

## FAQs – Overseer valuation of benefits

### Who wrote the report?

This report was prepared by a group of independent consultants who were led by Andrew Barber, Director of Agrilink. The team, including The Agribusiness Group and AgFirst, brought a unique combination of specialist skills to identify practical value add opportunities. They were able to ground-truth the analysis based on their extensive experience working with farmers and an in-depth understanding of a wide range of NZ farming systems and sustainability issues. The authors profiles are attached.

The market and public benefit literature review was conducted by Lincoln University Agribusiness and Economics Research Unit (Dr Peter Tait/Prof Caroline Saunders).

### Why was this study done?

To coincide with the launch of our new OverseerFM software which offers significant improvements<sup>1</sup>, the purpose of this study is to quantify the benefits of Overseer as a strategic, on-farm decision support tool.

The strength of Overseer is its ability to model individual farm systems to understand the impacts of different management approaches for specific farm circumstances. Although Overseer is designed as an on-farm decision support tool, its use in informing regulatory compliance activities over the past decade has overshadowed its true value as part of a holistic approach to farm planning and management. This study assessed the value of Overseer as an on-farm decision making aid.

### What are the key findings?

The study included three components; an assessment of the efficiency gains from using the new OverseerFM software, an analysis of the magnitude of value from accelerated uptake of innovation on farm; and, a review of the potential for both public and private benefits to be realised from the use of Overseer.

The key findings were:

- Estimated efficiency gains of 25-50% time savings to set up a new farm by using OverseerFM with its improvements.
- The benefits resulting from accelerated uptake of innovation, conservatively estimated to be more than \$60 million per annum (the total value of saved nutrients per annum) with an additional \$8 million of national value from reduced greenhouse gas (GHG) emissions.
- A mix of both market and public benefits are likely to be realised from improved water quality.

### So, does this mean Overseer will save \$68 million per year?

No. The aim of the study was to identify the “order of magnitude” benefits from accelerated uptake of innovation. It demonstrates that substantial value can be created rather than precise calculated results.

There are other areas where Overseer creates substantial value for New Zealand. Examples include its benefits to research, education and as a tool to enable an effects-based regulatory approach. These were out of scope for this specific study.

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<sup>1</sup> Improvements include a mapping tool, data entry screens that are aligned to farm management, data entry options and summary screens to help users navigate and verify farm data, multiple party access to farm accounts within a secure environment and easily accessible results within the software.

## How were the OverseerFM efficiency gains assessed?

An experienced farm system modeller created nutrient budgets for 48 farm systems including dairy, sheep & beef, horticulture, South Island High Country and mixed cropping using both the legacy Overseer and new OverseerFM software. The time savings from using OverseerFM was calculated at 25-50%. On average, time savings to set up a new farm ranged from between 3 – 5 hours depending on the complexity of the farm system.

The study also found there are other unquantified productivity benefits such as data sharing through online access and the ability for a farmer and a consultant to remotely view the farm analysis information together. This could potentially eliminate a need to create a report which could take from 30 minutes to 4 hours to write. The value of improved engagement is difficult to quantify but could be significant.

## How was accelerated uptake of innovation assessed?

Environmental impacts were modelled from 10 selected farm management practices using either Overseer, Farmax or research literature. The management practices were chosen based on their practicality, likelihood to be implemented and likely effectiveness. The study covered those which are already in Overseer, e.g. supplementary feeding with low nitrogen feeds as well as those which could be incorporated in the future e.g. diverse pastures and carbon sequestration.

For each farm management practice, a combination of literature review and expert assessment was conducted in terms of its effectiveness at reducing nitrogen, phosphorous, micro-organisms, GHG emissions and erosion. As not all practices can be applied across all land uses or terrain, adjustments were made in estimating potential to reflect the farm suitability characteristics.

A conservative estimate shows the total value of saved nutrients from accelerated uptake to be in excess of \$60 million per annum. Furthermore, an additional \$8 million of national value was estimated from reduced GHG emissions resulting from the accelerated uptake of low methane feeds and carbon sequestration.

While there is no silver bullet for the environmental sustainability challenge, significant national value could be created by incentivising farmer uptake of innovation through demonstrating the impact of specific farm management practices that are applicable to individual farms.

## What is the mix of market and private benefits?

The study included a literature review that explored some potential approaches to quantify the market and public benefits to sustainability credentials and attributes, such as water quality.

While the study concluded that both market and public benefits are likely to result, more detailed analysis would be needed to quantify this.

## What is Overseer's vision?

Farms are enabled to be environmentally and economically sustainable.

## What is Overseer's mission?

Our mission is to make analysis and interpretation of farm nutrient performance accessible to support farms to be environmentally and economically sustainable.

## How do I get further information?

To contact us about the report please email [info@overseer.org.nz](mailto:info@overseer.org.nz)

## Author Profile



**Andrew Barber** has been involved in agricultural engineering consultancy for over 20 years and is Director of Agrilink NZ. Andrew leads the wine sectors involvement in the NZ Sustainability Dashboard project, a project that has developed tools to facilitate sustainability assessment and reporting. These have reduced monitoring and regulatory costs, built consumer trust, and secures market access. Andrew's current focus is on linking research, codes of practice, best practice implementation, and assurance schemes through the use of Farm Environment Plans.



**Henry Stenning** is a consultant at Agrilink NZ and has a Bachelor's Degree in Biological Science from the University of Auckland. His main responsibilities are delivering individualised resource use and benchmarking reports to over 2,000 vineyards and wineries for Sustainable Winegrowing New Zealand. His analytical skills are used across a wide range of projects including the joint industry and MPI SFF erosion project 'Don't Muddy the Water', carbon footprinting, agrichemical databases, and erosion and sediment control design for the outdoor vegetable growers.



**James Allen** is a partner in AgFirst Waikato, an agricultural consultancy business which covers all areas of pastoral agribusiness. A key focus of his consultancy work is business planning, environmental management, farm supervision and agribusiness project work. James was a 2014 participant in the UK Institute of Agriculture leadership programme, which provided invaluable insights into global agriculture. He is a director of the NZ Fieldays Society, a previous associate director of AGMARDT, a Fellow of the New Zealand Institute of Primary Industry Management. He was a grand finalist in the Young Farmer of the Year Contest in 1999 and again in 2002.



**Phil Journeaux** joined the Waikato office of AgFirst on 2 April 2012, after 35 years with the Ministry of Agriculture and Forestry. He has worked in agriculture all his working life, covering a wide range of issues. He has been a member of the New Zealand Agricultural and Resource Economics Society for 23 years, and on the executive for the last 10 years, most recently as Treasurer. He has 2 masters degrees: MAgSc(hons) & a MBA. Phil specialises in economic research and analysis, technology transfer, farm management, project management, environmental management, risk management, and business planning.



**Dave Lucock** is a member of The Agribusiness Group. Over the last 10 years he has been involved in farmer researcher group benchmarking to compare different farming system types as well as implementing and auditing Farm Environmental Plans (past 5 years). With over 20 years of pastoral farming experience, Dave is able to help farmers develop to optimally embed measures into their farm systems.