LIVING WATER

National Planning, Monitoring & Evaluation FRAMEWORK

JULY 2020

CONTENTS

1 INTRODUCTION

1.1 The Living Water Partnership

Living Water is a $20m, 10-year partnership between Fonterra and the Department of Conservation (DOC). Signed in 2013, the partnership aims to implement game-changing and scalable solutions that enable farming and freshwater ecosystems to thrive together. Fonterra and DOC staff are working side-by-side on the ground with farmers, iwi, scientists, councils and communities in five dairying regions in New Zealand – Northland, Waikato, Hauraki, Canterbury and Southland.

Living Water recognises that many organisations, institutions and individuals are working on the freshwater and farming challenge, focusing on re-balancing economy and environment. Living Water has chosen to complement this work by working in a partnership that can deliver and influence at scale, solutions and approaches that reduce farming impacts on freshwater while building ecosystem resilience. Much of this work is not 'new science', but ground-truthing and implementing at scale, recent research and trials to prove efficacy and cost-effectiveness for farmers and communities.

1.2 The Living Water Strategy

VISION	A sustainable dairy industry is part of healthy functioning ecosystems that together enrich the lives of all New Zealanders
PURPOSE	To implement game-changing and scalable solutions that demonstrate sustainable dairying in healthy freshwater ecosystems.
SCOPE	We are focused on the interface between dairy farming practice and freshwater ecosystems. We prioritise on-farm actions, improving freshwater quality, and reconnecting lowland habitats via freshwater corridors. Our work needs to contribute towards advancing sustainable farming systems in New Zealand's agricultural sector.
PARTNERSHIP PILLARS	1. Partnerships with a shared vision 2. Trialling and implementing technical solutions 3. Championing change with others
LONG TERM OUTCOMES (IMPACTS)	1. Healthy lowland freshwater ecosystems; 2. Responsible profitable dairying; and 3. A shared understanding (with the community) of the interdependence of agricultural, economy and environment.
STRATEGIC OBJECTIVES	- Restore freshwater ecosystems and build resilience on and off farm - Accelerate environmentally sustainable farming practices - Work with key partners, farmers, iwi and communities to demonstrate game-changing solutions that can be taken to scale locally and nationally.
IMPLEMENTATION FRAMEWORK	Build it Cost it

	Operationalise it
GUIDING PRINCIPLES	Collaborate and Partner Integrate Mātauranga Māori Create Connections Above and Beyond Regulation Measurable and Repeatable Learn and Share

1.3 The Living Water Planning, Monitoring & Evaluation Framework

Living Water is a "proof of concept" programme operating in a highly dynamic environment and needs to change and adapt quickly. While some results have already been achieved, with 5 years remaining of the 10-year programme, this Framework is focused on maintaining a clear line of sight between operational delivery and resultant Short and Medium-term Outcomes to 2023.

The process of developing this Framework has been an eight-month journey for Living Water staff from both DOC and Fonterra. It included development and review of programme logic models (at national and site-based levels), building LW staff capacity through a participatory approach, and testing with field-based staff to refine the Framework's practicality and increase buy-in to it as a guide and tool to help plan, deliver, learn and share their work, rather than it being an outsourced compliance document.

The following principles have particularly guided the development of outcome indicators:

- Measure the parts of 'the system' Living Water is testing
- Measure the game-changers and potentially scalable solutions
- Measure what you and your audiences value
- Use measurement and evaluation as an engagement tool for staff and stakeholders.

This Framework is designed to ensure that DOC, Fonterra and other key partners and stakeholders have timely evidence that informs institutional learning, evidence of achievements and change to ultimately affect the long-term outcomes identified.

The thinking underpinning the design and operation of the Living Water Partnership activities is summarized, and both quantitative and qualitative data and information requirements for all levels of the Partnership are identified.

The Framework informs site level planning and provides guidance for the development of site level planning, monitoring and evaluation plans. These plans may include additional data and information important to the performance and management of specific sites and interventions.

1.4 Key concepts and terminology ('read before use')

Every discipline has its own lexicon and 'received' way of talking about things. In an interdisciplinary programme like Living Water, developing a shared language is important. We have documented our definitions and interpretations of key concepts and terminology used throughout this document. For practical reasons (it's a very

large table) it is included as Appendix A but should be read first or alongside this document.

2 CONTEXT SUMMARY

2.1 The Problem

- New Zealand's lowland freshwater ecosystems are degraded and how we farm has and is contributing to this
- New Zealand's economic, cultural and social wellbeing depends on healthy ecosystems
- Water is a key part of our national identity and New Zealanders expect to be able to swim, fish and gather kai in our waterbodies

2.2 The Operating Context

Environment / Catchment context

- The balance of evidence suggests that freshwater degradation is getting worse.
- Solutions have mainly focused on water quality and the four major contaminants (nitrogen, phosphorous, sediment and Ecoli) while ecological integrity and functioning has not received the same attention.
- Freshwater catchments are variable, complex systems so there is no 'one-size fits all' solution to addressing catchment issues in a farming context.
- Positive changes in farming practices may take decades to show resultant freshwater ecosystem improvements.

