

# MITIGATION OPTIONS

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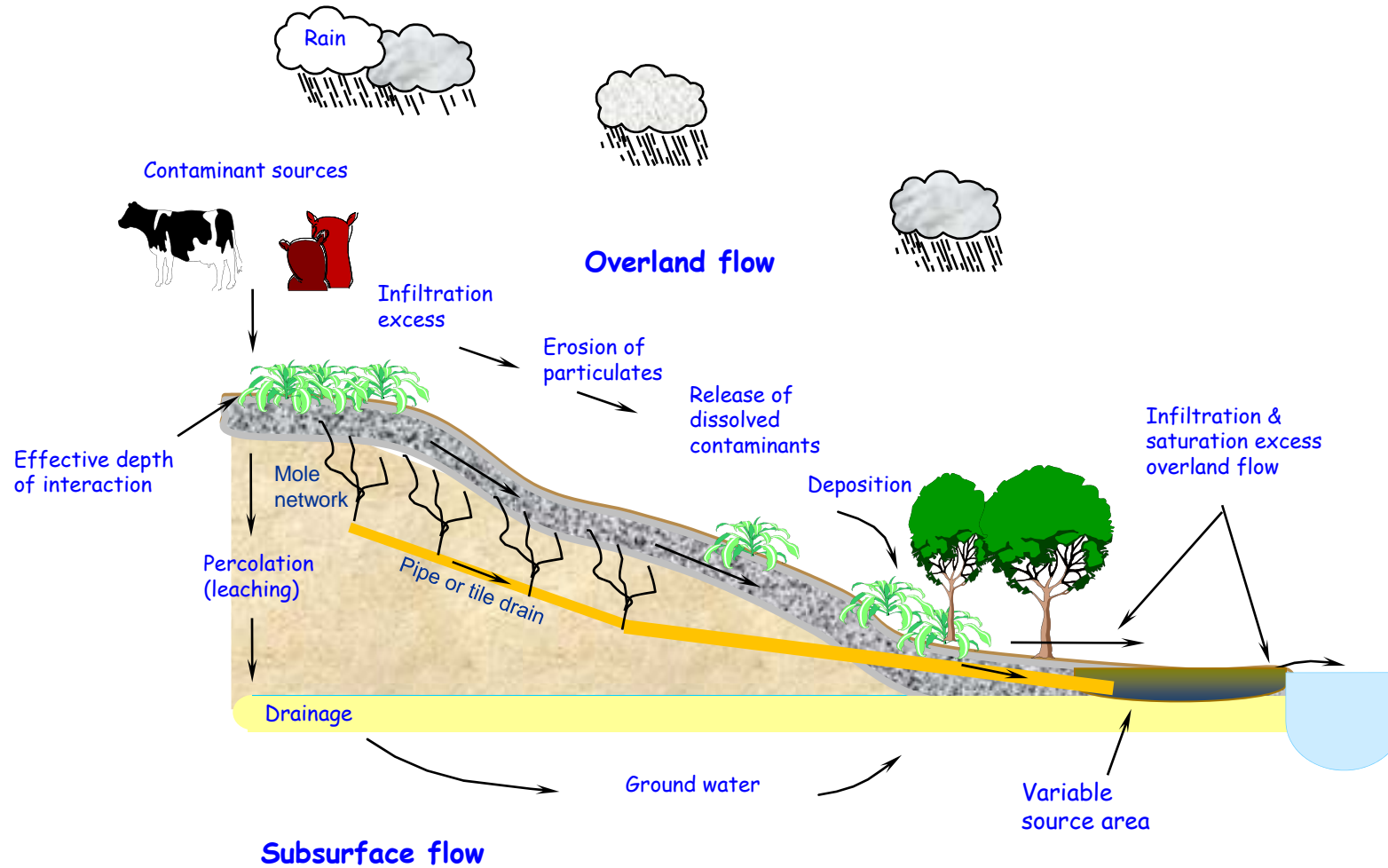
Ross Monaghan

