

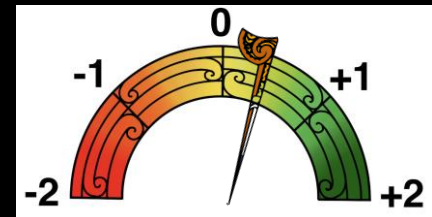


Te Ao Māori: Partnerships and Te Mana O Te Wai



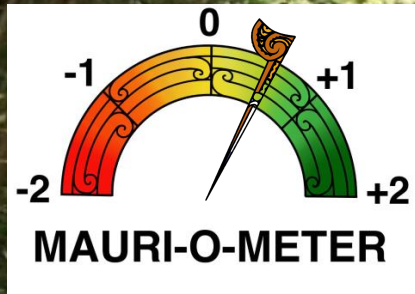
Dr Kēpa Morgan DFEngNZ Pou Hautū

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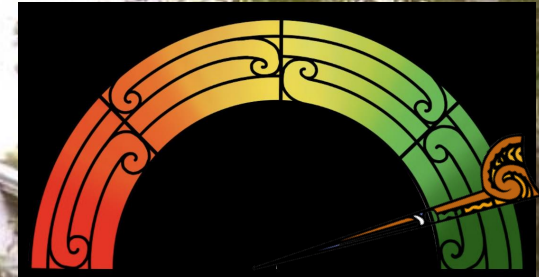
Stormwater Exemplar: Indigenous+



1989

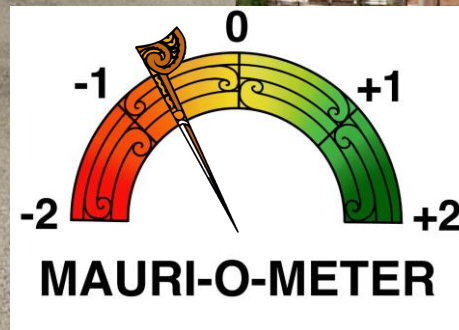
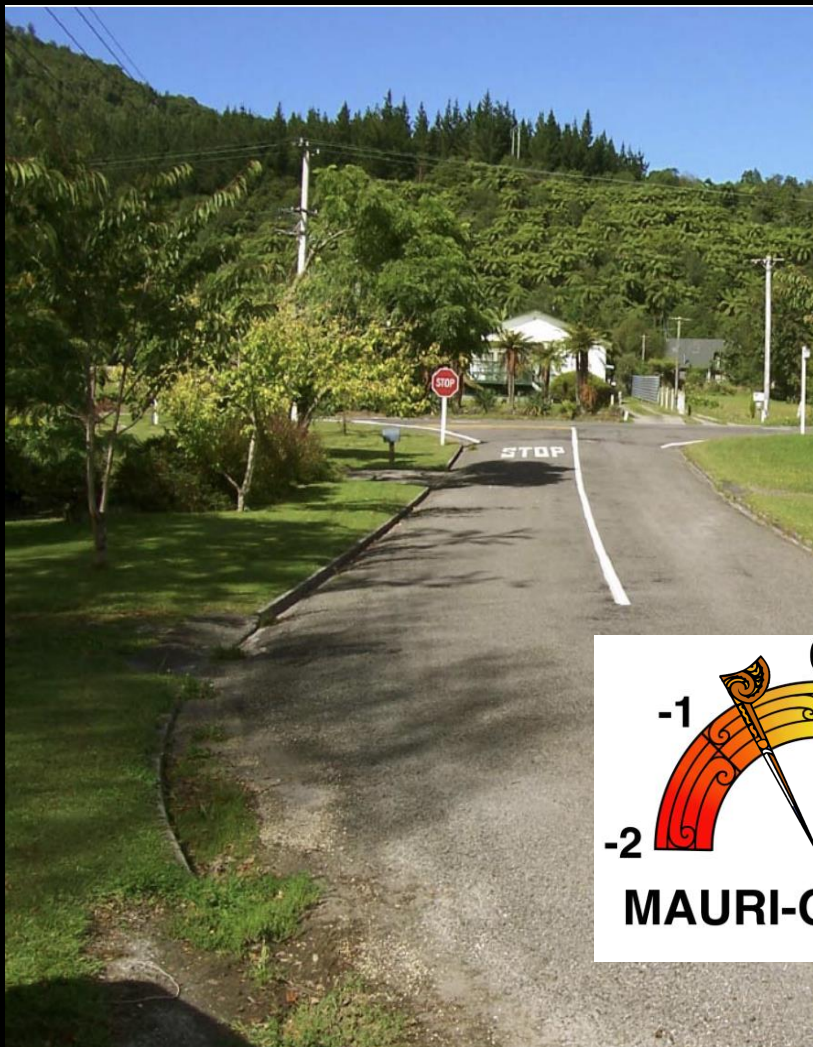


