

7 December 2023

Department of State Development,
Infrastructure, Local Government and Planning
1 William Street
BRISBANE QLD 4000

Dear Sir/Madam,

SUBMISSION IN RELATION TO THE PROPOSED AMENDMENTS TO THE REGIONAL PLANNING INTERESTS ACT 2014 (RPI)

This submission has focused on impacts on priority agricultural areas above the Walloon coal measures in the Condamine Alluvium.

Examples given relate particularly to that area and are mostly directed to impacts on farms in priority agricultural areas for priority agricultural land uses.

By extrapolation, many factors raised in the submission apply to the other areas of State significance including townships, environmental areas and strategic cropping land.

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Background

Protection of priority agricultural areas in Queensland, a finite resource upon which food security is dependent, was an important regional consideration in the enactment of the RPI.

The explanatory notes to the Bill in 2013 suggested a priority in the weighting of the protection of priority agricultural areas over resource activities.

...the Central Queensland and Darling Downs regional plans, took effect on 18 October 2013. These plans identify, and contain land use policies that protect, areas of regional interest (i.e. priority agricultural areas, priority living areas and strategic environmental areas).

These policies influence planning and development activities under the Sustainable Planning Act 2009, including the preparation of local government planning schemes and are also intended to influence decisions about resource activities authorised under the following resources Acts: the Mineral Resources Act 1989, Petroleum and Gas (Production and Safety) Act 2004, Petroleum Act 1923, Greenhouse Gas Storage Act 2009, Geothermal Energy Act 2010. However, as regional plans are statutory instruments under the Sustainable Planning Act 2009, the policies are not currently required to be considered when assessing resource activities under these resource Acts.

The Regional Planning Interests Bill will require resource activities authorised under resource Acts and other regulated activities to align with the regional land use policies of the regional plans as well as any other areas of regional interest prescribed in the Bill. To achieve this alignment, the Bill introduces an assessment framework to manage the impact of resource activities on areas of the State identified in the Bill as an area of regional interest.

The debate in Parliament articulated the priority in weighting:

“the focus of the assessment criteria is on ensuring that both the agricultural industry and the resources industry can co-exist as much as possible without displacing the industry that we believe should have the priority in those areas, and that is the agricultural industry. That is why, of course, it is called a priority agricultural area.”¹

Section 5 of the RPI provides:

5 Relationship with resource Acts and Environmental Protection Act

(1) This Act applies despite any resource Act, the Environmental Protection Act, the Planning Act or the Water Act 2000 (each the other Act).

(2) A restriction or requirement under this Act applies as well as any restriction or requirement under the other Act.

Section 59 of the RPI provides:

¹ Hansard 19 Mar 2014 – Regional Planning Interests Bill – Second Reading (Cognate Debate) page 737

59 Regional interests conditions paramount

(1) This section applies to a regional interests development approval for a priority agricultural area or the strategic cropping area.

(2) If there is any inconsistency between the conditions of the approval and a condition of the relevant authority, the conditions of the approval prevail to the extent of the inconsistency.

(3) For subsection (2), it does not matter when the approval, authority or conditions were granted or imposed in relation to each other.

The RPI has the ability to manage the impacts of the resource activities in accordance with its purpose.

However, the current application of the RPI would appear to prioritise resource activities over the protection of priority agricultural areas, undermining the intent and current purpose of the RPI, because the broader issues of the impacts at a regional level are not being addressed.

I have personally been told by a resource proponent of activities without regional interest development approvals under the RPI that they have all of the approvals they need and their applications under the RPI are being made in consultation with the regulator.

The context of those statements was in relation to a discussion of the number of lots included in an application and the need for a regional level assessment.

The regulator should be independently assessing the applications.

The amendments proposed by the Queensland Gas Field Commission in its Review of Regional Planning Interests Act 2014 Assessment Process Report, 18 October 2021 could further entrench that mis-prioritisation.

In an evolving international community where conflict is currently high, water and food security should be a major goal for Australia.

Purpose of the RPI

The purposes of the RPI are:

3 Purposes and achievement

(1) The purposes of this Act are to—

(a) identify areas of Queensland that are of regional interest because they contribute, or are likely to contribute, to Queensland's economic, social and environmental prosperity; and

(b) give effect to the policies about matters of State interest stated in regional plans; and

(c) manage, including in ways identified in regional plans—

(i) the impact of resource activities and other regulated activities on areas of regional interest; and

(ii) the coexistence, in areas of regional interest, of resource activities and other regulated activities with other activities, including, for example, highly productive agricultural activities.

(2) To achieve its purposes, this Act provides for a transparent and accountable process for the impact of proposed resource activities and regulated activities on areas of regional interest to be assessed and managed.

There are 3 matters identified in the purpose:

1. Identification of areas;
2. Giving effect to policies; and
3. Managing:
 - a. impact of resource activity; and
 - b. coexistence.

A review of the application of the RPI against the purpose leads to the conclusion that the RPI is not being applied in accordance with the purpose.

3(1)(a). Identification of areas.

Section 3(1)(a) of the RPI requires the identification of areas of Queensland that are of regional interest.

Section 7 of the RPI indicates the 4 areas of regional interest including at paragraph (a), a priority agricultural area.

Section 8 of the RPI defines a priority agricultural area as:

8 Priority agricultural area

(1) A priority agricultural area is an area that—

(a) includes 1 or more areas used for a priority agricultural land use, whether it also includes other areas or features, including, for example, a regionally significant water source; and

(b) is either—

(i) shown on a map in a regional plan as a priority agricultural area; or (

(ii) prescribed under a regulation.

By way of example please refer to the extract from the Darling Downs Regional Plan.



It is important to understand that there is a requirement for a priority agricultural land use to have been conducted on land in a priority agricultural area. It is the combination of 2 factors that are required.

The regional plan is set at a level above a local plan adopted by a regional Council.

The application of the RPI was intended to look at impacts at a regional level not a local planning instrument level. Hansard records:

The planning process that we will put in place for regional Queensland uses the same principles, the same concepts and the same processes that the urban planning process has used for many years—they are tried and tested. It uses prescribed areas. It prescribes areas in the regional plans and then seeks to control what is considered to be inappropriate development in those areas.²

Current applications under the RPI are being accepted over a small number of allotments and the applications cannot be assessed against regional impacts where land relevant to those impacts is excluded from the application.

