

Environmental Defence Society Conference
June 2024
The Future is Now: Biodiversity, Climate and Us
Fiona Ede

Overall

The conference was heavily focused on resources and resource management, with sessions focussed on different resource sectors – agriculture, fisheries, renewable energy. Many of the speakers and organisers were coming from a resource management background, including those with expertise in the relevant legislation and its implementation.

There was limited ecological flavour to many sessions and limited syntheses of the interlinked crises (climate and biodiversity). Surprisingly, there was very limited exploration of real, feasible and large-scale solutions that will take us forward in meaningful ways.

However, Mike Joy reiterated that the twin crises are driven by over-consumption and reducing consumption is the only solution.

Māori speakers expressed frustration at past and current practices and processes that disenfranchise Māori. They decried the recent and ongoing destruction of Papatūānuku, for example the exponential increase in intensive dairy farming in Canterbury over the past 30 years that has destroyed waterways and mahinga kai. Or coastal sites in the Bay of Plenty where people have died from shellfish toxins that result from the pollution of coastal ecosystems. And they asked “why not prioritise waterway health?”.

Some Māori speakers felt that the current reforms in the resource management space are anti-Māori, and risk colonisation all over again. Local Māori want to regain sovereignty over local waterways, over data and mātauranga Māori, over funding mechanisms. They have solutions to environmental issues and want to be in dialogue with the government to implement these solutions, recognising that it takes an ecosystem of contributors to heal Papatūānuku. As everything is intertwined and interdependent, they see any attack on Te Tiriti as an attack on Te Taiao.

A key concept for Māori relates to managing resources for 7 generations, i.e. being wise and sustainable in environmental management.

It was noted that the Federated Farmers environmental platform before election now forms a large number of government policies and this was seen as too much power vested in one sector over environmental management.

Resource Management and the Current RMA

- Current RMA puts the environment above development
- Biophysical bottom line cannot be compromised

- That is the intent, but not actually how it works in practice!
- Potential changes to RMA legislation are limited by international Kunming-Montreal Global Biodiversity Framework requirements
- We can't change RMA too much due to these international obligations

SNAs (Significant Natural Areas)

- Protection of SNAs is still part of RMA, regardless of whether we stop mapping them, as the coalition govt has recently directed Councils to do
- Criteria for SNAs are transparent as they have been developed by ecologists
- Criteria for SNAs are defensible – both scientifically and legally
- Any changes to NPS (National Policy Statements) need to be evidence-based to meet RMA requirements
- But many farmers and farmer groups see the NPS IB (Indigenous Biodiversity) as flawed
- Concerned about SNAs, particularly where mapping doesn't match on-ground reality

Fast-track Approvals Bill (FTA)

- Part of comprehensive and significant reform of current resource management legislation by current government
- No-one at conference seemed in favour of FTA Bill!!
- FTA Bill can override water conservation orders (WCOs) such as that protecting Te Waikoropupū Springs
- No regard to harm/losses in new developments in FTA process
- No scientific input into FTA projects

Climate Change: Threats

We have 15 years to decrease threat of climate change

Climate change is increasing the pressure on ecosystems and biodiversity:

- Warmer oceans putting pressure on seabirds, as well as marine inhabitants
- SLR (sea level rise) is impacting sea birds and nesting
- In some areas, SLR and vertical land change mean the extent of SLR impacts will be doubled
- Ocean acidification is impacting crayfish and snapper etc
- Storms increase sediments and debris flowing into coastal/ marine ecosystems
- DOC is spending 4x more on storm repair than previously
- Increases in predators, weeds and other invasive species with changing climate
- Increasing drought impacts on plants and animals
- Wildfire risks, e.g. in peatlands/wetlands

Climate Change: Issues

- Climate model averages are not very helpful for NZ as NZ very difficult to model and averages don't work well due to our geography (long, skinny islands)

- The interplay between climate change and humans can exacerbate or ameliorate impacts
- Our responses can be a source of risk, e.g. short-term, maladaptive responses may lock in long term vulnerability
- Managed retreat is a major issue
- Honouring Te Tiriti
- Funding

