Newsletter

from Rural Funds Management Ltd

Rural Funds Management

EDITION 8, DECEMBER 2017

A TRAGEDY IN OUR COMMON

David Bryant, RFM Managing Director

Paddle steamer 'Nile' on the dry riverbed of the Darling River, Bourke NSW, circa 1908

"On May 29 1435, ... 84 irrigators served by the Benacher and Faitanar canals in Valencia gathered at the Monastery of St. Francis to draw up and approve formal regulations. Those regulations specified who had rights to water from these canals, how the water would be shared in good years as well as bad, how responsibilities for maintenance would be shared, what officials they would elect and how, and what fines would be levied against anyone who broke their rules".[1]

Elinor Ostrom
Winner of the Nobel Prize in Economic Sciences, 2009

The Murray-Darling Basin is Australia's largest and most important catchment, occupying 1.06 million km^2, with 77,000 km of rivers, over 30,000 wetlands, and a multitude of plants and animals[2]. It provides a reliable water supply to four states and a territory, is home to over two million people, provides drinking water for an additional two million, produces much of Australia's food, approximately 40% of the nation's agricultural revenue[3], plus renewable energy from the Snowy Mountains Scheme. It is a vast natural resource that, like much of the planet, has been transformed from an ecological masterpiece into a blend of national parks, remnant vegetation, ephemeral wetlands, and a set of controlled landforms and waterways as a consequence of humanity's need for economic activity, food and, particularly, water.

This article is about the Murray-Darling Basin (the Basin) and how to share it.

Beginning with a weir on the Goulburn River in Victoria in 1887, the Basin's waterways have been controlled through the construction of nearly 240 dams, and over 200 weirs, locks and barrages[4]. When full, the major dams store 22,214 gigalitres, or 22.2 billion litres, of water, enabling a reliable water supply for irrigation and human consumption. The weirs and locks were largely constructed in the 1920s to raise river water levels, so water could be diverted to towns and irrigation areas, or to provide greater river depth for boats. The barrages were constructed in the 1930s to stop sea water from the Southern Ocean entering the two lakes located at the end of the Murray River system.

On 24 July 2017 the ABC's *Four Corners* broadcast a program alleging water theft from northern rivers in the Basin by certain irrigators, plus misconduct and maladministration within the NSW Government. This triggered seven investigations federally and within NSW and Queensland, including a review by the Murray-Darling Basin Authority (MDBA) and an investigation by the NSW Independent Commission Against Corruption. On 26 November 2017, the Premier of South Australia announced a state Royal Commission into the allegations.

1 Ostrom, E., 1990, *Governing the Commons: The evolution of institutions for collective action*, Cambridge University Press, United Kingdom p.69.
2 Murray-Darling Basin Authority, 2017, *Basin facts*, accessed online.
3 Murray-Darling Basin Authority, 2017, *The Murray–Darling basin at a glance*, accessed online.

Cover image: Spraying of juvenile almond trees, Kerarbury Orchard, Darlington Point, NSW, October 2017

4 Murray-Darling Basin Authority, 2017, *private correspondence*.

This recent drama is an example of a Tragedy of the Commons, an economic theory first postulated in 1833 by William Forster Lloyd[5], and subsequently named and made famous in a speech and academic paper published in 1968 by ecologist Garrett Hardin[6]. In his published lectures, Lloyd observed that commons pastures, accessible to all, were being overgrazed, rendering them "bare-worn, and cropped so differently from the adjoining inclosures"[7]. On the unregulated common he concluded that farmers could choose to place one additional animal on the common, since the benefit would belong to him while the cost would be borne by all. Consequently the placement of additional animals would accelerate until the pasture was bare-worn.

Since Hardin published his observations, the theory has been the subject of numerous studies and has become fundamental to the governance of shared natural resources such as the ocean's fisheries, forests and river systems. Subsequent studies have found that where 'appropriators' have an advantage, such as being first movers or lower cost extractors, they are likely to take advantage of this and extract more from the resource than those without such an advantage, thereby accelerating the demise of the resource.

Prior to the introduction of water extraction regulations in the Basin, such advantages existed for upriver water users in NSW, Queensland and Victoria. Irrigators in these states were able to extract water from the common, obtain a private benefit and leave the cost to be borne by those downriver, particularly water users and the environment in South Australia. This historical fact and the theory of the Tragedy of the Commons explain why even today, water use by eastern states is such an important political issue for South Australians and environmentalists.

