NSW GOVERNMENT

AdaptNSW

BREAKOUT ROOM 1:
CULTURAL AND ECOSYSTEM ADAPTATION IN ACTION

ADAPTATION IN ACTION - BUILDING RESILIENCE IN NSW

#AdaptNSW2019

AdaptNSW

How can we protect our National Parks?

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NPWS Climate Change Adaptation Strategy

Why is it bad?

Understand climate change impacts on values

What can we do?

Develop responses utilising adaptation pathways to protect values

When should we do it?

Identify triggers to act

Collaborative process

- Series of intensive workshops with broad range of participants
- 340 people engaged
- Adaptation pathways developed
- Enables proactive intervention before impacts occur and values are lost

Adaptation solutions on-ground

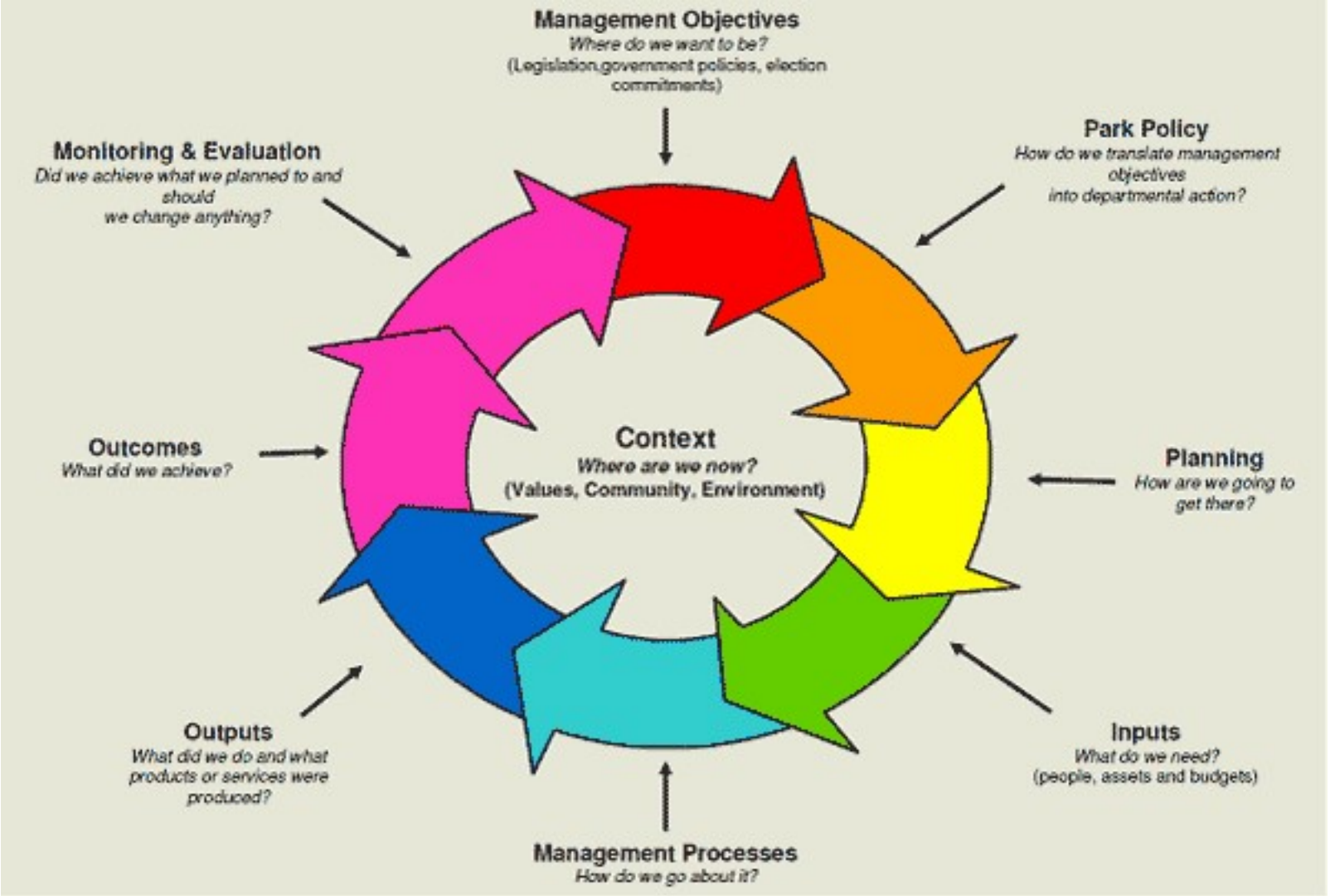
Aboriginal cultural heritage

Pest and weed management

Biodiversity

Asset management

From planning to implementation



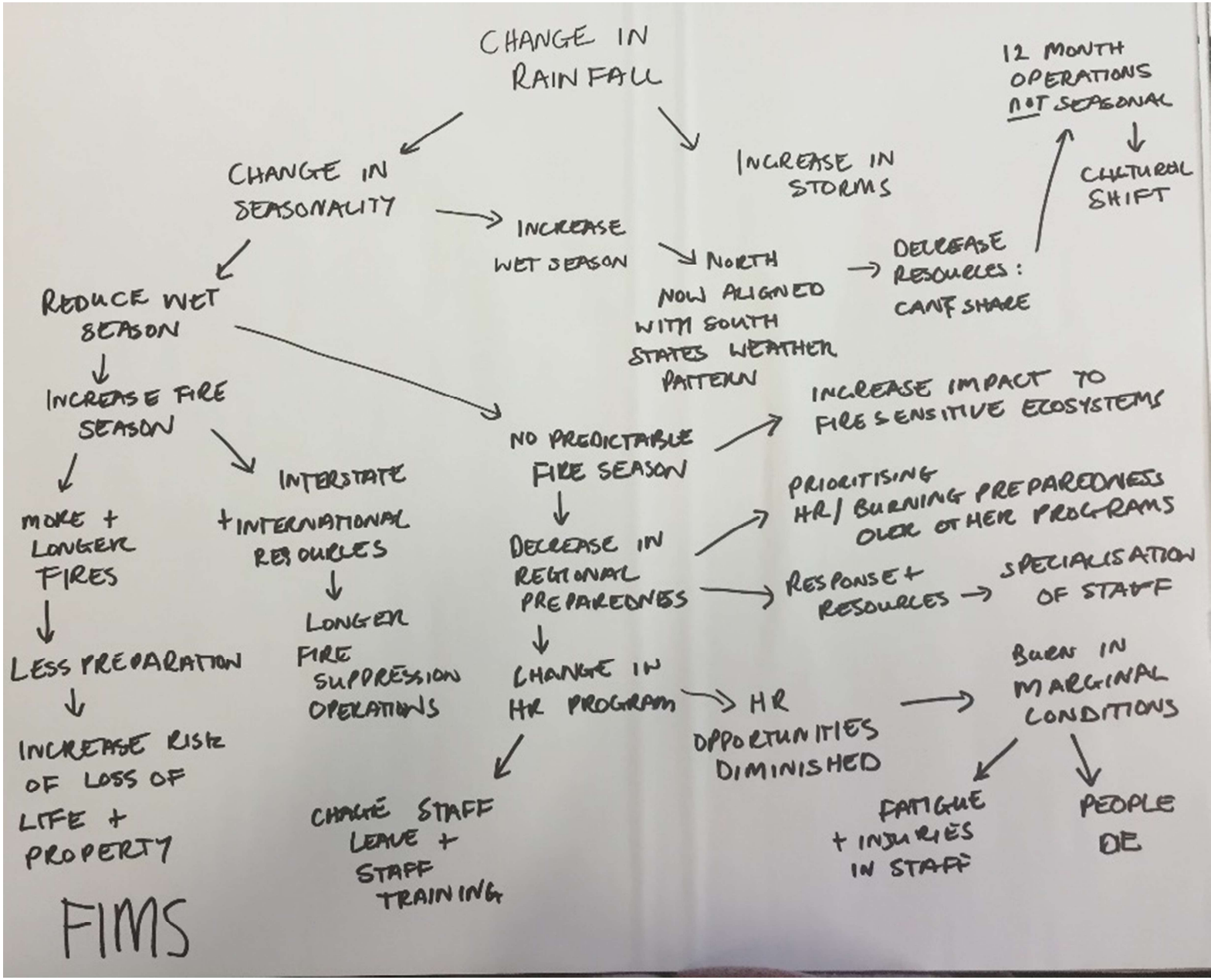
Integration into BAU NPWS planning

Trialled through four pilot projects:

