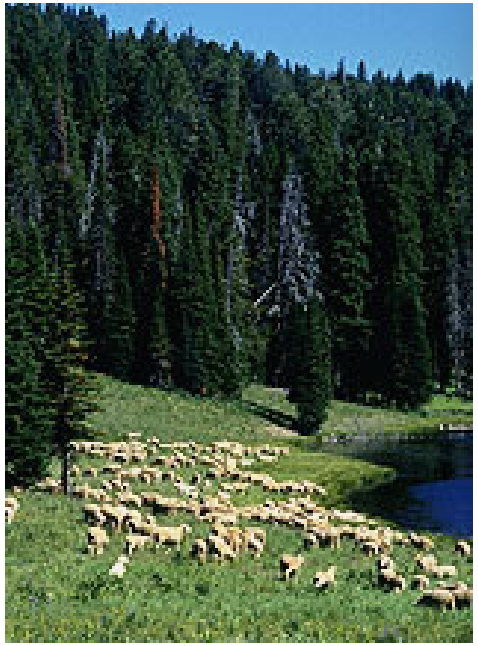
Landcare Research
Manaaki Whenua

Nutrient Trading: The Way Forward?



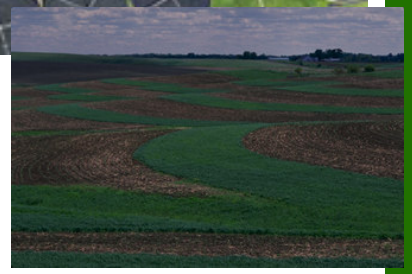
Suzie Greenhalgh

Paradise in Reform

June, 2009

Nutrient Trading

- Two basic steps
  - Set a goal for the total amount of nutrients that enter surface waters
  - Allow sources with low-cost mitigation options to reduce beyond the required amount and sell excess reductions
- What trading is not
  - A substitute for regulation
  - A way of letting market forces determine the environmental outcome
  - A way of letting polluters off the hook
  - Exclusive of other policy approaches



Necessary Conditions for Nutrient Trading

- Underlying water quality regulation
- Sufficient buyers and sellers
- Differences in nutrient mitigation opportunities, cost and effectiveness between potential participants

What Constitutes Success?

- Market meets its environmental goal
- Compliance costs for regulated entities are lower than alternative mechanisms
- Provides regulated entities with incentives to innovate to create efficiencies
- Regulatory costs (admin, monitoring, enforcement) are lower than alternative mechanisms

Trading Programmes Worldwide

26 Active Programmes:

- 22 in U.S.
- 3 in Australia
- 1 in Canada

20 Emerging Programmes:

- 18 in U.S.
- 1 in New Zealand
- 1 in Australia

10 Inactive Programmes:

- All in U.S.

13 U.S. State/Regional Trading Rules:

- 7 are active
- 5 are in development
- 2 are inactive

South Nation Conservation
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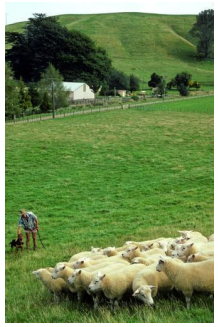
Water Quality Marketplace

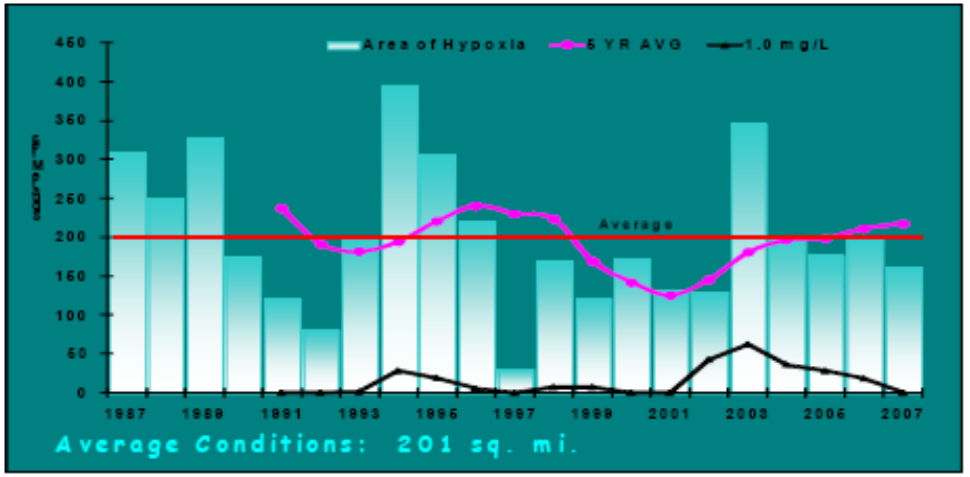
Status of Some Nutrient Trading Programmes