² Hansard 19 Mar 2014 – Regional Planning Interests Bill – Second Reading (Cognate Debate) page 736

In response to a point of clarification, the State advised: *“Cumulative impacts will be dealt with through the development of specific assessment criteria to assess proposals that may have a regional impact.”*³

There is an area identified as a priority agricultural area over the Condamine Alluvium in the map extracted from the Darling Downs Regional Plan.

There are three other areas of priority agricultural land shown on the map.

As an example, an assessment of impacts at a regional level would best be undertaken considering the whole of the “area” identified over the Condamine Alluvium.

The assessment could be made in terms of what percentage of the total area could be impacted by resource activities and to what extent.

Without in any way suggesting the example is an appropriate assessment, an assessment could be that 10% of the “area” can have a reduction in capacity of 20%.

No such assessment has been undertaken.

In water resource litigation courts have often been assisted by expert evidence identifying appropriate catchments and the boundaries in relation to both surface and underground water.

As a minimum, an application being considered at a regional level should consider appropriate catchment boundaries and include within the application all of the land to be both directly and indirectly affected.

The current exemptions under section 22 lead to a Swiss cheese approach in the consideration of regional impacts where the ramifications of a change on land in one lot in one part of the catchment will have significant impacts on other land within that catchment are not considered.

It is significant that the Queensland Gas Field Commission recommendation has been made in a context where overland flow is not considered.

*“Regional overland flow impact assessment and analysis is outside the scope of the body of work currently being led by the Commission and therefore has not been considered as part of the regulatory review.”*⁴

That is a fundamental flaw.

The current acceptance of regional development interest applications over a small number of allotments should lead to their refusal as it is not possible to undertake an assessment of the impact at a regional level.

The chief executive must consider “the extent of the expected impact of the resource activity... on the area of regional interest” under section 49(1)(a).

³ Government Response to the State Development, Infrastructure and Industry Committee Report No. 35 Regional Planning Interests Bill 2013

⁴ “Gasfields Commission Queensland Regulatory review of coal seam gas-induced subsidence Report November 2022.”

The chief executive must consider the criteria for the decision prescribed under a regulation, under section 49(1)(b).

Under section 14 of the *Regional Planning Interests Regulation 2014* (the **Regulation**) schedule 2 is identified as providing relevant assessment criteria.

Under Schedule 2, Part 2 Priority agricultural area item 4 requires management of impacts “on the region” in relation to the use of an area in the region for a priority agricultural land use.

Under that item the chief executive has to be satisfied that “The activity will not result in a material impact on the region because of the activities impact on the use of land in the priority agricultural area for one or more priority agricultural land uses.”

Assessment under the RPI are not occurring in accordance with the legislative requirements.

3(1)(b). Giving effect to policies

The regional plans identify regional policies.

The regional plans also currently identify the outcomes sought and identify key challenges. By way of example the Darling Downs Regional Plan relevantly provides:

A key challenge to maintaining a strong agricultural industry within the region is the potential for loss of high yielding agricultural land to resource activities as many of the resources found in the region are located in areas of highly productive soils. Areas currently experiencing increased land use pressure include Oakey, Chinchilla, Dalby, Wandoan, the Condamine floodplain and areas surrounding Roma and Injune.

Regional outcome

Agriculture and resources industries within the Darling Downs region continue to grow with certainty and investor confidence.

Regional policy 1

Protect Priority Agricultural Land Uses within Priority Agricultural Areas.

Regional policy 2

Maximise opportunities for co-existence of resource and agricultural land uses within Priority Agricultural Areas.

Under section 8 (2)(a) of the RPI “A priority agricultural land use is a highly productive agriculture-(a) of a type identified in a regional plan for an area of regional interest;”.

The Darling Downs Regional Plan identifies the highly productive agricultural uses as:

The key agricultural industries of the region include grain production, intensive livestock and cattle grazing as well as some horticultural and broad acre cropping. The region’s major agricultural products include cotton, wheat, barley, sorghum, sunflower and soy beans.

In 2011, the region's production of cotton, sorghum, and wheat contributed more than 70 per cent of Queensland's production for each crop. Over the five years to 2011 the total gross value of agricultural production from the region increased by six per cent to over \$2.5 billion—equating to over a quarter of the state's agricultural production.

Livestock production in the region is primarily beef, but also includes sheep, pork and poultry products. Intensive livestock industries (namely pork and poultry) are concentrated around local feed grain supply and access to markets.

There are 2 policies.

Policy 1 requires the “protection” of priority agricultural land. Protecting means to preserve from injury or harm.

Policy 2 requires the maximisation of opportunities for co-existence.

The mischief that the policies were intended to address is the “*loss of high yielding agricultural land to resource activities.*”

To read the 2 policies in a harmonious way, the protection of priority agricultural land cannot be absolute.

To read the 2 policies in a harmonious way, maximising opportunities for coexistence of resource activities in agricultural land uses within the priority agricultural areas cannot avoid the protection of priority agricultural land.

A harmonious reading ought to give greater weight to the protection of priority agricultural land and within that context, maximise the opportunities for coexistence with resource activities.⁵

That would be in keeping with the explanatory notes and parliamentary debate.

Applications made on a small number of lots cannot address the Policies in a meaningful way.

An application for a small number of gas wells on one or 2 properties can arguably not have any meaningful impact at a regional level. It is the impact caused by the establishment of fields of gas wells under several petroleum leases that will have an impact at a regional level and that is what is required to be assessed.

Under section 14 of the Regulation Schedule 2 is identified as providing relevant assessment criteria.

Under Schedule 2, Part 2 Priority agricultural area item 4 requires management of impacts “on the region” in relation to the use of an area in the region for a priority agricultural land use.

Under that item the chief executive has to be satisfied that “The activity will not result in a material impact on the region because of the activities impact on the use of land in the priority agricultural area for one or more priority agricultural land uses.”

⁵ The comment by McMurdo P in *Sevmere Pty Ltd v Cairns Regional Council* [2009] QCA 232 seems to be apt “[6] In these circumstances, harmoniously construing the relevant provisions (s 3.2.5(3)(a), s 3.3.15(1), s 4.1.52 and s 5.4.2 IPA) is a challenge worthy of consideration for the intellectual Olympics.”

