendation:**

**20. That Councils incorporate the Great Kai'mia Way route and vision for sustainability into their planning instruments and provide consistent funding through budget allocations and S94 developer contributions.**

The concept and implementation of the Great Kai'mia Way has captured the imagination of many people in the Georges and Woronora River Catchments. The challenge is to capitalise on the energy the project team has unleashed and instigate a framework for implementation.

The Agenda 21 Charter recognises the important role that local government, working together with communities, have in delivering sustainability. The Way project is a prime example of such a partnership. It is also an example of a partnership where the community have taken the lead role, working together with local government authorities and other land managers to plan routes and identify the major issues confronting each section of the route.

The concept of stewardship is important for the sustainable success of the Great Kai'mia Way. It would be to the benefit of all those involved with the project to decide to foster the already strong support for the project:

**Recommendation:**

**21. That Way community groups – local “friends of the Great Kai'mia Way” – be recognised and, if necessary, established to help with the implementation of the Great Kai'mia Way vision.**

A key recommendation of this feasibility study is that the ongoing implementation of the Great Kai'mia Way continue to follow a community leadership role, as well as harnessing the full range of public and private funding opportunities available for implementation of the Great Kai'mia Way vision.

Funding sources include but are not limited to;

- Councils – Section 94 Developer Contributions
- DIPNR – Metropolitan Greenspace
- DIPNR – Special Area Assistance Fund (\$2,000 to \$110,000)
- Waterways Authority – Waterways Asset Development and Management Program (WADAMP)
- Natural Heritage Trust - EnviroFund
- Federal Government/ National Library of Australia/ National Archives of Australia - Community Heritage Grants
- Environment Australia – Cultural Heritage Projects Program (CHPP)
- NSW Environmental Protection Authority – Stormwater Trust
- NSW Environmental Protection Authority – Waste Reduction Grants
- NSW Environmental Protection Authority – Environmental Restoration and Rehabilitation Grants
- NSW Environmental Protection Authority (Environment Trust) - Eco Schools Grants
- NSW Environmental Protection Authority – NSW Wetlands Action Program
- Environment Australia – Grants to Voluntary Environment and Heritage Organisations (program aims to provide administrative funds to ngo's)
- Department of Sport and Recreation – Active Communities Grant Scheme (\$1,000 to \$5,000)
- Department of Sport and Recreation – Capital Assistance Program
- Department of Sport and Recreation – Regional Sports Facility Program
- NSW Ministry of Arts – Community Cultural Development Program
- NSW Fisheries – Fisheries Action Program

- Sydney Catchment Authority – Catchment Protection and Improvement Grants (\$8,000) (Woronora Catchment)
- Heritage Office (NSW) – Heritage Incentives Program
- Ian Potter Foundation – environment and conservation and education grants
- Myer Foundation – Water and The Environment, Arts and Humanities, Social Justice (both for Indigenous cultural projects)
- Westpac Bank – Westpac Operation Backyard (local environmental projects)
- BHP Billiton - Corporate Community Program

Another group who play a crucial role in the design and implementation of the Great Kai'mia Way is the aboriginal community. The Way has the potential to highlight past and present Aboriginal culture, adding to widespread efforts at Reconciliation.

**Recommendation:**

**22. That the Aboriginal community be an integral partner in the design and implementation of the Great Kai'mia Way.**

The Great Kai'mia Way logo could be used as a springboard for attracting private and public sector funding for a community project that has readily demonstrable community benefits and popular support.

**Recommendation:**

**23. That a management and implementation system be set up that will enable:**

- 23.5 An ongoing structure for decision making that involves land holders, land managers and interested community members, with particular note to engage the Aboriginal community;**
- 23.6 A funding structure that encourages contribution from a wide pool of stakeholders: community, private organisations and government;**
- 23.7 A commitment to continued promotion of the Great Kai'mia Way for environmental, cultural, recreational and health purposes;**
- 23.8 A commitment to sustainability whilst enabling access to as many users as possible.**

Appendix 12 provides a Draft Charter for the operation of such a group.

The major task of a group established under such an arrangement would be to:

1. Employ individuals to provide the coordination and liaison support necessary to implement the Great Kai'mia Way as detailed in this report;
2. To purchase such equipment and information as necessary to enable the Way project to be implemented;
3. To promote the Great Kai'mia Way and its vision for improved sustainable access to foreshores, increased care and maintenance of natural and cultural heritage in the surrounding area, increased recreational and health benefits, and educational opportunities; and
4. To provide assistance to stakeholders in achieving the objectives of the Great Kai'mia Way project.





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## GLOSSARY

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<b>ACP</b>	Access Control Point
<b>ACQ</b>	Alkaline Copper Quad
<b>AJC</b>	Australian Jockey Club
<b>APA</b>	Appin Progress Association
<b>BBS</b>	Bankstown Bushland Society
<b>BCC</b>	Bankstown City Council
<b>BUG</b>	Bicycle User Group
<b>CBD</b>	Central Business District
<b>CC</b>	City Council
<b>CCC</b>	Campbelltown City Council
<b>CDEP</b>	Commonwealth Department Employment Program
<b>CHET</b>	Como Heritage and Environment Trail
<b>CHPP</b>	Cultural Heritage Projects Program
<b>CPG</b>	Como Pleasure Grounds
<b>CVA</b>	Conservation Volunteers Australia
<b>DCP</b>	Development Control Plan
<b>DET</b>	Department of Education and Training
<b>DFA</b>	Department of Federal Acquisitions
<b>DIPNR</b>	Department of Infrastructure Planning and Natural Resources
<b>DOD</b>	Department of Defence
<b>DSNR</b>	Department of Sustainable Natural Resources
<b>DUAP</b>	Department of Urban Affairs and Planning (now part of DIPNR)
<b>EMP</b>	Environmental Management Plan
<b>EPA</b>	Environmental Protection Authority
<b>ESD</b>	Ecologically Sustainable Development
<b>FCC</b>	Fairfield City Council
<b>FOPC</b>	Friends of Prospect Creek
<b>FPC</b>	Friends of Prospect Creek
<b>FT</b>	Fire Trails
<b>GKW</b>	Great Kai'mia Way
<b>GLALC</b>	Gandangara Local Aboriginal Land Council
<b>GLR</b>	Georges River Lower Reaches



<b>GMR</b>	Georges River Middle Reaches
<b>GPT</b>	Gross Pollution Trap
<b>GRC</b>	Georges River Catchment
<b>GREA</b>	Georges River Environmental Alliance
<b>GRFIP</b>	Georges River Foreshore Improvement Program
<b>GR SCA</b>	Georges River State Conservation Area
<b>GUR</b>	Georges River Upper Reaches
<b>HCC</b>	Hurstville City Council
<b>HDPE</b>	High Density Polyethylene
<b>HS</b>	High School
<b>ICC</b>	Illawarra Coke Company
<b>KAC</b>	Kurnell Aboriginal Council
<b>KCC</b>	Kogarah City Council
<b>LCA</b>	Life Cycle analysis
<b>LDPE</b>	Low Density Polyethylene
<b>LEP</b>	Local Environment Plan
<b>LGA</b>	Local Government Area
<b>LALC</b>	Local Aboriginal Land Council
<b>LCC</b>	Liverpool City Council
<b>LPA</b>	Lugarno Progress Association
<b>MTB</b>	Mountain Bikes
<b>NGO</b>	Non-Government Organisation
<b>NP</b>	National Park
<b>NPA</b>	National Parks Association
<b>NP POM</b>	National Park Plan of Management
<b>NPWS</b>	National Parks and Wildlife Service
<b>NSW BFB</b>	New South Wales Bush Fire Brigade
<b>PCYC</b>	Police Citizens Youth Club
<b>POM</b>	Plan of Management
<b>PPWS</b>	Picnic Point Wetland Society
<b>PRA</b>	Precinct Residents Association
<b>PS</b>	Primary School
<b>RCC</b>	Rockdale City Council
<b>RFS</b>	Rural Fire Service
<b>RTA</b>	Roads and Traffic Authority
<b>SA</b>	Scouts Australia
<b>SCA</b>	Sydney Catchment Authority

<b>SCRIFF</b>	Sydney Coastal River Flat Forest
<b>SEE</b>	Statement of Environmental Effects
<b>SESAHS</b>	South Eastern Sydney Area Health Service
<b>SPPA</b>	Sandy Point Progress Association
<b>SRA</b>	State Rail Authority
<b>SSC</b>	Sutherland Shire Council
<b>SSCMB</b>	Southern Sydney Catchment Management Board
<b>SSEC</b>	Sutherland Shire Environment Centre
<b>SSROC</b>	Southern Sydney Region Organisation of Councils
<b>SW</b>	Sydney Water
<b>SW BUG</b>	South West Bicycle Users Group
<b>TC</b>	The Community
<b>TSCA</b>	Threatened Species Conservation Act
<b>WA</b>	Waterways Authority
<b>WADAMP</b>	Waterways Asset Development and Management Program
<b>WSC</b>	Wollondilly Shire Council
<b>WVPRA</b>	Woronora Valley Precinct Residents Association





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# APPENDICES

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# Appendix 1 – Botany Bay Trail Pre-feasibility Study

*Notes from a presentation made by Nick Benson<sup>81</sup>*

## Background

The Botany Bay Trail is a recommendation made in “The Tide is Turning”, Final Report of the *Botany Bay Program*<sup>82</sup>. It is an opportunity to bring community and government together, building trust and respect while working towards a common goal. The San Francisco Bay Trail, a very similar project, is a good working example of this.

A population of more than 1 million currently access land and water based recreation in the Bay. Public access exists in many places, but no plan yet exists for a continuous system. Southern Sydney Region of Councils (SSROC) is a readymade focus for initial work supported by SSEC and SSC.

## Objectives

- Identify an in principle route and test its potential for gradual implementation
- Divide the route into sectors and apply the trail concept to each sector
  - opportunities and existing infrastructure
  - constraints and barriers to movement
- Suggest future detailed studies
  - planning, design, costing, implementation
- Recommend priorities for action

## Approach

- Search for possible routes for a trail
- Liaise with key landholders and developers:
- Sydney Airport
- Sydney Ports Corporation
- South Sydney Development Corporation
- Sydney Harbour Foreshores Authority
- help in form of maps, air photos, technical reports
- accurately identify existing infrastructure and landward boundaries of their sites
- Liaise with Councils and Government:
- All Bayside SSROC Councils
- National Parks and Wildlife Service
- Roads and Traffic Authority
  - obtain reaction to trail concept
  - info on existing trail elements
  - their thoughts on problem areas and constraints
  - ongoing walk/cycle path projects which could form part of ultimate network

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<sup>81</sup> Benson, Nick, 2002. *Botany Bay Trail*, Trails Forum, 7 September, SSEC and Botany Bay Program, Sutherland Entertainment Centre, Sutherland

<sup>82</sup> Colman, Jim, 2001. *The Tide is Turning*. The Botany Bay Program, SSROC, Mascot.

## Community and user group consultation:

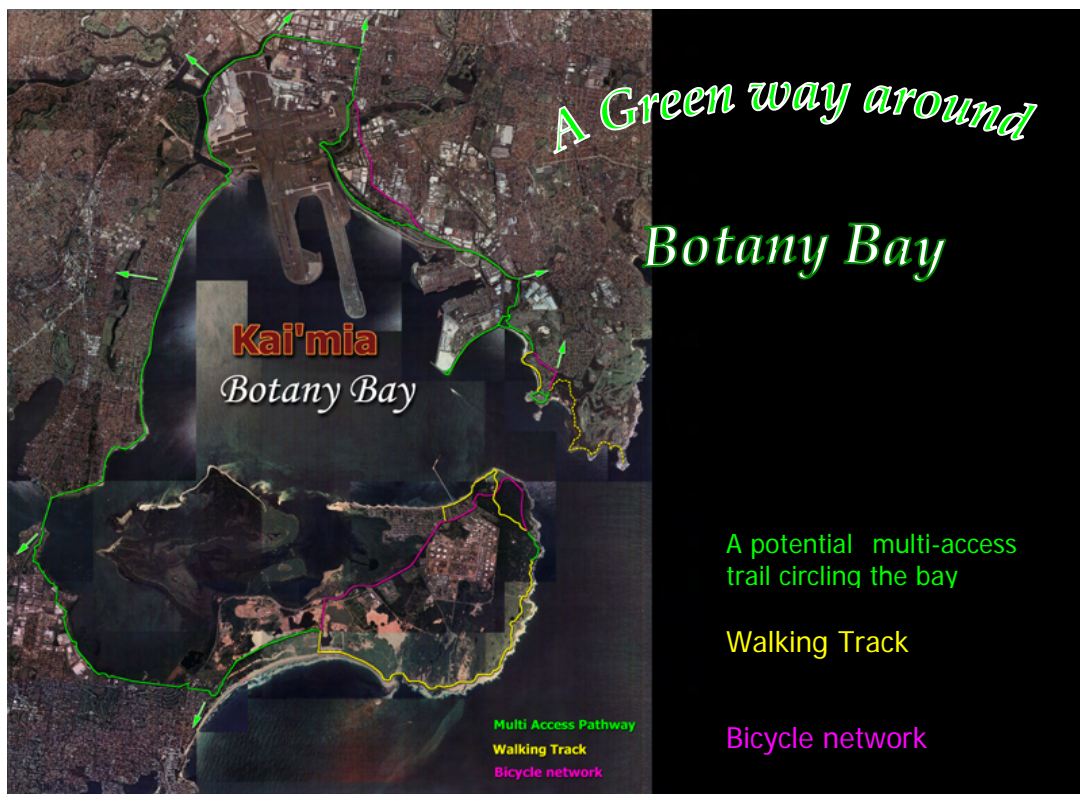
- La Perouse people, BicycleNSW, Botany Environment Watch
- Botany Bay and Catchment Alliance, Kurnell Regional Environment Planning Council
- Rockdale Wetlands Society, Taren Point Wetlands Group
  - obtain reaction to trail proposal
  - issues and concerns raised
  - opportunities for future participation
- A general picture of land ownership pattern along the foreshore:
  - commonwealth, state, council, private, institutional
- Mapping of overall route and individual sectors
- Trail design
  - tentative suggestions for engineering solutions, drainage, surfacing, signage, access
- Field inspections
- Brief discussion of links to other existing and proposed trails
  - Woronora, Georges River, Cooks River etc...

