

10:05

Start...

Garth
"Haere-mai, Tēna koutou, ...Kia ora. I'll introduce the team here today..."

Margaret
"I'm Margaret, to start please introduce yourselves...If you're from a XYZ background stand."
Kia Ora, I'm from..."

- Concept of soil health expanding to include:**
- Soil security
 - Food security
 - Ecosystem/human/global health

What is soil health?

The continuing capacity of the soil to function as a vital living ecosystem that sustains plants, animals and humans.



Q: "IF YOU COULD CHANGE ONE THING ABOUT SOIL HEALTH POLICY, WHAT MIGHT THAT BE?"

Consistency between National and Regional Policy

The value/importance of healthy soil is reflected in policy decisions

Need a coordinated National Soil Management Group

Integrated national direction for soil, land and water

Policy into regulatory/non-regulatory responses

Understanding what's driving soil health management and policy in NZ.

- Soil issues:**
- Land use change and suitability of soil types.
 - Climate change.
 - Land fragmentation and urban development.
 - Soil loss – erosion, reduction in soil carbon and soil biomass.
 - Compaction and contamination.
 - Surveillance and monitoring.
 - Relationships between water and land.
 - Lack of soil knowledge – soil undervalued.
 - Treaty settlement – cultural change
 - Long time frames.
 - Integrated production systems.
 - Complex farming systems and farming profitability.

- Who needs to change ?**
- General public/catchment community.
 - Central and local Government – policy makers, leaders.
 - Industry, Farmers, anyone working with soils, science organisations.
- Address issues**
- Integrate soil/land within water policy framework.
 - Value shift - SOIL MATTERS.
 - More collaborations /partnerships between scientists, policy makers, industry and councils.
 - More scientific expertise, capacity and integration of knowledge.
 - Use clear and action-based terminology, link to standardised public policy outcomes and soil security.
 - Consistent data type, capture & reporting, and availability.
 - Soil health is part of the whole socio- ecological system.
 - Need a "champion" for soil health.
 - Cultural change - stewardship and Mātauranga Māori.
 - Economically and physically running down the resources – where is the tipping point?
 - Ecosystem services framework to capture links to human wellbeing.

- What are we making policy about?**
- National**
- National policy statements.
 - RMA, EPA policy for HAZNO, NPS freshwater,
 - EMaR - land/soil.
 - NES – contaminated land guidelines, Cadmium strategy.
 - Forestation grant scheme.
 - 3 waters review.
 - Our land & water NSC.
- Regional**
- Farm Environmental plans.
 - Regional Policy - Soil health, biodiversity and water quality.
 - Clean streams accord.
- Sector**
- Dairy NZ – sustainable dairying water accord.
 - Hort NZ – soil/erosion guideline.
 - FANZ BMP fertiliser application – tiered fertiliser management system.

- What are the implications?**
- Siloed approach/fragmentation – don't have alignment regionally/nationally.
 - Te Ao Māori can contribute to holistic approach of land/water policy.
 - Need cross-sector policy making
 - Need a National Soil Management Group.
 - NPS is too focused on high value/versatility issues.
 - Develop a clear vision across all sectors and conservation land indicators/monitoring linked to function as an ecosystem.

1. What are the soil issues facing NZ now?
2. Who needs to change & in what way? What needs to happen to address these issues?
3. What are we actually making current policy about at national regional/sector level?

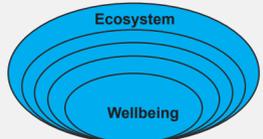
Soil health from a traditional science perspective

- Utilitarian view
 - Soil function and ecosystems
- How are we currently measuring soil health?**
- Tier1: Soil Health Institute indicators mostly used in science today.
500 Soils Programmes.
7 main indicators to target ranges.
Pressure - State - Response model.
- Need to work on biological indicators but defining and interpreting target ranges is difficult.

Mana of soil: A Māori culture perspective of soil health in Aotearoa NZ

The Māori and science stream is working well together.

- Māori soil health indicators.
- Work across Māori farmers, schools, etc.
- Māori belief systems around soils and how it's integral to their health and wellbeing.



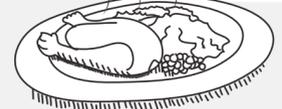
Māori have 60 different names for types of soils e.g. one hunga = sea sand, sandy beach, sometimes mixed with mud.



Key Māori principles



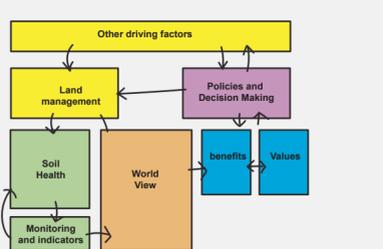
Lunch....



