JUNE 2018

FARM ENVIRONMENT PLAN TEMPLATE

Mahere Tātauira Taiao Ahuwhenua

Healthy Rivers
PLAN FOR CHANGE
Wai Ora
HE RAUTAKI WHAKAPAIPAI

Waikato
REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

PROPERTY DETAILS

Farm trading name (if applicable)	S Farmer Enterprises
Full name (owners)	S. Farmer
Healthy Rivers Farm Identifier	*Office use only*
CONTACT DETAILS FOR OWNER(S)	
Postal address	123 Rural Road, Hamilton NZ
Phone	0275555554
Email address	samjfarmer@aol.co.nz
CONTACT DETAILS OF PERSON RESPONSIBLE FOR THE FARM (IF DIFFERENT FROM FARM OWNER)	
Postal address	123 Rural Road, Hamilton NZ
Phone	0275555554
Email	samjfarmer@aol.co.nz
PROPERTY OWNER (IF DIFFERENT FROM ABOVE OWNERS)	
Property address	123 Rural Road, Hamilton NZ
Valuation reference[1]	012345/678/10
Legal description(s) of land parcels[1]	Lot 1 DPS 000 Sec 0A Blk I AB Hamilton
Total area (ha)	140 ha
Effective area (ha)	130 ha
Land use activities	Dairy farming
Other relevant property identifier, dairy supply number, farm IQ	SNR0001
HEALTHY RIVERS/WAI ORA	
Freshwater Management Unit[2]	Central FMU
Sub-catchment name[2]	Waikato at Bridge St Br
Sub-catchment priority[2]	3
CERTIFIED FARM ENVIRONMENT PLANNER	
Name	Archie Colins
Contact details	0215555545
Identifier/certification reference	*Office use only*
Sign-off	
Date	

[1] Obtainable from Waikato Regional Council or district council rates documentation.

[2] Not sure which sub-catchment you're in? Visit waikatoregion.govt.nz and click on Find My Farm.

FARM MAP

Use the map(s) to identify the location of the property, its features and uses, existing infrastructure (including fences and mitigations), relevant contaminant loss risks areas, and the location of proposed actions.

Finalise the aerial plan of the property and include all relevant features listed below.

Farm maps can be requested from Waikato Regional Council.

MAP FEATURE CHECK LIST

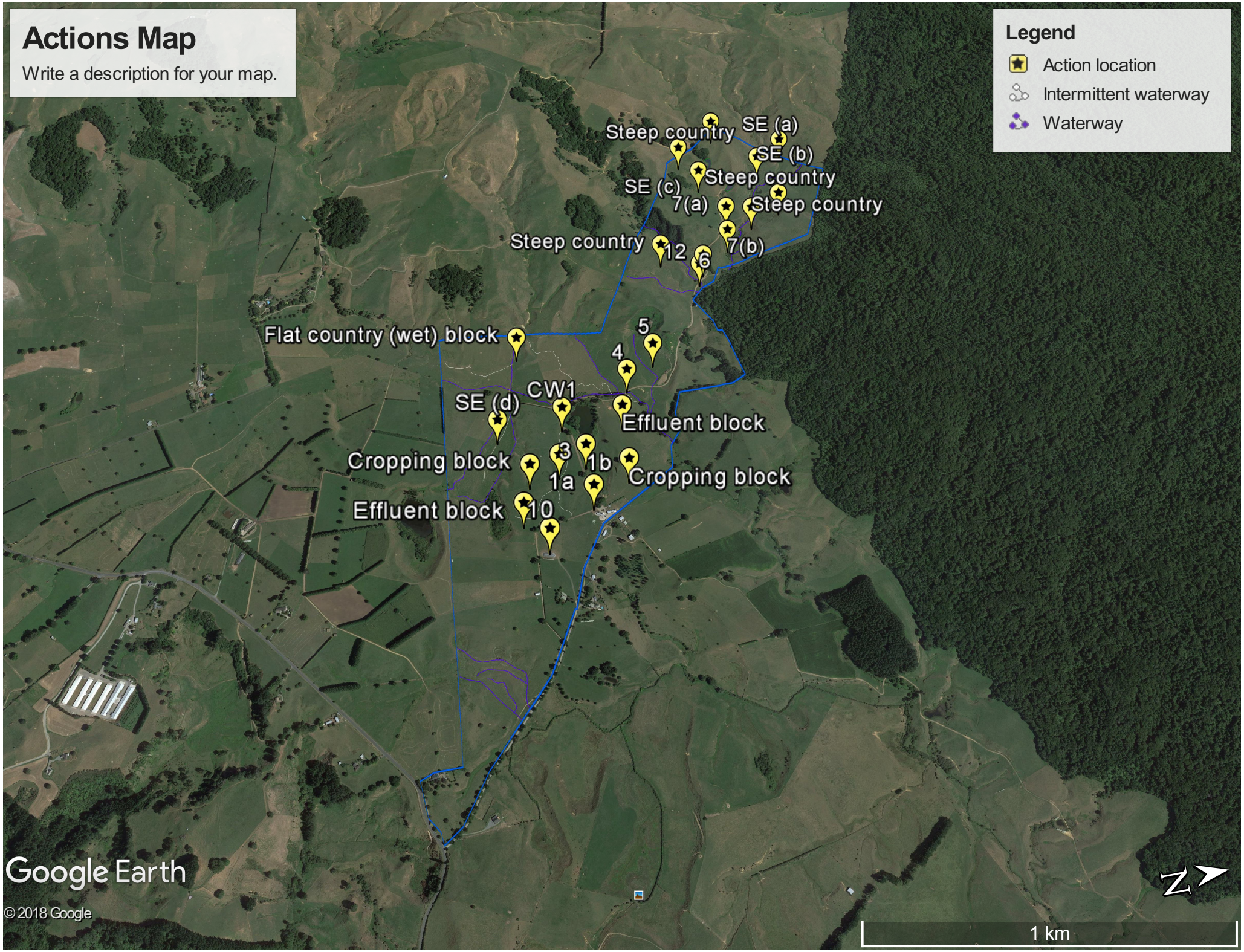
Where relevant, the farm map must clearly show:

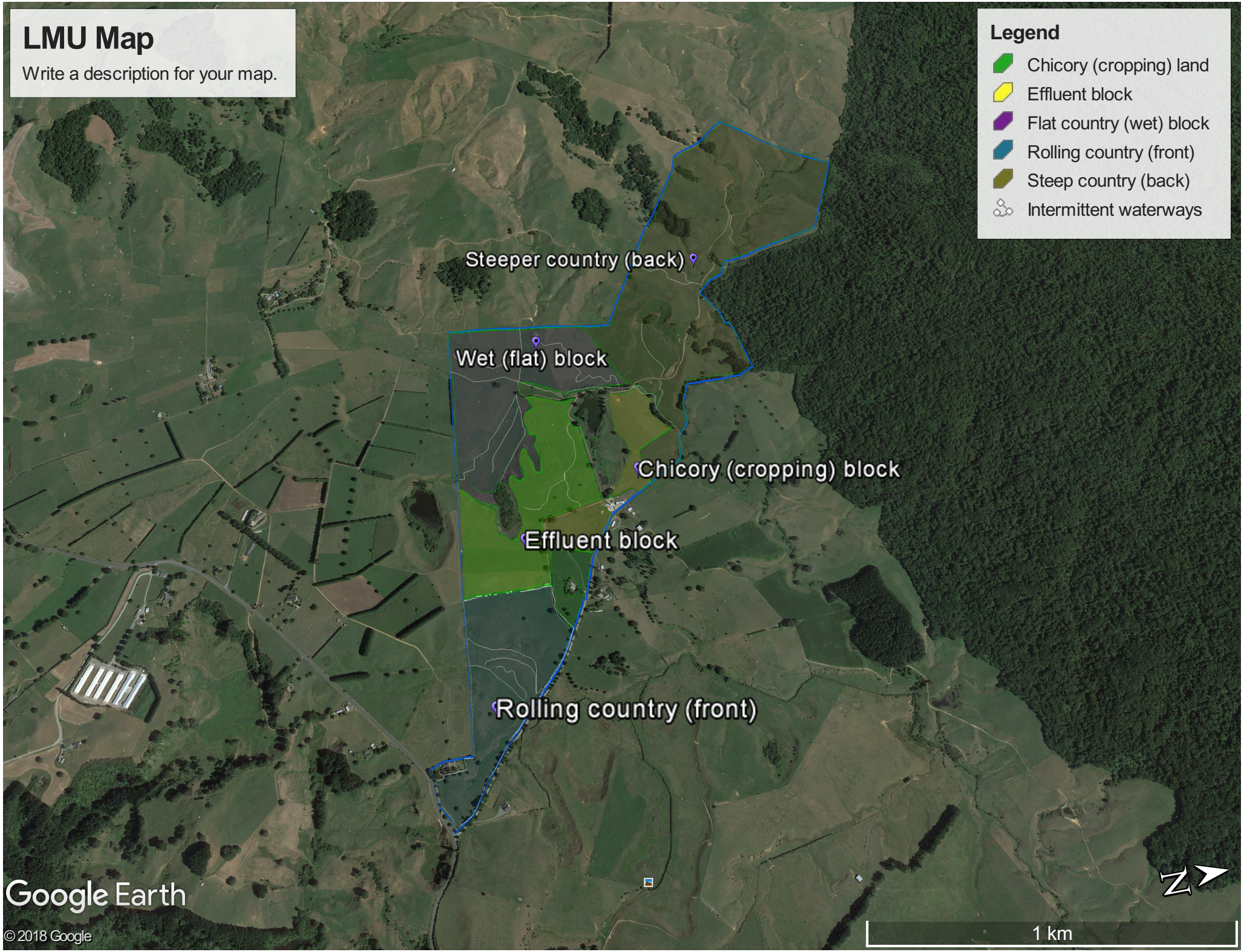
- ✓ Area, property boundary
- ✓ Mitigation actions (existing and future)
- ✓ Overland flow paths[1]/ephemeral waterways
- ✓ Location land uses[2]
- ✓ Retired forestry areas
- ✓ Paddocks
- QE II or other covenanted areas
- Soil types
- Cultivation setbacks
- Slope classes
- Erosion prone areas[1]
- Riparian areas
- Soil conservation areas
- ✓ Yards, animal holding areas[1]
- ✓ Actively eroding areas[1]
- ✓ Effluent application areas[1]
- Cultivated area flow paths
- ✓ Effluent accumulation areas[1]
- ✓ Areas prone to flooding[1]
- Feed out areas[1]
- Dams
- ✓ Stock crossing structures (existing and future)
- ✓ Waterbodies[3]
- Existing fences adjacent to waterbodies[3]
- ✓ Cultivated land above 15 degrees
- ✓ Tracks and races