## Botany Bay is unique in character

Rich Aboriginal and European history, cultural diversity of its people, wide open spaces and vistas, a variety of wildlife habitats, wealth of heritage – it holds a special place in the hearts of locals and visitors alike.

Despite the massive presence of industry, it still manages to inspire the imagination and a trail will enable everyone to explore this special Bay, to raise awareness of its environmental state both good and bad, and help promote a better sense of belonging to country.

Parts of the trail will be suitable for all, including wheelchair users, whilst others will be appropriate for walkers only with alternative routes for cyclists.



## Appendix 2 – Questionnaire

# Explore the Woronora

The following survey is designed to help gauge community opinion about the concept of a Way-marked network of routes through the Woronora Valley.

### **Q1 Do you participate in any of the following activities? (Please tick)**

- |  |   |
|--|---|
| <input type="checkbox"/> Bush Walking        | <input type="checkbox"/> General Walking  |
| <input type="checkbox"/> Road Cycling        | <input type="checkbox"/> Off Road Cycling |
| <input type="checkbox"/> Canoeing            | <input type="checkbox"/> Nature Study     |
| <input type="checkbox"/> Local History Study | <input type="checkbox"/> Cultural Study   |

### **Q2 Which bushland areas do you use? (Please prioritise, e.g. 1 = "most used")**

- |   |   |
|---|---|
| <input type="checkbox"/> Close - within 1km of home   | <input type="checkbox"/> Surrounding bushland – 1 to 3 km from home |
| <input type="checkbox"/> The Woronora Valley          | <input type="checkbox"/> The Georges River                          |
| <input type="checkbox"/> Royal National Park          | <input type="checkbox"/> Heathcote National Park                    |
| <input type="checkbox"/> Other – please specify _____ |   |

### **Q3 How often do you visit the areas? (Please use numbers as above)**

- |   |   |
|---|---|
| <input type="checkbox"/> 4 time per week              | <input type="checkbox"/> 2-4 times per week |
| <input type="checkbox"/> Once a week                  | <input type="checkbox"/> Once a fortnight   |
| <input type="checkbox"/> Once a month                 |   |
| <input type="checkbox"/> Other – please specify _____ |   |



**Q4 For what reason do you engage in outdoor recreational activity?  
(Please prioritise e.g 1 = most important reason)**

- |  |  |
|--|--|
| <input type="checkbox"/> For health and fitness        | <input type="checkbox"/> To appreciate the natural environment |
| <input type="checkbox"/> For travel to and from places | <input type="checkbox"/> For general enjoyment                 |
| <input type="checkbox"/> Other – please specify _____  |  |

**Q5 What do you think of the idea of a marked route with suitable signage for exploring the Woronora and surrounding areas? (Please comment below)**

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**Q6 Are there any tracks and trails near you which you would like to see included on a marked route? If so, state which one(s).**

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**Q7 Do you have any concerns regarding a continuous route for the Woronora? E.g. increased access.**

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**Q8 Are there routes near you which are in need of repair, upgrade etc? If so please state which one(s)**

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**Q9 Where would you like to see new paths built for walking/cycling access? E.g. to link schools, local facilities, parks and reserves, streets**

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**Q10** *If an environmentally sensitive, easy to follow route was created along the Woronora would you be likely to use it?*

\_\_\_\_\_

**Q11** *Which suburb do you live in?*

\_\_\_\_\_

**Q12** *Please suggest a name to describe a loop route to help you explore your local area (e.g. creek, indigenous, cultural, historical, flora and fauna)*

\_\_\_\_\_

\_\_\_\_\_

**Q13** *Please suggest a suitable name for a track along the Woronora valley*

\_\_\_\_\_

**Q14** *Do you belong to a Bushcare Group? If so, which one?*

\_\_\_\_\_

**Q15** *Which of the following themes would you like to see interpreted on route signage? (Please prioritise, eg 1 = "most preferred")*

- |   |  |
|---|--|
| <input type="checkbox"/> Biodiversity                     | <input type="checkbox"/> The River System                    |
| <input type="checkbox"/> Indigenous Culture and Heritage  | <input type="checkbox"/> Non-indigenous Culture and Heritage |
| <input type="checkbox"/> Route and Points of Interest     | <input type="checkbox"/> None                                |
| <br><input type="checkbox"/> Other – please specify _____ |  |

**Q16** *Gender (please circle)*                      **Male**                      **Female**

**Q17 Age (please circle)**

**0-12**

**13-18**

**19-25**

**26-40**

**41-55**

**56-70**

**70+**

**Thank you for taking part in the survey.**

*We are very grateful for your contribution to the  
Great Kai'mia Way Project - Nick Benson, Coordinator*

**Please return questionnaire to:**

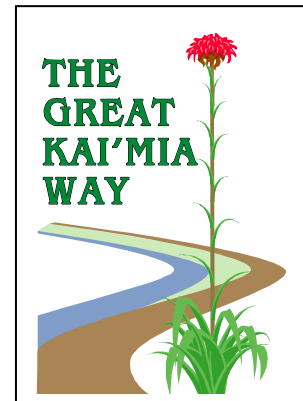
by Friday 20<sup>th</sup> June 2003

**SSEC**

**PO Box 589**

**Sutherland NSW 1499**

**or Fax to: 9521 1477**



## Appendix 3 – Board Notes

### The Great Kai'mia Way - Minutes of the Inaugural Advisory Board Meeting

Friday 8<sup>th</sup> November 2002 - Fairfield City Council

WELCOME Mayor of Fairfield, Councillor Nick Lalich

Clr Lalich welcomed everyone to Fairfield City Council. He encouraged people to visit the award-winning Clear Paddock Creek environmental improvement project. He wished the Great Kai'mia Project every success and hoped it would lead to many fruitful partnerships by bringing people and government together.

**INTRODUCTION TO PROJECT – SUTHERLAND SHIRE ENVIRONMENT CENTRE, THE GREAT KAI'MIA WAY, and THE ADVISORY BOARD - Dr Miriam Verbeek, Chair, SSEC**

Dr Verbeek thanked Cr Lalich and thanked people for agreeing to join the Advisory Board.

Kai'mia is the Aboriginal Dreaming Story of the Georges River Region, and refers to the spectacular Gynea Lily.

SSEC's aims to enhance management and understanding of the environment in Sutherland Shire and its bioregion; it is an independent non-government organisation funded through donations, fundraising, and project-specific grants.

It is coordinating a 12 months feasibility study to consider all aspects of two components of the Way - Georges and Woronora Trails. The third section - Botany Bay Trail - has been the subject of a pre-feasibility study, and work will continue when funding becomes available. SSEC is working in partnership with Georges River Environmental Alliance (GREA). GREA is an umbrella organisation for up to 200 separate local groups.

Why trails? Sensitively located routes, linking bush and urban areas, provide a valuable opportunity for people to explore their natural and cultural heritage, simply by indulging their desire for recreation. People are using the bush anyway. By being pro-active and locating trails where they will do least damage, we hope to reduce the harm to the bush by indiscriminate access.



*Four concurrent themes of the project:*

- *Research and document the natural and cultural features (including existing and planned tracks and trails) of the river valleys to locate a suitable route or routes*
- *Ensure high level of community (stakeholders) involvement in route planning and research developing partnerships for further involvement in implementation stage*
- *Create opportunities to use the project to increase sustainable use of the environment and care of cultural heritage.*
- *Set up a funding strategy for the implementation of the trails network*

*The functions of the advisory board are to:*

- *Provide advice about management of the project*
- *Help integrate the efforts straddling jurisdictions*
- *Avoid duplication of effort*
- *Ensure that we are all working together to achieve environmental and social goals.*

## ***THE GEORGES RIVER FORESHORES IMPROVEMENT PROGRAM (GRFIP)***

### **Bob Symington**

Mr Symington explained that the Great Kai'mia Way Project had received funding under the GRFIP scheme. This PlanningNSW initiative had supported several environmental projects which had led to a distinct improvement in the health of the Georges River. The GRFIP faces an uncertain future with no grants planned for 2003 – 2004. He urged all stakeholders to actively support the next round of funding for GRFIP by contacting their local MP.

### THE GREAT KAI'MIA WAY VISION

#### **Dr. Peter Tralagga, Georges River Environmental Alliance**

Dr. Tralagga spoke passionately for the need for a long term vision to protect remaining bushland of the Georges River catchment, on Sydneys urban fringe, from development. If our forefathers had not had similar vision, we would not have the Royal National Park today. He explained how coordinating the tracks and trails system has a vital role to play in achieving this, by saving a riparian corridor for public amenity, which could be adopted by statutory planning authorities.

### **GREAT KAI'MIA WAY PROJECT UPDATE**

#### ➤ Nick Benson, Project Coordinator - Explore the Woronora Section

Nick had begun "ground truthing", i.e. researching existing and potential track infrastructure, loops tracks and links to settlements, public transport and amenities. Issues: concerns of individual property owners, avoiding sensitive wildlife habitats, where bicycle access was appropriate, antisocial behaviour. The study area - 20km long by 2km wide - allows for in depth analysis, fully inclusive of community contributions.

➤ Bob Symington, Project Coordinator – Georges River Section

Bob is forming four project working groups, based on local authority boundaries, which will include relevant stakeholders:

WG1 – lower reach (north) – Canterbury, Kogarah, Hurstville and Rockdale.

WG2 – middle reach – Bankstown, Fairfield, Holroyd and Liverpool

WG3 - upper reach – Cambelltown and Wollondilly

WG4 – lower reach (south) and headwaters – Sutherland and Wollongong

He has toured the river system by boat to look at existing foreshore amenity projects, as well as some of the barriers to movement created by foreshore residential development.

## **OPEN DISCUSSION – ADVISORY BOARD MEMBERS**

It was asked if Gandangara LALC had been included as one of the stakeholders.

Yes, they had been invited to join the project from the start, through the Explore-the-Woronora Steering Committee, and that it was encouraging to see them today.

Important to explain the Dreaming Path along the trail, interpret different Tribal areas along the way. Name – “Woronora Dreaming Trail” for example. Interpretation signs should document the killings and displacement of Aboriginal people by European settlers.

It was pointed out that Gandangara own Barden and Mill Creeks and had land claims lodged for most of the Woronora Valley.

Defence had not owned the Sandy Point land since 1985 when it was handed over to Dept. of Finance and Administration under the management of Price Waterhouse Coopers.

Various people asked if the Trail had potential for cycleways. The feasibility study will consider opportunities for new and linking existing cycleways and multi-access pathways.

Doubts were that 80% of the Georges River Trail already exists. Just 5% estimated in Campbelltown area, better provision on Defence land to the east of the Georges.

There was a problem with illegal access, as Defence owned down to the river itself. In future Defence is to take steps to prosecute people who wander onto its land.

Maddens Creek is not in a Sydney Catchment Authority proposed catchment.

We are not advocating a route march. Rather an “experience” of the River as a whole. Bits on foot, others by boat perhaps, opportunities for cycling where appropriate. More marketable for tourism and education.

DATE FOR 2<sup>ND</sup> GREAT KAI'MIA WAY ADVISORY BOARD MEETING

Friday 21 February 2003 – provisionally Bankstown City Council – tbc

**List of Attendees**

<b>Name</b>	<b>Organisation</b>	<b>Phone</b>
Neil Tonkin	Bicycle NSW	9823 5200
David Henry	Cambelltown City Council	4645 4210
Allen Mapstone	Canterbury City Council	9789 9477
Wilf Hilder	Confederation Of Bushwalking Clubs NSW	9587 8912
Marina Peterson	Defence – Sydney West	9600 4015
Trevor Flewin	Dept. of Land and Water Conservation (D.L.W.C.)	9895 7519
Scott Renwick	D.L.W.C. (Chipping Norton Lakes Authority)	4224 9636
Bob Marr	E.P.A.	9995 6812
Clr Nick Lalich (Mayor)	Fairfield City Council	
Edward Saulig	Fairfield City Council	9725 0703
Nilmina De Silva	Fairfield City Council	
Fred Malone	Gandangara L.A.L.C.	9602 5280
Robert Bell	Gandangara L.A.L.C.	9602 5280
Maria Woodgate	Gandangara L.A.L.C. (C.M. Jewell and Associates Pty Ltd)	4759 3251
Sharyn Cullis	Georges River Environmental Alliance (G.R.E.A.)	9755 3189
Dr Peter Tralaggan	G.R.E.A.	9515 6111
Peter Jenson	Greening Australia (Bushcare Support)	9560 9144
Brett Calear	Holroyd City Council	9840 9889
Vince Conroy	Holroyd City Council	9840 9888
Cindy Cunningham	Hurstville City Council	9330 6260
Nerida Williams	Kogarah Council	9330 9459
Amit Chanan	Kogarah Council	9330 9458
Lisa Mcgill	Liverpool City Council	9821 7751
Matt Napper	Liverpool City Council	9821 7724
Michaela Hopkins	Rockdale City Council	9562 1703
Dr Miriam Verbeek	Sutherland Shire Environment Centre (S.S.E.C.)	9545 3077
Jim Sloan	S.S.E.C.	9545 3077
Nick Benson	S.S.E.C.	9545 3077
Bob Symington	S.S.E.C.	9545 3077
Juanita Higgs	Southern Sydney Regional Organisation Of Councils (S.S.R.O.C.)	9330 6455
Stephen Black	Waterways Authority	9545 4422

# The Great Kai'mia Way 2<sup>nd</sup> Advisory Board Meeting Notes

## February 21, 2003 Bankstown City Council

### ***1. Welcome and Introduction – Dr Miriam Verbeek***

- Future Board role post Feasibility Study will depend upon funding
- Project is acting as facilitator/ community input ensured/ funding role
- Initiating educational and recreational projects.
- Project also ground truthing/ mapping access routes and missing links and land ownership
- Report will be submitted to PNSW – Georges River Foreshores Improvement Program (GRFIP) Program in August/September
- Final report can be used to guide foreshore developments
- Benefits of the study – include sustainable access improvements/ community building/ increased recreational opportunities/ raised environmental awareness
- Land ownership and insurance – owners maintain responsibility/ stakeholders agreements required before trail goes through
- Project has developed OHS guidelines for field work
- Board meetings provide good forum for reporting back to stakeholders and can generate innovative solutions
- Project logo introduced

### ***2. Great Kai'mia Way Progress:***

#### **2.1 Georges River Way: Bob Symington**

#### **2.2 Explore the Woronora Way: Nick Benson**

### ***3. Community Initiatives***

#### **3.1 Robert Bell, Gandangara Land Council Ranger**

Tracks should draw on Dreamtime knowledge, aboriginal culture closely connected to environment – eg. marker trees/ men's and women's sites/ bush tucker. Tribal information should also be on signs, advancing community education about tribes now gone and early conflicts with European settlement and sustainability. Robert keen to work with Project Coordinators on the Gandangara section and links with surrounding areas.

