

The Economic Importance of Water in the Heretaunga Plains

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Matters Addressed

- Dealing with the economic perspective.
- Water as one of our key economic resources.
- Context: key economic challenges for HB.
- Some water supply and demand considerations.
- Economic value of selected water bodies.
- Summary-key economic benefits of water.
- Some implications.

A Balanced Approach

- Economic value of water only one of a number of important considerations that need to be weighed up.
- Others are social, community, environmental, cultural sustainability, etc.
- **Quality growth** also important.
- **Quality of Life** is also important to HB people.
- Practical 'on-the-ground' approach taken for this presentation.
- Focusing on key points from each slide.

Water As A Resource: Some Economic Basics

- From an economic perspective, water is one of the so-called 'land' or natural resources. Others are Labour, Capital & Entrepreneurship.
- These so-called 'factors of production' are required to produce goods and services.
- 'Land' resources include e.g. **water**, our physical environment, climate, soils, minerals, topography, the ground, etc.
- Law of Scarcity/Choices/Opportunity Costs.
- Different countries use different economic systems to allocate scarce resources. (NZ primarily the market but also Government & legislation/regulation).
- No actual water use charging in NZ?; only for the infrastructure.
- Sustainable & efficient resource use important.

Context: Matariki HB REDS Strategy-Our Continuing Key Economic Challenges:

Need for increased:

- And more consistent economic growth.
- Equity in the community sharing of growth benefits.
- And more diverse and value-adding industry.
- And sustainable and well-paid employment.
- Productivity and innovation.
- Business development incl within the Maori business community.
- Investment attraction, visitor spend and exporting activity.

Average Annual Rainfall Levels for NZ Cities

Area	Rainfall (MM)
Whangarei	1318
Auckland	1211
Hamilton	1108
Tauranga	1177
Rotorua	1359
Gisborne	979
<i>Napier/Hastings</i>	<i>776</i>
New Plymouth	1398
Palmerston North	920
Wellington	1215
Nelson	951
Blenheim	720
Christchurch	618
Westport	2154
Queenstown	741
Dunedin	726
Invercargill	1147

Main Water Sources for the Local Economy

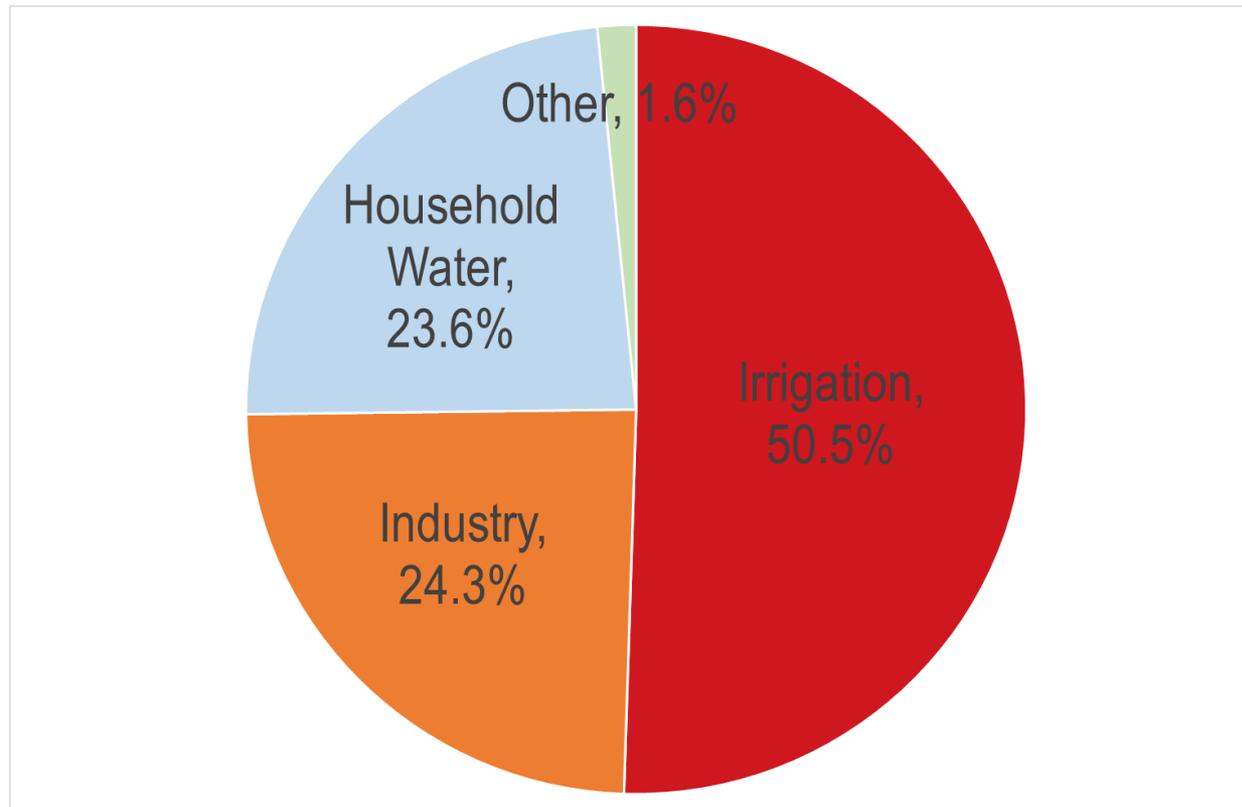
- Sea/estuaries – for fishing & aquaculture, recreation & tourism.
- Heretaunga Aquifer providing water for households/ labour-force, agriculture and industry/business use.
- Rivers (Ngaruroro, Tukituki, Tutaekuri, Clive and Esk) and streams – fishing, sport/recreation & tourism.