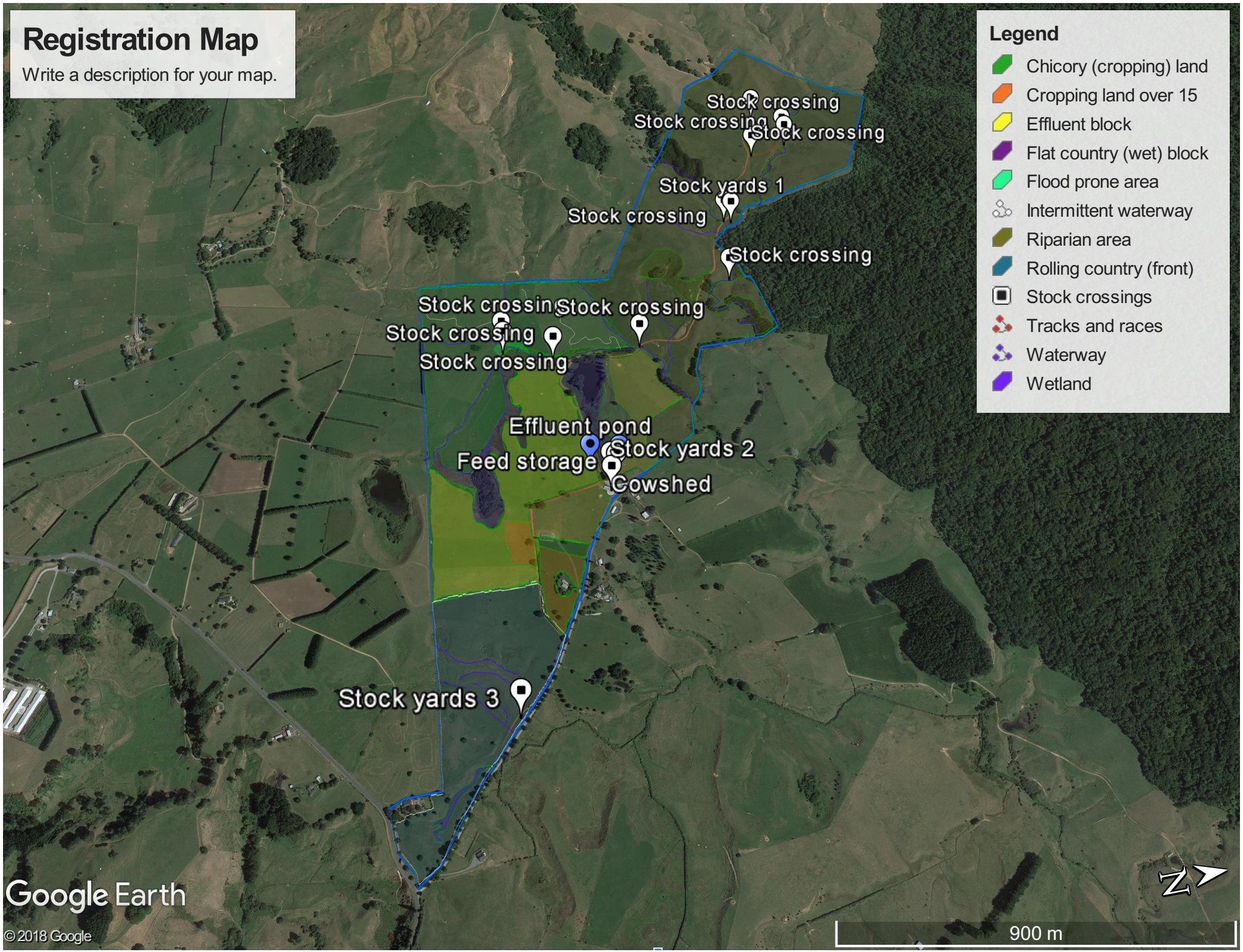
[1] Critical source areas

[2] This may be in the form of Overseer Blocks, or Land Management Units

[3] Any river, drain or wetland that continually contains surface water

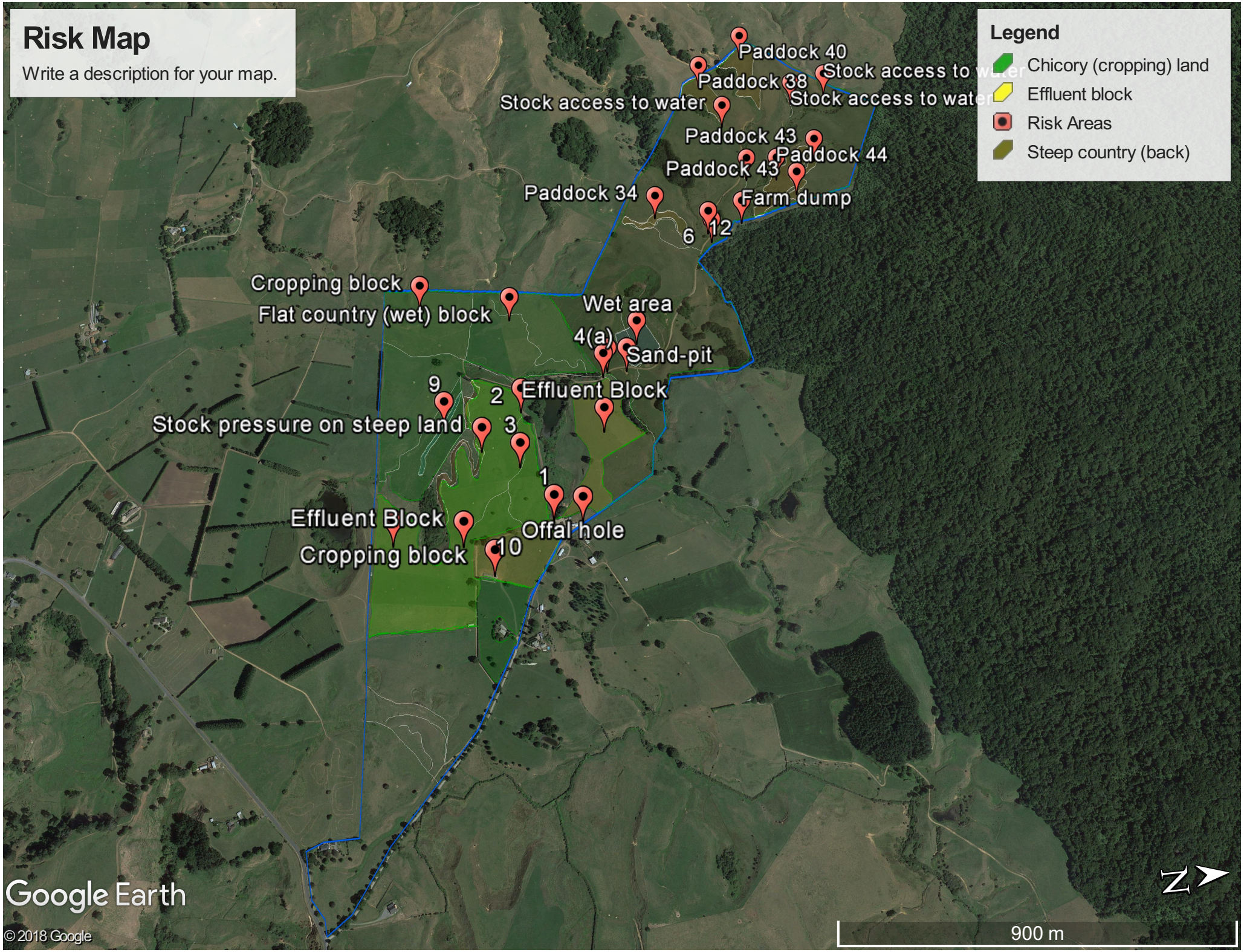

Actions Map
Write a description for your map.
Legend
Action location
Intermittent waterway
Waterway
Steep country
SE (a)
SE (b)
Steep country
SE (c)
7(a)
Steep country
Steep country
12
6
7(b)
Flat country (wet) block
5
4
CW1
SE (d)
Effluent block
3
1b
Cropping block
1a
Cropping block
Effluent block
10
Google Earth
© 2018 Google
N
1 km


LMU Map
Write a description for your map.
Legend
Chicory (cropping) land
Effluent block
Flat country (wet) block
Rolling country (front)
Steep country (back)
Intermittent waterways
Steeper country (back)
Wet (flat) block
Chicory (cropping) block
Effluent block
Rolling country (front)
Google Earth
© 2018 Google
1 km
N


Registration Map
Write a description for your map.
Legend
Chicory (cropping) land
Cropping land over 15
Effluent block
Flat country (wet) block
Flood prone area
Intermittent waterway
Riparian area
Rolling country (front)
Stock crossings
Tracks and races
Waterway
Wetland
Stock crossing
Stock crossing
Stock crossing
Stock yards 1
Stock crossing
Stock crossing
Stock crossing
Stock crossing
Stock crossing
Stock crossing
Effluent pond
Stock yards 2
Feed storage
Cowshed
Stock yards 3
Google Earth
© 2018 Google
900 m
N

Risk Map

Write a description for your map.



