

# Identifying ecological risk assessment tools and approaches for deep sea mineral activities to support communities, government, and developing industries in the South Pacific.

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# Developing INNOVATIVE SOLUTIONS for the protection and sustainable management of natural resources and ecosystems

**Workshop 4<sup>th</sup> March Wellington, New Zealand**

Legislation  
Taxonomy  
Policy  
Industry  
Social science  
Risk assessors  
Ecology  
Community  
Fisheries  
Consultants  
Science  
Government



## VALUES TO PROTECT

South Pacific culture 'life force'  
Existence, Inspirational  
Tourism, Recreation  
Ecosystem services –  
Biodiversity, genetic, fisheries, food,  
Raw materials, primary production,  
nutrient cycling, habitat, water quality  
regulation



## TOOLS TO DEVELOP

Assessment matrix:  
Magnitude of impact vs likelihood  
If then reaction to event and adapt  
Biodiversity knowledge bank  
Trigger values/phrases  
Decision Tree  
Protocols for sampling

## CONCEPTS TO CONSIDER

3 types of mining different  
Data sharing  
Adaptive management  
Stakeholder respect  
Who owns the resource?  
Intergenerational equity 'right time'  
Dealing with the unexpected  
Cumulative impacts 'tipping points'  
Understand ecosystem interactions



## APPROACHES TO TAKE

Understand 'significant' change  
Understand 'acceptable' change  
Understand community objectives  
Apply life cycle assessment



# FUTURE MULTIDISCIPLINARY PROJECT

## TEAM

Ecotoxicology

Matrix

Biodiversity

Sampling protocols

Adaptive management

Law

## TASK

Species sensitivity curves

Deep sea impact matrix

Shared data bank

Standard approach

Scenarios If/then

Intergenerational equity

## OUTCOME

Trigger values

Risk communication

Informed decision making

Compare between studies

Decision tree (sig/acc)

Long term benefits

