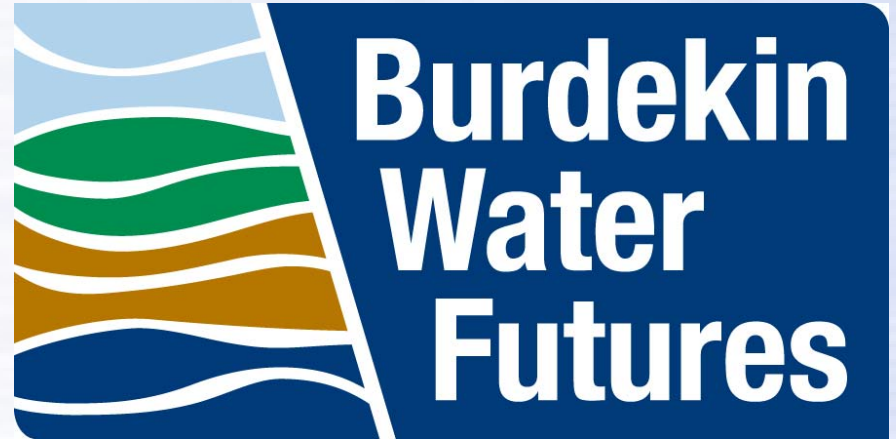


**Lower Burdekin  
Water**



# **Burdekin Water Forum**

Tuesday 16<sup>th</sup> February 2010

Andrew Kelly

Executive Officer

Lower Burdekin Water

# The Burdekin Delta

## **A Unique System:**

- Overlies shallow ground water supplies
- Close proximity to environmentally sensitive areas such as the Great Barrier Reef
- Water management and pricing practices have evolved in response to local needs
- Burdekin Delta Water Boards constituted as underground water replenishment boards

# Lower Burdekin Water

	North Bank	South Bank
• Established	1965	1966
• Area $\approx$	25,000 ha	13,000 ha
• Allocation	156,000Ml	99,000Ml
• River pump stations	3	3
• Relift stations	8	3
• River bed sand dams	yes	yes
• Recharge pits	yes	yes
• Distribution system	165 km	135 km

# Lower Burdekin Water 2008

## Purpose

**Lower Burdekin Water**, a Joint Venture between the North and South Water Boards, has been established to avoid duplication of service functions, thereby **providing coordinated services** in a cost effective and efficient manner to the North Burdekin Water Board and the South Burdekin Water Board

## Vision

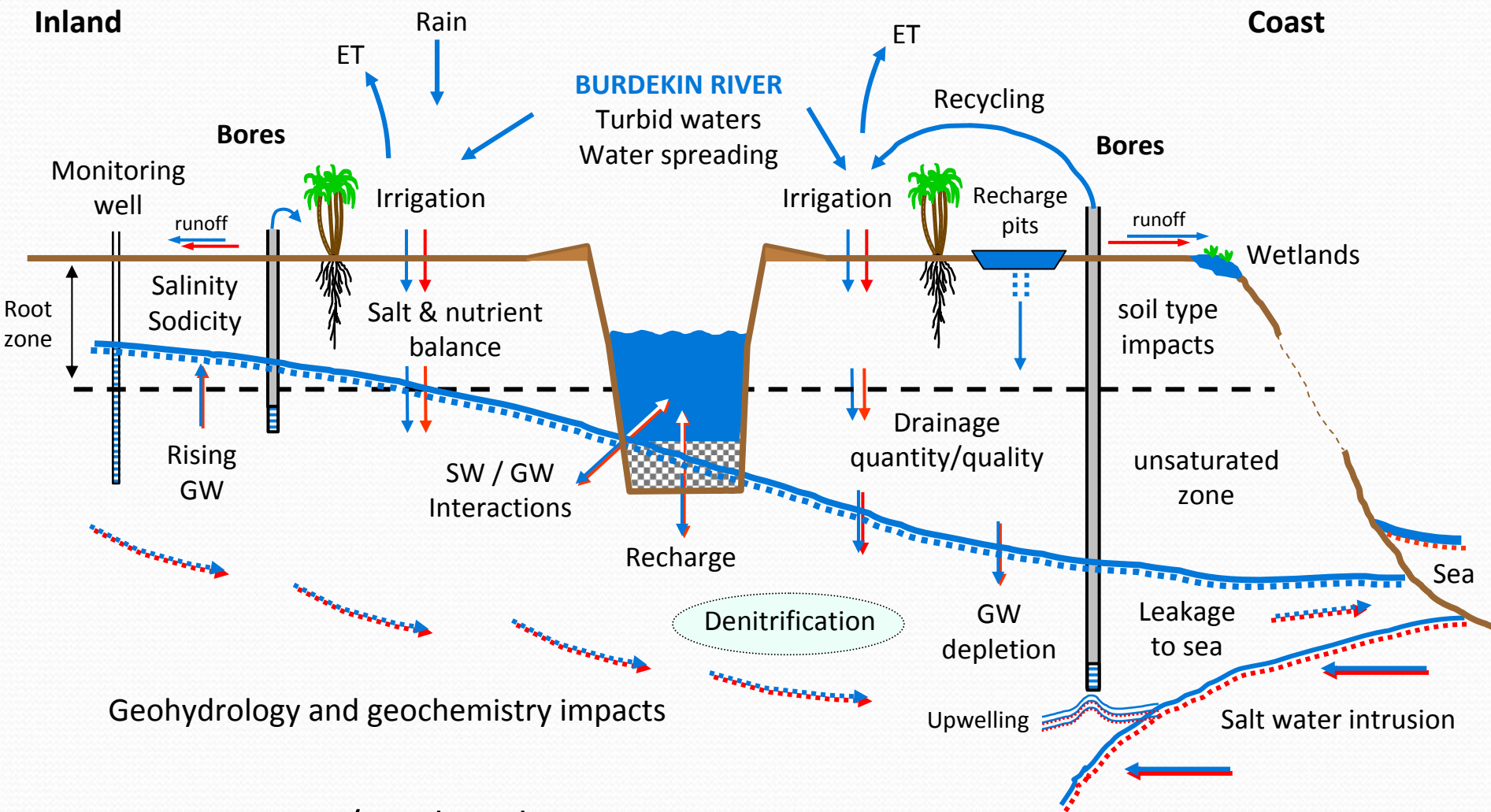
Provide a consistent approach toward a self-managed and sustainable Lower Burdekin Irrigation Area