FARM STORY *(OPTIONAL)*

Use this section is to help tell the story of your property. What is the history of the property? What are your goals? It also can be used to note of some of the work that has already been carried out that you are proud of and want others to know about.

TELL US ABOUT YOUR PROPERTY. INCLUDE:

History
Interesting features
Potential goals
Any concerns/worries

3rd generation farm. Brought in separate pieces and currently spread across 3 titles.
Backs onto Te Tapui scenic reserve.
Would like to increase productivity of the farm whilst reducing the environmental output from the property.
Further improvements to on-farm biodiversity.
Improve production from specific paddocks on the property (paddocks 17 & 28).
Management of steep land is a concern. Does it produce enough for it to be viable to farm off?

TELL US ABOUT THE WORK YOU HAVE ALREADY DONE. INCLUDE:

Work you have done to protect infrastructure
Work you have done to improve stock health
Work you have already done which has protected or improved water quality
Work you have done to improve biodiversity

95% of all waterways on-farm are fenced.
Extensive planting of riparian areas and wetland areas (25,000 plants so far).
Starting to use poplar poles on steep country and considering reversion/permanent retirement in some areas.
New effluent pond and stand-off pad constructed (2018).
Noticeable increase in birdlife around farm and at home.
Projects going forward include more wetland restoration and improvement of mai mai's on duck pond.

It's a good idea to take photos to show changes over time. This can be used to support decision making.

WHOLE FARM RISK OVERVIEW

In this section, consider your entire farm to determine risk factors that apply to it as a whole. These whole farm risks will be used to guide decision making in the Farm Environment Plan Risks and Actions section on page 10.

CATCHMENT NUTRIENT PRIORITIES

Consider the sub-catchment nutrient priorities in your sub-catchment when identifying risks and actions.
You can find this information in the FEP Guidelines. *(Circle one or more)*

Nitrogen	Phosphorus	Sediment	Bacteria[1]

FARM SYSTEM AND INTENSITY

Description of farm system and intensity, including fertiliser and supplementary feed inputs.
Description of cultivation, cropping and pasture renewal practices.
N, P, sediment and bacteria.

Identified risks

Dairy farming running 3 cows/ha across 130ha effective.
Protein based imported feed.
Full cultivation of paddocks for chicory.
Drilling of cultivated paddocks for re-grassing.
Sediment and phosphorus from steeper country are of concern when heavy animals are grazing.
Heavy animals cause pasture cover loss and soil loss on steep areas.

SOIL TYPE	TOPOGAPHY	CLIMATE
Description of how soil type and land use contributes to risk of contaminant loss.	Description of how topography and land use contribute to risk of contaminant loss.	Description of climate, drought and frequency of flood events, and how this may influence the risk of contaminant loss.
Identified risks Allophanics Prone to erosion - sediment loss Free-draining Gley Remain wet for long periods Get pugged when excessively grazed sediment loss	Identified risks Rolling front of farm Some wetter flat areas Steep back of farm	Identified risks 1700mm of rain Occasional heavy rain events Can dry-out in summer Prevailing wind is NE

[1] Microbial pathogens

FARM BLOCK DESCRIPTION
LMU STRENGTH AND WEAKNESS ASSESSMENT

Farm or OVERSEER blocks, or Land Management Units (LMUs), are areas of land that can be farmed or managed in a similar way because of underlying physical similarities. For each block or LMU, complete a strength and weakness risk assessment. Add more blocks as required. Use this assessment to inform changes that will maintain and improve the soil and minimise contaminant loss.

If the block is an effluent application block or an irrigated block, complete descriptions of these systems on the next page.

LAND MANAGEMENT UNIT

Name (as shown on map)

Effluent Block

Description, uses and management

Block of 30ha that effluent is spread on. Mostly low risk soil with some slope in places.

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses
Rolling to flat tops Good access to races All hydranted Well-draining	Wet bottomed in winter (ephemeral flows) Some ephemeral waterbodies Some steeper sidlings

NOTES AND MITIGATION IDEAS

Low-rate effluent application will be most suitable.
Set exclusion zones for effluent application.
Store effluent when conditions are not suitable for application.

LAND MANAGEMENT UNIT

Name (as shown on map)

Chicory (cropping) Block

Description, uses and management

Block of 40ha, which chicory has been grown on, or other crops might be grown in the future. Rotating across identified block in 8-12ha lots. Helps with re-grassing strategy.

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses
Various topography (flat, quite steep). Various soil types (allophanic tops- gley bottoms). Ability to spread liquid effluent in places. Few waterways in blocks.	Some areas are too steep for cropping. Anything too steep to drive a tractor should not be sprayed.

NOTES AND MITIGATION IDEAS

Investigate using direct drill or strip tillage of crops.
Investigate mixed sward rather than spray every time.
other potential crops (plantain, etc).

LAND MANAGEMENT UNIT

Name (as shown on map)

Rolling country (front)

Description, uses and management

Dairy rotation across all of the block.
Some areas are cultivated.
Close to road frontage.

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses
All waterways are fenced. Well drained across most of the block. North facing slopes grow well in the cooler months.	Over-grazing an issue in some areas. Warmer slopes can increase stop camping when cooler. Pugging in wetter areas- particularly on gley soils.

NOTES AND MITIGATION IDEAS

Wet bottoms of gullys can trap animals at times. Important to ensure stock exclusion is secure. Particularly along drains.
Parts of rolling country is used for cropping. Cultivate away from waterways.

LAND MANAGEMENT UNIT

Name (as shown on map)

Steep country (back)

Description, uses and management

Young stock (under 1 year old) can be grazed at times. Part of dairy rotation.

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses
Allows for more extensive grazing due to size of paddocks. North facing slopes useful in cooler months. Most streams are fenced and planted. Close to native bush reserve.	Erosion prone. Stock pressure can lead to tracking/terracing across hill slopes. Some unfenced waterways and particularly wetlands. Areas near bush remain wet and shaded all winter.

NOTES AND MITIGATION IDEAS

Grazing of heavy stock during winter needs to be monitored and not for long periods of time.
Some areas require pole planting.