Hardin, in his 1978 paper, recommended centralised control as the means for preserving a common: "if ruin is to be avoided in a crowded world, people must be responsive to a coercive force outside their individual psyches, a Leviathan, to use Hobbes's term"[8]. The term 'Leviathan', refers to the book of that commonly referred to title by Thomas Hobbes, which proposed a structure of governance where individuals cede their rights to an absolute monarch so that the monarch can enforce peace on all. Hardin here is arguing that commons, or shared natural resources, should be governed by a single absolute authority.

The creation of a Leviathan, or coercive force, for management of water extractions first begun in 1914 with the creation of the *Murray Waters Agreement* between the states. Reforms continued over the following century, culminating with the most significant and recent steps taken to regulate the Basin occurring at the height of the millennium drought. In January 2007 the Howard Government committed $10 billion towards the improvement of water use and reduction of water extractions. The Federal Parliament then enacted the *Water Act 2007*, which created the MDBA to develop a plan for the Basin, and ultimately a total of $13 billion was made available for reform. In July 2008, the Federal Government and the four states and territory within the Basin signed an *Intergovernmental Agreement on a Murray-Darling Basin Plan*. This document committed the signatories to a Basin Plan, with the primary objective of determining and achieving a sustainable limit of water extraction in the Basin. The Plan was finalised, and commenced on 29 November 2012.

Others have stated that the only way to regulate a common resource is to divide it, so that it is no longer a common, and issue private property rights. To some extent, this is what has occurred in the Basin, with the issue of privately owned water entitlements, during the second half of the 20th Century.

Today the Basin is managed by a combination of the two approaches: a central government authority, assisted by state government agencies, which police the utilisation of private property rights issued to water users. This arrangement is often recognised in other countries as the model for world's best practice. Despite these expensive, but tremendous advances, the Basin is still subject to bitter dispute and contest between irrigators, environmentalists, the concerned citizens of South Australia and all Australians with an interest in the health of our economy and the Basin's river and wetland systems.

5 Lloyd, W,F., 1833, *Two lectures on the checks to population: delivered before the University of Oxford, in Michaelmas term 1832,* Oxford, United Kingdom.
6 Hardin, G., 1968, 'The Tragedy of the Commons', *Science,* American Association for the Advancement of Science, Washington D.D, USA.
7 Lloyd, W,F., 1833, *ibid.*
8 Hardin, G., 1978, as quoted from Ostrom, E., *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, United Kingdom.

Is there a third way, or at least further improvements, that can be made in the interests of all?

The quote which began this article is from *Governing the Commons: The Evolution of Institutions for Collective Action,* written by Elinor Ostrom (1933 – 2012). In 2009, she was a joint recipient of the Nobel Prize in Economic Sciences, for her work on the economic governance of commons.

Ostrom studied the rules and systems of self-governance for ancient commons, including the irrigation systems in Valencia governed from 1445, common Alpine pastures at Törbel, Switzerland (1483), and millions of hectares of forest in Japan governed from around 1600 to the present, without signs of environmental degradation. These and many other commons that have self-governed over centuries were studied by Ostrom using her knowledge of political economics and game theory (the study of mathematical models of conflict and cooperation between intelligent rational decision-makers[9]). Her observations of how these systems work are rich insights into human nature, explaining not just our acts of self-interest, but how we can organise to act co-operatively, because in a common this may be in our best interest.

Ostrom set out eight design principles she observed from the long enduring commons institutions she studied[10]. Many of these design principles are present in the current Basin Plan, such as: "clearly defined boundaries", created by the issuance of volumetric water entitlements; "well-tailored appropriation rules" that vary extraction limits according to the seasonal water availability between valleys and the connected river systems. These design principles should be celebrated and appreciated as world class innovations.

Interestingly, Ostrom observed that in these self-governed commons: "the presence of good rules does not ensure that appropriators (such as water users), will follow them, [nor is it] an adequate explanation of the centuries of compliance by individuals who were not involved in the initial agreement"[11]. Another significant and simple observation was that external enforcement could not be used to explain the high levels of compliance, because there was no external enforcement – the commons were self-governed with compliance a function undertaken by the appropriators or individuals accountable to them.

While the Basin has thousands of appropriators for a myriad of purposes, the two largest categories of appropriation are for irrigation and the environment. While the environment would not normally be considered an appropriator, the politics and function of the Basin have evolved to make this conceivable. The largest single water entitlement owner is the Office of the Environmental Water Holder; a Commonwealth statutory office, which manages approximately 2,600 gigalitres of water entitlements, or about one quarter of all issued water entitlements.