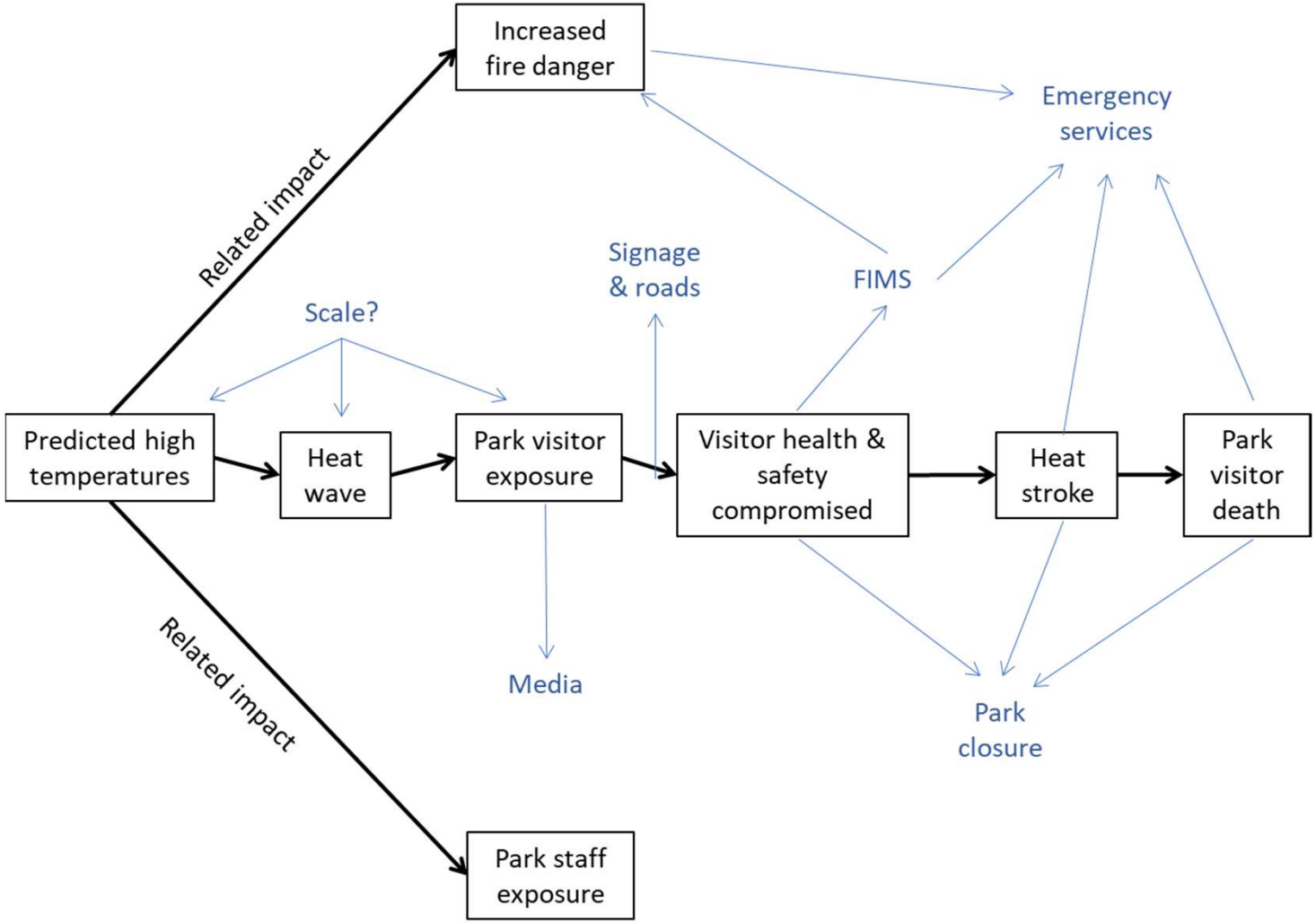
1. incorporating increasing risk and consequence into strategic planning,
2. adding climate triggers and adaptation responses into operational decisions,
3. communicating climate change adaptation and,
4. Engaging Aboriginal communities in addressing climate change impacts on cultural heritage protection on park.