Individual farmer / land manager context

- Dairy farmers are currently meeting, or working to meet, regulatory requirements.
- All dairy farmers have installed effluent management systems, bridged main stock crossings and fenced streams that are covered by the Sustainable Dairy Water Accord.
- There is a perception that investing in voluntary action now to reduce contaminant discharges may disadvantage dairy farmers when new regulations are established, if those regulations include percentage reductions based on a farm's historical levels of contamination.
- There is little readily available proof of efficacy or cost/benefit analysis of on-farm intervention options for farm management practice change.
- The solutions are not clear to land owners, who have a direct influence on the majority of NZ's waterways.
- Conversion of marginal land, draining of wetlands and removing native vegetation has slowed but is still continuing in some places.

Organisational context

- Fonterra is uniquely placed to support its farmers and to share new knowledge with them. Fonterra has multiple contact points with its farmers and with the wider agricultural sector.
- DOC has a depth of technical expertise and operational experience in conservation and natural heritage restoration. DOC has credibility with the public and is a 'trusted advisor' on conservation matters.
- Most district/regional councils and industry organisations are already working with farmers. This presents an opportunity to align and extend the reach of new knowledge.

- Councils are under increasing pressure and expectations from their communities to show they are 'fixing the freshwater problem'. Showing freshwater improvement in short timeframes, and attributing improvement to specific activities is difficult.
- The Government is funding the National Land and Water Science Challenge focussed on agriculture, production and the environment, and this science can benefit from ground-truthing at scale.
- Policies and rules related to land and water management vary nationally and there is little information about practical and affordable methods for implementing aspirations and requirements "on-farm".

Community context

- Dairy farming is readily identified by the public as an industry contributing to environmental degradation, with a common perception that there are too many cows and that numbers should be reduced. Dairy farmers' 'social licence to operate' is already eroding.
- In some regions regional councils are already engaging with catchment communities around waterway values as part of either the regulatory limit-setting process or non-regulatory catchment planning process. This presents both challenges – in some cases over consulted communities – and opportunities – where communities are ready to discuss actions aligned to their values.

2.3 Stakeholders and Local Partners

CENTRAL GOVERNMENT & CROWN ENTITIES	Department of Conservation, Ministry for the Environment, Ministry for Primary Industries, Ministry of Business Innovation and Employment, NZ Transport Authority
REGIONAL & LOCAL GOVERNMENT	Northland Regional Council**,** Whangarei District Council**,** Hauraki District Council, Waipa District Council, Waikato Regional and District councils, Environment Canterbury, Selwyn District Council, Environment Southland, Southland District Council
FARMING SECTOR	Fonterra Board, Fonterra, Dairy NZ, Federated Farmers, farmers & their families
IWI & IWI ORGANISATIONS	Ngā Kaitiaki o Ngā Wai Māori, Integrated Kaipara Harbour Management Group (IKHMG), Ngāti Pāoa, Ngāti Apakura, Waikato-Tainui, Te Taumutu Rūnanga, Te Rūnanga o Ngāi Tahu, Te Rūnanga o Awarua
IWI/CROWN PARTNERSHIP	Waikato River Authority
RESEARCH INSTITUTIONS & SCIENCE ORGANISATIONS	University of Waikato, University of Canterbury (School of Biological Sciences), NIWA, AgResearch, Landcare Research, e3Scientific
ENVIRONMENTAL & COMMUNITY ORGANISATIONS	QEII National Trust, NZ Landcare Trust, Reconnecting Northland, Hikurangi Swamp Scheme Committee, Sustainable Business Network (Million Metres Streams), Ohaupo Community Association, Pūkorokoro-Miranda Naturalists Trust, Te Whangai Trust, National Wetland Trust of New Zealand, Lake Ruatuna Users Group, Waihora Environment Trust, Water & Wildlife Habitat Trust,

	Waituna Landcare Group, Fish & Game Northland, Waikato and Canterbury, catchment communities, the general public

2.4 Other factors that could affect future achievements

The Living Water programme recognises that it is operating within a dynamic and complex social, political and economic context that is changing rapidly. As a major export industry for New Zealand, the dairy sector is impacted by both national and global trends that ultimately affect individual farmers.

The main factors beyond Living Water's control that could impact (both positively and negatively) on the achievement of Living Water outcomes are summarised in the table below.

GOVERNMENT POLICY CHANGES	- Likelihood of central government increasing/strengthening regulation about agriculture and water. - Impact of NPS Freshwater Management processes and Council requirements.
OTHER INDUSTRY INITIATIVES	- Next iteration of the Sustainable Dairying Water Accord. - Fonterra '50 catchments' aspiration and DOC's freshwater stretch goal.
EXTERNAL FUNDING & PARTNERSHIPS WITH OTHERS	- Multi-stakeholder collaborations through Freshwater Improvement Fund projects.
'NATURAL' ENVIRONMENT	- Impact of previous practices on groundwater (ie. lag time) – in some places things might get worse before they get better. - Natural disasters e.g. floods, droughts
GLOBAL INFLUENCES	- Global supply and demand, especially from/in Asia, and farmgate price changes (volatility). - Plant based and manufactured animal protein substitute products influencing price and demand. - Value of the NZ dollar and global financial lending rates (on-farm debt servicing costs). - Climate change (variability) impact on pasture and forage crop production (on-farm production costs), drought and flooding frequency. - Global consumer demand for internationally recognised environmental standards for producers.

3 HOW WE THINK CHANGE HAPPENS[1]

This section outlines the concepts and assumptions, based on theory and evidence, that underpin the approach that Living Water is taking to achieve the vision and outcomes set out for the programme.

Together with the preceding context summary (section 2), this section forms our "Theory of Change" (see Appendix B for a diagram of TOC structure).

