FLINDERS REGIONAL
DEVELOPMENT ASSESSMENT PANEL

NOTICE OF MEETING

NOTICE is hereby given that an Ordinary Meeting of the Flinders Regional Development Assessment Panel will be held as follows:

Time: 2.15pm

Date: Thursday 3rd November 2016

Venue: By telephone conference

* ** *** **** ***** **** *** ** *

.....
Peter McGuinness
Public Officer

.....
Date

AGENDA & REPORTS

FOR THE MEETING BEING HELD
THURSDAY3 3rd NOVEMBER 2016 AT 2.15pm

1. PRESENT:

2. APOLOGIES:

3. DECLARATIONS OF INTEREST:

4. CONFIRMATION OF MINUTES:

4.1 ORDINARY MEETING - Held 11th August 2016

A copy of the Minutes from the Meeting (as previously circulated) are attached for the reference of Panel Members.

Recommendation:
That the Minutes of the Ordinary Teleconference Meeting of the Flinders Regional Development Assessment Panel held on 11th August 2016 as circulated, be confirmed.

5. BUSINESS ARISING FROM MINUTES:

6. APPLICATIONS FOR CONSIDERATION:

6.1 DISTRICT COUNCIL OF MOUNT REMARKABLE

6.1.1 DA 830/018/16 – R&A Kerr – Expansion to existing land based aquaculture

Action	**For DECISION**
Proponent	**Council Officer**
Officer	**MTR CEO**
Development Application	**830/018/16**
Associated Reports & Documents	**Planning Consultant Report** **EPA Report** **DA, inc Current PIRSA Licence** **Previous communications during/after original application**

Officer's Recommendations:

That Development Application 830/018/16 for the expansion to an existing land based aquaculture operation to include additional ponds for the culture of marron and fish at 1129 (Sections 45 and 524) Amyton Road, Wilmington SA is not seriously at variance with the provisions of the District Council of Mount Remarkable's Development Plan, consolidated 5th September 2013.

That Council **grant** Development Plan Consent to Development Application 830/018/16 for the expansion to an existing land based aquaculture operation to include additional ponds for the culture of marron and fish at 1129 (Sections 45 and 524) Amyton Road, Wilmington SA, subject to the following conditions directed by the Environment Protection Authority:

1. The storage of chemicals (including fuel tanks) and where chemicals are used or handled, must be adequately bunded to prevent those products entering the environment (soil, surface and groundwater). Bunding must be structurally sound and resist the chemical action of the enclosed materials, be of impervious material and facilitate clean up operations. Bunding must provide net capacity of at least 133% for flammables (120% for non-flammables) of the capacity of the largest vessel within the bunded area, and must take into consideration the capacity displaced by any other tanks and foundations within the same bunded area.
   Note: Further information can be accessed from:· Guideline for Bunding and Spill Management, June 2007 *http:/ /www.epa.sa.gov.au/files/47717 _guide_bunding.pdf*

Notes:

- The applicant is reminded of its general environmental duty, as required by section 25 of the Environment Protection Act 1993 and to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.
- The applicant is reminded that wastewater from pond clean-outs should be scheduled at a frequency to ensure that the volume pumped out is at a suitable rate to enable uptake by the vegetation.

- EPA information sheets, guidelines documents, codes of practice, technical bulletins etc can be accessed on the following web site: http://www.epa.sa.gov.au

Introduction:
The Flinders Regional Development Assessment Panel is required to determine the application.

Previous Panel Consideration:
Nil

Officer's Report:
Refer to attached Reports by Stewart Payne, Planning Consultancy Services.

Statutory Requirement:
The District Council of Mount Remarkable Development Plan – consolidated 5th September 2013
Development Act 1993
Development Regulations 2008

Policy/Strategic Implications:
The District Council of Mount Remarkable Strategic Management Plan 2008-2020:

Strategy Statement:
With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

Strategy Objective:
To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

Strategic Outcomes:
Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)

Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

Legend: *E: Extreme risk; immediate action required*
H: High risk; senior management attention needed
M: Moderate risk; management responsibility must be specified
L: low risk; manage by routine procedures

Voting Requirements:
Absolute Majority

Planning Report – Expansion to land based aquaculture 1129 Amyton Road Wilmington

1 DETAILS

Proposal:	Expansion to an existing land based aquaculture operation to include additional ponds for the culture of marron and fish.
Applicant:	Rob and Anjo Kerr
Address:	1129 (Section 45 and Section 524) Amyton Road, Wilmington SA
Owner:	Rob and Anjo Kerr
Zone:	Primary Production Zone
DA:	830/018/16

2 DEVELOPMENT DESCRIPTION AND LOCALITY

2.1 GENERAL

The applicant operates a fish farming activity at 1129 (Sections 45 and 524) Amyton Road, Wilmington. The current activity comprising 7 lined ponds, 2m deep. Four of the ponds are 10m x 20m in area and three 20m x 30m and are utilised for the growing of yabbies. The activity has been operating for 6 years and is subject to licence by PIRSA. The development proposal involves the addition of fifteen ponds to the farm, to be located between the current ponds and the roadway. Ten ponds are 30m x 20m and five, 30m x 12 metres. In addition to yabbies it is intended that marron and fish will be grown in the new ponds. Waste water from the ponds is to be used on nearby vegetable crops which also produce feed. The new ponds are to be located approximately 300m from the Willochra Road frontage of the property.

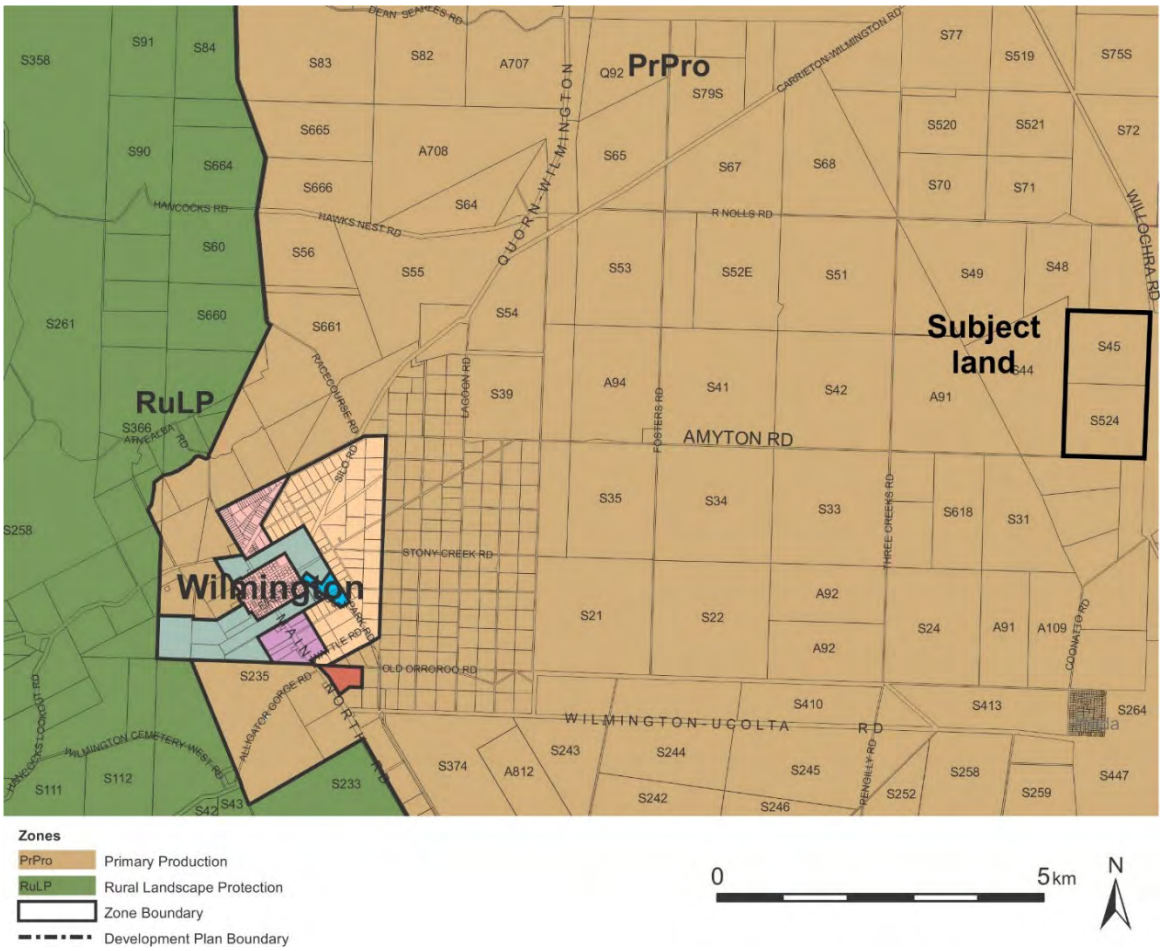
The application is subject to referral to the Environment Protection Authority as aquaculture is an activity of major environmental significance per Schedule 22 of the Regulations under the Development Act. Council is subject to direction of the EPA in respect to Schedule 22 activities. The EPA considers that the proposed fish farm is ideally located and unlikely to cause air, noise or environmental nuisance due to the remoteness of the property. It has directed Council to add conditions related to chemical storage should consent be granted. (Attachment 1).

The application is also subject to Category 3 notification. Notification was undertaken in March 2016. No representations have been received.

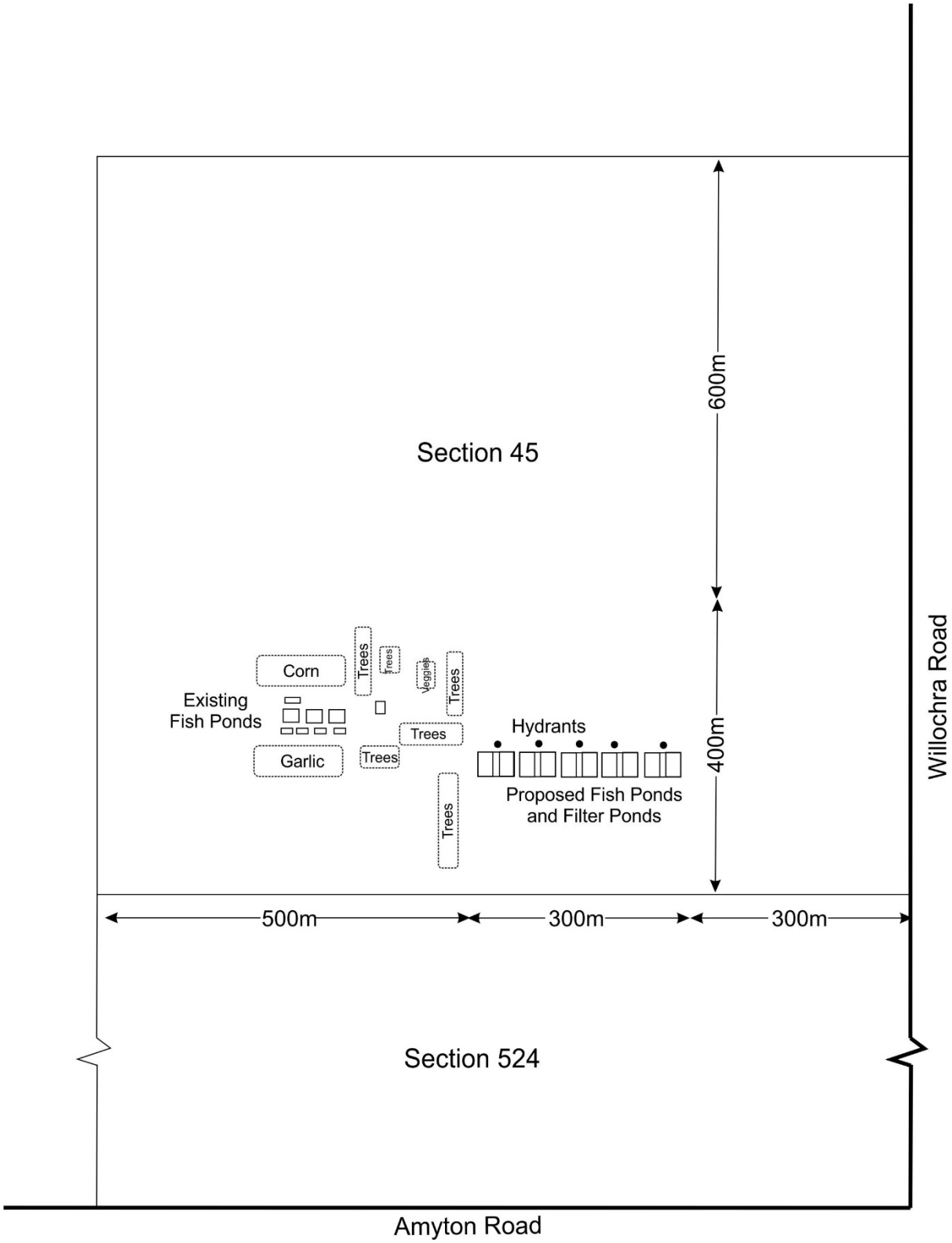
2.2 LOCALITY

The locality comprises the subject land and adjoining farmland. The land is relatively flat with some remnant vegetation along roadways and fence boundaries. Land is used for mixed farming purposes and comprises large paddocks making up extensive land holdings. Productivity of farming land in the locality is relatively marginal and the settlement pattern is quite sparse with the nearest dwelling some 1300m from the subject land. The locality has an open farming character of medium amenity due to low sparse vegetation and flat terrain with minimal features. Distant views of the southern Flinders Ranges to the east and west provide some visual interest.

Location Plan



Site Plan


Section 45
600m
400m
Willochra Road
Corn
Existing
Fish Ponds
Garlic
Trees
Trees
Veggies
Trees
Trees
Trees
Trees
Hydrants
Proposed Fish Ponds
and Filter Ponds
500m
300m
300m
Section 524
Amyton Road

3 DEVELOPMENT PLAN ASSESSMENT

An assessment against relevant Development Plan provisions is provided below.

3.1 ANIMAL KEEPING

Objectives

1 Animals not kept at a density beyond the carrying capacity of the land or water.

2 Animal keeping development sited and designed to avoid adverse effects on surrounding development.

3 Intensive animal keeping protected from encroachment by incompatible development.

4 Ecological sustainable development of the aquaculture industry.

Principles of Development Control

1 Animal keeping and associated activities should not create adverse impacts on the environment or the amenity of the locality.

2 Storage facilities for manure, used litter and other wastes should be designed and sited:

(a) to be vermin proof

(b) with an impervious base

(c) to ensure that all clean rainfall runoff is excluded from the storage area

(d) outside the 1-in-100 year average return interval flood event area.

<u>Land Based Aquaculture</u>

18 Land-based aquaculture and associated components should not be located on land within 500 metres of a defined and zoned township, settlement or urban area.

19 Land-based aquaculture ponds should be sited and designed to:

(a) prevent surface flows from entering the ponds in a 1-in-100 year average return interval flood event

(b) prevent pond leakage that would pollute groundwater

(c) prevent any overflow that would enable the species being farmed to enter any watercourse or drainage line

(d) minimise the need for intake and discharge pipes to traverse sensitive environments.

Land based aquaculture falls within the broad definition of Intensive Animal Keeping as it involves the keeping or husbandry of animals in a broiler shed, chicken hatchery, feedlot, kennel, piggery, poultry battery *or other like circumstances* (my emphasis).

Consequently, relevant Development Plan provisions related to Intensive Animal Keeping apply to the proposal.

The proposal is consistent with Objectives 1-4 above in that the carrying capacity of the water is unlikely to be exceeded given that the system is closed and inherently self-regulating. The proposed fish ponds are well distant from surrounding development, being over 300m from the boundary with the public roadway and 500 metres from other property boundaries. Consequently, no adverse impacts upon surrounding property are likely to occur. The EPA has noted that the site is quite remote and will not generate adverse impacts on surrounding properties by means of noise or odour.

Incompatible development is unlikely to encroach upon the proposed ponds considering their location quite distant from property boundaries.

The development can be reasonably described as ecologically sustainable as it is located on farming land with marginal productively and its use for fish farming represents a more productive utilisation of land. There are no adverse impacts upon the natural environment and energy consumption and waste streams are effectively managed to ensure that external inputs are minimal. Also, waste streams are designed to enabling recycling of nutrients for the production of feed.

The proposal is consistent with Principle 1 as noted above.

In respect to Principle 2, waste management will involve the utilisation of waste water in the production of garlic, lucerne and corn, which is to be used as feed for fish and yabbies. Mortalities are to be composted and utilised as fertiliser. The EPA has noted that these management procedures are acceptable. Thus, while Principle 2 has a number of requirements in respect to the management of storage facilities for waste, there is no designated storage area as such requiring specific handling procedures.

The proposal is consistent with Principle 18 as it is located more than 500m from a township or settlement zone.

The EPA has noted that ponds associated with the proposal are not flood prone and have a 1 metre high bank to control heavy rains or localised flooding. Consequently, while the proposal has not demonstrated that it can specifically prevent surface flow from entering ponds in a 1 in 100 year average return flood event, the absence of nearby water courses, the nature of the terrain and the 1m pond wall height will minimise any adverse impact from

localised flooding. This is considered acceptable and of suitably low risk thereby meeting Development Plan requirements.

Similarly, pond leakage, or the potential for species being farmed to enter watercourses or drainage lines is considered to be low risk, again due to the distance and ephemeral natural of the nearest watercourse; Willochra Creek, which is over 1km away. It is noted also that artesian bores are capped reducing any likelihood that overflow or leakage would enter groundwater.

There are no discharge pipes associated with the proposed development.

3.2 Design and Appearance

OBJECTIVES

1 *Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.*

No buildings are proposed in association with the fish pond development. The pond structures will have a low profile and are setback some 300m from the public roadway. Therefore, there will be no external visual impact as a result of the development.

3.3 Hazards

Objectives

1 *Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.*

2 *Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.*

4 *Development located and designed to minimise the risks to safety and property from flooding.*

5 *Development located to minimise the threat and impact of bushfires on life and property.*

10 *Minimisation of harm to life, property and the environment through appropriate location of development and appropriate storage, containment and handling of hazardous materials.*

Principles of Development Control

1 *Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.*

2 *Development located on land subject to hazards as shown on the Overlay Maps – Development Constraints should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.*

3 *There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.*

Flooding

4 *Development should not occur on land where the risk of flooding is likely to be harmful to safety or damage property.*

6 *Development, including earthworks associated with development, should not do any of the following:*

(a) *impede the flow of floodwaters through the land or other surrounding land*

(b) *increase the potential hazard risk to public safety of persons during a flood event*

(c) *aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood*

(d) *cause any adverse effect on the floodway function*

(e) *increase the risk of flooding of other land*

(f) *obstruct a watercourse.*

Bushfire

7 *The following bushfire protection principles of development control apply to development of land identified as General, Medium and High bushfire risk areas as shown on the Bushfire Protection Area BPA Maps - Bushfire Risk.*

8 *Development in a Bushfire Protection Area should be in accordance with those provisions of the Minister's Code: Undertaking development in Bushfire Protection Areas that are designated as mandatory for Development Plan Consent purposes.*

The subject land is within an area designated as having general bushfire risk. Also, the land is not prone to flooding hazard. The nature of the development, comprising earth bunded ponds rather than structures limits the potential for risk related to hazard.

The proposal is therefore seen to be consistent with Objectives 1, 2, 4, 5 and 10 above in that it does not impact upon natural environments due to its location within an area which is susceptible to natural hazard risk nor does it occur within an area that cannot be protected from risk of natural hazards. As noted, flooding risk on the land is minimal and bushfire risk is unlikely to be impacted by the proposed fish ponds. The location of hazardous materials, diesel and petrol, can be undertaken in a way to minimise potential environmental harm by means of bunded storage areas. This is a condition of consent directed by the EPA.

The proposal is consistent with relevant principles of development control, as it does not occur in an area susceptible to hazards. The area of the development is designated as having only general bushfire risk not requiring particular mitigation strategies. As noted above, the land is not prone to flooding.

3.4 NATURAL RESOURCES

Objectives

1 Retention, protection and restoration of the natural resources and environment.

Principles of Development Control

1 Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.

Biodiversity and Native Vegetation

26 Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species.

The proposal is to be undertaken on previously cleared farmland and has minimal impact upon natural resources and the environment. As noted above, there is minimal risk to the environment as a result of potential pond leakage, infiltration into ground water or release of farmed species into waterways. No native vegetation is impacted by the proposal.

3.5 ORDERLY AND SUSTAINABLE DEVELOPMENT

Objectives

1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.

2 Development occurring in an orderly sequence and in a compact form to enable the efficient provision of public services and facilities.

3 Development that does not jeopardise the continuance of adjoining authorised land uses.

4 Development that does not prejudice the achievement of the provisions of the Development Plan.

Principles of Development Control

1 Development should not prejudice the development of a zone for its intended purpose.

2 Land outside of townships and settlements should primarily be used for primary production and conservation purposes.

3 The economic base of the region should be expanded in a sustainable manner.

The proposal constitutes intensive animal keeping within the Primary Production Zone and is consistent with Zone principles, being an envisaged form of development. Adjoining land uses may continue without impact as a result of the proposal, which represents economic use of land for a viable and productive purpose.

There is no consequence as a result of the development upon public utility services.

The proposal generally will result in the expansion of the economic base of the region in a sustainable manner and is therefore consistent with policy relation to orderly and economic development.

3.6 PRIMARY PRODUCTION ZONE

Objectives

1 *Economically productive, efficient and environmentally sustainable primary production.*

3 *Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.*

5 *Development that contributes to the desired character of the zone.*

Desired Character

The zone covers most of the council area and contains a diversity of physical features and agricultural, pastoral and rural related activities. The range of soil types, rainfall and terrain provide the basis for broadacre pastoral activities in the northern part of the zone, cereal growing and grazing primarily on the plains, and dairying, horticulture, agriculture and other forms of farming adjacent to the Southern Flinders Ranges.

It is desirable that the zone continues to maintain a diversity of activities suited to the terrain, rainfall and capability of the land. Retention of agricultural productivity by preserving or increasing rural property holdings will be an important consideration in ensuring that the established rural character is maintained. There is however some opportunity for small scale low impact commercial and industrial development.

A considerable portion of the zone is situated between National Highway 1 (to the west) and Main North Road (to the east). A dominant feature and setting are the Southern Flinders Ranges, and this area is crucial in allowing for a natural view of the Ranges. It is important that new development does not impair this view.

Numerous creeks lined with mature vegetation, together with roadside vegetation enhance the district's rural character. These features should be preserved.

A mixture of allotment sizes prevails, including a large number of smaller rural sections in proximity to settlements. Many of these allotments have not developed to any significant extent and could desirably be amalgamated and returned to pastoral or agricultural use.

Underground water resources, particularly the Willochra basin and the Baroota Prescribed Wells Area should be protected. It is desirable that activities liable to cause deterioration in water quality not be established in these areas.

Principles of Development Control

Land Use

1 The following forms of development are envisaged in the zone:

- *bulk handling and storage facility*
- *commercial forestry*
- *dairy farming*
- *farming*
- *horticulture*
- *intensive animal keeping*
- *tourist accommodation (including through the diversification of existing farming activities and conversion of farm buildings)*
- *wind farm and ancillary development*
- *wind monitoring mast and ancillary development.*

Form and Character

9 Development should not be undertaken unless it is consistent with the desired character for the zone.

10 Development should not occur within 500 metres of a National Park, Conservation Park, Wilderness Protection Area or significant stands of native vegetation if it will increase the potential for, or result in, the spread of pest plants.

The proposal is seen to be an economically productive, efficient and environmental sustainable form of primary production. There is unlikely to be encroachment of incompatible uses, nor will the proposal impact upon the scenic quality of the rural landscape, having a low profile and being situated over 300m from the roadway.

The proposal contributes to the Desired Character of the Zone as it is a form or primary production suited to the terrain, rainfall and capability of the land. While the proposal is does not constitute agricultural production, it is a form of primary production which results in a more efficient and economic use of land than traditional broadacre farming. There is unlikely to be impact upon the Willochra Creek which is quite distant from the subject land. It is noted that there is low risk of adverse impact upon ground water resources.

The development is consistent with Principle 1 with Intensive Animal Keeping being an envisaged type of development in the Primary Production Zone.

The development will not occur within 500m of a national park, conservation park wilderness protection area or significant stand of native vegetation.

4 CONCLUSION

The proposal is consistent with relevant Development Plan policy and is worthy of consent.