#### **3.2 Roy Dixon, West Menai Precinct Residents Committee**

Burnum Burnum Nature Trail planned on behalf of Precinct Association. Response to rapid population growth in West Menai area and need to protect recreational and environmental opportunities. September 2002 SSEC Trails Forum brought issues together – importance of loops. Menai area lacks infrastructure – poor public transport and other walking areas far away. Aboriginal and European (Old Mill site) heritage significant. Ecologically important area of shale/ sandstone transition forest. Only 2% of West Menai plateau remains undeveloped. This proposed trail will help to conserve natural values.

There are benefits that coordinated regional trails project can deliver – consistent signage, construction and grading standards, provision for on-going maintenance funding. Whilst communities currently do some maintenance work on trails they will need funding for things like sign replacement, new gates, major bush regeneration. Roy and the Precinct Committee look forward to the working in cooperation with the Project to progress the Burnum Burnum Nature Trail.

### **3.3 Brendon Graham, Sutherland Shire Council, Natural Areas Manager**

Brendan briefed members about 2030 Our Shire Our Future (99) – 18 months community survey. Sustainability is being factored into SSC decisions. The Draft LEP has just been released this week and is open for community submissions.

\$1 M section 94 funds are available and \$100 k identified for the SSC sections of the Great Kai'mia Way. Although Kai'mia Way network was not included in the LEP – it will go forward as an amendment. Master planning will then be required.

The important step now is to get concept accepted by Council – legal issues will be dealt with later.

### **3.4 Norman Jew, Wollondilly Sustainable Transport Committee**

Norman is a keen amateur cyclist from Appin. He became involved in Wollondilly Council's Visions Process and their Alternative Transport Committee, which was formed in 2002. The Committee has community and Council representatives and promotes sustainable transport solutions.

Council has developed a Shire cycleway plan. The Committee proposes a cycleway link with Campbelltown. This would connect to an Appin Heritage Trail. The township dates from 1792 and contains 22 national heritage listed sites – one of Australia's best cultural heritage concentrations.

***Cycleways also have great health and recreational benefits. Cities around the world and Australia have outstanding cycleway systems but not Sydney! Limited funds are available to remedy this deficiency.***

***Norman advocated incorporation of cycleway costs into up-front development fees to provide for sustainable transport as an integral part of standard urban development, rather than the current ad-hoc process, where sustainable transport is seen as an occasional add-on. This cost would be a minimal addition to existing development costs but would require PlanningNSW intervention to be achieved.***

## **4. Discussion Session**

- Project funding - \$145 k is currently allocated to the Project by PNSW – implementation phase will require additional funds – next Board meeting will brief members on possible funding sources.
- Greenspace Funding (PNSW) – applications close in April.
- Project Feasibility Study – will be completed in August 2003.
- Sydney Harbour Access - PNSW's Integrated Land and Water Access Plan (Draft) – funding – suggested that GRC councils would increase funding clout through combined application.
- Future role of Board – implementation phase will require ongoing Board – next meeting to discuss options.
- Documentation of Project process – meetings, mechanisms, etc – would be worthwhile exercise – possibility of video production should be considered.
- Sandy Point Progress Association walk into federal land Sunday 23 March 8.30 am starting at Community Centre.
- Logo – strong support.



**The Great Kia'mia Way**  
**2nd Advisory Board Meeting - Bankstown City Council**

Name of Attendees	Stakeholder Organisation
Robert Bell	Gandangara LALC
Neil Tonkin	Bicycle NSW
Ben Groth	DLWC
Brad Moggridge	EPA
Norman Jew	Wollondilly Sustainable Transport (Committee)
Kim McClymont	PlanningNSW
Nick Chapman	<b>Sydney Water</b>
Verlie Fowler	Campbelltown City Council
Simon Annabel	NSW Waterways
Bob Marr	EPA
Sarah Cannon	Sydney Water
Coralann Shead	Sandy Point Progress Association
Irene Jones	Bankstown Bushland Society
Stuart Porter	South East Sydney Area Health Service
Sharyrn Cullis	GREAA
Louisa Singleman	Sandy Point Progress Association
Belinda Bennett	Sydney Catchment Authority
David Henry	Campbelltown City Council
John Higgs	Bike South West
Micaela Hopkins	Rockdale City Council
Roy Dixon	West Menai Precinct Residents Association
Brendon Graham	Sutherland Shire Council
Tatjana Domazet	Bankstown City Council

**Attachment 2.1 Georges River Way: Bob Symington**

This presentation focuses on the following:

- Stakeholder consultation
- Groundtruthing
- Funding

## ***Community Consultation***

Over preceding 5 months there has been an excellent level of community response

Community groups consulted have included –

Sandy Point Progress Association  
West Menai Precinct Residents Committee  
Bankstown Bushland Society  
GREA + Kentlyn  
NSW Bushwalkers Fed  
Bicycle NSW  
Scouts Aust  
Cons Vol Aust  
Friends of Prospect Ck  
Wollondilly Council's Alternative Transport  
Committee

Many more community groups have played important roles.

- Project is acting as facilitator and communities are coming forward with their preferred tracks and trails to become parts of KMW.
- KMW Vision – November Board were briefed that this vision was defined by a network of sustainable tracks and trails – this is now emerging.
- End product will be much stronger and durable – the community will own the end result and feel pride in its achievement.
- The Project is advancing the key aims of GRFIP – increasing recreational opportunities + environmental awareness + building stronger healthier communities
- It is an exercise in developing Environmental Stewardship – of caring for country. We are strengthening social capital - one of the things that economic rationalists find so difficult to fathom but which greatly enriches our lives.

## ***Council/Agency consultation***

- 12 councils
- 1.5 m people and 25% of NSW population
- project coordinators recognise Councils central role in trail planning, construction and on-going maintenance
- generally excellent level of cooperation from Council staff
- I have met with all 12 councils and had several follow up meetings
- most have now marked trail routes on UBD maps

- we are now refining to detailed topographic maps
- these will be submitted back to Council for endorsement - post ground truthing
- Using this occasion to thank and encourage all Council to keep up their cooperation with this project - their work will generate great community and environmental benefits and recognition should flow back to them.

### ***Agency Consultation***

Has included detailed consultation with the following state agencies;

- NPWS
- RTA
- DLWC/CNLA
- Waterways Authority
- PNSW
- Sydney Water

We look forward to working closely with these agencies and I thank them for their support to date.

It is becoming clear that the Project is delivering substantial benefits – these include the following;

- Regional coordination efficiencies – improving LGA links
- Identify missing links – establish priorities
- Honest broker – community ngos/ councils/ agencies
- To encourage community action + the emergence of champions
- Brokerage – sustainable solutions + sustainable building materials
- Coordinators – are currently developing on a common logo/ signage/ brochures/ on-line info/ trail grading
- Identifying environmental problems – we now have extensive photos dbase
- We are in a key position to gain implementation funding – the Project now has strong momentum

### **Groundtruthing**

- Last few weeks walking tracks and trails
- Hundreds photos
- Bellbirds in Bankstown/
- Wallabies
- Marijuana plantations
- Foxes
- Aboriginal cave paintings
- Rivers disappearing into cracks

- Softwood pine bridges burnt
- Terrible trail bike destruction
- Leachates oozing into wetlands
- Recent SMH articles confirm great natural beauty
- But GR also in environmental decline – due mainly to intensive residential development/redevelopment
- Incremental loss of environmental /scenic values
- Almost total absence of boat speed enforcement
- Consequent bank erosion / turbidity / aquatic life decline
- Walking/cycleway could clearly show what is happening on the Georges
- Increasing community pressure to save and restore the Georges back to good health

## **Powerpoint photo presentation**

### ***Funding***

I have gained the support of several champions that have emerged during the consultation and groundtruthing phases - to form an informal group to seek funding for the implementation of this project - this group will meet soon and will include – Phil Sansom, Kim McClymont, Neil Tonkin, Wilf Hilder and Norman Jew. I look forward to reporting back to you in 3 months on the progress of this group and the overall Project.

### **Attachment 2.2 Explore the Woronora Way: Nick Benson**

This presentation focuses on the following:

- Research component of the project - ground truthing
- The Contributions of individuals and groups within the community
- Liaison with government at all levels
- Developing the common Great Kai'mia Way vision through track signage, access control infrastructure, brochures
- Education and Promotion
  - The main challenges to implementation

### **Primary and Secondary Contact Recreation**

*In conjunction with the powerpoint photos.*

#### **1 Experiencing the river**

There are many ways to experience the special qualities of the Woronora River - some more unusual than most - an adventurous family attempting to lilo down the stretch between Heathcote Bridge and the Needles

## **2 Bushwalking**

Bushwalking is the most common form of recreation in Sutherland Shire, according to the Sutherland Shire Open Space and Recreation Needs Survey in 1995. The public voted that the highest council spending priority should be the provision of walking tracks and boardwalks.

## **3 Canoeing**

Canoeing - a canoe trail along the river would link beaches and points of interest, many of which are inappropriate to link via a continuous land route.

## **4 Cycling**

Cycling is popular on the main fire trails in the valley, although in areas zoned as 7(b) Environmental Protection (Bushland) cycling is a prohibited activity. There is scope to identify a network on the quiet residential streets and to incorporate the new shared use track across the river suspended from the road bridge. A challenge is to allow cycles but not motorbikes at the main access control points along the track.

## ***Ground Truthing***

**5/6/7/8** So how to determine which existing or potential track routes are suitable and appropriate to different user groups for exploring the Woronora? I have developed a "ground truth" checklist, which can be taken out on site to help collect information. The checklist has space for a sketch map. Further information on heritage and biodiversity for example can be added later so that a comprehensive file is built up on the track network of the whole valley. Each track is given an ID, when the information is transferred to a trails database on computer.

## ***Community Building***

### **9 Local "Champions"**

Example: Exchange of ideas between reps of Gandangara LALC and West Menai Precinct Residents Association. We have helped facilitate cross community ties between local precinct groups who are interested in developing their own sections of trail, and between people from the Aboriginal community and their non-Aboriginal neighbours. A common theme is the protection of bushland and wildlife habitat for future generations to enjoy and appreciate.

### **10 Bushcare Groups**

Example: Maandowie Reserve Bushcare Group - secretary Geoff Broadhead. Part of detailed community consultation has involved liaising with Bushcare Groups in the valley, to verify the suitability of identifying tracks as part of the network. Addressing any concerns such as erosion and impacts on native bushland. Also seeking ways of future stewardship for tracks e.g. "Friends of the Woronora Way"

### **11 Major Stakeholders/Landholders**

Example: Liaison with Sydney Water, NPWS and Sutherland Shire Council over the use of the Woronora Dam Pipeline Service Track as part of the Woronora Way. The track cannot happen without the cooperation of the key landholders and land managers who will ultimately be responsible for future maintenance.



## ***Potential Woronora Way***

### **12and13 Maps based on first 4 months investigation**

Suggest alternative routes for walkers and cyclists between Como and Thorp Road Woronora. Canoe trail highlights beaches and picnic grounds as well as short walks from the canoe landing spots. From Thorp Road to Heathcote Road suggested shared route along Sydney Water pipeline track. A footbridge is needed to cross Heathcote Road safely. In Heathcote National Park trail continues along pipeline track. At Battery Point walkers head up Birrawong track to Waterfall, cyclists continue along service track to Woronora Dam Road and then via Old Princes Highway to Waterfall. Links from each railway station along the route down to the main "spine" trail are suggested.

### **14 Logo**

In order to keep the common theme of Kia'mia for the whole track system throughout the Woronora and the Georges, we have looked at logo designs suitable for signage and publications.

### **15 Waymarker Design**

This is how a common waymarker for the Great Kia'mia Way might look.

Aluminium post with heavy duty stickers which can be replaced if removed by vandals. Cost approx. \$60.

### **16 No Common theme at present**

A common waymarker would help to rationalise the signage in the valley which varies considerably. Helps make the track easier to follow and more user friendly.

## ***Major Issue - Securing Public Access to Pipeline Service Track***

### **17 Heathcote Road**

The key to establishing the Woronora Way is to develop a partnership between Sydney Water, NPWS and Sutherland Shire Council to allow the use of the pipeline service track. Currently, public access is prohibited. The major physical barrier is Heathcote Road. Council have set aside funds to help with the cost of a shared use bridge to cross the road should permission be granted.

### **18 Jogging along the pipeline track**

The track is already used extensively by local residents. Sydney Water have obvious risk management and liability concerns which need to be addressed.

### **19 Protecting the Upper Valley**

The benefit of using the service track is that it would control access by keeping users to easy to follow route, of good standard. This negates the need to build a continuous route through sensitive steep bushland habitats upstream of the Deepwater Estate.

## Education and Promotion

### 20and21 Clean Up Australia Day

A key goal of the overall project strategy is to target calendar events to help promote the project to a wider audience. For Clean Up Australia Day - Sunday 2<sup>nd</sup> March 2003, we are organising an event with the help of Waterways and the Bush Fire Brigade. An abandoned church camp is to be restored to a grassy meadow suitable as a landing point on the canoe trail. The site is only accessible by boat.

### 22 Parc Menai Celtic Festival

The following week, Sunday 9<sup>th</sup> March 2003, we are hiring a stall to help publicise the project. People will be able to pick up a brochure and be asked to complete a questionnaire on local outdoor recreation habits, gauging opinion of the Great Kai'mia Way vision, any local knowledge, ideas or concerns. A large map display will help people pinpoint existing tracks, walkways, cycleways, heritage sites, interesting flora and fauna.



## *Funding*

Sutherland Shire Council are positively supporting the GKW vision and seeing it as a way of integrating the LGA's pedestrian and cycling network. Unfortunately the concept plan just failed to make it into the LEP although there is still time for a submission to be made to alter the plan. Endorsement by council could pave the way for significant funding for track infrastructure such as Heathcote Bridge.

# The Great Kai'mia Way 2<sup>nd</sup> Advisory Board Meeting Notes

## June 13, 2003 Campbelltown City Council

The Mayor of Campbelltown, Brenton Banfield welcomed all attendees and praised the project, pointing out that it integrated well with plans for the further development of the Campbelltown Council area.