Under Schedule 2 item 5(1)(a) the applicant is to demonstrate outcomes consistent with the regional policy stated in the regional plan.

In addition, item 5 (1)(d) and (e) Are relevant and provide:

(d) the activity will not result in widespread or irreversible impacts on the future use of an area in the region for one or more priority agricultural land uses;

(e) the activity will not constrain, restrict or prevent the ongoing use of an area in the region for one or more priority agricultural land uses, including, for example, infrastructure is essential to the operation of a priority agricultural land use.

All assessment of applications under the RPI against the policies need to have that broader consideration at a regional level which cannot be ascertained by assessment of a small number of resource activities and their impacts over a small number of lots without consideration of resource activities being undertaken by all of the proponents in the region.

Without that assessment the policies under the RPI cannot be met.

3(1)(c)(i).Managing impact of resource activity

Overview

In order to manage the impacts of resource activity it is necessary that the impacts be identified.

Management has to consider those impacts and then must provide a meaningful response to those impacts.

A meaningful response is not monitoring the impacts.

Significant impacts include:

subsidence:

- a. slope;
- b. melon holes;
- c. overland flows;

water:

- a. interconnecting aquifers;
- b. depleting aquifers;
- c. permanently impairing aquifers;

mental health:

- a. farms are workplaces;
- b. suicide;

community division:

- a. some farmers want to have gas wells;
- b. some farmers do not want to have gas wells;

- c. impacts are not confined to a farmers land;
- d. government should clearly demarcate areas where gas wells cannot occur and where they can occur;
- e. provide certainty for farmers and proponents;

duration:

- a. the productive well life may extend to 30 years;
- b. the impacts will continue well beyond the time;
- c. the proponents may no longer exist when the impact manifests;
- d. significant sinking funds need to be established to provide for those ongoing long-term impacts.

It is important to note that many of these impacts are not isolated to individual properties and cannot be simply and only managed in compensation under a conduct and compensation agreement.

Many of these impacts cross multiple property boundaries and need to be managed in a regional context.

The impacts are widespread and some are irreversible.

Subsidence:

Subsidence is caused consequent upon the right to proponents to take an unlimited amount of water under section 185 of the *Petroleum and Gas (Production and Safety) Act 2004* under an authorised activity.

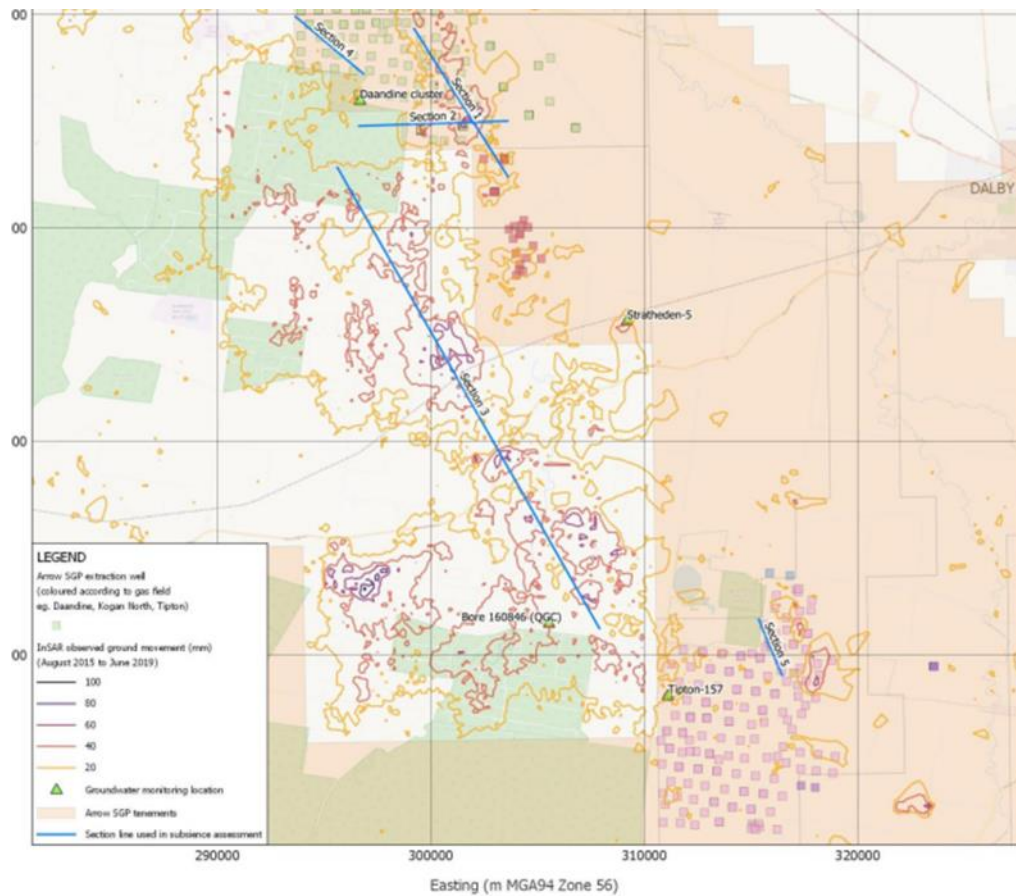
At any point below the ground surface, the weight of overlying strata is supported partly by water pressure and partly by the fabric of the rock mass. Any reduction in water pressure therefore results in an increased proportion of the load being carried by the rock mass, leading to compression of the rock. This is known as an increase in effective stress. The combined compression over the thickness of rock strata affected by reduced water pressure results in subsidence at the ground surface.

The largest ground movement is occurring on leases owned by QGC.⁶

slope;

The report identifies subsidence by reference to slope and includes results such as:

⁶ Arrow Energy Pty Ltd, Surat Gas Project - Subsidence monitoring and prediction, 754-MELENP268280-AA 10 December 2021



The slope variation is identified by coloured contour lines.

Arrow Energy has prepared a report said to address ground movement in agriculture, but which is substantially limited to slope. This can be seen in the scoping of the work described in the report.