Conditions have been directed by the Environment Protection Authority.

Accordingly, I recommend the following resolutions:

- That Development Application 830/018/16 for the expansion to an existing land based aquaculture operation to include additional ponds for the culture of marron and fish at 1129 (Sections 45 and 524) Amyton Road, Wilmington SA is not seriously at variance with the provisions of the District Council of Mount Remarkable Development Plan, consolidated 5th September 2013.

- That Council grant Development Plan Consent to Development Application 830/018/16 for the expansion to an existing land based aquaculture operation to include additional ponds for the culture of marron and fish at 1129 (Sections 45 and 524) Amyton Road, Wilmington SA, subject to the following conditions:

(Condition as directed by the Environment Protection Authority)

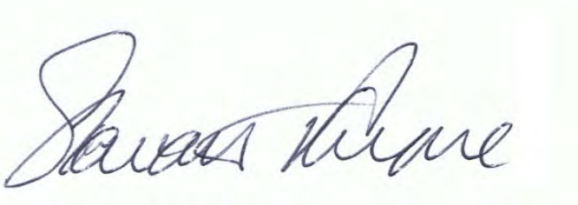
1. **The storage of chemicals (including fuel tanks) and where chemicals are used or handled must be adequately bunded to prevent those products entering the environment (soil, surface and groundwater). Bunding must be structurally sound and resist the chemical action of the enclosed material, be of impervious material and facilitate clean up operations. Bunding must provide net capacity of at least 133% of flammables (120% for non-flammables) of the capacity of the largest vessel within the bunded area, and must take into consideration the capacity displaced by any other tanks and foundations within the same bunded area. Note: Further information can be accessed here: Guideline for Bunding and Spill Management, June 2007 http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf**

   Notes:

   - **The applicant is reminded of its general environmental duty as required by Section 25 of the Environment Protection Act 1993 and to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm,**

   - **The applicant is reminded that wastewater from pond clean-outs should be scheduled at a frequency to ensure that the volume pumped out is at a suitable rate to enable uptake by the vegetation.**

- **EPA information sheets, guidelines, documents, codes of practice, technical bulletins etc. can be accessed on the following web site: http://www.epa.sa.gov.au**



Stewart Payne
BA Planning MPIA *Certified Practicing Planner*

Environment Protection Authority
www.epa.sa.gov.au

EPA South Australia

GPO Box 2607 Adelaide SA 5001
250 Victoria Square Adelaide SA
T (08) 8204 2000 F (08) 8204 2020
Country areas 1800 623 445

EPA Reference: 33856

26 August 2016

Ms Tammy Bastian
Administration Officer
District Council of Mount Remarkable
PO Box 94
MELROSE SA 5483

Dear Ms Bastian

DIRECTION - Activities of Major Environmental Significance

Development Application No.	830/018/16
Applicant	Rob Kerr, Johanna Kerr
Location	S45, S524 HP331000, Hundred Willochra, 1129 Amyton Road, Wilmington SA 5485.
Activity of Environmental Significance	Schedule 8 Item 11; Schedule 22 Part A Activities, Item 22-5(2)
Proposal	Fish ponds.

Decision Notification	A copy of the decision notification must be forwarded to: Client Services Officer Environment Protection Authority GPO Box 2607 ADELAIDE SA 5001

I refer to the above development application forwarded to the Environment Protection Authority (EPA) in accordance with Section 37 of the *Development Act 1993*. The proposed development involves an activity of major environmental significance as described above.

The following response is provided in accordance with Section 37(4)(b)(ii) of the *Development Act 1993* and Schedule 8 Item 11 of the *Development Regulations 2008*.

In determining this response the EPA had regard to and sought to further the objects of the *Environment Protection Act 1993*, and also had regard to:

- the General Environmental Duty, as defined in Part 4, Section 25 (1) of the Act; and
- relevant Environment Protection Policies made under Part 5 of the Act.

Please direct all queries relating to the contents of this correspondence to Mike Russell on telephone (08) 8204 2098 or facsimile (08) 8124 4673 or email Mike.Russell@epa.sa.gov.au.

THE PROPOSAL

The proposal is for the installation of fifteen additional ponds at an existing yabby farm. The property has been utilised for land based aquaculture for six years and is licensed via AQ00246 by Primary Industries and Regions South Australia (PIRSA). There are currently seven lined two metre deep ponds; four 10 by 20 metre and three 20 by 30 metre.

The dimensions of the proposed fifteen additional lined two metre deep ponds would be:

- ten 30 x 20 metre
- five 30 x 12 metre.

The applicants would continue with the organic focus growing crops of garlic, corn and lucerne as feed for the yabbies and using the 'wastewater' as fertiliser for the vegetable crops. This is achieved by not using any chemicals in the process and the ponds do not contain saline water. The proposed ponds are expected to produce 250 kg of yabbies, 500kg of marron and 500 kg of fish per annum. The addition of marron and fish is not expected to change the current PIRSA licence.

SITE DESCRIPTION

The site of the proposed development is Section 45 and Section 524, Hundred of Willochra in the area of Wilmington. The subject land is registered under Certificate of Title Volume 5499 Folio 736.

The property could be considered as remote, being twelve kilometres from the nearest town and five kilometres from their nearest neighbour.

CONSIDERATION

Advice in this letter includes consideration of the location with respect to existing land uses and is aimed at protecting the environment and avoiding potential adverse impacts upon the locality.

ENVIRONMENTAL ISSUES

Air Quality

There is no fish processing onsite and consequently there is not the odour impact normally associated with the industry. Organic waste from cleaning the ponds (and including mortalities) would be placed into compost bins. After composting it would be placed on vegetation as a fertiliser. This is acceptable to the EPA.

Noise

The only noise associated with the activity would be from the pumps used every couple of days to circulate the water and maintain oxygen levels.

This would be done during daylight hours and is not expected to generate excessive noise due to the remoteness of the property.

Waste Management

Waste streams are minimal with any mortalities being composted and turned into fertiliser. This is acceptable to the EPA.

Water Quality

The subject site although flat is not on flood prone land and the ponds have a one metre high bank to control any heavy rains or localised flooding. The nearest watercourse is the Willochra Creek being approximately one kilometre away and ephemeral.

The three artesian bores on the site are all capped.

Wastewater would be irrigated to crops as required with pond clean-outs to be scheduled at a frequency to ensure that the volume pumped out is at a suitable rate to enable uptake by the vegetation. This is acceptable to the EPA. and a note is provided below in this regard.

The only chemicals used on site are either diesel or petrol and these should be bunded in accordance with the EPA guidelines. A condition in this regard is directed below.

CONCLUSION

This proposal is for an expansion to the existing yabby farm which is ideally located and is unlikely to create any air, noise or other environmental nuisance due to the remoteness of the property.

DIRECTION

The planning authority is directed to attach the following condition to any approval:

1. The storage of chemicals (including fuel tanks) and where chemicals are used or handled, must be adequately bunded to prevent those products entering the environment (soil, surface and groundwater). Bunding must be structurally sound and resist the chemical action of the enclosed materials, be of impervious material and facilitate clean up operations. Bunding must provide net capacity of at least 133% for flammables (120% for non-flammables) of the capacity of the largest vessel within the bunded area, and must take into consideration the capacity displaced by any other tanks and foundations within the same bunded area. Note: Further information can be accessed here: *Guideline for Bunding and Spill Management, June 2007* http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf

The following notes provide important information for the benefit of the applicant and are requested to be included in any approval:

- The applicant is reminded of its general environmental duty, as required by section 25 of the *Environment Protection Act 1993* and to take all reasonable and practicable measures to ensure that the activities on the whole site, including

during construction, do not pollute the environment in a way which causes or may cause environmental harm.

- The applicant is reminded that wastewater from pond clean-outs should be scheduled at a frequency to ensure that the volume pumped out is at a suitable rate to enable uptake by the vegetation.

- EPA information sheets, guidelines documents, codes of practice, technical bulletins etc can be accessed on the following web site: http://www.epa.sa.gov.au

Yours faithfully

Hayley Riggs
Delegate
ENVIRONMENT PROTECTION AUTHORITY

DA2016-131 ICb

DISTRICT COUNCIL OF MOUNT REMARKABLE RECEIVED -9 MAR 2016

ENTERED

Development Application

Please use BLOCK LETTERS and black or blue ink so photocopies may be made of your application.
PLEASE ENSURE ALL AREAS OF THIS FORM ARE COMPLETED

APPLICANT:	ROB & Anjo KERR	
Postal Address:	PO Box 87	
	Wilmington	P/Code SA5485
OWNER:	See Above	
Postal Address:	See Above	
		P/Code
BUILDER:	See Above	
Postal Address:		
		P/Code
	Email:	Phone:
	Mobile:	
	Registration Number:	
CONTACT PERSON:	ROB & Anjo KERR	
Mobile: 0437062697	Phone: —	
Email: Anjo.kerr@bigpond.com	Fax: —	

LOCATION OF PROPOSED DEVELOPMENT:

House No: Lot No: 1129 Section:

Street: AMYTON ROAD

Town: Wilmington

Volume: Folio: Hundred:

CONSTRUCTION MATERIALS DETAILS: please complete

Materials & colour - Walls:	n/A
Materials & colour - Roof:	n/A
Materials - Floor	n/A
Sqm living: n/A	Sqm Non-Living: n/A

Application No: 830/018/16

Assessment No: A36035

DESCRIPTION OF PROPOSED DEVELOPMENT
(eg single storey dwelling, carport, etc
NOTE: Sheds – please ensure to **describe** its use eg domestic storage, store caravan/boat, Hay, Machinery).

fish ponds

EXISTING USE

none

COST OF DEVELOPMENT

± $ 100,000.–

I WISH TO APPLY FOR:

Planning consent only: ☐ ?
Building Consent only: ☐ ?
Planning & Building Consent: ☐

Has the Construction Industry Training Levy been paid? *(for development over $15,000)*. Phone 8172 9500 or levy can be paid at www.citb.org.au.
Yes ☐ No ☐ N/A ☒ ?

FOR COMMERCIAL OR INDUSTRIAL DEVELOPMENTS ONLY
If Class 5, 6, 7, 8 or 9 is sought state the proposed number of employees: Male _____ Female _____
If Class 9a is sought state the number of persons for whom accommodation is provided: _____
If Class 9b is sought state the proposed number of occupants of the various spaces at the Premises: ___

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

Signature _____ Date: 03.03.2016

Electricity Declaration

PLEASE ENSURE THIS FORM IS COMPLETED WITH THE DEVELOPMENT APPLICATION OVERLEAF

not applicaple ⇒ solar only!

District Council of Mount Remarkable

Development Regulations 1993
Form of Declaration (Schedule 5 Clause 2A)

Date: 03.03.16

To: **District Council of Mount Remarkable**

Location of proposed development: CT Volume 5499 Folio 736

House No: _____ Lot No: _____ Section: 45 Hundred: of Willochra

Street: Amyton Rd Town Wilmington

Nature of proposed development: *Please circle*

~~Dwelling~~ Dwelling Addition ~~Pergola~~ ~~Shed~~ ~~Verandah~~

~~Carport~~ ~~Garage~~ Other fish ponds

I Johanna A Kerr

being the applicant /a person acting on behalf of the applicant (circle applicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of Section 86 of the Electricity Act 1996. I make this declaration under Clause 2A(1) of Schedule 5 of the Development Regulations 1993.

Signed: JA Kerr

Information brochures "Powerline Clearance Declaration Guide' and 'Building Safely near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from the Office of the Technical Regulator. The brochures and other relevant information can also be found at www.technicalregulator.sa.gov.au

PRIMARY INDUSTRIES AND RESOURCES SOUTH AUSTRALIA, FISHERIES & AQUACULTURE DIVISION LICENCE ASSESSMENT: AQ00246

Application type	New land-based licence
Licence number	AQ00246
Lease number and type	N/A
Initial approval date	19/11/2010
Aquaculture Act Zone Policy	N/A
Proposed species	Yabby (*Cherax destructor*)
Approved species	N/A
Proposed farming Method	Ponds
Geographic Location	Hundred of Willochra, Mount Remarkable
From	Manager, Environment and Biosecurity Program, Aquaculture Division
Through	Aquaculture Policy and Planning

The following documents a licence assessment by PIRSA Fisheries and Aquaculture relating to the above aquaculture licence application. In light of the assessment's findings, I am satisfied that environmental impacts associated with the proposed development (AQ00246) can be appropriately managed under the conditions of the attached aquaculture licence issued pursuant to the *Aquaculture Act 2001* and associated regulations. Note however that, in accordance with Section 52 of the *Aquaculture Act 2001*, the Minister may vary licence conditions at any time to prevent or mitigate significant environmental harm or the risk of significant environmental harm.

Summary of additional licence conditions:

The licence assessment did not identify the need for any additional licence conditions. The standard licence conditions and *Aquaculture Regulations 2005* are considered sufficient to manage potential environmental risks and ensure environmental sustainability.

Peter Lauer

ENVIRONMENT & BIOSECURITY PROGRAMS
FISHERIES AND AQUACULTURE DIVISION

____/____/_____

Background

PIRSA Fisheries and Aquaculture has received an application for a new land-based aquaculture licence (AQ00246) at Mount Remarkable, Lot 45 and 524 Amyton Road, Wilmington (Figure 1). The proposed aquaculture site will lie within a 600 acre property and produce yabbies; *Cherax destructor*. The applicant aims to produce approximately 40 kg of yabby per week which will amount to approximately two tonnes of yabby per year. Yabbies are native to south-eastern Australia and are present within freshwater habitats throughout South Australia [1]. Yabbies have been previously approved for aquaculture and the method of production has been previously used within the state.

The applicant eventually wants to make the aquaculture site entirely organic and therefore does not intend to use any chemicals on the site for aquaculture or other purposes. The applicant is not licensed for any other aquaculture sites within South Australia and therefore has no existing Environmental Monitoring Program Report history at this time.

Site location

The proposed site (AQ00246) is located near Wilmington, within the council area of Mount Remarkable (Figure 1). The nearest town is Wilmington which is approximately 12 km from the proposed aquaculture site. There are no other aquaculture sites within 10 kilometres of the proposed aquaculture site. The closest aquaculture site is a land-based site (FT00287) situated approximately 40 km away. The Spencer Gulf is the closest natural water body to the proposed site and is located approximately 35 km away. The Mount Remarkable National Park and the Mount Brown Conservation Park are situated approximately 15 km and 20 km from the proposed aquaculture site, respectively. This site is therefore a significant distance from surrounding sensitive regions.

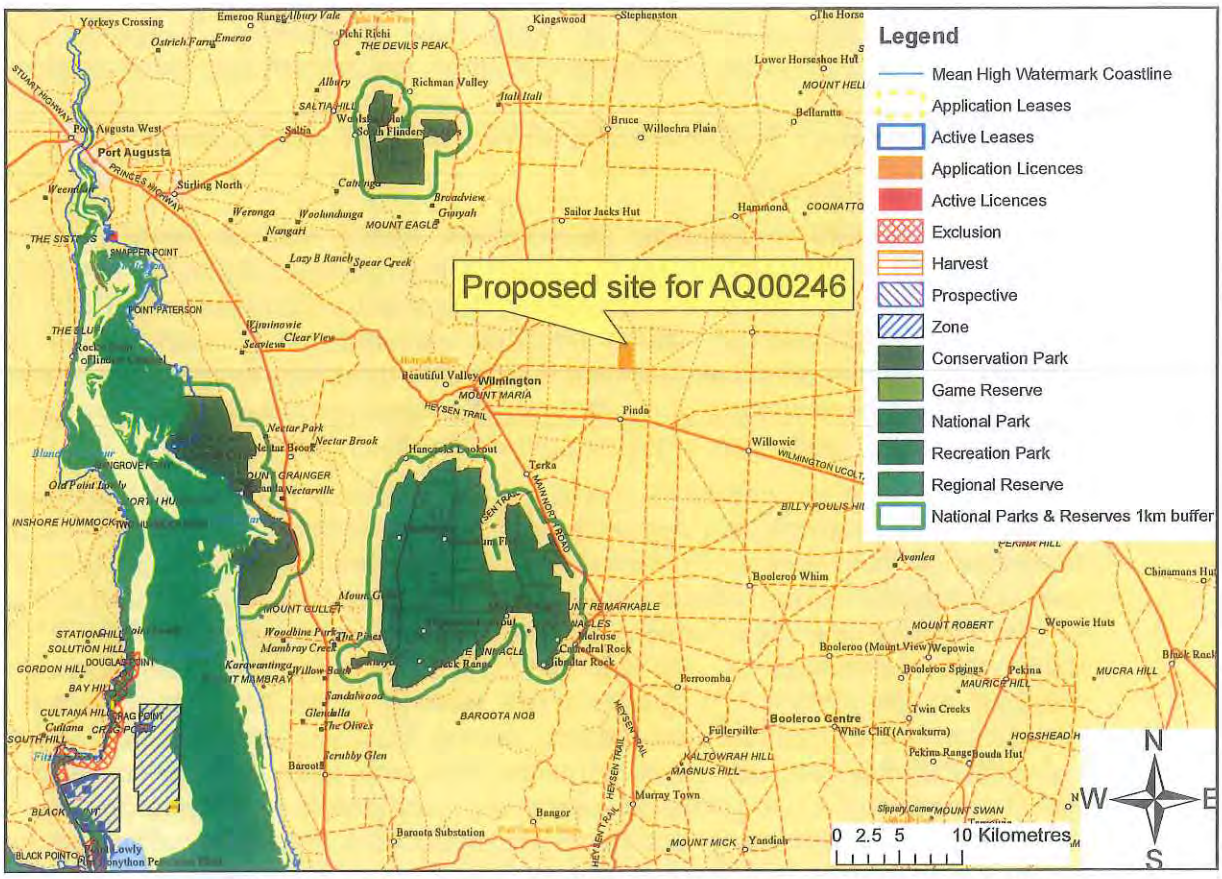


Figure 1: Location of the proposed development (AQ00246) in Wilmington, Mount Remarkable.

Development/Operational Characteristics

The development site is approximately 600 acres. The aquaculture system will begin as 5 plastic lined ponds; 20 m x 6 m x 2 m, with an air raided solar driven pump. Plastic purging ponds located within a shed on the property will be used for harvesting/grading. Shade cloth will cover all growout ponds to minimise evaporation and prevent predators. The block has 3 artesian bores on it which are currently free-flowing. These bores will eventually be capped and transferred into the ponds. Every year the applicant intends to add 5 more ponds with a maximum of 20 ponds after 5 years. Full production of the site is expected to be achieved by October 2015. The stock for this aquaculture site will be sourced from The Gums Station in Burra and Wartaka Station in Port Augusta.

All of the water used will be bore water and all waste water from the site will be irrigated onto a vegetable garden and fruit trees. The yabbies will be fed approximately 6 kg of pellets per pond per month plus a crop of lucerne will be grown for additional feeding purposes. The yabbies will be hand fed once per week with approximately 1.5 kg of pellets per pond.

The ponds will be drained and dredged once per year and the plastic purging ponds in the shed will be cleaned out every week. The sludge from the ponds that will be cleaned once per year will be placed on farm vegetation as an organic fertiliser.

There will be a 1 m high bank constructed around all ponds to control the effects of localised flooding, which will also help prevent the escape of stock. There will also be

a 10 mm mesh fence of 700–800 mm high around all ponds and the ponds will be plastic lined to further prevent the escape of stock, soil erosion and water seepage.

ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT ASSESSMENT

Method and interpretation

The environmentally sustainable development (ESD) risk assessment for this application is summarised in Table 5. Table 5 should be read in conjunction with the PIRSA Aquaculture Division's Ecologically Sustainable Development (ESD) Risk Assessment Guidelines [2], which provides explanations of each of the risks addressed. The aim of this assessment is to qualify the major environmental risks to the sustainable development of South Australia's land resources from the proposed development of a yabby farm at Wilmington within Mount Remarkable.

The risk assessment method is based on the National Ecologically Sustainable Development framework, the Aquaculture 'How-To' Guide [3]. The framework was developed by the Fisheries Research and Development Corporation (FRDC) to be used consistently across fisheries and aquaculture sectors in Australia and is based on the Australia and New Zealand standard for risk management (AS/NZS 4360 1999) (now superseded by AS/NZS ISO 31000:2009 [4]). Each identified risk is assigned a risk ranking. To assign a risk ranking to an issue, two factors are determined – the potential consequence arising from a particular event, and the likelihood that this particular event will occur. It is noteworthy that the consequence and the likelihood of a particular event are considered independently [4]. The combination of consequence and likelihood produces a risk value, which in turn is used to determine the risk ranking, associated with a particular issue [3].

The likelihood and consequence levels or categories outlined in the National ESD framework are used in this assessment (Tables 1 and 2, respectively). A risk value for each issue (and associated risk event) is then derived by combining the likelihood of occurrence with the corresponding level of consequence using a risk matrix (Table 3). Finally, the risk value is used to determine the risk ranking (Table 4).

Table 1: Standard likelihood levels

Level	Descriptor
Remote (1)	Never heard of, but not impossible
Rare (2)	May occur in exceptional circumstances
Unlikely (3)	Uncommon
Possible (4)	Some evidence to suggest this is possible
Occasional (5)	May occur
Likely (6)	Is likely to occur

Table 2: Standard consequence levels

Level	Descriptor
Negligible (0)	Very insignificant impacts. Impacts unlikely to be measurable at the scale of the stock/ecosystem/community level against background variability.
Minor (1)	Possibly detectable but minimal impact on structure/function or dynamics.
Moderate (2)	Maximum appropriate/acceptable level of impact on (e.g. full assimilation rate for nutrients).
Severe (3)	Wider, longer-term impacts (detectable at the stock/ecosystem/community level).
Major (4)	Very serious impacts with relatively long time frame likely to be needed to restore to an acceptable level.
Catastrophic (5)	Widespread and permanent/irreversible damage or loss will occur - possibility that problem cannot be fixed (e.g. extinction).

Table 3: Risk Matrix

		Consequence					
Likelihood		Negligible	Minor	Moderate	Severe	Major	Catastrophic
		0	1	2	3	4	5
Remote	1	0	1	2	3	4	5
Rare	2	0	2	4	6	8	10
Unlikely	3	0	3	6	9	12	15
Possible	4	0	4	8	12	16	20
Occasional	5	0	5	10	15	20	25
Likely	6	0	6	12	18	24	30

The numbers in cells in the body of the above matrix are risk values, which are calculated by multiplying the likelihood value by the consequence value; the colours/shades correspond to risk rankings (see Table 4).

Table 4: Risk rankings and associated required levels of management.

Risk Rankings	Risk Values	Explanation & Likely Management Response
Negligible	0	Nil
Low	1–6	No specific additional management is needed, but low level monitoring of the issue may be required. Any current management should continue, as the risk ranking is based on the current management in place.
Moderate	7–12	Additional information may be needed or the issue may require monitoring. Immediate management is required, but the issue should be the subject of continuous improvement with the aim of achieving a low risk ranking in the future.
High	13–18	Possible increases to management activities in addition to those already being applied. Needs to be monitored and any information deficiencies should be addressed.
Extreme	> 19	Increases in management activities in addition to those already being applied are strongly recommended.

Table 5: Ecologically sustainable development risk assessment for individual licence applications assessed by PIRSA Aquaculture.

Risk event	Likelihood x Consequence	Risk ranking	Explanation and management response
Individual facilities			
1 Construction of site and ongoing consequences of those structures			
1.1 Habitat effects	Likely (6) x Minor (1)	Low (6)	The ponds required for the aquaculture activities will be excavated within the site which is a privately owned block. Given that the site is currently undeveloped, it is likely that the natural habitat found in the proposed site location will be impacted by the construction and on-going operations of the site if approved. The proposed site will lie within the applicant's privately owned property and therefore impacts on natural habitat outside of the site are perceived to be low. The farming methods which will be used are all environmentally friendly, with bore water as the source of water for the ponds and all discharge water and waste to be recycled and used on the vegetable garden and orchard as fertiliser. This aquaculture venture will therefore have a minor effect on the surrounding habitat. It is a compulsory licence condition that the Licensee shall in the event that it receives reasonable direction from the Minister to do so, cease and desist from any activity which in the reasonable opinion of the Minister may tend to cause environmental harm (as defined in the *Environment Protection Act 1993*). Considering the current environmental significance of the site and regulatory requirements in place, the risk of impacts to local habitats as a result of the proposed development of the site will be low.
1.2 Proximity to sensitive regions	Remote (1) x Minor (1)	Low (1)	The site is located on land which is a significant distance from the closest national parks (sensitive regions). The Mount Remarkable National Park is 15 km south-west of the site and the Mount Brown Conservation Park is 20 km north-west from the site. The Winninowie Conservation Park is also situated 30 km to the west of the proposed site. The nearest natural water body to the site is the Spencer Gulf which is located 35 km west of the proposed site. The sensitive regions mentioned are a significant distance from the proposed aquaculture site and therefore the risk to these areas as a result of site development and operation is low.