Why is it bad?

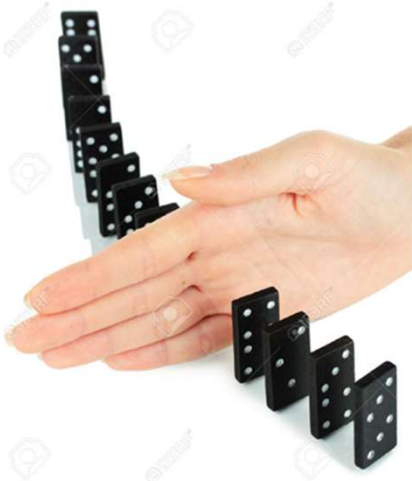
Understand climate change impacts on values



A hypothetical example: customer experience

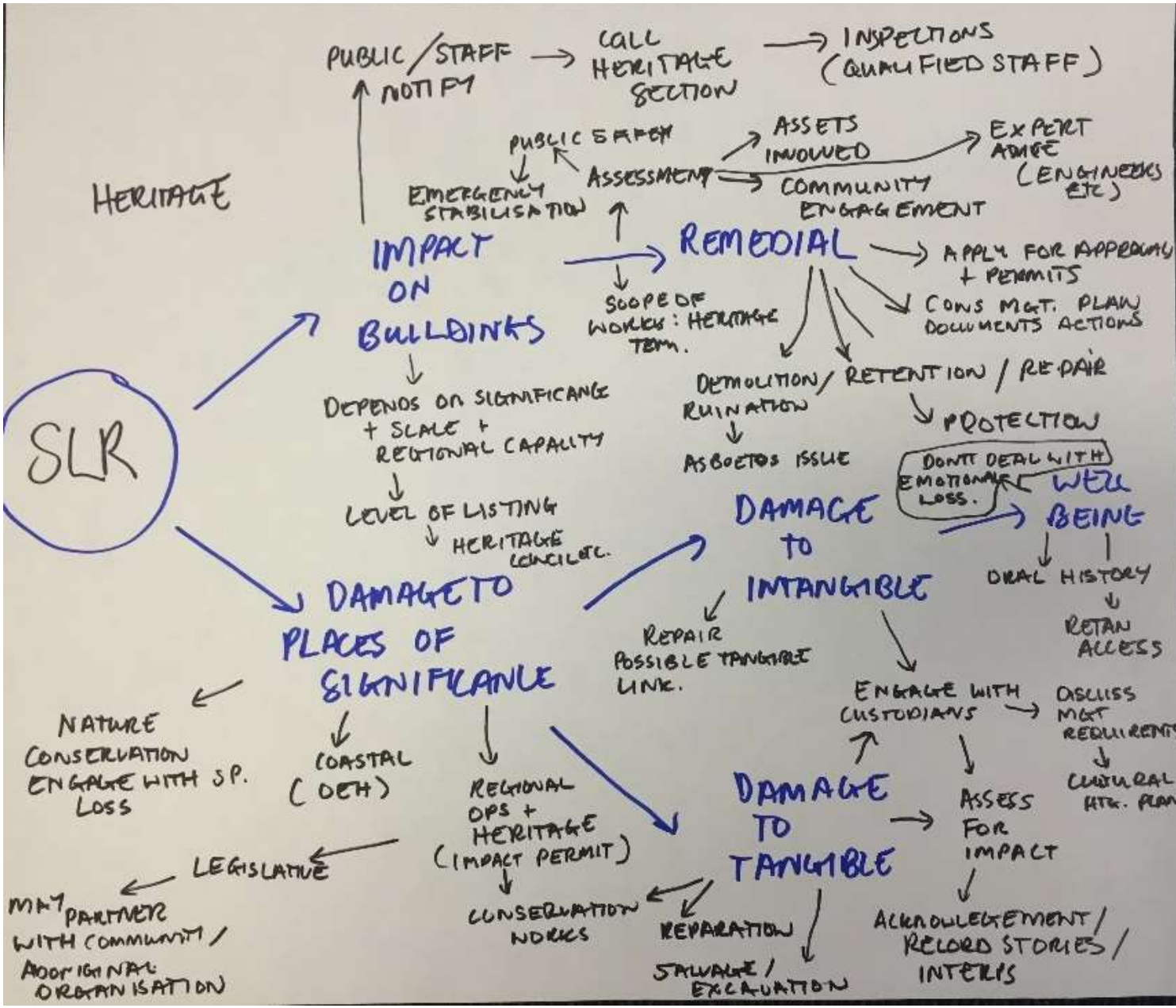


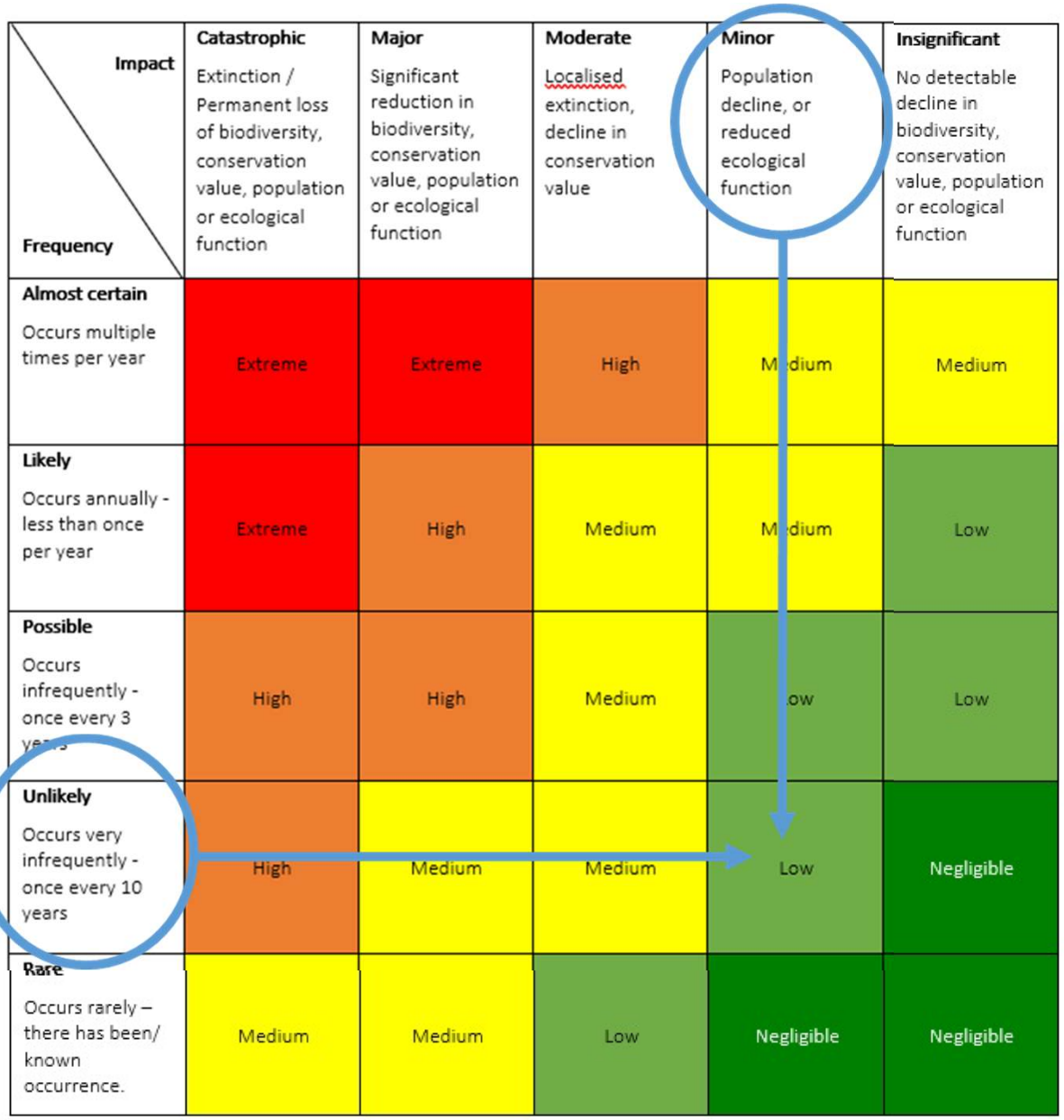
- What are the management options?
- Intersections with other functional areas/external organisations?