The scope of this work was to prepare a technical report which describes:

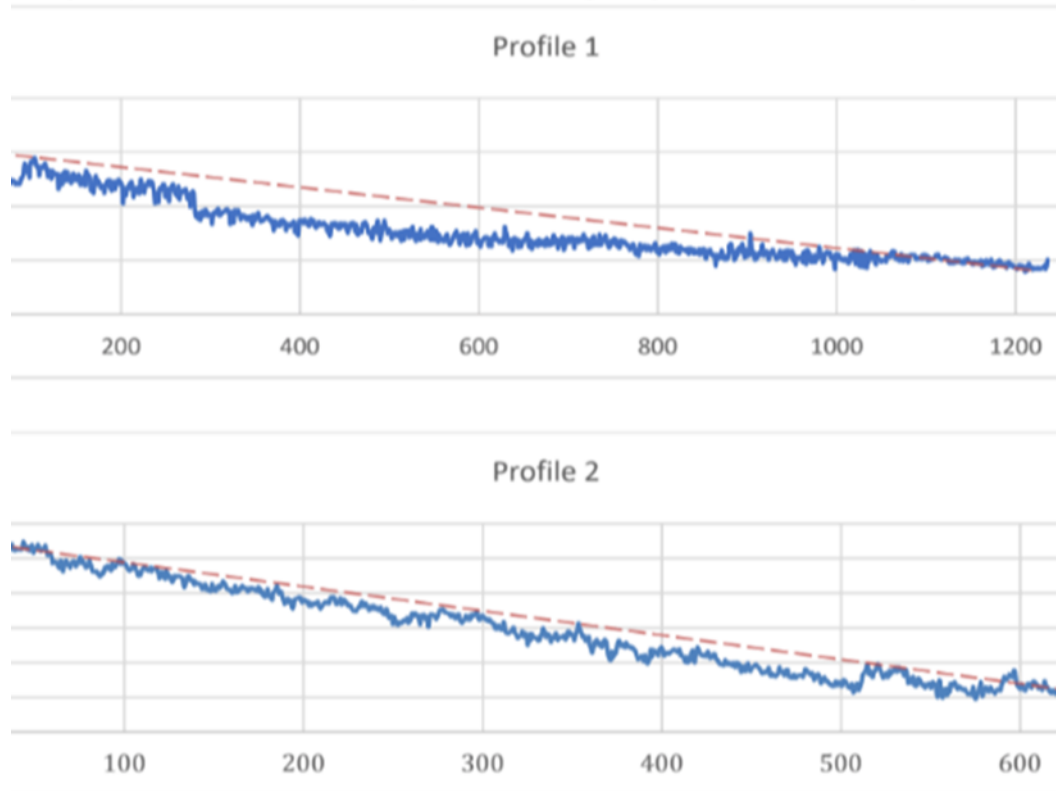
- 1. Representative slope on dryland or irrigated cultivation within Arrow's tenure,*
- 2. Typical slope rectification techniques used with Arrow's tenure,*
- 3. The accuracy with which the surface and slope on cultivated land can be measured and how that accuracy influences the possible range of actual slope on the same land,*
- 4. The accuracy with which the surface and slope on cultivated land can be modified and how that accuracy influences the possible range of actual slope on the same land, and*
- 5. Natural variations in ground surface including a description of the mechanisms causing this variation and magnitude in variations including the resulting changes to surface elevation that occur following rainfall.⁷*

The report does identify limitations in the data gathered.

⁷ Ground movements in agricultural production Public FINAL – prepared for Arrow Energy (March 2021)

Analysis of slope across transects were provided and two examples are shown below.

ty-six elevation profiles of randomly selected paddocks (X and Y Axis are all in metres – Y = start point). The red dashed line represents average slope drawn across each field.



Analysing the transects frequently identifies little change in slope across the length of the transect when averaged.

However, the transect data also shows depressions along the length of the transect.

Those depressions in the very flat priority agricultural areas can have significant impact on water logging, redirection of flow, diversion reducing water to other areas drying out the soil profile.

Very small changes in depth can have a significant impact.

melon holes;

Whilst not particularly relevant to the Downs and even less relevant to the Condamine alluvium, the Arrow Energy report identifies melon holes as a more relevant impact than the drainage overland flow impacts in that area which is a major impact.

In the Condamine alluvium references to melon holes is largely a diversion.

However for the sake of completeness they are addressed below.

Melon holes occur naturally and their occurrence has been managed.

Arrow Energy report on Ground movements explains:

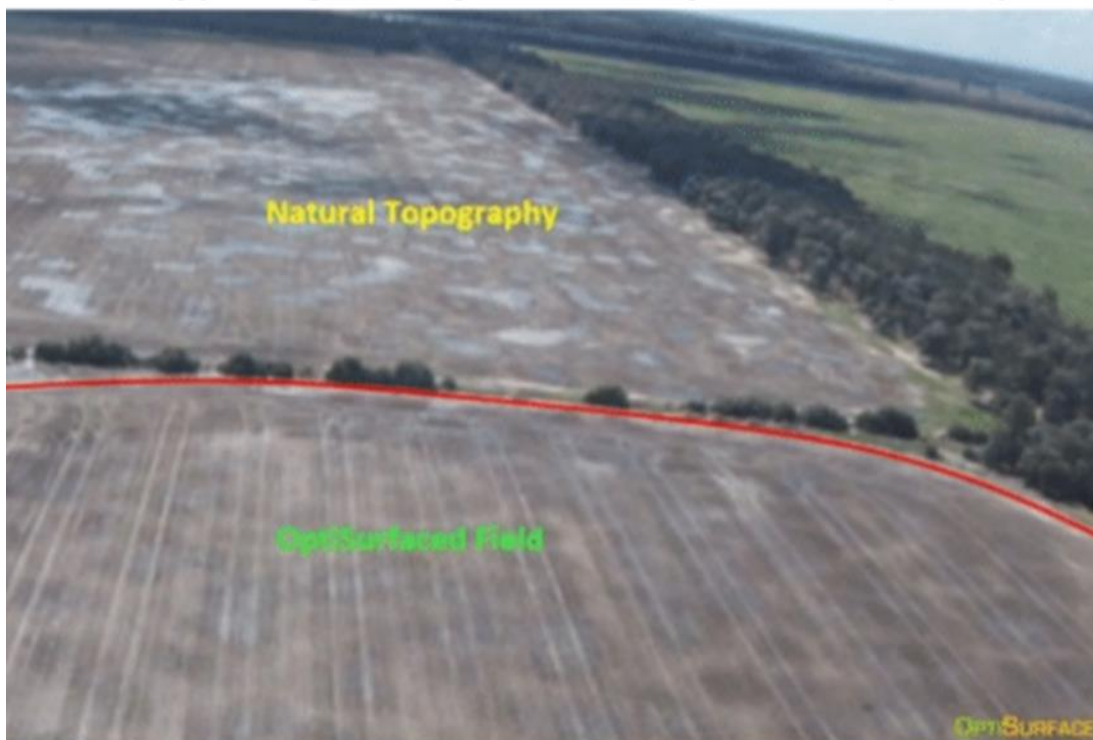
3.2 Typical land forming techniques used on the Darling Downs

Smoothing of "melon holes" (gilgai's) using land planning with no external vertical control. This is an old technique using a large blade towed by a tractor to smooth out the landscape by essentially removing the high points and grading them into the low areas.