- Long Island Sound Nitrogen Credit Exchange Program, Connecticut USA
- Hunter River Salinity Trading Program, NSW Australia
- Pennsylvania Water Quality Trading Program, Pennsylvania USA
- Great Miami River Watershed Trading Pilot, Ohio USA
- Lake Taupo Nitrogen Market, New Zealand

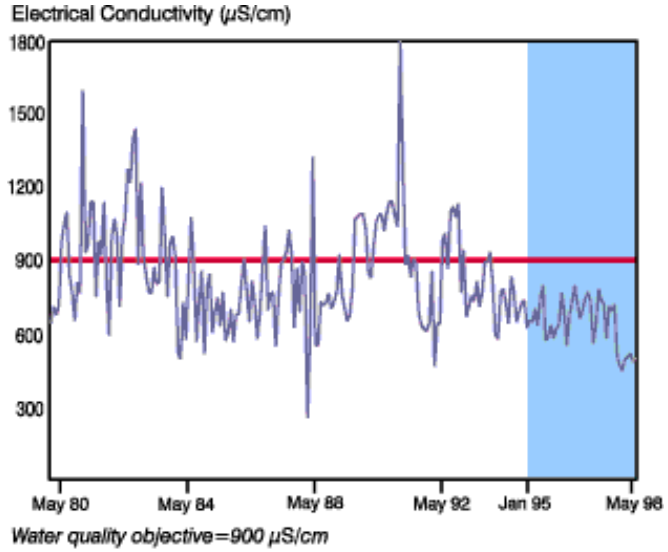

Long Island Sound Nitrogen Credit Exchange Program

- Point source – point source (79 WWTPs)
- Trades N
- Regulation 2001; N exchange established 2002
- Meets or exceed N reduction goal of 58.5% by 2014
- Approx 12 million credits traded since inception
- N Credit Advisory Board determines credit price



Hunter River Salinity Trading Programme

- Point source – point source (mining companies)
- Trades salt
- Pilot 1995; regulation Dec 2002
- Real time trading
- Goal of 900EC maintained
- 15,370 credits traded between June 2001 and April 2009
- Market determines price



Hunter River salinity stabilised after scheme introduction in 1995

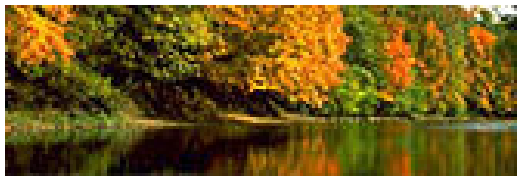
Pennsylvania WQ Trading Program

- Point source – non point source
- Trades N & P
- 2010 TMDL will affect 108 point sources
- 7 pre-TMDL trades (~34,700 pounds N & 175 pounds P) have taken place so far
- Market will determine price



Great Miami River Watershed Trading Pilot

- Point source – non point source
- Trades P
- Pilot began 2006; point sources regulated
- Credit bank established and capitalized by grant $ and point source investment
- Used reverse auction to allocate funds and purchase most cost-effective reductions
- 50 project funded; 324 tonnes of P reduction

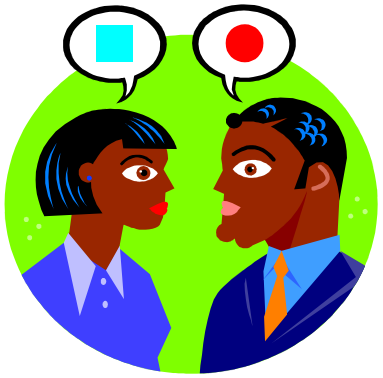


Lake Taupo Nitrogen Market

- Non-point source – non point source
- Trades N; pastoral farmed controlled
- Trading can commence once farm is benchmarked (benchmarking began in 2008)
- No trades to date

Common Hurdles to Trading

- Inadequate market drivers to drive demand
- Time wasted ‘reinventing the wheel’
- Inadequate stakeholder outreach and education
- Lack of transparency in policy/rule development
- Lack of buy-in from regulatory agency staff
- Lack of trading program goal and metric for measuring success
- Disagreement over load allocation



What is needed for a successful trading programme

- Sound and precise legislation with unambiguous environmental goals & effective caps
- Rigorous & credible enforcement
- Appropriate currencies with reliable estimation methodologies
- Careful programme design with any appropriate restrictions, powerful and independent programme review, certainty and manageable transaction costs.
- Inclusive stakeholder consultation

Potential Co-Benefits

Some potential co-benefits of nutrient trading:

- Improved biodiversity
- Increased carbon sequestration or reduced GHG emissions
- Reduced soil loss

Some Final Comments

- Water quality trading programmes can cost-effectively improve water quality
- Trading will NOT be viable everywhere!!!
- Policy and legislation is just the first step ….. implementation is key
- Need to think holistically about ecosystem services….not just the service being degraded

Questions

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