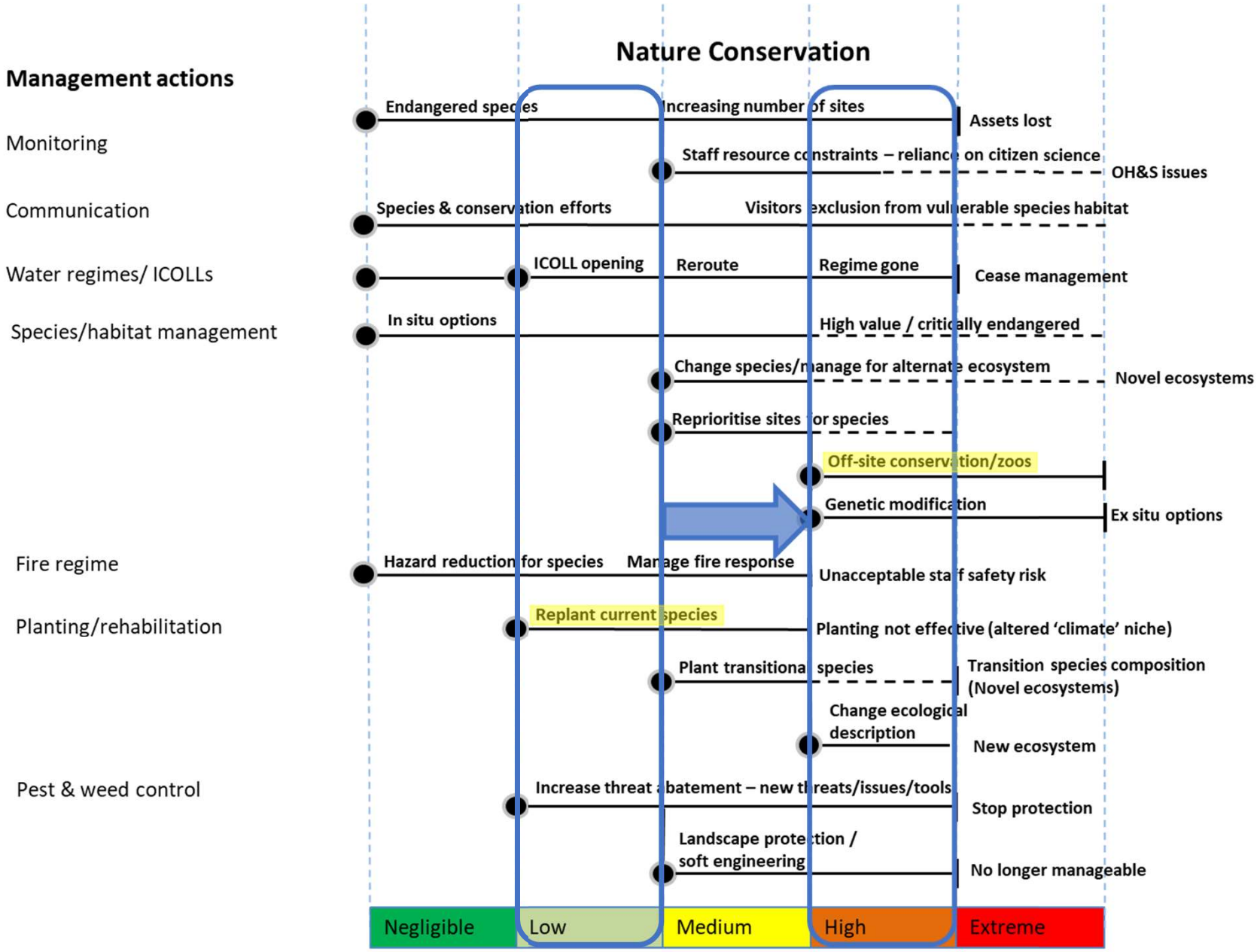
What can we do?