LAND MANAGEMENT UNIT

Name (as shown on map)

Wet (flat) block

Description, uses and management

Wetter area of the farm that is part of dairy rotation. Also used for cropping at times.

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses
Soil retains moisture longer in the summer months. Mushrooms grow well. All waterways are fenced.	Intermittent waterways are prevalent. Gley soils take a long time to drain. Pugging damage can cause productivity issues going forward.

NOTES & MITIGATION IDEAS

Grazing needs to be monitored during winter months.
Ensure fertiliser applications occur when soil temperatures are above 9 degrees and when NOT water logged.
Cultivation needs to ensure buffers around intermittent waterways and where possible use low tillage methods and when NOT water logged.

LAND MANAGEMENT UNIT

Name (as shown on map)

Description, uses and management

STRENGTHS AND WEAKNESSES:

Strengths	Weaknesses

NOTES & MITIGATION IDEAS

INFRASTRUCTURE MANAGEMENT

Use this section to consider how effluent and freshwater irrigation is managed on your farm. Any risks identified should be added to the Farm Environment Plan Risks and Actions section on page 10.

EFFLUENT SYSTEM
POND VOLUME
4,000 cubic metres
POND SEALING EVIDENCE
Liner
DAIRY YARD EFFLUENT CONTAINMENT
Yes
WOOLSHED EFFLUENT CONTAINMENT
N/A
STOCK YARD EFFLUENT CONTAINMENT
No
STANDOFF PAD/WINTERING BARN OR ANIMAL HOUSING
Yes
STABLES OR YEARLING BOXES
N/A
SOLIDS OR SLUDGE STORAGE, SEPARATION AND APPLICATION
Yes
EFFLUENT APPLICATION MANAGEMENT, IRRIGATOR TYPE
Regular maintenance and measure application depth
IRRIGATION RATE, SCHEDULING
N/A
EFFLUENT IRRIGATION AREA (HA)
30ha

FRESHWATER IRRIGATION
AREA IRRIGATED (HA)
N/A
TYPE OF IRRIGATOR
N/A
WATER SOURCE
N/A
WAIKATO REGIONAL COUNIL CONSENT
N/A
WATER METER
N/A
APPLICATION DEPTH AND UNIFORMITY
N/A
METHOD(S) OF SCHEDULING AND CALCULATING IRRIGATION REQUIREMENTS
N/A
OTHER INFORMATION
N/A

NUTRIENT MANAGEMENT

You can work with a Certified Farm Nutrient Advisor (CFNA) to get an OVERSEER nutrient budget and Nitrogen Reference Point. Consider your nutrient management plan, specifically focusing on N and P, and what actions will be needed.

If appropriate, risks and actions should be added to the Risks and Actions table on page 10.

NITROGEN MANAGEMENT

	KG N/HA/YR
What is the 75th percentile of nitrogen leaching for the FMU?	N/A
Nitrogen Reference Point	N/A
Current Nitrogen leaching	36kgN/ha/yr
Changes to system , if needed[1] System has been assessed with the inclusion of the stand-off pad. New assessment suggests decrease of up to 6kgN/ha/yr from this addition to the farm system. Potential increases in stock numbers could increase the leaching levels and seriously threaten the wetter soils. Try to increase maize silage being fed during 'at-risk' periods to reduce N in urine patches.	
Predicted Nitrogen leaching[2]	31kgN/ha/yr

[1] Changes to system are needed if the NRP is above the 75th percentile value. Please summarise the actions necessary to achieve reductions to the 75th percentile value by 1 July 2026.

[2] Nitrogen leaching value anticipated once actions[1] have been completed.

PHOSPHORUS MANAGEMENT

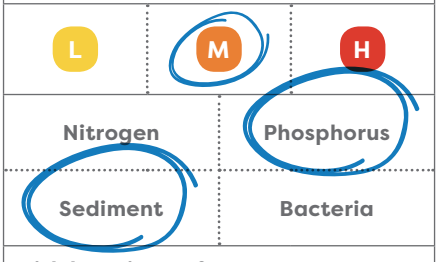
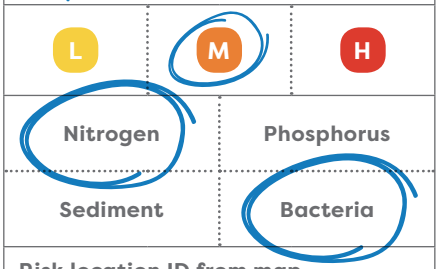
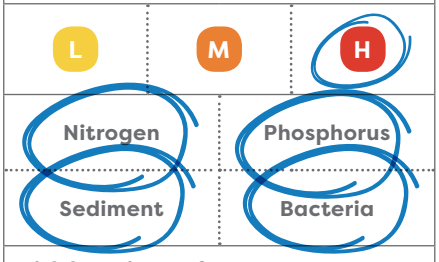
BLOCK	OLSEN P TEST	AGRONOMIC OPTIMUM	ACTIONS
Rolling country	32	20-30	None
Effluent block	67	20-30	Sub-maintenance P-fert application
Chicory	63	20-30	Sub-maintenance P-fert application
Wet block	24	20-30	None
Steep block	29	20-30	None

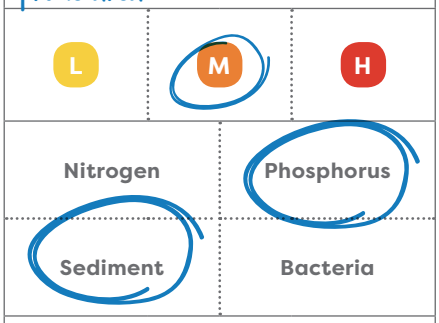
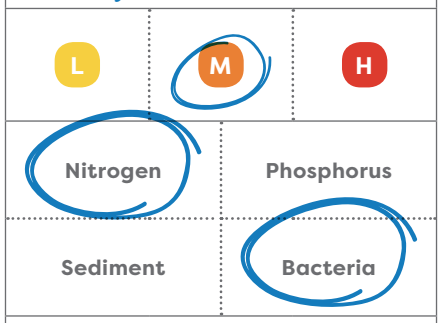
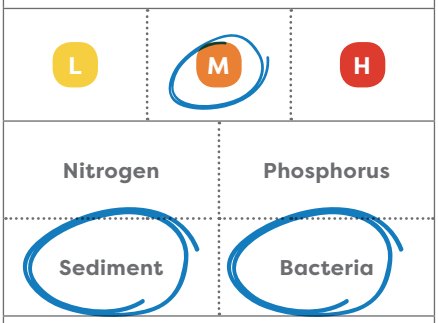
Refer to the Fertilizer Association Guides at fertiliser.org.nz

FARM ENVIRONMENT PLAN RISKS AND ACTIONS

These tables identify all the risks on farm and what will be done to manage them. For help with good management practices/ideas for mitigations, please refer to the Farm Environment Plan Guide.

