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Off-Road Vehicle (ORV) Regional Land Use Planning Study

PREPARED BY: TRAIL BIKE MANAGEMENT AUSTRALIA

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Department of Environment and Conservation
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Department of Local Government
Department of Water
WATER CORPORATION
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RELATED DOCUMENTS

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Scoping document	V1.0	Aug 2009
Stage 1 – Information Gathering and Consultations	V1.0	Sept 2009
"Back on Track" the State Trail Bike Strategy	V1.2	Apr 2008
ORV Land Planning Assessments (restricted distribution)	V1.0	Aug 2010

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EXECUTIVE SUMMARY

Introduction

Historically, 'Master Trails Planning', at the State level (State Trails Strategy) and by various Local Government Authorities has typically encompassed only non-motorised activities.

The purpose of this study was to identify potential land (areas and trails) for the lawful use of the various forms of off-road vehicles by different user segments. The study considered environmental, social and legal constraints as well as user requirements for desirable terrain and the various experiences sought.

This project is not intended to deliver final plans for Off Road Areas or routes. It is the necessary first stage in a process of evaluation, planning and development. The scope is to provide a high level overview of the areas that have been identified as having potential, and those that have been identified as not being suitable for further consideration.

The area was defined as the Darling Range roughly from the City of Swan to Collie.

What is "off-road"?

For the purposes of this Study it is important to ensure a common understanding of the term 'Off Road'. To some, Off-Road is driving on anything that is not a sealed bitumen road, to others, 'Off Road' is driving where there is no road or semblance of a road.

DEC's Policy 18 on Recreation states: *"Off-road' driving includes accessing roads or tracks closed to the public or driving where there are no roads, e.g. across vegetation, beaches/sand or rock."* However the vast majority of actual off-road driving and riding on DEC estate, occurs on established roads or tracks.

For the purposes of this study the following definition of Off-Road driving and riding is proposed:

1. Vehicles registered under the Road Traffic Act

Riding or driving on established tracks or trails that are open to the public, or those that have been designated for a particular vehicle use.

2. Vehicles conditionally registered (Class B) under the Road Traffic Act

Riding or driving on established tracks or trails that are open to the public, or those that have been designated for a particular vehicle use, while engaged in an approved competition or event.

3. Vehicles registered under the Control of Vehicles (Off-road Areas) Act

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Riding or driving on established tracks or trails that are within an area designated as an Off Road Vehicle Area.

This proposed definition deliberately excludes off-trail (cross-country) driving or riding at any time.

Background – ORV In WA

It is estimated that there are 50,000 trail bikes (not including Chinese imports)[1] and a similar number of 4WDs used in off-road recreation in WA. Sales of both types of vehicles have steadily increased in the last 5 years, indicating a growing appetite amongst a broad market to recreate off road, yet the availability of suitable land for off-road recreation is not only not keeping pace with the growing demand but is actually decreasing.

The four wheel drive and trail bike communities have separately been seeking a long distance route from the Perth Hills (Mundaring), along the scarp to Collie (and further).

While 4WDs and trail bikes represent the vast majority of off road vehicles requiring accommodation on DEC estate there are other current and emerging vehicle forms that need to be considered such as Side by Sides, Sidewinders and electric trail bikes (see page 23). These vehicles will have different requirements and any planning should consider such future developments.

Regulatory Environment

A number of regulatory and policy constraints apply to the use of motor vehicles on DEC estate. Some of these instruments are derived from the CALM Act and Regulations while others apply to protect the various uses of DEC estate, such as forestry and drinking water supply. Regulations pertaining to motor vehicle registration, Rider / Driver Licencing, governing access, safety, liability, Alcoa Refinery Agreement Act, noise restrictions were all considered along with Departmental Policies such as DEC's Policy Statement No 18 – Recreation, Tourism and Visitor Services and Statewide Policy 13 Policy and Guidelines for Recreation within Public Drinking Water Source Areas on Crown Land.

Environmental Impacts

A key concern of DEC and other land managers is the environmental impact caused by trails bikes and 4WDs. This can range from minimal to extensive and is one of the primary drivers for more effective use planning. Landscape, flora, fauna, pollution, trail and land management impacts were considered.

[1] State Trail Bike Strategy

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Social Impacts

Social impacts that must be considered include the impacts of noise (particularly associated with trail bike use), recreational conflict where the activities of one group of recreators has a negative impact on the enjoyment of other recreators, and safety concerns arising from trail conflicts.

Principles Of ORV Use Planning

"Why plan for a use that just causes problems?" The objective of the land manager should be to explore ways in which visitors can obtain the experience they desire, in places where the impacts will be minimised, in order that they will be attracted away from areas where that same activity would cause greater impacts.

Good planning can address the key issues of trail user and neighbour conflict, heritage and environment protection and economic opportunity.

Terrain in terms of aesthetics, surface and topography; trail/track quality; size and diversity; proximity to the user base and facilities all need to be considered in order to deliver an experience that will work as an attractant.

A balance needs to be struck between concentration (which encourages facility development and simplifies monitoring and management) and dispersion (which avoids over-use).

Trail design, trail maintenance and rider / driver education must focus on the importance of avoiding new user-created trails or bypasses. Staying on trail must become the mantra for all ORV users. To achieve this requires trails planning, engineering, education and enforcement.

At the heart of any long term solution must be the sustainability of the environment. Sustainability is most cost-effectively achieved at the planning and engineering stage, to avoid or armour potential problem areas and designing for effective water run-off.

All trails need maintenance. Regular attention can prevent major reconstruction requirements later. A trail monitoring / maintenance program must involve users.

The rider / driver community is looking for greater certainty about what is and isn't authorised and this requires the development of effective communications materials.

Ultimately, the more that user groups can be engaged in the process of planning, developing, monitoring and maintaining 'their' trails networks the greater will be the sense of ownership and pride, and hence compliance.

Master Area Planning - Vehicle Use Maps

A model that can be considered for Western Australia is the development of Vehicle Use Maps as is now undertaken by the US Forestry Service. This process involves stakeholders in

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reviewing opportunities for motor vehicle use on an area by area basis and provides greater clarity about where vehicles can and cannot be used.

Darling Range Route Connector

The four wheel drive community identified as a priority the planning of a 'connector route' that would link Perth with the tracks of the Southern Darling with as little bitumen road as possible. A route was proposed and this was tested against the main constraints of DRA and water catchment exclusions.

Areas for Consideration

Riders, drivers and associated groups and clubs were invited to submit maps, GPS plots or Google Earth files. 70 Four Wheel Drive trail routes, 38 Trail Bike trail routes, 8 All Terrain Vehicle / Utility Terrain Vehicle[2] (ATV / UTV) trail routes, 46 General area suggestions were received.

Site Evaluation Criteria

To evaluate submissions a hierarchy of criteria was used to filter out areas where Off-Road Vehicle use was not possible. Prohibited DRA areas and Water Catchment were the top two criteria as under current regulations these are considered non-negotiable. Next were factors resistant to resolution, such as environmental (including land tenure), conflict with other recreation forms, significant neighbour issues and significant indigenous considerations.

Finally issues such as managing access, proximity to population centres and facilities, mobile phone coverage, terrain quality and size and dust suppression were considered. A five point rating scale was used.

A number of areas were evaluated to have potential for some forms ORV use. These are described in detail in the accompanying Assessment Document (restricted distribution).

Some of the evaluated areas have good potential, while others are only marginal. All identified areas have one or more issues that would need to be resolved before ORV use could be further considered.

Track Classification System

It is important to provide information to help riders and drivers make informed decisions; encourage riders and drivers to use trails that match their skill level; manage risk and minimize injuries and aid in the planning of trails and trail systems.

[2] The term Utility Terrain Vehicle (UTV) is generally applied to a four wheel vehicle like a large quad bike (ATV) with side by side seating and a steering wheel.

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It is recommended that the track classification system piloted by DSE in Victoria be adopted in WA for 4WD tracks and trail bike trails.

Management and Operation

A range of management and operation issues have been explored with recommendations provided relating to planning, management and signage.

Summary of Recommendations

1. Greater clarity is required in road and track classifications and definitions to reduce ambiguity.
2. Any new areas gazetted under the Control of Vehicles (Off-road Areas) Act should be defined as a network of trails and not a boundary within which cross country travel is permitted.
3. Further quantification and segmentation of 4WD activity should be undertaken.
4. The concept of Vehicle Use Maps as introduced by the US Forestry Service should be explored for applicability in Western Australia.
5. DEC to consider the development of the proposed South West Connector 4WD transport route, through preparation of a management plan which considers funding, maintenance, signs and promotion.
6. DEC to develop “ORV Management Guidelines” in conjunction with key agencies and community stakeholders
7. All ORV designated trails should be reviewed by DEC, DoW and the User Group for potential design improvements to foster sustainability.
8. Existing user-created single track off main designated trails should be considered as designated trail bike trails to meet the single track requirement of this user group.
9. DEC to enter into a MOU with the RTRA. Adopt-a-trail program to be developed as part of any designation process, learn from the issues and experience with the four wheel drive program.
10. Existing DEC signage standards should be adapted for ORV signage.
11. Track classification system as developed by DSE Victoria be considered and if appropriate trialled in WA for trail bike and 4WD trails.
12. Training / accreditation requirements for track classification personnel to be investigated.

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13. DEC to facilitate further planning and consideration of the design and construction of ORV trails. This work should be completed as part of the production of ORV Management Guidelines by DEC. All new ORV trails should meet the standards specified in the agreed guidelines.

14. Facilities planning should be included in the ORV Management Guidelines

15. The possible re-purposing of trails be considered in ORV area planning and during the preparation of Vehicle Use Maps

16. Development of ORV trails and areas will require government endorsement and appropriate funding and resourcing. In the case of trail bikes this requires the State Trail Bike Strategy to proceed.

17. DEC to consider management options for new ORVAs with additional volunteer resources from user groups.

18. Review the Alumina Refinery Agreement Act 1961 and Alcoa Revised Completion Criteria of March 2007 to confirm that 'special purpose' rehabilitation is a legal option, and, if so confirmed, initiate a project to explore the potential development of an Off Road Vehicle area on land that is the subject of the 'Orion' lease.

19. Consideration of ORV use should be included within future trails planning and recreation provision strategies within State and local government.

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INTRODUCTION

> ***When visitors come to a forest or park to have fun, they will have fun. If they can have fun on the trails and areas you provide, that is what they will do. If not, they will still have fun, but the way they choose to have fun may cause management and environmental problems.***

- Management Guidelines for Off-Highway Vehicle Recreation, Tom Crimmins, NOHVCC

The growth in the popularity of Off Road Vehicle (ORV) recreation including trail bikes and four wheel drives, the growth in non-motorised recreation such as bushwalking and mountain biking, and the generally agreed need to separate motorised and non-motorised activities is placing pressure on land managers.

These competing demands overlay a context in which land managers are already balancing the impacts of expanding suburbia and other land uses such as mining and drinking water source protection, the protection of the environment from fire and diseases, as well as servicing the community's expectation that significant areas will be preserved for conservation and passive recreation.

Increasing the challenge for land managers is the size of Western Australia and the relatively small number of field staff available to monitor and control the public areas.

From an ORV recreator perspective there is a perceived lack of designated Off Road Vehicle areas and a lack of clarity around where ORV activity can and cannot occur. This has contributed to a proliferation of unofficial, and often illegal, riding and driving areas. These are causing increasing community concern over environmental damage, noise, safety, illegal riding and general nuisance.

This study emanated from the realisation that if the increasingly scarce natural resources are to be managed for optimum utilisation and sustainability it is necessary to impose some controls over where the various activities can – and cannot – occur.

Planning for other trail-based uses has been undertaken in the context of 'Master Trails Planning', at the State level (State Trails Strategy) and by various Local Government Authorities however these have typically encompassed only non-motorised activities.

The purpose of this study was to identify potential land (areas and trails) for the lawful use of the various forms of off-road vehicles by different user segments. The study considered environmental, social and legal constraints as well as user requirements for desirable terrain and the various experiences sought.

Objectives

- Identify opportunities for future ORV and 4x4 trails, routes and areas
- Provide clarity regarding where ORV and 4x4 activity could be permitted and where it is not permitted.
- Provide a project and planning methodology for ORV land use planning

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General Scope

This project is not intended to deliver final plans for Off Road Areas or routes. It is the necessary first stage in a process of evaluation, planning and development that will inevitably involve further consultation with stakeholders as well as more detailed assessments on an area-by-area basis.[3]

Accordingly, the scope of this project is to provide a high level overview of the areas that have been identified as having potential, and those that have been identified as not being suitable for further consideration.

Study Area

The area was defined as the Darling Range roughly from the City of Swan to Collie.

Vehicles + Users

- **All road registered ORVs[4] such as:**
  - Four wheel drives driven by road-licensed drivers; and
  - Trail and enduro bikes ridden by road-licensed riders.
- **Non road registered ORVs such as:**
  - Four wheel drives;
  - Trail bikes;
  - Buggies; and
  - Quads (ATVs) and other emerging categories such as UTVs or side x sides.
- **Riders below the minimum age for a road licence.**
  - All riders below the minimum age for a road licence.

[3] Scoping Document V1.0 – August 2009

[4] For the purposes this study the general term ORV will be taken to include 4WDs when driven off sealed roads, all forms of registered and unregistered trails bikes, ATVs/quads, buggies and other emerging ORV categories.

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WHAT IS "OFF-ROAD"?

Before proceeding it is important to ensure a common understanding of the term 'Off Road'.

To some, Off-Road is driving on anything that is not a sealed bitumen road (in the US the term OHV or Off Highway Vehicle is used). To others, 'Off Road' is driving where there is no road or semblance of a road (commonly referred to a 'cross country' driving). Between these two extremes lies a range of definitions of 'off-road' derived by various definitions of what a 'road' is.

The Four Wheel Drive Association has offered this definition of 'Off-Road':

- Roads that are not traditionally paved;
- Gazetted and ungazetted roads and tracks;
- Tracks that are disused and overgrown;
- Tracks that are in a state of disrepair due to the elements (erosion etc) and not maintained;
- Or any road, track or land area which has not been subject to an "all weather" road.
- Also includes fencelines and firebreaks.

While this definition is helpful, it does not address one of the main issues that creates confusion among ORV users and land managers – the legislative definitions of the term 'road'.