Miriam Verbeek thanked the Mayor for his support. She noted that although Bob Symington and Nick Benson would provide an overview of the current status of the Great Kai'mia Way project, the major objective of the meeting was to hear concerns and/or suggestions from those present

Bob and Nick then provided their overview.

### ***Notes from discussion***

#### Audience Viewpoint

- Deeply concerned about inappropriate use of the trails (i.e. motorised use), is concerned that methods for management currently being discussed for *the Kai'mia Way* haven't been effective previously, and will be inadequate to protect tracks from trail bike and 4WD damage.
- If there are insufficient funds to ensure appropriate enforcement of management strategies, the project should not go ahead until there are enough funds to cover enforcement procedures (employment of rangers etc.).
- Signage and gates are not going to deter trail bikes and 4WDs for very long.

#### Project Management Team

Who should have the responsibility of enforcement?

#### Audience Viewpoint

- If the trails project goes ahead, will it be a single identity/entity or will it be managed separately by various Councils?
- Why doesn't the entity hire it's own rangers? Could provide employment opportunities for disadvantaged youth in the local areas.
- Guided tours of maintenance works for education purposes.

#### Project Management Team

Liverpool Council is working with Green Corps – since the project can't afford to hire rangers at this stage, could the Green Corps be used in that capacity?

#### Audience Viewpoint

Concerned that Councils may misuse the trails, need to get all relevant Councils to sign off on trails strategy, so it is managed in a uniform way.

Project Management Team

We are developing checklist of responsibilities that Councils will need to follow.

Audience Viewpoint

Need to liaise with groups such as Heathcote National Park that have been successful in restricting illegal access to existing trails, through the use of surveillance cameras.

Project Management Team

Would like to see security being given top priority should more funding become available.

Audience Viewpoint

Is heartened by the way Councils and community organisations have pulled together for the project, but is afraid that factions will fall apart when the study ends in August.

Recommends the establishment of a Great Kai-mia Way Trust to ensure sustainable development and maintenance of the trail network and the partnerships. Could use these funds to employ rangers, etc.

Project Management Team

SSEC and GREA agree with recommendation wholeheartedly, but where is the money for the trust going to come from?

Audience Viewpoint

Councils and other stakeholders in the project should come together in one concerted effort to petition the community and government using all types of media.

Project Management Team

Should the Councils involved donate to the trust?

Project Management Team

Bulk of money should be coming from State Treasury.

Audience Viewpoint

Georges River Combined Councils would be a good group to champion trust.

Audience Viewpoint

Concerned that significant factors such as toilets, telephones, kiosks have not been considered, but should be.

Project Management Team

When the track becomes more popular, would consider putting 'enviro loos' in place.

Need to offer an alternative place for trail bikes to go.

#### Audience Viewpoint

Gov't should be finding funds for improving more recreation areas.

#### Audience Viewpoint

Look at examples of projects around the world where funding has come from the private sector and community, so projects evolve to become independent of government.

Audience Viewpoint ... provided an overview of the project he has been working on for the past couple of decades: a cycle route along the coast of NSW. His project is commendable in that it has now achieve significant government grant funding.

### ***Attendance***

Verlie Fowler – Councillor, Campbelltown

Benlinda Bennet - SCA

Sarah Cannon - SW

Tim Carrol – National Parks Association

John Lennis – Casula Powerhouse Centre

Beth Michie – National Parks Association

Rob Michie – National Parks Association

Peter Tralaggan – GREA

Prof. Elias Dueck-Cohen – Foudner, Coastline cycleway project

Trevor Flewin – DIPNR

Jo Winkler – SSEC

Jim Sloan – SSEC

Roy Dixon – West Menai and Barden Ridge Precinct Residents' Association

Brendon Graham – SSC

Sharyn Cullis – GREA

Bob Symington – SSEC

Neil Tonkin – Bicycle NSW

Wilf Hilder – Confederation of Bushwalking Clubs, NSW

Miriam Verbeek – SSEC

Norman Jew

Brenton Banfield – Mayor, Campbelltown.

David Henry – Campbelltown Council

Bruce McDonall – Liverpool Council



# **The Great Kai'mia Way 2<sup>nd</sup> Advisory Board Meeting Notes 2003 Bankstown City Council**

**(The 4th Board meeting discussed a funding proposal, reproduced in Appendix 12)**



## Appendix 4 - List Of Stakeholders in The Great Kai'mia Way Project

The table below includes only stakeholder groups the project team contacted. Many individuals, also recognised as important stakeholders, made valuable contributions and are part of the personal database of the project team.

<b>Stakeholder</b>	<b>Abbrev.</b>	<b>Involvement</b>
BicycleNSW	BNSW	Advisory Board/ground truthing/consultation
Billy's Bushies		Woronora Steering Group/ground truthing
Botany Bay and Catchment Alliance	BBaCA	Woronora Section Steering Group/consultation
Botany Bay Program	BBP	Woronora Steering Group/consultation
Clean Up Australia		activity
Conservation Volunteers Australia	CVA	Consultation/activity
Dharawal Local Aboriginal Land Council	DLALC	Consultation
Engadine Rotary Club	ERC	Consultation/activity
Gandangara Local Aboriginal Land Council	GLALC	Advisory Board/Woronora Steering Group/ground truthing/consultation/activity
Georges River Environmental Education Centre	GREEC	Advisory Board/consultation/ground truthing /activity
Illawong and Alford's Point Progress Association	IAPPA	Consultation
Kurrunulla Aboriginal Corporation	KAC	Consultation
Maandowie Creek Volunteer Bushcare Group	MCVBG	Consultation/ground truthing
Menai Public School		Consultation/ground truthing/activity
Menai Wildflower Society	MWS	Consultation/ground truthing
National Parks and Wildlife Service	NPWS	Advisory Board/Woronora Steering Group/ground truthing/consultation/ground truthing
National Parks Association of NSW	NPA	Advisory Board/Woronora Section Steering Group/ground truthing
NSW Confederation of Bushwalking Clubs	CoBWC	Advisory Board/ground truthing/consultation
NSW Dept. of Infrastructure Planning and Natural Resources	DIPNR	Advisory Board/Woronora Section Steering Group

<b>Stakeholder</b>	<b>Abbrev.</b>	<b>Involvement</b>
NSW Waterways (Riverkeeper)		Consultation/ground truthing/activity
Other Local Schools		Consultation/activity
Other local Volunteer Bushcare Groups		Consultation/ground truthing
Roads and Traffic Authority	RTA	Consultation
Sandy Point Progress Association	SPPA	Consultation/ground truthing/activity
Scouts Australia		Consultation
Sharkbike Bicycle User Group	SBUG	Woronora Steering Group/consultation
South West Enviro-Centre	SWEC	Advisory Board
Southern Sydney Catchment Management Board	SSCMB	Advisory Board/Woronora Steering Group/consultation
Sutherland Shire Bushwalking Club	SSBC	Contact
Sutherland Shire Canoe Club	SSCC	Consultation/ground truthing
Sutherland Shire Council	SSC	Advisory Board/Woronora Steering Group/consultation/ground truthing/activity
Sutherland Shire Tourism Association	SSTA	Woronora Steering Group/consultation
Sydney Catchment Authority	SCA	Advisory Board/consultation
Sydney Water Corporation	SWC	Advisory Board/Woronora Steering Group/consultation/ground truthing
West Menai and Barden Ridge Precinct Residents Association	WMBRP RA	Woronora Steering Group/ground truthing/consultation
Woronora Bushfire Brigade	WBFB	Consultation/activity
Woronora Valley Precinct Residents Association	WVPRA	Woronora Steering Group/ground truthing/consultation

# Appendix 5 – Safety and Organisation for Staff

## Sutherland Shire Environment Centre

### SAFETY AND ORGANISATION FOR STAFF AND VOLUNTEERS WORKING OUTDOORS

All employers and employees, including volunteers, have obligations under the Occupational Health and Safety Act 2000. The Act is administered by Workcover Authority. It aims to protect the health, safety and welfare of people at work.

Please take time to study the following and sign at the bottom to say that you have read and understand it. If you have any queries please do not hesitate to ask a member of staff.

### Possible Workplace Hazards in Outdoors Environments

#### **1. Twigs and Branches**

*Hazard:* When walking through bush and dense scrub a common injury is being poked in the eye by twigs or the sharp points on grasses and shrubs.

*Safety Plan:* Take extra care and walk slowly through the bush. For extra safety wear safety glasses.

#### **2. Heights**

*Hazard:* Cliff Tops and any rock outcrops > 2 metres high.

*Safety Plan:* Keep well away from the edge and be aware of loose rocks and slippery surfaces.

#### **3. Slips, Trips and Falls**

*Hazard:* Be aware of uneven ground, creek crossings with algae covered rock, steep slopes covered with dry natural leaf mulch can be very slippery. Beware of hidden stumps, rocks or holes that may trip you up.

*Safety Plan:* Sturdy walking/work boots should be worn, preferably with ankle support to prevent sprains



#### **4. Bites and Stings**

*Hazard:* Insects, Spiders, Lizards and Snakes

*Safety Plan:* The First Aid Kit should be carried by the Supervisor (Coordinator) at all times on bushwalks. Preferably at least one person in the party should have a knowledge of basic first aid techniques and the location of the nearest hospital. A mobile phone is also handy in an emergency. The Supervisor should carry personal insect repellent for application where mosquitoes and ticks are present.

#### **5. Ultra-Violet Radiation**

*Hazard:* Long term exposure to the sun, particularly between the hours of 11am and 3pm, is harmful, and can lead to skin cancer in extreme cases.

*Safety Plan:* It is recommended that staff and volunteers wear: a hat, long-sleeved shirt and sun glasses. The supervisor to provide sunscreen for volunteers.

#### **6. Sharps Objects and Syringes**

*Hazard:* Broken glass, rusty metal, and discarded syringes

*Safety Plan:* When picking up rubbish, always wear gloves. Never touch the sharp (needle) end of a syringe, pick up by the barrel end. Do not attempt to replace the cap on the needle, but place syringe in a sharps container or screw top, puncture proof, plastic container and seal it.

#### **7. Extremes of Weather**

*Hazard:* Heat Exhaustion, Hypothermia

*Safety Plan:* On hot days drink plenty of fluids and take plenty of rests. Do not work in cold wet conditions without adequate clothing.

#### **8. Working on Roadsides**

*Hazard:* Traffic

*Safety Plan:* staff and volunteers must wear yellow safety vests if working within 3 metres of a road.

# Appendix 6 – Australian Standard – Track Classification System

Six classes of walking tracks are considered by Australian Standard in AS2156.1-2001. The Great Kai'mia Way has 5 grades of track based roughly on the group of elements outlined in the Track Classification Table, with classes 5 and 6 combined as one class.

## Overview

### *Class 1*

Opportunity for large numbers of visitors, including those with reduced mobility, to undertake walks which are provided with a high level of interpretation and facilities.

Users can expect abundant opportunities to learn about the natural environment through interpretive signs or brochures.

User can expect frequent encounters with others.

### *Class 2*

Opportunity for large numbers of visitors to walk easily in natural environments which are provided with a moderate to high level of interpretation and facilities.

Users can expect to learn about the natural environment with moderate to abundant opportunities to learn through interpretive signs or brochures.

Users can expect frequent encounters with others.

### *Class 3*

Opportunity for visitors to walk in slightly modified natural environments requiring a moderate level of fitness and where the provision of interpretation and facilities is not common.

Users can expect opportunities to observe and appreciate the natural environment with limited provision of interpretive signage.

Users can expect occasional encounters with others.

### *Class 4*

Opportunity for visitors to explore and discover relatively undisturbed natural environments along defined and distinct tracks with minimal (if any) facilities.

Users can expect opportunities to observe and appreciate the natural environment without provision of interpretive signage.

Users can expect opportunities for solitude with few encounters with others.

### ***Class 5***

Opportunity for visitors with advanced outdoor knowledge and skills to find their own way along often indistinct tracks in remote locations.

Users can expect frequent opportunities for solitude with few encounters with others.

### ***Class 6***

Opportunity for highly experienced walkers to explore remote and challenging natural areas without reliance on managed tracks.

Users can expect extended periods of solitude with few encounters with others.

## Elements of Track Classification Summarised from AS 2156.1-2001

	Class 1	2	3	4	5	6
<b>Track Conditions</b>						
Definition/width	1200mm or more	900mm or more	Less than 1200mm	Distinct width	Indistinct in places	Indistinct
Surface	Hard sealed	Modified or hardened	Modified - sections hardened	Some minor modifications	Limited modifications	No modifications
Intrusions/obstacles	None	Minimal	Mostly clear	Fallen debris and other	Debris not cleared	Natural state
<b>Gradient</b>						
Grade	In accordance with AS 1428 series	Generally less than 1:10	May exceed 1:10 for short sections	Limited to environ. and maintenance consideration	May include steep sections of unmodified surfaces	May include steep sections of unmodified surfaces
Steps	Only with alternate ramp access	Minimal use of steps	Common			
<b>Signage</b>						
Managemnt.	Frequent	Frequent	Limited	Minimal	Minimal	Rarely
Interpretive	Frequent	Frequent	Limited	Rarely	Rarely	Rarely
Direction	At intersections	At intersections	At intersections	Limited	Rarely	Rarely
<b>Facilities</b>	Lookout platforms seats and barrier rails. Camping generally not allowed	Lookout platforms seats and barrier rails. Camping generally not allowed	Usually for specific safety and environ. considerations only	Usually for specific safety and environ. considerations only	Usually for specific safety and environ. considerations only	Generally not provided
<b>Terrain</b>						
Previous experience and skills	Not required	Not required	Minimal level of specialised skills	Moderate level of specialised skills e.g. navigation. Users may require maps/navigation equip. to complete track	High level of specialised skills e.g. navigation. Users may require maps/navigation equip. to complete track	Outdoors. High level of specialised skills. Users will generally require maps/navigation equip. to complete track
Hazards and safety	Users expected to exercise normal care regarding their personal safety	Users expected to exercise normal care regarding their personal safety	Users may encounter steep slopes, unstable surfaces and minor water crossings. Responsible for their own safety	Users need to be self reliant, particularly in regard to emergency first aid and weather hazards	Users need to be self reliant, particularly in regard to emergency first aid and weather hazards	Users need to be self reliant, particularly in regard to emergency first aid and weather hazards
<b>Weather</b>	N/A	N/A	Storms may effect navigation and safety	Storms and severe weather may effect navigation and safety	Storms and severe weather may effect navigation and safety	Storms and severe weather may effect navigation and safety



# Appendix 7 – Natural cultural and educational values of the Burnum Burnum Track

## Conservation values

### *Flora*

The landscape is occupied predominantly by a species-rich Hawkesbury sandstone flora. The species diversity is complemented by the flora of Wianamatta shale cappings at Hall Drive Reserve and estuarine communities on Quaternary alluvium along the lower Mill Creek catchment.