2006



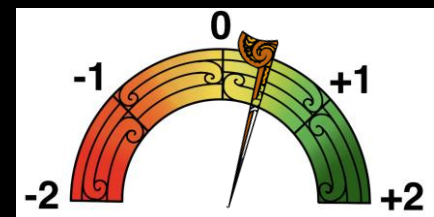
2023

2006 SW conference paper Rotorua



best practice circa 1986

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Indigenous+ Principles:

1. *whatungaro te tangata tu tonu te whenua*
2. *construction that complements the environment*
3. archaeological sites and wildlife habitats protected
4. driveways sited to reduce earthworks
5. maintenance free carriageway minimizes runoff
6. minimum 10% area is returned to native bush
7. native plant species from local gene pool
8. development to enhance unique character of Rotoiti
9. mai Ranginui ki Papatuanuku – rainfall is sacred until it has passed over mother earth

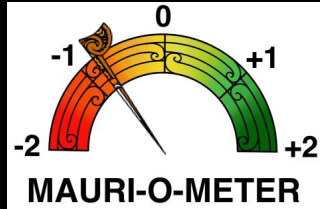
Qualitative and Quantitative measures of change (in mauri)

1988

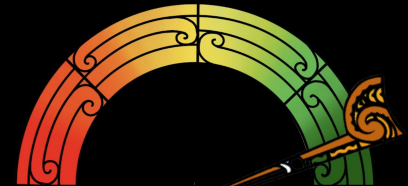
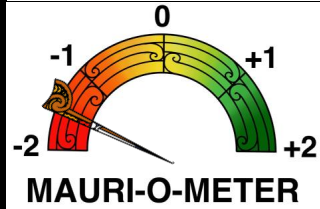
Conventional

Indigenous+

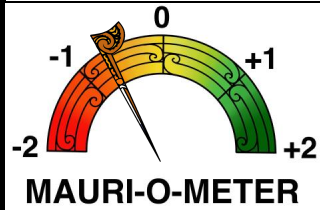
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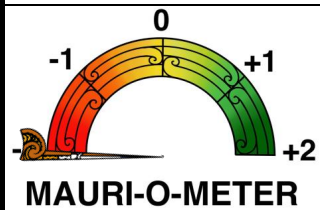
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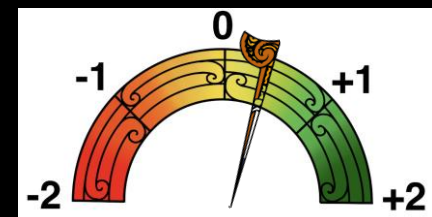


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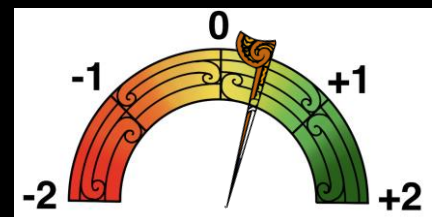
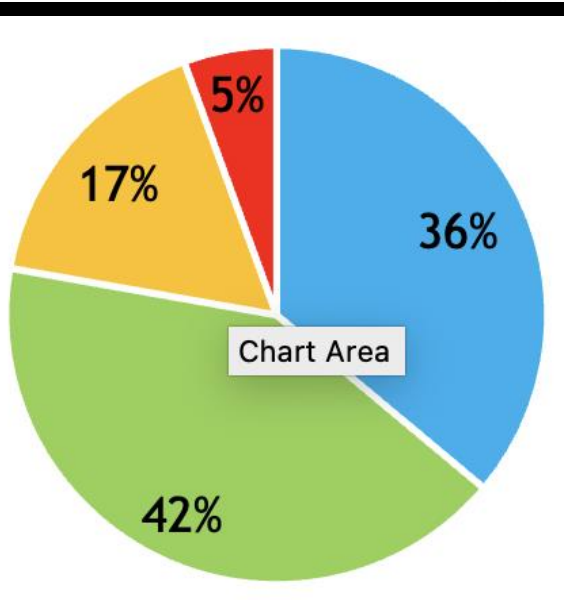
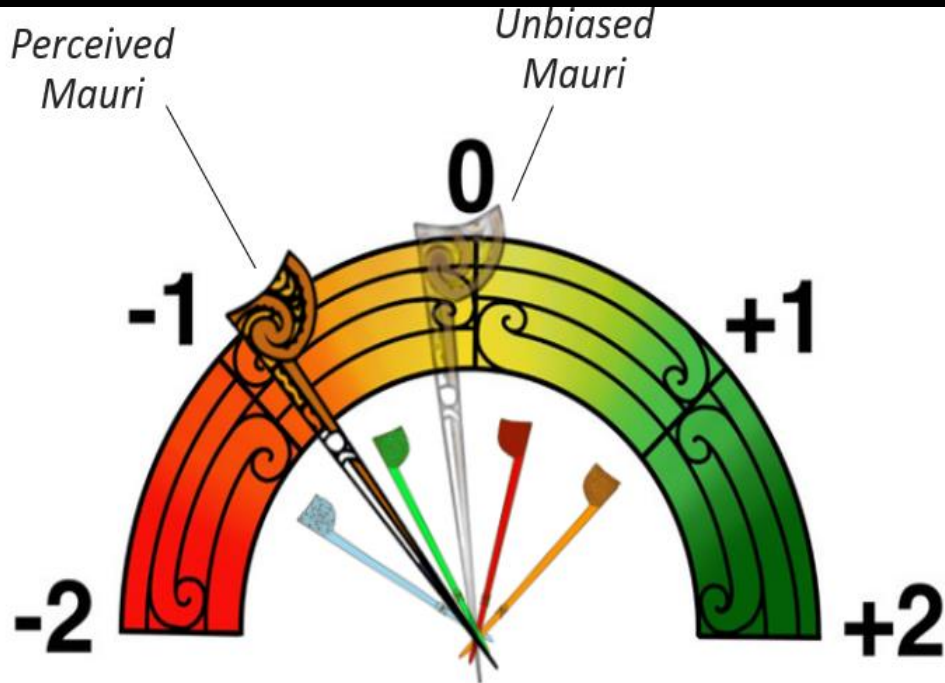