Climate Change: What Works

- Need to restore/protect carbon-rich habitats, wherever they occur
 - Need to rebuild C sinks
 - Need to consider adaptation limits
 - Need to gain land by decreasing animal agriculture, increasing agroforestry, woodland pasture etc
 - Decreasing animal agriculture will also decrease emissions
 - Need to tackle browsers – they change ecosystem composition and structure, and soils
 - Impact of ungulates extremely significant – need to control herbivores
 - At same time, increase research on C stocks in native ecosystems to quantify effectively
 - And increase research on species resilience to changing climate
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- Need to integrate climate change, biodiversity and society in addressing issues
 - Requires a holistic approach
 - Need climate-resilient development
 - Include human and non-human ecosystem components in design
 - Work across land-tenure and ownership, including iwi

Fear does not motivate actions for change, need HOPE and Visions for the future

Some Numbers

- UK has halved carbon emissions since 1990
 - In 2023, UK emissions fell to lowest level since 1879
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- DOC has 0.44% of govt budget for 1/3 land!
 - DOC priorities need to be evidence-based and prioritise outcomes for conservation
 - Between 2013 and 2021 populations of deer and goats doubled
 - Value of ecosystem services in NZ is \$57bn

Landscape Approach

- Requires better landscape-scale management
- Need to mitigate storm impacts with nature-based solutions (nbs)
- Evidence shows dense, mixed-forest types far more storm resilient than monocultures
- Work with farmers, they own/manage a lot of NZ land
- Best place to incorporate nbs is in rural NZ, especially at the top of catchments

- Need to retain water high up in catchments, so increase wetlands, plant native forests, enhance native forests in these areas
- Need heterogeneous landscapes, mosaics, need to enhance slope stability
- Need lots more native forests
- And improve condition of degraded forests – pest control to bring back regeneration
- Diversify production systems, e.g. regenerative farming
- Could put 15% of average hill country farm into trees without losing money
- Increase numbers of wetlands
- Embrace programmes such as “Room for the Rivers”

Recloaking Papatūānuku

- A proposal to reforest and restore > 2m ha over 10 - 30 years
- Includes wetlands
- Mahi to be done by people on the ground
- How to fund? Central govt, incentives, carbon credits
- It is expensive to do this work – costs lots to restore and to protect
- Government work is underway to look at funding options
- E.g. biodiversity credit scheme – still live
- Received 200+ submissions last year on this scheme
- Any market-based mechanism would need to be credible

Renewable Energy

Ideal: Right renewable in right place in right way – faster, fairer, greener

- Any energy generation (renewable or not) requires space (which may be habitat) and materials, including minerals, and can impact biodiversity in several ways
- E.g. solar and wind generation require more land area than coal generation for equivalent energy outputs
- Need to do maths on return on investment, and biomass doesn't stack up as too much land and energy required to produce too little energy
- To cover 15% of NZ's fossil fuel generation, need about 6,000 ha of solar across NZ
- Increasing locations of solar and wind increases reliability
- In terms of materials, increasing circularity in renewable hardware e.g. photovoltaics (pv) and wind turbines through recycling, at least some components
- Can recycle 80% of pv mass
- Can integrate renewable generation with agriculture (sheep grazing amongst solar panels), these systems known as agrivoltaics
- Or interplant with native species between panels (need to be low growing)
- Offshore wind is more reliable than on land, and can build bigger turbines
- But need social licence, need to know impacts
- Issues around noise in marine environments, during construction and operation

- Impacts of boats and turbine movements on marine environment
- As well as end of life decommissioning
- Currently 28% of NZ energy use is renewable
- Same % as in 1990, so adding renewables just keeping up with energy demand
- **Per capita, energy demand is 3X more now than it in was in 1960**
- We can generate enough renewable energy to meet basic needs
- But only if we recognise that we have to live to meet **NEEDS not WANTS**