1.3 Alienation	Remote (1) x Negligible (0)	Negligible (0)	The site is owned by the applicant; consequently the likelihood of displacing other stakeholders is remote. Considering that the closest other land-based aquaculture site is over 40 km away, and there are no neighbouring properties within 5 km, the risk of causing displacement to other stakeholders is negligible. In accordance with section 50(1)(b)(i) of the *Aquaculture Act 2001* this application was publicly advertised in the local paper; The Flinders News on the 17th of February 2011 and in the Adelaide Advertiser on the 12th of February 2011. PIRSA Fisheries and Aquaculture received no written submissions relating to the application.
1.4 Erosion	Likely (6) x Minor (1)	Low (6)	The ponds will be lined with plastic to prevent soil erosion on the site. The 1 m high bank that will surround each of the ponds will also aid in the prevention of soil erosion. It is likely that erosion caused to natural environments of the proposed site will occur due to construction, maintenance and operation of the proposed licence. However, all development and land clearance occurring on site must be approved by the local council as part of the *Development Act 1993*. As part of this approval, a mandatory referral must be given to the Department for Environment and Natural Resources, for which any degradation to native habitats (including erosion) is taken into account. Any breaches of the *Native Vegetation Act 1991* and the *National Parks and Wildlife Act 1972* are taken into account during this referral period. Thus, the likelihood of impacts caused by erosion of native habitats, as a result of development, will be significantly reduced during the approval process.
1.5 Seepage	Likely (6) x Minor (1)	Low (6)	The ponds which will be constructed for the yabby farm will be lined with plastic to prevent seepage into the water table. Given that the waste water will be discharged onto vegetation within the site, it is likely that there will be some seepage. However, as no chemicals will be used and the water quality will be low in nutrients and of high quality, this site presents a low risk in terms of seepage to ground water.
1.6 Water flow	N/A	N/A	N/A
1.7 Shading	N/A	N/A	N/A
1.8 Rehabilitation	N/A	N/A	N/A
1.9 Navigation	N/A	N/A	N/A
2 Operating impacts			
The use of resources by the facility			

2.1 Noise	Remote (1) x Negligible (0)	Negligible (0)	The only processing that will occur on site will involve purging and packaging, which will be carried out in ponds located inside a shed. There are no neighbouring properties within 5 km of the site. Therefore the likelihood from excessive noise is negligible. Sites must operate within the noise levels outlined in the *Environment Protection (Noise) Policy 2007*.
2.2 Escape	Remote (1) x Severe (3)	Low (3)	The site will be licensed for yabbies which are known to host notifiable disease. As such, the escape/release of live animals into State waters could have severe consequences including genetic contamination of wild stocks and spread of disease. However, the low stocking densities of yabbies held on site, the lack of natural waterways within close proximity to the site and the mechanisms in place to prevent loss of stock reduce the likelihood of live stock escaping and establishing in State waters. The proposed aquaculture site is an outdoor pond system. There are going to be sufficient measures in place to prevent the unlikely escape of yabbies from this aquaculture site. There will be shade cloth covering all of the ponds as well as a 10 mm mesh fence of 700–800 mm in height around all of the ponds. The ponds will also be lined with plastic which will prevent the ability of the yabbies to climb out of the ponds and escape. The wastewater from the site will go directly onto the vegetable garden and fruit trees within the farm and therefore the filtration of the wastewater will not be necessary. The closest water body to the site is the ocean (Spencer Gulf) and is a significant distance from the site (35 km); and so in the unlikely event of an escape, yabbies will not be able to establish populations as they are a freshwater species. In the unlikely event of an escape of stock, PIRSA Fisheries and Aquaculture must be notified by the licensee within 12 hours of becoming aware of the escape as per the *Aquaculture Regulations 2005*. The proposed site presents a low risk in terms of escape.

2.3 Chemicals and therapeutants	Remote (1) x Negligible (0)	Negligible (0)	The applicant has stated that there will be no chemicals used within the site. This includes chemicals used for cleaning, therapeutants, probiotics or anaesthetics. The applicant has indicated that the farm will be environmentally friendly, with the intention of becoming organic. All wastewater is going to be used on the fruit trees and vegetable garden, and all sludge from cleaning out ponds will be recycled as an organic fertiliser. Section 10 of the *Aquaculture Regulations 2005* requires that the licence holder obtain Ministerial approval to use any chemical that is not registered for the specific use, or issued a permit for that use by the Australian Pesticides and Veterinary Medicines Authority (APVMA). Additionally, any chemical use must be compliant with the *Environment Protection (Water Quality) Policy 2003* and the *Agricultural and Veterinary Products (Control of Use) Act 2002* and associated legislation. Within PIRSA Fisheries and Aquaculture, chemical use approval processes involving discharges should be supported by an internal policy including guidelines for assessment of total environmental effects (including non-target species). Any use of chemicals will be monitored through review of EMP reports. The risk of incorrect use of chemicals within this site is therefore negligible.
2.4 Interactions	Remote (1) x Negligible (0)	Negligible (0)	As the proposed ponds and dams are to be in an open environment, it is possible that there may be interactions that occur between native wildlife and the proposed licence, particularly relating to avian predators. The applicant has stated that the predators that are most likely to have an interaction with the yabbies at this site are shags and other predatory birds. Prevention measures will be shade cloth which will cover all of the ponds at the site and therefore there shouldn't be any problems in terms of interactions with natural wildlife. As a result, the site presents a negligible risk for interaction with predators.
2.5 Water use	Remote (1) x Minor (1)	Low (1)	The water that will fill the ponds on this site will be sourced from 3 bores within the property. The bores are free flowing during winter and the applicant would like to cap these and transfer the water into the ponds. The salinity of this water will be 5 ppt and approximately 1000 L of water is required per month. The applicant does not require the possession a water licence to source water according to the Northern and Yorke Natural Resources Management Board [5]. The applicant has an approved development licence; therefore a permit for a water affecting activity is not required. As the water will be sourced from bores within the applicant's property, the site presents a low risk of unsustainable use of water.
2.6 Habitat effects	N/A	N/A	N/A

2.7 Disease Management	Possible (4) x Minor (1)	Low (4)	Notifiable diseases that have been identified in the Yabby (*Cherax destructor*) within Australia are *Thelohania, Temnocephids* and *Epistylis* [6, 7]. At present, there is no history of disease reporting by the applicant as this is an application for a new aquaculture site. In the event of a disease outbreak the applicant has stated that all affected ponds will be drained until completely dry to kill any organisms which are causing disease. There are currently no treatments available to kill these parasites. The presence of *Temnocephids* and *Epistylis* are symptoms of poor water quality and substandard pond husbandry. Although undesirable, they are harmless to the animal unless found in extremely large numbers. The introduction of *Thelohania* to an aquaculture pond can be largely avoided by obtaining broodstock from reputable growers rather than from wild populations, where the micro-parasite is mainly found. The applicant will be sourcing their stock from reputable growers as stated in risk event 4.5 (Translocations between regions) (R. Kerr, Pers. comm., 10/01/2011). The licensee is required to notify the Minister of unusually high mortalities or any stock which are affected with disease. This is in compliance with *Aquaculture Regulations 2005* (Regulations 11 and 12). Although the likelihood of disease is possible, appropriate disease management measures are in place should a disease occur. Therefore this site is considered a low risk regarding disease.
Wastes generated from operation of the facility			
2.8 Sedimentation	Remote (1) x Negligible (0)	Negligible (0)	The proposed site is classified as a Land-based Category A licence and there will be no discharge of nutrients to state waters. There will be 6 kg of feed input per pond per month. As this site will begin with 5 ponds, the amount of feed input will equate to approximately 360 kg per year. The site will eventually have a maximum of 20 ponds and therefore the feed input will increase to a maximum of 2400 kg per year. All wastewater is going to be recycled and used on the vegetable garden and fruit trees. The rate of discharged water is therefore not an issue as it will be recycled internally within the farm. There will not be any use of settlement ponds or filtration systems. The likelihood of sedimentation due to site operations is remote and therefore the risk is considered negligible.

2.9 Culture organism disposal	Remote (1) x Severe (3)	Low (3)	All aquaculture operations are likely to have mortalities of stock during all growing periods of the organism. *Aquaculture Regulations 2005* requires that licensees report unusually high mortalities (defined in Regulation 11) and have a duty to isolate unaffected organisms. The impacts associated with improper disposal of aquaculture stock on the proposed site could be severe, particularly given that yabbies are susceptible to notifiable diseases. In regard to mortalities within the farm, the applicants intend to put them in the compost bin and once composted down, recycle it and use as fertiliser on the vegetable garden and/or orchard. Another option stated by the applicant might be to use them as feed for the chickens within their farm, providing that the yabbies died naturally and are not diseased. Should any mortality occur, the applicants will collect them using a drag net and therefore the ability to collect mortalities from the ponds should not be a problem. In the event of a mass mortality, the applicants have stated that the ponds will be drained and all mortalities will be collected from the ponds and disposed of appropriately, as per EPA requirements (A. Kerr., pers. comm., 11/01/11). Therefore the risk of incorrect culture organism disposal is low for this site.
2.10 General refuse	Remote (1) x Negligible (0)	Negligible (0)	Aquaculture waste (as defined by *Aquaculture Regulations 2005*) includes waste generated in the course of carrying on aquaculture, such as feedbags, and does not include waste generated by living aquatic organisms. *Aquaculture Regulations 2005* require that all waste or debris does not cause an unsightly or offensive condition at the licence area and that waste is secured to prevent it being blown or swept off the licence area. General rubbish disposal methods are council bins or contracted waste disposal companies. Any solid waste from the farm will be recycled as fertilizer and any wastewater will also be recycled and used on the vegetation within the farm. Given the scale and nature of the activity, the amount of general refuse produced within the site will be negligible.
2.11 Biofouling	Remote (1) x Negligible (0)	Negligible (0)	The applicant has stated that there will be approximately 1000 yabbies per pond. To begin with there will be 5 ponds and therefore approximately 5000 yabbies. There are no methods in place to collect biofouling from the farming structures or from the site. Each of the ponds on site will be cleaned out once per year. All of the wastewater from the ponds will be used on vegetable gardens and fruit trees within the farm. All sludge from the ponds will also be used on farm vegetation as an organic fertiliser. Therefore there is negligible concern that improper disposal of biofouling on this site.

2.12 Water Quality	Remote (1) x Minor (1)	Low (1)	The water from the site will not be discharged onto any off-site environments. All water is going to be recycled and re-used on vegetation within the site. All water discharged within the farm vegetation will be of high quality, low nutrient level and no chemical residues. Therefore, the risk that poor quality water will be discharged from this site is low.
Regional effects			
3 Water use quality and quantity			
3.1 Nutrients	Remote (1) x Negligible (0)	Negligible (0)	As stated in risk event 2.12 Water Quality, no water from this site will be discharged onto any off-site environments. Therefore, there will be no unacceptable nutrient pollution or removal from the site.
3.2 Sedimentation	Remote (1) x Negligible (0)	Negligible (0)	The farming practices associated with this application involve the construction of ponds. Natural sedimentation will occur in the ponds from feeding and detritus but no water from the ponds will be actively discharged by the applicant. Although the wastewater from the site will not be filtered or sterilised, the discharged water is to be fully recycled within the farm vegetation and will not enter any off-site environments. The closest other land-based aquaculture site is approximately 40 km away, and given that nutrient impacts will only occur to waters used on site, the consequences of nutrient inputs and sedimentation to the wider region will be negligible.
3.3 Chemicals	Remote (1) x Negligible (0)	Negligible (0)	The applicant has stated that no chemicals will be used on this site. This includes chemicals used for cleaning, therapeutants, probiotics or anaesthetics. The applicant has indicated that the farm will be environmentally friendly, with the intention of becoming organic. All wastewater is going to be used on the fruit trees and vegetable garden, and all sludge from cleaning out ponds will be used as fertiliser. Section 10 of the *Aquaculture Regulations 2005* requires that the licence holder obtain Ministerial approval to use any chemical that is not registered for the specific use, or issued a permit for that use by the Australian Pesticides and Veterinary Medicines Authority (APVMA). Additionally, any chemical use must be compliant with the *Environment Protection (Water Quality) Policy 2003* and the *Agricultural and Veterinary Products (Control of Use) Act 2002* and associated legislation. Within PIRSA Fisheries and Aquaculture, chemical use approval processes involving discharges should be supported by an internal policy including guidelines for assessment of total environmental effects (including non-target species). Any use of chemicals will be monitored through review of EMP reports.

3.4 Seepage	Remote (1) x Minor (1)	Low (3)	The ponds used at this site will be lined with plastic to minimise/prevent seepage. The underlying water table is greater than 1 metre beneath the proposed ponds therefore in the unlikely event there is seepage, it will have minor effects. This site is therefore considered low risk in terms of seepage to the water table.
3.5 Flow	N/A	N/A	N/A
4 Ecological community structure and biodiversity			
4.1 Listed migratory species	Possible (4) x Minor (1)	Low (4)	A report derived from the Australian Government's Department of Environment, Water, Heritage and the Arts (DEWHA) revealed that the region surrounding the proposed site location of AQ00246 contained several listed migratory species with 9 species that may occur and 1 species that is likely to occur. Therefore the likelihood of disturbance to migratory species resulting from site operations is possible. However, given the low level of current regional aquaculture activities, the site development is unlikely to impact on habitat requirements and migration paths of these species; therefore the consequence is considered to be minor. The applicant must abide by all licence conditions and *Aquaculture Regulations 2005* relating to interactions with seabirds and marine vertebrates (regulations 19 and 20), through submission and, adherence to, an approved strategy in order to minimise the consequence and overall risk of interaction with these species. Under the *Environment Protection and Biodiversity Conservation Act 1999,* an action (e.g. site development) will require approval from the Federal Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance, including migratory species.

4.2 Threatened species	Possible (4) x Minor (1)	Low (4)	A report derived from DEWHA revealed that the region surrounding the proposed site location of AQ00246 contained several listed threatened species with 2 species that may occur and 13 species likely to occur. Therefore the likelihood of disturbance to threatened and protected species resulting from site operations is possible. However, given the low level of current regional aquaculture activities, the site development is unlikely to impact on habitat requirements and migration paths; therefore the consequence is considered to be minor. The applicant must abide by all licence conditions and *Aquaculture Regulations 2005* relating to interactions with seabirds and marine vertebrates (regulations 19 and 20), through submission and, adherence to, an approved strategy in order to minimise the consequence and overall risk. Under the *Environment Protection and Biodiversity Conservation Act 1999,* an action (e.g. site development) will require approval from the Federal Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance, including threatened species.
4.3 Sensitive habitats	Remote (1) x Severe (3)	Low (3)	A report derived from DEWHA revealed that the region surrounding the proposed site location of AQ00246 contains no wetlands of international significance, no commonwealth marine areas, and 2 threatened ecological communities (Mount Remarkable National and Mount Brown Conservation Parks). Under the *Environment Protection and Biodiversity Conservation Act 1999,* an action (e.g. site development) will require approval from the Federal Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance, including ecologically sensitive habitats. A spatial assessment using ArcGIS mapping software identified that the only sensitive habitats contained within the region of the proposed site location are all stated in risk event 1.2. Given this information, it is therefore considered that the overall impacts associated with the proposed development of the site to sensitive habitats from a regional perspective will be low.
4.4 Behavioural changes to species	Possible (4) x Minor (1)	Low (4)	It is possible that some interactions between native migratory species and proposed licence activities may occur as a result of the proposed licence. However, the proposed licence is the only site within the region, with the closest other land-based site being approximately 40 km away. The applicant will be using measures to prevent interactions from occurring on-site (see risk event 2.4). Given this, the additional impact to behavioural changes to species given the proposed licence in addition to current regional activities is minor.

4.5 Translocations between regions	Likely (6) x Negligible (0)	Negligible (0)	All translocation of stock will be subject to regulation by the *Livestock (Restriction on Entry of Aquaculture Stock) Notice 2008*. As such translocation of prescribed, protected and native finfish from within the State, and all translocations of stocks collected interstate will be subject to approval by the Minister. All other stocks held on site are anticipated to be collected locally from wild stocks under multiple PIRSA Fisheries exemptions (e.g. 9902135). The applicant will be sourcing the stock from growers at The Gums Station in Burra as well as Wartaka Station in Port Augusta which are both reputable growers. All stock will be fully secured on site, with no stocks or waste water released to State waters. As such, although translocation of stocks between regions is likely, the consequences of translocations (e.g. spread or disease, escape and genetic dilution or displacement of local populations) are expected to be negligible. In this instance, State legislation is considered adequate to manage the risks associated with translocation of stock between regions.
4.6 Phytoplankton	Remote (1) x Negligible (0)	Negligible (0)	There is feed input into the ponds at this site which may cause a production in algae growth but there is no off-site discharge of waste water into natural water bodies. The proposed site will therefore not present a risk of causing algal blooms to other natural water bodies within the region. The risk to a change in naturally fluctuating phytoplankton communities is considered negligible.
4.7 Benthic communities	N/A	N/A	N/A
5 Physical structures, construction and tenure			
5.1 Loss of access to a common resource	N/A	N/A	N/A
5.2 Heritage area effects	Remote (1) x Negligible (0)	Negligible (0)	A report derived from DEWHA revealed that the region surrounding the proposed site location of AQ00246 contains no world heritage properties or national heritage places. A spatial assessment using ArcGIS mapping software identified that there were no human cultural heritage sites within the region of the proposed site location. Under the *Environment Protection and Biodiversity Conservation Act 1999,* an action (e.g. site development) will require approval from the Federal Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance, including heritage listed areas. Given this information, it is therefore considered that the impacts associated with the proposed development of the site to heritage areas from a regional perspective will be negligible.

5.3 Navigation	N/A	N/A	N/A
6 Production			
6.1 Disease	Remote (1) x Major (4)	Low (4)	The following diseases have been previously detected in yabby populations within Australia: *Thelohania, Temnocephids* and *Epistylis* [6, 7]. The risk of a disease spreading from the site as a result of farming activities is low. The site is isolated from any other land-based aquaculture site, as the closest site is FT00287. This site (FT00287) does not produce yabbies and therefore the risk of disease spreading to species on this site is low. The diseases identified within yabbies in South Australia are mostly present in wild populations and not within aquacultured individuals. The diseases mentioned above have the highest presence in Western Australian Yabby populations and are not found largely within South Australia. As a result the risk of disease within stock on this site is low. The applicant does not propose to translocate stock to or from this site, with the exception of harvested stock. PIRSA Fisheries and Aquaculture requires that any unusually high mortalities, suspect cases of notifiable disease, and actual cases of notifiable disease are reported as per the *Aquaculture Regulations 2005, Livestock Act 1997* and licence conditions. Emergency response administrative arrangements are outlined in the PIRSA Emergency Management Documents: Aquatic Health. Aquavetplan operational plans for disease outbreaks include manuals for: Destruction, Disposal, Decontamination and Enterprise Manuals for semi-open systems. These manuals form a comprehensive emergency response framework which can be implemented by PIRSA as necessary. In this instance, State legislative requirements are considered adequate to manage the risks associated with disease.

6.2 Disposal of waste	Remote (1) x Negligible (0)	Negligible (0)	The amount of waste generated from this farming activity is likely to be insignificant. There is a negligible risk that any incorrect disposal of waste will take place within this site. All waste produced from aquaculture activities from this site will be used as organic fertilizer on the vegetation within the farm. All wastewater is also going to be recycled within the farm and placed on the vegetation as no chemicals will be used during farming operations. *Aquaculture Regulations 2005* stipulate that the licensee must ensure that all aquaculture waste generated does not cause an unsightly or offensive site condition and that it is secured or treated to prevent this leaving the licensed area. If there is an incidence where it is blown, washed or swept off the licensed area then it is ensured this is recovered as soon as practicable. This regulatory requirement will ensure all reasonable measures are taken to prevent waste material entering the adjacent environment.

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[1] Merrick, J.R. and Lambert, C.N. (1991) The yabby, marron and red claw: production and marketing. Macarthur press Pty Ltd, NSW.

[2] PIRSA Aquaculture (2009). PIRSA Aquaculture Division's Ecologically Sustainable Development (ESD) Risk Assessment Guidelines. Primary Industries and Resources South Australia, 45 pp.

[3] Fletcher, W., Chesson, J., Fisher, M., Sainsbury, K. and Hundloe, T. (2004) National ESD Reporting Framework: The "How To' Guide for Aquaculture. Version 1.1 FRDC, Canberra, Australia 88 pp.

[4] AS/NZS ISO 31000:2009 (2009) Risk management - Principles and guidelines. Joint Australian/New Zealand Standard, Joint Technical Committee OB-007, Risk Management. Sydney, Australia and Wellington, New Zealand 24 pp.

[5] Northern and Yorke Natural Resources Management Board (2009) *Water Affecting Activities* Fact Sheet, Government of South Australia, pp. 2.

[6] Anon. (1999) Thelohania – A threat to marron and yabbies. Brochure from the Department of Fisheries, Government of Western Australia; pp. 4.

[7] Anon. (1999) Epistylis and Temnocephids – A threat to marron and yabbies. Brochure from the Department of Fisheries, Government of Western Australia; pp. 1.

Rob & Anjo Kerr

From: "Mathews, Coby (EPA)" <Coby.Mathews@epa.sa.gov.au>
To: <anjo.kerr@bigpond.com.au>
Sent: Thursday, 17 October 2013 11:37 AM
Attach: Environmental Survey Kerr.pdf
Subject: Farm Survey September 2013

Hi Rob and Anjo,

Thankyou for your time during our visit to your farm in September this year. Please find attached a copy of the environmental survey report we recorded during our visit. Should you find any information which has been reported incorrectly or have any additional comments, please let us know and we will alter our records. I also apologise for the delay in getting this survey to you, the pdf file was saved in a folder to be sent and we have just realised that it is still sitting there and hasn't actually been sent to you!

As mentioned during our visit, information collated for the surveys during our visit will be used for a number of reasons which include:

- Providing an opportunity for both of us to discuss any issues that may have arisen;
- Providing the EPA with actual rather than perceived information on potential environmental issues relating to the aquaculture industry;
- Having information on hand relating to farms that may be used during PIRSA licence amendment assessments (e.g. requests for species additions, expansions, relocations etc);
- Ensuring we are kept up to date with the current production and management technologies used by industry;
- Identifying gaps or issues relating to the environmental management of the industry.

Should you have any questions or wish to add/amend any data we have recorded, please do not hesitate in contacting us.

Tara Ingerson: tara.ingerson@epa.sa.gov.au Ph: 8463 6581
Coby Mathews: coby.mathews@epa.sa.gov.au Ph: 8207 2592

For your information, there is an international aquaculture conference being held in Adelaide in June 2014. Further information on conference details can be found at http://aquaculture.org.au/

Cheers

Coby

Coby Mathews
Senior Scientific Officer (Aquaculture)
Phone (08) 8207 2592 Fax (08) 8124 4673

Environment Protection Authority
GPO Box 2607, Adelaide, S.A. 5001, AUSTRALIA

EPA South Australia

SOUTH AUSTRALIA

www.epa.sa.gov.au

Environmental Survey for: *Kerr*

AQ00246

September 2013

Farm Details

This section provides general information regarding the farm that was visited

Date of Visit: Wednesday, 18 September, 2013
Contact Person: Rob and Anjo Kerr
Officers Present: Tara Ingerson and Coby Mathews

Type of Farm: Ponds
Species Cultured: Yabbies
Production Capacity: Less than 1 tonne. **Farm Size:** 7 ponds

Other Comments

3 large (30 x 20 x 2m) & 4 small (10 x 20 x 2m) ponds - all are lined.
Ponds contain tyres and some plants to replicate a 'natural' system.
Additional ponds will be dug next year.

Have been operating for approximately 2 years.

Interested in Aquaponics and adding silver perch.

Small tank also used for purging yabbies (~80 g sale size).

