

## EISI Area Characteristics

- Approximately 120 farmers/irrigation water take consent holders
- Type of land uses :**Arable, Sheep, Dairying and dairy support, Process vegetable crops, Vegetable Production, Blackcurrants**
- High quality production on highly fertile and high water holding land
- Irrigation used on an 'as required' basis rather than continual summer rotation. Those that have farmed in this area for several generations know that there is a definite difference between what happens with the underground aquifers and what is modelled via desktop methods;
- Shallow wells (less than 35m depth) have always been highly reliable;
- Lowland stream flows have decreased with fewer 'wet' winters and the excessive allocation and use of water in the upper plains area;
- More often than not water is a problem here because there is an over abundance rather than a shortage, this is why some EISI parties were submitters on the Central Plains Water Enhancement Scheme.

## Why are we here?

The Society wants and has the expectation that the PLWRP needs to deliver the following:

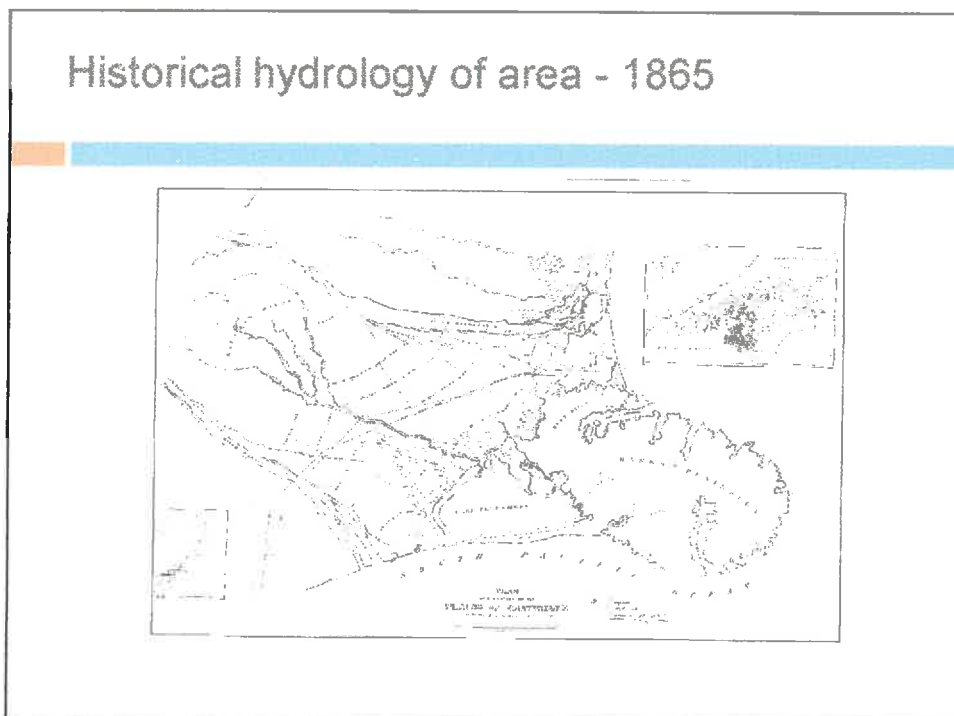
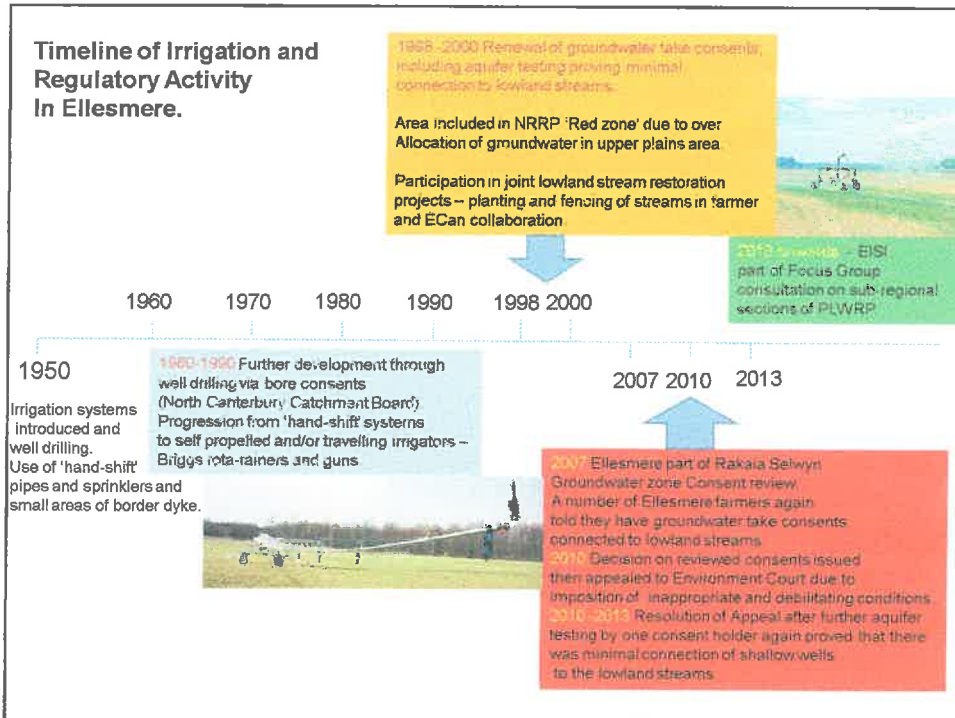
- Objectives, policies and rules that work in practice;
- Has a sound, sensible and implementable approach; and
- Will achieve the desired environmental goals.

