



# WATER FOR FOOD

# Projects Summary



*Water for Food* is a \$40 million Royalties for Regions State Government program delivering eleven projects with the aim of significantly increasing irrigated agriculture across the State.

The program extends from the Kimberley region to the Great Southern and is at the core of Western Australia's strategic approach to lift productivity in agriculture while building export supply chains and encouraging capital investment in regional industries.

The primary objective of *Water for Food* is to identify water and land resources, as well as irrigation technologies, that can enable Western Australia's fresh food and animal protein production to increase its contribution to regional economies by at least 50 per cent by 2025 and twofold by 2050.

The program will support public and private sector investment decisions for new commercial scale irrigated agriculture precincts and the expansion of existing areas, by identifying where water is available, along with its quality and quantity.

It will assist Western Australian food producers to respond to the opportunity presented by the strong growth in demand for high quality food both locally and in Asia.

## Projects

- Mowanjium Irrigation Trial
- La Grange – West Canning Basin: Groundwater for Growing Opportunities
- Knowsley Agricultural Area Water Investigation
- Land Tenure Pathway for Irrigated Agriculture
- Fitzroy Valley Groundwater Investigations
- Bonaparte Plains – Ord East Kimberley Expansion
- Myalup – Wellington: Water for Growth
- Southern Forests Water Futures: Manjimup – Pemberton
- Gascoyne Master Plan
- Midlands: Groundwater and Land Assessment
- Water Information Conversion



## Mowanjum Irrigation Trial

This project is a research agreement and funding partnership between the State Government and the Mowanjum Aboriginal Corporation, a 400 strong community located on the outskirts of Derby.

Mowanjum's 55 000 hectare pastoral lease contains large tracts of prime grazing land, which require a dry-season feeding capability to realise its aspiration of reaching an initial production target of between 10 000 and 15 000 head of its own branded cattle and also to agist stock for other Aboriginal stations.

The trial is a demonstration model for other pastoral stations in the Kimberley. Crop research, irrigation data and herd analysis will be published and shared to enable growth of pastoral operations and capitalise on the world's expanding beef market.

In June 2014, the State Government supported a business case to establish an irrigation trial on a 400 hectare diversification permit on Mowanjum station. A 38 hectare centre pivot irrigation system was commissioned in October 2015 to access underutilised groundwater sources and develop a stand and graze operation.

In December 2015, an application by Mowanjum Aboriginal Corporation for an option to proceed to conditional freehold for an area of 4100 hectares in accordance with the *Water for Food Land Tenure Option Plan* was approved by the State Government.

In March 2016, Mowanjum produced and cut more than 200 tonnes of hay and silage. This operation has helped diversify the station's cattle operation and create sustainable job and training opportunities. Mowanjum's first consignment of around 240 Brahman-cross cattle from the stand and graze operation was exported through Broome Port in April 2016.

The project will:

- Underpin the community's aspiration to become a viable pastoral operation
- Provide a field training facility for Derby TAFE's Pastoral Management Studies program for both Mowanjum and Derby students
- Provide vocational training opportunities for Derby High School students
- Assist Mowanjum to negotiate approvals for a land tenure change on parts of the lease to a more flexible land use tenure and attract third party investment

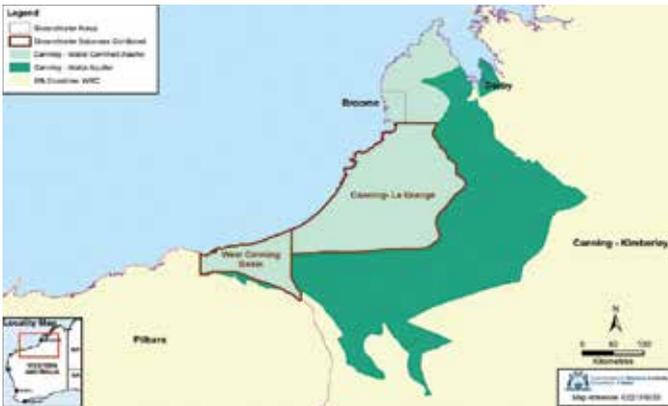
**"Western Australia can be part of the global, long-term solution, but only if we dramatically intensify and expand production."\***

\* Hon Mia Davies MLA, Minister for Water, CEDA Leadership in agriculture: Seizing the Opportunity conference, 20 June 2014



**“Water for Food is at the forefront of an agricultural renaissance, providing new opportunities through innovation and science, market development, infrastructure rollouts, and irrigation precincts.”\***

\* Hon Mia Davies MLA, Minister for Water (15 March 2016) “Southern Forests Water Futures Project” Parliamentary Debates (Hansard), Western Australia: Legislative Assembly, p. 998



La Grange - West Canning Area

## La Grange – West Canning Basin: Groundwater for Growing Opportunities

This component of the *Water for Food* project will investigate and confirm the presence, reliability and availability of water in the West Canning Basin - Sandfire, one of the largest groundwater systems in the State.