Drag net along empty pond to harvest yabbies.

anjo.kerr@bigpond.com.au

Use of Vehicles/Vessels

Information on Vehicle/Vessel use and potential impacts to the environment

What vehicles/vessels are used on site? None.

Is all vehicle access designed to minimise dust/and or erosion? n/a

Are the vehicle access areas free of fuel and oil spillage? n/a

Do blacktop surfaces have appropriate stormwater runoff? n/a

General vehicle access comments:
No additional comments.

If a vessel/vehicle is used to access marine sites - where is it launched?
Not applicable.

Are vehicles regularly serviced to prevent noise, fumes and leakages? n/a

Are vehicles refuelled on site? n/a

Are vehicle refuelling facilities designed and located to minimise the chance of fuel entering the water or soil? n/a

General Comments on the use of Vehicles/Vessels
No additional comments.

Waste Disposal

What waste may be generated on site and how it is disposed of?

What types of waste are generated on site? Usual farm refuse eg: waste netting, pipes etc.

How much waste is generated? Very minimal.

How is the waste disposed? Council bins which are then transferred into town.

Is there potential for site and/or water contamination from waste storage? No **Odour?** No

How frequent are mortalities? Unknown. **How many?** Unknown.

Where are mortalities disposed? Most likely cannabalised. Mortalities that are collected disposed of into compost (4 compost bins).

Is there a plan for large scale mortalities? No **What is it?** Not applicable.

Is there appropriate handling procedures for the disposal of hazardous waste? n/a

Where is hazardous waste disposed of (including containers)? Not applicable.

General comments on Waste Disposal

No additional comments.

Feeding Requirements

Levels of feeding provide an indication of the nutrient input for the farm. Nutrients may result in algal blooms, sedimentation and other forms of environmental harm if supplementary feeding and/or water use is not managed appropriately.

Is there supplementary feeding? Yes **What type of feed is used?** Fish food, oats, wheat, carrots and lucerne.

How much feed is added? On demand (increased feeding during warmer months). **How often?** Feed every second day.

General comments regarding Feeding

Assess amount of uneaten feed at pond edges before re-feeding.

Environmental Survey for: *Kerr*

AQ00246

September 2013

Water Use / Storage / Treatment

What are the farms water requirments, how is it stored/used/treated and where is it discharged to. This section includes information on culture ponds, wastewater ponds and pump-ashore systems with intake and outlet pipes.

Where is water sourced from? Artesian bore (free flowing - capped).

How much water is used? Ponds are pumped out during harvest.

Is there any discharge of wastewater Yes

Where is it discharged to? Used for irrigation (vegetables, garlic, orchard).

Is the wastewater treated? No

How? Not applicable.

How large are the ponds (settlement ponds and culture ponds?) 3 large (30 x 20 x 2m) & 4 small (10 x 20 x 2m) ponds.

Is there potential for pond seepage? No **Water escape from Erosion** No

Do the ponds have overflow provisions? Yes

Are there any natural waterbodies located closeby (surface and groundwater) and is there potential for contamination? Nearest creek (Willochra Creek) is located at least 1km away and is not permanent. Ponds are lined with plastic and have a bank and overflow provisions to prevent runoff.

NB: This section on intake/outflow pipes is only applicable to pump-ashore flow through systems.

Number of Intake Pipes: 0 **Number of Outflow Pipes:** 0

Where is the wastewater discharged to? Not applicable.

What is the region like around the discharge pipes?
Not applicable.

General comments on Ponds/Discharge areas located on the farm
Water is circulated through ponds every couple of days to maintain oxygen levels.

Environmental Survey for: *Kerr*

AQ00246

September 2013

Cleaning

What cleaning practices are used and how is waste managed during the cleaning process?

What cleaning of equipment occurs? Ponds are emptied for harvest and 'vacuum' cleaned.

Where does cleaning occur? In the ponds.

Is the area used to clean equipment designed to contain waste and wastewater? Yes

What happens to the cleaning waste after collection? Sludge and excess wastewater used on the vegetable patch and for composting (4 compost bins).

Are chemicals used for cleaning? No **What Type?** Not applicable.

How frequently are chemicals used for cleaning? Not applicable.

Are cleaning practices such that no chemicals used for cleaning enter the environment? n/a

General comments regarding Cleaning
No additional comments.

Chemical Use

Information on what chemicals may be used on site and how they are managed. NB: Does not include chemicals used in cleaning which is covered above.

What chemicals are used on site? None.

What are the chemicals used for? Not applicable.

How often/How much is used? Not applicable.

Is water containing chemicals appropriately disposed of? n/a

Are chemicals stored appropriately? n/a

Are chemicals permitted for use by APVMA? n/a

General comments regarding chemical use
No additional comments.

Environmental Survey for: *Kerr*

AQ00246

September 2013

Fish Processing

Processing product on site can generate a number of environmental issues such as waste generation, odours, attraction of vermin and site contamination if not handled appropriately.

Does processing occur on site? No

What happens to processing waste? Not applicable.

General comments regarding processing
Yabbies are sold live chilled.

General Environmental Information

Miscellaneous environmental information relating to the farm. Noise and odour may present issues to neighbouring properties. Leaking equipment may result in water quality or site contamination issues.

Is the overall aesthetics of the site such that it will not result in environmental issues? Yes

If there are aesthetic issues - what are they? Not applicable.

What are the stocking/production rates on the farm? Less than one tonne.

What is the distance to the nearest neighbour? 500 acre property.

Are there any current or potential odour issues? No

If yes what are they? Not applicable.

Is their noisy equipment on site? Yes **What are they?** Diesel pump.

How is noise managed on site? Site is located in a remote location (500 acre property) with no nearby neighbours - noise is unlikely to be an issue.

Is there any leakage (oils, wastewater, fuel etc) occuring from equipment? No

What is the nature of the leakage? Not applicable.

General comments on miscellaneous environmental issues
No additional comments.

Environmental Survey for: *Kerr*

AQ00246

September 2013

Environmental Management

Information on how the farm is environmentally managed

What environmental monitoring data is required by PIRSA? PIRSA proforma.

How frequently is it provided? Annually.

Do you have an Environmental Management System (EMS) in place No

If yes - how long have you had it in place? n/a

Are you interested in looking at having an EMS? Unknown

Are there any issues to be addressed from the last visit or for the next visit? No

If so what are they? Not applicable.

General comments regarding environmental management

No additional comments.

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South Australia

EPA 05/10507

5 April 2011

Dr Peter Lauer
Manager, Environment and Biosecurity Programs
PIRSA Fisheries and Aquaculture
GPO Box 1625
ADELAIDE SA 5001

Dear Peter

ENVIRONMENT PROTECTION AUTHORITY RESPONSE TO AQUACULTURE LICENCE APPLICATION

Licence Application Number	AQ00246
Proposal	To develop a land-based yabbie farm in a series of lined culture ponds at Wilmington
Applicant	Rob and Anjo Kerr
Location/Zone	Sections 45 and 524, Willochra CT Volume 5499, Folio 736
EPA Decision	Granting of a licence is approved
Additional Comments	• ESD lacking some required information • Waste water disposal
Variations to Licence Conditions	• Nil

I refer to the above mentioned aquaculture licence application forwarded to the Environment Protection Authority (EPA) in accordance with Part 8 Section 59 of the *Aquaculture Act 2001*.

The proposal is an activity of aquaculture as defined in Part 1 Section 3 of the *Aquaculture Act 2001*.

In accordance with Section 50 (1) (c) and Section 59 (1) of the *Aquaculture Act 2001*, the Minister responsible for that Act is required to obtain EPA endorsement before any aquaculture licence can be issued.

In determining this response, in accordance with Section 59 (4) of the *Aquaculture Act 2001*, the EPA have had regard to and has sought to further the objects of the *Environment Protection Act 1993*, and has also had regard to:

- the General Environmental Duty, as defined in Part 4, Section 25 (1) of the Act; and
- relevant Environmental Protection Policies made under Part 5 of the Act.

Proposal

The applicant is requesting to establish a land-based aquaculture farm with the following proposed specifications:

- *Location*: Sections 45 and 524, Willochra, CT Vol 5499, Folio 736 in the District Council of Mount Remarkable;
- *Species to be cultured*: yabbies (*Cherax destructor*);
- *Production capacity*: each pond will contain approximately 1000 yabbies. The applicant aims to produce approximately 40 kg of yabbies per week, equating to approximately two tonnes per annum;
- *Culture system*: yabbies will be cultured in 20 plastic lined ponds. The dimensions of each pond will be 20 m x 6 m x 2 m. Ponds will be covered by shade cloth to minimise evaporation and prevent access by predators. Each pond will incorporate a 1 m high bank to minimise the effects of localised flooding and enclosed by a 700 – 800 mm fence to minimise escape of stock. Ponds will be filled with water sourced from three artesian bores already constructed on the property. Each bore is currently free-flowing during winter, however the applicant proposes to cap each bore in order to manage the water used in the proposed operation. Plastic purging/grading tanks will be located inside a shed on the property;
- *Volume of food*: yabbies will be hand-fed 1.5 kg of pellets per pond, once per week. At maximum development approximately 1560 kg of pellets will be fed to the yabbies per annum (as opposed to 2400 kg listed by PIRSA in the ESD response). A crop of lucerne will be grown for additional feeding purposes;
- *Site description*: the existing habitat at the 600 acre site is unknown however it is thought to be agricultural land;
- *Wastewater treatment and discharge*: culture ponds will be drained and dredged once per year. The applicant does not propose to have any facilities to treat waste water (no settlement pond or filtration system). All waste water will be drained onto the vegetable garden and fruit trees located on the property. No waste water will be actively discharged from the property.

Background

The proposal has been evaluated on the basis of environmental sustainability, and the Executive Director, PIRSA Fisheries and Aquaculture as the delegate of the Minister for Agriculture, Food and Fisheries has approved the granting of this licence subject to the approval of the EPA.

Environmental Issues

Aquaculture can cause environmental harm, as defined in Section 5 of the *Environment Protection Act 1993*. The Act defines environmental harm as " .....harm, or potential harm, to the environment (of whatever degree or duration), and includes environmental nuisance". For the purposes of the Act, potential harm includes risk of harm and future harm. This harm can occur both within and outside the boundary of the licensed property and may take a number of forms including:

- negative effect on water quality;
- alterations to the surrounding ecology;
- generation of waste;
- deposition of nutrient rich sediment;
- noise generation from farm equipment;
- negative effect on air quality.

Further, the Environment Protection Authority has identified 'environmental harm' in the *Environment Protection (Water Quality) Policy 2003* whereby discharging or depositing a pollutant into any waters, causes any of the following:

- loss of seagrass or other native aquatic vegetation;
- a reduction in numbers of any native species of aquatic animal or insect;
- an increase in numbers of any non-native species of aquatic animal or insect;
- a reduction in numbers of aquatic organisms necessary to a healthy aquatic ecosystem;
- an increase in algal or aquatic plant growth;
- the water to become toxic to vegetation on land;
- the water to become harmful or offensive to humans, livestock or native animals;
- an increase in turbidity or sediment levels.

All aquaculture operations must comply with the *Environment Protection Act 1993* and all relevant Environment Protection Policies.

Licence assessment

Issues considered by the EPA in determining a decision for this application include:

Water Quality

The use of artificial feed and waste produced from the farmed animals may lead to nutrient loading. This may result in eutrophication, fluctuating oxygen levels, changes in phytoplankton species composition, algae blooms and a change in the fauna and flora community at the site. A consequence of this may cause the water to become toxic to vegetation on land or contamination of nearby waters (including

surface, groundwater and stormwater) both which may be deemed 'environmental harm' in accordance with the *Environment Protection (Water Quality) Policy 2003*. In the case of this application:

- yabbies will be hand-fed 1.5 kg of pellets per pond, once per week. A crop of lucerne will be grown for additional feeding purposes;
- all culture ponds will be plastic lined to prevent seepage into groundwater;
- no waste water will be actively discharged from the property;
- the closest natural water body to the proposed site is the Spencer Gulf located approximately 35 km to the west;
- culture ponds will be drained once per year with all waste water drained onto the vegetable garden and fruit trees located on the property. Discharge water is proposed to be of a high quality with low nutrients and no chemicals;
- the distance to the water table is approximately 10 – 12 metres.

Chemicals could potentially be used on site for a number of purposes including treatment of disease, disinfection/ treatment of culture equipment and stock handling. If used inappropriately, the addition of chemicals may cause environmental harm. In the case of this application:

- no chemicals will be used;
- if chemicals are used in the future, this will be reported and monitored as part of PIRSA Fisheries and Aquaculture's EMP requirements.

As a consequence, the EPA considers that the land-based farming of crustaceans is unlikely to cause a significant decline in water (including surface and ground) quality within this region.

<u>Waste Management</u>

The most significant source of organic waste generated from land-based aquaculture is from stock mortalities and the accumulation of excess food and faecal material. Other sources of significant waste may be generated from culture infrastructure and general refuse. All waste must be deposited or disposed of lawfully. In the case of this application:

- all waste and debris will be removed from the site and disposed of lawfully in council bins or contracted waste disposal companies. It is not envisaged that there will be significant waste generated on site;
- organic waste resulting from dredging the culture ponds once per year, and from weekly cleaning of purging tanks, will be placed on vegetation located on the property as fertiliser;

- yabbies will be hand-fed 1.5 kg of pellets per pond, once per week. A crop of lucerne will be grown for additional feeding purposes;
- yabbies will not be processed on site;
- waste management on site is regulated through conditions stipulated within the *Aquaculture Regulations 2005* administered by PIRSA Fisheries and Aquaculture.

Mortalities of stock are inevitable in fish farms which may occur on an ad hoc basis or may be significantly larger as a result of disease, equipment failure or environmental conditions. In the case of this application:

- the applicant proposes to collect all mortalities (with a drag net) and place them in a compost bin to be used as a fertiliser on the vegetable and fruit garden located on the property;
- in the event of a mass mortality, the ponds will be drained and all mortalities will be collected and disposed of appropriately.

As a consequence, the EPA considers the land-based farming of crustaceans is unlikely to cause significant waste management issues in this region.

Air Quality

Odours from fish farms may result from the inappropriate disposal of organic waste on the site. Using appropriate mechanisms for waste disposal will minimise the potential for impact resulting from odours. The activity of land-based fish farming is not known to generate odours or other significant air quality issues. In the case of this application:

- odour issues will be controlled through regular removal of mortalities and waste from the site;
- there are no neighbouring properties located within 5 km of the proposed site;
- the proposed site will be located approximately 12 km east from the nearest township of Wilmington;
- the proposed site will be positioned in a remote location.

As a consequence, the EPA considers the land-based farming of crustaceans is unlikely to cause a significant decline in air quality within this region.

Noise

Harvest machinery, pumps, generators and other potentially noisy equipment may be used in the operation of the farm. Noise associated with this equipment may

cause nuisance off site, particularly when background noise levels are low. In the case of this application:

- purging and packaging will occur within a shed on the proposed site;
- there are no neighbouring properties located within 5 km of the proposed site;
- the proposed site will be located approximately 12 km east from the nearest township of Wilmington;
- the proposed site will be positioned in a remote location.

As a consequence, the EPA considers the land-based farming of crustaceans is unlikely to cause a significant increase in noise within this region.

Decision Justification

Based on the information provided, the EPA **approves** the granting of a licence to farm yabbies on a 600 acre land-based site in the District Council of Mount Remarkable.

Justification for the EPA licence assessment decision includes:

- the closest natural water body to the proposed site is the Spencer Gulf located approximately 35 km to the west. There will be no waste water actively discharged from the site;
- no chemicals will be used on the site;
- the proposed site is not located within the vicinity of a floodplain;
- all culture ponds will be plastic lined to prevent seepage to groundwater;
- the distance to the water table is approximately 10 – 12 metres;
- all waste water from the culture ponds will be drained onto the vegetable garden and fruit trees located on the property. Discharge water is proposed to be of a high quality with low nutrients and no chemicals;
- the applicant has indicated that all organic waste will be composted and placed onto the vegetable garden and fruit trees located on the property;
- the applicant will be expected to remove waste from the site and dispose of the waste lawfully;
- the site is located in a remote location therefore noise and odour are unlikely to be an issue;
- the applicant is required to undertake an approved environmental monitoring program as part of their requirements under the *Aquaculture Regulations 2005*.

Additional comments

1. The PIRSA ESD assessment lacks detail on the infrastructure located within the sheds on the property, including dimensions and volume of the purging tanks,

how this system operates, where waste water will be discharged and how any other wastes will be managed. The EPA has discussed these issues with the applicant and now understands that waste water and organic waste contained within the facility inside the shed will be managed the same as for the culture ponds i.e. placed onto the vegetable garden.

2. There is some concern about the method of waste water disposal proposed in the application. PIRSA has not provided any information on the system of draining the culture ponds and the volume of waste water on each occasion (e.g. are all ponds drained (once per year) at the same time for harvest or sequentially throughout the year). As no holding dam or settlement/treatment system was proposed for this operation, there may have been potential for localised flooding on the property depending on how this water was managed. The EPA has discussed these issues with the applicant and now understands the strategy to harvest and drain the culture ponds which should minimise the potential for environmental harm.

Licence condition requirements

In accordance with Section 59 (c) of the *Aquaculture Act 2001*, the EPA consider variations to licence conditions be imposed, as described below:

- Nil

Additionally, in providing this response, the EPA requires any aquaculture licence issued to have in a predominant position on the licence or supporting documentation, the following text:

"The licensee is reminded of its general environmental duty, as required by Section 25 of The Environment Protection Act 1993, to take all reasonable and practical measures to ensure that the activities on the whole site do not pollute the environment in a way which causes or may cause environmental harm. The consequences of causing environmental harm may include the revocation of the aquaculture licence. In addition other actions as determined by PIRSA and/or the EPA may be undertaken."

For further information on this matter please contact Coby Mathews on (08) 8207 2592.

Yours sincerely

Tara Ingerson
DELEGATE
ENVIRONMENT PROTECTION AUTHORITY

Expression of Interest for a commercial yabbie farm.

We intend to buy a block of land which consists of 200 hectares near Wilmington SA (section 45 & 524 HD of Willochra) and we would like to start a yabbie farm with an organic vegetable garden and orchard to be able to recycle the water and the waste to make it an environmental friendly farm.

1. SPECIES; Cherax destructor, commonly known as yabbies.
2. LOCATION; Our proposed location will be on Section 524 HD Willochra (Wilmington SA). It is 100 hectares. Our idea was to have several ponds of 20m by 6 m, plastic lined. The block has 3 artesian bores on it, which are free flowing in winter, which we would like to cap and transfer into the ponds.
3. THE FARMING METHODS; The ponds will be 20 m by 6 m, plastic lined, with sides sloping down to a max of 2 m deep with an air raided solar driven pump and shade cloth to prevent evaporation and predators. With a 10 mm mesh fence of 700-800 mm high around it. Our aim is to have 6 yabbies per m2 of pond bed. There would be somewhere around 8 m2 of base per meter of pond, which would work out at a 160 m2 of base, which would be close to 1000 yabbies per pond. See attachment for drawing
4. EXPECTED TONNAGE OF OUTPUT; This is difficult to estimate, but, we would like to aim for 20 kg per week and if successful perhaps later on, with a max of somewhere around 40-50 kg per week.
5. ABILITY; I have been in the farming industry with mainly sheep for over 30 years and have been quite successful. But I have very little experience in aquaculture, though we feel quite confident and capable of running a yabbie farm on a small scale.

With the attached map of the land of the proposed site and the drawing of the ponds, we hope this will give you enough information to make an initial assessment and send us the application forms. If you would like to have more information please contact us on anjo.kerr@bigpond.com.au

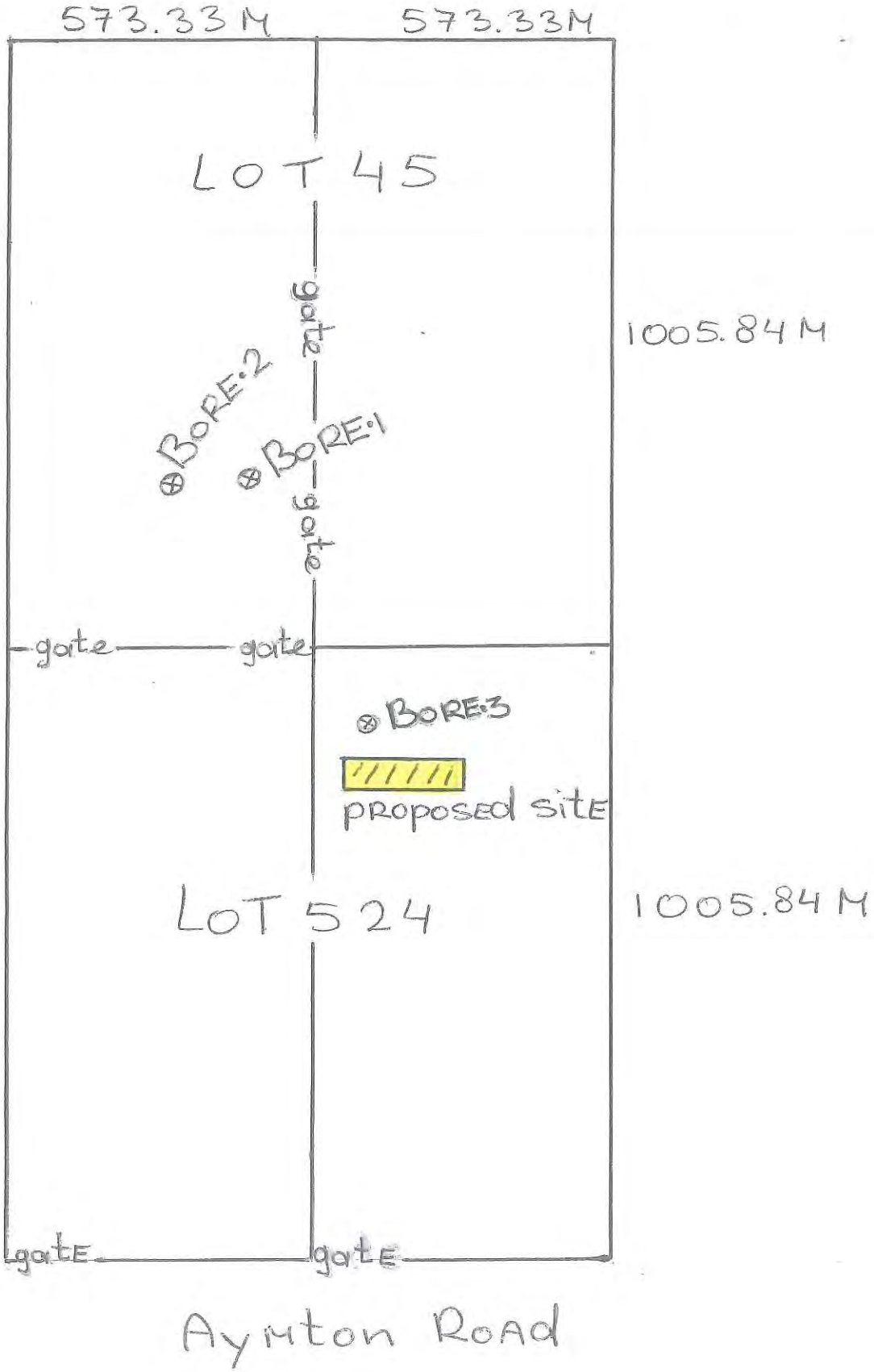
Hope to hear from you soon with a positive reaction,