Supply of Freshwater

HB Regional Council Website Factsheet

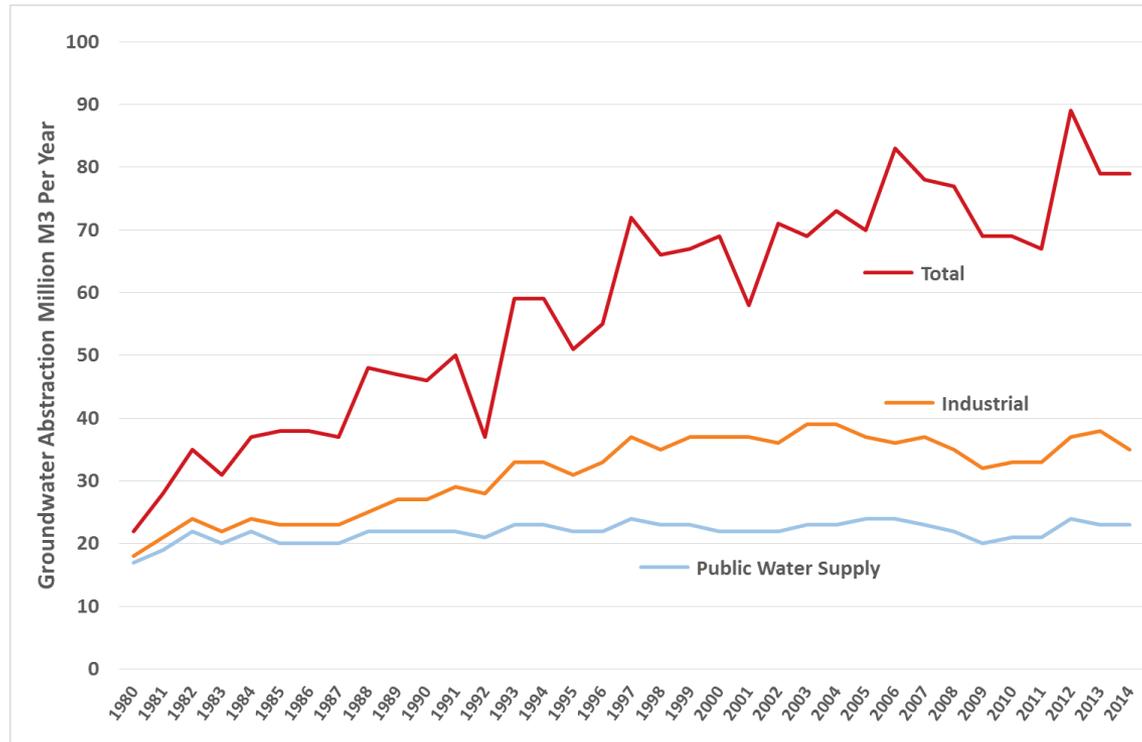
- Approx. 20 billion cubic metres of rainfall per annum.
- 50% goes out to sea and the rest travels through regional aquifers.
- Heretaunga aquifer accounts for over 35% of the aquifer total in HB.
- 5% of this is consented for annual domestic and industry use.

Profile of Consented Water Use in Hawke's Bay



- Leading irrigated land-uses in HB are vegetable growing, grape growing, pip-fruit, sheep/beef farming and dairying.
- Leading industrial uses are food processing, recreation, other processing and quarrying.

Sector Trends in Consented Water Use Since 1980



- Steady increase in overall use since 1979 and overall more than tripling.
- Household/domestic use relatively stable.
- Increased industry use but has levelled off last 10 years.
- Irrigation use increasing significantly over time.

Economic Contribution of Main Water Using Sectors

Industry	Nominal GDP \$M 2015	Employment 2015
<i>Horticulture</i>	434.1	5,320
<i>Pastoral Farming</i>	107.4	880
<i>Pastoral Processing</i>	96.2	1,455
<i>Horticultural Processing</i>	119.3	1,850
<i>Textile Processing</i>	44.4	595
Total	801.4	10,100
Total Primary Production and Manufacturing	1,391.80	18,596
Total All Industries	5,606.60	64,100

- Water using sectors account for nearly 60% of GDP of the total wealth generating industry base of the HP and 55% of employment.
- They also account for 15% of total HP GDP and employment.
- Export and Port importance of these sectors as well.
- Tourism about 8% of Napier-Hastings GDP.

