

Bulkley - Morice Wildfire Resilience Project

WELCOME to our First Workshop

November 20, 2024



Full plenary seating assignments

Table 1

Dean
Andrew
Shannon I
Karine
Bernie

Table 2

Cam
Pam
Dale
Larry
Chris
Peter

Table 3

Sebastian
Jade
Neal
Don
Jim

Table 4

Duane
Ryan
Patrick
Doug H
Geoff
Veronica

Table 5

Dave
Kevin K
Doug L
Tony
Kevin S

Table 6

Kira
Adam
Irene
Matt
Shannon H

Table 7

Jon
Brad
Phil
Steven
Sam



Welcome!

Outline for the day

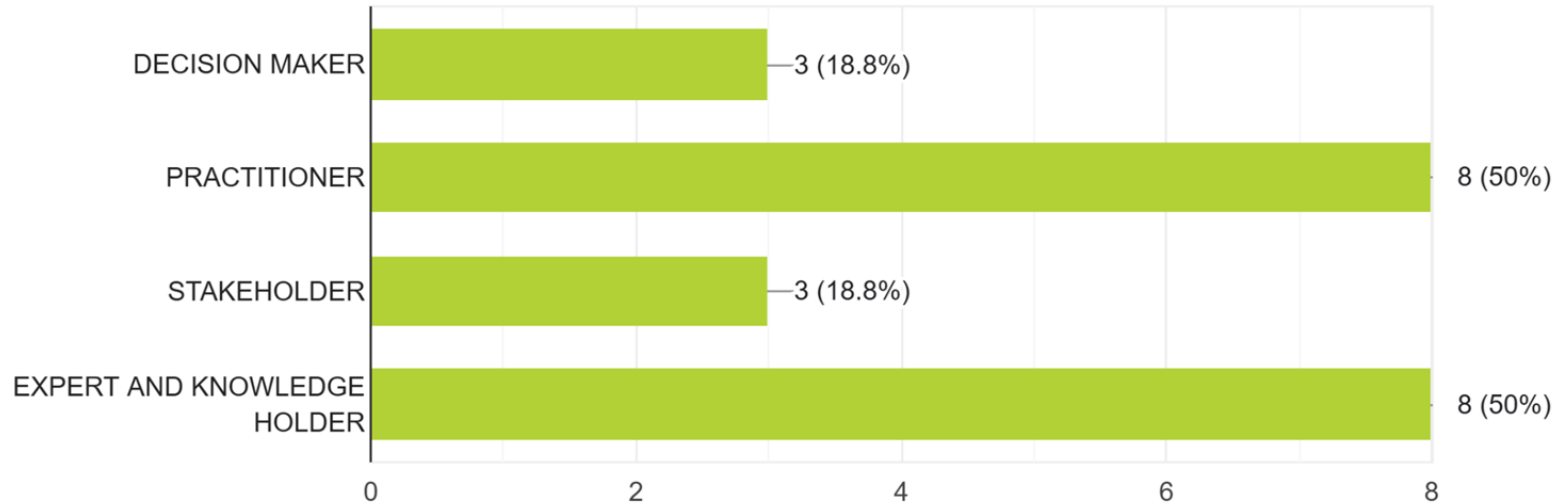


Why you're here

- Representative of larger interest group(s)
- Project success relies on your input

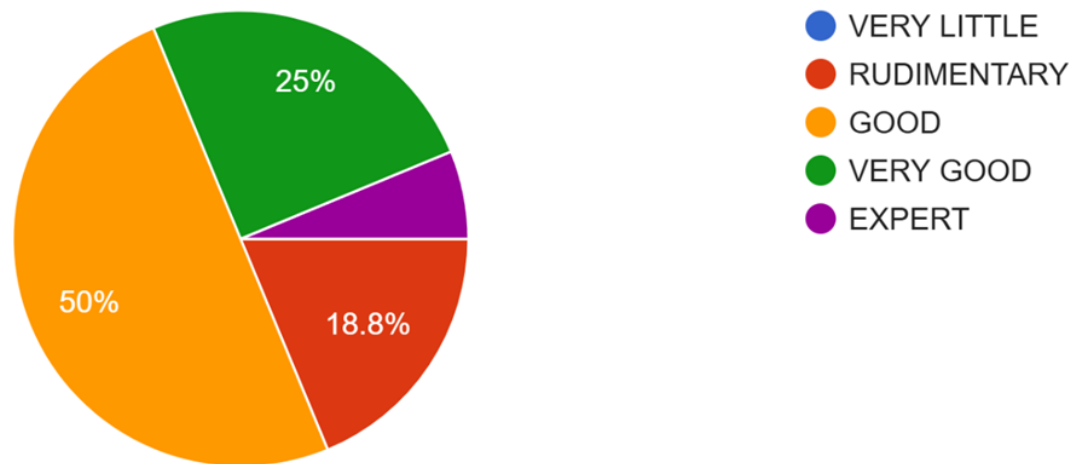
What best describes your role as it relates to your involvement and interest in wildfire resilience?
(Role Descriptions are detailed below.) Select all that apply.