To re-level melon hole country where the gilgai's start to re-form, which is normally after several decades. This is triggered by signs of waterlogging re-appearing in crops.⁸

The impact of Melon holes can be visually seen in photographs taken from the report.

Important lack of ponding on land formed areas of the landscape compared to



The surface level changes caused by subsidence adds to the naturally occurring changes which occur over several decades, and will increase the regularity of smoothing required.

overland flows;

“Over the past 30 to 40 years, natural resource groups and state government departments have spent considerable effort in coordinating water flows across the floodplains with strip cropping, removal/levelling of old fence lines, better farming practices, designated drainage systems, and inter-property water coordination through property Management Planning (PMP); all in an effort to minimize the damage from flooding and soil erosion.”⁹

⁸ Ground movements in agricultural production Public Final – prepared for Arrow Energy (March 2021)

⁹ Ground movements in agricultural production Public Final – prepared for Arrow Energy (March 2021)

Current resource activity including placing different linear infrastructure, changing road profiles and access tracks to gain better all-weather access have already caused adverse changes to coordinated water flows across the floodplains.

It is important to understand that minor changes have significant impacts.

“However, consequences of subsidence and small changes to land surface topography in the study region could be important in terms of changing overland flow patterns, which may increase erosion and gully formation.”¹⁰

Soil subsidence will add to those adverse changes in different locations in a catchment including:

- changing direction of overland flow across properties where not intended;
- causing water logging in any afflux causing crop damage or plant death;
- causing a drying out of soil profiles downstream of any afflux;
- change areas likely to be eroded;
- undermining steps taken to keep any first flush contaminated run-off on farm;
- disrupting reticulated water return systems;
- disrupting irrigation farms designed to collect tail water from irrigation paddocks and return it to dams/sumps
- disrupting laser levelled flood/furrow irrigation reducing the application of water consistently across the paddock; and
- change areas subjected to flooding impact.

Unless those matters are addressed at a minimum catchment level the assessment requirements under the RPI and Regulation cannot be satisfied.

The current recommendations by the Gasfield Commission Queensland explicitly excludes a consideration of overland flows.

“Regional overland flow impact assessment and analysis is outside the scope of the body of work currently being led by the Commission and therefore has not been considered as part of the regulatory review.”¹¹

Changes should not be made to the RPI based upon recommendations which do not consider a significant regional impact of resource activities.

The consequences of those impacts on priority agricultural land uses include:

- dealing with subsidence of surface soils;
- dealing with water ponding as a consequence of subsidence of surface soils;

¹⁰ Assessment of impacts of the proposed coal seam gas operations on surface and groundwater systems in the Murray-Darling Basin, Moran & Vinks UQ (2010)

¹¹ Gasfields Commission Queensland Regulatory review of coal seam gas -induced subsidence Report November 2022

- loss of crop as a result of increased depth and duration of water ponding as a consequence of subsidence of surface soils;
- drying out of sub soil where flows have been reduced as a consequence of subsidence;
- increased work hours addressing the risk;
- greater difficulty in relation to operation of farm machinery, and farm management as a consequence of the ponding; and
- personal stress.

For a more comprehensive overview of impacts please see the **attached** summary prepared by Liza Balmain.

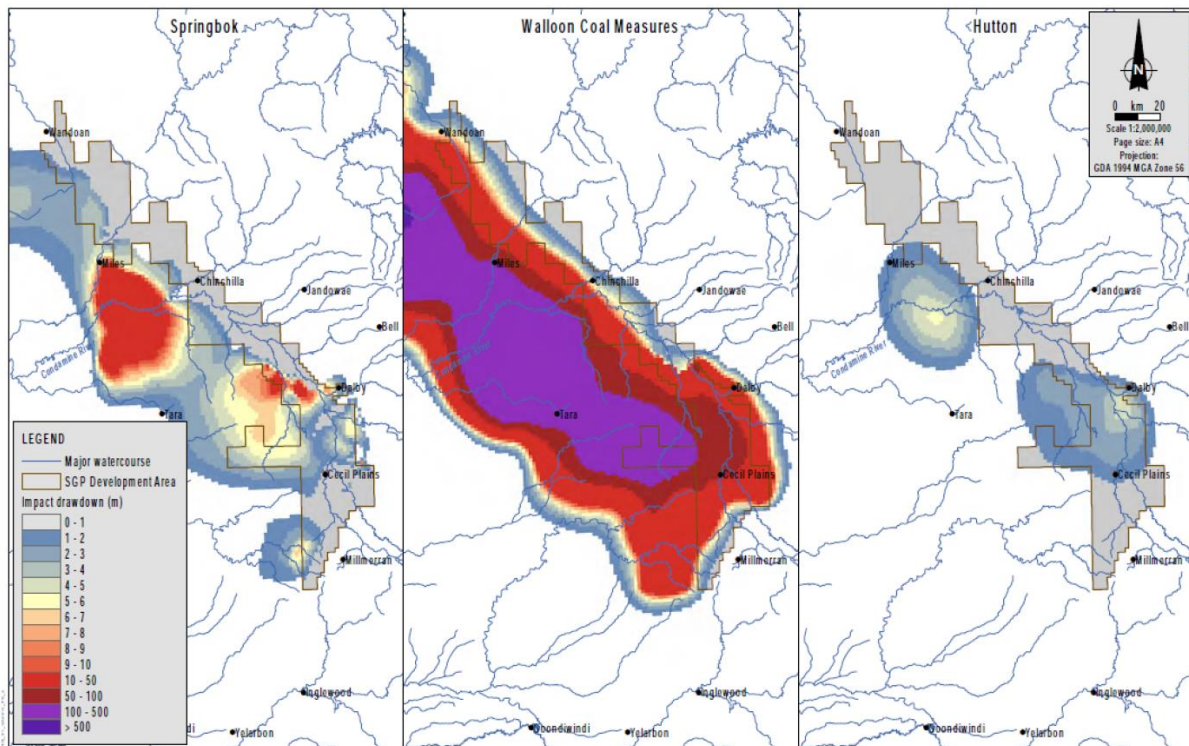
Water:

Subsidence is caused consequent upon the right to proponents to take an unlimited amount of water under section 185 of the *Petroleum and Gas (Production and Safety) Act 2004* (the **PAG Act**) under an authorised activity.