Almost 400 species of native plants are documented for the Menai West area. This represents 20% of the species occurring in the Sydney area.

Along the proposed trail, important examples of shale and saltmarsh vegetation are observed. Shale and saltmarsh vegetation types are poorly represented in existing conservation reserves in Sydney's south. The saltmarsh and mangrove communities along Mill Creek are much more extensive than similar communities conserved in the existing Georges River National Park at Salt Pan Creek. They also are found in as yet largely undisturbed and unpolluted non-urban catchments. Shale forests in the Sutherland Shire and further west on the Cumberland Plain have been decimated by clearing in the past. In the south of Sydney these rare forests have been almost completely cleared (Mills, 1992 and Benson and Howell, 1990).



On a site inspection in 2002 by Brendon Graham (Parks and Waterways Officer - Sutherland Shire Council) and Alan Fairley (local botanist) discovered a previously unknown Paperbark/ Red Mahogany Forest located in a low depression opposite Barden Road only 50m from the Old Illawarra Road. The forest occupies several hundred square metres and contains a canopy of *Melaleuca linariifolia* and *Eucalyptus resinifera* at a height of 20-25m. These species are associated in the Shire with the Sydney Coastal Riverflat Forest (listed on the TSC Act) and are found on alluvial soils along the Woronora, Hacking and Georges Rivers and their tributaries. The Menai community is different again with similarities to vegetation found on poorly drained areas of the Cumberland Plain. This is the only known example of this community in the Sutherland Shire.

**Alan Fairley summarises the progressive degradation of the western region of Sutherland Shire.**

**He states:** (Fairley, 1992)

"What was uncommon yesterday is rare today and could be extinct tomorrow. Examples of this are some of the plants I photographed in the Menai-Lucas Heights area in the mid 1980's. A native pea *Dillwynnia parvifolia*. has been cleared for housing and elsewhere around Sydney its survival is threatened as their restricted habitat is eaten away by subdivision and clearing. The finest stand of Showy-pea (*Dillwynnia serlcea*) I have ever seen - and to which I had taken numerous groups of naturalists - is now metres beneath the garbage of the existing tip. *Darwinia diminuta*, a rare plant, has disappeared from most of its former locations in the Shire of Sutherland, and maintains a tenuous hold within the former proposed Lucas Heights tip extension...

This area, due to both diversity of habitats and flora present, the large range of rare and significant plants and especially the discovery of the most significant populations of the native she-oak *Allocasuarina diminuta ssp mimica* in Australia, should never have been considered as part of a waste depot extension."



(Fairley, 2001) "In an area like Menai-Bangor where there is both shale and sandstone habitats and which has been sub-divided so extensively over the last 10 years, every patch of bushland is valuable. In the past, I have photographed numerous wildflowers on the Menai plateau, but unfortunately many of those sites are now covered with houses. **Shale ridges and shale-sandstone interfaces are habitats, which are becoming increasingly scarce in the Sydney area and contain a number of rare and threatened species of native plants.** The preservation of these species depends on the preservation of their habitat.



The areas currently threatened with development (DUAP/LANDCOM) are, in general, fine areas of forested plateau and slopes and are rich in wildflowers (and no doubt in wildlife). **Any sub-division for houses would destroy valuable bushland and seriously affect the adjoining catchments of Mill Creek and Georges River by run-off and urban pollution"**

### ***Fauna***

The variety of different vegetation types (above) takes in a range of habitats which are utilised by a rich and diverse animal life. The areas remain poorly surveyed and yet 102 native bird species, 10 mammal species (not including several unidentified insectivorous bats) and thirteen species of reptile are known to occur in the area.

Five **significant** bird species have been observed in bushland along the proposed trail. These include the Spotted Quail Thrush *Cincoloma punctatum*, Rufous Fantail *Rhipidura rufifrons*, Cicada Bird *Coracina tenuirostris*, and White Throated Needle Tail *Hirundapus caudacutus*. Mill Creek is likely to be important corridors for the movement of the Gang Gang Cockatoo *Callocephalon fimbriatum*.

The reptile fauna of the proposed parks is particularly poorly studied however the Diamond Python *Morelia spilotes* is known to occur in the area concerned. More importantly there is ample potential sandstone habitat which could support populations of the threatened Broad Headed Snake *Holocephalus bungaroides*, last observed in the area in the late 1980s.

Rock Wallabies and Grey Kangaroos have been observed along the trail.

## **Cultural values**

### ***Aboriginal sites***

The Menai to Lucas Heights area is rich in the evidence of Aboriginal occupation in particular along Mill Creek.

### ***European heritage***

The trail traverses areas of historical significance, including

- Remains of a flour mill c. 1920
- Areas previously cleared for small scale farming
- Building foundations
- An old well
- Urban bushland saved from clearing by local residents
- The residential area lost to the 1997 bushfires



### Recreational values

Menai/Illawong/Bangor/Lucas Heights/Barden Ridge area is one of the fastest growing areas in Sydney. There will be an increasing future need to provide open space opportunities for the growing population.

The West Menai Nature Trail will provide a wide range of recreational activities. The existing tracks and bushland are being already utilised for a number of recreational activities including:

- Bushwalking
- Jogging
- Cross country running
- Rock climbing
- Photography
- Nature study
- Bird watching
- Fishing

Appropriate management procedures will be required to ensure that bushland surrounding the trail will not be degraded by the illegal activities of four wheel drive vehicles and trail bikes.



### Educational values

Teacher training courses have been held in the bushland along the trail route. Four high schools and six primary schools rely on the bushland for local area studies. The Sutherland Shire Bushcare program collects seeds, conducts rehabilitation and holds courses in this area. The West Menai Nature Trail would make this a valued location for environmental education. There is an increasing trend in environmental education to use local sites frequently rather than conducting one large excursion per year to more remote locations.



## Appendix 8 – Threatened and Significant Species Occurring in the Woronora Catchment

From: "SSC assets along the Georges and Woronora Rivers and their tributaries", Sutherland Shire Council.

Species	NSW TSC Act	ROTAP (nationally rare)	Locally Significant Species	Distribution in subject area
Koala	Vulnerable species			Throughout the Woronora Valley
Powerful Owl	Vulnerable species			Scattered in the Woronora Valley
Sydney Coastal Riverflat Forest	Endangered ecological community			Scattered along the Georges and Woronora Rivers
<i>Acianthus caudatus</i>			Sa	Woronora Valley
<i>Angophora floribunda</i>			Si	Woronora Valley
<i>Astrotricha latifolia</i>			Si	Mill Creek
<i>Bertya brownii</i>		2RC-		
<i>Caleana major</i>			Sa	Woronora Valley
<i>Calistemon subulatus</i>			Sa	Upper Woronora Valley
<i>Eucalyptus saligna</i>			Sa	Woronora Valley
<i>Grevillia longifolia</i>		2RC-		Loftus Creek, Forbes Creek
<i>Hibbertia nitida</i>			Sa	Scattered throughout area
<i>Hovea longifolia</i>			Si	Woronora Valley
<i>Leucopogon exolasius</i>		2VC-		Woronora Valley
<i>Lomandra fluviatilis</i>		3RCa		Upper Woronora Valley
<i>Macrozamia spiralis</i>			Sa	
<i>Monotocca ledifolia</i>		3RC-		Woronora Valley
<i>Ottelia ovalifolia</i>			Sa	Mill Creek

<i>Stenocarpus salignus</i>			Sa	Upper Woronora Valley
<i>Tetratheca neglecta</i>		2RC-		Scattered in area
<i>Wilsonia backhousia</i>	Vulnerable			Georges River

**Table 1: ROTAP Coding System for Plants at Risk**

<b>Category</b>	<b>Coding</b>	<b>Definition</b>
<b>Plant Distribution</b>	1	Known only from the type* collection
	2	Restricted distribution - range extending over less than 100km
	3	Range more than 100km but in small populations
<b>Conservation Status</b>	X	Presumed extinct - not collected for 50 years or the only known populations destroyed
	E**	Endangered - at serious risk in the short term (one or two decades)
	V**	Vulnerable - at risk over a longer period (20-50 years)
	R	Rare but with no current identifiable threat
	K	Poorly known species suspected of being at risk
<b>Reservation Status</b>	C	Species is known to occur within a proclaimed reserve
	a	Species is considered to be adequately reserved. 1000 or more plants occur within a proclaimed reserve
	i	Species is considered to be inadequately reserved. Less than 1000 plants occur within a proclaimed reserve
	-	Species is recorded from a reserve but the population size is unknown
	t	Total known species population is within a reserve
	Px	Western Australian Department of Conservation and Land Management (CALM) Priority Flora Code. Range from P1 (highest priority) to P4 (lowest priority).
	+	Species also occurs outside of Australia
*	The "type" is the plant specimen used to originally describe a species.	
**	Species considered to be either Endangered or Vulnerable are classified as "Threatened".	

Leigh, J, Briggs, J and Hartley, W. (1981); **Rare or Threatened Australian Plants**, Australian National Parks and Wildlife Service, Special Publication 7.

<http://farrer.riv.csu.edu.au/ASGAP/atrisk.html>

## Appendix 9 – Woronora Foreshore Reserves

Location	Features of Interest
<p><b>Paruna Reserve,</b> Como</p>	<p>Council owned 430m of river frontage 3.6ha bushland zoned <i>6(a) Public Recreation</i> pedestrian track linking Central Avenue and Highpoint Place historical heritage (Henry Lawson) Paruna Reserve Bushcare Group since 1996 Passive recreation – bushwalking, swimming, fishing</p>
<p><b>The Glen and Koolangarra Reserves,</b> Bonnet Bay</p>	<p>Council owned 326m of river frontage 770m of creek 20ha bushland zoned <i>7(b) Environmental Protection Bushland</i> Fire Trails/Sydney Water sewer maintenance track The Glen Reserve Bushcare Group and Koolangarra Bushcare Group both since 1992 Passive recreation – bushwalking Part of SSC Greenweb/endangered ecological community</p>
<p><b>Woronora Crescent Reserves,</b> Como</p>	<p>Council owned 250m of river frontage 1.7ha bushland zoned <i>6(a) Public Recreation</i> part of SSC Greenweb</p>
<p><b>Arthur Place Reserve,</b> Bonnet Bay</p>	<p>Council owned 50m of river frontage 1ha bushland zoned <i>6(a) Public Recreation</i> Arthur Place Bushcare Group since 1997 and Nixon Place Bushcare Group since 1993 Passive recreation – bushwalking, swimming, fishing Part of SSC Greenweb</p>



<p><b>Jannali Reserve/Bonnet Bay Reserve, Jannali</b></p>	<p>Crown Land managed by SSC  1,500m of river frontage  65ha bushland  zoned 7(b) and 6(a)  Boat ramp facilities  Carpark  Baseball field  Playground and picnic facilities  Pedestrian link with adjacent Glen Reserve  Streamwatch  Jannali Reserve Bushcare Group since 1993, Jannali Reserve (Tyler Place) Bushcare Group since 1999 and Jannali Reserve Boat Ramp Bushcare Group since 2000  Passive recreation – bushwalking, swimming, fishing, playground  Part of SSC Greenweb</p>
<p>Prince Edward Park</p>	<p>Crown land managed by SSC  600m of river frontage  800m Forbes Creek frontage  45ha bushland and open space  zoned 6(a)  Known Koala habitat  soccer, rugby and cricket fields  boat ramp, parking facilities  public toilets  pedestrian bridge over Woronora River  Scout Club  Royal Lifesaving Club  Playground  BBQ facilities  Walking track system linking Sutherland and Woronora  Prince Edward Park Bushcare Group since 1993  Passive recreation – bushwalking, swimming, fishing  Part of SSC Greenweb</p>
<p><b>Lakewood City Reserve, Bonnet Bay</b></p>	<p>Council owned  735m of river frontage  2.8ha bushland  zoned 6(a)  sports oval  tennis courts  carpark  passive recreation – picnicking, fishing, swimming</p>
<p><b>The Crescent Creek</b></p>	<p>Council owned  900m creek  1ha bushland  zoned 7(b)  The Crescent Bushcare Group since 1997  Part of SSC Greenweb</p>

<b>Forbes Creek, Woronora to Engadine</b>	Crown land managed by SSC 1000m Forbes Creek >60ha bushland zoned 7(b) Forbes Creek Woronora Bushcare Group since 1996, Upper Forbes Creek Bushcare Group since 1996, Forbes Creek South Bushcare Group since 2002, Croston Road Bushcare Group since 2002 Part of SSC Greenweb
<b>Maandowie Creek</b>	Crown land managed by SSC 400m creek >25ha bushland zoned 7(b) Fire Trails Maandowie Reserve Bushcare Group since 1993, Ninth Avenue Bushcare Group since 1996, Ninth Avenue North Bushcare Group since 2000, Eighth Avenue Bushcare Group since 2002 Part of SSC Greenweb
<b>Fahy Creek</b>	Crown land managed by SSC 1000m Fahy Creek >20ha bushland zoned 7(b) Known Koala habitat Fire Trails Fahy Creek Bushcare Group and Fremantle Place Bushcare Group both since 1996 Part of SSC Greenweb
<b>Loftus Creek, Loftus</b>	Crown land managed by SSC 1000m Loftus Creek >30ha bushland zoned 7(b) Fire Trails Dobell Road Bushcare Group since 2002, Urana Road Bushcare Group since 2001 Passive recreation – bushwalking Part of SSC Greenweb
<b>Thompson's Bay, Illawong</b>	Crown land managed by SSC 188m Georges River frontage 335m Woronora River frontage 4.5ha bushland zoned 6(a) European heritage – wharf, sandstone horse watering well and steps Thompsons Bay Bushcare Group since 1987 Passive recreation – fishing, bushwalking Part of SSC Greenweb
<b>Mill Creek, Menai</b>	Crown land managed by SSC 600m Mill Creek >15ha bushland zoned 7(b) Mill Creek Crown Reserve Bushcare Group since 1996 Part of SSC Greenweb