Recent allegations regarding non-compliance by irrigators is symptomatic of a common with problematic compliance systems and provisions.

Following the *Four Corners* program, the author had numerous conversations with irrigators and officials regarding the possibility of non-compliance. Invariably irrigators stated it was inconceivable, or it was a case of a tiny minority bringing the majority into disrepute.

Conversations with personnel with experience in irrigation compliance revealed that tampering with water meters was not uncommon. While the practice was limited to perhaps 5% of irrigators, this group controlled a very significant amount of pumping capacity. Surveillance of tampering had diminished with departmental budget cuts, while a move to more predictable inspection visits had enabled reinstatement of meters prior to inspections. Legislative reforms have also diminished the power of government officers to impose timely sanctions on offenders, further eroding incentives for compliance. Finally, the recent MDBA report on compliance noted that most meters are insufficiently accurate to comply with Australian standards, and this standard is not mandated[12]. Given the measurement bias of those using meters, it is improbable that meters are over estimating water use.

It is little wonder that environmentalists, downstream water users and the people of South Australia remain concerned about the probability of obtaining a fair share of the common.

9 Myersen, R.B., 1991, *Game Theory: Analysis of Conflict*, Harvard University Press, USA, p.1.
10 Ostrom, E., 1990, *ibid.*
11 Ostrom, E., 1990, *ibid,* p.93.
12 Murray-Darling Basin Authority, *2017, The Murray-Darling Basin Water Compliance Review*, Canberra, Australia, p.17.

Compliance can be improved using two measures. Firstly, compliance *systems* can be improved by using modern telemetry and water metering systems – something unavailable to the irrigators of Valencia in 1445. But high-tech systems are not enough. Compliance *provisions* must be improved if the Basin is to become a sustainably managed common.

The present provisions for assuring compliance within the Basin depend on state governments and the MDBA. The recent MDBA review makes recommendations for improvements that are commendable but ignore the lessons of centuries of experience documented by Ostrom, and her powerful observations of human nature educed through the sound mathematical understanding of the conflict and cooperation that is possible between intelligent rational decision makers.

Ostrom found that appropriators (such as water users), once in agreement, could work together and become the most effective means of monitoring and ensuring compliance with rules for governing their common. Were this to occur in the Basin, appropriators interested in end of stream flows could gain insights into the behaviour of those upstream. Simultaneously irrigators who, after all live in the landscapes we wish to sustain, could gain insights into the timing and efficacy of environmental flows. This process of building insight, whilst monitoring compliance, was observed to reinforce the management of numerous commons over many centuries.

This is not a recommendation to put irrigators alone in a position where they have a right to self-regulate their behaviour, since they must act alongside environmental and urban water holders. Nor is it a recommendation for another consultative committee without authority or autonomy to act. Instead, it is a recommendation for a body of water users that has the funds to maintain intelligence and surveillance activities, and the authority to impose the necessary strong penalties on those that break the rules. The body would then publicise both the information gathered from surveillance and the penalties it has imposed, so that water users can understand the strategies and scale of offences and the reassurance that offenders are appropriately penalised.

The notion that water users representing industry and the environment could act co-operatively in the same manner as those commons analysed by Ostrom still faces a major obstacle. Despite decades of incremental legislative reform and billions spent on managing a transition to a more environmentally sustainable regime, there is still great distrust between the two major appropriators of the Basin common. Those at the end of the Basin system continue to demand more water for the environment and end of stream flows, for the specific emblematic purpose of maintaining an open Murray Mouth. Meanwhile, irrigators further up the Basin system, working under the apprehension that these demands will never cease, assume an adversarial posture as the most effective means of defending their property and businesses.

Overcoming this obstacle requires the finalisation of what is called Sustainable Diversion Limits, which are the limits to the amount of water that can be extracted from each river system, and therefore the determinant of how much will be left for the environment and end of stream flows. Champions of the environment and industry should recognise the lessons of history and Ostrum's acute observations on human behaviour, and understand that their causes will be realised more quickly and with greater certainty, if they learnt how to share.

RURAL FUNDS GROUP (RFF) UPDATE

Open downs country, Natal, Charters Towers, northern Queensland, 2017

RFF is an agricultural real estate investment trust diversified in six sectors; almonds, cattle, poultry, viticulture, cotton and macadamias. RFF's investment objective is to generate a stable income stream derived from leasing its assets to quality tenants, and capital returns through the ownership of those assets.