Regards,

Rob & Anjo Kerr

Box 101 American River SA 5221

Tel. 0437062697


573.33M
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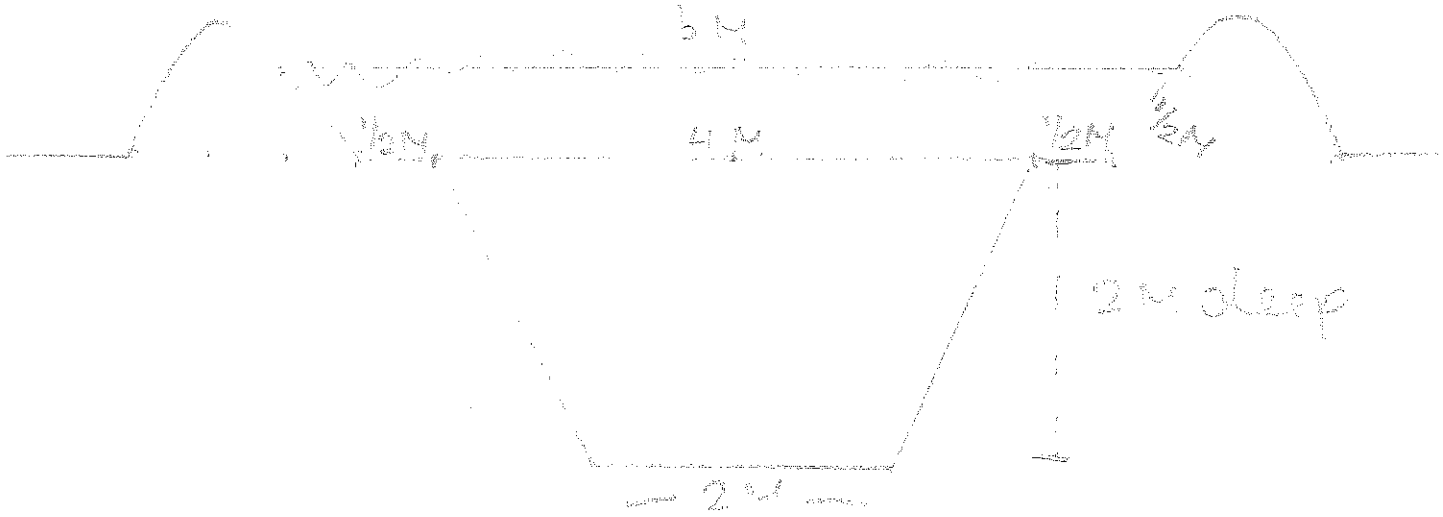
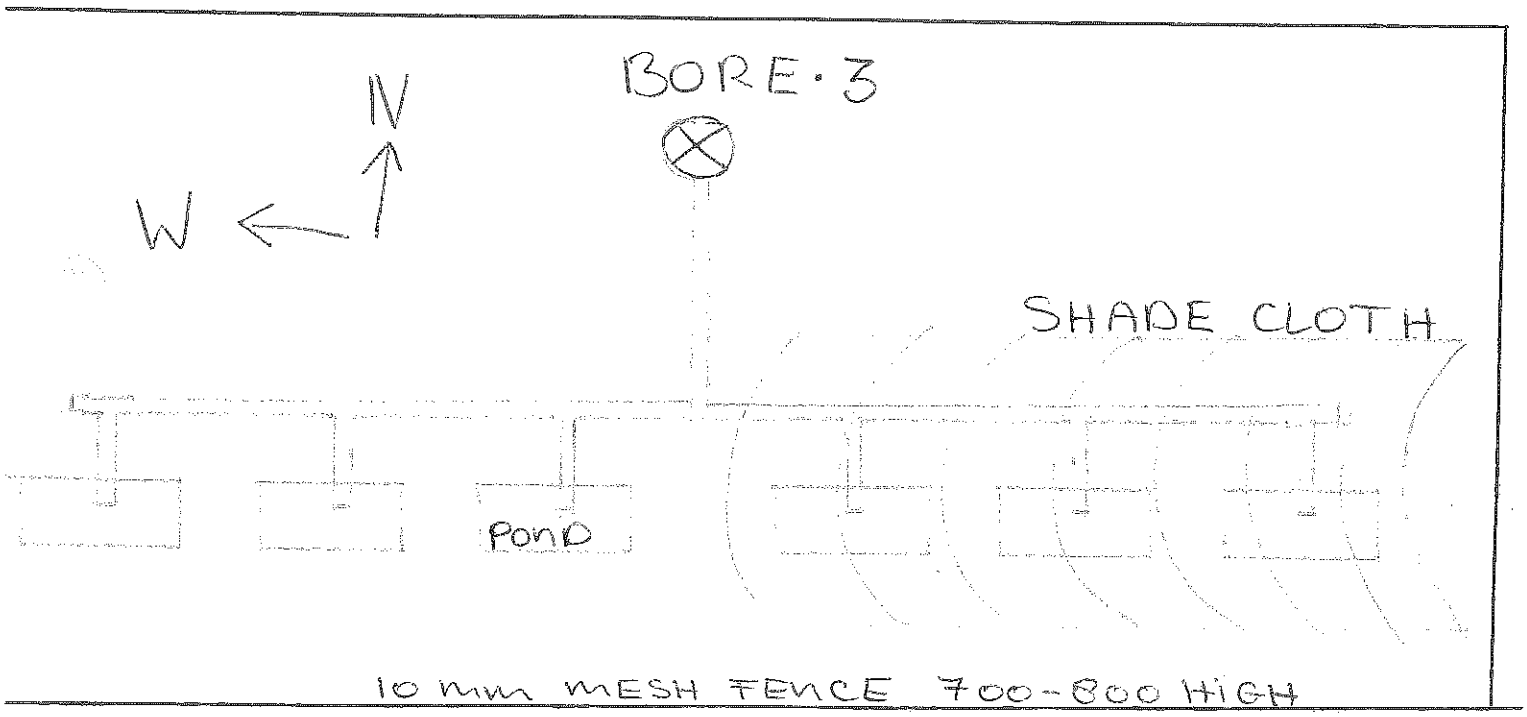
gate
Aymton Road


5 M
1/2M
4 M
1/2M
1/2M
12M deep
2 M


BORE·3
N
W
SHADE CLOTH
POND
10 mm MESH FENCE 700-800 HIGH

Government of South Australia
Primary Industries and Regions SA

PRIMARY INDUSTRIES AND REGIONS SA

APPLICATION TO AMEND (VARY) AN EXISTING LAND BASED AQUACULTURE LICENCE

(Pursuant to Section 52, *Aquaculture Act 2001*)

Simple variation $610
Standard variation $716
Complex variation $1831

Applications must be lodged to:
Fisheries and Aquaculture
Primary Industries & Regions SA
GPO Box 1625
Adelaide SA 5001
Cheques must be made payable to "Primary Industries & Regions South Australia"

SECTION 1
LICENCE DETAILS

Licence No: AQ 24b	Type of Licence : Land based cat. A.
Name of Licence Holder/s: Rob & Anjo Kerr	Postal Address Box 87 Wilmington SA 5485

PIRSA FISHERIES & AQUACULTURE
Level 14, 25 Grenfell Street, Adelaide SA 5000
GPO Box 1625, Adelaide SA 5001
Telephone (08) 8226 0900 Facsimile (08) 8204 1388
Email PIRSA.aquaculture@sa.gov.au
http://www.pir.sa.gov.au/aquaculture/home

sent as Attachment
via email 13-12-14

SECTION 2

APPLICATION CHECKLIST

payed via internet 13-12-14

- ☑ I have enclosed the **application fee**. (Please contact PIRSA Fisheries and Aquaculture to determine the correct application fee)
- ☑ I have paid all outstanding fees in full relevant to this lease and licence, up to and including the current instalment. to Dep. of Primary Ind. & Regions. via internet.
- ☑ I have submitted the most current **Environmental Monitoring Program** report to PIRSA Fisheries and Aquaculture.
- ☑ I have submitted the most current **Production Return** report to PIRSA Fisheries and Aquaculture.
- ☑ I have completed Section 5 of the application to **Notify a Nominate Specified Person** (if applicable) of the application being submitted. (Pursuant to Section 80, *Aquaculture Act 2001*).
- ☑ I understand my requirement, under *Aquaculture Act 2001* to inform PIRSA Fisheries and Aquaculture within 14 days of any changes.

SECTION 3

CONTACT DETAILS

Name of Licence Holder/s: Rob & Anjo Kerr

Trading Name: REMARKABLE NATURAL

If lease held by a company, name and position of person completing this application on behalf of the company:

.....

Business address: 1129 AMYTON RD WILMINGTON SA54

Postal address: box 87 wilmington SA

Telephone: 0437062697

Work: — Home: — Facsimile: —

SECTION 4
PRIMARY CONTACT DETAILS

Personal details of Primary Contact (if different from above).

Full Name: .....
(Given or Christian Name) (Surname or Family Name)

Address: .....

Postal Address: .....

Telephone: .....

Work:..... Home:..... Facsimile: .....

Email: .....

"I hereby accept nomination as nominee for the company described in this application. I understand the responsibilities imposed upon me by the *Aquaculture Act 2001* during the period I am nominee. I undertake to notify the PIRSA in writing if I cease to act as nominee for this company."

Signature: .....Date: .....

SECTION 5
NOTIFICATION TO A NOMINATED SPECIFIED PERSON

Nominated Specified Person consent (if applicable):
I.....,
am a person or company who is recorded as having an interest in aquaculture licence number ..... I am aware of this variation application being submitted.

☐ I/We consent to the licence being varied (please tick).

Name of specified person: .....
Signature: .....
Date: .....

SECTION 6
ADDITION OF SPECIES

Only complete this section if you are applying to add new species to your site.

1. Provide details of any new species you wish to farm on the site;

Common Name	Scientific Name
SILVER PERCH	BIDYANUS bidyanus
murray cod - maccullochella peelii	
catfish - tandanus tandanus	
marron - cherax tenuimanus	

2. Detail the expected tonnage on the site for each species identified:

Common Name (Scientific Name)	Max Expected tonnage on site (at full development)
1. silver perch 1½ ton	not sure
2.	
3.	

3. Source of broodstock / juveniles (for each species applied for):

MURRAY darling fisheries, wagga, wagga

4. Specify the type, amounts and source of food (in kilograms) to be fed per month to the stock (eg. dry pellets, moist pellets, silage):

dry pellets, amounts change as fish grow. shretting tasmania

5. Specify the manner, frequency and amount that the stock will be fed (eg automatic feeder, delivery on demand or delivery at specific times, fed by hand):

by hand, twice dayly, depending on the amount of algae, aquatic insects.

6. Identify any diseases which are known to cause problems for the proposed species. For each species state the diseases, provide details on how you will prevent the disease from occurring and what strategies you will use if there is a disease outbreak (attach separate pages if required):

As we use bore water there are no pathogens and parasites naturally. with understocking and good management we don't expect much problems. As there are only 5 fish in each pond o 20m. x3 montality will go i compa bin an the dam will b drained on weg ie, & one hone and dri out comp

7. List any known predators and provide details on the methods which will be used by the applicant for preventing and/or minimising these problems a) prior to commencement, and b) if a problem arises in the future:

birds - nylon vineyard netting across the top of the pond.

8. Describe measures to be undertaken to prevent the escape of stock:

all ponds are fenced.

SECTION 7
CHANGES TO ONGOING FARMING OPERATIONS

Only complete this section if you are applying to change the farming methods on your site.

9. Provide details of any new farming methods for which you are applying (attach a separate sheet if insufficient room):

10. Scale diagram of the new farming layout on the site attached?

YES ☐ NO ☐

11. Scale diagrams of all new structures attached?

YES ☐ NO ☐

SECTION 8
OTHER CHANGES TO LICENCE CONDITIONS

12. If you are applying to change any other licence conditions please provide details (attach a separate sheet if insufficient room):

.....

.....

.....

SECTION 9
DECLARATION

A person must not make a statement that is false or misleading in a material particular (whether by reason of the inclusion or omission of any particular) in any information provided under the *Aquaculture Act 2001*. Maximum penalty: $5000.

I/We declare that the information I/We have provided in this form in this form is true and accurate.

Signature of all licensees:

Signature	Name	Date
	Johanna Adriana Kerr	13.12.14
	Robert John Kerr	13.12.14

Note: on receipt of this application, you may be required to provide additional information

Expression of Interest to undertake Aquaculture in South Australia

Thank you for your enquiry regarding the establishment of an Aquaculture venture in South Australia (SA). Aquaculture occurs within the coastal waters of the state, along with operations being undertaken on land-based properties. Primary species that are currently farmed in SA include southern bluefin tuna, oysters, abalone, mussels, scallops, snapper, yellowtail kingfish, native finfish, freshwater crayfish, and barramundi. There is considerable potential and expectation for the expansion of this industry in SA.

PIRSA Aquaculture's role is the regulation of the aquaculture industry in SA, including zoning in the marine environment, leasing, licensing and ongoing monitoring of aquaculture activities under the *Aquaculture Act 2001*. Therefore for information regarding business management (staff requirements, sourcing, business planning etc.) and technical knowledge (source of stock, farming equipment and structures, marketability of produce and optimum growing conditions etc.) in your chosen aquaculture sector, it is recommended you contact your relevant industry association (list attached for your reference).

When you have established a plan for the development of your venture, including the species you would like to farm and the location where you would like to place your site, PIRSA Aquaculture requires a written Expression of Interest (EOI) to be submitted. An Expression of Interest is a basic plan of what you are looking to do with your venture, so that an initial assessment of your proposal can be made to determine if there are any immediate issues that prevent a full application and assessment process from being undertaken. This also allows PIRSA Aquaculture to determine the appropriate application form you will need to complete.

An Expression of Interest should include as a minimum, an overview of:

1. The species chosen for culture (including scientific name where known).
2. The location of the proposed site (including size in hectares and approximate site corner coordinates for marine-based aquaculture).
3. The farming method to be used (i.e. tanks, ponds, longlines, baskets, sea-cages etc. including a brief description of each).
4. Your ability to carry out the work involved (i.e. experience in aquaculture/primary production and qualifications where applicable).
5. Expected tonnage of output once fully established (or maximum tonnage the site can hold at full development).
6. Your history (if any) in the aquaculture industry.

PIRSA Aquaculture may also request further information on the EOI if the supplied information is insufficient to undertake the initial assessment. Once sufficient information is provided at the EOI stage, PIRSA Aquaculture will notify you of the suitability of the venture for full assessment and will send you the relevant application forms.

Please note: *The fees associated with lodging an application form and ongoing licence fees for an aquaculture licence are available in Schedule 1 of the* Aquaculture Regulations 2005, *available at http://www.legislation.sa.gov.au.*

Your completed Expression of Interest should be mailed to:

PIRSA Aquaculture
GPO Box 1625
Adelaide SA 5001

Please visit PIRSA Aquaculture's website http://www.pir.sa.gov.au/aquaculture for additional information or feel free to contact one of our staff on (08) 8226 0314 for any further enquiries you may have in regards to licensing your aquaculture venture.

PRIMARY INDUSTRIES AND RESOURCES SA

APPLICATION FOR LAND BASED AQUACULTURE LICENCE

Applications must be lodged with:

The Executive Director, Aquaculture Division
Primary Industries & Resources SA
GPO Box 1625
Adelaide SA 5001
Cheques must be made payable to "Primary Industries & Resources South Australia"

APPLICATION FEES

Application Fees for Land Based Aquaculture is determined by the type of aquaculture proposed as outlined below. Please note that the application fees will be determined by PIRSA Aquaculture and an invoice will be sent to you following receipt of your application.
Advertising Fee for landbased aquaculture licence $560.00 (Please note this fee is in addition to the application fees listed below and is payable on application). Any unused amount of this advertising fee will be refunded.
This table provides general guidelines of how land based applications will be categorised. PIRSA Aquaculture reserves the right to determine your risk category based on any information presented pre and post licensing.

Risk Category	Application Fee	*Details of Application*
Low (Category A)	**$1,350**	***Aquaculture Regulations* 2005 - Regulation 32** **-Fees** • The fees set out in Schedule 1 are prescribed for the purposes of the Act and these regulations. • For the purposes of Schedule 1- (a) the Minister must classify each licence other than a corresponding licence as a low risk (*category A*), medium risk (*category B*) or high risk (*category C*) licence having regard to factors affecting the ecological sustainability of aquaculture authorised by the licence, including- (i) any discharge of water from the licence area and the treatment of that water prior to discharge; and (ii) whether or not the species to be farmed are native to the locality of the licence area; and (iii) the susceptibility of the species to be farmed to notifiable disease within the meaning of the *Livestock Act 2007*
Medium (Category B)	**$1,615**	
High (Category C)	**$2,545**	

I. PERSONAL DETAILS

1. Personal details of applicant:

   If the applicant is a person complete the following information.

   If the applicant is a company complete question 2.

   Full Name: KERR ROBERT JOHN D.O.B. 02.06.1957
   (Surname or Family Name) (Given or Christian Name)

   Address: ~~PO Box 87~~
   Box 87, Willmington SA 5485

   Postal Address: ~~Box 101, AMERICAN River SA 5221~~

   Telephone: ~~Work:~~ 0437062697 ~~Home:~~ ..... ~~Facsimile:~~ .....

2. Company details (if applicant is a company):

   Business Address: .....

   Postal Address: .....

   Telephone: Work: .... Facsimile: .....

   Australian Business Number (ABN): .....

   Directors: Provide the following details for all company directors:

   NA

   Full Name: ..... D.O.B. .....
   (Surname or Family Name) (Given or Christian Name)

   Telephone: Work: ..... Home: ..... Facsimile: .....

   E-mail Address: .....

   Company Secretary:

   Full Name: ..... D.O.B. .....
   (Surname or Family Name) (Given or Christian Name)

   Telephone: Work: ..... Home: ..... Facsimile: .....

   E-mail Address: .....

3. Please provide details of a person who can be contacted in regard to this application:

Full Name: KERR (Surname or Family Name) ROB & ANJO (Given or Christian Name) D.O.B. 2.6.57 & 4.1.

Telephone: Work: 0437062697 Home: ..... Facsimile: .....

E-mail Address: anjo.kerr@bigpond.com.au

4. Is the applicant the owner of the land? ☒ Yes ☐ No

If No: Provide the name, address and phone number of the land owner: Chris Philips

in the process of buying the land

II. LOCATION

5. Please provide the street address of the aquaculture site: Amyton Road

6. Section and Hundred of aquaculture site: Section 524 HD of Willochra

7. Council of aquaculture site: Mount Remarkable

8. Name and postcode of the closest town to the development: Wilmington SA 5485

9. Provide coordinates for the location of the development. These can be obtained from a map (longitude and latitudes marked on a map), or Global Positions System (GPS) (NB please specify the datum eg WGS 94, GDA 94)

32°37'33.82" S 138°14'00.31" E

10. Identify any other aquaculture ventures within 10 kilometres of the proposed development site:

none

11. Name and provide distance and details of the nearest natural water body:

Port Augusta, Spencer Gulf ±65km

12. Name and provide details of the nearest conservation or national parks:

Mount Remarkable National Park ±35km

13. Provide a Land Titles Office 1:50,000 topographical/cadastral map or 1:10,000 orthophoto/cadastral map. (Maximum size – A3) which identifies the location of the proposed aquaculture site. This can be obtained from the Land Titles Office. Note: originals will not be returned.

III. DETAILS OF SPECIES TO BE FARMED

14. Identify the species to be farmed, and the expected tonnage on the site for each species identified.

Common Name	Scientific Name	Max Expected tonnage on site (at full development)
1. yabbie	Cherax	50 Kgs PER WEEK
2. fresh water	destructor	2½ TONES PER YEAR
3. crayfish		
4.		
5.		

IV. FARM OPERATION AND SITE LAYOUT

Source of broodstock / juveniles (for each species applied for):

FRESH WATER CRAYFISH ASSOCATION

16. Is fish processing or feed preparation to take place on the site? ☐ Yes ☑ No

If Yes:

Provide details of how the fish will be processed or the feed prepared, including waste management procedures:

17. Provide a description of each major phase of development. Detail the total capacity of the operation (square metres for ponds and/or number and volume of tanks), and the approximate date of completion for each improvement (for the next 5 years):

PONDS 20m long 2m DEPTH, SLOPEING SIDES 6m AT TOP

PLASTIC LINED —

SHADE CLOTH COVER,

3 YEARS TILL FINISH PROJECT

18. Approximate the date when full production will be reached at the site: 3 YEARS TIME 2013

19. Provide a description, using attached sketches/diagrams/photos, of all structures including any ponds, dams or tanks that will be used in the farming operation (this is to included settlement and culture ponds, purging, culture and/or holding tanks, processing/packing sheds etc). Attach to the application a line drawing of the layout of the proposed farm.

see attached paper

20. Attach photos or video footage of the proposed location and any existing infrastructure to be used for the operation. ☐ Yes ☑ No

V. ENVIRONMENTAL ISSUES

21. Provide details of the source, salinity and approximate monthly volume of water (eg catchment, bore, river) to be used for the operation:

Source of water	Salinity (parts per thousand)	Approx monthly volume (litres)
BORE WATER	5 PARTS	(25 PONDS) EVAPERATION = ± 1,000 LITERS

22. Describe how waste water from the operation be treated and state what is expected to be removed(eg: nutrient, sediment removal systems):

THE WATER FROM PONDS ONCE PER YEAR TO BE PUMPED TO LARGER SETTLEMENT POND THEN FILTERED BACK THROUGH A CHARCOAL FILTER TO POND AFTER POND HAS BEEN CLEANED.

23. Provide details of the quantity/volume of waste water to be discharged:

SMALL AMOUNT IN BOTTOM OF POND ~~TO~~ WHICH CANT BE PUMPED

24. Provide details of how and where waste water will be discharged:

SMALL GARDEN & FRUIT TREES

PLAN TO HAVE MINAMUL WATER WASTE,

25. Provide details of the expected frequency of waste water discharged:

26. How will solid waste (eg organic sludge) from the operation be disposed of?

ON ~~FARMED LAND~~ OUR OWN FARMED LAND

27. How will the impact of localised flooding be controlled?

1m HIGH BANK AROUND ALL PONDS

28. Describe any likely sources of agriculture or industrial water pollution (eg sewerage, processor wastes, and chemical run-off) which may affect the operation:

— n/A

29. Is the underlying water table less than 1 metre beneath any proposed ponds? If so how will the ponds be lined to prevent seepage occurring into the groundwater?

— n/A

30. Is there Acid-Sulphate soil located on your proposed site? (further information may be obtained from your local council or DEH).

— n/A

31. Provide details of any noise/odour issues associated with your development that may affect neighbouring properties.

~~—~~ No neighbouring properties within ±5km

VI. FARMING METHODOLOGY

32. Specify the type, amounts and source of food (in kilograms) to be fed per month to the stock (eg. dry pellets, moist pellets, silage):

PELLETS, 6.~~1/2~~ kg per ~~[illegible]~~ pond per month

33. Specify the manner, frequency and amount that the stock will be fed (eg automatic feeder, delivery on demand or delivery at specific times, fed by hand):

By HAND, 1 1/2 kg per pond per week once per week,

34. Describe how all infrastructure will be kept clean (eg by using antifoulants, by washing with high pressure water jets, by scrubbing).

draining & dredging ~~once~~ once a year

35. Detail the expected frequency of cleaning, where they will be cleaned (eg. land or water based), and where all wastes and waste water will be disposed:

CLEAN PONDS ONCE PER YEAR, SLUGE TO BE PLACED ON OUR FARM AS A FERTILISER.

Identify the types of chemicals that will be used in the operation, the approximate quantities to be used, the frequency of use and whether any will be released into the aquatic environment:

no chemicals will be used

37. Identify any diseases which are known to cause problems for the proposed species. For each species state the diseases, provide details on how you will prevent the disease from occurring and what strategies you will use if there is a disease outbreak (attach separate pages if required):

THELOHANIA & TEMNOCEPHIDS, DRAIN POND AND ALOW POND TO DRY, COMPLETLY BEFORE REFILL

38. List any known predators and provide details on the methods which will be used by the applicant for preventing and/or minimising these problems a) prior to commencement, and b) if a problem arises in the future:

PREDATORS = BIRDS = SHAGGS = SHADE CLOTH.

39. Describe measures to be undertaken to prevent the escape of stock:

10 mm mesh fence of 700-800 mm high around the ponds and the ponds itself will be plastic lined.

VII. OTHER APPROVALS REQUIRED

40. Do you currently possess a Water Licence to source water ☐ Yes ☑ No

    Note: If "no" you should contact The Department Of Water, Land And Biodiversity Conservation to determine if a licence for the taking of water and/or for the drilling of a well is required:

41. Do you intend to clear native vegetation for this proposal? ☐ Yes ☑ No

    Note: If "yes" you should contact Native Vegetation Council Secretariat to determine if a licence to clear native vegetation is required.

42. Has Development Approval been granted by the relevant council for this proposal? ☐ Yes ☑ No

    Note: if "no" you should to contact your local council to determine if development approval is required.

