



**Fish & Game**  
NEW ZEALAND

**NATIONAL WETLAND SYMPOSIUM 2010**

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**Presentation Contents**

- Wetland creation / restoration tips & failures
- Helpful tips (water management focus)
- Wetland survival & future
- Questions




**Wetland creation / restoration tips & failures**

- Common queries
- Simple things often over looked




**My Most Utilized Wetland References**

- NZ Wetlands, A Management Guide (R. Buxton)
- Dam Safety: Guidelines for Construction, Maintenance & Monitoring (Auck. Reg. Council – technical pub 109)
- Culvert & Bridge Construction: Guidelines for Farmers (Ministry for the Environment)
- Our Wetland Restoration Plan (Environment Waikato)
- Wetland Restoration Guide (BoP Wetland Forum)




**Experience of Failures**

- Level by eye (no dumpy level)- use water or dumpy!!
- No established water source or flow rate
- Dumpy level incorrectly positioned
- Wetland perimeter all fenced off (consider species)





**Experience of Failures cont.**

- Too complicated plant design (high failure %)
- Planter bags not removed (not bio-degradable)
- Excessive spray concentrations
- Insufficient release sprays




### Helpful Hints (1)

- Wetsuit booties (up 1 size) = best wetland foot wear
- Restore in zones (success breeds success, both for volunteers and funding agencies)
- Graze/ mow before earthworks and planting, if possible



### Helpful Hints cont. (2)

- **Use experienced machine operator** (12 tonne = \$125 hr)
- Dam before excavate hole = cheaper
- Use shade cloth for bank stability with grasses /plants
- **NO planting on constructed bund / dam walls**



### Helpful Hints cont (3).

- Culverts: Hynds & Humes are non compatible
- Wingwalls : Hynds headwall hole above floor (best)
- Culverts & wingwalls: 2nds cheaper by two thirds
- Plastic culverts & wingwalls: light & cheaper (Mico)



### Helpful Hints cont. (4)

- Weir options: brackets & timber (tongue & groove)
- Protrude culvert ends through wingwall face
- Wingwall fixture with railway iron (vertical into ground)



### Helpful Hints cont. (5)

- Structural design imperative as inlets /outlets are seepage weak points (anti seep collars)
- Use Geotextile fabrics for erosion prone areas



### Helpful Hints cont. (6)

- Flood gates: options (plastic, Humes [poor], other)
- Water drop hatches