Roads can be public access ways, irrespective of their physical condition. The Road Traffic Act 1974 and the Control of Vehicles (Off-road Areas) Act both define a 'road' as: *any highway, road or street open to, or used by, the public …*

Roads can be formed (eg constructed by road-building machines) or unconstructed (eg created by repeated vehicle use). They can be established, dedicated, gazetted, public, management or private, and this status does not necessarily determine whether they will be found on maps.

Public roads can be open or closed, as can management or private roads.

Roads within State Forests can be managed by DEC, Local Government or Main Roads WA. A walk trail on a public road in a State Forest can be closed to motor vehicle access if it is managed by DEC but not if it is managed by the Local Government authority or Main Roads.

DEC's Policy 18 on Recreation states:

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> All vehicles are required to stay on established roads or tracks[5] while operating on lands managed by DEC. Vehicles may only be used off a dedicated or CALM Act road if an area has been designated and signposted for such use, e.g. areas designated under the *Control of Vehicles (Offroad areas) Act 1978* (see 5.4.4 below), beach access, or tracks or firebreaks suitable for four wheel drive vehicles.

Under this definition, off-road driving tends to be interpreted as driving on other than an established road or track. Policy 18 states:

> 'Off-road' driving includes accessing roads or tracks closed to the public or driving where there are no roads, e.g. across vegetation, beaches/sand or rock.

This definition of off-road driving conjures up in some people (including some DEC staff) the image of cross country travel. However the vast majority of actual off-road driving and riding on DEC estate, occurs on established roads or tracks. The difficulty is knowing when an established road or track is or isn't a 'dedicated' or public road as defined by the CALM Act and therefore open to vehicular use.

It has been the convention amongst vehicle users that if a road or track appears on a map then it has at some stage been gazetted, dedicated or otherwise named and is therefore a road. But if a 'road' appeared on an old map but not on a current one, does that mean that it has ceased to be an established road?

Some roads are clearly closed to the public by DEC signage or barriers eg 'management track – authorised vehicles only/ no access' type signage. But many old logging tracks do not have barriers or signage.

Similarly if a formed track was created many years ago, eg for logging purposes, but has since become overgrown, is it still a formed track?

This source of potential confusion has become more pronounced over recent years with the growing reliance by ORV users on GPS systems and data sources, in particular Google Maps and Google Earth which draw on existing public roads data, but also enable users to visually scan the landscape for tracks and trails, irrespective of their legal status.

For strategic management purposes the Proposed DEC Road Operational Guidelines define the DEC road network as **designated** and **operational** roads.[6]

[5] For the purposes of this report the terms 'track' and 'trail' are interchangeable.

[6] Proposed DEC Road Operational Guidelines 000616-FINAL November 2009 p6

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The **designated road** provides in general public access to scenic drives, major attractions, forestry activities, recreational areas and important routes for rapid response for fire fighting purposes. The remaining roads are considered to be **operational roads** and are of less importance, used primarily for internal management purposes and can be subject to closure. While these roads may be available for public use suitable road conditions cannot be assured, if resources are not available.

This distinction is to enable DEC to concentrate available resources on those roads which have greater importance based on general public access, heavy industry use, fire access and recreational pursuits. DEC will need to establish selection criteria based on local knowledge of road use, importance of a road, public expectations, available funding etc. to assist staff in defining the road types in the network.

Type	Description	Comment
Designated Roads		
1	Roads that are primarily used to provide access for the general public and are considered of high importance.	Visitor access to recreational sites, community thoroughfares, private property and coastal/river access
Operational roads		
2	Roads that are primarily used for DEC related activities although they are not closed to the public. Roads required for management purposes including fire prevention and suppression activities or are important for timber harvesting or other industry operations.	Most state forest roads and tracks, National Park and Reserve boundaries and management tracks, firebreaks etc
3	Roads that are subject to restricted access and are not open to the public without authorisation. Access may be restricted due to DEC policies or regulations, such as control of disease and weeds public safety during mining or timber harvesting activities. Access is restricted through adequate signage and gating where necessary.	Any roads in the Disease Risk Area (DRA), mine exclusion zones and temporary exclusion zones for timber harvesting activities
4	Roads that have no perceived functional value and are unworthy of further maintenance. The condition of these roads is unknown and may become untrafficable.	Roads excluded from asset management including relegated roads.

The significance of the above classifications is that it potentially provides for entry by permit (Type 3) and designated ORV use on a no-liability basis (Type 4), recognising that unmaintained roads (or at least roads not maintained by DEC) are of particular attraction to ORV users.

This recognition and designation could enable re-establishment of selected relegated roads as 4WD tracks or trail bike single-track where appropriate. Such re-establishment would

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require only a minimal clearing footprint. It is noted that this may be contrary to DEC's objective of leaving these old tracks to regenerate, however in certain areas re-establishing an old track may actually be a useful strategy in rehabilitating a larger area.

Proposed Definition of Off-Road Driving and Riding

For the purposes of this study the following definition of Off-Road driving and riding is proposed:

1. Vehicles registered under the Road Traffic Act

Riding or driving on established tracks or trails that are open to the public, or those that have been designated for a particular vehicle use.

2. Vehicles conditionally registered (Class B) under the Road Traffic Act

Riding or driving on established tracks or trails that are open to the public, or those that have been designated for a particular vehicle use, while engaged in an approved competition or event.

3. Vehicles registered under the Control of Vehicles (Off-road Areas) Act

Riding or driving on established tracks or trails that are within an area designated as an Off Road Vehicle Area.

This proposed definition deliberately excludes off-trail (cross-country) driving or riding at any time.

This last point is particularly important in planning environmentally sustainable Off Road Vehicle Areas and for the rehabilitation of existing areas.

Recommendations:

1. Greater clarity is required in road and track classifications and definitions to reduce ambiguity.
2. Any new areas gazetted under the Control of Vehicles (Off-road Areas) Act should be defined as a network of trails and not a boundary within which cross country travel is permitted.

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BACKGROUND – ORV IN WA

It is estimated that there are 50,000 trail bikes (not including Chinese imports)[7] and a similar number of 4WDs[8] used in off-road recreation in WA. Sales of both types of vehicles have steadily increased in the last 5 years, indicating a growing appetite amongst a broad market to recreate off road. However while demand is increasing, the supply of available, suitable land for off-road recreation is not only not keeping pace with the growing demand but is actually decreasing. Urban boundaries are expanding, more conservation and National Park areas are declared and people are moving to peri-urban areas with an expectation of natural tranquility.

The four wheel drive and trail bike communities have separately been seeking a long distance route from the Perth Hills (Mundaring), along the scarp to Collie and further south. Precedents for this type of trail have been set with funding, resources and trail allocation provided to bush walkers and mountain bikers for the Bibbulmun Trail and Munda Biddi track.

Whilst this study focused on ORV generally, it is widely held that four wheel drives and trail bikes need to be considered separately. Even though they are both motorised the two activities are not necessarily compatible. The user groups are distinct, trail requirements are different, there are safety concerns when four wheel drives and trail bike are forced to share trails. There are also different environmental impacts.

The following sections provide brief summaries of the two activities.

Four Wheel Driving[9]

The dramatic evolution of 4WD vehicles over the past two decades has made off-road exploring a much more accessible pastime to a large number of families.

The modern 4WD sacrifices little in the way of comfort or on-road driving behaviour, yet has off-road capabilities that range from instilling confidence on gravel roads right through to encouraging remote-country exploration.

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[7] State Trail Bike Strategy

[8] The high proportion of 4WD vehicles which are never used off road makes it difficult to extrapolate participant numbers from vehicle sales. The estimate of 50,000 vehicles actually used off road was provided by the 4WD Association.

[9] Unlike the trail bike issue, studies on four wheel drives in WA has not been undertaken. This project did not include wide ranging research into the subject but brief desktop research was undertaken.

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This improved capability is playing a significant role in increased opportunities for families to engage in nature-based outdoor activities, both directly – for the fun of driving and exploring – and indirectly to access areas for other activities such as fishing, camping, bushwalking, canoeing, cycling etc that may not otherwise be accessible by conventional 2WD vehicles.

These activities have obvious health, social and economic benefits to the community, as documented in the literature review: *Healthy Parks, Healthy People – the health benefits of contact with nature in a park context*[10], which documented numerous research studies supporting the notion that proximity to nature – with or without physical activity – has significant benefits to a population whose lives are increasingly becoming dominated by indoor activities.

The 4WD Association has 2,500 people in its 30 member clubs and estimates that there are another 3-4 clubs not in the Association as well as many four wheel drive forums. The 4WD Association estimates that 50,000 vehicles are used in off-road recreation[11].

Recreational four wheel driving takes a number of forms which have differing requirements, all were considered in this study:

- family outings (dirt roads);
- touring;
- weekend warriors, combination touring and challenge driving
- outback adventures (long distance, camping);
- extreme (winching, hills, rock hoppers, mud bogging, cross country)

The 4WD Association advises that people go four wheel driving for a variety of reasons including:

- to get out of the city and into the bush;
- experience the environment;
- to access areas for other forms of recreation
- to access destinations such as camps that are inaccessible by 2WD vehicle
- have a social, family time;

[10] Maller, C, Townsend, B, Brown, P & St Leger, L 2002, *Healthy parks, healthy people: the health benefits of contact with nature in a park context - a review of current literature*, Social and Mental Health Priority Area Occasional Paper Series, vol. 1, Faculty of Health and Behavioural Sciences, Deakin University

[11] Estimates provided by Four Wheel Drive Association WA

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- test their skills;
- technical and driving challenge (often including customising their vehicles)

Club trips are done in groups with each club having convoy procedures, convoy etiquette, and a code of ethics. There is generally a Trip Leader and a "tail end Charlie" maintaining order. Clubs provide driver training and off-road awareness courses, assistance with equipment and most have environmental and conservation values.

The 4WD Association estimates that 80% of four wheel driving is done as a family experience or at least father and children.

Commercial tour operators run 'tag-along' tours, similar to club runs.

The majority of club-based or commercial tour four wheel drivers can be expected to have an awareness of environmental issues and the need to take a responsible attitude. A certain amount of peer pressure exists to keep members in line whilst participating in the convoy, although there can be a wide variance in the effectiveness of this between groups. These participants can be reached by communication channels such as club newsletters, web sites and internet forums.

Outside of this framework there are informal groups who get together for 4WD outings that can range from family group outings to hard-core challenge driving. While many groups take a responsible attitude, there are others who have little regard for the environment. These drivers are hard to reach as a group and can be hard to control.

In an attempt to better understand the 4WD market, Parks Victoria[12] commissioned a research study that defined the following segments. It could be expected that the Western Australian market would be roughly comparable:

- **Environmentally Aware Outdoor Enthusiasts** (27% of the market): these have a strong interest in the outdoors and bush areas and a strong concern for the environment.
- **Dedicated Four Wheel Drivers** (24% of the market): these view four wheel driving as an important aspect of their lives. It is a major focus and takes priority as a key social and recreational activity.
- **Mature Outdoor Tourers** (23% of the market): these tend to be from an older demographic group, are likely to have owned a four wheel drive for a long period of time and have considerable four wheel driving experience.

[12] Market Solutions 2002

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- **Environmentally Aware Comfort Seekers** (15% of the market): these are distinguished by their high level of activist concern for the environment. They are highly conscious of the environment and will definitely not do anything they feel may cause environmental damage.

- **Environmentally Thoughtless Four Wheel Drivers** (11% of the market): these are the highest risk user group for Parks Victoria. This group is most easily identified by their apparent lack of interest in preserving the natural, cultural and social environment and their anti-social behaviour.

From a land manager perspective DEC's Policy Statement 18 "Recreation, Tourism and Visitor Services" recognises that a growing number of people enjoy four-wheel driving but there is growing concern over environmental damage caused by the activity. This has resulted in considerable costs to restore damaged areas and trails.

The four wheel drive community via Track Care and the Four Wheel Drive Association have demonstrated a willingness to become involved in clean ups, track rehabilitation and promoting responsible four-wheel driving. In recent years, some clubs and groups have also 'adopted' specific four-wheel drive tracks or areas of the public conservation estate.

These programs can point to some successes, however they require the involvement of DEC resources to manage the volunteer efforts and this is currently a significant constraint.

Organisation

The **WA 4WD Association** is the peak body representing the majority of organised four-wheel drive clubs in Western Australia - currently 39 clubs representing over 1,300 persons.

Track Care is a not for profit volunteer organisation dedicated to the monitoring, care and preservation of four-wheel drive tracks throughout WA and to maintaining access to these tracks. Its membership comprises four-wheel drive owners, members of four-wheel drive clubs, industry partners and representatives of other organisations and government agencies.

The current DEC "Memorandum of Understanding" with Track Care and the WA Four Wheel Drive Association (2006) puts in place a framework to support the management and maintenance of sustainable four-wheel driving opportunities on the lands managed by DEC, however the effectiveness of this is currently limited by DEC resource constraints.

Perth4x4.net is an example of one of several internet forums where 4WDers hook up to organise trips and outings.

Facilities

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In other states of Australia, and in other countries – most notably the US – commercial entities have successfully established 4WD parks to provide a managed facility for 4WD use.

Land Cruiser Mountain Park in Queensland is perhaps the best known Australian facility, with 200 km of 4WD trails on a 3,600Ha working farm.

Loveday 4x4 Adventures is a dedicated 3,237Ha privately owned property with 14km of Murray River frontage, situated 2 hours from Adelaide.

Western Austraila's first such property opened in 2008 on a 121,000Ha working sheep station just over an hour from Kalbarri (5.5 hours from Perth). The property caters for 4WDs, buggies and trail and quad bikes, with touring, camping, challenge sections and competitive events.

Extreme 4WD challenge events are also regularly held on private property in Bindoon and Pingelly, but these venues are not open for casual recreational use.

The growth of interest in the activity, the size of the accessories and services industry that supports it and the fact that extreme 4WDing can be enjoyed on relatively small landholdings all suggests that private commercial facilities will become an increasingly important part of the 'challenge' 4WD solution.

Recommendations:

1. Further quantification and segmentation of 4WD activity should be undertaken.
2. DEC and other relevant agencies to provide grant funding to encourage the development of commercial or club-based four wheel drive facilities on private land for the purpose of catering for extreme 4WD activities.

Released under FOI

- ## Trail Bikes

Trail bike riding is an increasingly popular recreation activity that has social, physical and economic benefits and which is recognised in the WA Trails Strategy. Trail bike riding requires land that is adequately buffered from residential areas and that has a variety of topography, environmental aesthetics, proximity to population centres and surface durability. In Western Australia these characteristics are most easily found within the study area of the Perth Hills.