Develop responses utilising adaptation pathways to protect values

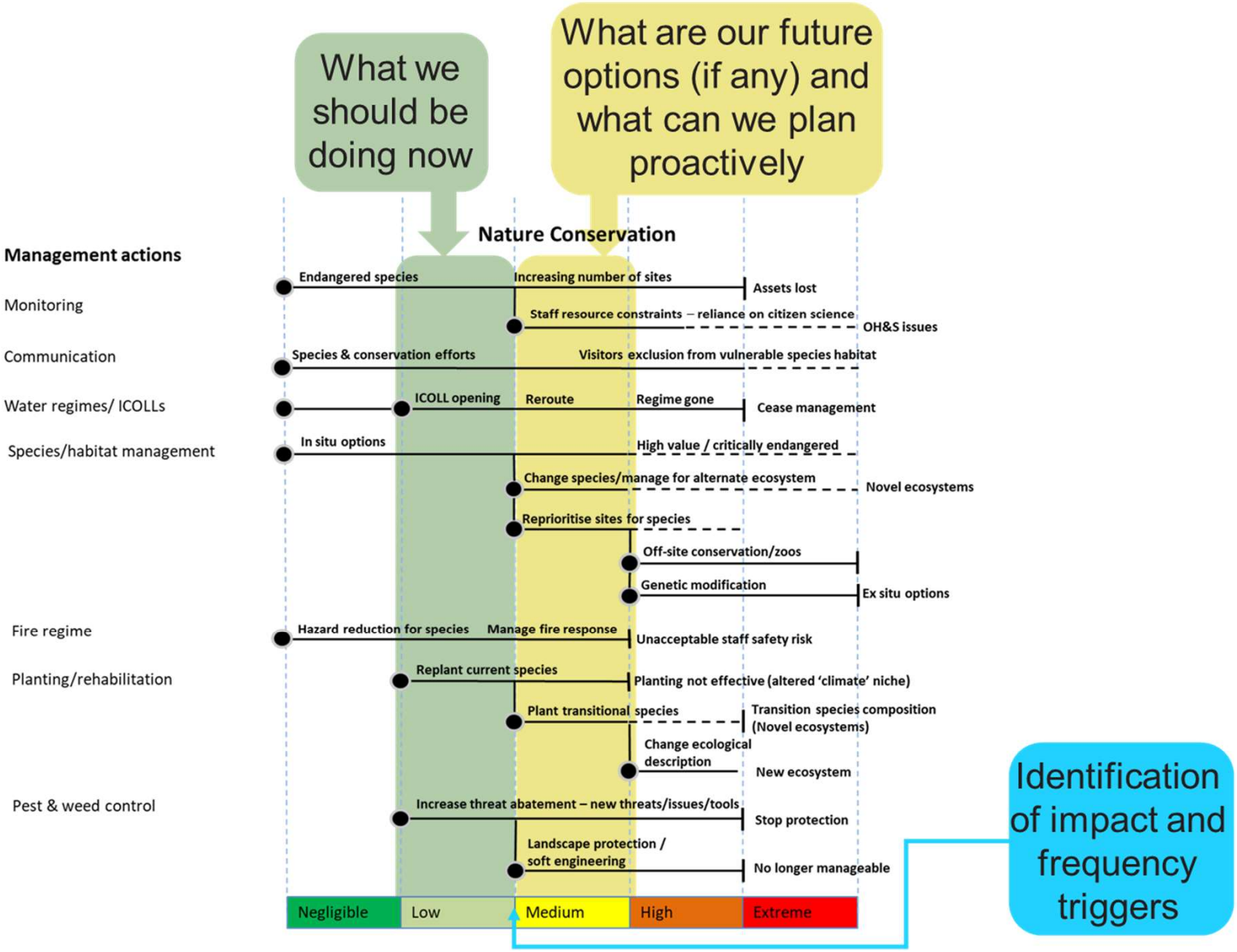




Impact / Frequency	**Catastrophic** Extinction / Permanent loss of biodiversity, conservation value, population or ecological function	**Major** Significant reduction in biodiversity, conservation value, population or ecological function	**Moderate** Localised extinction, decline in conservation value	**Minor** Population decline, or reduced ecological function	**Insignificant** No detectable decline in biodiversity, conservation value, population or ecological function
Almost certain Occurs multiple times per year	Extreme	Extreme	High	Medium	Medium
Likely Occurs annually - less than once per year	Extreme	High	Medium	Medium	Low
Possible Occurs infrequently - once every 3 years	High	High	Medium	Low	Low
Unlikely Occurs very infrequently - once every 10 years	High	Medium	Medium	Low	Negligible
Rare Occurs rarely – there has been/ known occurrence.	Medium	Medium	Low	Negligible	Negligible


Management actions
Monitoring
Communication
Water regimes/ ICOLLs
Species/habitat management
Fire regime
Planting/rehabilitation
Pest & weed control
Nature Conservation
Endangered species
Increasing number of sites
Assets lost
Staff resource constraints – reliance on citizen science
OH&S issues
Species & conservation efforts
Visitors exclusion from vulnerable species habitat
ICOLL opening
Reroute
Regime gone
Cease management
In situ options
High value / critically endangered
Change species/manage for alternate ecosystem
Novel ecosystems
Reprioritise sites for species
Off-site conservation/zoos
Genetic modification
Ex situ options
Hazard reduction for species
Manage fire response
Unacceptable staff safety risk
Replant current species
Planting not effective (altered 'climate' niche)
Plant transitional species
Transition species composition (Novel ecosystems)
Change ecological description
New ecosystem
Increase threat abatement – new threats/issues/tools
Stop protection
Landscape protection / soft engineering
No longer manageable
Negligible
Low
Medium
High
Extreme

Developing adaptation actions



Pilot 1: Montague Island POM

incorporating increasing risk into strategic planning

- High level, static document - climate change is a threat
- Doesn't deliver action
- But - 'Scheme of Operations' can drive an assessment