In this section:

- **Cattle: Natal aggregation acquisition**
- **RFF funded capex development**
- **Almonds: Kerarbury development**
- **FY17 results and key financial metrics**

Natal aggregation acquisition

In October 2017, Rural Funds Management, as responsible entity and manager of the Rural Funds Group, announced that it had contracted to acquire three adjoining cattle properties in northern Queensland. The properties were settled in December 2017. The properties were purchased for $52.9 million (inclusive of stamp duty), as part of a broader $72.5 million transaction. The acquisition increases the total value of cattle assets within the RFF portfolio to $101.0 million, making it the second largest sector after RFF's almond assets.

The properties, Natal Downs, Longton and Narellan, referred to as Natal, encompass an area of 390,600 hectares (ha) and provide a mix of developed and undeveloped breeding land, and higher value finishing land. Natal is ideally located in close proximity to many markets, and is approximately 225 km south-west of Townsville, Australia's second largest live export port. The location provides the lessee access to this additional market should commercial conditions be appropriate.

The properties were acquired from members of the Camm Agricultural Group (CAG), a family business that has been operating for more than 20 years. They will be leased to DA & JF Camm Pty Ltd (Camm), also a member of CAG. The Camm family have had a long involvement with the Queensland cattle industry, having owned and operated cattle businesses throughout the state since the early 1900s.

CAG operates an integrated cattle business, with nine properties across Queensland, including a 9,100 Standard Cattle Unit[13] capacity feedlot, known as Wonga Plains, on the Darling Downs. The feedlot has received industry awards for product integrity and environmental stewardship and in 2012 was recognised as *Australian Feedlot of the Year.*

13 A Standard Cattle Unit is equivalent to an animal with a liveweight of 600kg. Meat and Livestock Australia, (2012), National Beef Cattle Feedlot Environmental Code of Practice, accessed online.

As part of the transaction, RFF will provide the lessee a $5.0 million cattle financing facility, on a five year term, to fund the purchase of trade cattle. The lessee bears all operating risks associated with the cattle.

RFF has a strategy of funding productivity improvements on its natural resource predominant assets, with the aim of growing adjusted funds from operations (AFFO). RFF has budgeted to provide $2.5 million for the lessee to undertake development works that can increase the carrying capacity of the properties, one of the key determinants of cattle property valuations. Stage one of the development will see additional water points and fencing installed on breeding land, and aims to increase the carrying capacity of the properties from 32,400 adult equivalent (AE)[14] to 44,150 AE.

Speaking about the properties, David Bryant, RFM Managing Director, said the acquisitions contribute to the strategic objectives of RFF:

'The Natal purchase improves lessee, sector and climatic diversification, building on RFF's cattle and cotton acquisitions in 2016. The Camm family is well respected within the Australian cattle sector and RFF is well placed to benefit from both an experienced lessee, and the productivity improvements to the property that are designed to increase carrying capacity and consequently property value. This value uplift, monetised at rent reviews, aims to support RFF's 4% distributions growth target'.

Aerial image of cattle being held in yards. Natal, Queensland, 2017

Figure 1: Natal – Key details

Property description	Three cattle properties Natal Downs, Longton and Narellan ("Natal") in northern Qld being purchased from members of the Camm Agricultural Group (CAG), an integrated cattle business, operating nine properties
Purchase price	$52.9m inc stamp duty
Productivity capex	$2.5m for water points and fencing with potential for future additional productivity improvements
Cattle finance facility	$5.0m cattle financing facility, five year term for funding trade cattle. Lessee bears operating risks
The lessee	DA & JF Camm Pty Ltd (Camm) also a member of CAG

RFF funded capex development

A key part of ongoing management of RFF assets is the identification and funding of development and capital expenditure programs. Over the next three years, RFF is budgeting to spend $84 million on these programs, including the purchase of water entitlements.

The objective of the development and capital expenditure programs is to increase productivity on each of the properties for the lessee, and hence make the property more valuable, with this value uplift being monetised at rent reviews. The expenditure also attracts rent as it is deployed, further supporting distribution growth. **Figure 2** provides an outline of the capital development currently being funded by RFF.