Economic Importance of Irrigation

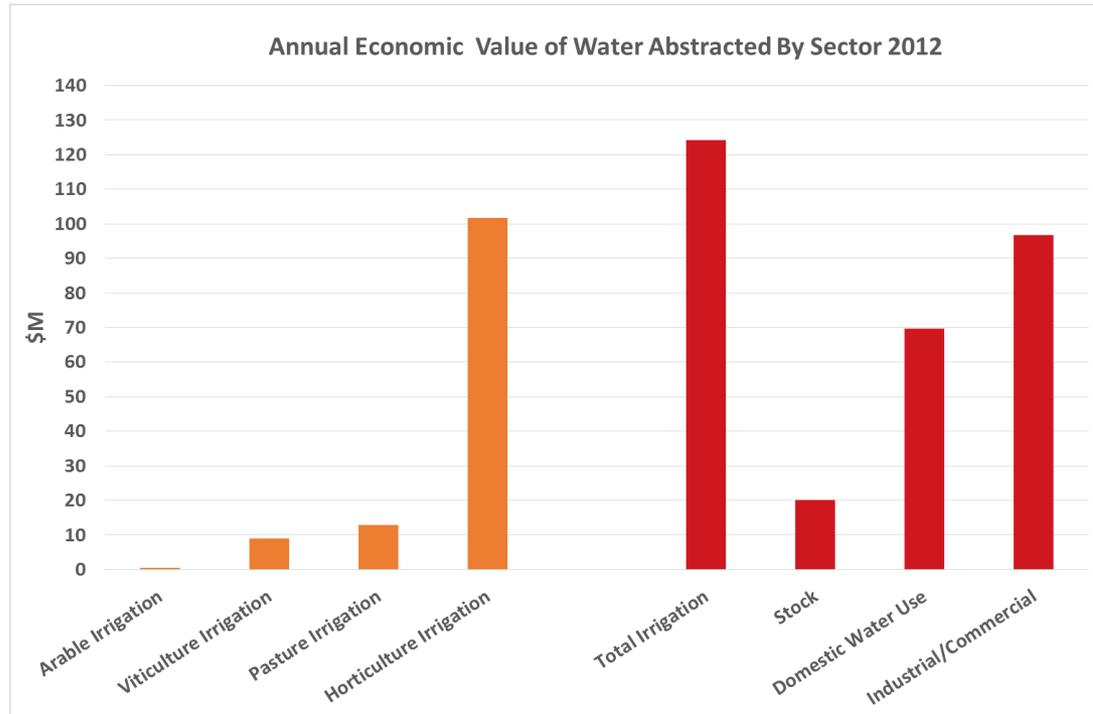
- Over half of all current horticultural land in HB is irrigated and about 2% of pastoral land.
- HB current total farm-gate value of irrigation 3.6 times that without irrigation.
- Comparative NZ figure is 3 times.
- HB net farm-gate value of irrigation is the 4th highest in the country.
- HB pipfruit/viticulture gross margins for irrigated land approx. \$9,750 per hectare.

Economic Value of Selected Water Bodies

- Findings of a consultancy report (Shea Pita & Sapere) prepared in 2012 for Ngati Kahungunu Iwi Inc.
- *Objective* was to estimate the total economic value of key water bodies within the HB area.
- Focus on irrigation/stock water, industry use and public water supply.
- Total 'water body' value of \$311 million with Heretaunga aquifer accounting for 45% of this.
- Value of water used for irrigation per hectare- arable \$2,488, **horticulture \$11,114**, pasture \$1,142 & viticulture \$3,167.

Economic Value of Selected Water Bodies ctd

Key Results



- Irrigation accounts for 40%, industrial/commercial 31% and domestic 22%, of total water value.
- Horticulture 89% of total irrigated agricultural use water value.

Future Broad Demand Growth Outlook

- Projected further population & household growth.
- Continuation of underlying historical annual average economic growth of approx. 2%.
- Primary production & processing sector growing of 1.5% annual average in nominal terms.
- Horticulture strong growth goal nationally/doubling.
- Historical 4% underlying annual growth in irrigation water demand & 2% growth in industry water demand. Household water demand growth of 1%.
- Underlying tourism nights growth (annual 1%).

Matariki-Hawkes Bay REDS

“Our competitive advantage is built on the foundation of fertile land, a quality water supply, a favourable climate and the ability to produce and export world leading quality products”

Summary –

Water is therefore vital for our region in terms of:

- Our day-to-day household operations.
- The quality of our workforce including health considerations.
- Maintaining our agricultural & horticultural production.
- Increasing productivity in these sectors.
- Meeting our industry processing requirements.
- Meeting the operational needs of many of our service businesses.
- Improving our overall quality of life, and physical environment which is part of this.
- Further development of our tourism & recreation sectors.

Key Considerations From a Future Economic Development Perspective

- Water is a vital community and economic resource for our region.
- Primary production is at the heart of our economy.
- Water/Irrigated Water is a key input to this sector.
- Local importance of the Heretaunga Aquifer.
- Further growth in water demand anticipated.
- Water is a relatively scarce economic resource.
- Need for high-quality management and use of our water resource, at all levels.
- Implications of possible charging for actual water use will need to be thought through carefully.