The Change Statements below summarise the main Living Water activities (grouped under the National "Partnership Pillars" or activity themes), the audience or stakeholders involved, and the change we're expecting to see because of our activities. The Causal or Change Assumptions listed are general people-centred assumptions that inform our approach to making change happen.

3.1 Change Statements

LW uses people-centred change concepts to inform its approach to addressing freshwater issues and accelerating the adoption of more environmentally sustainable farming practices. This includes the concept of a change journey whereby enduring change only happens when people (both individually and collectively as organisations) progress through all stages of the journey. Every change journey is affected (helped or hindered) by the broader operating context (see Appendix D for a worked example).

Our approach also considers that we will be more successful if we encourage and support individual, collective and institutional ownership of the issues and possible solutions/actions, and work across multiple levels of the operating context.

Partnerships with a Shared Vision

1. DOC and Fonterra demonstrating leadership in how they are working together to accelerate the adoption of sustainable farming practices helps motivate and inspire others (farmers, organisational staff, other industry bodies).
2. By working openly with other farming-related organisations, solutions (both technical and ways of working) will be tested more robustly and adopted more widely across the farming sector, increasing both the pace and scale of change.
3. By working with other organisations and networks across key parts of the land and water management and farming sectors (nested partnerships), a greater sense of collective ownership will be developed, and the adoption of environmentally sustainable farming practices will be more widespread and happen more quickly.

Trialling & Implementing Technical Solutions

4. Developing proof of efficacy and accurate costings for sustainable farming and ecological improvement tools and practices means farmers are more likely to implement and promote them.
5. Demonstrating tools and practices in local farm and catchment environments means farmers and other land managers are more likely to adopt them.

[1] In social science disciplines, this section would be called the "Theory of Change". As LW is a cross disciplinary programme we have tried to use 'plain English' rather than technical language for better clarity and understanding.

Championing Change with Others

6. Working with other organisations who are part of the land and water management and farming sectors (including industry bodies, councils, farm advisors, researcher institutions and industry training providers) will help identify and address system level barriers (and enablers) based on collective knowledge.
7. Working with other organisations and networks to provide encouragement, incentives and rewards/affirmations for farmers and organisations making practice changes means they are more likely to adopt and then continue to maintain those changes.
8. Capturing and promoting case studies and stories of 'what change looks like' and 'how to do it' from different perspectives across multiple parts of the system will help increase the scale and pace of change.

3.2 Causal (Change) Assumptions

1. *Partnership* - No one organisation has all the skills, knowledge and influence required to affect the required changes, so partnering with others will be more effective at delivering change.
2. *Social learning* - People learn by doing (and jointly reflecting) and by working with others to gain new perspectives and create new ways forward.
3. *Behaviour change* - Changing farming practice involves changing behaviour and this requires people (individuals and organisations) to complete a change cycle/journey (from Motivation, Knowledge, Change-ability, to Reward & Maintain) for change to become embedded as a habit or new "business as usual" practice. Identifying and then addressing barriers and enablers to progression through the change steps will lead to enduring change.
4. *Systems thinking* - Change by individual farmers is only one level where change is required to achieve the desired future outcomes. Farming practice changes will be accelerated by working at multiple points across the larger context (industry, organisations, operational policy) in which farming operates.

See Appendix A for definitions of key terms used; Appendix D for worked examples of the change cycle or journey; and Appendix E for a summary of Living Water activities mapped to change journey stages.

3.3 Outcomes Logic Model[2]

LIVING WATER

www.livingwater.net.nz

VISION: A sustainable dairy industry is part of healthy functioning ecosystems that together enrich the lives of all New Zealanders

Critical issues

- New Zealand's lowland freshwater ecosystems are degraded and how we farm has and is contributing to this
- New Zealand's economic, cultural and social wellbeing depends on healthy ecosystems
- Water is a key part of our national identity and New Zealanders expect to be able to swim, fish and gather kai in our waterbodies

Inputs

Human Resources
- DOC and Fonterra staff time
- Fonterra Farmers
- Site partners incl. Iwi, councils, research orgs
- Industry reps, contractors

Knowledge / Cultural Resources
- Operational (farming and natural systems)
- Scientific
- Mātauranga Māori
- Social science
- Organisational

Funding
- Investment from Fonterra
- External grant funding

Activities

Partnerships with a shared vision
- Co-design and delivery
- Sprint planning process
- Mana Enhancing Agreements

Trialling & Implementing Technical Solutions
- Nutrient and sediment management tools
- Naturalising agricultural drains
- Catchment scale prioritisation tools

Championing Change with others
- Case studies, shared learnings, research papers
- Partnerships with industry organisations, research institutions

Short term Outcomes - By 2020

- Robust and resilient partnerships built across operational agencies and iwi in target catchments
- Fonterra and DOC staff capability for operationalising freshwater improvement initiatives in productive landscapes increased
- Increased support for and ownership by farmers of the need for on-farm practices changes
- On-farm initiatives to improve freshwater ecosystems in target catchments increased

Medium term Outcomes - by 2023

- Partnerships built at systems levels across catchments, regions and sectors increased
- Environmentally sustainable dairying practices on Fonterra farms in target catchments increased
- Game-changing and scalable freshwater solutions rolled out regionally and/or nationally
- Freshwater biophysical indicators in target catchments improved
- The mauri of catchments improved
- Freshwater values improved while farm profitability was maintained or increased