Taiao, Hapū, Social and Economic (\$)

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Te Mana o Te Wai

What things impact te mauri o te wai?

Following tikanga

Mana motuhake

Governance

Flood protection

Native species

Watershed uses

Water uses

Riparian health

Retaining mohiotanga

Contamination

Social interactions

Biodiversity

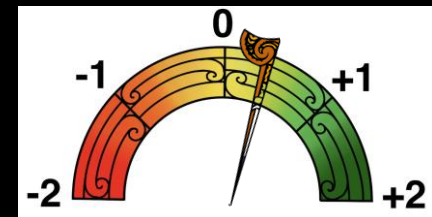
Mahinga kai

Traditional practices

Access



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Dimensions of *mauri*

 Mauri of the
Ecosystem

 Mauri of the
Community

 Mauri of the
Whānau

 Mauri of the
Hapū

Following tikanga

Mana motuhake

Flood protection

Governance

Native species

Watershed uses

Water uses

Riparian health

Retaining mohiotanga

Contamination

Social interactions

Biodiversity

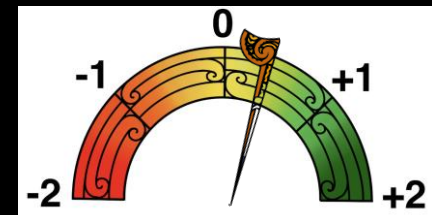
Mahinga kai

Traditional practices

Access



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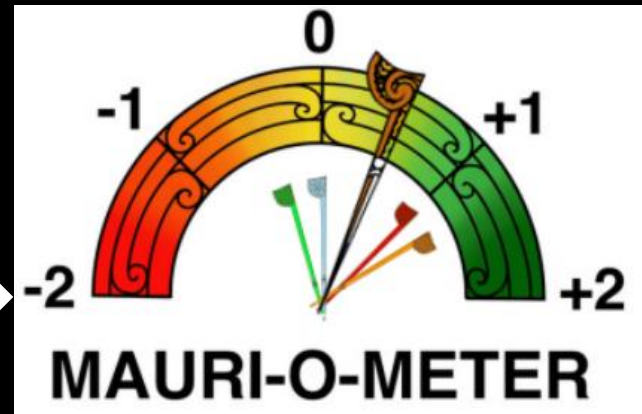
Use mauri to measure flourishing

 Mauri of the
Ecosystem

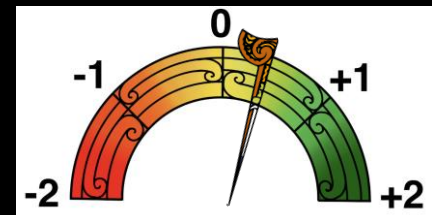
 Mauri of the
Community

 Mauri of the
Whānau

 Mauri of the
Hapū



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How can mauri be measured numerically?