8. Monitor climate change impacts, manage those impacts that are responsive to the available techniques and resourcing levels, and continue to track those issues that NPWS is unable to respond to.

8a) An assessment will be undertaken to identify those values and locations at risk from sea level rise, storm surge and other climate change impacts. In doing so agency and statewide climate change strategies and programs will be followed. This action overlays all other actions in this plan.

Climate change assessment workshop

- How will climate change impact values of Montague Island
- Used adaptation pathways to determine management responses
- Provide guidance for operational activity and strategy

Pilot 2: Operationalising adaptation

adding triggers and adaptation actions into operational decisions

Strategic response to climate change

- Need to know changing frequency & consequence of climatic events over time
- If we can't detect change – we can't adaptively manage values

The challenge

How does a field officer know when to respond:

- when climatic events are ever increasing in frequency and,
- when they may only be seeing very subtle changes to the values?

Objective decision making

- Action must be automated
- When to act must be based on predetermined thresholds of change
- The Asset Management System (AMS) can trigger action

Using the AMS to operationalise adaptation action

The pilot identified the following opportunities:

- monitoring schedules of assets/values can be automated,
- the impacts of climate change on assets can be tracked by capturing information on frequency and consequences of climatic events
- automated responses can be allocated to thresholds of change (eg. the loss of a percentage of habitat can trigger an automated notification to review the adaptation solution for that value).

The current AMS has the functionality

- It can ID threshold change 
- It can objectively trigger/automate a response (removing requirement from field staff) 
- It can be used to strategically prioritise based on cost, location 

Beyond assets

- Could be applied to all values across NPWS
- Would demonstrate considerable innovation in global attempts of operationalising adaptation

Summary

- It is possible to do something!
- The assessment can identify adaptation actions ready to go when they’re needed
- AMS can remove subjectivity and automate decision making and action