The ability to take unlimited water to enable resource activity to continue, on the driest inhabited continent, is currently able to be regulated under the RPI as the PAG Act and Water Act are explicitly subjected to its requirements.

Regional planning ought to of necessity take into account the combined impacts of the resource activities and other users on drawdown.

The following extract shows the predicted drawdown by 2050 due to combined CSG operations.



12

Managing water should take account upon the long-term availability of water for the priority agricultural area and the priority agricultural land uses amongst other uses.

interconnecting aquifers;

All parties are aware that there are numerous natural and man-made connections between different aquifers.

By depressurising one aquifer it changes the direction of flow of water between aquifers.

Subsidence is also opening or extending existing fractures changing hydraulic characteristics.

“In addition, proponents did not consider whether compaction of coal seams in the Walloon Coal Measures after dewatering might result in deformation of overlying or underlying aquifers or confining units. This deformation may result in opening of new or existing fractures in these units which would change the hydraulic relationships and may change groundwater flows between aquifers.”¹³

There are examples of water moving from the deeper aquifers into the Walloon coal measure following its depressurisation.

There are consequence of mixing different quality of water.

There are consequences of unintended and unregulated water extraction from the deeper aquifers.

¹² Coffey Arrow Energy Subsidence Technical Memorandum 25/09/2108

¹³ Assessment of impacts of the proposed coal seam gas operations on surface and groundwater systems in the Murray-Darling Basin, Moran & Vinks UQ (2010)

There are consequences of potential contamination.

depleting aquifers;

Where farming practices rely upon the availability of bore water that availability is reduced in the long-term by not controlling the quantity of water being removed from the aquifer by resource activity.

Simply making good by accessing deeper bore water does not address the finite quantity of water contained within the aquifers nor does it address the length of time required for recharge.

A determination needs to be made in relation to the quantity of water that can be extracted from each of the aquifers that is sustainable and provides all of the long-term requirements, including town supply, stock and domestic, industry, environment and resource activity.

At some stage the capacity to make good by accessing deeper bore water will not be available because of an over allocation.

That will occur at some stage in the future and perhaps after the resource activities have finished and the companies no longer exist.

permanently impairing aquifers;

At any point below the ground surface, the weight of overlying strata is supported partly by water pressure and partly by the fabric of the rock mass. Any reduction in water pressure therefore results in an increased proportion of the load being carried by the rock mass, leading to compression of the rock. This is known as an increase in effective stress. The combined compression over the thickness of rock strata affected by reduced water pressure results in subsidence at the ground surface.¹⁴

As a consequence of the significant reduction in water from various aquifers there will be a permanent reduction in their ability to recharge following compression caused by the reduction in pressure.

The Condamine Alluviums has immeasurable value to the region in terms of agricultural production, stock & domestic water supply & considerable town water supply for numerous regional towns including the larger regional centres like Pittsworth and Dalby.

It is not feasible to apply the Make Good framework to the Condamine alluvium and deal with regional impacts.

This is permanent damage to a significant resource.

What assessment has been undertaken to say what the extent of the permanent damage would be and what the total allocations for all uses should be from all of the relevant aquifers?

Health:

farms are workplaces;

Farms are a workplace in which management of the health of people involved in that workplace must be considered.

¹⁴ Arrow Energy Pty Ltd, Surat Gas Project - Subsidence monitoring and prediction, 754-MELENP268280-AA 10 December 2021

The lack of certainty in relation to the impacts identified above and the disruption over decades is not managed and is a significant contributor to significant stress in the workplace.

The community division, lack of control over what occurs in that workplace by way of entry, infrastructure, water supply and other matters pertaining to access have had a recognised impact.

In addressing make good agreements we have noted occurrences of gas levels that have increased into a level where they are explosive.

The interaction of non-farming and resource activities have always had the potential for workplace incidents from fire, accident, biosecurity and other matters. They have occurred and will continue to occur. They are managed at different standards at different times.

Workplaces are individual to each farm and each workplace require separate consideration.

suicide

At its most extreme the impacts have lead to suicide.

There are many other less extreme impacts on mental health amongst those who do not wish to have resource activities occurring on their farm or in their area.

Community division:

some farmers want to have gas wells;

Revenue generated from conduct and compensation agreements has enabled viability of farming as a consequence of supplemented income and also enabled the abandonment of farming as no other income is needed.

Many clients have good working relationships with the resource companies and want to continue to do so.

Those clients accept the consequences of established impacts.

Some may accept consequences of impacts that are now becoming more evident and some may not.

some farmers do not want to have gas wells;

Some of our clients are opposed to the resource activity occurring at all and others to the extent that it is occurring.

Predominantly that opposition arises from having impacts imposed upon them including the matters identified in this submission.

Some clients take a more holistic view of the impacts on Australia and the region and others more restricted toward their land.

impacts are not confined to a farmers land;

With different views being held within the farming community and region there is a tension that is created because of a lack of clarity and certainty in relation to obligations and rights.

That tension is exacerbated where one neighbour is paid for allowing gas wells to be located on the farm and the other neighbour does not have gas wells on the farm and is not compensated but is subjected to the impacts both direct and indirect set out in this submission.

Many of the clients that have not agreed to enter into a conduct and compensation agreement feel isolated and ostracised within their community.