**No significant
Impact on
MAURI
'normal'**

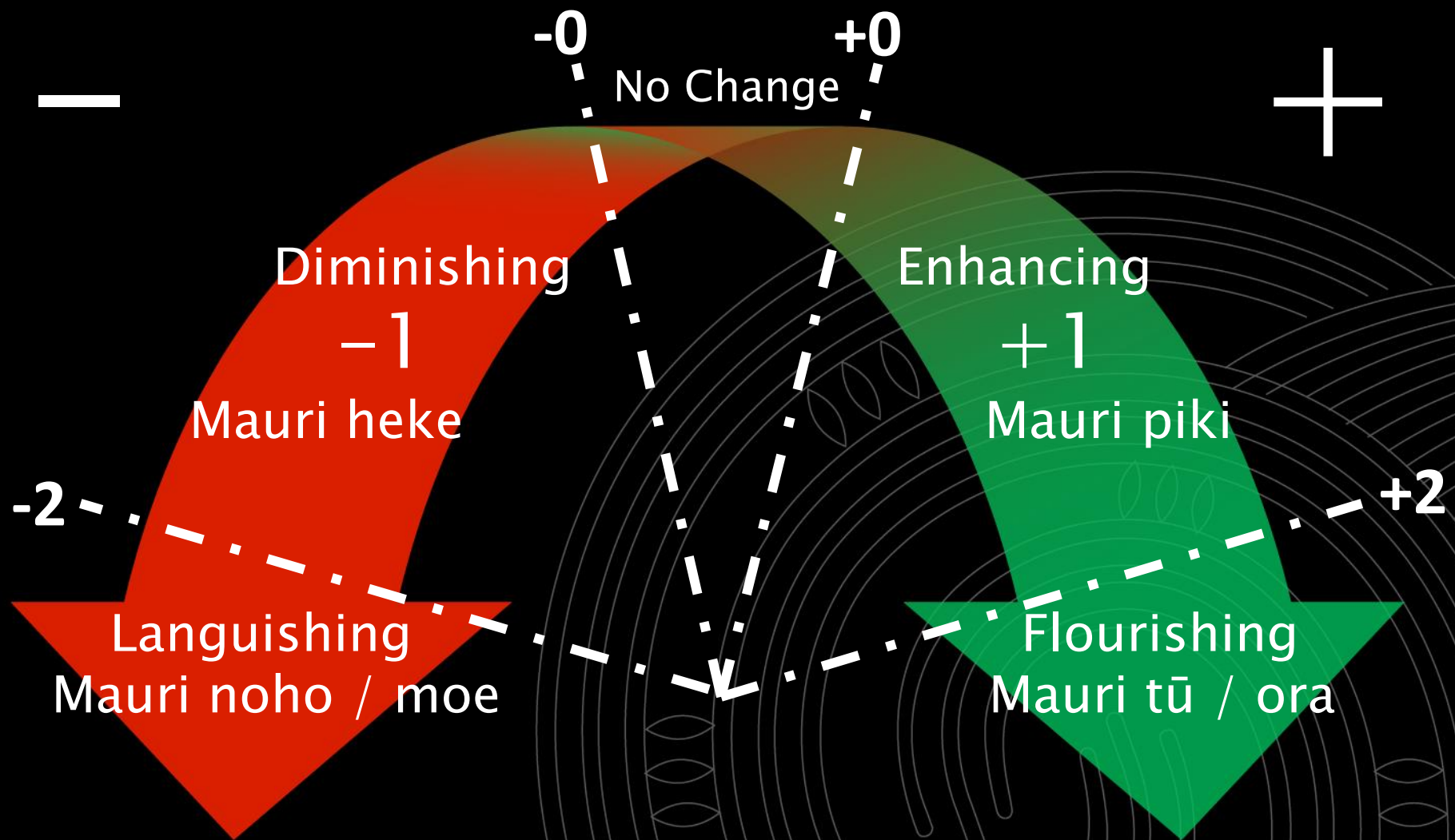
—

**Languishing
MAURI**

+

**Flourishing
MAURI**

INDICATOR THRESHOLDS



INDICATOR THRESHOLDS

Reality as
Four Mauri
Dimensions

Informs
Indicator
Selection

**Mauri
Model**

Quantification
of Worldview

Indicator
Scores and
Dimensions

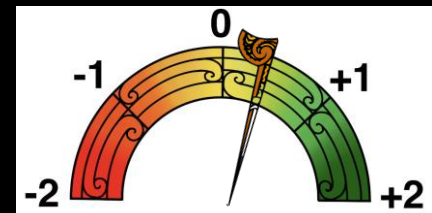
**Trends for
Dimensions**

mauri0meter

Threshold
Definition for
Indicators



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mauri0meter

Present Day



mid-1800's

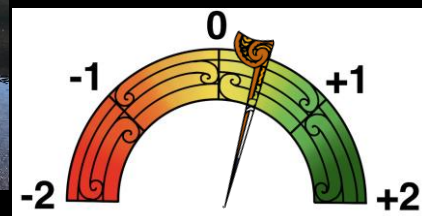


Languishing Mauri Noho