# MITIGATIONS

Source + Transport Mechanism = Contaminants in Water



# HYDROLOGY 101



# SELECTING APPROPRIATE MITIGATION OPTIONS

Value **→** Attribute **→** Contaminant **→** Mitigation

Swimming **→** Health Risk **→** *E. coli* **→** Stream fencing

Swimming **→** Clarity **→** Sediment **→** Stream fencing

Fishing **→** Fish health **→** Ammonia **→** Farm dairy effluent

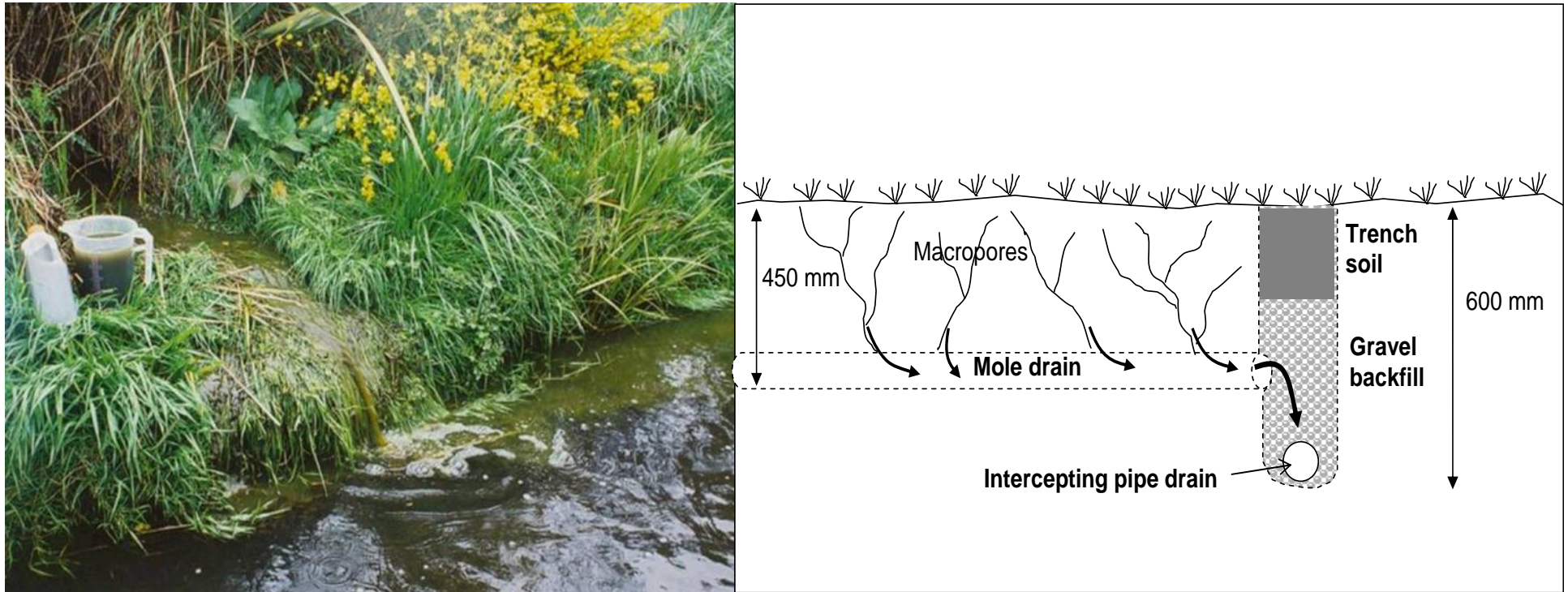
# CALCULATING THE EFFECTIVENESS OF MULTIPLE MITIGATION OPTIONS

Farm Dairy Effluent (FDE) –

## EFFLUENT – TRAVELLING IRRIGATORS



# EFFLUENT LEAKAGE THROUGH DRAINS





# IMPROVED DAIRY EFFLUENT MGMT

## Low rate applicators

- Low application rate and low depth
- Filtration effect





# CALCULATING THE EFFECTIVENESS OF MULTIPLE MITIGATION OPTIONS

Farm Dairy Effluent (FDE) – 9% reduction in N

Off paddock wintering system –



# CALCULATING THE EFFECTIVENESS OF MULTIPLE MITIGATION OPTIONS

Farm Dairy Effluent (FDE) – 9% reduction in N

Off paddock wintering system – 30 % reduction in N

But both < 39%

Environmental models – such as OVERSEER – take all of these factors into account

# CALCULATING THE COST-EFFECTIVENESS OF MITIGATIONS

From the same example

Cost of new FDE system will be greater with a off-paddock system than without

Other factors

Increase debt

Increase production to maintain profit

Increase feed supply...