With the area having significant potential for higher value agricultural production and substantial irrigation expansion, the project will also examine land tenure options to allow for large scale third party investment.

**“It is the largest single water investigation in the State and covers a 10 000 square kilometre footprint starting 100 kilometres east of Port Hedland”\***

\* Hon Mia Davies MLA, Minister for Water, Department of Lands, Rangelands: Sustainable Economic Development in Western Australia Conference, 1 March 2016

## Knowsley Agricultural Area Water Investigation

The Knowsley Agricultural Area is a parcel of unallocated crown land on the outskirts of Derby that provides the potential for future irrigation and intensive cropping. This project will identify water supply options and identify suitable land parcels within a 5000 hectare envelope for irrigated development.

Irrigated farming, including high value horticulture, will provide significant potential as a new industry opportunity for Derby and the West Kimberley region. Further dry season irrigation is dependent on defining a sustainable water supply and achieving approvals, including Native Title.

This project aims to define sustainable water supply options in the shallow and deep aquifers and evaluate the potential to source water from the May-Meda Rivers alluvium to the east of Derby and from the lower Fitzroy River alluvium to the south.



# Land Tenure Pathway for Irrigated Agriculture

The Land Tenure Pathway for Irrigated Agriculture project administered by the Department of Lands is a key component of the *Water for Food* initiative.

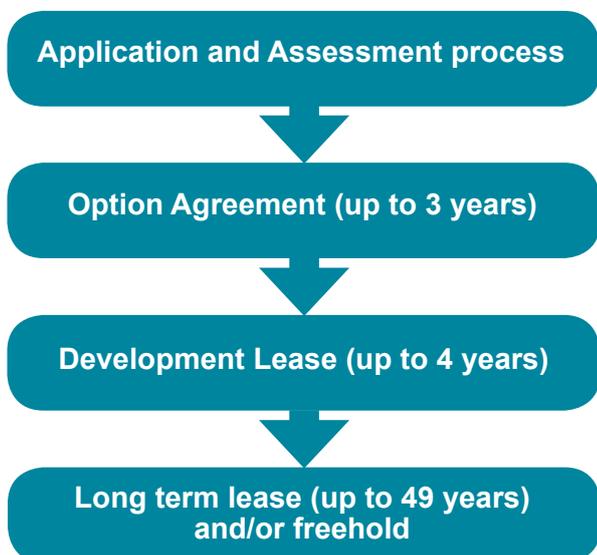
With the aim of stimulating greater economic development and investment across the State for irrigated agriculture, this project will assist proponents (including pastoralists and third party investors) to obtain more secure land tenure.

A Policy Framework has been developed in the scope of what is currently possible under the *Land Administration Act 1997* and the *Native Title Act 1993* (Cth). The project has defined a specific land tenure pathway for irrigated agriculture, using policy principles as a foundation, which were approved by the State Government in August 2015.

**“Ideally, my pastoral lease of the future will not only run stock, but contain commercial-scale irrigation islands where a diverse range of cash crops and high value food products can be grown, alongside fodder.”\***

\* Hon Mia Davies MLA, Minister for Water, Department of Lands, Rangelands: Sustainable Economic Development in Western Australia Conference, 1 March 2016

## Land Tenure Pathway



For further information please visit [www.ltpia.lands.wa.gov.au](http://www.ltpia.lands.wa.gov.au)

## Land Tenure Facts

- There are 435 pastoral stations in Western Australia
- They cover nearly 87 million hectares or 34.4 percent of the State
- Diversification will support potential for expanding the northern cattle industry

The key principles include:

- Proposals are driven by the proponent – not the State.
- Proponents are required to negotiate their own Indigenous Land Use Agreements (ILUA) Guidelines and a template will be provided by the State, which will be a party to the ILUA.
- Proponents are responsible for all costs including surveying, native title compensation, negotiations and meetings.
- Proponents are responsible for obtaining all approvals.
- Every application will require State Government approval.
- Applications will be accepted for proposals of up to 10 000 hectares.

The Project is designed to accommodate four types of proponents, which may include:

- Existing tenure holders wanting to surrender part of their interest to secure alternative tenure for themselves;
- Existing tenure holders wanting to surrender part of their interest to secure alternative tenure in partnership with a third party;
- Proponents attracted through the public release of land by tender or through an expression of interest by the State
- Other proposals to develop Crown land.





## Fitzroy Valley Groundwater Investigations

The Fitzroy Valley landscape investigation aims to confirm groundwater availability and increase confidence among pastoral station owners wanting to diversify their operations into irrigated agriculture, based on sustainable local-scale mosaic developments.

The project will also assist Aboriginal corporations to develop intensive grazing opportunities to help boost economic advancement and job creation.