Flourishing Mauri Tū



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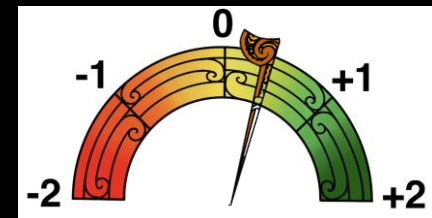
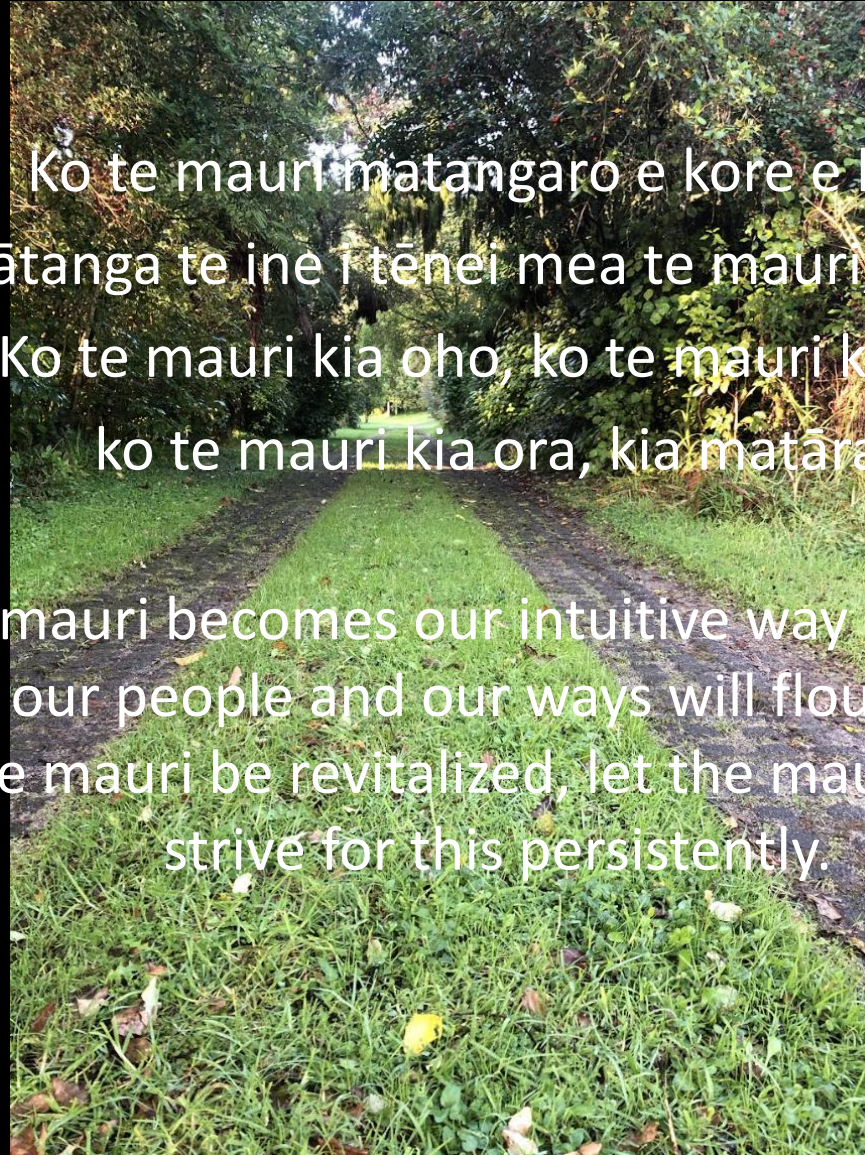
Indigenous+ an exemplar of *Infrastructure Belonging*

Ko te mauri matangaro e kore e kite,
inā rā, ka mātanga te ine i tēnei mea te mauri, ka mātua te lwi.
Ko te mauri kia oho, ko te mauri kia tū,
ko te mauri kia ora, kia matāra!

When mauri becomes our intuitive way of knowing,
our people and our ways will flourish.
Let the mauri be revitalized, let the mauri flourish,
strive for this persistently.



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