16 responses



Please select the category that best describes your level of wildfire resilience knowledge.

16 responses



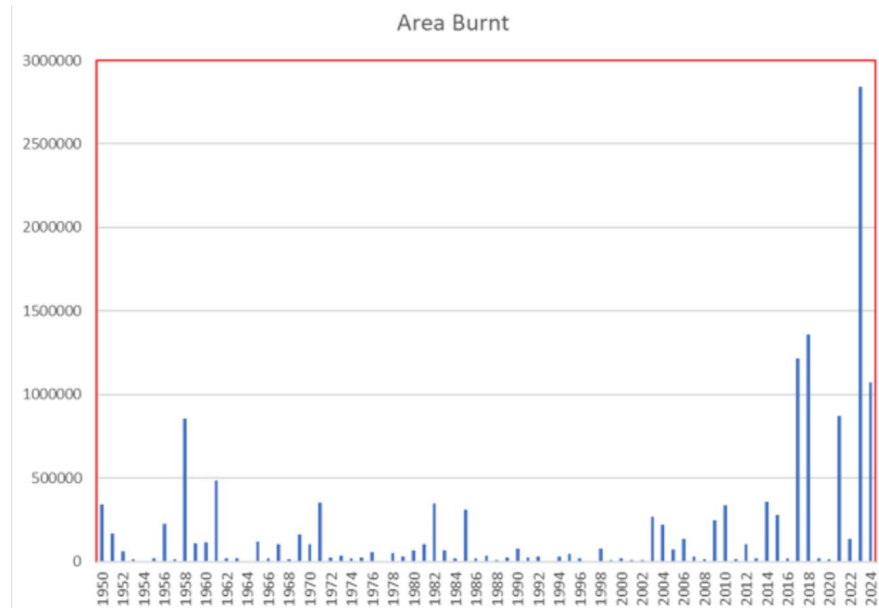
Context

History and why it's important



The Wildfire Crisis

- Record area burned
- Impacts to people and communities
- Effects on forests and ecosystems



Drivers of the Wildfire Crisis

A large volcanic eruption is shown, with a massive plume of ash and smoke rising into the sky. The plume is thick and billowing, with a dark, dense core. The base of the eruption is surrounded by a green, forested landscape. A dirt road is visible in the foreground, winding through the trees. The sky is filled with dark, heavy clouds, and the overall scene is dramatic and powerful.

- Climate change and extreme fire weather
- Land use and settlement patterns
- Forest management
- Fire exclusion
- Fire suppression

Which are driving wildfire in our ecosystems?

CATASTROPHIC WILDFIRE

A WHOLE SOCIETY PROBLEM

WILDFIRE DEFICIT

FIRE DEPENDENT LANDSCAPES RELY ON REGULAR BURNING THROUGH NATURAL CAUSES AND INDIGENOUS FIRE STEWARDSHIP.

OVER THE LAST 150 YEARS, COLONIAL LAWS AND FIRE SUPPRESSION HAVE INCREASED THE FIRE DEFICIT, LEADING TO THICK AND OVERGROWN FORESTS.

TIMBER MANAGEMENT

FORESTS MANAGED FOR TIMBER ARE OFTEN DENSE AND MADE UP OF TREES THE SAME AGE AND TYPE - WHICH INCREASES BURN SEVERITY.