Resource Management: Marine

Fishing and Trawling

- Fishing is problematic
- Trawling, both bottom-trawling and other trawling, problematic
- NZ is still bottom-trawling in high seas – permits have been issues
- All except one of companies given permits have been convicted of crimes!!
- The fishing industry has structural power over MPI
- NZ public wants bottom trawling banned but industry is stopping any ban
- Marine organic carbon (OC) stocks are 1% of global C stocks (2,200 Mt)
- These stocks in NZ waters have been mapped by NIWA
- Areas with highly vulnerable OC stocks include waters off South Westland
- Much of fished zone has low-moderate vulnerability in terms of OC
- Bottom trawling and other activities such as anchoring, dredging, mining disrupt OC stocks
- Bottom-trawling mostly skims just above the surface, usually in areas with silt/sand/mud bottoms
- Technology + collaboration promoting industry change to reduce seabed contact
- Need to be cognisant of impact of recreational fishing and high-tech gear/boats

Marine Biodiversity

- Last 10 years has seen some mass mortality events in marine environments
- E.g. penguins, young seals starving to death
- Even small whale species are changing their diets from small fish to zooplankton to get enough to eat
- Shags changing their diets, less productive habitats
- Skinny schnapper (aka milky schnapper) – malnourished, turning up in numbers
- All these species are generalists – they can change their diet
- So if they are affected, what about more specialist species?
- Hapuka used to be widespread, not any more
- Hauraki Gulf particularly in strife – lost sharks, fur seals, rock lobsters
- Gulf has also lost its mussel beds
- Mussels are very important in ecosystem – for productivity and structure

- Filter feeders are critical, they drive the productivity of fish right up food chain
- Sedimentation, land use change, silt – all have coastal impact
- Storms and climate change kill filter feeders via silt
- Silt also blocks sunlight in water column, limits plant growth and covers plants

Kina Barrens

- Loss of predators leads to increase in kina numbers
- End up with kina barrens – 32% of area around Little Barrier Is
- Too many kina eat all the kelp forests and seaweed species – loss of habitat and food for other species
- Kelp forests really important, very productive, protect and sustain other biodiversity
- E.g. in Tasmania, home to 150 taxa
- Loss of kelp forests significant
- Also store blue carbon
- Sea urchin overpopulation is a global problem, results from loss of predators in ecosystem
- Kina are endemic, taonga
- Also have another endemic sea urchin spp
- Kelp are relatively environmentally tolerant
- But in some areas, 30% of rocky reefs are kina barrens

Restoring Kelp Forests

- Working to restore kelp forests in kina barrens
- It is a slow process to build predator numbers back up and restore kelp
- Removing kina can lead to recovery, if kelp propagules are around
- 4 kina removal sites in Hauraki Gulf
- 1.6 – 2 ha in size
- Removed 400,000 kina over 6 months
- At all sites, kelp increased from 5% to 45%, without adding any seed, transplants
- Benefits, but not full recovery
- Need predators back in ecosystem
- Otherwise treating symptoms, not cause

Solutions for Marine Ecosystems

- Solutions need ecosystem approach, need to rebuild ecosystem productivity
- Need to safeguard productive species and habitats
- Need to improve land management, to decrease sedimentation inputs
- Looking after the sea starts with looking after the land, estuaries, coast
- Stop destructive fishing practices
- Restore structures, restore habitats

- Needs iwi and community management
- Needs a collective approach
- People of place apply at place – mana whenua, mana moana
- Holistic approach (not limited to marine)
- Anyone can do ecological approach
- Mātauranga Māori incorporates spiritual and emotional wisdom, uses all senses

Marine Protected Areas (MPAs)

- Can limit mātauranga from growing and progressing
- Can exclude iwi and increase pressure elsewhere
- Removes iwi from area but still allows scientists and tourists
- Instead, propose rolling rahui
- Don't want another layer of colonisation in MPAs
- Want dynamic, non-Western approach
- Need to identify what we want to protect for 7 generations ahead, E.g. Fiordland Marine Guardians approach