14 One AE is defined as a 450kg Bos Taurus steer at maintenance.

Figure 2: Overview of RFF development funding[15]

Almonds **$74.9m**		• **Kerarbury:** 2,500 ha orchard development • **Tocabil:** 600 ha orchard development • **Yilgah & Mooral:** Irrigation upgrades
Cattle **$3.6m**		• **Gulf properties:** 16 watering points and an estimated 20,000 ha of improved pasture • **Rewan:** 40 watering points, 1,222 ha of cultivation area and 190 ha of pasture improvement • **Natal:** Watering points, fencing and pasture improvement
Vineyards **$1.5m**		• **Adelaide Hills vineyards:** Grafting and replanting of approximately 46 ha • **Kleinig vineyard:** Replanting of approximately 23 ha
Cotton **$3.6m**		• **Lynora Downs:** 4,142 ML capacity water storage and approximately 400 ha of irrigated cropping area to be completed
Macadamias **$0.3m**		• **Swan Ridge:** De-husking shed upgrade • **Swan Ridge, Moore Park & Bonmac:** Irrigation automation upgrade

15 Capex amounts and lease rent review details as disclosed in RFF updated corporate presentation, uploaded to ASX 23 October 2017.

2016 plantings (1,218ha). Kerarbury, NSW, October 2017

Pump station, fertigation system and 800 ML water storage cell to support 2016 plantings. Kerarbury, NSW, October 2017

Kerarbury development update

RFF's largest development is the Kerarbury almond orchard at Darlington Point, in the NSW Riverina. In 2015, RFF acquired two adjoining properties and announced that it would fund the lessee, Olam Orchards Australia, to develop a 1,500 ha almond orchard. In 2016, after negotiations with Olam, RFF advised an additional 1,000 ha would be developed for up to $70,000 per hectare, representing a total of $175 million for the Kerarbury development.

The development was well underway during 2016, with 1,218 ha planted to almond trees, and the commencement of the construction of infrastructure required to support an orchard, including a water storage cell and a pumping station. Ongoing orchard maintenance was undertaken during 2017 to support these first plantings, including pruning and fertiliser application.

Much of the 2017 work focussed on preparing for the second tranche of tree plantings. Extensive land preparation occurred, including the laser levelling, ripping, ameliorating, mounding of the soil, as well as the partial installation of the required irrigation infrastructure. At the time of writing, the second tranche of planting has commenced and is ongoing.

FY17 financial results

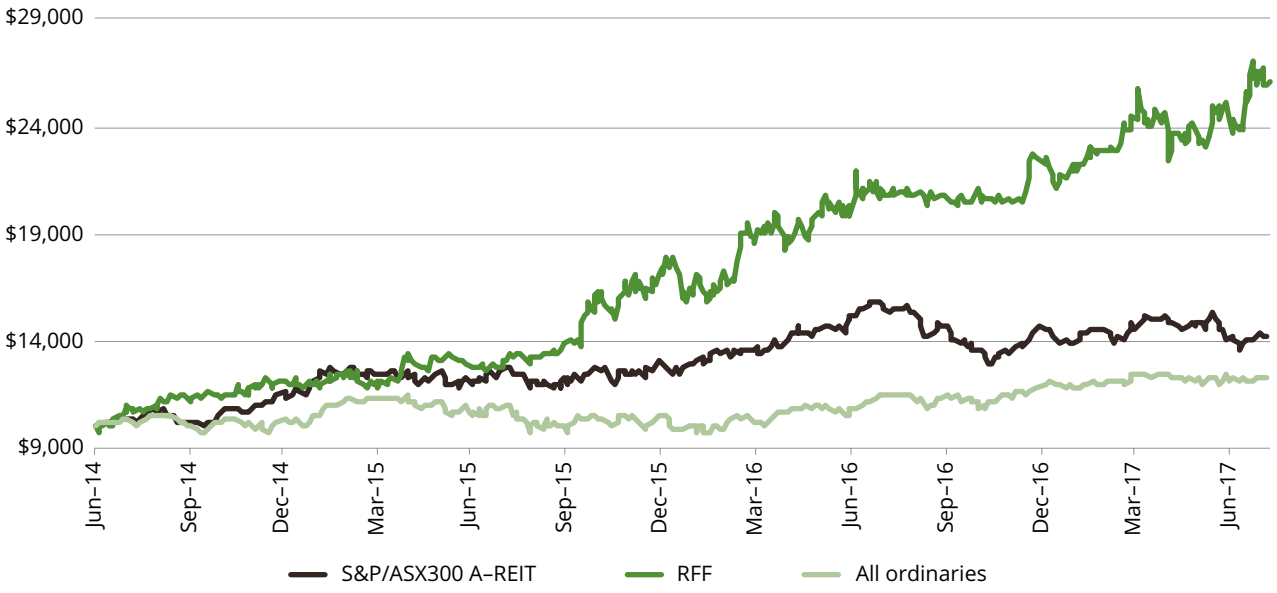
On 22 August, RFM delivered RFF's FY17 financial results. Highlights of the financial results as compared to the previous corresponding period included a 35% increase to adjusted funds from operations per unit, an 8% increase to distributions to 9.64 cents per unit, and a 44% increase in the adjusted total assets of the fund to $588 million. The results confirmed FY18 forecast distributions per unit increase of 4% to 10.03 cents.