Causal assumptions:

- **Partnership:** No one organisation has all the skills, knowledge and influence required to affect the required changes, so partnering with others will be more effective at delivering change.
- **Social learning:** People learn by doing (and jointly reflecting) and by working with others to gain new perspectives and create new ways forward.
- **Behaviour change:** Changing farming practice involves changing behaviour and this requires people (individuals and organisations) to complete a change cycle/journey (from motivation, knowledge, change-ability, to reward and maintain) for change to become embedded as a habit or new "business as usual" practice. Identifying and then addressing barriers and enablers to progression through the change steps will lead to enduring change.
- **Systems thinking:** Change by individual farmers is only one level where change is required to achieve the desired future outcomes. Farming practice changes will be accelerated by working at multiple points across the larger context (industry, organisations, operational policy) in which farming operates.

Contributes to:

- Healthy resilient lowland freshwater ecosystems
- Profitable responsible dairying
- A shared understanding of the interdependence of agriculture, economy and environment by the broader community

July 2020

[2] This 'Logic Model' diagram summarises the outcomes the project expects to see over time. See section 5 for the Indicators for each Outcome. See Appendix C for the Logic Model diagram with Indicators.

4 KEY EVALUATION QUESTIONS

The evaluation process is an integral part of the operation of the LW programme, helping us make sense of things - from the 'hard data' we're collecting, to the information and insights we're getting along the way - and consider what this means for future work.

Key evaluation questions articulate the most important overarching things that LW wants to know and learn about from the Programme covering accountability, effectiveness, efficiency, sustainability and impact.

1. How have the partnerships LW formed affected the success of the programme?
   - What changed for partners as a result of LW?
   - What have partners learned from LW that can be applied elsewhere?

2. What evidence is there that interventions and approaches are being (or likely to be) scaled up and out?

3. How, and to what extent, has Living Water accelerated the pace of the adoption of sustainable dairying practices?
   - What are the main barriers to, and enablers of change?
   - What significant changes have occurred in farming practices in target catchments?

4. To what extent has Living Water restored freshwater ecosystems and built resilience in target catchments?

5. How did farming practice changes affect farm profitability?
   - How has LW contributed to understanding the costs of operationalising farming practice changes (approaches, tools, techniques)?
   - To what extent did trialling and implementing technical solutions impact on farmer uptake?

The qualitative and quantitative information sources we intend to use to help answer these evaluation questions are listed in Appendix F.

5 INDICATORS

This section outlines the main indicators LW is using to assess whether we are achieving the identified outcomes and making the difference we intended.

OUTCOMES	INDICATORS	LEVEL
Short term (by 2020)		
A. Robust and resilient partnerships built across operational agencies and iwi in target catchments	1. Number of partnerships	Sites & national levels
	2. Quality of partnerships	Relevant sites & national
B. Fonterra and DOC staff capability for operationalising freshwater improvement initiatives in productive landscapes increased	3. Staff (SDA & Ranger) capability self-assessment	All sites

OUTCOMES	INDICATORS	LEVEL
C. Support for and ownership by farmers of the need for on-farm practices changes increased	4. Percentage of Fonterra farmers engaged in target catchments	All sites
D. On-farm initiatives to improve freshwater ecosystems in target catchments increased	5. Percentage of Fonterra farmers implementing freshwater improvement actions in target catchments	All sites
Medium Term (by 2023)		
E. Partnerships built at systems levels across catchments, regions and sectors increased	6. Number of partnerships built with organisations involved in the land and water management and farming sectors	Relevant sites and national
	Quality of partnerships (repeat Indicator)	All sites
	7. Number of projects that build iwi capacity and capability to facilitate freshwater improvement initiatives	All sites
F. Environmentally sustainable dairying practices on Fonterra farms in target catchments increased	8. Percentage of Fonterra farmers implementing freshwater improvement actions in target catchments	All sites
	9. Percentage of farms in target catchments that have an FEP	All sites
G. Game-changing and scalable solutions rolled out regionally and/or nationally	10. Number of LW solutions rolled out regionally and/or nationally	All sites & national
	11. Number of agencies applying solutions and knowledge developed through the LW partnership	All sites & national
H. Freshwater biophysical indicators in target catchments improved	12. Water quality	All sites
	13. Area of freshwater habitat enhanced	All sites
	14. Contaminant reduction attributable to LW interventions	Relevant sites
I. The mauri of target catchments improved	15. Number of projects that integrate Mātauranga Māori	All sites
	16. Mauri monitoring scores	Relevant sites
J. Freshwater values improved while farm profitability was maintained or increased in target catchment farms	17. Number of tools and solutions with clear cost/benefit analysis available for farm and catchment scale application	All sites & national

Further information about these indicators - including collection, analysis, baselines and targets – are detailed separately in Indicator Information Sheets.

Site plans may also include additional indicators not included in this National Framework where they are pertinent to the performance and management of site level activities.

6 TELLING OUR STORY[3]

Living Water is committed to ensuring transparency, sharing information about the programme's successes, failures and lessons along the way. The Living Water website and social media platforms are the key tools for doing this and convening conversations about our work in 'real time'. We believe using these online tools as portals into our work is efficient (environmentally, socially, economically) and responsive, enabling access to the most up to date information to be accessed.

We are strongly focused on sharing stories from the ground up, surfacing stories about how things are working in practice, as well as how we're tracking against our indicators.