Note: some risks may have no actions, single actions or multiple actions (and vice-versa). Where multiple actions are needed, please complete a new table. Where no action is required, an explanation should be provided in the notes/commentary section.

Risk type Stock pressure on steep land	**Risk type** Effluent accumulation area hotspot	**Risk type** Intermittent waterway or flood prone area
		
Risk location ID from map Steep country	**Risk location ID from map** 1	**Risk location ID from map** 2
Mitigation action type Stock management	**Mitigation action type** Race cut-off shape/contour tracks & races	**Mitigation action type** Construct wetland/detainment
Mitigation location ID from map Steep country	**Mitigation location ID from map** 1a and 1b	**Mitigation location ID from map** CW1
Action detail Between 1 Jun and 30 Aug of each year, any cattle grazed must be less than 12 months in age or under 200kg live-weight (whichever is less restrictive).	**Action detail** Main race cambered towards the left hand side and construct a minimum of 3 cut-off diversions at no less than 15m spacing and no closer than 15m from culvert.	**Action detail** Retire area of no less than 300m^2 and permanently exclude stock with a minimum setback of 1m.
Time frame for completion or ongoing Ongoing from 1 Jun 2020	**Time frame for completion or ongoing** By 1 Jan 2021	**Time frame for completion or ongoing** By 1 Mar 2024
Notes/commentary Stocking pressure increasing risk of soil loss and mass movement. Stocking rate not specified, but management is expected to not increase the risk of soil Note: area may be used for grazing sheep at any time.	**Notes/commentary** Left hand side of race is the same side as effluent pond and the existing culvert represents the low point along the race. Photo reference (Effluent accumulation area) Farmer Considerations: a) Using any appropriate management options to minimise effluent build-up from stationary cows; b) Retirement of swale: Fencing and planting.	**Notes/commentary** Intermittent waterways may also be considered Ephemeral waterways. These areas will be identified in the FEP map. Farmer Considerations: a) Consult with WRC or an appropriately qualified professional regarding the sourcing and types of plants to be used and wetland design to maximise effectiveness. Photo reference (Wetland opportunity 2)

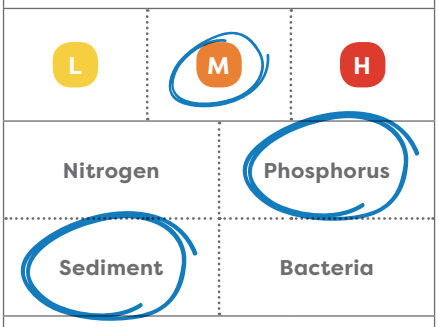
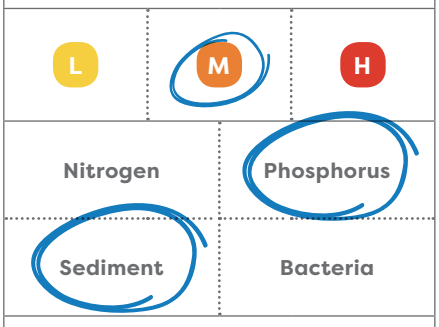
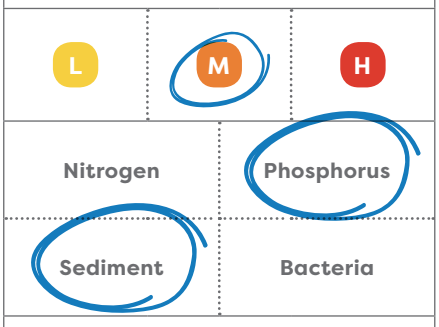
Risk type Intermittent waterway or flood prone area	**Risk type** Effluent Application (intermittent waterway)	**Risk type** Stock Crossing
		
Risk location ID from map 3	**Risk location ID from map** Effluent Block	**Risk location ID from map** 4
Mitigation action type Cultivation Buffer Strip	**Mitigation action type** Low-rate application	**Mitigation action type** Cut-off detainment
Mitigation location ID from map 3a	**Mitigation location ID from map** Effluent Block, 3(a)	**Mitigation location ID from map** 4
Action detail Where cultivation is used to establish a crop, within the length of the intermittent waterway maintain a vegetative strip of at least 2m in width.	**Action detail** Install a low-rate effluent application system and at all times maintain a buffer distance of 10m from ephemeral waterways.	**Action detail** Construct a cut-off diversion on either side of stock crossing, no closer than 5m to stock crossing point
Time frame for completion or ongoing Ongoing from 1 Sep 2020	**Time frame for completion or ongoing** by 1 Nov 2025	**Time frame for completion or ongoing** by 1 Jan 2020
Notes/commentary Cultivation does not include no-tillage practices such as direct drilling. Vegetative strip may be grass, but cannot be bare soil. Farmer Considerations: a) Use of minimum tillage practices to minimise sediment loss. b) Consider the need for the grass buffer strip when spraying out pasture	**Notes/commentary** Low-rate system considered to be that which can achieve an application rate of less than 5mm per application. Intermittent waterways or flood prone areas are those identified in the FEP map. Farmer Considerations: a) Staff should be appropriately trained to minimise mismanagement of effluent system.	**Notes/commentary** Any additional cut-off diversions should be at spacing's of no less than 15m.

It's a good idea to take photos of risks and actions to show changes over time. This can be use to support decision making.