While much is known about water availability in the Fitzroy Valley, more work is required to define the potential to draw from groundwater resources in the region in a way that is sustainable.

The West Kimberley groundwater investigation builds on existing Department of Water research in the Fitzroy Valley between Willare and Fitzroy Crossing and will help consolidate our knowledge of groundwater resources and their links to environmental, social and cultural values of the river.

## Bonaparte Plains: Ord East Kimberley Expansion

The Bonaparte Plains project is a joint land and water investigation aimed at developing up to 30 000 hectares of irrigated agriculture in the loamy sands of the East Kimberley around Kununurra.

The project will include groundwater investigations and detailed soil assessments, establish water and land availability and develop tenure options for potential investors and infrastructure development.

The Department of Water is working closely with a number of external research projects in the Fitzroy Valley including the National Environmental Science Program, the Northern Australia Environmental Resources Hub and the Northern Australia Water Resource Assessment, West Kimberley. These initiatives bring together leading scientists to further our knowledge of the regions groundwater resources and dependencies.

Preliminary research has identified the regional Canning Basin aquifers as offering the greatest opportunities for mosaic scale groundwater development in the lower Fitzroy River Valley, specifically the combined Poole Sandstone and Grant Group aquifers.

**“We have a glowing history of success in the fiercely competitive resources sector and are now suppliers of choice to China and Japan. We must now apply the same principles of investment, market reliability and innovation to the agricultural sector.”\***

\* Hon Mia Davies MLA, Minister for Water, CEDA Leadership in agriculture: Seizing the Opportunity conference, 20 June 2014



*Airborne Electromagnetic (AEM) survey in the Fitzroy Valley/Derby area*



## Myalup – Wellington: Water for Growth

Situated on the Swan Coastal Plain, this project will investigate alternatives for additional water supply options to support the expansion of the Myalup Irrigated Agricultural Precinct and the Collie River Irrigation District, enabling growers to double their current production levels.

A significant component of this project will be exploring salinity treatment of water from the Wellington Dam for use in irrigated agriculture, decreasing the reliance on existing groundwater supplies.

Groundwater investigations in the Myalup region will help identify new water sources as well as define the quality and availability of groundwater.

**“In Western Australia we must embrace irrigation, far beyond the estimated 50 000 hectares we irrigate today.”\***

\* Hon Mia Davies MLA, Minister for Water, CEDA Leadership in agriculture: Seizing the Opportunity conference, 20 June 2014



## Southern Forests Water Futures: Manjimup – Pemberton

The Southern Forests water futures project will underpin agricultural growth and investment in one of the most significant horticultural areas in the southern half of the State.

Working with local stakeholders, the project will identify new water supply options as well as increase availability by exploring an efficient water distribution system.

One option is the potential for an irrigation scheme in the Warren-Donnelly and Southern Blackwood regions, consisting of pipeline and pumping infrastructure, which would enable water to be bought and sold.

Targeting an additional 12 gigalitres of sustainable irrigation water a year, the proposed scheme will follow a successful business model used in Tasmania.

This will create a whole-of-region approach to commercial water security for existing producers and would open the door for developing new irrigated areas within the scheme’s reach.

Benefits to this world class region will include increased investment, a strengthened economy and the creation of sustainable employment opportunities.



## Gascoyne Master Plan

The Gascoyne Master Plan will focus on lifting productivity in the existing irrigation footprint and consider local challenges and opportunities for irrigation, infrastructure, water security, land release, local food processing and value adding.

The Carnarvon agricultural district is situated on the Gascoyne River delta and supplies approximately 60 per cent of Perth's winter fruit and vegetables with a current value of \$80 million annual production. The district also has an important pastoral sector with a gross value of \$25 to \$35 million a year.

The project draws on the previous Water for Food Middle Gascoyne Groundwater Investigation project which initially focused on identifying potential water sources in a study area along the Gascoyne River upstream of Rocky Pool. Results revealed there is limited groundwater potential across the middle Gascoyne River and associated palaeochannels to support large scale irrigated agriculture.

Given these results, focusing the Gascoyne Water for Food project on the Gascoyne Master Plan will provide a better opportunity for the State to grow this important local industry.

**"A dramatic expansion of Western Australia's irrigation capability is one answer to creating critical mass, maintaining quality, and becoming export-ready with the right product at the right time."\***

\* Hon Mia Davies MLA, Minister for Water, CEDA Leadership in agriculture: Seizing the Opportunity conference, 20 June 2014

## Midlands: Groundwater and Land Assessment

Already producing a significant proportion of Western Australian fresh fruit and vegetables and with large tracts of relatively inexpensive grazing land close to Perth, the Midlands region offers extensive opportunities for irrigated horticultural expansion.