    If "yes" attach a copy of the relevant Decision Notification Form

VIII. DECLARATION

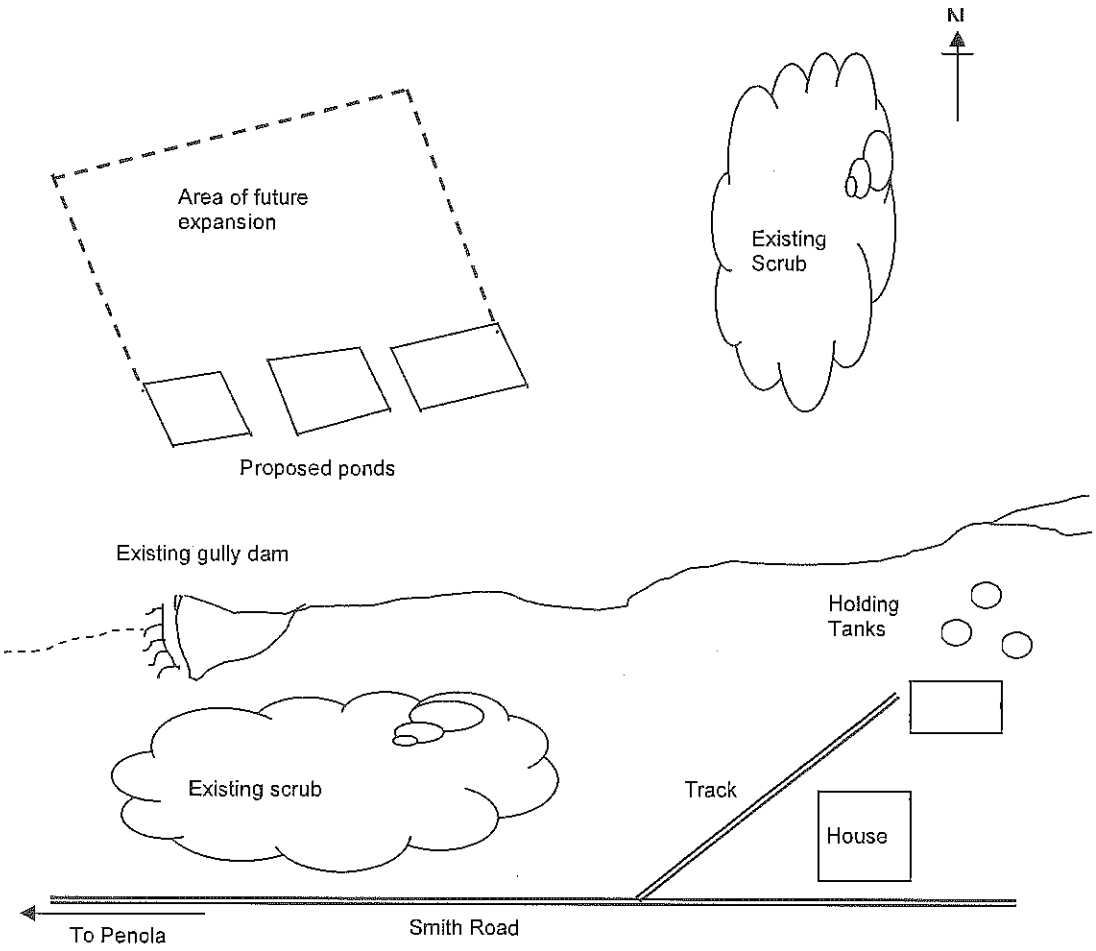
43. I declare that the information contained in this application is true and accurate:

Signature of all applicants:

Signature	Name	Date
.....	ROBERT JOHN KERR	.....
.....	.....	.....
.....	.....	.....

question 13 10 20

Example Sketch of structures



copy!

ABN: 35 536 684 997

Business Plan

Rob and Anjo Kerr

Trading as

RJ & JA Kerr

Contact Details:

PO Box 87
Wilmington SA 5485

Mob: 0437 062 697

Overview of the Business

The business operates as a Partnership between Robert John Kerr and Johanna Adriana Kerr.

The 500 acre site on which the business is based was purchased in October 2010. The property had three unrestricted bores which were free flowing and were capped. Seven ponds for fish, yabbies and marron were subsequently built.

Water from the ponds (high in nutrients) is used to grow corn in summer which in turn is used to feed the fish and yabbies. In winter a crop of garlic is grown which is sold to local shops. In addition a vegetable garden, orchard and 75 citrus trees have been established. Gum trees are also being planted. The balance of the acreage is used to run 100 sheep.

The property is off the power grid and operates on a solar system. Power grid is 5 km from the site.

Currently bulk of income is derived from shearing with about $50,000 per year being invested in the fish farm with locally sourced materials.

Now after five years the basic infrastructure is in place to enable expansion to occur.

The aim will be to build 15 new ponds (10 large and 5 small) and produce 5,000 fish, 500 kg marron (=1700 marron), and 250 kg (=4,000 yabbies), plus garlic for sale to local markets. The ponds will be constructed on a staged basis over slightly less than two years.

It should be noted that the slow growth rate of fish, marron and yabbies (detailed later) means that benefits will not arise in the short term, however this project provides the foundation for increased production hence future jobs growth. One full-time position will be created 18 months after commencement of construction plus indirect positions will be supported in the provision of transport, maintenance and other services.

Longer term but outside the scope of this project there is capacity for further expansion and increases in production.

It is also worth noting that the business could be used as an example to other irrigators, to profit more from the use of water and adding nutrition to water.

Location

The business is located approximately 12 km east of Wilmington in South Australia's Mid North

1129 Amyton Road, Wilmington SA 5485.

The business is under the area covered by the District Council of Mount Remarkable.

Site

- Sections 45 and 524, Willochra
- CT Vol 5499 Folio 736

Licence
The business is licenced by the Department of Fisheries and Aquaculture.

Land based Category B Licence AQ00246

- Approved Species:
  - Catfish
  - Murray Cod
  - Marron
  - Golden Perch
  - Silver Perch
  - Yabbies

The site was inspected by the EPA in September 2013 without any issues.

Vision
Vision is to increase the production of fish and yabbies (plus garlic) in an environmentally sustainable manner to sell to markets.

Current Facilities
The property has 3 large ponds and 4 small ponds.

Current stocks
- 1200 silver perch
- 200 marron
- 200 yabbies

The water from the ponds (high in nutritional value) is used to irrigate one acre of garlic, one acre of fruit orchard, 75 orange trees and sweet corn. The sweet corn cobs are used as fish food and the plant is cut and fed to sheep.

Expansion Project (Inland Fish Farm Expansion)

All the piping and hydrants for the 10 large and 5 small ponds are in place. The area is also fenced off.

The project is now ready for digging the 15 new ponds.

The project will involve:
- Constructing 10 large ponds 30m x 20m x 2m deep
- Constructing 5 small ponds 30m x 12m x2m deep (filter ponds)
- Fencing the edge of the ponds
- Plastic line all ponds
- Place netting over all the ponds
- 10 x 75mm volume pumps (one for each large pond)
- 10 x sets of solar panels, batteries and pumps for each large pond
- 1 x 15 kVA Generator and fittings
- 2 x Air Pumps with fittings

Four hundred fingerlings will be placed in each large pond

The prime goal will be to produce 5,000 fish, 500 kg marron (=1700 marron), and 250 kg (=4,000 yabbies), plus garlic for sale to local markets.

Project Stages, Timeline and Cost

To manage the project in an efficient manner it has been determined that the best way forward is to construct all the ponds over five stages.

Each stage will involve the construction of two large ponds and one small pond located between the two large ponds. The small pond acts in a filtering capacity for the large ponds located either side.

The first stage will also involve the purchase and installation of a 15 kVA generator and two blow pumps to provide aeration at night.

Stage One – Construction of two large ponds and one small pond

Project Component	Material and/or Equipment Hire Cost	Labour/ Installation Cost	Total Cost (Excl GST) $
Excavation of 2 big ponds	3,840		3,840
Excavation of 1 small pond	960		960
Truck/Operator	240	120	360
Travel for excavator	165		165
Pond Liners	6,900	200	7,100
Fencing ponds	1,200	400	1,600
Netting over ponds	700		700
6 x solar panels	1,120	300	1,420
6 x batteries	1,050		1,050
2 x solar pumps	2,200		2,200
Total			**19,395**

Purchase and installation of a 15 kVA generator and two blow pumps

Project Component	Material and/or Equipment Hire Cost	Labour/ Installation Cost	Total Cost (Excl GST) $
Generator and fittings	11,500	2,000	13,500
2 air pumps and fittings	4,000		4,000
Total			**17,500**

The total cost for Stage One is $36,895

Stages two to five comprise 4 x sets of 2 large and 1 small pond as detailed above.

i.e. 4 x $19,395 = $77,580

Total cost stages one to five is $114,475

Timeline and cost

Project Component	Start Date	Finish Date	Cost $
Stage 1 Ponds 1 to 3 + Generator & Pumps (aeration)	1/07/2016	1/10/2016	36,895
Stage 2 Ponds 4 to 6	1/11/2016	1/02/2017	19,395
Stage 3 Ponds 7 to 9	1/03/2017	1/06/2017	19,395
Stage 4 Ponds 10 to 12	1/07/2017	1/10/2017	19,395
Stage 5 Ponds 13 to 15	1/11/2017	1/02/2018	19,395
Total			114,475

Bank Arrangements

The business has an overdraft facility with Bank SA. The overdraft limit is $50,000 with an additional $30,000 available that can be redrawn from term loan.

Funding

Funding will be provided via the Banking Arrangements mentioned above.

Should Upper Spencer Gulf and Outback Futures funding application be successful the aim will be to stage the work such that payments can be made on achievement of milestones and hence reimburse expenditure in a manner that will minimise loan funds.

Failure to be successful in winning a grant will mean that the project will go ahead but at a much slower rate i.e. that is considered prudent and affordable.

Development Approval

Will be sought from the District Council of Mount Remarkable. The project is basically an expansion of existing use with no effect on neighbouring properties and hence no major issues are foreseen.

A letter from the EPA dated 15/2/2016 advises that providing the expansion is designed and operated in accordance with current practice there is unlikely to be any issues to be of concern to them.

Grow time for stock before sales can be made

Fish – Silver Perch will be purchased as fingerlings. After about 18 months these will grow out to about 500 grams for sale.

Marron – 2 to 3 years (300 to 400 grams)

Yabbies – 1 year (80 to 100 grams)

The market for Products

Fish (Silver Perch)

- The fish will grow out to about 25 cm (500 grams) before being sold. Growth period is about 18 months from fingerlings.
- Harvested with nets.
- Markets include:
    - Human consumption (sold to Fergusons in Adelaide)
    - Stocking dams for fertilised irrigation
    - Sold to SA Fishing Association for Recreational Fishing
    - RecFish SA – for restocking of reservoirs
- Target is to sell 5,000 fish (500 to 600 grams) at $10 per fish. Income $50,000.

Marron sales

- Sales should commence in about 2 years once they have grown a sufficient size.
- Targeted sales is 500 kg (300 grams per marron) at $30 per kg. Income $15,000.
- Sales to Fergusons Australia in Adelaide

Yabbies

- Harvested in pots
- As well as being sold yabbies are farmed with the fish to control the number of yabbies and to control algae.
- Targeted sales 250 kg (15 yabbies per kg). $20 per kg. Income $5,000.
- Sales to Ferguson Australia in Adelaide.

Garlic

- The garlic planting, harvesting and cleaning is now done by hand. The aim will be to automate by using machinery yet to be purchased (i.e. garlic planter and harvester). Sludge from the ponds is used as a fertiliser.
- The garlic is sold to local shops and farmers markets
- Aim will be to increase crop size in the future

Estimated Sales from Aquaculture Activities

Product	2015/16		
	Qty	Price	$ Value
Fish	1200	$10 each	$12,000
Marron			$
Yabbies	100	$20/kg	$2,000
Fruit and Vegetables	500	$10/kg	$5,000
		Total	**$19,000**

Product	2016/17		
	Qty	Price	$ Value
Fish	1200	$10 each	$12,000
Marron			$
Yabbies	100	$20/kg	$2,000
Fruit and Vegetables	500	$10/kg	$5,000
		Total	**$19,000**

Product	2017/18		
	Qty	Price	$ Value
Fish	5,000	$10 each	$50,000
Marron	500	$30/kg	$15,000
Yabbies	250	$20/kg	$5,000
Fruit and Vegetables	1,000	$10/kg	$10,000
		Total	**$80,000**

Product	2018/19		
	Qty	Price	$ Value
Fish	5,000	$10 each	$50,000
Marron	500	$30/kg	$15,000
Yabbies	250	$20/kg	$5,000
Fruit and Vegetables	1,000	$10/kg	$10,000
		Total	**$80,000**

Operating Expenditure

Item	2015/16	2016/17	2017/18	2018/19
	$	$	$	$
Purchase Fish Stock	5,000	5,000	5,000	10,000
Feed	3,000	3,000	3,000	6,000
Wages		1,000	20,000	40,000
Other.	5,000	5,000	5,000	10,000
Total Expenditure	**13,000**	**14,000**	**33,000**	**66,000**

Summary Income and Expenditure

	2015/16	2016/17	2017/18	2018/19
Income (Sales)	$	$	$	$
Silver Perch	$12,000	$12,000	$50,000	$50,000
Marron	$	$	$15,000	$15,000
Yabbies	$2,000	$2,000	$5,000	$5,000
Fruit & Vegetables	$5,000	$5,000	$10,000	$10,000
Total	**$19,000**	**$19,000**	**$80,000**	**$80,000**
Expenditure				
Stock	$5,000	$5,000	$5,000	$10,000
Feed	$3,000	$3,000	$3,000	$6,000
Wages		$1,000	$20,000	$40,000
Other	$5,000	$5,000	$5,000	$10,000
Total	**$13,000**	**$14,000**	**$33,000**	**$66,000**
Gross Profit	**$6,000**	**$5,000**	**$47,000**	**$14,000**

Notes

- Wages will be casual initially then move to full-time in 18 months as fish grow to saleable size and labour will be required to prepare product for sale.
- Higher expenditure in the 2018/19 is associated with the stocking of further new ponds

Outcomes

The project will produce 5,000 fish, 500 kg of marron and 250 kg of yabbies per annum, plus fruit and vegetables for the local market from what is a clean environment.

The project utilises solar energy and waste nutrients are used to sustain crops of garlic and orange trees thus making the project environmentally sound.

Excess water is used to grow gum trees.

One direct job will be created as a result of this project to support operations (about 18 months after completion of construction). Additional jobs will be created during the construction period and indirectly for transport and sales of product.

Supplementing the above provision will be made to provide students/tourists with the opportunity to see and learn about aquaculture and participate in fishing from the ponds.

The site has sufficient space for further expansion in the long-term future.

It is also worth noting that the business could be used as an example to other irrigators, to profit more from the use of water and adding nutrition to water.

ABN: 35 536 684 997

Project Plan

Inland Fish Farm Expansion

Rob and Anjo Kerr

Trading as
RJ K & JA KERR
Remarkable Natural

Contact Details:

PO Box 87
Wilmington SA 5485

Mob: 0437 062 697

EMAIL ANJO.KERR@BIGPOND.COM.AU

Project Title

Inland Fish Farm Expansion

Project Purpose

To construct 15 new ponds and hence expand the production and sale of silver perch, marron and yabbies in an environmentally sound manner incorporating the use of high nutrient water for the growing of corn, garlic and oranges. The corn is used internally to feed stock and the garlic and oranges are sold to ~~markets and~~ local shops

Background

The 500 acre site on which the business is based was purchased in October 2010 by Rob and Anjo Kerr. The property had three unrestricted bores which were free flowing and were capped.

Seven ponds for fish, yabbies and marron were subsequently built.

Water from the ponds (high in nutrients) is used to grow corn in summer which in turn is used to feed the fish and yabbies. In winter a crop of garlic is grown which is sold to local shops. In addition a vegetable garden, orchard and 75 citrus trees have been established. Gum trees are also being planted. The balance of the acreage is used to run 100 sheep.

The property is off the power grid and operates on a solar system. The powered grid is in a 5 km. away

Currently bulk of income is derived from shearing with about $50,000 per year being invested in the fish farm with locally sourced materials.

Now after five years the basic infrastructure is in place to enable expansion to occur

The aim will be to build 15 new ponds (10 large and 5 small) and produce 5,000 fish (silver perch), 1 tonne of marron (=3000 marron), and 250 kg (=4,500 yabbies), plus garlic for sale to local markets. Tourists will also be provided with the opportunity to see and learn about aquaculture and participate in recreational fishing from the ponds.

Location

The business is located approximately 12 km east of Wilmington in South Australia's Mid North.

1129 Amyton Road, Wilmington SA 5485.

The business is under the area covered by the District Council of Mount Remarkable.

Site

- Sections 45 and 524, Willochra
- CT Vol 5499 Folio 736

Licences
The business is licenced by the Department of Fisheries and Aquaculture.

Land based Category B Licence AQ00246

- Approved Species:
  - Catfish
  - Murray Cod
  - Marron
  - Golden Perch
  - Silver Perch
  - Yabbie

The site was inspected by the EPA in September 2013 without any issues.
+ letter ~~bit~~ EPA - received presently

Current Facilities
The property has 3 large ponds and 4 small ponds.

Three Large Ponds (30m x 20m)
- 1 with 400 silver perch + 300 yabbies
- 2 with 400 silver perch +100 marron each

Four Small Ponds (20m x 10m)
- 1 with marron
- 1 with yabbies
- 2 with fingerlings

The water from the ponds (high in nutritional value) is used to irrigate one acre of garlic, one acre of fruit orchard, 75 orange trees and sweet corn. The sweet corn cobs are used as fish food and the plant is cut and fed to sheep.

Expansion Project
All the piping and hydrants for the 10 large and 5 small ponds is in place. The area is also fenced off.

The project is now ready for constructing the 15 new ponds.

The project will involve:

- Constructing 10 large ponds 30m x 20m x 2m deep
- Constructing 5 small ponds 30m x 12m x2m deep (filter ponds)
- Fencing the edge of the ponds
- Plastic line all ponds
- Fitting netting over all the ponds
- ~~10 x 75mm volume pumps (one for each large pond)~~
- 10 x sets of solar panels and batteries for each large pond (each set comprising 2 solar panels and 2 batteries)
- ~~Decking around two large ponds for recreational fishing~~
- ~~Decking around one smaller filter pond for recreational catching of yabbies~~
- ~~Picnic area with tables amenities and barbeque for tourists to cook fish and yabbies~~
- ~~Purchase garlic planter~~
- ~~Purchase garlic Harvester~~

Four hundred fingerlings will be placed in each large pond

The prime goal will be to produce 5,000 fish, 1 tonne of marron (=3000 marron), and 250 kg (=4,500 yabbies), plus garlic for sale to local markets.

Project Stages, Timeline and Cost

Project Component	Start Date	Finish Date	Material and/or Equipment Hire Cost	Labour Cost	Total Cost	
Construct 15 Ponds – Equipment Hire + Labour	1/7/2016	31/8/2016	$25,000	$3,000	$28,000	
Purchase Plastic lining and install in all ponds –	1/9/2016	30/9/2016	$4,500	$1,500	$6,000	
Fencing edge of Ponds	1/9/2016	30/9/2016	$12,250	$2,750	$15,000	
Purchase ~~and fit~~ pumps and solar panels	1/10/2016	31/11/2016	$10,000	$2,500	$12,500	
Purchase and fit netting to Ponds	1/12/2016	31/12/2016	$7,500	$1,000	$8,500	
Purchase Garlic Planter and Harvester	1/2/2017	28/2/2017	$20,000		$20,000	X
Place decking and complete picnic area	1/7/2017	31/7/2017	$6,000	$4,000	$10,000	X
Amenities for Tourists	1/8/2017	31/8/2017	$25,000	$5,000	$30,000	X
		Total	**$110,250**	**$19,750**	**$130,000**	

+ genie $17,500
1750
19,250

+ aeration

TOTAL

Need to replace above with realistic dates and costs (with quotes where possible) in line with the task, available funds and need to have funds to cover fish stocks and feed plus cover other operating costs.

If tourism facilities are to be included work must be completed within 24 months of start date.

Project Layout

Attachment A - Shows location on the property where the ponds will be built. Area "A" shows existing ponds, Area "B" shows where the new ponds are to be developed.

Attachment B - Shows the location on the property where the garlic and corn are grown.

Attachment C - Shows the layout of the new Ponds

Development Approval

Will be sought from the District Council of Mount Remarkable. The project is basically an expansion of existing use with no effect on neighbouring properties and hence no major issues are foreseen.

Any other approvals required ???????????????? EPA - letter tomor

Completion of Construction

Once construction is complete the ponds will sequentially be filled with water, left for 2 – 3 weeks for algae and micro-organisms to grow and then stocked with fish, yabbies and marron.

Water requirement - 1,200,000 litres for a large pond and 600,000 litres for a small pond.

Water flow rate from bores is 19 litres per second.

Each (fish, marron, yabbie) will be allowed to grow until the most economic saleable size.

Project Management

Rob will manage construction in the most efficient and economic manner based on experience in constructing the previous seven ponds.

Budget

The budget is based on quotes for the prime components of the project plus miscellaneous materials and labour i.e.

- Civil works associated with pond construction
- Fencing
- Purchase of Plastic liners
- Purchase of Pumps and solar panels
- Purchase of Decking
- Purchase of BBQ, furniture etc. for picnic area.
- purchase of generator $ 13,500
  install $ 3,000
  labour $ 1,000

Cost Management
A detailed budget will be prepared and costs aligned to budget to ensure effective control over costs and also ensure that funds are available to pay accounts as required.

Risk Management

Water Supply
The water bores have been tested for flow rate, over a period of 4 hours. The average flow rate was 19 litres per second over a period of four hours. The amount of water used is small compared to the amount of water available thus not a serious risk. Each pond is drained and cleaned every 12 months.

Disease Control
[Insert Control measures] WATER IS NOT TRANSFERD FROM POND TO POND
LOW STOCKING RATE 1 FISH PER 3 CUBIC METERS

Insurance
[Insert details]

Funding
Should grant funding be successful the work will be staged to allow reimbursement in a manner that will enable control over cash flow. Has a $50,000 overdraft facility topped with a redraw facility of $30,000.

Construction
Construction materials and services are readily available such that there should be no major impediments to completing construction.

Work Health and Safety
Rob will ensure all workers and contractors on site wear appropriate safety clothing.

That all contractors are appropriately licenced

That all jobs are planned (JSP) before commencement to ensure any risks to personnel or plant and equipment is minimised

Outcomes

The project will produce 5,000 fish, 1 tonne of marron and 250 kg of yabbies plus fruit and vegetables for the local market from what is a clean environment.

The project utilises solar energy and waste nutrients are used to sustain crops of garlic and orange trees thus making the project environmentally sound.