LW will also compile bespoke reports as requested to meet the needs and interests of different partners and stakeholders as well as the most up to date information.

To visit the Living Water website, see: www.livingwater.net.nz

Our Facebook page is: https://www.facebook.com/livingwaterDOCFonterra/

[3] This section could be called the "Reporting Plan" as is common in evaluation plans and frameworks. Rather than produce lots of glossy documents and annual reports that may or may not be read, LW is focussed on providing information and results online so people and organisations can access them "on demand".

APPENDICES

A. Definitions, descriptions and acronyms

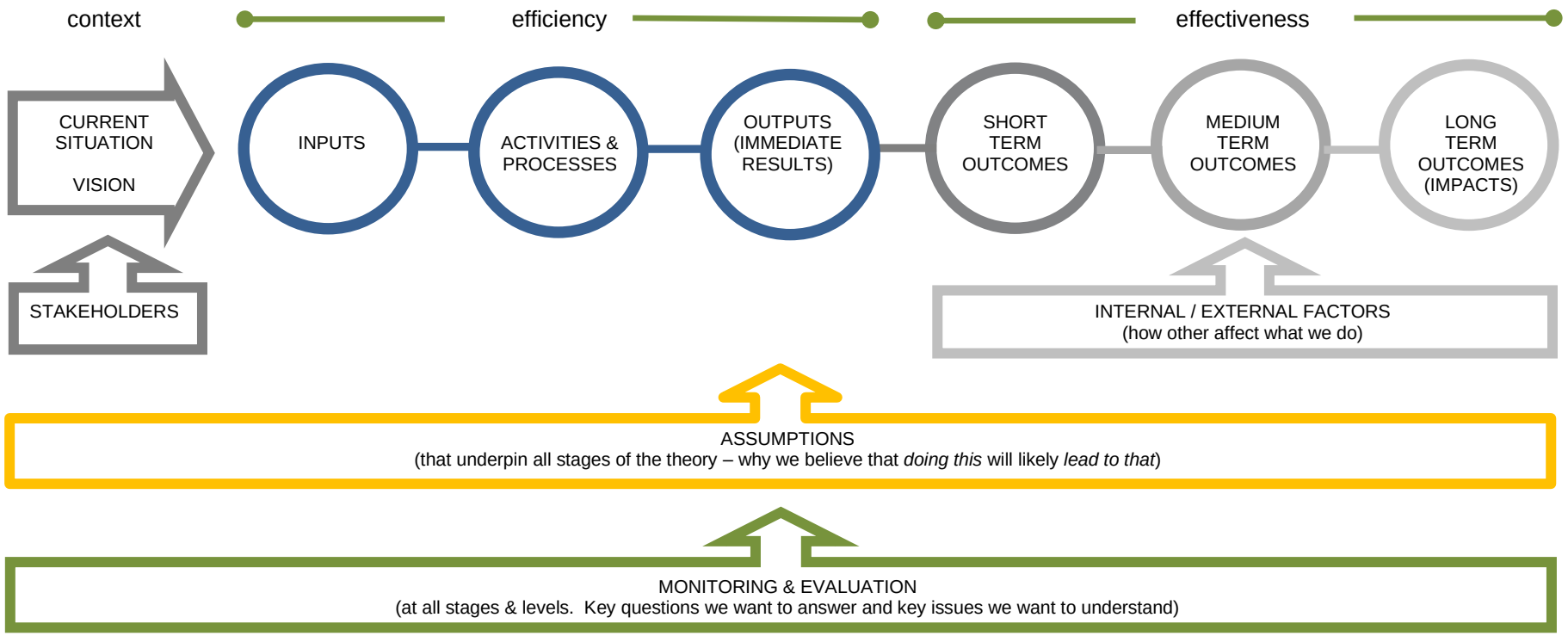
Concept	Definition / Description	Living Water Interpretation & Examples
Activity	*A thing that a person or group does or has done.*	The interventions, actions and processes undertaken to achieve our desired outputs, e.g. fencing, workshops
Behaviour Change theories (esp stages of change)	*Theories that cite environmental, personal and behavioural characteristics as major factors in behavioural determination. Stages of change assesses an individual's readiness to act on a new 'healthier' behaviour.*	This informs uses the stages of change (combined with systems thinking) to understand what barriers or enablers of change are already in place and where gaps might be. See Appendix D for worked example.
Community	*A group of people living in the same place or having a particular characteristic in common.*	This generally refers to 'catchment' or 'local' communities who are the people living in the catchment that LW is working in.
Environmentally sustainable farming practices	*Dairy NZ identified 10 components for sustainable dairy farming:* *Competitiveness* • *Farm profit* • *Research & Development* • *Talented People* • *Biosecurity & Product Integrity* • *Industry Information Systems* *Responsible* • *Environmental Stewardship* • *Animal Welfare* • *Work Environment* • *Local Communities* • *National Prosperity*	While generally supporting the DairyNZ definition of sustainable dairying farming, LW believes that it should be broadened to incorporate the concept of farming contributing to local community catchment aspirations.
Evaluation	*The making of a judgement about the amount, number or value of something; assessment.* *An analysis or interpretation of the collected data and information which delves deeper into the relationships between results and enables reflection, adaptation and change.*	For LW evaluation is not an annual or end-of-life activity undertaken by an external consultant, it is incorporated into everyday operations through reflective practices (studying your own practices to improve the way you work).
Farm Environment Plan	*(Dairy NZ) A farm environment plan is used by farmers to demonstrate how they are achieving good management*	LW acknowledges that on the ground FEPs in every catchment look different as they respond to local characteristics. LW thinks there is scope for "next