<b>Prices Circuit Reserve,</b> Woronora	Crown land managed by SSC 400m of river frontage 1.5ha public open space zoned 6(a) seawall carpark BBQ facilities Playground Picnicking Passive recreation – fishing, swimming
<b>Menai Rd/Woronora River Reserve,</b> Woronora	Crown land managed by SSC 700m of river frontage 1.7ha bushland/open space zoned 6(a) Boat ramp Rural Fire Service facilities – Woronora Volunteer Bushfire Brigade Part of SSC Greenweb Recreation – fishing, swimming, boating
<b>Menai Road/Woronora River Reserve,</b> Bangor	Crown land managed by SSC 860m of river frontage 22ha bushland zoned 6(a) Passive recreation – fishing, boating, bushwalking Part of SSC Greenweb
<b>Prices Circuit Reserve,</b> Woronora	Crown land managed by SSC 1,000m of river frontage 25ha bushland zoned 6(a) part of SSC Greenweb – known Powerful Owl habitat, Endangered Ecological Community Fire Trails Woronora Public School Bushcare Group Passive recreation – boat landing, fishing, swimming, picnicking
<b>River Road Public Jetty,</b> Woronora	Council owned 12m of river frontage public jetty Boating access to Deepwater Estate properties Carpark Public toilet facilities Passive recreation – fishing, swimming
<b>Sproule Road Reserve,</b> Illawong	Crown land managed by SSC Zoned 6(a) Passive recreation
<b>The Needles Reserves,</b> Lucas Heights	Crown land managed by SSC 1,500m of river frontage >20ha bushland zoned 6(a) passive recreation – swimming, picnicking, boating, canoeing part of SSC Greenweb
<b>Shackle Estate Reserves,</b> Woronora River	Council owned 100m of river frontage passive recreation – boat landing canoeing, fishing, swimming
<b>Myra Creek,</b> Loftus	Crown land managed by SSC 200m Myra Creek 5ha bushland Myra Creek Bushcare Group since 1998 Part of SSC Greenweb Passive recreation

From "SSC assets along the Georges and Woronora Rivers and their tributaries", Sutherland Shire Council.

# Appendix 10 – Recommendations

## Chapter 1:

1. That the precautionary principle guide development of the great Kai'mia Way, and that no development proceeds till appropriate management measures have been agreed to by stakeholders.

## Chapter 3:

2. That the Great Kai'mia Way vision be implemented, appreciating the information for routing and priorities noted in Chapters 3 and 4 of this report, and ensuring that the precautionary principle is the arbiter of both route selection and implementation.
3. That the relevant communities name subsections of the Way<sup>83</sup>.

## Chapter 5:

4. That the safety code developed by the Great Kai'mia Way project team be adopted as the minimum standard for work carried out on the Great Kai'mia Way.<sup>84</sup>
5. That the codes of conduct detailed in the Great Kai'mia Way report<sup>85</sup> be noted on signage and on literature relating to the Way for the three main categories of non-motorised recreational uses: walking, cycling and canoeing.
6. That a regional strategy be developed to provide opportunities for cycling experiences while controlling inappropriate access through bushland.
7. That trackside benches and drinking fountains, such as bubblers, be provided where mains water supply is available at strategic access points along the Way, generally at roadside stops.
8. Access to the Great Kai'mia Way should encourage legitimate non-motorised transport through appropriate entry points, and the provision of bike racks and parking.
9. Level or gently sloping sectors of the Way with good access should be developed and promoted to provide opportunities for less mobile people to use the Great Kai'mia Way.
10. Bans on the use of 4WDs and Trail Bikes on the Great Kai'mia Way should be reinforced with:
  - Provision of alternative places to go which are affordable;
  - Police and rangers should have powers to confiscate bikes;
  - System of fines and heavy penalties for transgressing law;
  - Amendment of laws to ban their use on the Great Kai'mia Way;
  - More frequent patrols by rangers backed up by police enforcement teams; and
  - Signage<sup>86</sup>.
11. That land managers adopt a protocol for closing routes during severe fire danger periods, and maps show routes to enable quick exit in case of emergencies.
12. That the Great Kai'mia Way maximises the potential for people to use public transport and local amenities.
13. That traffic calming measures and associated signage be installed at intersections of roads and the Great Kai'mia Way

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<sup>83</sup> The names provided in this report are suggestions only.

<sup>84</sup> Councils and government agencies, and other landholders and managers will have more detailed occupational health and safety procedures. These will, of course, be the ones applicable for works on their land. The recommendation here is for *minimum* standards only.

<sup>85</sup> The Great Kai'mia Way: Chapter 5.

<sup>86</sup> For example: Trail Bikes and all unauthorised vehicles prohibited - Max Penalty \$11, 500.

14. That landmanagers be encouraged to adopt the guidelines for signage recommended in the report and adopt the “family of signs” concept for the Great Kai’mia Way.
15. That a standard be adopted for construction and upgrade of track works, consistent with existing Australian Standards for walking track classification signage and infrastructure AS 2156.1-2001 and AS 2156.2-2001: a combination of Class 2, Class 3 and occasionally Class 4 out of 6 classes, where 6 is the least developed class (see appendix dd for details of standards).
16. That infrastructure on the the Great Kai’mia Way is free of all CCA treated pine products.
19. Effective measures be implemented to exclude trail bikes and 4WDs from sensitive areas by using, for example, gates made from galvanized steel pipe, fencing made from galvanized steel double rope, and kissing gates to enable access by legitimate users.
20. That Type A barriers as described in *AS2156.2-2001: Track Infrastructure* be installed at lookouts and other relevant locations for safety and risk management at the discretion of track managers based on an assessment of effective fall height.

## Chapter 6

19. That stakeholders adopt the feasibility study through a signed memorandum that commits them to:
  - 19.1 a project staging plan as detailed in the feasibility study;
  - 19.2 a coordinated strategy for implementation of the Great Kai’mia Way, including:
    - 18.2.1 common signage as detailed in Chapter 5;
    - 18.2.2 ongoing communication between stakeholder groups to ensure appropriate linkages;
  - 19.3 adoption of the principles of sustainability in the implementation of the Great Kai’mia Way backed by increased research into the aspects of sustainable management;
  - 19.4 adoption of the planning checklist for development as detailed in Chapter 5
23. That Councils incorporate the Great Kai’mia Way route and vision for sustainability into their planning instruments and provide consistent funding through budget allocations and S94 developer contributions.
24. That Way community groups – local “friends of the Great Kai’mia Way” – be recognised and if necessary, established to help with the implementation of the Great Kai’mia Way vision.
25. That the Aboriginal community be an integral partner in the design and implementation of the Great Kai’mia Way.
23. That a management and implementation system be set up that will enable:
  - 23.9 An ongoing structure for decision making that involves land holders, land managers and interested community members, with particular note to engage the Aboriginal community;
  - 23.10 A funding structure that encourages contribution from a wide pool of stakeholders: community, private organisations and government;
  - 23.11 A commitment to continued promotion of the Great Kai’mia Way for environmental, cultural, recreational and health purposes;
  - 23.12 A commitment to sustainability whilst enabling access to as many users as possible.

# Appendix 11 – Voluntary Conservation Agreements

A voluntary conservation agreement is most suited to people who:

- have high conservation value vegetation or habitat on their property
- want their investment in the conservation of the area to be protected after they leave the property.

Voluntary conservation agreements are joint agreements between a landholder and the Minister for the Environment. They allow you to conserve the natural, cultural or scientific values of an area of land. The agreements provide permanent protection for the special features of your property.

The agreements are entirely voluntary. The terms of each agreement are negotiated between the landholder and the National Parks and Wildlife Service (NPWS), which works on behalf of the Minister.

## Areas that a voluntary conservation agreement can protect

Several agreements are already in place to protect land:

- containing significant native plants and animals, rare and endangered species
- containing important habitat and vegetation types which are not represented in the existing national parks and reserves
- on which there are Aboriginal sites or historic places
- containing remnant vegetation
- linking areas of native vegetation
- containing special geological or landscape features
- containing critical habitat, or a threatened species population, ecological community or habitat
- containing limestone caves (Karst areas).

A voluntary conservation agreement is for owners of freehold land, lessees of Crown land and local councils are eligible to enter into these agreements.

## Benefits from a voluntary conservation agreement

A voluntary conservation agreement gives a landholder the opportunity for his/her land to be permanently conserved - not just under their ownership, but for all future owners. When entering into a voluntary conservation agreement, the NPWS may provide assistance to the landholder in the form of:

- fencing materials
- plant and animal surveys
- stabilisation of works on Aboriginal sites and historic places
- specialist advice or other assistance.

Landholders who enter into a voluntary conservation agreement may be eligible for rate relief and tax deductions, although this is not controlled by the NPWS.

How are conservation agreements negotiated?



If you're interested in a voluntary conservation agreement, you can fill in an online form on the National Parks web-site to find out more. Alternatively, the NPWS may identify land suitable for an agreement, and will approach the landholder personally.

In both cases, the NPWS will:

- explain the process of establishing a conservation agreement
- discuss any concerns held by the landholder
- inspect the area to evaluate its conservation value and identify any management issues.

If both the landholder and the NPWS wish to proceed with the agreement, a draft is produced in consultation with the landholder. This process can take from between three months and a year - we realise that landholders may need time to discuss this important step with their family or just to think about it. Several drafts may be developed before a final one is produced.

Once the details of the agreement are settled, the voluntary conservation agreement is signed by the landholder and the Minister for the Environment.

A detailed plan of management for the conservation area may also be prepared in consultation with the landholder.

### **Terms of a voluntary conservation agreement**

The terms of individual voluntary conservation agreements are determined by the special features contained in the area, and the wishes of the landholder.

Officers and researchers of the NPWS may seek permission to visit the property occasionally to monitor the condition of the area and its features. The conservation agreement may also limit activities such as the clearing of native vegetation. It may also include specific commitments from the landholder, such as the maintenance of fences.

### **After the agreement is signed**

Once the agreement is complete, the NPWS maintains contact with the landholder to provide advice and assistance, and to monitor the land as detailed in the voluntary conservation agreement. The landholder continues to undertake responsibility for the management of the land, including control of weeds and feral animals.

A voluntary conservation agreement provides permanent protection for the feature or area. If the land is sold, the agreement remains in place.

Any publicity of individual voluntary conservation agreements only takes place with the consent of the landholder. A list of all voluntary conservation agreements is kept by the NPWS and is available for public inspection.

### **Reference - National Parks Website September 2003:**

<http://www.nationalparks.nsw.gov.au>

# Appendix 12 - Shackels Estate Acquisition Program

The process for acquiring properties is as follows:

- Property owners can request that DIPNR purchase their properties but only on a voluntary basis, and DIPNR pays the full market value.
- Care and control of the land is handed over to Sutherland Shire Council, following settlement and the disconnection of services to ensure the property is safe.
- Council demolishes all structures and removes all materials from site

Although initial progress was rapid, (see table), the process has become a protracted one, causing the future viability of the program to be questioned. Constraints are that:

- It can take 4 to 6 months for DIPNR to gazette the change in ownership / responsibility.
- Council cannot afford to purchase the properties at market values and has no direct influence or control of the process, which is in the hands of the property owners and DIPNR.

Owners are under no obligation to sell to either Council or DIPNR, and are entitled to keep their properties or sell on the open market.

Year	Shackels Properties Acquired	Shackels Properties
1916	0	314
1973	0	314
1990	252	62
1997	291	23



# Appendix 13 - Recreational Vehicles On Public Land

*(Environmental Defenders Office (2003). Draft. Commissioned by SSEC and GREA, TEC and NPA)*

## ***Introduction/Background***

1. Vehicles are increasingly being used for recreational purposes such as off-road driving on beaches, through areas of bushland, on fire trails, parks and unoccupied lands. For the purposes of this paper, these types of lands are collectively referred to as “public land”. However, as will be demonstrated in this paper, the concept of when a vehicle is legally on or off road is not clear.
2. In most instances, the types of vehicles that are being taken off road are four wheel drive (**4WD**) vehicles and trail bikes that are able to handle difficult terrain. However, standard vehicles (usually stolen) are often used for joy riding and may be abandoned on public land. In this paper, a reference to a “recreational vehicle” applies to any vehicle that is driven on public or private land for recreational purposes.
3. Increasingly, conservation groups and government agencies are becoming concerned about the environmental damage being caused by recreational vehicles being driven irresponsibly or recklessly on public land. There have been a number of instances where individuals and groups of drivers have wrecked devastation on areas of natural bushland. For example, the camping ground in the Deua National Park was torn up by 50-60 4WD vehicles in June 2003 and extensive damage was caused to a number of locations in the Bendethera Valley by 4WD vehicles practicing hill climbs on steep slopes in muddy conditions<sup>87</sup>.
4. The range of environmental damage caused includes the destruction of habitat, harm to native species of flora and fauna and soil and land degradation which has flow on effects in terms of erosion and pollution (particularly to water catchments). Conservation groups agree that reckless and irresponsible driving on public land poses a significant threat to the biodiversity values of that land.
5. Whilst there are a number of 4WD clubs and associations that promote responsible driving amongst their members – being the driving of registered vehicles by licensed drivers on designated 4WD trails, there is clearly a significant number of people who may be unlicensed and who are driving unregistered vehicles. This group of people are of particular concern to the Conservation

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<sup>87</sup> [www.nationalparks.nsw.gov.au](http://www.nationalparks.nsw.gov.au) – media release 11/07/03

Groups as they appear to have no regard for the damage they cause or the fact that their activities are illegal<sup>88</sup>.

6. A number of agencies including the NSW Police Service, the National Parks and Wildlife Service (**NPWS**) State Forests, the Department of Lands and local councils have various statutory responsibilities and powers in relation to recreational vehicles. The functions of each agency are not, however, clearly defined, particularly in relation to vehicles that are being driven off road. Furthermore, because of the large areas of public land and often the remoteness of that land, it is particularly difficult to catch and properly identify drivers and vehicles. In many instances, where drivers are detained, false names and addresses may be given to officers and officers generally do not have powers to confiscate vehicles.
7. As a wide range of government departments and local authorities have powers and functions for managing activities on public land and roads, there is often considerable uncertainty as to who bears responsibility for unlawful driving. This is especially evident where NSW Police has responsibility for driving matters, but the driving is not on a public road. In these circumstances, it is more often the case that no-one takes action to enforce what legal options may be available.
8. The purpose of this paper is to explore the current problems with the regulation of recreational vehicles on public land and to suggest options for law reform.