Figure 3 provides a summary of RFF's key financial metrics as of 30 June 2017 (Pro forma). **Figure 4** outlines total shareholder returns for RFF between June 2014 and June 2017.

Figure 3: RFF key financial metrics – Pro forma 30 June 2017[16]

Adjusted total assets[17]	$660.0m
Adjusted net assets[17]	$402.2m
Adjusted NAV per unit[17]	$1.58
Market capitalisation	$585.1m[18]
Number of properties	38
Number of agricultural sectors	6
Weighted average lease expiry (WALE)[19]	13.0 years
Gearing[20]	36.4%
AFFO per unit (FY18 forecast)	12.7 cents
Distributions per unit (FY18 forecast)	10.03 cents
Distribution payment frequency	Quarterly
Forecast distribution yield[18]	4.8%
FY18 forecast distribution growth	4%

Figure 4: RFF total shareholder returns June 2014 – June 2017[21]



Upcoming key dates[22]

Quarterly distribution payment date	31 January 2018
Half Year financial results announced	February 2018
Quarterly distribution payment date	30 April 2018

16 Pro forma for the Camm transaction, as disclosed in RFF corporate presentation uploaded to ASX 23 October 2017.
17 Adjusted assets incorporates most recent independent property valuations, inclusive of water entitlements.
18 Calculated using 24 November 2017 closing price of $2.30.
19 Lease expiries weighted by forecast FY18 rental income, expressed in years from 30 June 2017.
20 Gearing calculated as external borrowings/adjusted total assets.
21 Assumes $10,000 invested July 2014 and all distributions are reinvested at the DRP price. Past performance is not an indicator of future performance.
22 Subject to change.

RFM POULTRY UPDATE

Chickens accessing water at 'drinkers', Griffith, NSW, 2014

RFM Poultry (RFP, the Fund) is an experienced large scale chicken broiler farm operator, with the responsible entity, RFM, having managed the assets since 2003. The Fund, which listed on the National Stock Exchange in March 2014, undertakes chicken growing activities for Baiada Poultry and Turi Foods.

Operational projects

RFP is currently undertaking a number of operational projects. As some readers may be aware, during FY17 RFP began an upgrade of the water sanitation systems at the Griffith farms to improve the control and monitoring of water quality.

Additionally, a project to install solar energy at the poultry sheds at Lethbridge, Victoria has been approved and installation of solar panels was well advanced as of early December. Whilst this project is driven in part by rising electricity costs, benefits of using solar energy may also include lower maintenance costs, potential revenue from grid feed-in tariffs and environmental outcomes.

FY17 results, fund strategy and performance

On 29 August 2017, RFM announced the Fund's 2017 financial year results. Results were in line with expectations, with a profit result of $0.82 million after tax, distributions totalling 14.36 cents per unit (including 4.31 cents franking credits), and a forecast income yield of 11.5% based on 22 August 2017 closing price of $1.25 per unit.