Concept	Definition / Description	Living Water Interpretation & Examples
	practice on farm. It includes some general farm information, identification of environmental risks, recorded good management practices and actions for improvement under six key topic areas: Water & Irrigation; Nutrient; Effluent; Land & Soil; Waterways; & Waste management.	generation" FEPs to include biodiversity as a key topic and to address priority environmental issues on a farm especially where they are aligned to community catchment aspirations.
Game changer	*An event, idea or procedure that effects a significant shift in the current way of doing or thinking about something.*	The work of LW has supported a significant shift in how dairy farming happens in New Zealand
Healthy, ecosystem	*In good condition, not diseased.*	LW believes there is no single definition, health is defined by indicators & measures set on a case by case basis.
Indicator	*A thing that indicates the state or level of something.*	This is how LW will see that progress towards a specific outcome is being made. An indicator may combine one or more measures and interpretation to provide something more useful than a measure alone – we call this a composite indicator. We have used a combination of both proxy (indirect) and direct indicators.
Input	*What is put in, taken in or operated by a process or system.*	Human, financial, technical, organisational, cultural and/or social knowledge and resources provided to undertake our activities.
Mātauranga Māori	*Māori knowledge – the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.*	LW is working to integrate Mātauranga Māori into all our work, through working directly with iwi as partners, including specific tools (e.g. engagement planning, cultural health monitoring) and capacity building for staff in our everyday operations.
Monitoring	*Observe and check progress or quality of (something) over a period of time; keep under systematic review.*	For LW this is the systematic and routine collection of information about/from LW projects and activities linked to our strategy and what we are trying to test/learn/demonstrate through activities. It is integrally linked to evaluation.
(Monitoring & evaluation) Framework	*A basic structure underlying a system, concept or text.*	The LW M&E Framework outlines the main thinking that underpins the LW Partnership, the activities chosen to achieve the outcomes sought, and the main indicators of progress and success (the signs used to determine success).
(Monitoring & evaluation) Plan	*A detailed proposal for doing or achieving something.*	The LW M&E plans provide the detailed information on the measures - including

Concept	Definition / Description	Living Water Interpretation & Examples
		methodologies for their collection and analysis, baselines and targets – and evaluation methods.
Outcome	*The way a thing turns out; a consequence.*	For LW these are the changes we are expecting will result from LW activities across different timescales: • Short term (outcomes) – by 2020. • Medium-term – by 2023, from the 10 years (life) of LW. • Long-term - change and impact expected to be seen beyond the 10-year timeframe of LW.
Output	*The amount of something produced by a person, machine or industry.*	For LW these are the immediate and direct result of our activities that contribute to our outcomes, e.g. length of fences, number of reports.
Partnership	*An association of two of more people as partners.*	LW is working with a range of organisations contributing to shared activities and/or goals. LW is using the development of rubrics to identify the elements of partnerships and assess their quality.
Resilience	*The capability to recover quickly from difficulties; spring back into shape.*	For LW a resilient ecosystem is one that is able to recover from disturbances or remain in a functional ecological state in the event of/in conjunction with other disturbances such as droughts and storms, especially in the face of climate change.
Restore	*Bring back or re-establish, repair, return to former condition.*	LW believes this would look different for different environments and therefore local restoration targets will be developed for each site.
Scalability	*Capability of a product, system network or process to handle a growing amount of work or its potential to be enlarged to accommodate growth.*	LW: scalable could be at a catchment, region or national scale.
Social learning	*A theory that proposes that new behaviours can be acquired by observing and imitating others.*	LW is connecting (networking) people and organisations to “do” things together (e.g. testing new interventions, identifying priorities) and jointly reflect on progress and lessons.
Systems thinking	*A discipline for seeing wholes. It is a framework for seeing inter-relationships rather than things, for seeing patterns of change rather than static snapshots.*	LW recognises that land and water management is a complex challenge. We are using ‘systems thinking’ (a holistic approach to understanding linkages and interactions between the components of a system) to help frame how we tackle the challenge. We are then making purposeful connections with others so we can work on the challenge together –

Concept	Definition / Description	Living Water Interpretation & Examples
		farmers, scientists, mana whenua, councils, and communities.
Systems level	*(System) a set of things working together as parts of a mechanism or an interconnecting network, a complex whole.*	For LW this means working at the level that influences multiple people (e.g. farmers), sectors and sites, e.g. rather than working with individual farmers, working to change standards or what is considered 'best practice' for those managing agricultural drains.
Target	*An objective or result towards which efforts are directed.*	The value of an indicator expected to be achieved at a specific point in time. For LW these will be identified in M&E plans.
Target catchments		These are five catchments that LW is working in to test and trial initiatives in practice, namely Wairua River, Northland; Pūkorokoro-Miranda, Hauraki; Peat Lakes, Waikato; Ararira-LII River, Canterbury; Waituna Lagoon, Southland
Theory of change (TOC)	*A supposition or a system of ideas intended to explain something, especially one based on general principles independent of the thing to be explained.*	The LW TOC outlines our theory (informed by evidence) for how we think change happens - the uptake of more environmentally sustainable farming practices - and therefore explains why we have chosen a particular set of initiatives to achieve/influence that change.
Uptake	*The action of taking up or making use of something that is available.*	For LW this means or shows that people are using or applying tools and learnings developed.
Acronyms	DOC – Department of Conservation GMP – Good Management Practice LW – Living Water FEP – Farm Environment Plan NPSFM – National Policy Statement for Freshwater Management SDWA – Sustainable Dairying: Water Accord	