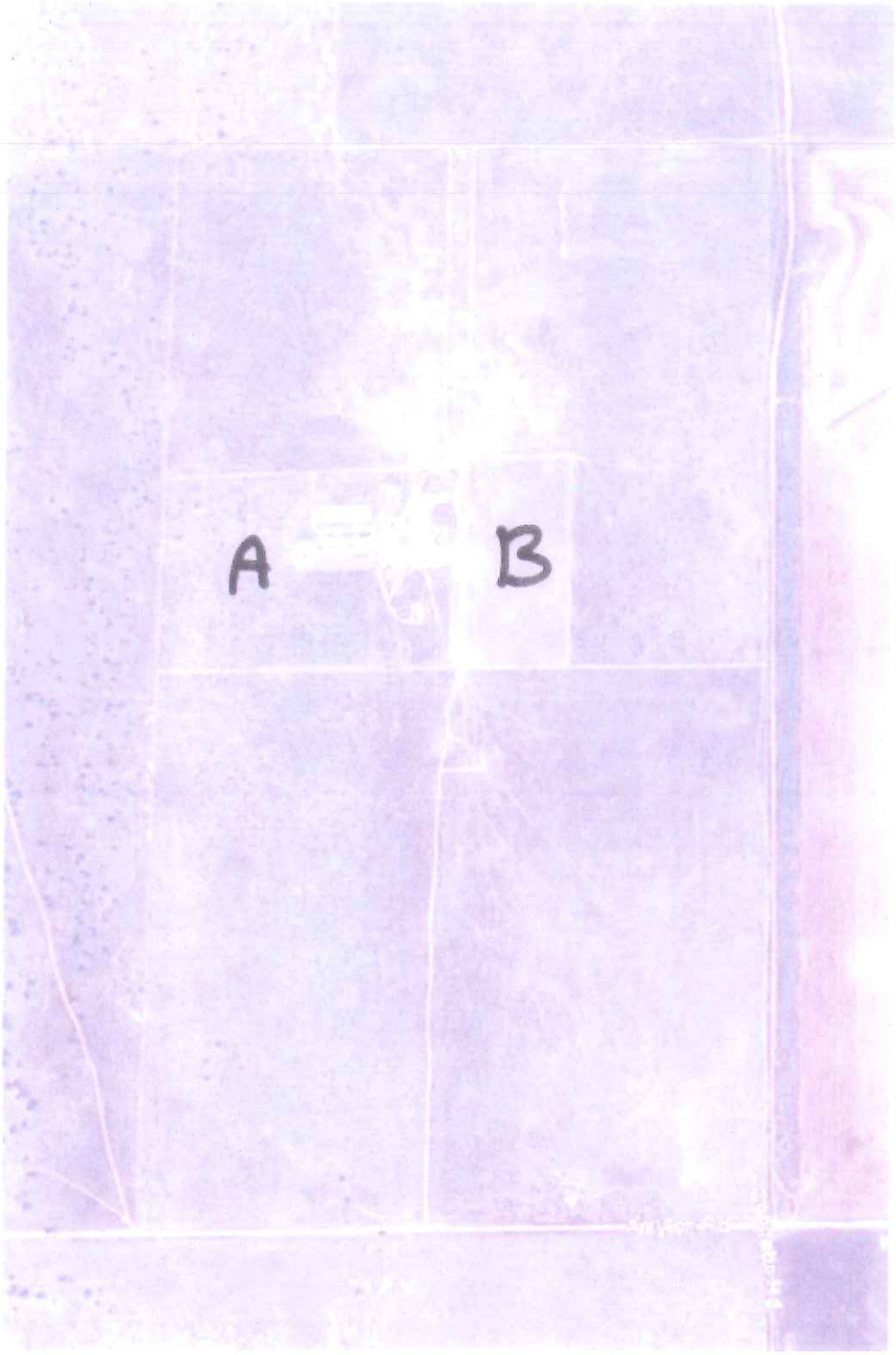
One direct job will be created as a result of this project to support operations. However it should be noted that this job will not be created until 18 months after completion of construction by which time the fish will have grown to a saleable size.

Additional jobs will be created during the construction period and indirectly for transport and sales of product.

Supplementing the above provision will be made to provide tourists/students with the opportunity to see and learn about aquaculture and participate in fishing from the ponds.

Attachment A

Shows location on the property where the ponds will be built. Area "A" is existing ponds, Area "B" shows where the new ponds are to be developed.



Attachment B

Shows the location on the property where the garlic and corn are grown.

garlic in winter
corn in summer

Attachment C

Shows the layout of the new Ponds. The ponds associated with this project are shown on the right side of the drawing. Ponds on the left side will be developed as a separate future project.

SCHEDULE 1
ADDITIONAL INFORMATION TO BE PROVIDED FOR ABALONE PROPOSALS ONLY

Where abalone proposals require access to seawater and require the construction of intake and discharge pipes outside of the property boundaries the following information should be provided:

- Detailed descriptions and scale diagrams, preferably provided by a licensed surveyor identifying:
  - The location of the land based facilities.
  - The location of the intake and discharge pipes.
- Details of ownership of adjoining land over which the pipes will be constructed (available from the Land Titles Office).
- Details of the materials to be used to construct the pipes.
- The materials to be used for the intake and discharge pipes.
- Design of the intake and discharge points.
- Details of methods to be employed to bury the pipelines under the beach and seabed.
- Length of pipes (both from the property to the high water mark and from the high water mark to the discharge/intake points).
- Details of the depth of the pipes beneath the sea (relative to the Australian Height Datum)
- Plans for landscaping and rehabilitation of native vegetation displaced during the construction of the pipes.
- How site will be accessed.

A Biogeographical report written by a Biologist or similarly qualified person which includes:

- A statement of the author's qualification and experience
- Description of the common animals and plants found at and around the intake and discharge pipes using scientific names where possible. Include a description of any seagrasses found and their coverage in terms of percentage and density of coverage within 50 metres of the intake and discharge pipes
- A description of the seafloor including types and sizes of sediments
- Description of the substrate at the site (reef, boulders, pebbles, sand, silt)

This report must be supported by sediment samples and at least one video or photographic transect.

The transect video or photos should:

- Pass through the location of the proposed intake and discharge pipes
- Where practical, images should be taken at about 1 metre above the sea floor at an angle of about 45 degrees
- Where a video is used it should be continuous for the entire transect and include horizontal pans at the beginning, middle and end of the transect
- Where photos are used these should be taken at intervals no greater than 10 metres and be sequentially numbered
- GPS readings (in Australian Mapping Grid references) should be provided for the beginning and end of the transect
- Sediment samples should be taken at the start middle, and end of the transect
- A map showing the distribution of substrate types, as well as the location of the dominant fauna and flora on the site.

Note: As a part of the Development Approval Process the details and layout of any proposed buildings, sheds or other constructions will be required by the Development Assessment Commission.

MANAGMENT PLAN

WE HAVE,

3 LARGE PONDS $30^m \times 20^m$, PLASTIC LINED, PLUS NETTING ON TOP,

4 SMALLER PONDS $20^m \times 10^m$ ALSO PLASTIC LINE PLUS NETTING ON TOP AND BOUNDRIES

400 SILVER PERCH IN EACH LARGE POND, +

300 YABBIES IN ONE LARGE POND,

100 MARRON IN EACH OF THE OTHER 2 PONDS.

1 SMALL POND = MARRON, 1 SMALL POND = YABBIES

2 SMAL POND FOR FINGERLINGS.

1200 FISH ARE 500 - 600 GRAMS AND ARE SPOKEN FOR, AND THE SAME WITH ALL YABBIES AND MARRON.

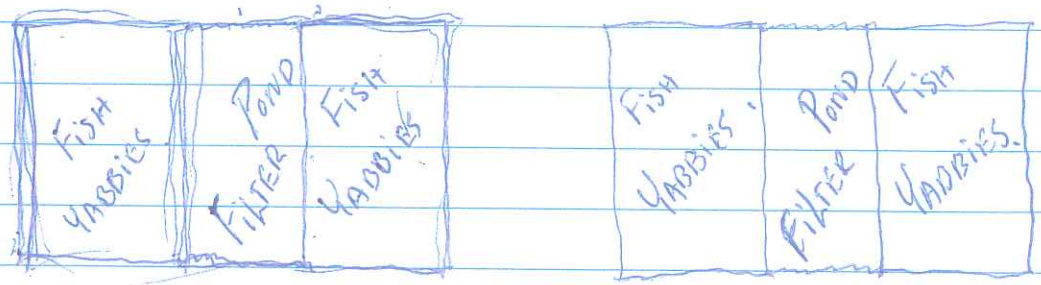
TO MAKE A VIABLE BISNESS WHERE WE CAN EMPLOY, SUPPLY (FISH, YABBIES, MARRON, GARLIC) AND HAVE TOURIST FOR RECREATIONAL FISHING & YABBIES.

WE NEED,

10 LARGE PONDS $30^m \times 20^m$ PLASTIC LINED PLUS NETTING ON TOP, AND NETTING ON BOUNDERIES

5 SMALLER PONDS, FILTER PONDS

1



400 FISH IN EACH POND

300 YABBIES/MARROW IN EACH POND

1200 CUBIC METERS WATER IN LARGE FISH POND

600 CUBIC METERS WATER IN FILTER POND.

WE NEED

20 TON EXCUATOR = $125 PER HOUR.
2 DAYS PER LARGE POND.
1 DAY FILTER POND.
= 20 DAYS LARGE PONDS + 5 DAYS SMALLER PONDS
= $25,000

LOCALY HIRED FROM (NEAR BY)
BEN FOWIS, WHO LOST HIS JOB IN MINES,
AND HOPES TO PICK UP WORK ~~AS~~ WITH HIS EXCUATOR
AND TRUCK.

15 PLASTIC LINERS
PURCHASED FROM VITTERA, USED SILO TARPS.
COST $300 EACH. = $4500
NEED EXTRA LABOUR TO FIT TARPS IN PONDS
NEED EXTRA LABOUR TO BUILD FILTER PONDS

25 ROLLS WIRE NETTING } BOUNDERIES.
550 STAR DROPPERS
15 NETTING FOR TOP OF PONDS + WIRE.
$500 PER NET = PER POND.
400 FISH PER POND
$1.00 PER FINGERLING FROM MURRAY DARLING
FISHERIES.
= 4,000 FISH = $4,000.

FISH FOOD $60 PER BAG
2 BAG PER WEEK = $120 PER WEEK
$6,240 PER YEAR.

10 x 3 INCH VOLUME PUMPS PLUS HOSES & FITTINGS
$600 · EACH = $6,000.
20 SOLAR PANELS, 2 PER LARGE POND, + PUMP AND
* $1,300 PER POND. = $13,000 BATTERY'S

WATER WOULD FLOW THOUGH THE FILTER POND
FROM A SOLAR PUMP 24 HOURS
THEN RETURNING TO THE FISH AS CLEAN
WATER.

WE HOPE TO START IN THE NEW FINACEALE YEAR 1ST JULY AND HAVE FISH IN THE PONDS BY THE END OF YEAR 2016, AND HAVE FISH + YABBIES ON THE MARKET BEFORE THE NEXT CHRISTMAS.

OUR AIM IS TO SUPPLY 5,000 FISH AT 500-600 GRAMS PER YEAR AT $10.00 PER FISH, →
1 TON OF ~~YABBIES~~ MARRON, 300+ GRAMS PER MARRON
3,000+ MARRON PER YEAR
$30 PER Kg. ~~MARRON~~ LIVE MARRON, TO
FERGUSON. AUSTRALIA, ADELAIDE.

LIVE FISH, REC FISH S.A., FISHING CLUBS, PRIVATE FISHING DAMS,
WHOLE FISH, RESTRAUNTS, CHINESE RESTRAUNTS, CHINESE NEW YEAR, FISH MARKET.

300 Kgs YABBIES, 15 YABBIES PER Kilo
$20 PER Kgs LIVE YABBIES
FERGUSON AUSTRALIA, ADELAIDE.

WHEN WE REACH THIS TARGET WE WILL BE ~~GENERATE~~ GENORATING ENOUGH INCOME TO FURTHER DEVELOP MORE PONDS, MORE FISH, MARRON, YABBIES. AND BIGGER HECTARES OF GARLIC.

WE WOULD ALSO LIKE TO DEVELOP AT LEAST 1 POND FOR TOURIST RECREATION, FISH, YABBIES, MARRON,
THIS POND WOULD CONSIST OF A WOOD DECKING AROUND THE POND + A DECKING ACROSS THE MIDDLE, THIS COULD ALSO DEVELOP INTO MORE DECKED-PONDS

THIS WOULD MEAN, TOILETS, SHOWER'S, AND CAMPING FORCILITIES
WE WOULD LIKE TO HAVE THE PROPER INFURSTRUCTURE TO HAVE THE OPURTUNEITY TO INVITE DISADVANTAGED CHILD TO CAMP, CATCH A FISH, YABBIE, MARRON.
THIS PROJECT WOULD BE AT A LATER DATE.
PLUS A LICENCED FILLITING ROOM

Send via email 31/1/

PROJECT ACTIVITES.

AS ALL WATER PIPES ARE IN PLACE THE Digging OF PONDS CAN START IMIEDEATLY AFTER APPROVEAL HAS BEEN GIVEN.

2 MAIN PONDS WITH FILTER PONDS TO BE DUG, LINED, FENCED, AND NETTED READY TO GO IN 1 MONTH FROM START DATE.

PONDS TO BE FILLED WITH WATER AND LEFT FOR 2-3 WEEKS TO ALOW ALGEA AND MICRO-ORGANISOMS TO GROW BEFORE FISH ARE INTRODUCED.

10 MAIN PONDS + 5 FILTER PONDS TO BE COMPLETED WITH FISH IN +- 8 MONTHS.

RISKS.

THE WATER BORES HAVE BEEN TESTED FOR FLOW RATE, OVER A PERIOD OF 4 HOURS. THE AVERAGE FLOW RATE WAS 19 LITERS PER SECOND OVER A PERIOD OF 4 HOURS.

EACH LARGE POND IS APROX 1200 CUBIC METERS AND FILER POND IS 650 CUBIC METERS

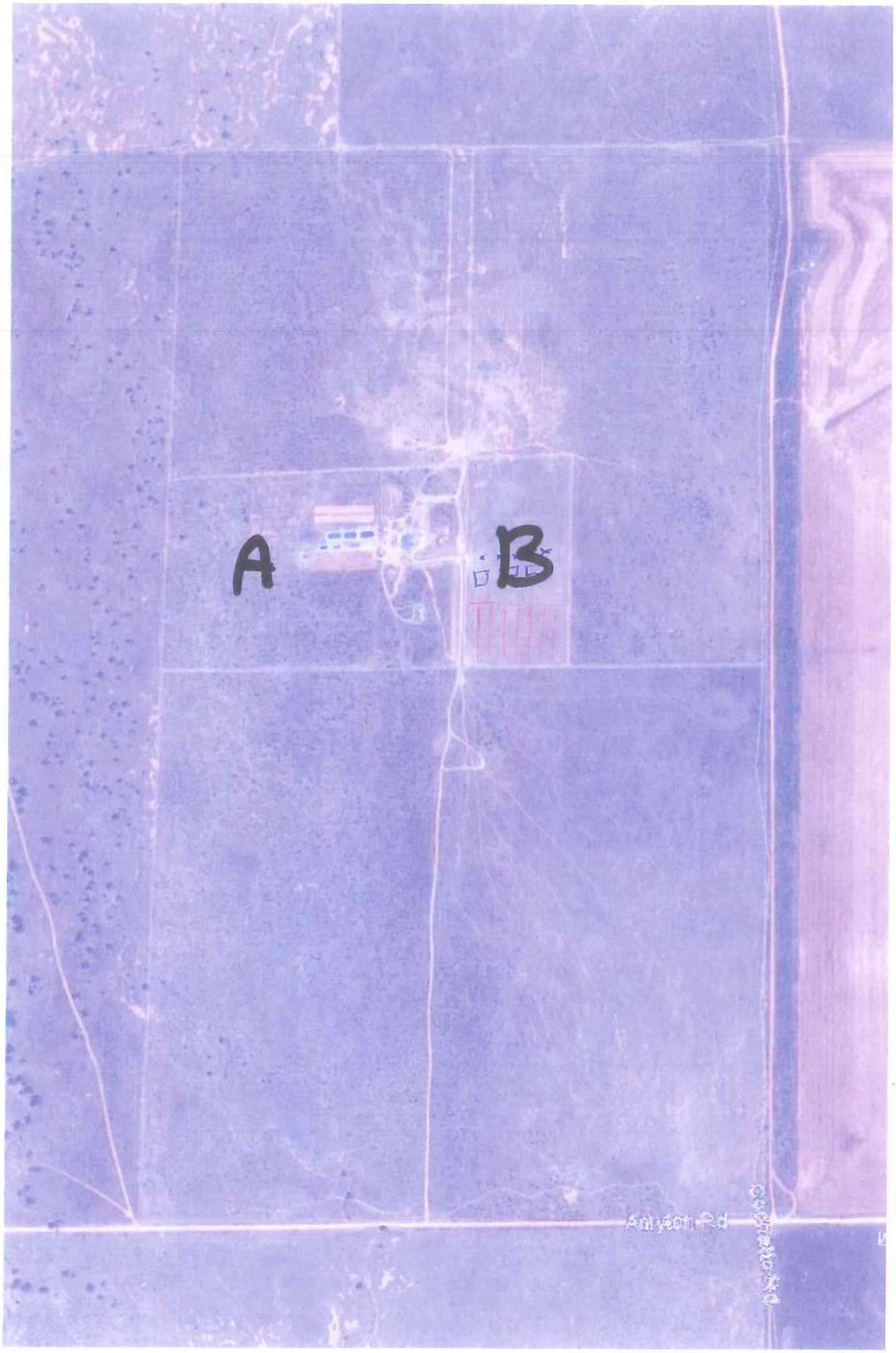
EACH POND IS DRAIN AND CLEANED EVERY 12 MONTHS

THE AMOUT OF WATER WE USE, COMPERED WITH THE AMOUT OF WATER AVAIIABE IS NOT A RISIX.

HOW WILL THE PROJECT CONTRIBUTE.

WE HOPE TO SUPPLY 5,000 FISH AT 500g + TO THE MARKET EVERY YEAR (LIVE OR FRESH) PLUS MARRON & YABBIES
WE HOPE TO CREATE AT LEAST 1 OR 2 FULL TIME ~~EMPLOYERS~~ PERSIONS
OUR AIM IS TO PRODUCES 1 TON OF GARLIC PER YEAR, PLUS FRUIT & VEG FOR THE FARMERS MARKET
WE WOULD ALSO LIKE OPEN OUR FARM TO TOURIST FOR RECREACIONAL FISHING, YABBIES, MARRON, PLUS FRUIT & VEG, AND THE EXPIERANCE ON A WORKING FARM.

WE HAVE ALREADY PLANTED MANY GUM TREES AND WE WILL CONTINUE, OUR AIM IS 100 EVERY YEAR, FOR THE PERPOSE AS A CARBON SINK, THEN USE THE TIMBER AS FENCE POST AND OTHER FARM USE'ES


A
B
Amyson Rd
Cranford Rd

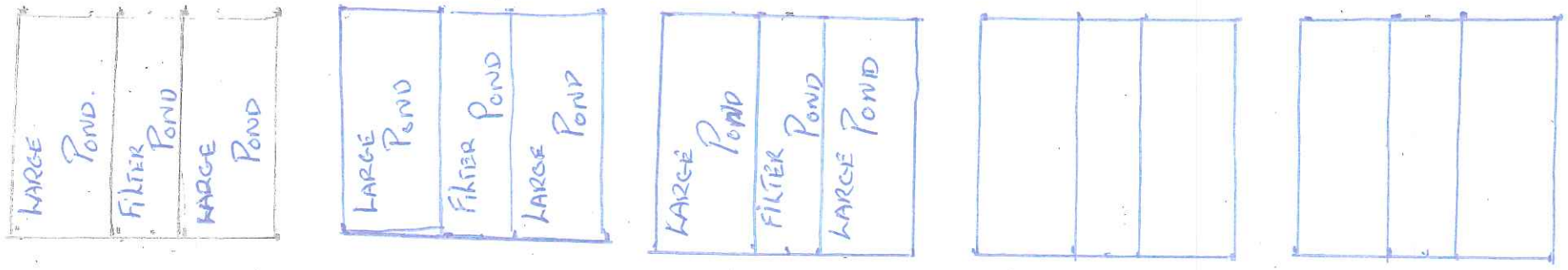
A

GARLIC in winter
CORN in SUMMER

B = new development side

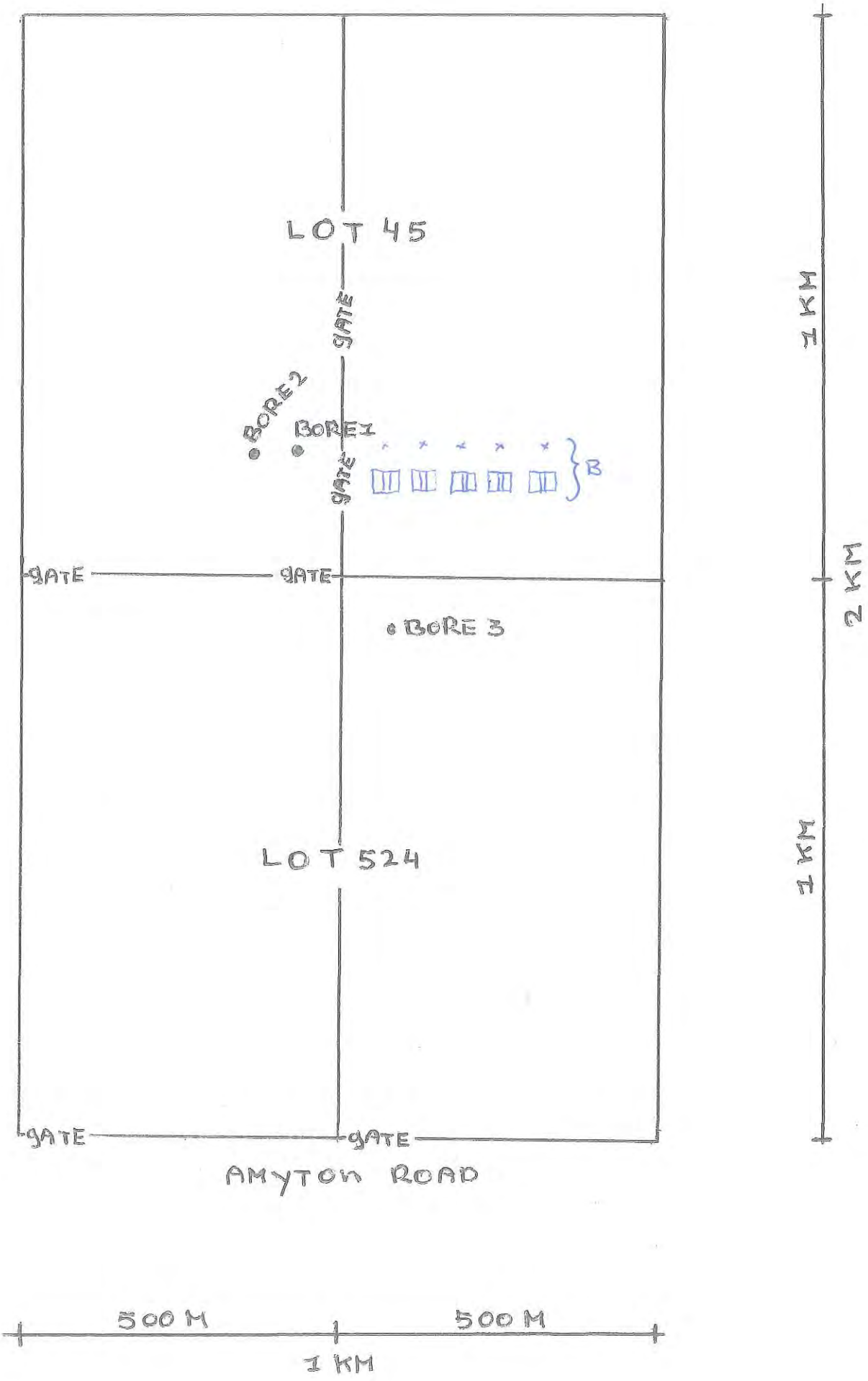
10 MORE PONDS
5 FILTER PONDS
} TO BE BUILT AT A LATER DATE

HYDRANT ALL IN PLACE READY TO go



LARGE POND = $30^m \times 20^m \times 2^m$ = 400 FISH = 300 YABBIES OR MARRON. = 1200 CUBIC METTER

SMALL PONDS = $30^m \times 12^m \times 2^m$ = 100 MARRON OR YABBIES BREEDERS 650 CUBIC METERS


LOT 45
GATE
BORE 2
BORE 1
GATE
B
GATE
GATE
BORE 3
LOT 524
GATE
GATE
AMYTON ROAD
1 KM
2 KM
1 KM
500 M
500 M
1 KM

Government of South Australia
Primary Industries and Resources SA

Mining Act 1971

Notice is hereby given in accordance with Section 28 (5) of the *Mining Act 1971*, that the Minister for Mineral Resources Development proposes to grant an Exploration Licence over the undermentioned area.

Applicant:	SM3 Iron Pty Ltd
Location:	Carrick Hill area - approx 120 km ENE of Port Augusta
Pastoral Leases:	*Witchitie, Minburra,* Koonamore, Melton
Term:	Two years
Area in km²:	380
Ref:	2010/00225

Plan and co-ordinates can be found on the PIRSA website: http://www.pir.sa.gov.au/minerals/public_notices or by phoning Mineral Tenements on 08 8463 3103.

J. Martin
Mining Registrar
Department of Primary Industries and Resources

PRIIND013263 www.pir.sa.gov.au

Government of South Australia
Primary Industries and Resources SA

PUBLIC NOTIFICATION

Pursuant to section 50 of the *Aquaculture Act 2001*, PIRSA Fisheries & Aquaculture is considering a licence application from:

- Rob & Anjo KERR – site: CT 5499/736 in Mount Remarkable, Wilmington.

A copy of the Application can be obtained by telephoning PIRSA Aquaculture on 8226 0900.