Trail bike riding brings several challenges to land managers, including noise, trail damage, spread of weeds and dieback, safety, behavioural and liability issues. To address these issues the State Trail Bike Strategy (STBS) was developed and part funded by DEC in 2008. The STBS contains six key focus areas which deal with insurance, risk management and land manager liability; trails planning; managing for sustainability; changing behaviours; registration and legislation and funding.

This ORV Land Planning Study was prepared with consideration to the recommendations of the STBS. DEC District Offices raised issues of funding, resources, rider and land manager education, trail maintenance, legislation and registration issues – all of which are dealt with in the Strategy. It must be noted that Trail Planning is but one area requiring solutions. All the other key focus areas and recommendations must also be progressed to ensure that any new areas or trail routes do not result in further "Gnangara and Lancelin" issues - where areas were set aside without sufficient consideration being given to management or long-term sustainability.

Current thinking by those who manage trail bikes in Australia and particularly in the US is that trail bike use and impacts can be managed, but proactive planning is needed rather than simply attempts to exclude. This ORV Study relates particularly to KFA2 of the STBS - Trails Planning.

Recommendations from STBS:

- 2.01 - Develop a 'trails inventory' as the basis for a transition to the concept of designated trails to prevent proliferation of user-created trails
- 2.022 - Two additional metro ORV areas – south metro and east / hills.
- 2.023 - Additional regional ORV areas
- 2.026 - Designated trail systems that include some limited sections open to Junior licence holders.
- 2.028 - Selected public trails as ORV areas so that they can be used by ORV-registered vehicles and junior riders to deliver the destination trail ride concept to family groups.
- 2.04 - Development of a permit system to control access to areas that require traffic limitations. Demonstrated understanding of limited impact riding techniques to be a pre-requisite for the issuing of a permit.
- 2.07 - Develop a standardised matrix for the evaluation of riding areas and trails.

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- 2.1 - Establish key trial sites to demonstrate principles of good design and management and assess impacts on rider behaviour.

The STBS estimates that there are 50,000 trail bikes in WA, not including independent (typically Chinese) imports for which no data is available. Less than 10% of riders belong to clubs, leaving around 45,000 bikes in WA being ridden outside of organised events.

Some owners would have the use of (and ride only on) private land, while some members of clubs would also ride outside organised events and facilities. The bottom line is that the vast majority of riders seek riding opportunities on public land and trails. Frequency of use derived from rider surveys projects to around 1.5 million riding events per year.

There are six off-road vehicle areas around the Perth metropolitan region. Of these, four are located in the northern suburbs (Gnangara being the most southerly of these) and five are in sandy terrain which is not preferred by the majority of riders, particularly juniors.

Recreational trail bike riding has a variety of styles and rider objectives which will determine the necessary trail characteristics, facility requirements, trail infrastructure and compatibility with other trail users.

Types of Riding

- Destination riding / touring
- Cross country
- Family trails
- Freestyle
- Circuit riding
- Competitive events

The scope of this study includes destination riding, family trails and circuit riding. Cross country is mainly done in dunal areas or on private property and freestyle is most suitable to a commercial facility due to increased risks. Whilst competitive events are outside the scope of this study, it should be noted that the Trail and Enduro Club which organises events on DEC land has requested a standardised process in event planning and approvals via the different DEC District Offices.

Organisation

Motorcycling WA is the peak sporting body, aligned with the international FIM body of motorcycle sport and oversees organised Enduro and non-competitive trail events through member clubs.

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The Recreational Trailbike Riders' Association of WA (RTRA) was formed for the purpose of ensuring a sustainable future for the activity of recreational trail bike riding. RTRA currently has a member base of around 2,000 riders, ranging in age from 5 to 75 and represents the interests of all recreational trail bike riders in Western Australia.

There are several informal groups that organise rides online and meet to ride together for reasons of safety, companionship and familiarity with trails. Such rides will usually have a ride leader, sweep and often employ organisational procedures such as the "corner man system" to prevent riders getting lost, yet allow distance between riders and keep the ride moving.

There is one commercial tour operator, West Coast Trail Bike Safaris, operating within the Blackwood district and drawing clientele from Perth and the south west.

Outside of these structures trail bike riders can be hard to reach as a group and hard to control. While some riders understand and attempt to minimise the impacts of their activity, others either don't know or don't care.

Facilities

Although there have been several attempts to establish commercial facilities for recreational trail bike riding, there are currently only three operating 'ride parks' – and of these only one is catering for recreational trail riding. The others are best described as practice motocross facilities situated on a large cleared farming properties. None of these commercial parks are within a two hour drive of Perth.

Several others are in planning, but some recent attempts have been thwarted at the Local Government planning approvals phase.

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Other Off Road Vehicles

While 4WDs and trail bikes represent the vast majority of off road vehicles requiring accommodation on DEC estate there are other current and emerging vehicle forms that need to be considered.

Side by Sides

Like a cross between a golf cart and a quad bike, these devices are rapidly gaining popularity in the US. They are a little larger than a quad bike but are controlled with a steering wheel rather than handlebars and are designed to carry a passenger, opening up a whole new market. Polaris has even created a junior version with a 170cc engine

Potentially these vehicles will be Class B registerable and could create demand for a new class of trail touring. Would be ideally suited to the proposed designated Off Road Vehicle trails, and it is likely that their ease of driving would make these popular with commercial guided tour operators.

Sidewinders

These have been around for many years, and there is a growing demand for these simple, fun devices. Currently the Lancelin ORVA is the only public place where these can be driven legally.

Recommendation is to leave commercial ride parks and club-leased private property to cater for these vehicles.

Electric Trail Bikes

An emerging technology that has significant potential. Currently constrained by battery life, these vehicles can be expected to evolve as battery technology improves.

One UK-based manufacturer is setting up a network of ride parks specifically for e-bikes[13]. Obviously without the sound of a conventional internal combustion engine it is easier to locate a ride park!

Legally, e-bikes would be considered motor vehicles and would therefore need to be registered under the Road Traffic Act (the process of securing ADR certification will probably keep them off the roads for some years). Until then they will be restricted to designated Off Road Vehicle areas. These vehicles have positive implications for reduced noise impacts.

[13] www.quantya.com

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Regulatory Environment

A number of regulatory and policy constraints apply to the use of motor vehicles on DEC estate. Some of these instruments are derived from the **CALM Act and Regulations** while others apply to protect the various uses of DEC estate, such as forestry and drinking water supply.

Motor Vehicle Registration

Motor Vehicle registrations in Western Australia are governed by the Road Traffic Act 1974 and the Control of Vehicles (Off-road Areas) Act 1978. There are currently three levels of registration:

- **A Class Registration (full road registration) -** This level of registration is available to Australian Design Rules (ADR) compliant motorcycles and provides unrestricted access to the public roads network. It also includes third-party personal insurance to protect riders against any claims made for personal injury inflicted on others in the event of an accident.

  Only motorcycles that have an ADR compliance plate signifying that the vehicle complies with all requirements for registration are eligible for this level of registration. This means mirrors, indicators, speedo, lights, mudguard extenders etc. It is not possible to simply fit these items to a motorcycle that does not already have a compliance plate in order to register it.

- **B Class Registration -** Class B registration is a conditional form of registration that enables vehicles that do not comply fully with the requirements of A Class Registration to be used in public places.

  Of most relevance to the scope of this study is the conditional registration that is available for motorcycles and quad bikes that do not have a compliance plate but to which have been fitted head and tail lights a working stop light and a muffler that limits noise level to no more than 94 dbA.

  This is a restricted level of registration and Class B motorcycles can only be used on a public road whilst participating in an event arranged by Motorcycling WA or other organisation approved by the Department of Transport.

  Third-party personal insurance cover is provided by the State Government Insurance Commission while the motorcycle is being used in competition. Because of this limited insurance cover Class B Registration costs significantly less than Class A registration .

- **Off Road Vehicle (ORV) Registration -** All vehicles that are not A or B Class road registered, or used exclusively on private land are required to be registered under the Control of Vehicles (Offroad Areas) Act 1978.

  ORV Registered vehicles are entitled to access the designated Off Road Vehicle areas

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– Medina, Lancelin, Gnangara, Pinjar and York in the metropolitan area, and other permitted areas in the NorthWest (to be confirmed). Vehicles can be registered at any licensing centre and do not need to be fitted with typical on-road equipment such as lights, horn etc. The fee is currently six dollars with a one-off six dollar fee for number plates the first time the vehicle is registered. All off road vehicle registrations expire on 30th of September each year. ORV registration does not include any third-party insurance.

Rider / Driver Licencing

Drivers and riders are licenced under the Road Traffic Act 1974

- New drivers can obtain a learners' permit at the age of 16 after passing a theory test
- The practical driving assessment can be taken at 16 years 6 months
- Provisional licence can be obtained at the age of 17 after 25 hours of logged supervised driving and passing a Hazard Perception test.

Current legislation does not differentiate between heavily trafficked major roads and bush tracks.

Regulations Governing Access

There are several pieces of legislation and regulations governing where driving motor vehicles is permitted – and not permitted.

Control of Vehicles (Offroad Areas) Act 1978

The CV(OA)A makes it an offence to ride or drive an Off Road Vehicle (defined as a vehicle not road registered) anywhere other than on private property or in a permitted area. (s6.1)

The CV(OA)A also makes it an offence to drive any motorised vehicle (whether road registered or not) in any area that has been gazetted as Prohibited for Vehicles Generally. A number of areas [details to be confirmed] , notably beaches, have been declared as Prohibited Areas for the purposes of this clause. (s6.2)

Conservation and Land Management Regulations 2002

Section 5 provides that certain areas can be declared Restricted area for various exclusions (including vehicles) and section 6 provides that certain areas can be designated for conditional use.

Section 35 makes it an offence to, without lawful authority, 'construct or mark out any road, track, fire break … on CALM land' – penalty $2,000. This provision clearly makes the cutting of 'single-track' without permission a serious offence.

Section 41 prevents access to any land that is designated as a prohibited area, temporary control area or plant disease management area. Sections 42 and 43 prevents motor vehicle

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access to limited access areas and designated wilderness areas. This provision applies to registered as well as unregistered vehicles.

Section 47 refers to access via gates and states that where access is controlled by a gate then it is not permitted to access by any other means (including, by inference, going *around* the gate). It is also an offence to unlock, dismantle or break down a gate or locked barrier.

Section 51 makes it an offence to, without lawful authority, drive a vehicle (other than a bicycle) on CALM land other than on a road or in a designated area. This provides the protection against cross-country travel and travel on user-created trails, although it is sometimes difficult to distinguish between a 'road' and a trail that is not a road.

Section 52 refers to off-road vehicles as defined in the Control of Vehicles (Off-Road Areas) Act 1978 and states that 'a person must not drive into or within, or bring into or have within, CALM land and off-road vehicle…' unless that person is the holder of a permit granted under section 8(4) of the Off Road Vehicles Act, and abides by any restrictions, limitations or conditions of that permit. This section does not apply to designated ORV Areas.

Section 54 aligns the CALM regulations with the Road Traffic Act, stating that 'a person driving or in charge of a vehicle on a road or track on CALM land must not, without lawful authority, do any act that would be a breach of a law of the State if that road or track were a 'road' for the purposes of the Road Traffic Act 1974'. Paragraph 2 of this section makes specific reference to the need to drive with reasonable consideration for other persons, vehicles and animals in the vicinity.

Section 78 empowers CALM officers to request a person to remove any property (including vehicles) brought onto CALM land without lawful entitlement. The CALM office can seize and remove the property if a person does not comply with an order or request, or if the person responsible cannot be found.

Metropolitan Region Planning Authority (Reserved Land) Regulations

These regulations, authorised under the Planning and Development Act 2005, seek to protect land which is reserved under the Metropolitan Region Scheme or included in an improvement plan and which is owned by the Planning Authority.

Section 5 makes it an offence to drive or bring a motor vehicle on to reserved land and Section 6 makes it an offence to drive or ride on reserved land in a dangerous or careless manner. Section 7 aligns reserved land with the Road Traffic Act 1974, giving all reserved land the status of a 'road' for the purposes of that act. This means that, in addition to the offence under Section 5, an unregistered vehicle on reserved land would be committing an offence under the Road Traffic Act.

Section 8 makes it an offence to 'cut, break, deface, pick, injure, destroy or remove any tree, shrub, plant, flower, garden or lawn'.

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Land Administration Act 1997

Section 267 makes it an offence to construct roads or tracks, or erect any structure on Crown land without permission.

Division 3 – Public Access Routes – enables the Minister to 'provide members of the public with access through Crown land to an area of recreational or tourist interest'.

Section 69 states that 'a person may travel by any means along the whole or part of a public access route which is not closed under section 67'.

Metropolitan Water Supply, Sewerage and Drainage By-laws 1981

These regulations provide protection from unauthorized motor vehicle use within water catchment areas. They apply equally to registered and unregistered vehicles.

Section 4.3.6 prohibits entry to Crown land within a prohibited zone (Reservoir Protection Zone) except on public roads or Water Corporation or DEC roads which are open to the public, or for the purposes of picnicking within designated picnic sites provided by the Commission.

Section 4.7.2 prohibits the driving of any vehicle on any part of a catchment area without written permission unless on a 'road or track which has a graded, gravelled, sealed, primed or other prepared surface'.

The CV(OA)A applies to all areas covered by the Metropolitan Water Supply, Sewerage and Drainage Act.

Town Planning Schemes

Depending on the zoning, planning approval may be required to construct any track on private property.

Safety

Road Traffic Act 1974

Sections 59 and 59A refer to dangerous driving causing death or injury. At (1)(b) this is defined as "in a manner (which expression includes speed) that is, having regard to all the circumstances of the case, dangerous to the public or to any person".

Sections 60 and 61 – reckless or dangerous driving – make it an offence to drive a motor vehicle in a manner (including speed) that is inherently dangerous or dangerous to the public or to any person.

Sections 63 and 64 relate to driving under the influence of alcohol etc. it is not necessary to go into the detail of these regulations here.

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Section 73 expands on the definition of a public place to include "… a road or in any place to which the public is permitted, whether on payment of a fee or otherwise, to have access". This gives effect to all of the above sections in an off-road vehicle context.