WILDLAND URBAN INTERFACE

INCREASED DEVELOPMENT AND MORE RESIDENTS LIVING IN FIRE PRONE AREAS

MITIGATING WILDFIRE INITIATIVE

SFU CENTRE FOR DIALOGUE

LARGER, MORE INTENSE & INSUPPRESSIBLE FIRES

CASCADING IMPACTS

EVEN AFTER THE FIRE, DANGER CONTINUES

LANDSLIDES

THREATENS WILDLIFE & ECOSYSTEM HEALTH

FLOODS

WATER CONTAMINATION & ACCESS

CARBON EMISSIONS

DUE TO WILDFIRES, CANADIAN FORESTS NOW EMIT MORE CARBON THAN THEY ABSORB. IN 2023, EMISSIONS FROM WILDFIRES EXCEEDED THE GLOBAL AVIATION INDUSTRY.

CHANGING CLIMATE

INCREASED TREE MORTALITY

HIGHER CHANCE OF DROUGHT

LONGER FIRE SEASONS

MORE PEOPLE IMPACTED

TRAUMA, HEALTH, SMOKE, SHELTER, LIVELIHOODS

Source: Designed by Kara Sievewright in 2023 *Dialogue on Strategic and Collaborative Approaches to Mitigating Wildfire* (2023)

Reducing Wildfire Risk and Impacts

- Collaborative Learning
- Shared Governance
- Improved policies and practices
- Empowered communities

...in Bolivia, Indonesia,
Ethiopia, Ghana and Uganda



Toward Solutions

THE FOLLOWING WELL-UNDERSTOOD ACTIONS CAN BE UNDERTAKEN RIGHT AWAY TO BUILD AND ENHANCE RESILIENCE :

1. EXPAND INVESTMENTS IN FUEL MANAGEMENT

Reducing fire intensity and reach will remain a priority no matter how we organize ourselves going forward.

2. SUPPORT INCREASED PRESCRIBED AND CULTURAL BURNING

Fire on the landscape is a natural and critical ecological process. Using fire to fight fire is an effective and underutilized tool in B.C.

3. INVEST STRATEGICALLY IN PLACE-BASED, LANDSCAPE-LEVEL, AND COMMUNITY-BASED PILOTS, INCLUDING FOREST LANDSCAPE PLANS

We still have a lot to learn, and we must innovate as we go in a practical, learn-by-doing way.

4. IMPROVE HARM REDUCTION THROUGH ENHANCED PROGRAMS LIKE FIRESMART AND WILDLAND URBAN INTERFACE MANAGEMENT

Building community trust starts by ensuring communities feel safe and have a voice in the decisions that will affect them and their homes.

5. FOCUS ON COMMUNITY ENGAGEMENT, BUILDING TRUST, EDUCATION, AND EMPOWERING LOCAL DECISIONS

Those impacted must have a say and see themselves as part of the solution. This will allow for innovation and maximized local capacity, expertise, and resources towards a whole-of-society approach as we adapt and learn to live with fire.

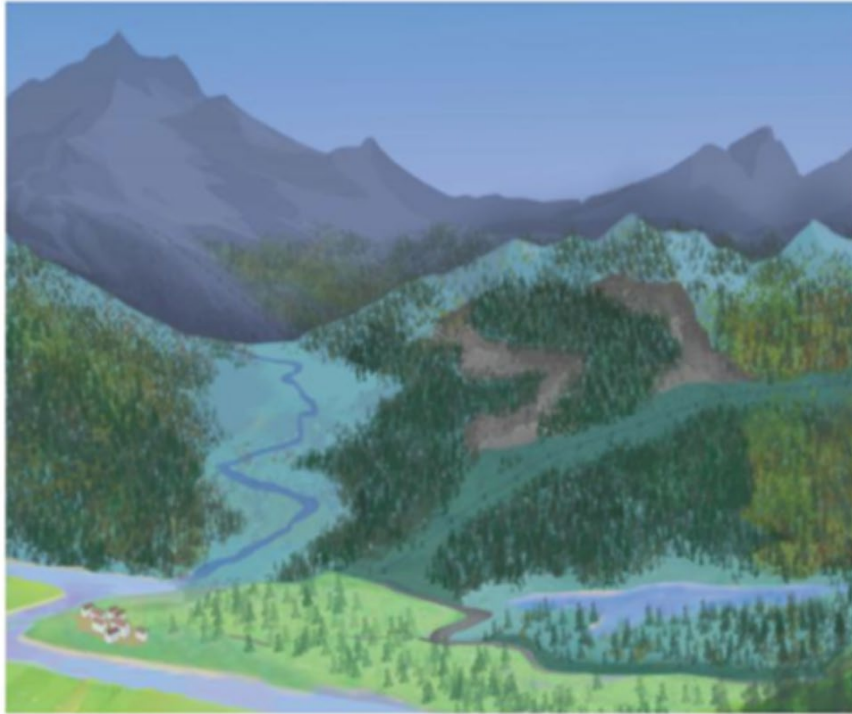
Section VII: Insights on the Current State of Wildfire Policy, Programs, & Priorities in B.C. & What is Next?