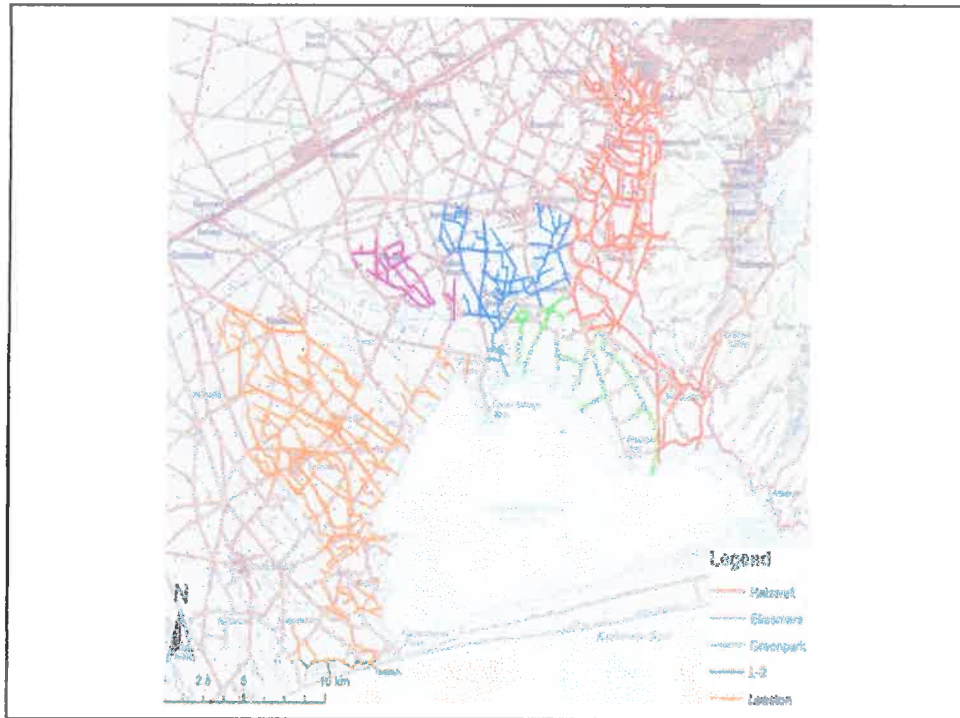
**Our ultimate question:**

Will the plan achieve the outcomes we seek –

- 95-100% irrigation reliability;
- High quality farming practices that protect water quality and quantity; and
- Improved flows in the lowland streams.

These outcomes we believe are also sought by the regulatory authorities and various other stakeholders.





## Stream Depletion

- Evidence from actual aquifer testing shows that information used by ECan to assess effects excessively over estimate the level of effect that wells have on streams;
- Stream depletion is highly contentious;
- ECan has still not undertaken aquifer testing to understand whether it is justified in applying such rules in areas throughout the region;
- Rules are debilitating and simply do not achieve more water in streams and reduced periods when streams are below their minimum flow level;
- There needs to be a definite mind shift away from using this technique in order to improve flows in streams.
- Much simpler approach could be taken.
- There is no risk in removing these rules from the Ellesmere area because it is already almost totally irrigated. There are only a very small number of dry land farms



### Example: Aquifer Test Results

Well	Flow Rate (L/s)	Drawdown (m)	Distance (m)
W1 pumping well (W)	80	0.08	365
W2 pumping well (W)	55	0.05	230
W3 pumping well (W)	55	0.05	260
W4 pumping well (W)	55	0.03	95
W5 pumping well (W)	55	0.03	125
W6 pumping well (W)	55	0.09	450

## Well interference

- Assessment and data that is used at present excessively over estimates the impact of well drawdowns in the Ellesmere area. This is a good example of how a model does not replicate reality.

Aquifer Test Bores	Average Pumping Rate (L/s)	Drawdown at 500m (m)	Drawdown at 1000m (m)	Drawdown at 2000m (m)	Distance at which drawdown = 0.1m (0.1m being the threshold as specified in point 2 of schedule 12)
M37/0242	80	0.08	0.03	0.01	365
M37/0076	140	0.05	0.02	0.004	230
M37/0277	140	0.05	0.02	0.002	260
M37/0342	55	0.035	0.015	0.003	95
M37/0031	55	0.030	0.009	0.001	125
M37/0616	55	0.096	0.065	0.037	450

- EISI submits that radius of only 500m should be applied when doing an assessment of a new or existing well's effect of nearby wells. The imposition of a 2km radius coupled with modelling that over estimates the effect is unjustified in the Ellesmere area and causing excessive costs when trying to obtain consents, renew or change conditions of consent.

## Groundwater Allocation



## Policy 4.68 – Water Allocation

Reporting Officer recommends the following re-wording:

*“ Where water is allocated to a consent holder for abstraction, and the water permit does not specify the period of abstraction, and the water is not required for 12 months of the year, the unused water shall not be further allocated to the consent holder or any other applicant or transferee through the granting of a further water permit.”*

- ❑ There should now be no consents that do not specify an abstraction period;
- ❑ Water should not be taken from a consent just because it has not been used for only 12 months – its non-use may be because it has been a wetter summer but may well be required for the next year;
- ❑ Re-wording is still unclear in practical operational terms for irrigation purposes.

## 'Ditch' vs. 'Channel/canal'



## Riparian Margins

- No need to regulate this through rules as current farm, stream care and community group practices are resulting in good outcomes for streams and waterways.
- Inappropriate to apply riparian margins to drainage ditches.
- Rules around riparian margin setbacks for cultivation would be difficult to 'police'.







## Transfers

- Transfers of water allocation should only occur where they are in close proximity to the original consent and within the same water character area;
- Transfers even with an amount having to be relinquished could still result in increased environmental impacts;
- Water transferred to upper plains from down plains will result in further adverse effects on nutrient levels and lowland stream flows.