Section 78 contains the impounding and confiscation provisions, commonly referred to as "anti-hooning" legislation. In 78A "circumstances of aggravation" are defined as including circumstances in which; (a) the vehicle is being used to race and other vehicle; (c) the speed, or the acceleration, breaking or steering capability of the vehicle is being tested or contested in anyway; (d) the skill of the vehicle's driver is being tested all contested in any way; (f) the vehicle is driven in a manner that causes one or more of the vehicles driving wheels to lose traction with the driving surface. The significance of "circumstances of aggravation" is that it elevates offences under sections 59 , 59A, 60(1) and 61 to impoundable offences.

Section 81 refers to the closure of roads for race meetings or speed tests. It states that a person or body which proposes to hold an event on a road, or to conduct an event which will proceed through Road, and wishes that road to be close to the duration of the event, they make written application to the Commissioner of police applying for an order in respect of a road closure for that event.

Section 83 provides for temporary suspension of written law, at the minister's discretion, on application from any club or clubs for the purpose of enabling a race meeting or speed tests to take place.

Sections 84 and 85 give road authorities the power to hold vehicle users liable for damages to roads and the rights to recover expenses incurred to repair damage caused by heavy or extraordinary traffic.

Control of Vehicles (Off Road Areas) Act 1978

The CV(OA)A contains provisions relating to safety:

- Vehicles likely to occasion danger to any person or damage to any property are not to be driven. There are regulations governing minimum standards, but no inspection is required.
- Seat belts must be fitted - and worn – except on motorcycles.
- Motorcyclists must wear helmets approved to AS1698-1980
- A minimum age of 8 years applies

Regulations Governing Liability

Liability is an issue that affects both land managers and activity participants. There are three areas of legislation related to liability:

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Occupiers Liability Act 1985

Section 5 (1) imposes on anyone occupying or having control of land a 'Duty of Care' to take reasonable steps to ensure that a person entering that land will not suffer injury or damage due to the state of the premises.

Section 5 (2) specifies that the duty of care does not apply to risks 'willingly assumed by the person entering in the premises', provided that the occupier does not act with reckless disregard for the safety of the person entering the property and does not create a danger with the deliberate intent of doing harm or damage.

Section 5 (4) states that the Duty of Care is influenced by such variables as the gravity and likelihood of the probable injury, the nature of the premises, the age of the person entering the premises, the ability of the person entering the premises to appreciate the danger and the burden of eliminating the danger as compared with the risk of danger to the person.

Civil Liability Act 2002

Division 4 – Recreational Activities – deals specifically with liability arising from activities that have an 'obvious and inherent risk'.

Section 5H states that a person is not liable for harm suffered by another person if the harm is the result of the occurrence of something that is an obvious risk of that activity, irrespective of whether or not the person suffering harm was aware of the risk.

Section 5L further absolves liability where a Risk Warning is given in a manner that is 'reasonably likely to result in people being warned of the risk before engaging in the recreational activity' but without an obligation to establish that the risk warning was actually received or understood by an individual .

A defendant in an action cannot rely on a Risk Warning where the harm occurred due to an act done or omission made with reckless disregard for the consequences of that act or omission.

Land Administration Act 1997

Division 3 – Public Access Routes – enables the Minister to 'provide members of the public with access through Crown land to an area of recreational or tourist interest'. Significantly, where a Public Access Route is declared, the relevant land manager is excused from two important obligations:

- Section 66 (2) (a) absolves a land manager from any obligation to maintain the route.
- Section 66 (2) (b) absolves a land manager from obligations as an occupier of premises under the Occupiers' Liability Act 1985.

Section 66 (6) reinforces this exclusion of liability by explicitly stating that 'Members of the public use a public access route entirely at their own risk.'

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Alcoa Refinery Agreement Act 1961

The extent to which portions of State Forest that are currently the subject of mining operations could be rehabilitated for the specific purpose of Off Road Vehicle Areas is governed by Acts of Parliament, specifically the Alumina Refinery Agreement Act 1961. Relevant excerpts from this Act include:

Access to Forests 2

13. (1) The State acknowledges that the Company for the purposes of its operations under this agreement will need to enter upon and remove overburden from areas of State forests.

(2) The Company will from time to time give to the Conservator of Forests on behalf of the State at least six months prior notice in writing of the Company's intention to enter upon an area of State forest to be specified in the notice and to cut and remove from the area forest produce and overburden for the purposes of the Company's operations under this agreement; and the Conservator unless he has good and sufficient reason to the contrary shall grant to the Company any permit or license necessary for those purposes subject to usual or proper conditions: PROVIDED HOWEVER that —

(a) before the Company commences mining operations on the area the Conservator may cut and remove therefrom any merchantable timber or other forest produce; and

(b) the Company will dispose of all forest produce and overburden removed from the area in such places and in such manner as will not threaten or destroy the safety of any forest or forest produce on adjoining or other State forests and the Company will where economically possible dump the overburden into excavations made for the purpose by the Company with the approval of the Conservator. The Company will ensure after its operations on any area that that area is rendered and left tidy but not necessarily restored to its original contour.

Second Schedule

7. The following clause is substituted for clause 28 of the principal Agreement —

28. To the extent that is necessary for the more efficient fulfilment of the objectives of this Agreement the provisions hereof may be varied in such manner and to such extent as the parties mutually agree and all references herein to this Agreement shall be deemed to be to this Agrement as varied in accordance with this clause.

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Read together, these clauses appear to provide that there is flexibility in how the rehabilitation of a mined area can be specified.

Noise Restrictions

There are several regulations relating to noise:

CALM Regulations 2002

Section 74 prohibits noise that 'unreasonably interferes with the convenience, comfort or amenity of any other person.'

Environmental Protection Act

The Environmental Protection (Noise) Regulations 1997 specify maximum noise levels that can be emitted from a premises at specific times of day, and provides exemptions from these limits only where duration of noise is limited and the noise does not 'unreasonably interfere with the health, welfare, convenience, comfort or amenity of an occupier of premises receiving the noise'. This can have impacts on use of ORVs on private property.

CV(OA) Regulations

The CV(OA)regulations contain a blanket maximum permitted noise levels as follows:

- Vehicles other than motorcycles - 104dB(A)
- Motorcycles < 170cc – 108dB(A)
- Motorcycles >170cc – 110db(A)

In addition to this blanket maximum individual Permitted Areas may impose local maxima. In the metropolitan area the following levels apply:

- Medina – 86dB(A)
- Gnangara – 98dB(A)
- Pinjar – 98db(A)

Where maximum sound levels are not expressly defined (eg York, Lancelin) the default maxima apply.

Departmental Policies

In addition to the legislative constraints, agencies such as DEC and Water Corporation publish Policies to guide decision-making within their jurisdictions. These become quasi-legislation in that where activities require the explicit permission of those agencies, such permission will be determined on the basis of the policies.

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The two most relevant policies in the context of this study are DEC's Policy Statement No 18 – Recreation, Tourism and Visitor Services and Statewide Policy 13 – Policy and Guidelines for Recreation within Public Drinking Water Source Areas on Crown Land, developed by the Water & Rivers Commission (now Department of Water).

DEC's Policy Statement No 18 – Recreation, Tourism and Visitor Services sets out the policy details relevant to Off Road Vehicle use, including the following key points:

- The natural and cultural values of the estate as a whole should be managed on an ecologically sustainable basis.
- The intensity of recreation and tourism activity should be controlled to ensure that it does not destroy the value and nature of the activity and the resource on which it is based.
- Recreation activity should be compatible with the vesting purpose of the land.
- Generally the widest range of activities consistent with the reserve purpose should be allowed, however uses that impair other forms of use to an unreasonable extend or place the safety of other users in jeopardy should be controlled or eliminated.
- Recreation opportunities for people of all levels of physical ability will be considered.
- In certain instances, priority use may be allocated to specialised recreation activities at sites that are uniquely suited to those activities or for safety reasons.
- Visitor activities, facilities and services should be managed in a cost-effective manner.
- DEC aims to enrich the experiences of visitors and develop their relationships with Western Australia's natural and cultural values through provision of interpretive material and activities in major recreation areas or where a demonstrated desire for such programs exist.

In most cases, the CALM Act and associated Regulations provides the highest level of constraint including the ability to declare prohibited areas where all access is disallowed. As part of its disease management and hygiene strategy, DEC has designated a number of 'Disease Risk Areas' throughout the south-west of the State. Such areas are signposted and the entry and movement of all vehicles, which could lead to the introduction and/or spread of disease is restricted and strictly controlled through a permit system.

Statewide Policy 13 Policy and Guidelines for Recreation within Public Drinking Water Source Areas on Crown Land

This policy has as its objectives:

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To protect drinking water from contamination through inappropriate recreational activities, in the interests of public health … recognising the importance of providing a safe drinking water supply above all other uses within Priority 1 PDSWAs on Crown Land.

Relevant to this study, Policy 13 declares Off-Road Driving incompatible in all levels of PDWSAs and restricts 'Pleasure / scenic driving' to public roads and designated access roads.' More specific controls are imposed by the Metropolitan Water Supply Sewerage and Drainage Act as outlined earlier, however Policy 13 is used to determine applications by event organisers and groups for permission to enter catchment.

The overlapping – and sometimes conflicting – legislation, regulations and policies add complexity to compliance and enforcement.

For example a club, group or event organiser may be denied access to an area that an individual might be legally entitled to enter. If it is accepted that better control can be placed on users who are riding or driving in groups, then this would appear to be counter-productive. On the flip side it is difficult to see how, within the existing legislative framework, a land manager might legally grant access to an area while preventing access to the general public.

SUMMARY OF PERMITTED USES

The following table provides a high level summary of where different forms of ORV use are permitted. This table should be used as a rough guide only, as there are situations that would change the status of various areas. For example some Town Planning schemes put conditions on the use of vehicles on private property (as does the Environmental Protection Act) and some departmental policies prevent organised events or clubs from accessing areas that can legally be accessed by individuals.

Type of Place	**Registered / Licenced**	**Unregistered / Unlicenced**
Purpose-built circuits under Club control	Legal	Legal
Designated Off Road Vehicle Areas	Legal (only Lancelin for 4WD)	Legal (if ORV registered)
Commercial ORV Parks	Legal	Legal
Public roads network	Legal	Not legal
National Parks: gazetted roads and tracks	Legal	Not legal
National Parks: management tracks not open for public use	Not legal	Not legal

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National Parks: user-created tracks	Not legal	Not legal
State Forests: gazetted roads and tracks	Legal	Not legal
State Forests: user-created tracks	Not legal	Not legal
State Forests: temporary user-created tracks where specifically permitted for and only while competing in Enduro events	Legal (also legal for B Class registered bikes)	Not legal
Parks and Reserves (excluding public roads)	Not legal	Not legal
Trails designated for non-motorised activities, where those roads are not also public roads	Not legal	Not legal
Water Catchment Areas (excluding Reservoir Protection Zones) – gravel, graded or sealed roads that are open to the public	Legal	Not legal
Water Catchment Areas – off road driving	Not legal	Not legal
Beaches (some)	Legal	Not legal
Private Property (with consent of owner)	Legal	Legal

A key challenge for public land managers is to provide clarity in the application of relevant laws, through education and communication, and clear signage in the forest, so that ORV users can reasonably be expected to know when they are committing an offence.

Released under FOI

ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACTS

A key concern of DEC and other land managers is the environmental, social and economic impact caused by trails bikes and 4WDs. This can range from minimal to extensive and is one of the primary drivers for more effective planning.

Environmental Impacts

Environmental impacts may include any of the following:

Landscape issues

- **Erosion** - soil stability, alteration to drainage patterns and deterioration of water quality
- **Turbidity** – water quality & water course destruction
- **Damage to rehabilitated areas**
- **Fire** – Any human activity during periods of fire risk raise the potential of a fire. Four wheel drives can start fires if parked with their hot exhausts in contact with the long grass. A fallen trail bike can theoretically ignite grass with a hot exhaust. Campfires not properly extinguished, cigarettes carelessly discarded or vehicle electrical problems are all risks that do not exist in areas where people are excluded.
- **Damage to geomorphic features** - impact on geoconservation values such as limestone areas, rock formations, sensitive wetlands or dunal areas.
- **Visual Impact of trails** that are poorly located in the landscape (eg straight lines, visible from key visitor sites etc)

Flora issues

- **Plant disease spread** - Of major concern is the risk of dieback spread. Off-road drivers could unknowingly collect infected soil particles on the tyres and undercarriage of their vehicles and spread the disease to new areas.
- **Direct damage to vegetation –** by riding off trails and crushing and disturbing vegetation. This is also prevalent in dunal areas.
- **Weeds** – introduction & spread.

Fauna issues

- **Loss of habitat -** impact on ecosystems and significant communities and species, including threatened species
- **Disturbance to fauna populations -** noise may result in native animals and birds vacating the area and /or disrupt the breeding of some animals and birds.

Pollution

- **Noise**
- **Vehicle emissions**

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- **Spills**
- **Visual pollution -** aesthetics impact on cultural values, including Aboriginal values and sites, historic sites and wilderness values
- **Litter**

Social Impacts

Social impacts tend to be more transient than environmental impacts, but this does not lessen their effect.

Social impacts can include:

Noise

- **Disturbing neighbours** – ORV use on firebreaks or close to properties can be a source of intense irritation to residents. This includes use on public and private property.

- **Disturbing other trails users** – the noise of ORVs, especially trail bikes, can significantly lessen the enjoyment of 'passive' recreators such as walkers, bird watchers and picnickers.

Trail Conflict

- **Trail impact** – even if the impact of ORVs does no permanent environmental damage to a trail, the disturbance can lessen the enjoyment for walkers and mountain bikers.

- **Collision risk** – as trail traffic increase, so does the potential for collisions. The media regularly reports collisions between trail bikes and between trail bikes and four wheel drives. Reports of collisions between trail bikes or four wheel drives and walkers, mountain bikers or horses are rare, suggesting that this is a less common occurrence.

- **Fright risk** – even if a collision is averted, there is potential danger from the sudden appearance of an ORV on a trail. A frightened horse can throw its rider, or a walker may stumble and be injured while trying to quickly vacate the trail.

Economic Impacts

- **Impacts on other land-uses** – the cost of repairing damaged roads and trails (including eroision control devices such as water-bars) has a budgetary impact on operations such as forestry and park management.

- **Management and compliance** – erection, repair and monitoring of gates, signs and fences, together with the cost of enforcing compliance, has a budgetary impact on land managers.