Towards Solutions

Six strategies for transforming management and coexistence with wildfire

- **Strategy 1:** Diversify wild fire response and restore prescribed and cultural fire
- **Strategy 2:** Increase capacity for suppression response
- **Strategy 3:** Mitigate risk and build resilience in communities
- **Strategy 4:** Implement landscape fire management
- **Strategy 5:** Transform wild fire governance
- **Strategy 6:** Strengthen and diversify training and expertise



- | | |
|--|--|
|  Wildland Urban Interface (WUI) |  Natural Low Fuel Corridors (river/lake, meadow) |
|  Recently Harvested |  Treated Low Fuel Corridors
Fuel breaks (e.g. utility lines, roads, targeted harvesting) |
|  Recently Burned | |

Landscape Fire Management

Forest Practices Board Special Report

- Forest and Fire Management in BC:
Toward Landscape Resilience

Figure 4. Illustrating the desired future landscape condition where LFM is being practiced.

Wildfire Resilience - what is it?

Ability of a system (ecosystems + communities) to react to perturbations, internal failures, and environmental events by absorbing the disturbance and/or reorganizing to maintain its functions...

...including the capacity of ecosystems, people, and communities to adapt, persist, develop, or even transform into new development pathways in the face of dynamic change.

Promoting Resilience

Source: SFU Mitigating
Wildfire Initiative



Figure 4: Five interconnected categories that contribute to wildfire and landscape resilience.

Actions for Wildfire Resilience

Action on multiple fronts

We are focussed on a part of the puzzle: The landscape

- Ecosystem lens
- Community lens

With linkages to response, mitigation, partnerships and community engagement, and more.



Why This Project?

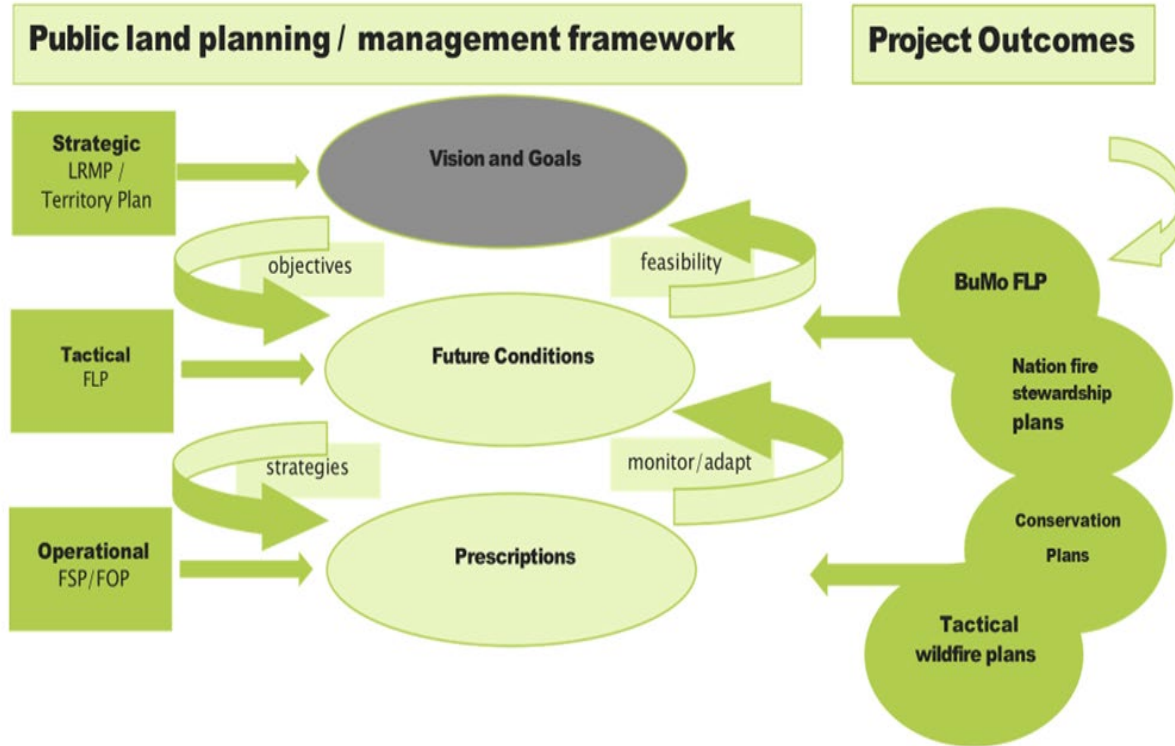
- Moore Foundation Wildfire Resilience Initiative
 - Pilot Projects; Landscape and Community
- Critical knowledge gaps
- Forest Landscape Planning; Opportunity for Change
 - Co-governance model
 - Legal objective:
“Preventing, mitigating and adapting to impacts caused by significant disturbances to forests and forest health, including wildfire...”
- Why the Bulkley -Morice
 - History of collaboration
 - Sub-boreal forests
 - Unique local knowledge available