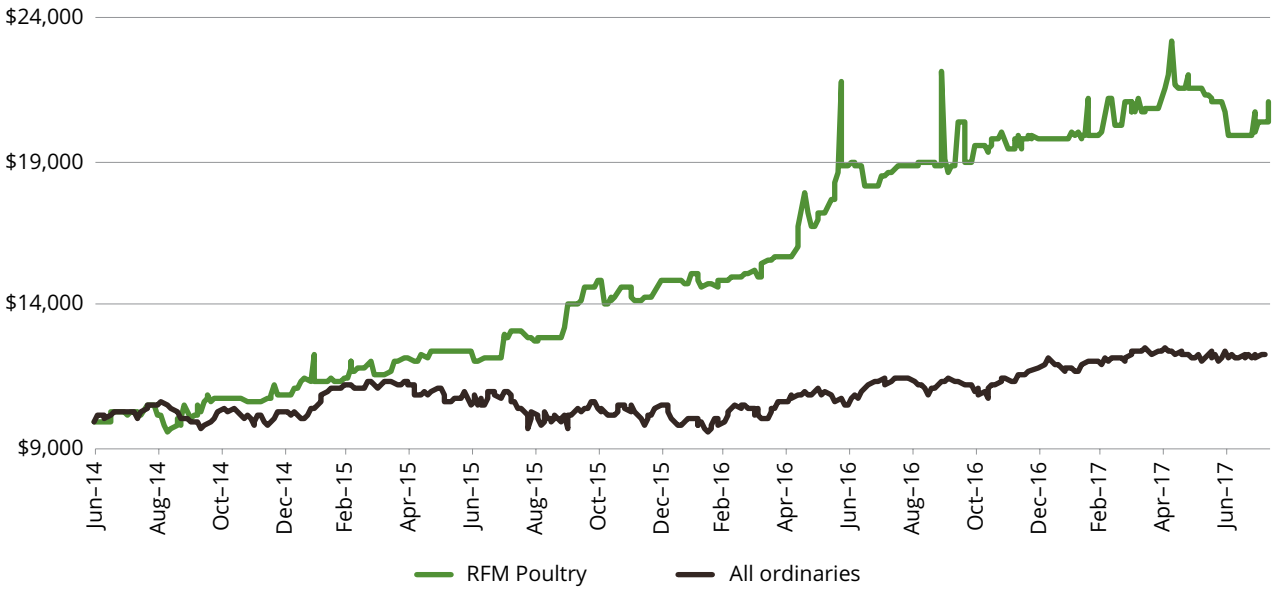
The results also included an update on RFM's strategy for RFP of improving fair valuation and liquidity, as well as shareholder returns.

RFP closed on 30 June 2017 at $1.20 compared to corresponding Net Asset Value of $1.13. With regards to liquidity, total trades and units traded both increased over the financial year, with 168 trades (381,645 units) traded during the 6 months to 22 August 2017, compared to 71 trades (272,376 units) for the previous 6 months.

Figure 5 outlines total shareholder returns for RFP between June 2014 and June 2017.

Recently installed solar panels on the roof of poultry sheds, Lethbridge, Victoria, December 2017

Figure 5: Total shareholder return June 2014 – June 2017[23]



Upcoming key dates[24]

Quarterly distribution payment date	31 January 2018
Half Year financial results announced	February 2018
Quarterly distribution payment date	30 April 2018

23 RFP is not part of the All Ordinaries Index. Total return assumes $10,000 invested June 2014 and all distributions are reinvested. Total return of All Ordinaries Accumulation Index as provided by S&P. Past performance is not an indicator of future performance.

24 Subject to change.

RFM ALMOND FUNDS UPDATE

Daryl Winter, RFM National Manager – Almonds (right), discussing operations with Adrian Bawden, Irrigation Manager (left), Mooral, Hillston, NSW, July 2017

Rural Funds Management (RFM) manages three Almond Funds, with a total of 551 ha of almond trees, on behalf of over 450 investors.

This season's harvest concluded in July, with product sent to the new Riverina Almondco hulling and shelling site for processing for the first time since it became operational. In 2017, lower almond prices, combined with a lighter crop than earlier forecast, impacted grower returns.

The 2018 crop is showing reasonable nut set, indicating a successful pollination, although there is some variability across the orchard. Good weather during bloom and early nut development set a good platform for the upcoming season.

Following this some very cold nights were experienced in the Riverina region in August and September, which led to frost events at the orchards. Frost has caused issues across the industry, and consequently forecast yield downgrades for the Almond Funds.

Looking further ahead, the orchard is now in the final stages of nut expansion with the best shoot growth we have seen for some years, indicating the potential for a strong crop the following year, 2019, although this is still some time away.

Pruning program and automated irrigation

Last season saw the start of a pruning program on the Almond Fund orchards. The program involves the mechanised pruning of trees, occurring over a three year period.

Pruning programs are standard practice as almond orchards mature. They are undertaken to improve airflow and increase light within the orchard, as this reduces disease and encourages improved re-growth.

Additionally, the automated irrigation upgrade being undertaken on the orchard is now complete. According to Daryl Winter, RFM National Manager – Almonds, the upgrades aim to improve water use efficiency:

'The automation of the watering system aims to improve the efficiency of water and fertiliser application across the orchard. We can now program the watering of specific sections of the orchard more accurately, store enhanced application records and avoid peak energy cost periods. This should build on the ongoing scientific trials that RFM has been undertaking over the last 3 years to accurately measure the quantity and timing of water usage by the almond trees'.