Towards an integrated framework for soil health

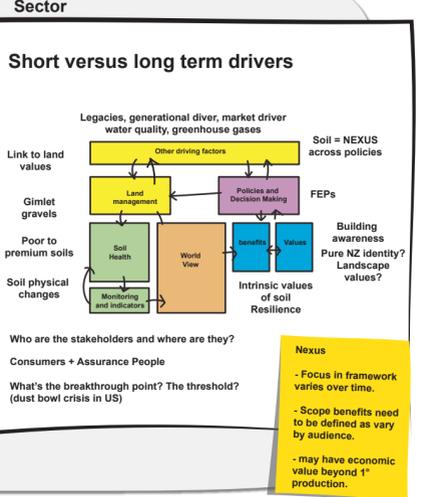
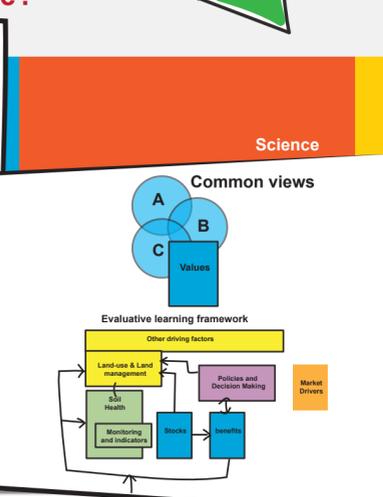
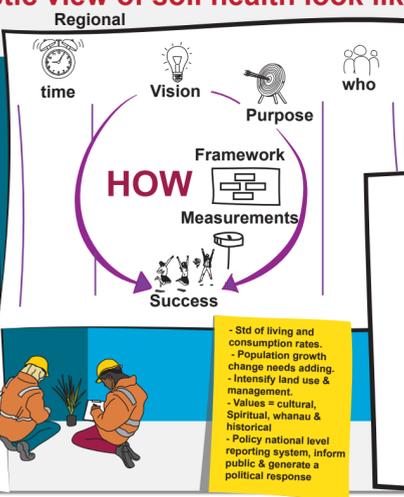
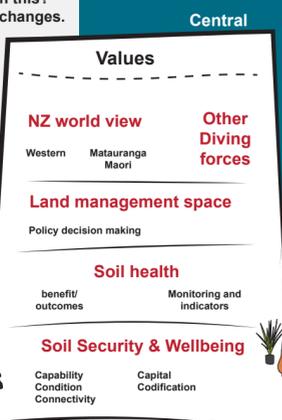
How you perceive soil health comes down to your world view. i.e. Traditional science vs Indigenous perspective.

"There are multiple interconnected positions within these world views"



What could an integrated/holistic view of soil health look like?

1. What would you change?
 2. Where are you in this?
 3. Draw your own changes.
- Add Post-its....



Facilitating change in soil health policy



2 years from now

- Build on past work – don't reinvent frameworks.
- Overarching land and soil policy.
- Establish a National Soil Management Group.
- Develop a roadmap with a champion.
- Realise all the values we get from soils.
- Break existing silos in policy making and public conversations.
- Build capability.
- National direction on productive land.
- Need ministerial buy-in and increased public engagement/awareness plus conversation about soils.
- Partnerships to identify and develop broader soil health indicators and monitoring values.
- Identify gaps/problems with soil that need to be addressed.
- Invest in research to close the gaps.
- Common terminology.
- Build commitment, develop purpose statement – National Policy Statement – link to other outcome areas e.g. water and GHGs.

5 years from now

- National direction around soil health.
- Collect data to fill in existing gaps.
- Grow capability across central, local, sector, CRIs and industries.
- National direction implemented.
- Sufficient resources allocated.
- Broader indicators put in place and monitored.
- Understanding, recognising and adopting value of soil.
- Improved communication.
- On the ground action – sustainable land practices.
- Traction around integrated national/regional policy.
- Active partner in Global Soils partnership.

10 years from now

- Change in land practice for health of soils.
- Increased training to grow capability.
- Governed/managed national database.
- Full set of soil indicators reported on in ER, well-being.
- Achieve integration across domains/sectors and levels of government.
- Growers/farmers using their knowledge/understanding of the soil issues.
- Adaptive to climate change.
- Recognition that different soils are driven by different understanding of function and outcomes.
- Change in soil health (monitored).

Whats next..

Your input will help in building the soil health framework, particularly around addressing policy issues. We also plan a paper on the relationship between traditional science and Māori views on soil health and their relationships to policy.

To mention its been a neat day, but how do we keep this momentum going... I've had great conversations today, but wish to open up the topic of how to continue this dialogue...

- "Mātauranga Māori knowledge base may provide insight to decisions when supported by science"
- "Soil health is not an impactful term so think about something different e.g. that emphasised the strategic resource like Saudi Arabia treats oil"
- "...a renewed call for a national soil/land group to provide a platform for collaboration & establishing a shared vision/purpose..."
- "Look for synergies and duplication with water outcomes & conversations"
- "Use a collective impact approach to create a 'backbone' for action"

Write something about what you got out of today...