In partnership with a range of local stakeholders, this project will undertake detailed groundwater investigations in the Irwin area near Dongara and the Dinner Hill area north of Dandaragan, to determine the quantity and quality of water available, as well as further infrastructure, soil and crop analysis to identify suitable land to support growth in the region.

A comprehensive information package covering the region's local water resources, soil types, crop suitability and local infrastructure, is being compiled and will be made available to the community, local growers and potential investors as it becomes available.

## Water Information Conversion

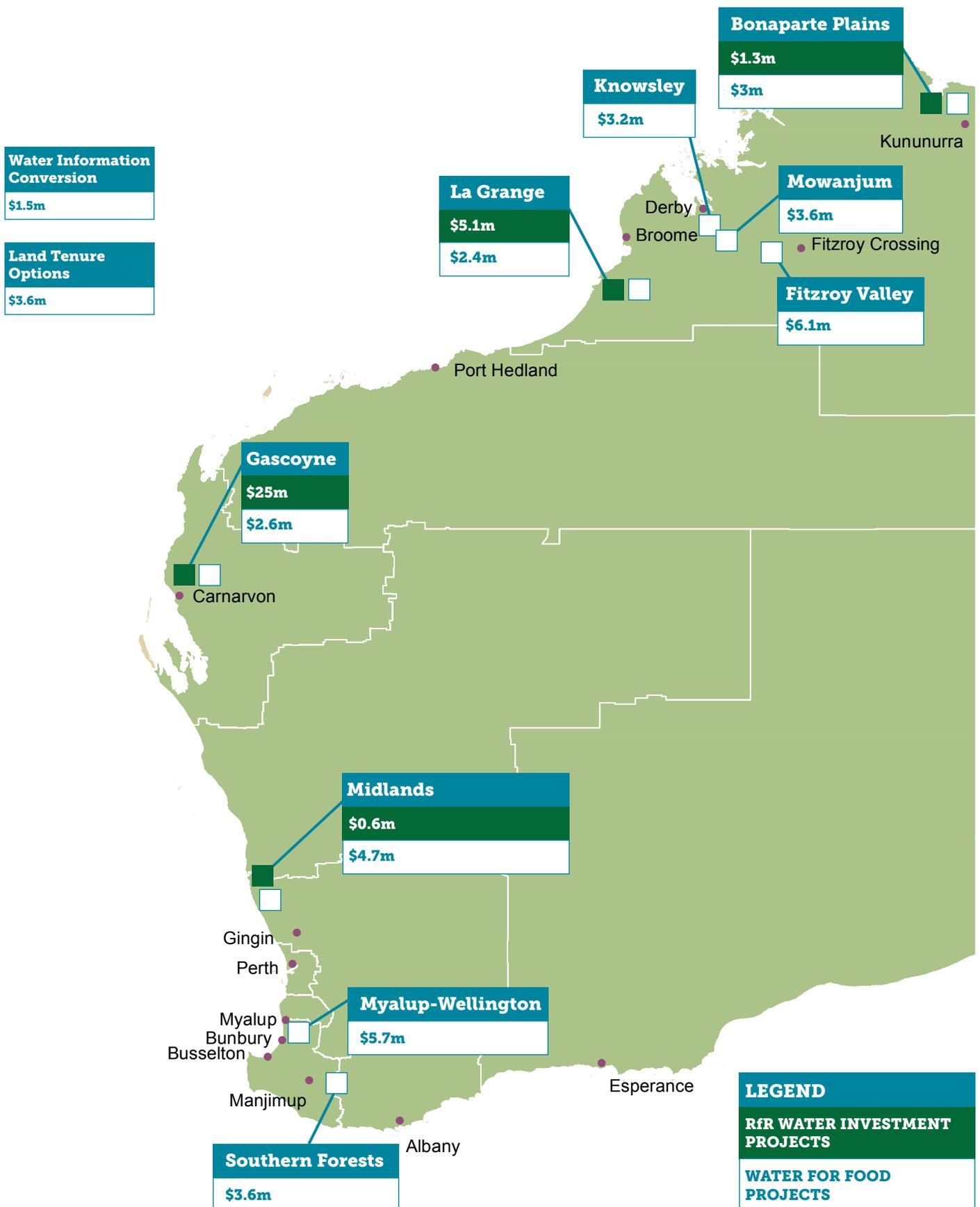
Wide ranging hard copy hydrogeological information from priority irrigation areas will be digitally captured and made available online to private sector investors and growers, vastly reducing the need for expensive water investigations in areas where comprehensive data already exists.

Other benefits of having extensive water information available include:

- Streamlining processes and fewer delays collecting data
- Less invasive on the land, with a reduced need to drill new bores
- Reduction in lengthy monitoring periods and analysis
- Reduction in development costs
- Better planning for the design of road, rail and pipeline infrastructure



# Western Australia's Water for Food



## Water for Food

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