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Land Management Issues

Public land managers have an obligation to manage public land sustainably for a broad range of uses whilst conserving flora and fauna and protecting the natural resources. Understandably this requires a difficult balancing of conflicting requirements.

DEC in their Off-Road Vehicle Summit identified the following core issues for land managers:

A. Environmental degradation
B. Social impacts
C. Provision of areas to ride or drive
D. DEC's role
E. Legislative tools & change required
F. Education

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PRINCIPLES OF ORV USE PLANNING

"Why plan for a use that just causes problems?"

It is probably fair to say that there are many land managers (and many within the broader community) who would rather simply restrict the use of motor vehicles to flat, wide gravel roads where any impacts would be minimal.

This is not practical from an enforcement perspective and does not recognise the legitimacy of the activity in the context of recreational diversity[14], nor does it allow for the fact that many of the potential impacts can be controlled through effective planning and management.

ORV use has demonstrable social, physical and mental health benefits. Participants cite motivations that are similar to those of other outdoor activities such as bushwalking, mountain bike riding or horse riding[15].

The objective of land managers should be to explore ways in which visitors can obtain the experience they desire, in places where the impacts will be minimised, in order that they will be attracted away from areas where that same activity would cause greater impacts.

The underlying assumption is that it is more cost-effective to *attract* visitors away from a problem area than it is to *drive* them away…but this requires a change in strategy, attitudes, processes and sometimes policy.

As with all recreation planning the needs of the visitor must be considered – providing old gravel pits and degraded lands only won't work because it wont meet the user needs and they will continue to look elsewhere.

The following factors need to be considered in order to deliver an alternative that will provide suitable ORV areas which will act as an attractant:

User satisfaction – attraction

- **Terrain**
    - Aesthetics – attractive scenery and places is a major part of the experience

[14] Four Wheel Drive trails feature in Western Australia's 'Top Trails' promotion and trail bike riding has been recognised in the State Trails Strategy.

[15] Participant Survey – State Trail Bike Strategy

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- Surface – sand or laterite-based surfaces may erode less, but clay-based surfaces provide a firmer base and a better user experience for trail bike riders.
- Topography – Undulations are important for interest, and steep hills provide challenge. This is often in conflict with sustainability objectives, however trail design can often ameliorate erosion concerns by channeling water off the hill before it has the opportunity to create major ruts.

- **Trail quality** – Riders and drivers enjoy trails that have twists and turns, ups and downs.
- **Size and diversity** – The larger the area the greater the potential to create a network of trails that provide variety and diversity (and separation from other trails users)
- **Proximity** – There is a need for some facilities within practical day-trip reach from Perth (generally considered to be < 2 hours travel time)
- **Facilities** – While 4WDers and trail bike tourers expect to travel through remote areas, the destination should ideally have nearby food and fuel facilities.

Dispersion vs Concentration

A balance needs to be struck between concentration (which encourages facility development and simplifies monitoring and management) and dispersion (which avoids over-use). The Mundaring Powerlines track is an example of where concentration and a lack of active management intervention has contributed to severe deterioration of the track.

ORV users want variety. The very nature of the activity is to explore, so with the exception of circuit based activities (most of which are competition-oriented and therefore beyond the scope of this study) the need for 'trail miles' should not be underestimated.

Privilege

Drivers and riders need to understand that being able to enjoy their preferred activity in a natural setting is a privilege that must be respected.

Anti-proliferation

Trail design, trail maintenance and rider / driver education must focus on the importance of not creating new trails or bypasses. Staying on trail must become the mantra for all ORV users. To achieve this requires trails planning, engineering, education and enforcement.

Sustainability

At the heart of any long term solution *must* be social, economic and environmental sustainability.

Sustainability is most cost-effectively achieved at the planning and engineering stage, although this does require an up-front investment.

Whilst any form of trail use will have some impact, the level of conflict and damage often associated with ORV use is not an inevitable consequence of ORV use. It is possible to

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master plan trails networks and adopt low impact riding/driving techniques that can reduce such impacts.

Trail erosion and damage can also be mitigated during the trail planning and development stage by engineering trails to avoid or armour potential problem areas and designing for effective water run-off. Effective trail design can also help moderate speed, braking and other driving/ riding behaviours which may lessen impacts.

The concept of sustainability also applies to the relationship between DEC and the participants, and the relationship between the participants and other trails users / neighbours. These are critical relationships and also need to be properly planned, engineered and maintained.

Maintenance

All trails need maintenance. Regular attention can prevent major reconstruction and or rehabilitation requirements later. A trail monitoring / maintenance program must involve users (see engagement).

Education

The confusion about what is and isn't authorised for use has been discussed previously. The rider / driver community is looking for greater certainty and this requires the development of effective communications materials.

Enforcement

A carrot and stick approach is needed to bring about real change. Effective enforcement is a necessary part of the solution, and automated surveillance and other remote compliance measures should be investigated to compensate for the fact that there will never be enough Rangers to effectively monitor every trail.

Engagement

Ultimately, the more that the user groups can be engaged in the process of planning, developing, monitoring and maintaining trails networks the greater will be the sense of ownership and pride, and hence compliance.

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Master Area Planning - Vehicle Use Maps

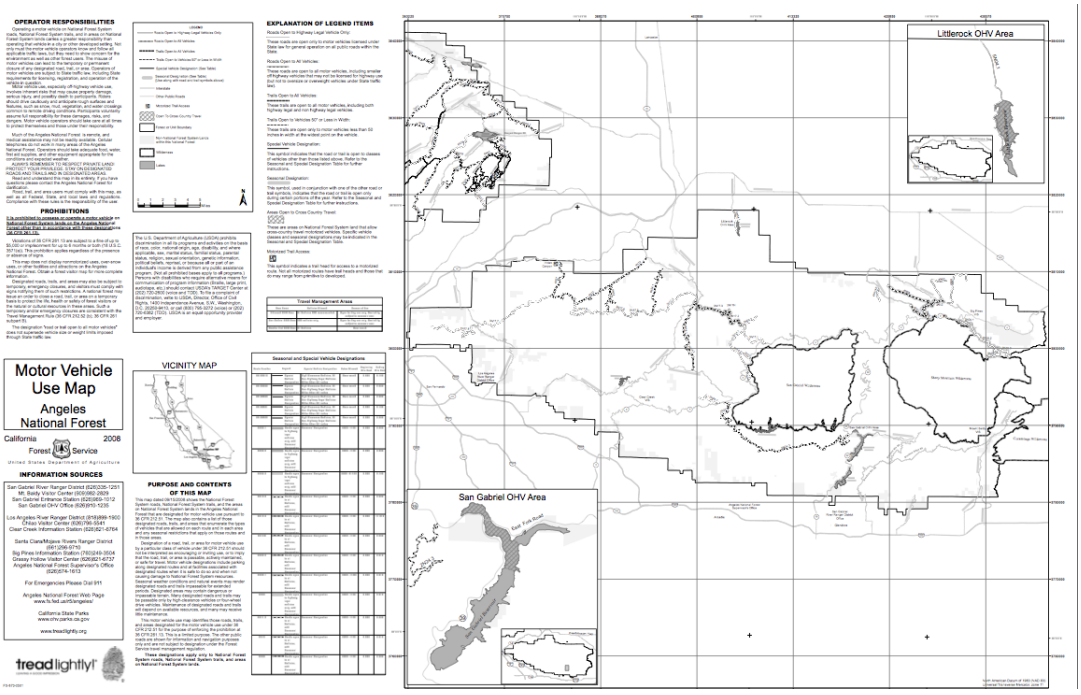
A model to consider is the concept of **Vehicle Use Maps**.

In the USA, in response to the need to better regulate motor vehicle use in America's forests and reserves, the US Forestry Service has embarked on the development of Vehicle Use Maps on an area by area basis.

This process involves all stakeholders, considers all existing trails – dedicated and user-created – and arrives at a network of tracks and trails where vehicle use is permitted. Anything not on the final Vehicle Use Map is defined as unauthorised.

The process is detailed and time-consuming, and often involves environmental research, maintenance proposals, the consideration of various alternative routes and some fairly robust negotiations. Once the Vehicle Use Map has been agreed and published the resultant trails require ongoing monitoring and the plan can be adapted by stakeholder agreement.

It is not a process to be entered into lightly and would best be considered a long term strategy. The potential, however, is to develop a master-planned trails network that is understood by all, designed for sustainability and user satisfaction, and with a process to adapt the plan according to observed impacts or changing requirements.



Recommendation:

1. The concept of Vehicle Use Maps as introduced by the US Forestry Service should be explored for applicability in Western Australia.

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USER SEGMENTS AND REQUIREMENTS

The Perth hills are important for off-road vehicle recreators as the Darling Range offers a unique off-road experience that is not available on the coastal plain. Conditions that are valued by riders/drivers include:

- The quality of the visual environment –a significant factor for most off-roaders.
- The quality of the terrain/soil types – the firm ground is easier and more satisfying for trail bikes and for four wheel drivers and it provides a different experience to the sand of the coastal plain.
- The durability of the terrain/soil types – hard-pack trails can be ridden and driven on for many years with little degradation. By contrast, sand trails quickly form 'whoops' – undulations that once started continue to increase in depth and pose both a safety hazard and reduce user satisfaction.
- The topography – hills and trail undulations add greatly to the off-road experience
- The opportunity for off-highway rides and drives of significant length (typically in excess of 50km)
- The proximity to the major population centre providing accessibility for day or part-day trips

Four Wheel Drive Requirements

Four wheel drivers enjoy a range of driving and trail conditions and an off-road route may contain some of the following:

1. Fence line firebreaks
2. Hills
3. Mud
4. Water crossings
5. Challenge options with easier alternatives
6. Sand including sand dunes (not likely in this study area)
7. Rocks

Picnicking and camping is an important element of the four wheel drive experience, so stopping places and camping areas where a convoy can set up for the night are desirable.

This study recommends that the "extreme" activity, particularly associated with "mud bogholes" is not suitable on most public land and is best catered for via commercial four wheel drive parks due to the increased environmental damage and risk associated with these activities.

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Darling Range Route Connector

The four wheel drive community responded to this study by providing information about where current club-based and independent activity occurred and by identifying as a priority the planning of a 'connector route' that would link Perth with the tracks of the Southern Darling with as little bitumen road as possible. A route was proposed and this was tested against the main constraints of DRA and water catchment exclusions.

The route was then driven and plotted to confirm its suitability in terms of aesthetics, driving interest, level of difficulty (requirement was to be suitable for 'soft-roaders') and route logic.

The route was amended to account for changes in access around Stirling Dam and the amended version is presented as part of this report.

In isolation this can be seen as a 'soft target' as the proposed route consists mainly of open gravel roads, however its significance lies in the fact that the route often follows boundaries of DRA and Water Catchment areas and could be useful in defining these boundaries and promoting awareness of the excluded areas.

As a connector of various favoured four wheel driving areas it could also help channel vehicles into preferred routes and could form the backbone of eventual Vehicle Use Maps for these areas.

Recommendations:

1. DEC to consider the development of the proposed South West Connector 4WD transport route, through preparation of a management plan which considers funding, maintenance, signs and promotion.
2. Publish map and materials in various forms, including GPS data, to promote awareness of water catchment and disease risk areas along route.
3. investigate a connector between Lancaster Rd at Stirling Dam and powerline to west leading south to Myles Rd.
4. Progressively develop local area maps for sustainable use within identified precincts.
5. Negotiate MOUs for track maintenance (based on precinct maps) with 4WD clubs.

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Trail Bike Requirements

To best understand the trail bike requirements, we will consider the three user segments discussed earlier.

Destination Riding / Touring

Destination riding/touring is most closely aligned with the experiences sought by bushwalkers and mountain bike riders. As the riding is done on public roads a registered bike must be ridden by a licensed rider. The rides can range from a couple of kilometres of single loop or up to many hundreds of kilometres covered over several days.

Short destination rides can be undertaken solely within forest areas and on forest trails, while the longer rides will almost certainly require an element of on-road riding to connect sequences of trails. Many registered riders/groups go to great lengths to map routes that avoid water catchment, dieback, tracks such as the Bibbulmun and Munda Biddi but the raw data to facilitate this is fragmented and can be difficult to access.

For reasons of safety and companionship most destination riding is undertaken in groups of two to ten riders, although commercial tours can involve groups of up to thirty.

Adventure touring is undertaken on "adventure bikes" which are heavier and more road-oriented and so riders of these machines travel longer distances and look for unsealed minor roads and relatively well maintained tracks.

Trail/enduro bike riders seek a variety of trails including tracks suitable for four-wheel drives and un-maintained tracks that provide some challenge sections such as hills, rutted or rocky sections, water crossings and tight twisty sections. *"Single trail"* sections where the track is literally only the width of a motorcycle tyre tread and winds its way through the bush are highly valued as these test the skill of the rider and can be especially satisfying to ride. Because of the tight nature of single trail, these sections tend to be relatively short – typically less than a kilometre. A quality ride will have segments of single trail interspersed among the more open tracks.

Family Trails

Trail bike riding, like bushwalking and mountain bike riding, is an activity that can be enjoyed by family members from an early age (generally from around eight years). The State Trail Bike Strategy indicated that there is an increasing demand for destination trail facilities that are accessible by family groups.

The type of terrain sought is similar to that of destination riding, with allowance made for the restricted capabilities of smaller machines and younger riders. Family members may participate at different levels.

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Current vehicle registration and driver's license legislation precludes this activity from occurring on public land other than designated off road vehicle areas. There does not appear to be any barrier within the Control of Vehicles (Off-Road Areas) Act 1978 to gazette an individual trail or trail network as an Off Rod Vehicle Area. This could hold the key to creating family trail riding opportunities that extend beyond the current concept of Off Road Vehicle Areas.

Circuits

Motocross-style circuits can be formal or informal and provide a high-adrenalin experience in a relatively confined space. Circuits can vary in technical challenge but typically have tight banked corners and jumps connected by short straights and provide the rider with racing practice or riding challenge.

Circuit riding can occur within a more confined space which is often close to car parking areas. In the case of junior riders a well-positioned spectator area offers a view of the entire circuit to enable parental supervision.

Spatial and or temporal separation of different rider age and skill levels can be achieved and one or more circuits can be developed on a relatively small parcel of land, especially for junior riders, making this a practical option for near-urban areas.