Most of the clients who have entered into a conduct and compensation agreements do not have that same level of feeling of isolation or ostracism.

government should clearly demarcate areas where gas wells cannot occur and where they can occur;

The State relying on reservations passes to resource activity proponents obligations to negotiate with individual landowners about access to the surface of the land to take resources reserved to the Crown on the land.

The individual negotiation leads to division within communities.

The individual negotiations lead to outcomes which are not optimal for either farming or resource activities.

A farm without wells, surrounded by wells, does not allow an optimal pattern for the extraction of gas and the necessary infrastructure and is not sensible. Nor is it sensible to allow the impacts set out in this submission to be imposed on farms without gas infrastructure on them.

The government should shoulder its responsibility to make decisions at a regional level and not allow the significant cumulative impacts to occur by only considering impacts at a level of a few farm lots based upon applications that are piecemeal in a regional context.

provide certainty for farmers and proponents;

The RPI as currently drafted can, if properly applied, lead to a much clearer demarcations as to where resource activities are to be undertaken, impacts are to occur, the extent of the impacts that are acceptable and where they cannot occur.

It was recognised by imposition of conditions in 2010 that subsidence was a potential issue. That had to include knowledge that aquifers could be permanently impaired and the surface of the land could deform.

It was identified as a low risk by reports provided to government.

Government's response was to monitor it.

The time for monitoring being the only response has passed as subsidence relating to the depressurisation of aquifers is occurring and aquifers are compressing.

The extent of that damage to the aquifer and the land surface is not yet known and is acknowledged to be continuing.

Where those impacts have occurred, it is likely they will continue to occur over an undetermined time.

Where those impacts have not occurred, they may occur or they may not.

Until there is greater scientific certainty as to whether the impacts will not occur in relation to those areas currently unaffected it would be prudent to stop further extraction at this time.

Duration:

the productive well life may extend to 30 years;

The difference between the productive life of a well and a gas field and the duration of potential impacts beyond that time must be managed.

The productive life of a well may extend to 30 years.

the impacts will continue well beyond the time;

The depressurisation of the aquifers has led to a permanent impairment of aquifers.

That will never be fixed.

Subsidence will be ongoing for a period of time not yet determined.

The extra cost to farm priority agricultural land use with the potential for continuing subsidence needs to be secured.

the proponents may no longer exist when the impact manifests;

Impacts identified in this submission may manifest after the proponents have left and are no longer in existence.

significant sinking funds need to be established to provide for those ongoing long-term impacts.

A sinking fund needs to be available to reimburse farmers and others whose assets are impacted by ongoing subsidence.

Subsidence can cause impacts to a farmers field, a house in town, a dam or weir, roads and power infrastructure.

The permanent change in aquifers and pressure will change the flows between surface waters and underground waters. For example different reaches of the Condamine River were receiving water from aquifers as a result of the pressure in the aquifer and now will not receive water.

This means a potential reduction in riparian rights and where water supply headworks are in place for towns, a reduction in available water.

Some existing infrastructure may become redundant.

3(1)(c)(ii) Managing co-existence

The parliamentary Committee Report on the RPI Bill recommendation 4 identified a lack of definition in relation to co-existence.

A review of coexistence and coexistence institutions occurred through discussion paper issued in November 2022.

The review fed back into the Land Access Code dated June 2023.

The Land Access Code 2023 identifies its purpose and application:

“The Land Access Code (LAC) is made under 36 of the Mineral And Energy Resources (Common Provisions) Act 2014. It sets out best practice guidelines for communicating and negotiating with landholders and imposes mandatory conditions about conduct when entering and carrying out authorised activities on private land.

The best practice guidelines for communication and negotiations are set out in Part 2 of this document, including coexistence principles and practical guidance on how resources companies and landholders and occupiers should interact.

Part 3 explains the mandatory conditions required for specific resource authority holder is in relation to the conduct of authorised activities on private land.

Part 4 of this document provides key contacts and further information sources that may assist parties dealing with coexistence issues.”

By way of application, Arrow Energy have expressed their commitment to coexistence as follows:

1. *No permanent alienation*
2. *Minimised operational footprint – less than 2% of total IFL area*
3. *Flexibility on CSG well locations, but all wells located by edge of farm paddocks*
4. *Pad drilling (up to 8 wells from a single pad) used where coal depth and geology allows*
5. *Spacing between wells maximised (average of between 800m – 1500m)*
6. *Pitless drilling only*
7. *No major infrastructure facilities on IFL (dams, compression stations, gas gathering stations, water treatment)*
8. *Treated CSG water used to substitute existing users’ allocations on IFL**
9. *No brine/salt treatment or disposal on IFL*
10. *Flexibility on power supply option*
11. *Fair compensation*
12. *Continued proactive engagements with community and transparency on coexistence field activities.*

**Commitment 8 refers to the area of greatest predicted drawdown on the Condamine Alluvium resulting from CSG extraction by Arrow Energy.*

If the coexistence principles are established and implemented under the *Mineral and Energy Resources (Common Provisions) Act 2014*, what is intended to be addressed under the RPI managing “coexistence”.

If it is intended that “coexistence” under the RPI is different then we assume it relates to trying to determine the broader balance identified in the purpose of the RPI.

If that assumption is correct then it is addressed above.

Certainty cannot be achieved without clarification of what is meant by co-existence and this should occur.

Significance of Impact

The extent of the impact required under the RPI is sought to be increased through changes to what is a significant impact.

Identifying significant impacts, set out below, should not be diluted but should be strengthened.

The existing assessment criteria require:

PAA

no significant impact' condition (host property);

2% loss of productive capacity (as above);

SCA

2% loss of SCL;

requirement for there not to be a permanent impact to SCL in the SCA which requires it to be restored to its pre-activity condition.¹⁵

Under the draft Eligibility Criteria at 3.1 these are removed.

They should not be removed.

Conclusion

Priority agricultural land uses in priority agricultural areas are not currently being protected by the application of the RPI and the consequences of impacts on priority agricultural land uses include:

- reduction in agricultural yields and permanent widespread impairment of priority agricultural land and strategic cropping land;
- permanent impairment of an aquifer as a result of underground compression;
- permanent loss of water for all of its applications;
- inter-mingling of waters from different aquifers changing water quality;
- dealing with subsidence of surface soils;
- dealing with overland flow and drainage issues;
- dealing with water ponding as a consequence of subsidence of surface soils;
- loss of crop as a result of increased depth and duration of water ponding as a consequence of subsidence of surface soils;

¹⁵ PAA - Regulation – Schedule 2 – Part 2 – s3(3)(a)(ii); SCA - Regulation – Schedule 2 – Part 4 – s11 (d)

- drying out of sub soil where flows have been reduced as a consequence of subsidence;
- increased work hours addressing the risk;
- greater difficulty in relation to operation of farm machinery, and farm management as a consequence of the ponding;
- personal stress; and
- these impacts are widespread and some are irreversible.