### ***Legal Issues***

9. There are a number of NSW Acts and Regulations that control the use of vehicles on public and private roads and land.

### ***Recreational Vehicles Act 1983 (NSW)***

10. The *Recreational Vehicles Act 1983* enables an occupier of land to apply to EPA for designation of land as a recreation vehicles area (s.10). Upon consideration of an application, the EPA may then designate land for that purpose (s.11). The Act applies only to private land and to date only a small number of areas have been designated as recreational vehicle areas. Vehicles that are driven in recreation vehicle areas are required to be registered, in registrable condition and to have number-plates. Section 31 of the *Recreational Vehicles Act 1983* creates the following offences (with a maximum penalty of 5 penalty units):

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<sup>88</sup> For example, in June 2003 over 32 fines were issued to drivers in the Watagan State Forest and Watagan National Parks for illegal driving offences.

- driving a motor vehicle on restricted land (being land which is neither a public road nor a recreation vehicle area) or
  - permitting a motor vehicle to be driven on restricted land in contravention of a direction given by the occupier of the land.
11. Authorised EPA officers and police officers have a range of functions and powers pursuant to the *Recreational Vehicles Act 1983*, including to inspect and test vehicles in recreation vehicle area, remove vehicles from land and issue directions not to drive vehicles upon restricted land (section 33).
12. The *Recreational Vehicles Act 1983* creates a framework within which recreational driving can be contained on suitable premises and whereby activities can be monitored by the appropriate authorities. However, in reality, the vast majority of recreational vehicle use is not in designated recreational vehicle areas. Where the Act may apply, such as on restricted areas, it is exceptionally difficult to police as those areas are either private (and subject to occupier direction/discretion) or public land governed by one of a number of government agencies. In these circumstances, although the police and the EPA have the power to fine drivers for unauthorised driving, these powers are not well known to officers and are very rarely relied upon.

### **Roads Legislation**

13. Another fundamental problem arises when determining what is a public road. The *Road Transport (General) Act 1999* defines “road” and “road related areas” as follows:

**road** means an area that is open to or used by the public and is developed for, or has as one of its main uses, the driving or riding of motor vehicles.

**road related area means:**

- (a) an area that divides a road, or
- (b) a footpath or nature strip adjacent to a road, or
- (c) an area that is open to the public and is designated for use by cyclists or animals, or
- (d) an area that is not a road and that is open to or used by the public for driving, riding or parking vehicles, or
- (e) a shoulder of a road, or



(f) any other area that is open to or used by the public and that has been declared under section 9 of the [Road Transport \(General\) Act 1999](#) to be an area to which specified provisions of this Act or the regulations apply

The *Roads Act 1993* states that a **public road** means:

(a) any road that is opened or dedicated as a public road, whether under this or any other Act or law, and

(b) any road that is declared to be a public road for the purposes of this Act.

14. The *Roads Act 1993* further classifies roads into the following categories:

(a) a main road, (b) a State highway, (c) a freeway, (d) a controlled access road, (e) a secondary road, (f) a tourist road, (g) a tollway, (g1) a transitway, and (h) a State work.

15. Pursuant to the *Roads Act*, the relevant roads authority will maintain ownership of public roads. That authority will be the RTA for most State roads (such as state highways, freeways etc..) and local councils will ordinarily retain responsibility for main roads and secondary roads within their local government area. That responsibility is primarily for development, upkeep and maintenance of the road infrastructure. Overarching this is the role of the NSW Police Service to enforce offences under a number of Road Acts

16. There are a number of offence provisions in the *Road Transport (General) Act 1999*. These include -

- Section 25, which enables drivers to be disqualified for major offences committed under the *Road Transport (Safety and Traffic Management) Act 1999*;
- Section 39, which enables officers to seize and take charge of vehicles suspected of being involved in an offence under section 40 or 41 of the [Road Transport \(Safety and Traffic Management\) Act 1999](#), including to cause any locking device or other feature of the motor vehicle concerned that is impeding the exercise of those powers to be removed, dismantled or neutralised and may, if the driver or any other person will not surrender the keys to the vehicle, start the vehicle by other means; and
- Section 52, which creates the offence of the unauthorised use of a vehicle.

17. Sections 40 and 41 of the *Road Transport (Safety and Traffic Management) Act 1999* create offences with relation to the conduct of races and speed trials on roads and road related areas. Additionally, section 42 of that Act creates an

offence of “driving a vehicle on a road or road related area in a manner that is negligent, furious or reckless”<sup>89</sup>.

18. The penalties for offences under the *Road Transport (Safety and Traffic Management) Act 1999* range from 5 –50 penalty units and up to 2 years imprisonment depending upon the seriousness of the offence and the culpability of the driver.
19. As mentioned above, the difficulty with the present regime for driving offences is that it is focused only upon driving on roads and road related areas. Police and other authorised officers can, under this legislation, only exercise their powers when a person is driving on a road or road related area. Their powers do not expressly extend to driving upon land per se.

### ***Interpretation of the meaning of “public roads”***

20. In NSW there have been very few cases that deal with the driving of recreational vehicles on areas that do not fall within the definitions of a road or road related area. The cases that do consider this issue have arisen in personal injury scenarios where accidents have occurred on public land and the liability of responsible authorities has been raised.
21. For example, in *The Nominal Defendant v Wardle* [2003] NSWCA 163 the Court of Appeal considered the question of whether a collision between two trail bikes on a council reserve access track occurred on a “public street”. The Court of Appeal found that, as the section of land was not “open to or used by the public” in a material sense, the accident did not occur on a public street.
22. In contrast, in the earlier case of *Boyton v the Nominal Defendant* [1980] 2 NSWLR 509 held that land rovers, beach buggies and motorcycles, driven along a beach for recreational purposes, were on a “road” as the beach was a place commonly used by the public or to which the public had access.
23. What appears to be critical to whether a vehicle is being driven on a public road, particularly for the purposes of determining liability for accidents (and arguably for determining the unlawful nature of the driving), is whether the area or place is open to or used by the public.
24. The High Court considered the meaning of the term “open to or used by the public” in the case of *Schubert v Lee* (1945) 71 CLR 589, where it stated at p.592:

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<sup>89</sup> Note that s.42 of this Act also applies to the Recreational Vehicles Act 1983

“These words ... are apt to describe a factual condition consisting of any real use of the place by the public as the public – as distinct from use by licence of a particular person or only casual or occasional use.”

25. The definition of a “road” varies slightly between jurisdictions. In South Australia the *Motor Vehicles Act 1959 (SA)* defines the term road as meaning “(a) a road, street or thoroughfare; and (b) any other place commonly used by the public or to which the public are permitted to have access”. Keeping that definition in mind, the South Australian Supreme Court, in the case of *Elliott v Hentschke* (1984) 36 SASR 481, held that tracks through clay pans and sandhills used for recreational motorcycle riding did not constitute a road for the purposes of para (a) of the aforementioned definition. The Court also held that although there was evidence that some motorcycle riders used the area for recreational purposes, that was insufficient to establish that it was commonly used by the public for that purpose, or that the public were permitted access to that place.

26. In the case of *McBain v Reyne* (unreported SCSA 19/12/97 BC9707311) the Court found that para (b) of the definition in the *Motor Vehicles Act 1959 (SA)* should take an unrestricted meaning and stated that “*there is no limit as to the kind of place which might qualify as a road other than the two adjectival phrases ‘commonly used by the public’ and ‘to which the public have access’.* In terms of limiting the application of those phrases, the judgment in *McBain v Reyne* considered that it was not necessary for all segments of the public to access the place, provided that; firstly, the place is available to the public without discrimination. Secondly, a segment of it in fact goes onto the place; and thirdly, entry is not limited to a restricted class (such as members of an organisation or invitees). Furthermore, the Judge held that a place may be a road for some occasions but not others, such as on prescribed days when a field is used as a carpark for a particular activity.

27. The cases referred to above are not an exhaustive of the scenarios that may arise in relation to recreational driving. However, they do illustrate the difficulties that arise in interpreting the various Roads Acts when the place used for driving does not neatly fall within the commonly accepted definition of a “road” or “road related area”. In those circumstances, what becomes important to the application of the Act to the driving event is the concept of a place being (commonly) open to or used by the public. This will depend upon the facts in each case. For example, if a fire trail in a portion of a National Park has gates at either end which are closed, it could be construed that that trail is not open to or used by the public. However, if no gates are present the contrary construction could apply.

28. In the event that the land upon which recreational vehicles are being driven does not fall within the definition of a road or road related area, the next issue is whether any relevant legislation limits the use of that land by vehicles. At

common law, where drivers are not on a road or place open to or used by the public, then there is a strong argument that the driver is trespassing. Therefore, it is the owner of that land, whether it be a local Council, NPWS or some other agency, who could bring proceedings against the driver. In reality, many of these areas are accessed when relevant officers are not on duty, if in fact they do regularly monitor the land. Therefore, detection of the unlawful driving does not occur until well after the damage has been caused.

29. A further problem is that, in circumstances where an offence is not on a road or road related area, there is uncertainty as to whether the NSW Police Service, who ordinarily have jurisdiction for driving offences, have jurisdiction over the offence. Police resources are limited and, although targeted campaigns against unlawful drivers are being run, the relevant officers can only cover a limited area.

### *Laws relating to management of lands*

#### **Crown Lands Act 1960**

30. The *Crown Lands Act 1960* contains provisions that enable the Minister to make directions in relation to driving on vacant Crown Land. Section 4 of the Act states that **Crown land** means:

**land that is vested in the Crown or was acquired under the Closer Settlement Acts as in force before their repeal, not in either case being: (a) land dedicated for a public purpose, or (b) land that has been sold or lawfully contracted to be sold and in respect of which the purchase price or other consideration for the sale has been received by the Crown.**

31. Section 160(3)-(6) of the *Crown Lands Act* states that:

*(3) The Minister may give such directions as to the bringing of vehicles into, and the use and parking or mooring of vehicles in, any vacant public land as the Minister thinks fit, and any such direction:*

*(a) may be limited as to time, place or subject-matter, and*

*(b) may be varied or revoked by the Minister.*

*(4) A direction given under subsection (3) has effect only while there is erected or displayed on or near, or marked on, the land to which the direction relates a sign that is notice of the direction.*

*(5) The direction appearing on a sign that is:*

*(a) erected or displayed on or near, or*

*(b) marked on,*

*any vacant public land with the authority of the Minister has effect as a direction, for the time being in force, given under subsection (3) in relation to the land, and the sign is, for the purposes of subsection (4), notice of that direction.*

*(6) A person shall not contravene a direction having effect under this section.”*

32. It is assumed that the intent of these provisions is to enable the Minister to identify areas for public access that may, subject to conditions, be used for recreational purposes, including recreational driving.

33. As mentioned above, a number of the vehicles that are being used for illegal purposes have been stolen. Section 161 of the *Crown Lands Act* places the liability for an offence under section 160(3) of that Act upon the owner of the vehicles unless the owner can satisfy an officer or the Court that the vehicle was stolen. This creates difficulties for officers (either Lands officers or NSW Police) to enforce the provisions of the Act, as in many instances, even if a number plate is recorded, there is no way to catch the relevant offender.

### **Local Government Act 1993**

34. The *Local Government Act 1993* provides for land dedicated for public purposes by declaring such land to be “community land” under that Act. All land that is declared “community land” must, in accordance with section 36 of the *Local Government Act 1993* be managed in accordance with a Plan of Management. That Plan may make provision for the use of the land by recreational vehicles. However, that is rare.

35. It is anticipated that local councils may make provisions for use of land within their local government area by recreational vehicles. This is specifically contemplated by section 79 of the *North Coast Regional Environmental Plan*, which prevents councils zoning land as a recreational area within the meaning of the *Recreational Vehicles Act 1983* if that land has certain environmental values. These types of measures support the importance of ensuring that recreational driving, if it is to be carried out, be done in appropriate regulated areas. Yet, it does not avoid the reality, as illustrated by the Wardle case mentioned in paragraph 21 above, that council land will be used unlawfully by some recreational drivers.

36. In addition to the powers of local councils to regulate the use of community land through management plans, section 629 of the *Local Government Act 1993* provides that:

*(1) A person who, without lawful excuse, wilfully or negligently injures, damages or unnecessarily disturbs any plant, animal, rock or soil in a public place is guilty of an offence.*

*Maximum penalty: 20 penalty units.*

*(2) A person who, without lawful excuse, removes any plant, animal, rock or soil from a public place is guilty of an offence.*

*Maximum penalty: 20 penalty units.*

**37. A public place** is defined in the section to mean:

*(a) a public reserve, public bathing reserve, public baths or public swimming pool, or*

*(b) a public road, public bridge, public wharf or public road-ferry, or*

*(c) a Crown reserve comprising land reserved for future public requirements, or*

*(d) public land or Crown land that is not:*

*(i) a Crown reserve (other than a Crown reserve that is a public place because of paragraph (a), (b) or (c)), or*

*(ii) a common, or*

*(iii) land subject to the [Trustees of Schools of Arts Enabling Act 1902](#), or*

*(iv) land that has been sold or leased or lawfully contracted to be sold or leased, or*

*(e) land that is declared by the regulations to be a public place for the purposes of this definition.*

38. Similar provisions to those found in the Roads legislation in relation to demanding the name and details of an offender are also found in section 680 of the *Local Government Act 1993*. Furthermore, section 681 of the *Local Government Act* enables authorised persons to use reasonable force to remove an offender from community land.

### ***National Parks and Wildlife Act 1974***

39. In relation to destructive driving in National Parks, section 154A of the *National Parks and Wildlife Act 1974* creates offence of damaging or removing any vegetation, rock, soil, sand, stone or similar substance land reserved under the Act. This section can be used against recreational vehicle drivers in the event that their driving causes damage. However, as discussed above, the difficulty remains in catching drivers in the act, or linking certain drivers to particular damage.

40. In addition to the main offence in section 154A of the *National Parks and Wildlife Act 1974* the following additional minor offences are also provided for:

- Section 157 creates the offences of failing to provide full name and address or drivers licence to the Director General or a NPWS officer if requested to do so;
- Section 158 enables an officer to compel the owner of vehicle to provide identification details of the driver of a vehicle alleged to be guilty of an offence under the Act. A further offence arises if a person provides misleading information to an officer; and
- There are also offences for parking offences for deserted vehicles (these are also available under section 38C of the *Forestry Act 1916*).