B. Theory of Change Structure

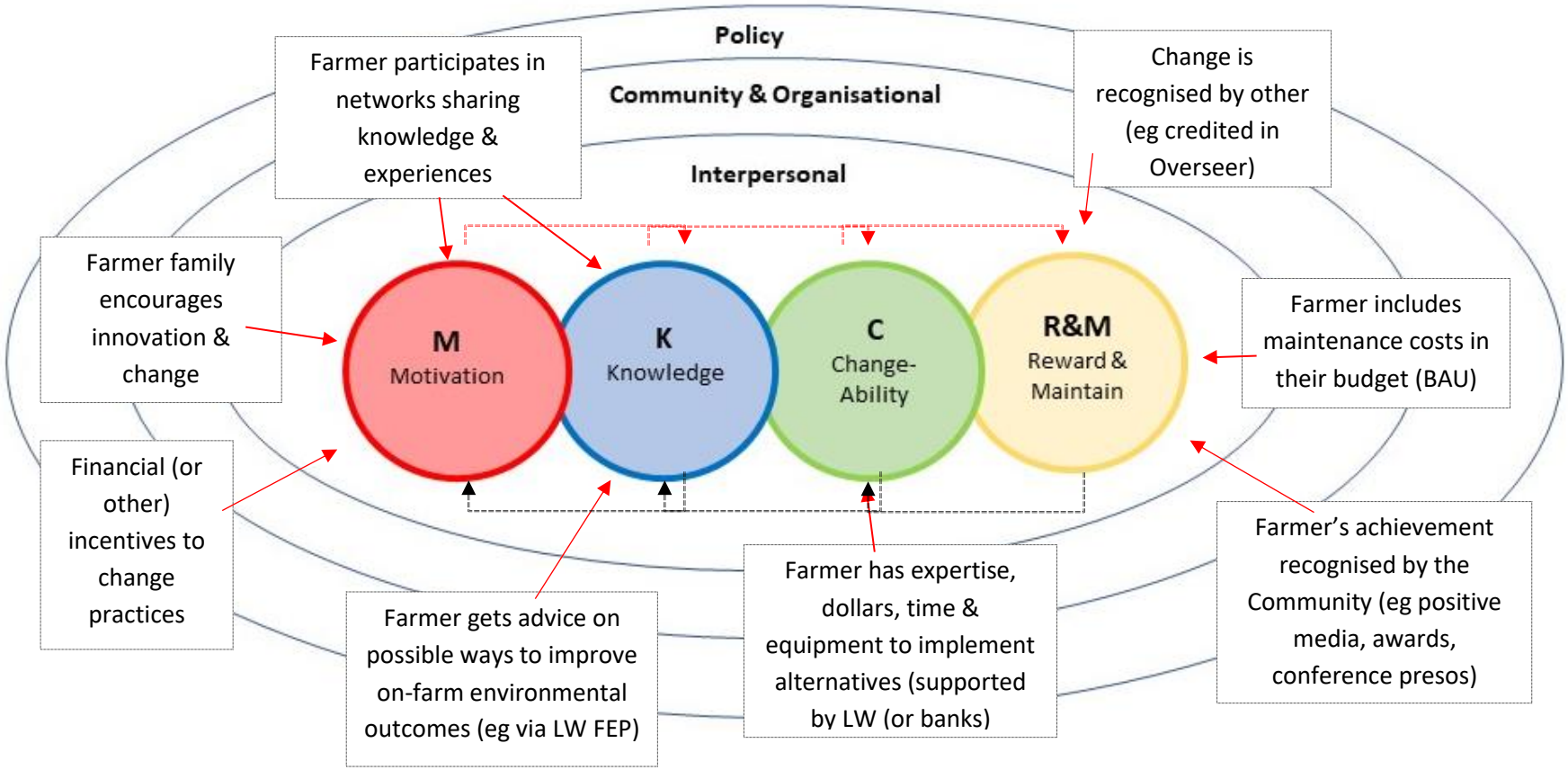


(After Will Allen, Diagramming a Theory of Change, July 2016)