The RPI could make clearer by weighting to be given to the protection of priority agricultural land uses over maximising coexistence in priority agricultural areas and other areas of State significance.

The extent of the impact required under the RPI is sought to be increased through changes to what is a significant impact.

The criteria for identifying significant impacts should be retained without the dilution proposed.

Assessments of regional development interest applications should be conducted at a broader scale relating to the regional impact, or at the very least on scientifically established catchments.

Assessment of regional development interest applications should address subsidence recognising the variety of impacts including slope, melon holes, overland flow and timing.

The permanent impairment of aquifers and the impact upon water security should be assessed.

Assessment of regional development interest applications should include all properties in the region or catchment and the current exemptions should not apply to the assessment.

In areas where impacts are not yet manifesting, those areas should be “protected”, under Policy 1 of the Darling Downs Regional Plan, by stopping further resource activity, until there is greater scientific certainty in relation to the consequences of the resource activities.

The RPI should address the regional impacts.

The RPI should clarify what is intended by reference to co-existence.

Yours faithfully



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ATTACHMENT - SUMMARY PREPARED BY LIZA BALMAIN

- **Waterlogging results in crop losses or yield decline due to:**
 - Missed planting crop opportunities due to inaccessibility of the waterlogged subsided areas/paddocks
 - Weed/pest/fungicide disease pressures and not being able to address these issues due to inaccessibility of the subsided waterlogged areas/paddocks by machinery, spray coupe etc
 - General inability to fulfil weed/pest/fungicide management program
 - Waterlogging lowers oxygen levels in the root zone, which reduces plant growth.
 - Waterlogging or inundation of the seedbed affects germinating seeds and young seedlings more than mature plants. Earlier-sown crops that have emerged and are well established can tolerate waterlogging more than plants that are emerging during waterlogged conditions.
 - Waterlogging causes root-tip death within days. Loss of root tips limits the uptake of nutrients (particularly nitrogen) and water after waterlogging. As a result, plants that have been waterlogged ripen early and grain is often pinched.
 - Nitrogen is lost from waterlogged soils by leaching and denitrification – the process where nitrogen is converted to gaseous oxides of nitrogen. This loss of nitrogen is damaging to crop growth, strength, vigour & yield. What's more, the subsequent emissions of nitrous oxide (N₂O) – a major greenhouse gas - is detrimental to the atmosphere, hence bad for our planet and worsens a farming business's carbon footprint.
 - Denitrification leads to a loss of soil fertility
 - Shallow rooting systems formed in waterlogged areas, which then in drier times are unable to obtain sufficient moisture to maintain full growth.
 - Pondage causes an increase to soil compaction which harms soil structure. Good soil structure is important for the movement of water, gases and roots, which are critical for healthy soil. Compacted soils lack good soil structure as the air spaces that are essential in the movement of water, gases and plant roots are compressed.
 - Inability to harvest crops in waterlogged areas
- **Laser levelling comes with a multitude of issues:**
 - Laser levelling comes at a huge cost
 - There are only a limited number of earth-moving contractors on the Downs with the required skill set to work on these issues. They are already in short supply and this will only increase exponentially as subsidence occurs across the Floodplain.
 - Where is the dirt to be obtained to fill in the depressions?
 - a. You cannot bring dirt into an area without causing an impact in the retrieved area
 - b. If based on cut and fill process from within one paddock, the whole paddock will reduce in elevation compared with the surrounding land, potentially creating a low area on one's farm where water will naturally flow towards
 - c. You cannot effectively introduce soil from an outside area due to the incompatibility of soils and potential lower grade of external soils

- Extreme management difficulties as the subsidence doesn't happen all at once in the first couple of years, it is ongoing and the length of time is unquantified. Therefore, do you attempt to rectify it on a regular basis as the subsidence progresses (every 1-2 years), or wait for years until it's plateaued and suffer the consequences in the meantime?
- It could lead to having to redesign whole farm/paddock layouts if a change in slope occurs or the overall elevation within rectified subsided paddocks change (see (b) above).
- The practice of laser levelling and its aftermath comes with many issues/impacts:
 - a. Crop losses/yield decline due to compacted soils. Compaction results in reduced porosity, preventing water from accessing the root zone.
 - b. The uneven distribution of Nitrogen and other nutrients following laser levelling
 - c. The potential for sodic or saline subsoils to be exposed in the laser levelling process which could lead to long lasting low production effects
 - d. Loss of moisture retaining stubble cover
 - e. Loss of biomass (carbon sequestration) from lost stubble cover
 - f. Missed crop opportunities while laser levelling remediation work is carried out
- **Subsidence will have impacts on surface water flows including:**
 - Changing the natural flow of the water across the floodplain, around which our farms have been designed
 - Changing the natural flow of the water and potentially reducing flows to ecological systems (GDEs) which rely upon existing flows and quantities of water available
 - Result in potential overland flow (OLF) losses (for irrigators) from the change in water flow direction and subsequent missed crop opportunities from the loss in OLF water available
 - A change in slope may change the velocity of surface water flows leading to erosion
 - A change in slope may change the velocity of surface water flows leading to sediment deposition
- **Subsidence could have far-reaching impacts to farm infrastructure including:**
 - Costs to repair potentially impacted farm infrastructure e.g. leaking/seeping storage dams or worst case scenario dam failure
 - Loss of water from seeping/failed dams
 - Subsequent lost crop opportunities due to lack of water from subsidence caused seeping/failed dams
 - Making the slope in channels and return drains ineffective
 - Causing stress/strain on underground polypipe water supply networks which could lead to pipe joint failure
- Landholders' time working on issues and compensation claims, time taken away from their families and running their businesses
- Mental Health concerns in dealing with the consequences and having to negotiate with resource company in what will likely be an extremely stressful period