## Mission

To represent the Lower Burdekin Delta through:

- Aquifer and environmental management
- Emerging local, state and federal legislation
- Coordination and administration of all compliance reporting to undertake these tasks in a coordinated and cost effective manner

# Lower Burdekin Framework



- Water quantity / quality plus environment
- Need a systems approach to **manage the inter-connectedness**
- **Individual and collective responsibility**

# Challenges

- **Difficulties in managing an irrigation area which involves surface water / ground water interactions as wells as recharge pits to maintain ground water levels and prevent sea water intrusion.**
  - The lagoon systems are different to your common channel irrigation area.
  - The end of our systems are dammed for a particular reason.
  - We run our systems on demand with little knowledge of ground water uptake.
  - We have little knowledge of the quality of ground water.
  - Flood furrow irrigation is used.
  - Water quality.
  - The system turns into a drainage system in times of rain events.

- The lagoon systems are different to your common channel irrigation area:
  - We run on levels or a head for aquifer recharge.
  - Our lagoon systems are very much part of the environment therefore, we don't use chemical and maintenance is carried out by machines.
  - Our lagoon systems have an environmental factor, e.g. fish and water quality are issues.
- What are the issues for the Water Boards?
  - We are the DOL and IROL holders and we need to be aware and monitor of the amount of water that we take.
  - Under our licence will we be responsible for the water quality in the system or is it the responsibility of the growers?

- The end of our systems are dammed for a particular reason:
  - Keep a fresh water head to prevent salt water intrusion entering the underground.
  - Keep tidal water out of the irrigation area.
  
- What are the issues for the Water Boards?
  - Again, we need to monitor the amount of water coming into the system, at the end of the system and what is going into the underground. As the license holders all water is to be accounted for.
  - This is the perfect location for water quality monitoring.

- We run our systems on demand with little knowledge of ground water uptake. We also have little knowledge of the quality of ground water:
  - There is not a lot of knowledge about how much ground water is taken from the underground.
  - There is little knowledge of the quality of the ground water in relation to herbicides and pesticides.
  - There is little evidence of what ground water extractions do to a particular area or catchment.
- What are the issues for the Water Boards?
  - Currently there is not a resource operations plan for ground water.
  - Will there be one in the near future?
  - How much will be allocated to growers?
  - How much will be required by the growers?
  - How much will be required for replenishment?
  - How will this effect us all?
  - Who will monitor the quality of the ground water?

- Flood furrow irrigation is used:
  - Furrow irrigation has proven to be the most cost effective and practical way of irrigation in the Delta.
- What are the issues for the Water Boards?
  - The issue here for the boards is, if there is transition to trickle or tape irrigation is that there will most likely be less water used and to a certain degree chemical application can be managed for the grower.
  - Are there areas within the Delta area that in hindsight should never had irrigation/surface water applied.

- Water quality:
  - Water quality has always been an issue and discussed for many years. History indicates that researchers and other groups have always monitored water quality within the Delta.
  
- What are the issues for the Water Boards?
  - Regulatory requirements - this is a whole paper on itself.
    - Reef protection
    - Water leaving the system
    - Conjunctive use
  - Do we become the managers?

- The system turns into a drainage system in times of rain events:
  - For 9 or 10 months of the year the water boards maintain and keep the water ways clean and weed free for the sole purpose of moving water around the Delta. When we do have a sufficient rain event the water ways become drains and the water boards lose jurisdiction.
- What are the issues for the Water Boards?
  - Do the water boards take on drainage?
  - We are probably the only irrigation area that doesn't look after both and as soon as you have irrigation you have drainage.

# Summary

- What we do or how we act has a lot to do with directions from policy makers at state and federal level.
  - The important thing is that we take a whole of system approach.
- Changes to meet legislative directives will cost.
  - Capital costs within the system infrastructure
  - Do the Boards take a Land and Water Management approach
- We need a whole of area ground water model to help manage the Delta area.
  - Reliability of supply
  - System efficiencies
  - Minimise offsite impact
- There is an awareness that any changes will always in some way hit the back pocket of a grower. LBW is aware of the growers concerns.

**Thank You**