C. Logic Model Diagram including Indicators

ACTIVITIES / OUTPUTS	SHORT TERM OUTCOMES & INDICATORS (BY 2020)	MEDIUM TERM OUTCOMES & INDICATORS (BY 2023)	LONG TERM OUTCOMES (IMPACTS)
Partnerships with a shared vision - Co-design & delivery - Sprint planning process - Mana Enhancing Agreements - Cultural health assessments Trialling and implementing technical solutions - Nutrient & sediment management tools - Naturalising agricultural drains - Biodiversity included in Fonterra's national farm environment plan template Championing change with others - Case studies, shared learnings, research papers - Partnerships with industry orgs, research institutions	A. Robust and resilient partnerships built across operational agencies and iwi in target catchments. - Number of partnerships - Quality of partnerships B. Fonterra & DOC staff capability for operationalising freshwater improvement initiatives in productive landscapes increased. - Staff (SDA & Ranger) capability self-assessment C. Support for and ownership by farmers of the need for on-farm practices changes increased. - Percentage of Fonterra farms engaged in target catchments D. On-farm initiatives to improve freshwater ecosystems in target catchments increased. - Percentage of Fonterra farms implementing freshwater improvement actions in target catchments	E. Partnerships built at systems levels across catchments, regions and sectors increased. - Number of partnerships built with organisations involved in the land and water management and farming sectors - Quality of partnerships - Number of projects that build iwi capacity and capability to facilitate freshwater improvement initiatives F. Environmentally sustainable dairying practices on Fonterra farms in target catchments increased. - Percentage of Fonterra farmers implementing freshwater improvement actions in target catchments - Percentage of farms in target catchments that have an FEP G. Game-changing & scalable freshwater solutions rolled out regionally and/or nationally. - Number of LW solutions rolled out regionally and/or nationally - Number of agencies applying solutions and knowledge developed through the LW partnership H. Freshwater biophysical indicators in target catchments improved. - Water quality - Area of freshwater habitat enhanced - Contaminant reduction attributable to LW interventions I. The mauri of target catchments improved. - Mauri monitoring scores J. Freshwater values improved while farm profitability was maintained or improved in target catchment farms. - Number of tools and solutions with clear cost/benefit analysis available for farm and catchment scale application	Healthy resilient lowland freshwater systems Profitable responsible dairying Shared understanding of the interdependence of agriculture, economy and environment

D. Worked example of a change journey



E. Living Water Activities (not exhaustive list) mapped to change stages

Motivation Being engaged, inspired or motivated to change	**Knowledge** Knowing what change is possible	**Change-Ability** Having the capacity & capability to change	**Reward & Maintain** Being recognised & affirmed for making the change & committing to continuing it
- Expectations & Acknowledgement from Leaders: Fonterra and DOC public commitment to LW (SteerCo, CEO etc). - Peer expectations & prestige: *Develop and share farmer change journey stories [tellingourstory] - *Work on private land but show how it is transferrable to public / rated assets. - Prestige & rewards: Develop the LW brand and standards as high integrity & highly prestigious	**Trialling & Implementing Technical Solutions** - Demonstrating options (knowledge sharing): *Provide funding and expertise to deliver on-farm interventions (as demonstrations). - *Work on private land but show how it is transferrable to public / rated assets. - Knowledge of what changes could be made: Develop on-farm information and planning tools for sector-wide use. - Develop effective low-tech, low-cost nutrient & sediment management tools. - Develop new techniques for addressing specific issues in different situations. **Championing Change with Others** - Cost on-farm interventions. Knowledge of what changes could be made: - *Share learning & case studies; presentations and research papers.	**Trialling & Implementing Technical Solutions** - Resources for change: *Provide funding and expertise to deliver on-farm interventions. - Co-fund new expertise into council to support implementation of new approaches. **Championing Change with Others** - Skills for change: Identify skills and build capacity of partners to support practice changes	Recognition by industry: - *Develop and share farmer change journey stories [tellingourstory]. - Profile 'LW-standard' farmers in local and national media. Peer & community recognition: - Quantify environmental results attributable to on-farm interventions to track progress - Use LW website to profile all people programme contributors. **indicates examples of initiatives contributing to more than one change stage*

F. Information Sources for Key Evaluation Questions

Evaluation Question	Information Sources
1. How have the partnerships LW formed affected the success of the programme? • What changed for partners as a result of LW? • What have partners learned from LW that can be applied elsewhere?	Case studies, stories (incl video) Participant feedback Site & project team reflections Indicators: - (2) Quality of partnerships. - (7) Number of projects that build iwi capacity and capability to facilitate freshwater improvement initiatives. - (11) Number of agencies applying solutions and knowledge developed through the LW partnership.
2. What evidence is there that interventions and approaches are being (or likely to be) scaled up and out?	Case studies, stories (incl video) Feedback from industry and partners Uptake of technical solutions (downloads from website, participant feedback) Indicators: - (10) Number of LW solutions rolled out regionally and/or nationally. - (11) Number of agencies applying solutions and knowledge developed through the LW partnership.
3. How, and to what extent, has Living Water accelerated the pace of the adoption of sustainable dairying practices? • What are the main barriers to, and enablers of change? • What significant changes have occurred in farming practices in target catchments?	Case studies, stories (incl video) Uptake of technical solutions (downloads from website, participant feedback) Participant feedback Site & project team reflections Indicators: - (8) Percentage of Fonterra farmers implementing freshwater improvement actions in target catchments - (9) Percentage of farms in target catchments that have an FEP - (15) Number of projects that integrate Mātauranga Māori
4. To what extent has Living Water restored freshwater ecosystems	Case studies, stories (incl video) Farm and catchment photo point comparisons Indicators:

and built resilience in target catchments?	- (8) Percentage of Fonterra farmers implementing freshwater improvement actions in target catchments - (12) Water quality - (13) Area of freshwater habitat enhanced - (14) Contaminant reduction attributable to LW interventions - (16) Mauri monitoring scores
5. How did farming practice changes affect farm profitability? [new - economic/VFM] • How has LW contributed to understanding the costs of operationalising farming practice changes (approaches, tools, techniques)? • To what extent did trialling and implementing technical solutions impact on farmer uptake?	Case studies, stories (incl video) Participant feedback Site & project team reflections Downloads of tools and solutions resources Indicators: - (17) Number of tools and solutions with clear cost/benefit analysis available for farm and catchment scale application