Based on these user segments, the following are sought by riders:

1. Single trail
2. Hills and undulating land
3. Firm surfaces – some like sand but many, including children, do not
4. Trail routes that loop or run point to point – 5kms to 150kms per day ride – mix of 'Type 4' tracks[16], – some flowing, some tighter and more technical.
5. Scenic interest
6. Long distance trail similar to the Bibbulmun and Munda Biddi
7. Trail network with loops and connections to gazetted ORVAs
8. Certain destination trails gazetted to provide a family trail experience
9. Gazetted off-road vehicle areas (under the Act) including trail networks and circuits
10. Facilities at trail end (fuel, food, accommodation) highly desirable.
11. Planned circuits within ORV areas - 500m – 1.5km with berms, jumps and short straights.
12. Trials practice within ORV areas - Small areas (less than 1 acre can suffice) with natural or introduced features that trials riders can practice on.

[16] See previous "What is off-road" section

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AREAS FOR CONSIDERATION WITHIN THE STUDY AREA

Trails and Areas submitted by Users

In order to compile a picture of where four wheel drive and trail bike use is currently occurring, riders, drivers and associated groups and clubs were invited to submit maps, GPS plots or Google Earth files.

Despite an understandable element of scepticism on the part of riders and drivers (see Methodology) the project received:

- 70 Four Wheel Drive trail routes
- 38 Trail Bike trail routes
- 8 ATV / UTV trail routes
- 46 General area suggestions

The submissions revealed a distinct clustering of current activities, with the majority of the 4WD submissions around the Harvey – Collie region and the majority of the trail bike submissions closer to Perth – especially around the eastern portion of the Mundaring catchment and the Metro Road area south of Brookton Highway.

While there was some overlap between 4WD and trail bikes there were also several areas where, at least according to the submissions received, usage tends to be one or the other.

Many of the trail bike submissions were located within DRA and / or Water Catchment areas. In some cases it was felt that the submitters genuinely did not know that the trails they were submitting were illegal. It can be reasonably expected that many more users knowingly ride or drive within excluded areas and did not wish to advertise that fact by submitting their routes.

One obvious outcome from this part of the project is that if the constraints of DRA and Drinking Water Source Protection were to be effectively enforced, there would be a significant level of activity displaced which would in turn increase pressure on areas outside DRA and Water Catchment constraints.

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Site Evaluation Criteria

To evaluate the user submissions and the areas suggested through the stakeholder consultation (including local government within the study area) a hierarchy of criteria was used to filter out areas where Off-Road Vehicle use was not possible.

Prohibited DRA areas and Water Catchment were the two criteria at the top of the hierarchy, as under current regulations these are considered non-negotiable.

The next level were factors that are resistant to resolution, such as environmental (including land tenure), conflict with other recreation forms, significant neighbour issues and significant indigenous considerations.

At the next level were issues such as managing access, proximity to population centres and facilities, mobile phone coverage, terrain quality and size and dust suppression.

A five point rating scale was used:

0. Not known

1. No Issues

2. Manageable

3. Problematic

4. Show-Stopper

If any criteria was considered a *Show-Stopper* the evaluation stopped at that point. In some cases areas or trails have been ruled out because of DRA or Water Catchment issues, however given the current review of policy in these areas it is recommended that any areas struck out on the basis of either DRA or Water Catchment be re-visited in the event of any relaxing of these policies.

Areas that appear to have potential after initial desktop evaluation still require more detailed consideration and assessment for values such as flora, fauna, landscape, threatened ecological communities, heritage values, conflicts with industry, noise etc.

DEC has requested that this more detailed information not be publicly distributed until the detailed assessment has been completed. This is to avoid any perception that inclusion in the evaluation infers DEC endorsement of the areas for ORV use and to avoid pre-empting any future decisions that might result from more detailed assessment.

Full details of the evaluated trails and areas and their assessments against the criteria have therefore been provided separately.

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TRACK CLASSIFICATION SYSTEM

Trail bike riders and 4WDers seek a range of riding / driving experiences and activities and this includes difficulty levels and range of challenges. Given this variety it can be expected that not all trails will be suitable for all types of vehicles and the experience and skill levels of drivers and riders.

It is important to provide information to:

- Help riders and drivers make informed decisions
- Encourage riders and drivers to use trails that match their skill level
- Manage risk and minimize injuries
- Aid in the planning of trails and trail systems

The International Trail Marking System used around the world in ski resorts, and adapted by the International Mountain Biking Association (IMBA) for mountain biking, allows trails to be graded according to their relative technical difficulty.

The Victorian Department of Sustainability and Environment has coordinated the adaptation of these principles to suit a 4WD Recreational Track Classification system.

	EASY	MEDIUM	DIFFICULT	VERY DIFFICULT
Expected terrain and track conditions	Mostly unsealed roads with no obstacles and minor gradients.	Tracks with some steep and/or rocky/slippery/ sandy sections. May have shallow water crossings.	Tracks with frequent steep and/or rocky/ slippery/sandy track sections. Possible water crossings.	Tracks with frequent very steep and/or rocky/ slippery/sandy sections. May have difficult river crossings.
Vehicle suitability	All Wheel Drive and High Range 4WD. Can be low clearance with single range and road tyres.	Suitable for medium clearance vehicles with dual range and all terrain or road tyres.	Suitable for medium to high clearance vehicles with dual range and all terrain tyres.	Suitable for high clearance vehicles with dual range and tyres suitable for the terrain. (Mud Terrain tyres).
Recovery Equipment				Winch/ Recovery equipment required.
Driver Training / Experience	Suitable for novice drivers.	Recommended that drivers have experience or 4WD training. Recommended to be done in groups of vehicles.	Recommended for drivers with reasonable experience or 4WD training. To be done in groups of vehicles.	Drivers with extensive experience and advanced training should only attempt as there are several technical challenges. Recommended to be done in groups of four or more vehicles.

In considering the application of this grading to trail bike trails, it is the opinion of the consultants that both the *Expected Terrain* and the *Driver Training / Experience* are sufficiently similar as to enable this grading system to be used for both four wheel drives and

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trail bikes. This will avoid the need to classify areas separately and avoid potential confusion over whether a grading applies for 4WD or trail bikes.

The grading for a trail must reflect the most difficult section of that trail, unless there are easier bypasses to the more difficult sections, in which case that portion of the trail can be signed with the alternative paths.

Where an area comprises a network of trails – eg a designated Off Road Vehicle Area, the easiest trails should ideally be those closest to parking / facilities, with trail loops of increasing difficulty radiating outwards.

Recommendations:

1. Track classification system as developed by DSE Victoria be considered and if appropriate trialled in WA for trail bike and 4WD trails.
2. The one track classification system should apply to both 4WD and trail bikes
3. Training / accreditation requirements for track classification personnel to be investigated.

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MANAGEMENT AND OPERATION

Designated Trails

Probably the biggest contributor to environmental damage is the proliferation of 'user-created' trails where riders or drivers leave an existing trail and create their own. Because these are generally not well designed or constructed they often degrade quickly, suffer erosion, create water run-off, may cause social user conflicts and when degraded provide poor recreational opportunities.

There are several reasons why users leave an existing trail but they usually involve bypassing a trail that has become impassable.

Sometimes this is because of water or a bog hole, other times a hill has become so eroded and extreme that a 'chicken line' (one that provides an easier alternative) is created. Trail bikes will tend to widen a trail that has become 'whooped out' by progressively extending the edges of the trail to avoid the whoops.

In such cases the underlying reason is degraded trail conditions, either through overuse, inappropriate use, lack of maintenance, or lack of planning.

Water is a main cause of trail damage and the objective is to reduce sediment delivery and turbidity. Creating trails with rolling dips, undulations, trail grade breaks, locating trails to avoid or reduce creek crossings and hardening creek crossings will assist.

Undulating trails with multiple places for water to run off or long rolling dips is better than trails with a consistent grade. Incorporating water control features into the trail will reduce maintenance requirements as well.

It should be noted that good trail design doesn't necessarily mean creating a Bibbulmun Track or Munda Biddi type trail – in fact this would be too 'developed' for some ORV. ORV trails can often be satisfactorily formed using the existing lay of the land, and with only minimal construction of environmental controls (culverts, erosion banks, bridges). In many cases they may only require small modifications to existing routes.

There are currently no designated registered trail bike only trails and only a few designated four wheel drive tracks. By designating some trails and networks, users can be educated to stay on trail and user separation can be achieved.

It is essential to establish ground rules for *how* ORV use will occur on identified land as without such guidelines the inevitable long term result will be more areas with significant environmental degradation, safety issues and offering little user satisfaction. The guidelines are also necessary to give some confidence to land managers that ORV use *can* be managed in an environmentally sustainable way.

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ORV area planning should focus on the development of a trails network which caters to the expected range of user styles and ages, which is consistent with the area values and provides a long term sustainable area for ORV.

Within the provisions of the Control of Vehicles (Off-Road Areas) Act there is opportunity to explore the concept of certain designated trails being declared off road vehicle areas while the land that they pass through remains public and off-limits to ORV-registered vehicles.

Unloading areas and trailheads developed for ORV use should generally include the same facilities as trailheads for other trail uses. Creating trail bike friendly unloading areas will attract riders to unload in the preferred area and away from residences or other recreational areas. Signage for weed / hygiene info and possible safe collectable areas should be provided to minimise the spread of weeds/disease when unloading ORVs.

It is unknown how many trails there are in the study area, but it can be assumed that there are hundreds of walk, cycle, mountain bike and bridle trails of varying quality, states and degrees of use. It can be assumed that not all get regular use by the designated activity and that DEC are responsible for their maintenance (if on DEC managed land). Conversely ORV demand is outstripping ORV trail supply by many magnitudes. There may therefore be an opportunity to re-purposing some trails for ORV use

Management

Responsibility for managing off-road vehicle areas is always the key issue. The Control of Vehicles (Off-Road Areas) puts the management responsibility with the local government, although DEC has assumed responsibility for Gnangara and Pinjar ORVAs as they are on DEC managed land. Ultimately the source of the issue is funding and resources. The current ORVAs do not receive any state funding, and they receive little management and are therefore not good models for the future.

Responsibility for creating and maintaining trails tends to fall to DEC (if on DEC land), although some trails may be created after recieving grant funding in the first instance.

The DEC District Offices have expressed major concerns in taking on ORV trails and areas without adequate funding and resources.

Some other proposed ORVAs are considering management models that involve local ride groups leasing the land and taking responsibility for management and maintenance. This has not been achieved yet and still has large issues around insurance and liability to overcome. However it is felt that a user based lease would not be appropriate for an area such as Metro Road because it does not have an apparent “local rider group” and therefore no strong local ownership and it is a very large area in comparison to others being considered.

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DEC may be in the best position to take the lead responsibility, with support from the local Shire and the development of a "Friends of Metro Road" that could be facilitated by the RTRA or MWA. This is a similar management approach that has been proposed for the Gnangara and Pinjar ORVA's.

Sections of the proposed four wheel drive connector route would come under the 4WD DEC MOU and the "Adopt a track" program with Trackcare.

Similar programs are required for proposed trail bike trails but at this stage there is not an MOU between DEC and RTRA and without designated trail bike trails being in place there hasn't been demand for "adopt a trail bike trail" program.

Trail Signage

It is proposed to adopt DEC's existing signage guidelines as well as those structured for mountain bike trails[17]. Various trail marking methods have been trialled over the years on walk, bridle and cycle trails. The Munda Biddi trail has developed a trail sign system which is clear, displays only the necessary information and has an identifiable style specific to the trail. A similar, but not identical, signage system will provide visual consistency and avoid confusion.

Planning

Alcoa Rehabilitation Agreements

Under the State Agreements Act lease holding companies are required to rehabilitate the mined lands. By default, this rehabilitation is to the natural pre-mining state of the land. However it is also possible to require, as an alternative, that the land be rehabilitated to another specific purpose.

ORV use is a specific purpose that such land could be rehabilitated to suit. The main benefit is that the land could be developed to provide a quality user experience that is engineered for sustainability. Such rehabilitation is also likely to be less expensive than full natural restoration, so it would be an attractive option for the mining leaseholder.

State and Local Government Planning

It appears that no mechanism currently exists within the structure planning process within state and local government to include ORV use ie to look for areas that could be designated as ORV areas. The planning system does not facilitate infrastructure for "ORV special interest groups".

[17] Mountain Bike Management Guidelines – WA Department of Environment and Conservation

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Neither is ORV considered within recreational or trails planning. The LotteryWest Trails Grant excludes grants for motorised trail use so Trails Master Planning projects also excludes ORV trail requirements[18].

ORV trails and area planning is slipping between the cracks of Land Use Planning and recreation and trails planning.

Policy and Legislation

The Regulatory Environment for ORV use within the study area was discussed earlier in the report. The Scope of this project considered medium term and long term plans based on legislative changes that might occur. There are currently two reviews that may impact ORV use within the study area:

DRA Review

The land use review undertaken for this project necessarily operated within the constraints of current dieback management policy and regulations.

It is understood that dieback management policies are currently under review, so the outcomes of this study should be reviewed in the event of any revisions to boundaries or policies, with priority given to those areas for which DRA was the only or primary impediment to consideration of an area's suitability for ORV access.

Water Catchment Review

The land use review undertaken for this project necessarily operated within the constraints of current Department of Water policy and regulations in respect to drinking water source protection areas.

In September 2009 a Parliamentary Review into Recreation within Drinking Water Source Protection Areas was announced. One focus of the review is to explore opportunities for greater access for recreation within water catchment areas.

Accordingly, the outcomes of this study should be reviewed in the event of any revisions to boundaries or policies with priority given to those areas for which Water Catchment was the only or primary impediment to consideration of an area's suitability for ORV access.

[18] It was a recommendation of the State Trail Bike Strategy to include trail bikes within the LotteryWest trails grant for this reason. Discussions to date to revise the exclusion have not been successful.