Resource Management: Agriculture

Fonterra

- 95% of NZ milk production is exported
- Which means we use coal to dry milk to make powder and ship it overseas
- For Fonterra sustainability about:
 - Emissions reductions
 - Actions beyond emissions
 - Investment propositions
 - Transparency
- But no mention of freshwater
- **Fonterra accounts for 20% of NZ emissions**
- Being driven to reduce emissions by customers, including large overseas clients
- Targets for scope 1, 2 and 3 emissions are now in alignment with 1.5°C future
- Have to report to govt on climate risks and opportunities, disclosures
- Also need social licence to operate

Future Farmers Initiative

- In contrast, a small group of farmers are looking to build healthy food and fibre sector, from soil through to human community in this initiative
- Bringing together forward-thinking farmers and others in to holistic collective
- Looking at solutions
- Need for land use design and management
 - Need place-based approaches to avoid making dumb mistakes
 - Right thing in right places
- Want ecological literacy built into school curriculum and close gaps between the lab, board room and farm

- Need proper pricing of C. e.g. incentives for natives on farm
- Questioning use of imported palm kernel exudate (dairy feed) and P (phosphate)

Two Key Presentations

Interview with Shane Jones, Minister for Regional Development, Fisheries

- He believes NZ Coastal Policy Statement (NZCPS) has stopped too much development, especially aquaculture
- It has been weaponised, favours property owners, with landscape/amenity trumping all
- We need to be about generating wealth and jobs, especially regional growth
- We need spatial planning for optimal location of renewables infrastructure
- For example, offshore wind conflicts with fishing, deep sea mining
- How to allocate among competing users? Judicial or political decisions?
- Who should be responsible for driving allocation?
- Will need trade-offs – he believes politicians are best placed to decide on trade-offs!
- He doesn't like processes that impede political impetus!!

RMA Reform

- Further RMA reform to focus on property rights
- As opposed to biophysical limits
- Local govt not incentivised to place enough stress on property rights
- Laws to protect env have swung too far!
- Concerned 3rd parties always want to stop development, never to progress
- But EDS rebutted this, saying they scrutinised 130 projects under current covid-based fast tracking and supported the majority of projects

Minister's Views

- He recognises civil society feels short-changed, especially by FTA Bill
- Strongly believes development needed in NZ
- He sees oceans as area to grow economy, jobs, a resource to be exploited
- Using, of course, the best science and best economics
- Enthusiast for open ocean aquaculture

- Unhappy with Waitangi Tribunal, not interested in taking everything to Waitangi Tribunal
- He believes the open space/commons should be maximised for benefit for all

- Civil society and eNGOs have a legitimate space to occupy
- But their influence is too great in weaponisation of RMA
- Thwarts common sense decisions by local and central govt
- They defend the environment
- Whereas he sees natural resources as a means to generate economic dividends

Simon Upton, Parliamentary Commissioner for the Environment

Inconvenient truths

1. If close polluting industries locally, will we source the same goods elsewhere?
 - This outsources pollution
 - How to stop consumers consuming?
 - Lack of data on issue

2. Environmentally damaging activities required for current lifestyle, how much will we accept?
 - E.g. demand for renewable energy components
 - E.g. mining for minerals to live greener
 - How to value ecosystem services, costs and benefits
 - New NZ mines likely to be coal and gold
 - Coal unlikely to meet cost:benefit test
 - Need effective royalties – needs to be worth it in short and long term

3. Green growth not easy or straightforward
 - E.g. renewable energy
 - Always trade-offs

4. Green growth costly
 - There will be some losers
 - Political economy of change is lead from the back (slowest)
 - A just transition needs significant investment in skills

5. Degrowth won't be an easy sell
 - Humans aren't that smart!

Instead

1. Need innovation
 - Increased value, not more stuff (more volume)
 - Need to increase productivity, not been NZ's strength to date
 - Resources and time are limited, innovation isn't
 - Grow industries that don't kill the environment
 - Need long term commitment – research, upskilling

2. Need to value environment same as economic values
 - Increase environmental taxation
 - E.g. waste levy, fuel levy, congestion tax, road-user charges

We won't mobilise change in a polarised world