Written submissions in relation to the application are invited and should be addressed to The Executive Director, Aquaculture Division, GPO Box 1625, Adelaide SA 5001 and must include a name and return address.

Submissions must be received by 5.00 pm, 23rd February, 2011.

PRIIND013266 www.pir.sa.gov.au

THE FLINDERS News

Classified Deadlines

Display Classies -
4pm Monday

Line Classies -
9:30am Tuesday

Phone - 8632 3666
Fax - 8632 5909
Email -
recorder@ruralpress.com

A BREAKFAST FOR RURAL WOMEN

WOMEN IN AGRICULTURE & BUSINESS

Doing it Differently
Booleroo Sports Centre

Saturday, March 5 8am - 10am

Guest Speaker – Dr Denise Keenan, Adelaide psychologist – Managing Change

$15 – RSVP Essential – Barb Willoughby 8658 6072 or Barbie Brown 8832 2504

Government of South Australia

This project is supported by the SA Government in partnership with Conservation SA

Conservation Council SA

Professional Notices

WATER BORES

SEIDEL BROS DRILLING

Trevor 0427 879 209
Grant 0411 450 297
Fax 08 8389 1048

Trades and Services

TOTAL GARDEN PROFESSIONALS

CAMERO Nordic MK2, bimini, sky pole, boom bar, cover, galv. trailer, excellent condition. $17,200 ne[illegible] 0408 257 263 or [illegible]7 263

CAMERO SKI or Wake. Clinker. f/g. 307 Chev. 2 m sky pole. exc. trailer with elec. brakes. Lots spent. Must sell this w/end. $8500. View all day Sat. Ph. 0413 829 349

CARIBBEAN Adventure, 150 Honda 4 stroke, bimini, clears, sounder/gps, boat board, twin batteries, suit new boat buyer $49,950 Yamaha Pitmans Marine 08 8349 7599

CATAMARAN Maricat 4.0 great boat, ready to sail, trailer. Reg. 3/11 $2000. 0417 813 188.

CONSIGNMENT BOATS

UNDERCOVER SHOWROOM AVAILABLE
Good clean 20 ft plus trailerable boats on consignment no sale no charge. Professional sales staff hassle free, great security Call Dean at Maritimo Adelaide 0488 441 361

CRUISECRAFT 15 ft. f/glass ½ cabin, 1996 Yamaha 60 HP motor, Premier trailer, safety equip. $13,500. 0407 398 969.

CRUISER, 6.1 m, fully self-contained lock-up cabin, many extras plus tandem trailer, $12,000 o.n.o. Ph: 8337 0810 or 0418 831 191.

CUMMINS K19 marine eng. 30 hrs. running time, loc. Darwin. Price neg. 0437 115 776

De Havilland 3.5 m Tinny, 15 h.p. Mariner outboard, full service and new Freeway trailer, 12 mth reg on both. $2500 ono. Ph. Greg 0410 649 046

DINGHY, Trad. style f/glass Sabre (new) 2.5 m, ready to go $790 with oars. Also sailing o/board available. Ph. 8381 6645

DINGHY 303, TRAILER, $1200 o.n.o. Ph. 8557 4193.

FIBRE glass repairer needed to fix fishing boat. 0422 310 378.

FIBREGLASS 4M pillar steer, 25 HP Evinrude, on trailer with Bimini and safety gear. $2400 o.n.o. Phone 0424 470 280

Boat Brokers S.A.

AUCTION

TODAY AT 12 NOON

34' SEARAY SUNDANCER

40' OCEAN CRUISING CAT

REFUGE COVE MARINA
ALEXA DRIVE
NORTH HAVEN
INSPECT FROM 11AM

www.boat-brokers.com.au

5% buyer's premium applies to sale of these boats by auction or private treaty.

BOAT12-2 3049053

BOAT BROKERS SA
Roger Kearns 0418 821 250

immac. throughout. New cost high thrust being fitted. $159,000 Ph. 0418 742 309

HOUSEBOAT 10 - 12 berth, 4 year old, survey, 20M x 8.5 M, 2x 60 HP Yamaha, 150 hrs. $395,000. Ph. 0414 663 417.

JET SKI Seadoo GTX, 130 h.p., Millenium edition, exc. cond. fully serviced with Dunbar trailer and cover. $7500. Ph. 0438 811 422.

JET SKI Yamaha XLT 1200, 3 seater, exc. low hours, river use only. $9000 o.n.o. 0409 002 141

JETSKI Seadoo super charged RXP 2005, 60 hrs. Exc. cond. 12 mths. reg. on trailer. $13,500. Phone 0406 833 815

CYCSA

MARINA BERTHS FOR SALE & LEASE
Marina 8 to 30m.
Hardstand 9 to 12m.
CRUISING YACHT CLUB for first class facilities, immediate access to Gulf St Vincent
Contact Laura 8248 4222 or email: laura@cycsa.com.au

MARINA BERTH 15m FREEHOLD

This must be one of the only 15m FREEHOLD marina berths in metropolitan Adelaide, at this price MUST BE SOLD immediately.
Compare the price to any other 15m freehold berth in Adelaide. All offers will be considered and presented to the Vendor.
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RLA 166855

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Marina Adelaide, SA's most complete marine precinct for long or short term berthing, refueling, all servicing and repair work big or small. Your choice of contractors or we can arrange for you. Call for details.

MARINA ADELAIDE
1/25 George Robertson Drive (end of Willochra St) Largs Nth
Phone 08 8169 0000

MARINA BERTH

Holdfast Shores - Glenelg
13m. berth, great location in main spine, excellent value, most genuine sale, offers invited.
Details Paul Cardone
8295 4104; 0417 788 728
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RLA 1836.

440 is the only Australian built boat under 50 feet to include a glass enclosed flybridge, internal stairs (no ladder), 3 cabin layout and an aft galley, priced from $869,000.

Please call Paul Harrop
MARITIMO ADELAIDE
for more details 0400 031 018

MAXUM 2100SC3, 350hp MPI Mercruiser suit new buyer $59,990
www.christiesbeachmarine.com.au

MERCURY motor, 90 hp, exc. cond. $2900. 0413 993 779

MERCURY 30 H.P. Long shaft, electric start, oil injected. Controls, Tacho, fuel tank, very clean, $2700. Marine Care. Phone 8266 7066.

MERCURY 50 H.P. 4 stroke. EFI. Big Foot. Long shaft, tilt and trim, controls, gauges. Excellent cond. $6750. Marine Care. Phone 8266 7066.

DON MORTON

SEAFARER 5.0 VC, 90 h.p. Suzuki 4 stroke. $46,990
SEAFARER 5.5 Victory, 115 h.p. Suzuki 4 stroke. $66,990
TOURNAMENT 1750, 90 h.p. Etec. $40,600
TOURNAMENT 1800, 115 h.p. HO Etec. $50,600
TOURNAMENT 1900, 150 h.p. Etec. $51,700

All supplied on Dunbier trailers

Walker Bay inflatables in stock

DON MORTON MARINE
70 Humphries Terrace
Kilkenny, SA 5009
Phone 8347 0011
www.donmorton.com.au

NORTHBANK 600C, 175hp Honda. Ex value only $59,990
www.christiesbeachmarine.com.au

PADDLE BOAT 60 ft. steel, 7 berth, diesel motor, grab a bargain $65,000 0418 742 309

PELICAN 1 owner, v. g. cond., Johnson 15hp outboard, galv. trailer, $2200 Phone 8268 9891

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Get on the water this weekend and enjoy time with your family.
Feb: Factory Rebate of $5000
3 BOATS ONLY
BUY THIS WEEK AND
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QUINTREX 460 Classic Centre Console, F60 Yamaha 4 stroke, Anchor well, Painted Hull, Bow rails, $19950 Yamaha Pitmans Marine 08 8349 7599

Medallion purpose built ski boat, Mercruiser V8 5.7 litres, 114 hours only, ski pole, bimini, tis, knee boards, wake board, jackets, ropes etc. $29,900. Call Mike on 0418 813 288

SPORTSCRAFT Conquest, 5.05M, 90HP Yamaha, braked trailer, EPIRB, sounder, bait board, 2 radios and safety equip. $14,500 Ph. 0438 395 100

SUPERSONIC 27ft. GRP 20hp, Kubuto motor, marine toilet, sounder, GPS, roller furling, 27 meg and uhf radio, good cond., $23,000. Phone Wayne 0414 774 110

SWIFTCRAFT DOMINATOR 5.5 m, 4.2L, V6 Mercruiser, 260 h.p., 160 hrs. Too many extras to mention. $19,900. Call 0403 233 003

TINNY Savage 10 ft. 4 h.p. Suzuki, exc. cond. Many extras. $1600. Phone 0450 785 371.

TOHATSU 9.8HP outboard, $650 o.n.o Phone. 8342 3328 or 0466 582 506

TRAILCRAFT 660 Sportscab, 200 Honda Just $59,990
www.christiesbeachmarine.com.au

WANTED
Camero Volante, 89-90 model. Must be 350 Chev., with dual axle trailer. PH: 0407 604 190.

WHITTLEY VOYAGER 580, 2005, 115 hp., many extras, incl. storm covers/gps. Exc cond. $48,500. PH: 0419 809 872.

WOODEN boat 18 ft. 1950's, rebuilt Ford side valve, galv. tilt trailer, just needs paint. $2200 o.n.o. Salisbury. 0467 057 676.

YACHT Chain Mooring at Royal South Australian Yacht Squadron for sale. $39,950. Contact Peter 0411 700 045.

YACHT Hood 23 8hp Johnson, pop toop, 5 sails, auto helm, many extras, $10,750 o.n.o. Phone 8182 4415.

YAMAHA 8HP outboard motor, never used, sell $2100 o.n.o. Phone 8277 3503.

Ron Johnson.
THIS NOTICE is advertised by Lempriere Abbott McLeod of 93 Carrington Street ADELAIDE SA 5000 (Att: Christine Crossman) Solicitors for the applicant Ph. (08) 8233 3999

Written submissions mu

PRIIND013264

Government of South Australia
Primary Industries and Resources SA

PUBLIC NOTIFICATION

Pursuant to section 50 of the *Aquaculture Act 2001*, PIRSA Fisheries & Aquaculture is considering a licence application from:

- Rob & Anjo KERR – site: CT 5499/736 in Mount Remarkable, Wilmington.

A copy of the Application can be obtained by telephoning PIRSA Aquaculture on 8226 0900.

Written submissions in relation to the application are invited and should be addressed to The Executive Director, Aquaculture Division, GPO Box 1625, Adelaide SA 5001 and must include a name and return address.

Submissions must be received by 5.00 pm, 23rd February, 2011.

PRIIND013266 www.pir.sa.gov.au

Rob & Anjo Kerr

From: "Ingerson, Tara (EPA)" <Tara.Ingerson@sa.gov.au>
To: "'Rob & Anjo Kerr'" <anjo.kerr@bigpond.com>
Sent: Tuesday, 2 February 2016 6:27 AM
Subject: RE: aqua lisence kerr [DLM=For-Official-Use-Only]

For Official Use Only

Hi Anjo and Rob

Yes we do remember you and our visit to your farm. Apologies for missing you phone call. I was on annual leave at the time and only returned to work yesterday and am just catching up on all my emails.

With respect to your grant application to the Government to expand your operations, I would be happy to provide a letter of support however I would probably require a bit more information on what you are proposing before I can do this.

I am assuming that any expansion will require development approval from your local council which will be forwarded to the EPA for assessment. While the EPA can't formally approval your proposal prior to this occurring, I probably can state that we would be unlikely to have any significant issues with your proposal based on the information provided and that if any issues do arise, these probably can be addressed.

Therefore if you could send through any documentation which provides information on what you are proposing (including number and size of dams, will they be lined, proposed production tonnage of fish and yabbies, what you will do with your wastewater), I can see what I can do.

Please don't hesitate in giving me a call if you need anything clarified.

Best regards

Tara

Tara Ingerson
Principal Adviser Aquaculture
Environment Protection Authority
GPO Box 2607
ADELAIDE SA 5001
Ph: 8463 6581 Fax: 8124 4673 Mobile 0428 117 652
Email: tara.ingerson@epa.sa.gov.au

EPA South Australia

SOUTH AUSTRALIA

www.epa.sa.gov.au

From: Rob & Anjo Kerr [mailto:anjo.kerr@bigpond.com]

send eMAil 04-02-16

DEAR TARA

THANK you FOR your SUPORT, IT IS NICE TO KNOW THAT WE ARE NOT going TO HIT A WALL OF RED TAPE WHILE WE ARE STILL TRY TO MAKE go OF IT ON OUR FARM.

As you CAN SEE FROM OUR DRAWING THAT WE WOULD LIKE TO CHANGE OUR SISYSTM TO INCLUD A FILTER POND.
WE THINK THIS THE WAY TO go, IT WELL give BETTER WATER quAILTY, IT WELL CIRCULATE 24 HOURS A DAY WITH SOLAR PANELS & PUMP.

THE PONDS WELL BE ALL PLASTIC LINED,
WE HOPE TO HAVE A MAX OF 400 FISH IN EACH & LARGE POND + 300 YABBIES OR MARRON, TO KEEP THE POND CLEAN OF EXECESS FEED & ALGEA.
WE HOPE TO HAVE 100 YABBIES OR MARRON IN FILTER POND.
WE ARE LOOKING AT 4,000 FISH PER YEAR (500gms) 2 TONS, 3,000 YABBIES — MARRON PER YEAR.
15 YABBIES PER Kg. — 3 MARRON PER Kg.

ALL PONDS WILL BE FENCED AND A TOP NET TO STOP ESCAPE'S & PREDITORS

THE WASTE WATER WILL BE PUMPED TO AN IRRIGATED AREA (RED GRID BELOW B ON PHOTO) TO GROW SWEET CORN TO FEED BACK TO FISH & YABBIES.

IF you HAVE ANY SERGESTIONS THAT MAY HELP US IN OUR VENTER, PLEASE FEEL FREE.

ROB.

Employment

CONSTRUCTION JOBS.

20 TON EXCVATOR 2 DAY PER LARGE POND
1 DAY PER SMALL POND.
30 DAY

15 PLASTIC LINERS = APROX 750 KGS EACH
2 PEOPLE (3 INCLUDING MY SELF)
TO FIT LINERS 1 POND PER DAY
15 DAYS 2 PEOPLE.

ERECTING FENCE
2 PEOPLE (3 INCLUDING MY SELF)
5 DAYS TO FENCE ALL PONDS
5 DAYS 2 PEOPLE.

ON going
FEED, POND MAINTENCE, PLANTING & HARVETING
SWEET CORN & GARLIC.
1 PERSON FULL TIME, (2 INCLUDING MY SELF)

CONSTRUCTING DECKING AROUND PONDS
5 DAYS 2 PEOPLE.

GRANT APPLICATION

PART 2 ORGANISATION DETAILS

We bought 500 acres of land with no infrastructure at all in Oct. 2010.

It has 3 unrestricted artesian bores which were free flowing. We capped them and with pipes diverted the water to the ponds. We dug 7 ponds lined with tarps, fenced and netted for fish, yabbies and marron.

The fish fertilise the water and we re-use this precious water to irrigate, in summer a crop of corn to feed the fish and yabbies and in winter a crop of garlic which we sell to local shops. We have a vegetable garden an orchard and we planted about 75 citrus trees. We have been planting a lot of trees and for March 2016 we ordered, with trees for life, another 100 gumtrees to plant. We run 100 sheep on the rest of the acreage. We are off the grid and have our own solar system. Build a few sheds and a house.

The fish we buy as fingerlings and grow them out to about 25 cm / 500 gr. We slowly are starting to get a market for our fish, sold some whole for consumption, have been selling a few for stocking dams for fertilised irrigation and some for recreational fishing to the South Australian Fishing Association. RecFishSA contacted us if we would be interested to supply them with fish for restocking reservoirs in South Australia. They need the bigger fish so the birds don't get them. This will be happening in the near future.

We work in the shearing industry and for the last 5 years all our income from shearing, about $50,000 per year, was invested in the fish farm with locally sourced materials.

After 5 years we have the main infra-structure ready and are looking now to expand to make it viable with the possibility of creating local jobs. To diversify in the near future we would like to do some tourism.

OTHER GOVERNMENT FUNDING BACKGROUND:

Not applicable

PART 3 PROJECT DETAILS

PROJECT TITLE:

Inland fish farm, sustainable and environmentally friendly with aquaponically grown garlic and corn plus tourism, from the farm to the plate.

PROJECT DESCRIPTION:

The yabbies we farm are in with the fish to control the number of yabbies and feed the fish and to control the algae at the same time. We grow our own corn, irrigated by the fishponds, and feed it back to the fish. We create a natural habitat with plants which are maintained. The marron is breeding and we hope to start selling them in 2 years or less.

Yabbies are harvested in pots and sold life for consumption. The fish is harvested with nets, sold and delivered life for stocking dams to clean the dams and fertilised irrigation, or for recreational inland fishing or sold whole on ice for consumption.

All the ponds are drained, cleaned and dried once a year, ready to start again. The sludge from the cleaned ponds is placed on farm vegetation as an organic fertiliser. Excess water is diverted to the gumtrees which will help reduce carbon from the air.

The garlic planting, harvesting and cleaning in small scale is now done by hand. Every year we plant more and hope to automate this process. There will always be labour involved with cutting packing and transport.

In the future we would like to invite tourists on the farm for a hands on experience, to get them involved in the whole process, with feeding and catching fish, yabbies and marron. Farm stay, from the farm to the plate. We also would like to have a filleting room.

PROJECT STATUS:

At the moment we just started selling our fish, yabbies and garlic locally. We are waiting for RecFishSA, who approached us to supply life fish for the restocking of reservoirs in South Australia for inland recreational fishing. This will happen within the next coming months. We have 7 ponds ready and 1500 fish ready to be sold. Garlic is harvested and we hope to sell 500 kg this year. Summer fruit and veg is irrigated by the fish ponds. All hydrants are in place for the new ponds. We are working on a natural filter system next to the ponds. For this one pond will be used as a filter to clean the water. We have a stand- alone solar system, as we are not connected to the mains power.

We can say that after 5 years of hard work and many hours of labour, the infra structure is there and we can start selling to make it viable.

So far we did have a lot of help from backpackers from WWOOFFERS and HELPX. But this has stopped. We would like to employ locals. We just had a new pond dug by a local who lost his job at the mines. If the grant comes through he will dig the new ponds as well.

EXISTING APPLICATIONS AND CONTRACTS:

ResFishSA. To supply grown out fish for the restocking program for recreational fishing in South Australia.

PROJECT LOCATION:

*SA GOVERNMENT REGION:

District council of Mount Remarkable.

*SPECIFIC LOCATION:

1129 Amyton Road Wilmington SA 5485

Section 45 and 542 Willochra

CT Volume 5499, Folio 736

Located near Wilmington which is approximately 12 km from Wilmington SA

*WE OWN THE PROPERTY

EMPLOYMENT:

We hire a local for digging the ponds and have someone coming to help us occasionally. In the near future we hope to hire some employees.

ECONOMIC ACTIVITY

1. We buy all our materials locally, by example; hardware store in Wilmington and Mitre 10 in Port Augusta.
2. For digging of the ponds we hire a local man who just lost his job in the mines.
3. We sell our produce locally.
4. Supplying fish for RecFishSA and similar would mean a direct economic, social and environmental benefit broadly distributed not only locally but also statewide.
5. Creating local jobs, direct and indirect.
6. When we start tourism, from the farm to the plate, we help build a reputation for premium food in South Australia and internationally. A hands-on experience on the farm with catching a fish, marron and yabbies, clean it, cook it and eat it. All barbeque style.
7. Environmentally friendly and sustainable with running the farm organically en re-using the water and excess water for growing trees we help to reduce the carbon in the air.
8. There is the possibility for approaching UniSa for students in aqua culture.
9. With the farm being 500 acres and enough room for expansion there are possibilities in the long term for viability and sustainability.
10. With all the work and investment we have done over the past 5 years there can be only an increase in return in this investment.

INDUSTRY:

1. Earth moving industry
2. Fish industry
3. Fruit and veg industry
4. Sustainable and environmentally farming
5. Restaurants
6. Tourism. From the farm to the plate
7. Aquaponics
8. Hardware stores, irrigation materials, pipes and taps, fencing materials etc.
9. Education, students of UniSA.

PART 4 BUDGET DETAILS

PROJECT ENVIRONMENT, budget details

15 more ponds dug, tarped, fenced and netted with plants to create a natural environment.

Funk Decking Around Pond.

Garlic planter and harvester.

Amenities with a septic for the tourists with a picnic table and barbeque area.

INVESTMENT AND GRANT FUNDING SOUGHT.

A. Applicants investment $50,000
B. Other Funding Sources $0
C. Grant Amount Sought $50,000

Total Project Expenditure $100,000

6.2 THE FLINDERS RANGES COUNCIL NIL

No Applications for The Flinders Ranges Council require consideration at this Meeting.

6.3 THE DISTRICT COUNCIL OF ORROROO CARRIETON NIL

No Applications for The District Council of Orroroo Carrieton require consideration at this Meeting.

6.4 THE DISTRICT COUNCIL OF PETERBOROUGH NIL

No Applications for The District Council of Peterborough require consideration at this Meeting.

7. ANNUAL REPORT

Action	**For DECISION**
Proponent	**Panel Officer**
Officer	**Public Officer**
Associated Reports & Documents	**Annual Report 2015 - 2016**

Officer's Recommendation:

That the Flinders Regional Development Assessment Panel Annual Report for 2015-2016 be received.

Introduction:

The Terms of Reference for the Flinders Regional Development Assessment Panel ("the Panel") requires that the Panel, through the Public Officer, will report in writing to the Constituent Councils on an annual basis, detailing:

- The level of attendance of Panel Members at Panel Meetings;
- The Panel's activity and performance in making decisions; and
- Comment on or an analysis of policy or process that are relevant to the Panel's assessment functions and suggesting improvements.

Previous Panel Consideration:

Nil

Officer's Report:

Refer to attachment.

Statutory Requirement:

Terms of Reference for the Flinders Regional Development Assessment Panel (January 2011)
Schedule 29 of the Development Regulations 2008

Policy/Strategic Implications:

Nil

District Council of Mount Remarkable

District Council of Orroroo/Carrieton
Southern Flinders Ranges • Established 1997

District Council of Peterborough
Amalgamated 1997

The Flinders Ranges Council

FLINDERS REGIONAL
DEVELOPMENT ASSESSMENT PANEL

ANNUAL REPORT
2015-2016

The Terms of Reference for the Flinders Regional Development Assessment Panel ("the Panel") requires that the Panel, through the Public Officer, will report in writing to the Constituent Councils on an annual basis, detailing:

- The level of attendance of Panel Members at Panel Meetings;
- The Panel's activity and performance in making decisions; and
- Comment on or an analysis of policy or process that are relevant to the Panel's assessment functions and suggesting improvements.

During the course of the 2015-2016 Financial Year, the Panel met on four (4) occasions to consider a total of nine (9) applications.

The following tables summarise the level of attendance of Panel Members at meetings and the activity and performance of the Panel in decision making.

Panel Member Attendance				
Member	**Meetings Eligible to Attend**	**Present**	**Apology**	**Absent without Apology**
Ms Shanti Ditter	4	4	0	0
Cllr Garry Thompson (FRC)	4	4	0	0
Cllr Colin Nottle (DCMR)	4	4	0	0
Cllr Ralph Goehring (DCOC)	4	2	2	0
Cllr Frank Hardbottle (DCP)	4	4	0	0

Panel Activity						
Constituent Council	**App's Referred to Panel**	**Approved**	**Refused**	**Appealed**	**Withdrawn by Applicant**	**Deferred**
The Flinders Ranges Council	1	1	0	0	0	0
District Council of Mount Remarkable	6	6	0	0	0	0
District Council of Orroroo Carrieton	1 (3 times)	0	1	0	0	2
District Council of Peterborough	1	1 (for 12 mths)	0	0	0	0
Totals	**9**	**8**	**1**	**0**	**0**	**2**

Peter McGuinness
Public Officer

8. OTHER BUSINESS:

8.1 DISTRICT COUNCIL OF MOUNT REMARKABLE

8.2 THE FLINDERS RANGES COUNCIL

8.3 DISTRICT COUNCIL OF ORROROO CARRIETON

8.4 DISTRICT COUNCIL OF PETERBOROUGH

9. NEXT MEETING:

10. CLOSURE: