

# WATER STORAGE & IRRIGATION



## NEW ZEALAND'S NATURAL FRESHWATER RESOURCES

### WATER STORAGE POSITION STATEMENT FISH & GAME NEW ZEALAND:

- **Are finite.**
- **Are a public resource.**
- **Underpin the Kiwi outdoor lifestyle and our 'clean and green' brand.**
- **Are being polluted and depleted by agriculture.**

The adverse effects of agricultural intensification are well understood and are unambiguously evident in the increasing deterioration of water quality and quantity in an increasing number of waterways.

If water storage schemes are to provide for greater agricultural intensification, it must be at no further harm to the natural environment which has already suffered too much damage.

Therefore, Fish & Game supports water storage for agricultural use provided both the direct and indirect freshwater environmental effects are benign.

### SPECIFICALLY:

- That the effects on freshwater resources of any altered land uses that occur down stream as a result of the storage scheme (including increased sediment, nutrient and effluent run off) are sufficiently well understood and assessed as being less than minor. This requirement is an integral component of any Fish & Game agreement with the initial scheme.
- That in assessing effects on the freshwater environment, account is taken of the cumulative effects of apparently minor discharges, especially where the downstream water body is one which naturally accumulates contaminants (eg a lake or lagoon) or is less able to flush them out (eg. the lower reaches of lowland streams and estuaries).
- That the catchment's current in-stream ecological and recreational amenity values are formally recognised, and are retained or enhanced.
- That the storage site is not located on the main stem of the catchment or on a major fish spawning tributary.
- That fish passage is provided where there is any doubt as to the significance of a tributary for spawning.
- That the water harvesting regime does not reduce fish or game habitat, recreational amenity values or ecosystem processes in the catchment.
- That the water release and down stream flow regime reflects the natural process.
- That provision is made for adequate flushing flows.

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- That released water is of a compatible chemical composition for fish and game habitat, and contact recreation.
- That a reservoir that creates habitat for fisheries or wildlife has free, certain, enduring and practical public access for fishing, hunting and other recreation at all times.

## LAND USE INTENSIFICATION

In addition to its specific focus on freshwater habitat and recreational opportunity outlined above, Fish and Game has a broader requirement for good environmental management. The land use intensification that results from water storage projects must be subject to an overall environmental assessment which takes account of the following questions, and avoids, remedies or mitigates any potential adverse environmental effects:

1. Are the impacts of land use intensification on aquifers, spring-fed streams and downstream water bodies sufficiently well-understood that appropriate on-farm practices and remedial investments, if needed, can be defined and required before the project is committed?
2. Have the environmental externalities of land use intensification been fully accounted for and charged to those causing them? Relevant externalities include greenhouse gas emission increases and nutrient leakage to sensitive downstream water bodies.
3. Did the site selection process include consideration of alternative storage sites, and did the outcome of that process optimise the use of water resources and storage sites on a regional basis?
4. Has there been effective engagement and participation of all interested and affected parties in the site selection and environmental assessment process?