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Recommendations:

1. DEC to develop "ORV Management Guidelines" in conjunction with key agencies and community stakeholders.
2. All ORV designated trails should be reviewed by DEC, DoW and the User Group for potential design improvements to foster sustainability.
3. Existing user-created single track off main designated trails should be considered as designated trail bike trails to meet the single track requirement of this user group.
4. DEC to enter into a MOU with the RTRA. Adopt-a-trail program to be developed as part of any designation process, learn from the issues and experience with the four wheel drive program.
5. Existing DEC signage standards should be adapted for ORV signage.
6. DEC to facilitate further planning and consideration of the design and construction of ORV trails. This work should be completed as part of the production of ORV Management Guidelines by DEC. All new ORV trails should meet the standards specified in the agreed guidelines.
7. Facilities planning should be included in the ORV Management Guidelines
8. The possible re-purposing of trails be considered in ORV area planning and during the preparation of Vehicle Use Maps
9. Review the Alumina Refinery Agreement Act 1961 and Alcoa Revised Completion Criteria of March 2007 to confirm that 'special purpose' rehabilitation is a legal option, and, if so confirmed, initiate a project to explore the potential development of an Off Road Vehicle area on land that is the subject of the 'Orion' lease.
10. Development of ORV trails and areas will require government endorsement and appropriate funding and resourcing. In the case of trail bikes this requires the State Trail Bike Strategy to proceed.

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CONCLUSION

Through the process of user consultation, desktop mapping research, on-ground investigation and verification against known constraints a picture of current and potential future use within the study area has emerged.

It is apparent that any extreme forms of two and four-wheeled Off Road Vehicle activity are difficult to locate on public lands and that private property and commercial facility operators need to be encouraged and if necessary incentives offered to take on this segment of the ORV market.

For other forms of ORV activity public land, primarily State Forests, may be an appropriate location for ORV, provided that environmental sustainability, activity management and relevant resourcing issues can be addressed.

The granting of State Agreements for mining in State Forests presents a specific opportunity to provide for ORV activity, either pre- or post- mining activity, with minimal impact on the natural environment.

In particular, the Dwellingup and Harris River State Forests would appear to provide the best opportunity for providing or creating the desired user experiences in locations that can attract these activities away from more environmentally sensitive and less appropriate areas areas.

The Waroona Dam and Logue Brook Dam and their surrounds offer the potential to create one or more ‘motor-recreation-friendly’ areas that combine camping, four wheel driving, trail and quad bike riding, power boating and water skiing.

For four wheel drive enthusiasts the proposed South West Connector route provides a long-desired off-highway transport route from Mundaring to Collie via Dwellingup and Harvey which could lessen the pressure on State Forests and National Parks near Perth.

For trail bike riders, the potential development of the Metro Road area and subsequent transition (around 2020) to the Alcoa Orion area (post-mining) could provide a world-class facility with a 20+ year lifespan.

Most importantly, by adequately planning for and provisioning this increasingly popular activity, land managers will create an opportunity to divert ORV activity from areas that are currently causing environmental and social problems.

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APPENDIX: PROJECT METHODOLOGY

One of the objectives for this project was to provide a project and planning methodology for ORV land use planning. This section details the final methodology used for this project. This varied slightly from the original proposed approach as the realities of the working environment became known.

The project methodology can be described as iterative mapping informed by desktop research, consultation, user input and on-site evaluations.

The process iteratively removed areas that should be ORV prohibited, then areas that are not ORV conducive until we were left with areas that had potential for ORV use.

The final documentation provided additional commentary on user segments and their requirements, options for management and operations of the proposed areas/trails and recommendations on an ORV track / trail classification system[19].

STAGE 1 – INFORMATION GATHERING

- **Project commencement**
    - The DEC Project manager met with and briefed the consultants, background information was provided, the approach was agreed and a project extranet was established for document sharing, communications and site evaluations.
    - Two meetings were held with the Project Funding Group (those entities approached by DEC and that provided funding assistance) and the Project Steering Committee (additional state and local government bodies and four wheel drive and trail bike associations) to outline and agree on the approach
- **Desktop research**
    - Members of the steering committee provided any relevant documentation, including local zoning and development maps, prior consultation reports and community feedback to consultants for their review
    - *GIS Data collation* – DEC GIS experts provided mapping data (as ESRI .shp files) detailing district, forest and park boundaries, land tenure and disease risk area

[19] This is unlikely to need to be replicated if ORV land planning is done for other study areas as these items should be standardised and addressed at a state wide level.

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boundaries. Department of Water provided similar electronic data covering drinking water source protection area boundaries.

- *Constraints mapping* – By overlaying the collated spatial data over Google Earth mapping of the study region the consultants developed the first iteration of the ORV Map. This map outlined the two key legislated constraints of Disease Risk Areas and Drinking Water Source Protection Areas. {this process took 4-6 weeks including the time required to obtain GIS data}

- **Consultation**
  - *Trail proposal register* –the first iteration of the ORV Map was released to the public via a web site[20]. The web site detailed the project, displayed the map and published an online form for ORV stakeholders to submit their current and proposed trails and areas for review. The submission process was open for 3 1/2 weeks. {this was originally proposed to occur in Stage 3 but was brought forward due to the delay in obtaining GIS data, in an effort to keep to the overall project timeline}
  - The Steering Committee was requested to promote the web site and trails proposal process. (this was done by the ORV members of the steering committee but the extent to which the local government stakeholders promoted was varied)
  - The consultants met with ORV users (4WD Assoc, RTRA, MWA), Local Governments in the study area, State Government departments (DEC, Dept of Water & Water Corp, WA Planning Commission and Department of Sport & Rec) (4 further LGAs were added when the study area was confirmed and the area broadened)
- **Report** – *Stage 1 Report* including details of outcomes of all stakeholder meetings and a summary of trail submissions. This was presented at the "Stage 2 Steering Committee Meeting"
- **Timing** – Stage 1 + 2 took 10 weeks due to time required to obtain GIS data.

STAGE 3 - STUDY DOCUMENTATION

The original plan was to allow one week for DEC, Dept of Water and Water Corp to comment on the trail/area submissions before the consultants would commence on site reviews. The objective was for an initial agency review to remove those trails/areas that clearly would not be approved for ORV use. DEC District Offices requested more time to conduct a thorough review, which then needed to be worked into District Office work schedules. Whilst this required the Project schedule to be re-worked and delayed the project, the end result of a more thorough District Office review was favourable.

[20] http://www.tbma.com.au/orvlp

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The consultants worked on the additional commentary on user segments, management options and recommendations on an ORV track / trail classification system during the 5 weeks required by the DEC District Offices to review the submissions.

STAGE 4 - IDENTIFY SUITABLE LAND FOR ORV USE

Additional meetings were held with each of the DEC District Offices (2) and Dept of Water/Water Corp to obtain the results of their trail/area reviews.

An evaluation matrix was established in the project portal to document outcomes of criteria for each trail / area.

Consultants conduct site visits to trails / areas with ORV potential to further document evaluation. In this instance this also involved a 2 day 4WD trip with 4WD stakeholders to map a potential route. This aspect of the project was scaled back from the original plan as other than the 4WD connector the high level nature of this project didn't require as much 'on ground' fieldwork as originally envisaged. The consultants' familiarity with many of the areas proposed assisted in this work.

The ORV Map is further refined according to the results of the site evaluations.

STAGE 5 - STEERING COMMITTEE MEETING

The consultants delivered the Draft ORV Map based on the site evaluations for discussion and a draft report. The Steering Committee were given one month with the draft report to provide feedback to the consultants.

STAGE 6 - STEERING COMMITTEE MEETING

Steering Committee feedback discussed with the consultants. At this point not all Steering Committee members had provided their feedback. Another 1.5 weeks was provided.

STAGE 7 - FINAL DOCUMENTATION

Steering Committee feedback was considered and amendments made to the final study documentation and recommendations. The final report was provided.

PROJECT METHODOLOGY RECOMMENDATIONS:

1. Steering Committee meetings should not be designated as stages but should occur where and as required.
2. DEC to liaise with District offices to ensure correct understanding of ORV requirements and proposed concepts before they review the trail/area submissions .

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Off-Road Vehicle (ORV) Regional Land Use Planning Study

SITE ASSESSMENTS

RESTRICTED DISTRIBUTION

PREPARED BY: TRAIL BIKE MANAGEMENT AUSTRALIA

AUGUST, 2010 v1.0

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Areas with Potential for ORV Use

Youraling State Forest – east of Metro Road – Potential ORV Area

The area commonly referred to as 'Metro Road' area has been identified as a potential major facility for road-registered and ORV-registered vehicles.

The area has been used by trail and quad bikes for many years and a network of user-created trails has been established. It provides a variety of terrain, large areas for parking within close proximity of the sealed Brookton Highway and is around 70km from the Perth CBD.

Trails from Brookton Hwy to Albany Hwy North Bannister are popular with trail bike tourers.

The northern end towards Brookton Highway appears to have potential as an ORV Area to service the Perth hills area to cater for quads and ORV-registered trail bikes and junior riders, while a series of trails for road registered trail bikes could be developed south to North Bannister and north via Darkin Rd towards Mt Observation and The Lakes. It should be noted that the area north of Brookton Highway towards Mt Observation contains approved 4WD routes.

Trails would need to be planned to provide an adequate noise buffer to properties to the eastern perimeter.

Existing user-created trails could be assessed and retained where appropriate or removed if they threaten or conflict with the areas values . Where existing trails have been widened by riders avoiding "whooped out" sections the centre line should be graded and the widened sections left to rehabilitate or machine-restored.

A Motor Vehicle Use Map should be developed, with cross-country riding prohibited. Trails not included on the Motor Vehicle Use Map or not required for management purposes or other users should be closed for rehabilitation.

DEC District
Perth Hills

Land Tenure
DEC Estate

Area is covered by mining tenements. Worsely lease area — currently doing long-term drilling and expected to be 10 years before mining occurs.

Target Segment
Registered Trail Bikes; Unregistered ORV

Environmental
2. Manageable
Priority and threatened fauna in the area. Fire management - varies from 3yrs to 6+yrs Area below Pikes Rd on 3 yr harvest plan North of Pike Rd currently not on harvest plan but can't rule harvesting out. Western area in southern section on 3 yr harvest plan Orchid Society has been vocal in the past about motorcycle use in the area.

Indigenous
2. Manageable
Some indigenous heritage sites within area

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Noise / Neighbour Impacts
3. Problematic
Neighbour issues, especially at southern end to east

Recreational Conflict
2. Manageable
Area occasionally used for rogaining and 4WD

Travel Distance
2. Manageable

Access Road
1. No Issues

Parking / Unloading Areas
1. No Issues
Several large existing areas in use suitable for development as parking areas.

Existing Trails / Tracks
3. Problematic
Extensive network of trails, with some significantly widened due to development of whoops over many years. Rationalisation / rehabilitation would be required.

Durability
2. Manageable
Terrain ranges from pea gravel to sand. Sandy trails would require regular light maintenance to prevent whoops from becoming excessive

Facilities
3. Problematic
Excellent facilities (fuel, food) at N Bannister, but none at northern end of Metro Rd

Mobile Coverage
3. Problematic
3G coverage poor or non-existent GSM coverage non-existent

Terrain Quality
1. No Issues
Generally firm and very good, with good variety and undulations. Some sandy trails which are problematic for small-wheeled bikes.

DRA
1. No Issues

Water Catchment
2. Manageable
Northern portion lies within Mundaring Catchment under the CAWS Act (boundary approx 3km S of Brookton Hwy)

Dust Control
2. Manageable

Capacity
1. No Issues
Area is large and could cater for hundreds of riders daily.

Access Control
3. Problematic
Various access points along Brookton Hwy, Metro Rd, Albany Highway, Warrahdale Rd, McCallum Rd and others.

Recommendation:

1. DEC conduct further more detailed investigations to determine the suitability of the "Metro Road" area for ORV. These investigations would include recommendations on the financial, social, environmental, management and legislative requirements required for an ORV area to be sustainable at Metro Road.

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Alcoa 'Orion' lease

The Alcoa Orion lease is a roughly 10,000Ha area between Lane Poole Reserve and Waroona that is scheduled to be handed back around 2020.

Under the State Agreement Alcoa must rehabilitate the land, however it is open to DEC as land manager to nominate a specific purpose for rehabilitation.

This creates the opportunity for land that has been mined to be rehabilitated for the express purpose of ORV recreation. Properly engineered trails, access roads, parking and unloading facilities, circuits, four wheel drive circuits, trials areas etc can all be created from what is essentially a blank canvas.

With the heavy machinery already in place a high quality development of this type can probably be achieved at a lower cost than the traditional rehabilitation to natural vegetation.

DEC District
Perth Hills

Land Tenure
DEC Estate

Area is covered by mining tenements. Alcoa Orion lease area — hand back expected in 2020.

Target Segment
4WD; Registered Trail Bikes; Unregistered ORV

Environmental
2. Manageable
Can be engineered for sustainability.

Indigenous
2. Manageable
Presumed to have been addressed prior to Mining.

Noise / Neighbour Impacts
1. No Issues

Recreational Conflict
2. Manageable
Waterous Trail bisects area east-west.

Travel Distance
2. Manageable

Access Road
1. No Issues

Parking / Unloading Areas
1. No Issues
Can be engineered as part of rehabilitation.

Existing Trails / Tracks
1. No Issues
Area has been effectively excluded from use throughout mining operations. New trails would be created as part of rehabilitation.

Durability
2. Manageable
Trails and areas could be engineered for maximum durability.

Facilities
2. Manageable
Area is approximately 11km south of Dwellingup. Potential for area as a major ORV facility could

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attract commercial facilities operators.

Mobile Coverage
3. Problematic
Coverage patchy

Terrain Quality
1. No Issues
Ability to craft a trails environment specifically for users has the potential to create a world class facility. Natural terrain is generally firm and very good, with good variety and undulations.

DRA
1. No Issues
Outside DRA

Water Catchment
2. Manageable
Area intrudes into Sampson Dam RPZ in southern portion.

Dust Control
2. Manageable

Capacity
1. No Issues
Area is large and could cater for hundreds of riders daily.

Access Control
1. No Issues

Controlled access could be engineered into area plan.

Recommendation:

1. Initiate a scoping project to conceptualise the potential of a purpose-built ORV area.
2. Formal approach to Alcoa to explore the potential and logistics involved

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Harris River State Forest (Mornington Area)

The western half of the Harris River State Forest appears to provide significant opportunity for 4WD and trail bike touring as well as events, however as with all areas the level of DEC resources available to adequately manage the area is a significant concern.

Within the Harris River State Forest are areas around Harvey popular for four wheel driving and organised motorcycle enduro events (including the annual Adventure Rally attracting around 400 riders). The enduro events occur within a roughly 11,500Ha region bounded by Mornington to the west and the Stirling Dam and Harris Dam catchment boundaries.

Four wheel drive activity also occurs throughout this area but appears to be more concentrated further north in the area north of Harvey Dam. This is not to suggest that these areas are mutually exclusive, as there is ample evidence to the contrary.