Risk type intermittent waterway or flood prone area	**Risk type** High stock traffic and access to water	**Risk type** intermittent waterway or flood prone area
L M H Nitrogen Phosphorus Sediment Bacteria	L M H Nitrogen Phosphorus Sediment Bacteria	L M H Nitrogen Phosphorus Sediment Bacteria
Risk location ID from map 5	**Risk location ID from map** 6	**Risk location ID from map** 7
Mitigation action type None	**Mitigation action type** Stock Exclusion	**Mitigation action type** Stock Exclusion (7a), stock crossing structure (7(b)
Mitigation location ID from map 5	**Mitigation location ID from map** 6	**Mitigation location ID from map** 7 a and 7b
Action detail No action required.	**Action detail** Fence along length of race to prevent stock access.	**Action detail** Install stock exclusion along both sides of intermittent waterway to prevent stock access, and install a stock crossing structure.
Time frame for completion or ongoing N/A	**Time frame for completion or ongoing** By 1 Jan 2020	**Time frame for completion or ongoing** By 1 Jan 2019
Notes/commentary Catchment size is small and upper part of catchment has been placed in permanent vegetation, contributing to reduced risk to low. Paddock not currently used for cropping. Farmer Considerations: a) Manage stock to minimise use of paddock when wet to reduce direct contaminant discharges from stock presence in wet areas	**Notes/commentary** Farmer Considerations: a) Fence will be approximately 60m long and may contain an access gate to continue use for storage of material b) Planting applicable areas once retired, permanent fencing should be considered to prevent stock access to any plants.	**Notes/commentary** Setback from intermittent waterway not specified, appropriate distance up to land owner but should generally not be less than 1m. Photo reference (Cows and Stream (unfenced) Stock crossing structure expected to be a culvert. Installation and design not to be inconsistent with relevant Waikato Regional Plan Permitted Activity rule requirements. Farmer Considerations: a) Planting any applicable areas once retired, permanent fencing should be considered to prevent stock access to any plants.

Risk type Hillside erosion	**Risk type** intermittent waterway or flood prone area	**Risk type** Feed Storage
L **M** H Nitrogen, **Phosphorus** **Sediment**, Bacteria	L **M** H **Nitrogen**, Phosphorus **Sediment**, **Bacteria**	L **M** H **Nitrogen**, Phosphorus **Sediment**, Bacteria
Risk location ID from map Steep Country	**Risk location ID from map** 9	**Risk location ID from map** 10
Mitigation action type Pole Planting	**Mitigation action type** Improved drainage (9a), constructed wetland (9(b)	**Mitigation action type** No Action
Mitigation location ID from map Paddocks: 34, 38, 40, 42, and 44	**Mitigation location ID from map** 9(b)	**Mitigation location ID from map** 10
Action detail Plant at least: a) 15 poles in each of paddocks 38, 40, and 42; and b) 20 poles in each of paddocks 34 and 44.	**Action detail** a) Install stock exclusion along both sides of intermittent waterway with a minimum setback of 1m from the bed.	**Action detail** No action required
Time frame for completion or ongoing a) By 1 Jan 2025 b) By 1 Jan 2026	**Time frame for completion or ongoing** By 1 Jan 2022	**Time frame for completion or ongoing** N/A
Notes/commentary Risk of soil loss and mass movement. Note: Poles should generally be planted at 15m spacing. Poor pole placement may increase risks associated with stock camps. Farmer Considerations: a) Contact WRC to discuss availability of poles (including potential funding for any additional poles) and any advice regarding placement of poles to maximise effectiveness. b) Shifting the location of stock troughs where they are in overland flow paths to reduce the impact of stock camping	**Notes/commentary** Stock exclusion does not exclude the use of temporary fencing. Photo Reference (Ephemeral drain in poorly drain paddock)	**Notes/commentary** Low risk due to current location and management practices. Changes in storage location may increase risk, this may result in the need to review the FEP. Photo reference (Maize feed storage uncovered) Farmer Consideration: a) Consider a purpose built maize storage area.

Need more space? You can find more Risk and Actions tables at waikatoregion.govt.nz/healthyrivers.

Risk type Cultivation Management	**Risk type** Cultivation Management	**Risk type** Cultivation Management
		
Risk location ID from map Cropping block	**Risk location ID from map** Cropping block	**Risk location ID from map** Cropping block
Mitigation action type Cultivation Setback	**Mitigation action type** Grazing Management	**Mitigation action type** Cultivation Management
Mitigation location ID from map Cropping block	**Mitigation location ID from map** Cropping block	**Mitigation location ID from map** Cropping Block Areas >15°, 11a, 11b, and 11c
Action detail Where cultivation occurs, a setback vegetative of at least 5m from the bed of any waterbodies must be maintained at all times. Where a winter crop is to be grazed in-situ during the months of 1 Jun to 30 Aug, the following minimum vegetative setbacks at crop establishment are to be maintained at all times: a) 10m to the bed of any waterbodies: and b) 1m from all intermittent waterways or flood prone areas;	**Action detail** At all times where crops are grazed in-situ by stock, strip graze towards waterbodies and intermittent waterways.	**Action detail** Cultivation will be avoided on all slopes over 15 degrees with the exception of the following locations where minimum tillage practices are used and the crop is not to be used for in-situ grazing between 1 Jun and 30 Aug: a) 11a; b) 11b; and c) 11c
Time frame for completion or ongoing Ongoing from 1 September 2020	**Time frame for completion or ongoing** Ongoing from 1 September 2020	**Time frame for completion or ongoing** Ongoing from 1 September 2020
Notes/commentary Note: Setbacks may be greater than that specified. Waterbodies includes permanently flowing waterways and wetlands (including constructed wetlands). Intermittent waterways and flood prone are those identified in the FEP map. Winter cropping excludes the establishment of pasture. Vegetative strip may be grass, but cannot be bare soil.	**Notes/commentary** Note: Waterbodies includes permanently flowing waterways and wetlands (including constructed wetlands). Intermittent waterways and flood prone are those identified in the FEP map. Farmer Considerations: a) Providing pasture areas for stock to use, particularly around water troughs. These will provide relief areas for stock to use;	**Notes/commentary** Areas 11a-c are of low risk due to their proximity to surface water. Note: Winter cropping does not include the establishment and grazing of pasture species.

