

Canterbury's Thirst for Water: What will it take to meet it?

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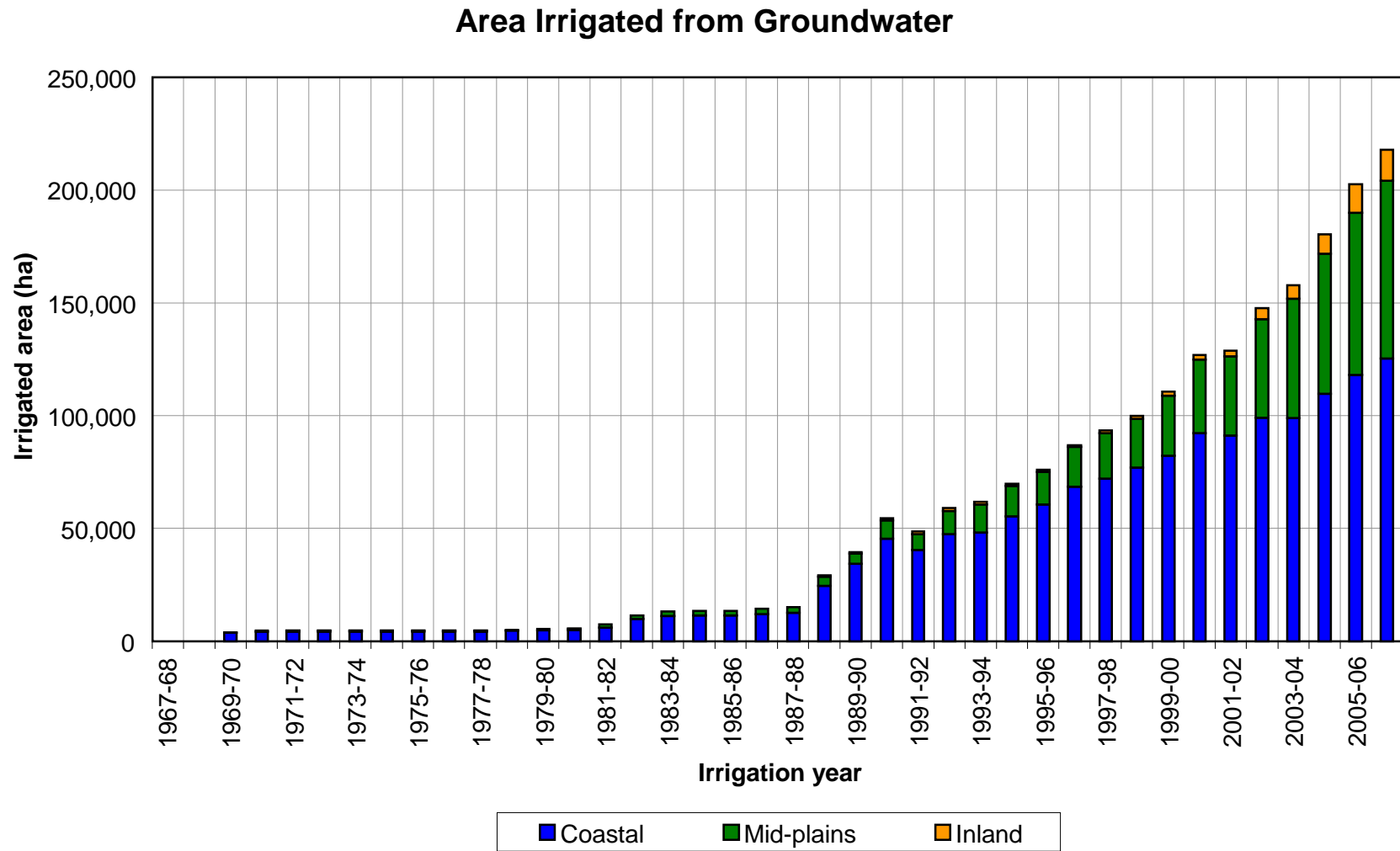
Strategic Water Study Context

- **Growth in irrigated area over the last 20 years has significantly contributed to Canterbury's economic growth.**
- **There is about 1,000,000 hectares of land in Canterbury that could be irrigated.**
- **Consents have been issued for irrigating 647,000 ha. The area currently irrigated is probably about 450,000 ha.**

Strategic Water Study Context

- Irrigated agriculture increases the resilience of the Canterbury economy.
- There is considerable growth potential in irrigated area, export income, jobs, etc. This is known territory.
- The economic drivers for ongoing irrigation development are strong.

Increase in Irrigated Area between Waimakariri and Rangitata Rivers



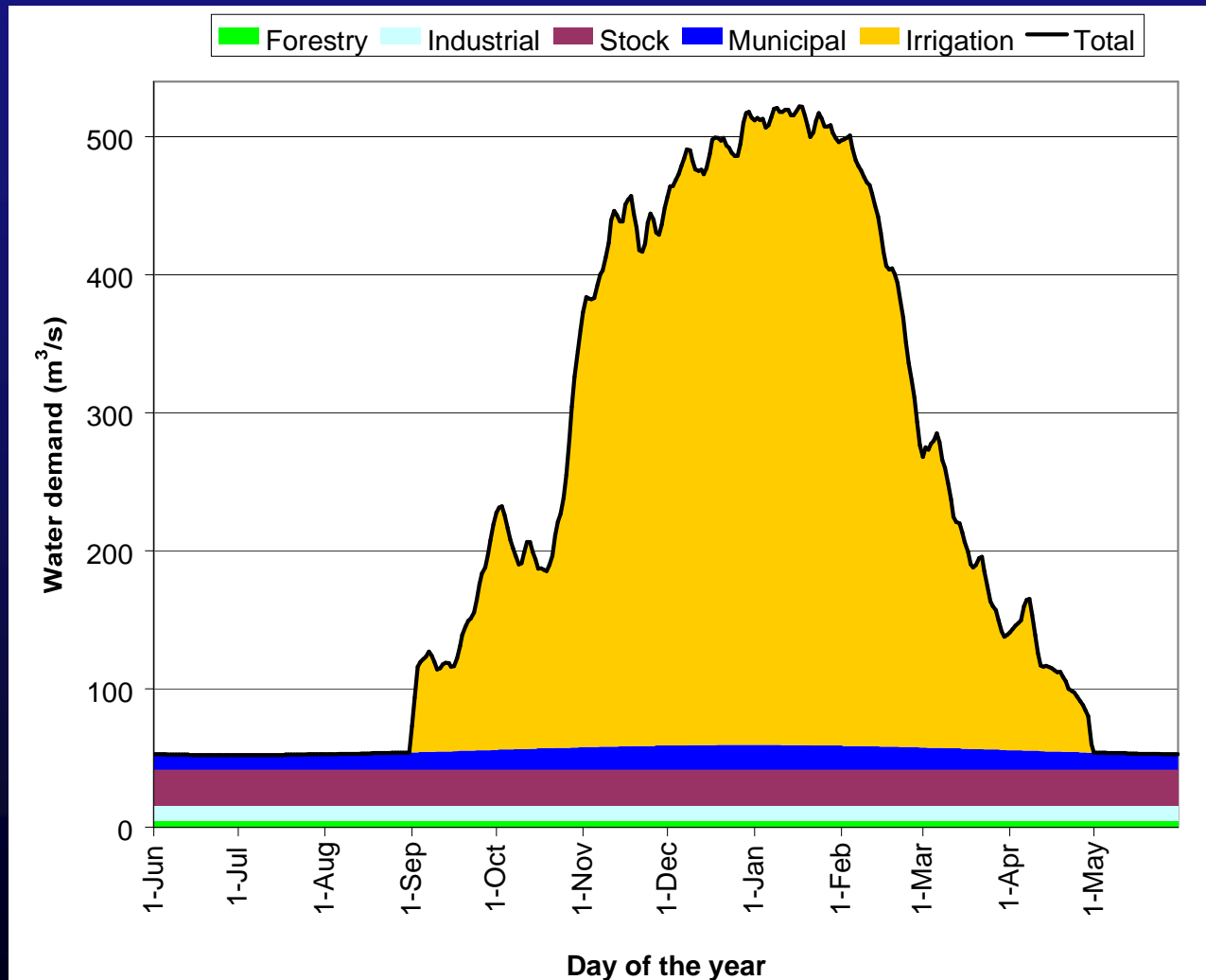
Strategic Water Study Context

- There is already a lot of pressure on small rivers and lowland streams – in terms of flows and water quality.
- Will the region's water resources sustain further development, from all sectors, and meet environmental needs?
- Is ad hoc, “first-in, first-served” water allocation precluding better options for water supply?

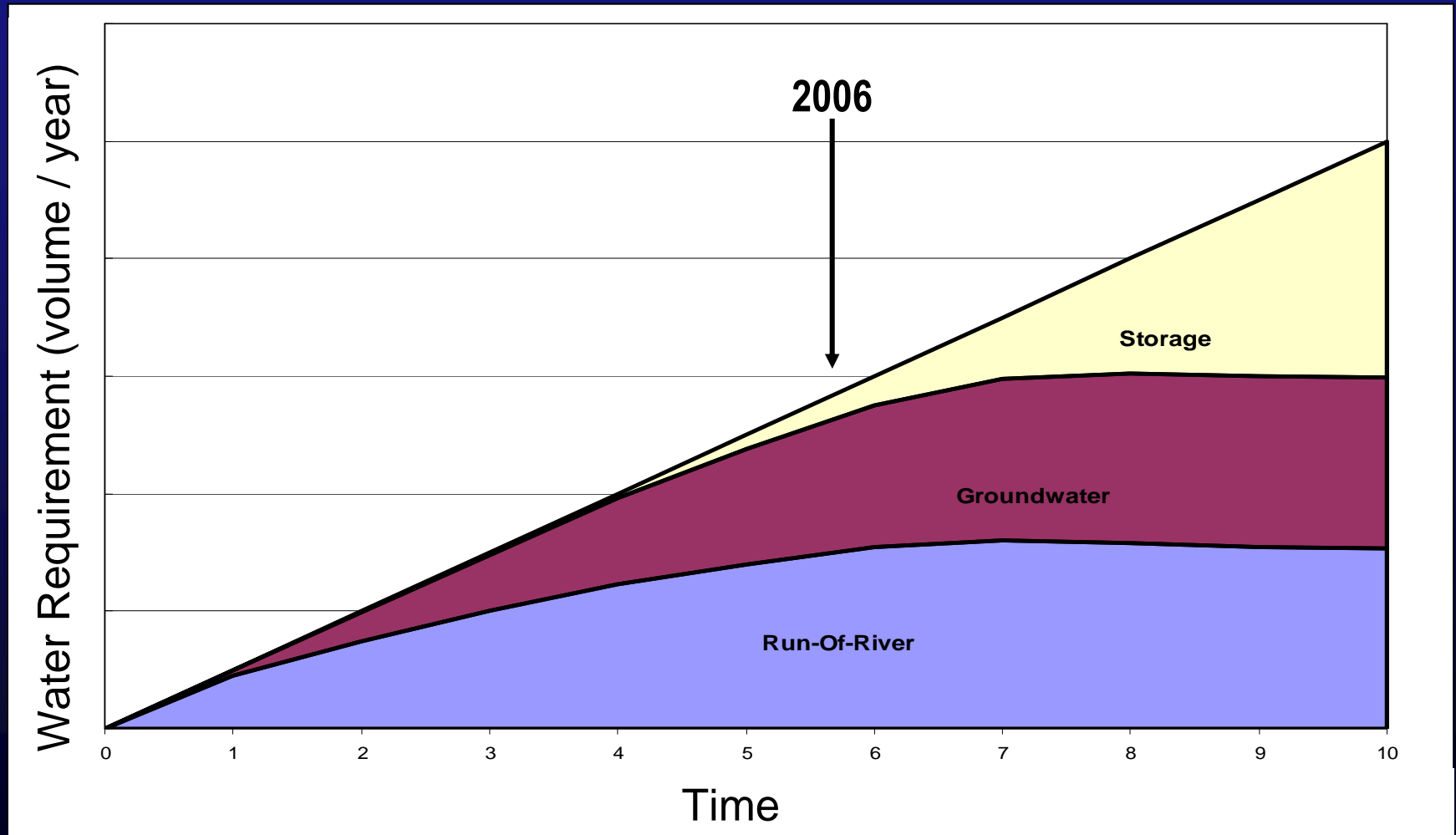
Canterbury Strategic Water Study: Stage 1

- Estimated the long term foreseeable water requirements in Canterbury, for all sectors.
- Estimated the availability of water to meet these needs, taking account of current environmental standards.
- **Concluded:**
 - We are almost at the limit of development on a run-of-river basis
 - But, we can meet all foreseeable water needs, in principle, if a significant amount of storage is developed.

Potential Canterbury Water Use Profile



The Water Sources that Underpin Development in Canterbury



2006: 53% ground water, 46% surface water, 1% storage

Canterbury Strategic Water Study: Stage 2

- Determines whether it is practical to meet Canterbury's long-term water requirements.
- Takes into account physical and institutional constraints on the development of water resources.
- Presents the region with a number of practical options for moving forward.

CSWS Stage 2: Key Findings

- **Under present water allocation arrangements:**
 - It will not be possible to meet potential long term water needs.
 - Districts north of the Rakaia are relatively “water rich” compared to those to the south.
 - Areas south of the Rakaia are particularly exposed to the potential effects of climate change.

CSWS Stage 2: Key Findings

- **Potential water needs can not be met in the following areas:**
 - Rakaia to Orari Rivers
 - Opihi / Opuha / Pareora (some uncertainty about this)
 - Hakataramea valley
 - Waitaki Catchment upstream of Waitaki Dam.
- **Ad hoc development and water allocation has put the region in a difficult position.**

Meeting Future Water Needs As Much As Is Practical Requires:

- A large amount of storage.
- Integrated management of the rivers and groundwater systems
- Significant re-allocation of water.
- Greater reliance on alpine rivers.
- Assurance that groundwater quality won't be compromised.

Major Issues

- There is not enough water to satisfy everyone.
- Who will have the privilege of using water?
- For what purpose?
- How much will they have access to?
- Who decides? How??

GOVERNANCE

- **Is a crunch issue, about which little is being done (it seems to me).**
- **Science can't provide all the answers.**
- **Some of the questions are fundamentally political questions – not judicial, not scientific.**

Thank you.

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