41. The NPWS had developed Plans of Management for each of its parks. These plans will determine the extent to which land within the parks may be used for a variety of recreational purposes, including recreational driving. Those areas will ordinarily be identified by signage and information about trails is readily available on the NPWS website.

42. The NPWS has also entered into a Memorandum of Understanding (**MOU**) with the Recreational 4WD Clubs Association. The MOU seeks to:

- Promote better understanding and conservation of State heritage and natural areas;
- Improve enjoyment of protected areas;
- Improved communication between parties;
- Promote road safety and conservation; and
- Promote cooperative ventures and research projects to achieve joint outcomes.

43. The MOU does not create any obligations upon the 4WD Clubs Association. Rather it is a generic document that states laudable goals, but no meaningful way of achieving them. Whilst education of club members is a key component of improving responsible driving in National Parks, often the persons who are creating the most damage have no affiliation with such groups. Accordingly, any tightening of laws relating to unlawful driving of recreational vehicles, should not necessarily impact upon the enjoyment of such a pursuit by responsible club members.

### ***Commonwealth land***

44. The *Environmental Protection and Biodiversity Act 1999* regulates activities on Commonwealth land. Section 360(4) and (5) of the *Environmental Protection and Biodiversity Act 1999* states:



*(4) A person other than the Director must not do any of the following acts in the Commonwealth reserve or zone:*

*(b) damage heritage; ...*

*(e) establish a track;*

*(f) use a vehicle, aircraft or vessel<sup>90</sup>;*

*(5) The Director must not do an act described in subsection (4) in the Commonwealth reserve or zone, except for purposes essential to the management of the reserve or zone and in accordance with:*

*(a) the provisions of the management plan in operation for the reserve or zone; or*

*(b) if there is not a management plan in operation for the reserve or zone and a Proclamation assigned the reserve or zone to the IUCN category of wilderness area—the provisions of the Proclamation.*

45. Section 390(1) of the *Environmental Protection and Biodiversity Act 1999* enables the Commonwealth to make Regulations in respect of:

*(e) regulate or prohibit access to all or part of a conservation zone by persons or classes of persons; and*

*(f) provide for the removal of trespassers from conservation zones; and ...*

*(l) regulate the use of vehicles in conservation zones and provide for signs and road markings for those purposes; and*

*(m) provide for:*

*(i) the removal of vehicles, aircraft or vessels from places in conservation zones where they have been left in contravention of the regulations or have been abandoned; and*

*(ii) the impounding of such vehicles, aircraft or vessels; and*

*(n) provide that the person taken for the purposes of the regulations to be the owner of a motor vehicle involved in a contravention of a provision of the regulations relating to the parking or stopping of vehicles in a conservation zone is, except as provided otherwise, taken to commit an offence against the provision; and*

*(o) provide for a person to be taken to be the owner of a motor vehicle for the purposes of regulations made under paragraph (n) (including a person in whose name the motor vehicle is registered under the law of a State or Territory); and ...*

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<sup>90</sup> Civil penalty up to 500 units, criminal penalty up to 5,000 penalty units

*(x) provide for any matter incidental to or connected with a matter described in another paragraph.*

46. The *Environmental Protection and Biodiversity Regulation 2000* makes provisions regulating the matters referred to in section 390(1) of the Act. In particular, Reg 12.41 provides that:

*(1) A person may drive, ride or tow a vehicle only:*

*(a) on a road that is not a restricted access road; or*

*(b) on a public access track; or*

*(c) in a camping area or parking area.*

*(2) A person must not drive, ride or tow a vehicle on a track or road in contravention of any prohibition or restriction imposed by the Director under subregulation 12.42 (4)<sup>91</sup>.*

47. It is arguable that the framework established for Commonwealth land is markedly more clear than for State or public lands in NSW as it is assumed that driving will be unlawful unless specifically provided for by the Director. Again, there is difficulty in policing the use of vehicles on Commonwealth Lands. However, it is likely that the offences created under the *Environmental Protection and Biodiversity Act 1999* would provide a greater deterrent than the NSW offences as the penalties are significantly higher.

## **Summary of Key issues & Options**

48. In light of the discussion above, the following key issues arise:

- there is a lack of understanding of the significance of harm caused by recreational vehicles;
- there is a lack of consideration of environmental harm in any of the relevant legislation;
- the present system operates as an uncoordinated approach to management of recreational vehicles;
- in many instances there is a lack of appropriate signage/ restrictions as to where vehicles can go;
- there is confusion amongst authorities in relation to who is responsible for policing offences;

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<sup>91</sup> Penalty: 15 penalty units.

- there are considerable difficulties in policing offences across large areas out of public view;
- the current penalties are insufficient to provide a deterrent to offenders;
- use of unregistered vehicles and provision of false information to officers is common;
- it is difficult to prosecute or recover fines from 'unknowns';
- officers have only a limited ability to confiscate property from offenders on the spot;

49. The purpose of this paper is not to explore the creation of driving offences specifically relating to environmental damage as it is arguable that, at least in National Parks, if the offender can be caught the current legislative regimes are acceptable. These issues may require more detailed consideration in terms of providing education to the community as to the environmental impacts of recreational vehicles.

50. The focus of legal and policy debate should be on what measures can be adopted to enable NSW Police and other authorised officers deal with those drivers acting unlawfully or recklessly on public roads, road related areas and public land.

51. Any solution to this issue needs to address:

- How are roads and land defined;
- Who will have power to regulate the activity;
- What is the extent of that power to be; and
- What resources are available to those exercising power.

52. From a legal perspective, it is not the intent of this briefing paper to suggest that a new piece of legislation be drafted to deal with the types of driving problems, and their environmental impacts, outlined above. Rather, the following types of legislative amendments may be considered as options to strengthen existing legislation:

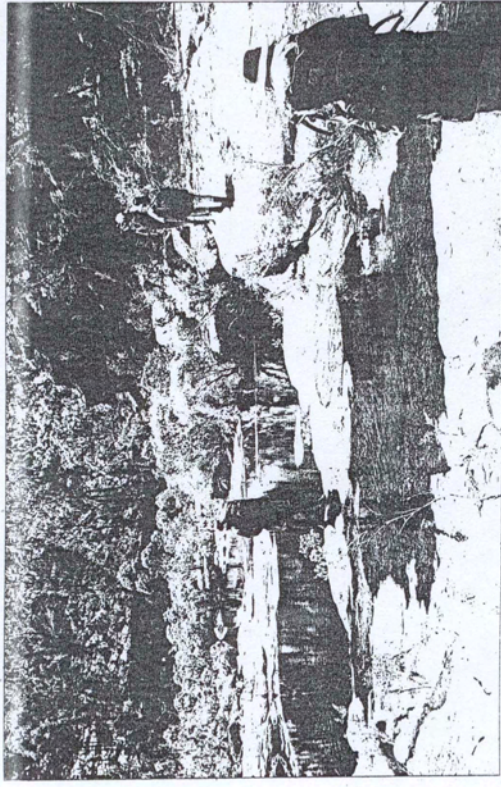
- ensure the definition of a "road" and "road related area" is consistent across all legislation that deals with those places;
- define, probably within the *Road Transport (General) Act 1999*, a definition of a "public land" or "restricted land" that is not a road or road related area and that is consistent with the *Recreational Vehicles Act 1983*;

- create an offence of driving on “public land” or “restricted land” either separately, or by amending the existing offence provisions in the various Roads legislation to extend the offences relating to roads and road related areas to cover “public land” or “restricted land”.
- set penalties for unlawful driving on “public land” or “restricted land” to reflect the potential seriousness of the offence above the same offence on a road or road related area (ie: to inadvertently cover potential environmental damage)
- where not already provided for, create powers within relevant Roads and Land Management legislation to enable authorised officers to confiscate (all or part of) vehicles used in the commission of an offence.

53. Any response to this issue would need to be combined with an increase in funding to relevant authorities, particularly the NSW Police Service, to enable the legislation to be enforced effectively. At present a least 1 trail bike squad has been set up in the south-west Sydney area. A regional squad, or squads should also be set out to target key areas.

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# Walk this way – moves afoot to link tracks all the way up Georges River



Pristine beauty... walkers explore O'Hares Creek - a tributary of the Georges River - which may be part of Kai'mia Way. Photo: Rick Stevens

**James Woodford**  
 The Kai'mia Way, a proposed 250 kilometre-long cycling trail through the catchment of the Georges River, would be as spectacular as the enormous flower it is named after. Kai'mia is the Aboriginal dreaming story of the creation of the Georges River and Botany Bay. It is also the origin of the new track - which would lead from La Perouse through to the headwaters of the Georges, on the Illawarra Escarpment above Wollongong.

NSW Planning has put \$15,000 towards a feasibility study for the project, due to be completed in two weeks. Late last week, community, councils and environmentalists from across south-west Sydney met to put "lines on maps". The Kai'mia Way would pass through some of Sydney's greatest extremes - wealth on the one hand, and environmental degradation and areas so pristine that the water is still drinkable. Walkers and cyclists would be able to follow the estuary through to the beginning of the freshwater reach of the river, at

## THE GREAT KAI'MIA WAY



Liverpool Weir and beyond. A track is also envisaged for the length of Prospect Creek through to the reservoir. Another arm of the Kai'mia Way would follow the Woronora River. But the crux of the walk is what the joint coordinator of the project, Bob Symington, called "the grand loop". This part of the Kai'mia Way would traverse some of the wildest country in the Sydney

foreshore hitherto not saved, if it is wisely used, experienced, and valued by masses of people.

"The grand challenge, of course, is to reconnect urban people to the river world that they so often forget is the very foundation of their lives."

Mr Symington said about 75 per cent of the track already existed. "It's in the form of fire trails, cycle ways, service roads for various utilities," he said. "We are just finishing routes that already exist."

The proposed path of the trail traverses a dozen local government areas and passes the homes of 1.5 million people. For most of its length the Kai'mia Way would be a shared cycling and walking track.

Mr Symington said the trail could be finished in 10 years. Because of a shortage of camping sites, it was expected that most walkers would hike in sections. He estimated the Kai'mia Way would take about a week to walk. A cyclist would take about two weeks.

"You are talking about one of the great cycle tracks of the world - it will have scenery that will be fantastic."

region, including Dharawal Nature Reserve, before possibly entering the Royal National Park.

The proponents of the development are unashamed about their main aim - they want the Georges River to become better known and appreciated by Sydneysiders.

The secretary of the Georges River Environmental Alliance, Sharyn Collis, said the real agenda is that "the river and its



## Appendix 15 – NPA Letter (Southern Sydney Branch)



**NATIONAL PARKS  
ASSOCIATION OF NSW INC**

**SOUTHERN SYDNEY BRANCH**

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### **Statement by National Parks Association of NSW Southern Sydney Branch regarding the Great Kai`mia Way**

While our Branch of NPA has written to Sutherland Environment Centre offering "in-principle" support for this project, we wish to place on record some particular concerns.

These concerns have been communicated in detail to the "Centre" and several of them have been acknowledged in formal and informal communications to us and through some changes already made to the feasibility study.

We thank the Environment Centre for the degree of conciliation it has displayed in accepting, acting on and publishing our concerns.

Our branch acknowledges the fact that our Association is no longer referred to as a "partner" within the feasibility study. We understand that the Environment Centre only wished there to be an explicit acknowledgement of NPA as being a contributor to "ground truthing" information about some tracks within Heathcote National Park to supplement an audit of tracks from maps only. There is a shared agreement between Sutherland Environment Centre and NPA that NPA is not giving a formal imprimatur to any tracks being promoted within Heathcote National Park for biking purposes.

The former reference in draft 1 to NPA as being a "truthing partner" has been removed.

The term "stakeholder" has been more clearly defined (Chapter 2, page 15 so as not to give the unintentional impression that all contributors to this project support everything within it 100%.

NPA believes that there should be no future promotion of "biking tracks" within National Parks. There is increasing current evidence to suggest that there is a not inconsiderable proportion of bike riders who flout rules and use non-bike tracks or go off track to find adventurous experiences, with negative consequences for the natural environment. Any further promotion of the potential for biking in National Parks is, we believe, counter-productive to the need to promote only sustainable and passive activities in National Parks. Bike riders will find "legal" tracks without major promotions anyway.

While the Environment Centre, in formal correspondence to us, acknowledges that it is the prime responsibility of NPWS to manage uses of activities on lands under their control, we in NPA wish to place on the formal record the fact that we support this principle beyond all other actions by community groups which promote regionally based recreational pursuits.



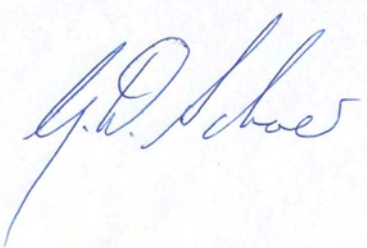
Indeed, NPA advocates that no consideration of bikeways or shared tracks within a National Park should take place in the absence of good regional planning while acknowledging that potential bike paths do occur beyond the park system. In no way should planning for bikeways in projects such as this be a replacement for good regional recreational planning.

Cross-government agency planning for mountain bike, trail bike and 4WD provision is occurring in Western Sydney at this moment (Bob Conroy, Central Region Manager, NPWS, personal communication) and a similar scale of planning for other parts of Sydney should also occur. NPA has been consistently advocating within different forums that this occurs.

Besides issues about the risk of promotions of activities that may be unsustainable, NPA is aware that NPWS's resources for policing escalating activities such as mountain bike riding are very limited. NPWS should not find itself in a situation where resources to police activities that should be a whole of region concern will contribute to cutting back expenditure on other necessary works and activities within the National Parks Estate. We in NPA regularly see the negative consequences of lack of resources on National Park management, and expend much of our efforts trying to address this issue at whole of government level.

In summary, NPA urges the Environment Centre and any partners and contributing organisations to heed this specific advice from the premier non-government group in NSW and to proceed extremely cautiously when dealing with issues that may lead to increased pressures on our natural areas.

NPA looks forward to being a continuing participants in helping the Environment Centre ensure that its visionary aims in this project are matched by the best possible advice about risks and ways of ensuring sustainability of the region's natural lands.



Gary Schoer, Secretary

19/12/03