Risk type Stock Camp	**Risk type** Soil compaction and sediment loss	**Risk type** Stock access to waterways
L M H Nitrogen Phosphorus Sediment Bacteria	L M H Nitrogen Phosphorus Sediment Bacteria	L M H Nitrogen Phosphorus Sediment Bacteria
Risk location ID from map 12	**Risk location ID from map** Flat Country (wet) block	**Risk location ID from map** Stock exclusion required
Mitigation action type Stock management	**Mitigation action type** Stock management	**Mitigation action type** Stock Exclusion and retirement of land
Mitigation location ID from map Back stock yards	**Mitigation location ID from map** Flat Country (wet) block	**Mitigation location ID from map** SE(a) & SE(b)
Action detail No feeding out to stock within 30m of stock entry point or waterway.	**Action detail** When grazing between 1 Jun and 30 Aug of each year, on-off grazing practices are to be undertaken and grazing on pasture shall not exceed 8 hours at a time.	**Action detail** Exclude stock from retired areas. Stock exclusion setback will be no less than of 3m from the bed of the waterbody.
Time frame for completion or ongoing By 1 Mar 2024	**Time frame for completion or ongoing** ongoing from 1 Jun 2019	**Time frame for completion or ongoing** SE(a) by 1 Sep 2023 and SE(b) by 1 Sep 2024...
Notes/commentary Stock camping at entry point to paddock beside stream increases contaminant loss risk. Managing the feeding out of stock away from waterbody helps to reduce risk Farmer Considerations: • Manage stock movement in and out of paddock by using alternative entry point to help reduce stock impact on soil. • Move paddock entry 15m further along race	**Notes/commentary** off-grazing is the removal of cows from pasture grazing, this will involve the use of the farm standoff pad (constructed as at May 2018). Generally, on-grazing will not exceed 6 hours at a time. Photo Reference (Ephemeral drains- Wet Area) Farmer Considerations: - Consider increasing the use of the stand-off pad for other management blocks where needed to minimise pasture damage;	**Notes/commentary** Setback is expected to generally be greater than 3m. Distance from the edge of the bed to stock exclusion is measured horizontally. Farmer Considerations: a) If planting retired area, consider the use of adequate permanent stock exclusion; b) Contact WRC to discuss funding for above and beyond work and any advice regarding plants and pest control.

YOUR PLAN OF ACTIONS *(OPTIONAL)*

It may be helpful to summarise the actions in the Farm Environment Plan Risks and Actions table, particularly by due date.

	LOCATION (MAP REFERENCE)	ACTION DETAIL	TIME FRAME FOR COMPLETION OR IMPLEMENTATION OF ONGOING ACTIONS
REQUIRED ACTIONS	1	Camber race towards LH side and construct 3 cut-off diversion no closer than 15m apart	1 Jan 2021
	2	Construct wetland of no less than 300sqm and permanently exclude stock with 1m setback	1 March 2024
	3	Maintain a vegetative strip of at least 2m width along length of ephemeral when cropping	Ongoing
	4	Install low rate effluent application system and maintain 10m exclusion from ephemeral channel	1 Nov 2025
	6	Fence along length of race to prevent stock access	1 Jan 2020
	7 a & b	Install permanent stock exclusion along ephemera and install stock crossing	1 Jan 2019
	Paddocks 34, 38, 40, 43 and 44	Plant 15 poles in each paddock 38, 40 and 43. Plant 20 poles in each paddocks 34 and 44	1 Jan 2025, 1 Jan 2026
	Steep Country	Graze only cattle less than 200kg live-weight or less than 12 months between 1 Jun and 30 Aug	Ongoing from 1 Jun 2020
	9	Install stock exclusion along both sides of intermittent waterway with a minimum setback of 1m from bed of waterway	1 Jan 2022

REQUIRED ACTIONS

LOCATION (MAP REFERENCE)	ACTION DETAIL	TIME FRAME FOR COMPLETION OR IMPLEMENTATION OF ONGOING ACTIONS
Cropping block	Vegetative setback at least 5m from bed of waterbodies to be maintained at all times. Winter crops require setback of 10m from waterbodies and 1m from intermittent waterbodies or flood prone areas.	Ongoing from September 2020
Cropping block	Strip graze towards waterbodies and intermittent waterways	Ongoing 1 September 2020
Cropping block	No cultivation on all slopes over 15 degrees except those ID'd as low risk (see maps) when minimum tillage is used. Not to be grazed in-situ between 1 Jun and 30 Aug	Ongoing from 1 September 2020
12	No feeding out to stock within 30m of stock entry point or waterway	1 March 2024
Flat country (wet) block	On-off grazing to be undertaken when grazing pasture between 1 Jun and 30 Aug and grazing on pasture shall not exceed 8 hours at a time	1 Jun 2029
Stock Exclusion	Exclude stock from retired areas. Stock exclusion setback will be no less than 3m from bed of waterbody	SE (a) 1 September 2023 SE (b) 1 September 2024 SE (c) 1 September 2025 SE (d) 1 September 2025

This table will identify work that farmers may wish to do that goes above expectations for regulation. It will not be considered when assessing the completeness of the FEP. These actions may be used to support applications for funding from Waikato Regional Council or other organisations.

ENHANCEMENTS

LOCATION (MAP REFERENCE)	ACTION DETAIL	TIME FRAME FOR COMPLETION OR IMPLEMENTATION OF ONGOING ACTIONS
2	Plant wetland using native plants to enhance to uptake of nutrients and improve biodiversity	1 March 2024
6	Plant unproductive area with mixed native plants to extend and enhance the native bush reserve boundary	1 Jan 2021
Paddocks 34, 38, 40, 43 and 44	Increase minimum poplar poles across these paddocks to a increase total number across the 5 paddocks to a total of 125 poles	All complete by 1 Jan 2026
12	Move the paddock entrance 10m up the race to reduce the pressure near waterway	
Stock Exclusion	All areas to be planted with appropriate native vegetation after stock exclusion has taken place.	1 September 2026 at the latest.

CHECKLIST

Use this checklist to ensure you have completed all necessary assessments in the FEP.

- [ ] Nitrogen Reference Point assessment
- [x] Stock exclusion assessment
- [x] Riparian management assessment
- [x] Cultivation management assessment
- [x] Critical source area assessment

		
Wetland Opportunity 2	Ephemeral Waterway (Risk 7)	Wet area

		
Landscape (steeper country (back) block)	Stand-off pad	Wetland opportunity 1 (Risk 2)

		
Wet paddock (Risk 9)	Effluent accumulation (Risk 1)	Effluent accumulation (Risk 1)

		
Effluent pond	Feed storage (Risk 10)	Wet race behind duck-pond

		
Landscape (steeper country (back) block)		

This information has been provided based on Waikato Regional Council's interpretation of the proposed plan. The proposed plan is at the early stages of the Schedule 1 process and the provisions are therefore likely to be subject to further change through that process. While Waikato Regional Council has exercised all reasonable skill and care in providing this information, council accepts no liability in contract, tort or otherwise, for any loss, damage, injury or expense (whether direct, indirect or consequential) arising out of the provision of this information or its use by you or any other party. Should you have specific concerns regarding the proposed provisions, we encourage you to make a submission and/or seek your own legal advice.

HE TAIAO MAURIORA	HEALTHY ENVIRONMENT
HE ŌHANGA PAKARI	STRONG ECONOMY
HE HAPORI HIHIRI	VIBRANT COMMUNITIES

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Healthy Rivers
PLAN FOR CHANGE
Wai Ora
HE RAUTAKI WHAKAPAIPAI

Waikato
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Te Kaunihera ā Rohe o Waikato