Known problem areas exist in both regions, with Falls Brook Nature Reserve, in particular, the subject of a current vehicle control program. DEC Wellington District reports problems with four wheel drives causing erosion problems in the steep country. Nature Reserves are typically not suitable for recreation activities.

Clearly, by the historical and current use, this area provides the type of terrain sought by both trail bike riders and four wheel drivers.

Accordingly this should be a priority area for management to allow the continued, controlled access for ORV recreation in those areas where controlled use is acceptable, with protection for areas that are environmentally sensitive through erosion/turbidity/weed introduction and hygiene management.

Description
One of the few remaining Enduro areas - competitive and recreational (Adventure Rally) in the Mornington Mills area. Also popular w 4WD

DEC District
Wellington

Land Tenure
DEC Estate

Target Segment
Registered Trail Bikes; 4WD

Environmental
2. Manageable
Although not in a DRA there appear to be areas of dieback that cause difficulties in the planning of events.
Continual use makes closure of old logging tracks difficult, and creates tension with event organisers who expect that historical use should be a predictor of acceptability. DEC Wellington states that organisers need to fully understand the hygiene and management issues of using old logging tracks, as these were not constructed for ORV use and the use by these vehicles can have serious environmental impacts through the spread of dieback and erosion. Historical use should be measured to see whether the previous use has had an impact if so then use should be discontinued.
Erosion problems from 4WD use in wet weather - eg Hicular Hill – highlight the conflict between the users' preferred season and the environment's ability to withstand the impacts in wetter conditions.

Indigenous
0. Not known

Noise / Neighbour Impacts
2. Manageable

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Some neighbour issues around forest perimeter.

Recreational Conflict
2. Manageable
Potential for increasing conflict between 4WD and trail bikes as usage increases within the area. Munda Biddi trail runs through area. DEC Wellington report an issue with trail bikes using the Munda Biddi, accessing huts, and causing damage to trail raising safety concerns to long distance mountain bike riders.

Travel Distance
2. Manageable

Parking / Unloading Areas
2. Manageable
Require gazetted areas and signage to protect against the introduction of weeds and hygiene issues for spread of disease

Access Road
1. No Issues

Existing Trails / Tracks
2. Manageable
Extensive trails throughout area, most in good condition but some erosion issues on steeper slopes. 4WD clubs keen to 'adopt' trails in area.

Durability
2. Manageable
Conditions firm when dry but can become waterlogged and prone to trail damage in wet conditions.

Facilities
2. Manageable

Mobile Coverage
3. Problematic
Very limited

Terrain Quality
1. No Issues
Excellent terrain for 4WD and trail bikes

DRA
2. Manageable
Not a DRA exclusion area, but some pockets of dieback create issues when approving organised rides

Water Catchment
2. Manageable
Stirling Dam catchment and RPZ on north eastern border.

Dust Control
1. No Issues

Capacity
2. Manageable
Controls will be needed to prevent safety issue / accidents if usage increases.

Access Control
1. No Issues

Recommendation:

1. Engage with the 4WD and trail bike communities to develop a series of Vehicle Use Maps on a zone-by-zone basis within the Harris River State Forest.

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Lane Poole Reserve – Recreation Portion

This area is a popular 4WD destination, with 15% of respondents to a visitor survey indicating that they came to the area specifically for a 4WD experience[1]. The 2009 Management Plan identified limited opportunity for more four-wheel drove trails and referred to the potential of more formalised 4WD use perhaps under the adoption of one or more clubs

The Nanga Heritage Circuit and Fawcett's Trail are both DEC authorised four wheel drive routes within Lane Poole Reserve.

The pine plantations are already popular and some of the steeper slopes are readily accessible by maintenance machinery, indicating that without too much effort or expense some 'challenge' sections could be preserved. These could be phased out as private / commercial facilities are developed as an alternative.

Future extension of the Baden Powell camp site could result in closures off Park Road.

Description
Recreation zone of Lane Poole Reserve.

DEC District
Perth Hills

Land Tenure
DEC Estate

Target Segment
4WD

Environmental
2. Manageable
Steep sections of pine plantation have been used by four wheel drivers as challenge sections with evidence of major erosion occurring.

The consultants believe that with just a little machine work challenging hill climbs could be created in a way that would not be prone to major erosion, or could be occasionally maintained to prevent major ruts developing.

Other trails within the Lane Poole Reserve are already designated, so this area could become a significant facility for four wheel drivers of various skill levels.

Indigenous
0. Not Known

Noise / Neighbour Impacts
2. Manageable
Provided that the challenge sections continue to be located away from picnic and camping areas noise should not be a concern.

Recreational Conflict
2. Manageable
Lane Poole Reserve, as a recreation precinct, caters for many different types of activity. Potential conflicts need to be identified and managed within the spirit of maximising the sustainable recreational utility of the area.

Travel Distance
2. Manageable

[1] Visitor survey was Lane Poole Reserve specific and targeted visitors in the recreation area of the planning area between 18 February and 6 March 2006.

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Parking / Unloading Areas
1. No Issues

Access Road
1. No Issues

Existing Trails / Tracks
2. Manageable
With the exception of the steeper terrain, most existing tracks appear to be in good condition and there does not appear to be much in the way of trail proliferation.

Durability
0. Not Known
Assumed to be reasonably stable in dry conditions but steeper sections susceptible to erosion and rutting when wet.

Facilities
1. No Issues
Approximately 11km from Dwellingup

Mobile Coverage
3. Problematic
Poor – nil coverage.

Terrain Quality
1. No Issues
Excellent terrain for 4WD of all types and driver skill levels.

DRA
2. Manageable
Boundary of DRA exclusion area is Murray Fireline Road.

Water Catchment
2. Manageable
Stirling Dam catchment would impact on eastern side of Logue Brook, Samson Dam RPZ to the southeast of Waroona Dam.

Dust Control
1. No Issues

Capacity
1. No Issues

Access Control
1. No Issues
Single access road to both Waroona Dam and Logue Brook Dam provides opportunity to properly funnel visitors – essential given the pay-per-use model envisaged.

Recommendations:

1. Subject to the availability of resources, engage with 4WD community to designate a series of graded routes through the area that can be mechanically maintained.
2. Engage with Four Wheel Drive Association, Track care and Clubs to develop a more effective model for the 'adopt-a-track' program that is not as reliant on DEC resources at a local level.

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Dwellingup State Forest – Vehicle Use Map

The southern Parts of the Dwellingup State Forest appears to provide significant opportunity for 4WD and trail bike touring as well as events, however as is common throughout the region the level of DEC resources available to adequately manage the area is a significant concern.

Areas around Waroona Dam and / or Logue Brook Dam have the potential to be developed as multi-purpose motorised recreation facilities, with four wheel driving and trail / quad bikes being compatible recreation activities with the existing camping, power boating and water skiing in these areas, both from a noise and demographic perspective.

A significant level of control would need to be applied in order to address issues of environmental sustainability and safety, however if properly planned and managed, either of these areas could become a world class facility for this type of recreation and provide a quality family-oriented outdoor recreation opportunity.

Description
Areas surrounding Logue Brook Dam and Waroona Dam, both of which are currently used for camping, motor boating and water skiing.

DEC District
Wellington (Logue Brook) and Perth Hills (Waroona)

Land Tenure
DEC Estate (Logue Brook), DEC / Water Corporation + Alcoa Orion Lease (Waroona).
Waroona may not be possible until Alcoa has completed Orion, but this may have advantages in terms of specific rehabilitation (see Orion evaluation).

Target Segment
Registered Trail Bikes; 4WD; ORV Registered / Unlicenced.

Environmental
2. Manageable
Significant investment in management would be required to develop and maintain a network of trails, however the scale of these areas could attract a volume of paying customers to service the management requirements.

Indigenous
0. Not Known

Noise / Neighbour Impacts
2. Manageable
The current use by ski boats would suggest that noise of trail bikes and four wheel drives would not be an issue.

Recreational Conflict
2. Manageable
The Waterous trail passes to the eastern side of Waroona Dam and then to the north en route to Gnanga. No perceived conflict with water-based activities.

Travel Distance
2. Manageable

Parking / Unloading Areas
1. No Issues

Access Road
1. No Issues

Existing Trails / Tracks
2. Manageable
Extensive trails to the east of the Logue Brook area, as this has been a historic Enduro area and is still used by trail bike riders. The area between Harvey Dam and Logue Brook Dam is also popular with

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four wheel drivers.

Durability
0. Not Known
Assumed to be reasonably stable.

Facilities
1. No Issues
Excellent facilities exist at both locations.

Mobile Coverage
0. Not Known

Terrain Quality
1. No Issues
Excellent terrain for 4WD and trail bikes

DRA
1. No Issues
Not within a DRA exclusion area

Water Catchment
2. Manageable
Stirling Dam catchment would impact on eastern side of Logue Brook, Samson Dam RPZ to the southeast of Waroona Dam.

Dust Control
1. No Issues

Capacity
1. No Issues

Access Control
1. No Issues
Single access road to both Waroona Dam and Logue Brook Dam provides opportunity to properly funnel visitors – essential given the pay-per-use model envisaged.

Recommendation:

1. Initiate a feasibility study of a multi-use, motorised recreation friendly facility of the Logue Brook and Waroona sites.

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Marrinup State Forest – Vehicle Use Map – including Designated ORV Trails

Potential conflict with several other recreational forms (including the Munda Biddi trail) and heritage sites would need to be resolved, but proximity to Pinjarra and location outside water catchment and DRA, together with historic use, makes this an attractive option for a network of ORV trails as an interim measure before the Orion mine area becomes available.

This area was historically used for enduros so there are many existing trails. It is currently receiving extensive use by registered and unregistered trail and quad bikes, especially from residents of the Murray Shire who have few alternatives.

Description
Area NW of Dwellingup bounded by Scarp Rd and Del Park Rd

DEC District
Perth Hills

Land Tenure
DEC Estate

Target Segment
Registered Trail Bikes; 4WD; ORV Registered / Unlicenced

Environmental
3. Problematic
Priority and threatened fauna in the area Rare and priority flora in the area. Threatened ecological communities to the SW. Fuel age 2 yrs.
Fire management concern around activity along scarp face.
SE corner currently being prepared for harvesting - Holyoake 1

Indigenous
3. Problematic
Indigenous heritage in area non-indigenous heritage - Marrinup POW Camp

Noise / Neighbour Impacts
2. Manageable
Some neighbour issues, particularly to SW and close to Dwellingup. Communications towers around Oakley Dam area Security of Alcoa conveyor

Recreational Conflict
3. Problematic
Significant other recreation occurs in the area: Munda Biddi, Marrinup POW Camp, Marrinup camping area, Oakley Falls / Dam, Marrinup Falls, Marrinup Forest Tour, Marrinup Bridle Trail, Marrinup Cycle Trail, Hotham Valley Railway runs through southern end.

Travel Distance
1. No Issues

Parking / Unloading Areas
1. No Issues

Access Road
1. No Issues

Existing Trails / Tracks
3. Problematic

The area is already extensively used. Historical Enduro trails remain and user-created trails have added to the inventory

Durability
2. Manageable

Facilities
1. No Issues
Dwellingup is already an Adventure Tourism hub, with good facilities.

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Mobile Coverage
0. Not Known

Terrain Quality
1. No Issues
Terrain quality is excellent.

DRA
1. No Issues

Water Catchment
1. No Issues

Dust Control
1. No Issues

Capacity
1. No Issues

Access Control
3. Problematic
Many entries along Scarp Rd

Recommendation:

1. Engage with the 4WD and trail bike communities to develop a series of Vehicle Use Maps **ON A ZONE-BY-ZONE BASIS WITHIN THE MARRINUP STATE FOREST.**

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Wellington National Park

The Wellington National Park is a popular four wheel drive location, however the steep terrain is problematic and the level of DEC resources available to adequately manage the area is a significant concern.

Description
Historic enduro and popular 4WD area. Permission to run Enduro events was withdrawn due to environmental concerns and no such events have been run since the late 1980s.

DEC District
Wellington District

Land Tenure
DEC Estate

Target Segment
4WD and trail bikes

Environmental
3. Problematic
A definite stopper in respect to an ORV area due to National Park. A possible 4WD area but will need major design and control measures beyond the capacity of Wellington District. This area has been adopted by 4WD clubs and associations but the outcome could not be called satisfactory in ensuring all controls will be adequate due to the non-club elements.

Indigenous
3. Problematic
DEC Wellington reports as a highly significant area

Noise / Neighbour Impacts
3. Problematic
Neighbours and visitors as well as other recreationalists using the area(campers/mountain bikers/walkers/school groups)

Recreational Conflict
2. Manageable
Management of all activities required to reduce/minimize conflicts (Users groups include – 4wd/trail bikes/mountain bikes/campers/fisherman/hikers/armed forces/school events/activities/orienteering/triathalons/equestrian/etc)

Travel Distance
2. Manageable

Parking / Unloading Areas
2. Manageable
Would require gazetted areas to prevent introduction of weeds and hygiene issues

Access Road
1. No Issues

Existing Trails / Tracks
3. Problematic
Tracks in the area have suffered erosion and the Track Adoption program, although well-intended, relies on the support of DEC resources which are already stretched.

Durability
3. Problematic
Relatively stable in dry conditions but highly erodable under wet conditions – not suitable for ORV during these times.

Facilities
2. Manageable
No facilities on-site but proximity to Collie provides good facilities.

Mobile Coverage
0. Not Known

Terrain Quality

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1. No Issues
Terrain quality is excellent.

DRA
3. Problematic
Sections of DRA throughout WNP

Water Catchment
2. Manageable
Wellington Dam under the Country Water Supply Act, though not fully enforced – need to consider when planning for future activities

Dust Control
2. Manageable
Need to avoid dust around camp sites and other users/activities

Capacity
2. Manageable
Needs to be managed and controlled otherwise increased use will have serious detriment to the fragile environment especially in winter.

Access Control
1. No Issues

Recommendation:

1. Engage with Four Wheel Drive Association, Track care and Clubs to develop a more effective model for the 'adopt-a-track' program that is not as reliant on DEC resources at a local level.
2. Develop a Vehicle Use Map that may include seasonal closures (or, as in the US, seasonal openings)

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Four Wheel Drive Connector Route

See Darling Range Route Connector under User Segments and Requirements \ Four Wheel Drive Requirements in main report.