Mechanised pruning of almond trees, Mooral, Hillston, NSW, July 2017

Recently pruned almond trees, Mooral, Hillston, NSW, July 2017

2007 MACGROVE PROJECT

Swan Ridge Orchard, Bundaberg, Queensland, December 2017

Rural Funds Management (RFM) manages the 2007 Macgrove Project, with 254 ha of macadamia trees, on behalf of 137 investors.

In 2017, strong domestic and export demand, combined with a macadamia price above $5 per kilogram, saw positive results for Growers in the 2007 Macgrove Project. Growers received a net benefit of $1,081, representing a 26% increase over FY16 proceeds.

The 2017 harvest ran for seven months, concluding in August. In total 594.89 tonnes nut-in-shell (NIS), at 10% moisture, was harvested (2.54 tonne/ha NIS). This season's macadamia price increased to $5.35/kg compared to $5.20/kg last season.[25]

As reported in the June 2017 edition of the RFM newsletter, the de-husking shed on the Swan Ridge orchard has been upgraded. The upgrade was undertaken to increase throughput capacity as the orchards mature. RFM is pleased to report that after its first season in operation, the upgraded shed has increased overall capacity by 200%. According to Scott Norval, RFM National Manager – Macadamias, the upgrade has also had a number of additional benefits:

'In addition to increasing the NIS throughput capacity from two tonne per hour to six tonne, the finished goods storage facility is double what it was previously. The new colour sorter now undertakes the work of two people, and the overall quality of de-husking has improved with virtually no husk remaining on the finished product'.

Tree shaking trials

The use of tree shakers is standard practise in the almond industry, and during 2016 RFM leveraged its experience in almond farming to investigate the benefits of using shakers on macadamia trees.

RFM significantly expanded the trial work in 2017, shaking more than 15,000 trees on its own macadamia lease and other trial sites, as well as 400 trees in the Macgrove Project, during the past harvest period.

Management reports that the benefits directly related to tree shaking included reduced harvest time and increased crop quality, as well as the breaking of disease cycles. It is intended that the tree shaking be expanded across Project orchards during next season's harvest.

Almond shakers undertaking trial shaking of Macadamia trees, Bonmac Orchard, Bundaberg, Queensland, 2017

25 At 33% Standard Kernel Recovery.

ABOUT RURAL FUNDS MANAGEMENT LTD

AFSL 226701

RFM is an experienced fund and asset manager that specialises in Australian agriculture. RFM manages a diverse portfolio of large-scale farming and agricultural enterprises for investors who seek the opportunity to diversify their portfolios away from the traditional equity and property markets.

Established in 1997, RFM is the responsible entity for seven agricultural investment funds and, as of 30 June 2017, had approximately $641m of agricultural assets under management in New South Wales, South Australia, Queensland and Victoria.

RFM is one of the oldest and most experienced managers of agricultural assets in Australia. In addition to RFM's corporate office located in Canberra, RFM has offices in Sydney, Western NSW, and south-east Queensland, and employs more than 85 staff in fund and asset management activities.

To make an investment

Rural Funds Group (ASX: RFF) is a listed investment. To make an investment in RFF please contact your broker or financial adviser.

RFP is a listed investment on the National Stock Exchange of Australia (NSX: RFP). To make an investment in RFP please contact your broker or financial adviser.

Australian Executor Trustees Limited (AET) Privacy Policy

AET is the custodian for the Rural Funds Group and RFM Poultry. To read more about their privacy principles, please visit www.aetlimited.com.au/privacy

Registry

Boardroom Limited Pty Ltd

Grosvenor Place, Level 12, 225 George Street, Sydney, NSW, 2000

T 1300 737 760
E enquiries@boardroomlimited.com.au
F 1300 653 459

Provide us your email address

We use email to communicate with our investors. Please take the time to contact our Investor Services team and provide your email address so that you don't miss out on any important information.

Back cover: Forage crop growing on Rewan, Rolleston, Qld, July 2017

Rural Funds Management Ltd
Locked Bag 150
Kingston ACT 2604
ABN 65 077 492 838
AFSL 226701

Phone
Head Office +61 2 6203 9700
Investor Services 1800 026 665
Adviser Services 1300 880 295

Fax
1800 625 518

Email
investorservices@ruralfunds.com.au
adviserservices@ruralfunds.com.au

Disclaimer

Rural Funds Management