Why is this important?

Forest and fire management strategies need to shift to reduce the negative impacts of wildfire

- Promote ecosystem resilience
- Increase beneficial fire
- Improve our knowledge of fire ecology and risk reduction treatments
- Integrate western science and Indigenous knowledge
- Climate adaptation - the past is no longer an indicator of future fire scenarios

How will the project have impact?



Questions?

Background

Complexity

Uncertainty

Building scenarios

Wildfire is Complex

- What is the local fire regime (today)?
- What is the historic fire regime (prior to settlement)?
- What factors drive wildfire in your ecosystem?
 - Fuels
 - Ignitions
 - Weather
 - Topography
- What effects are fires having?

Factors and conditions influencing wildfire occurrence

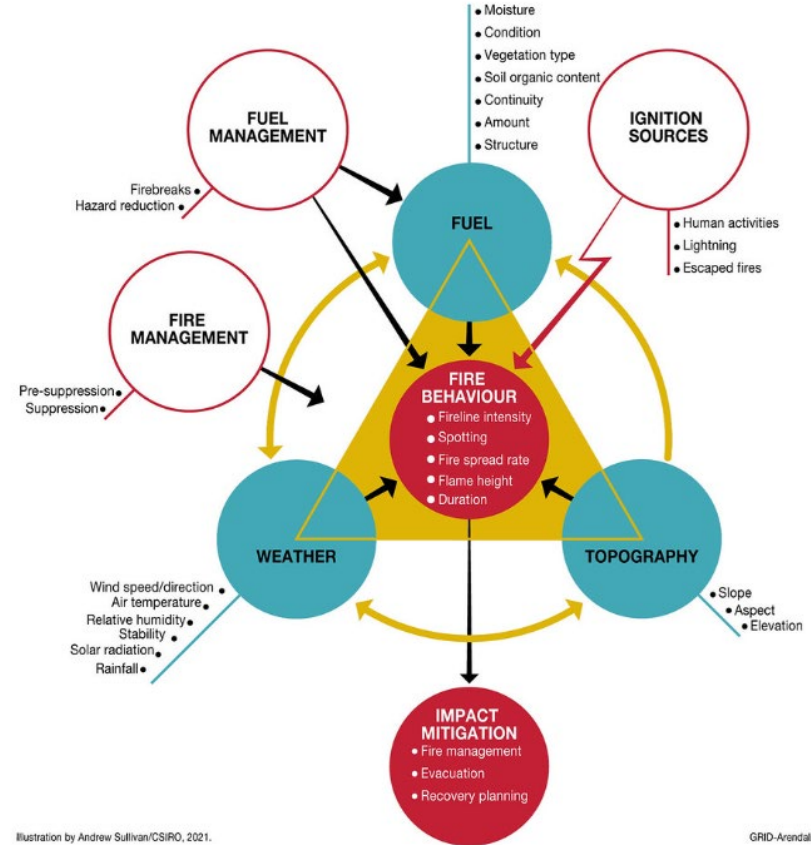
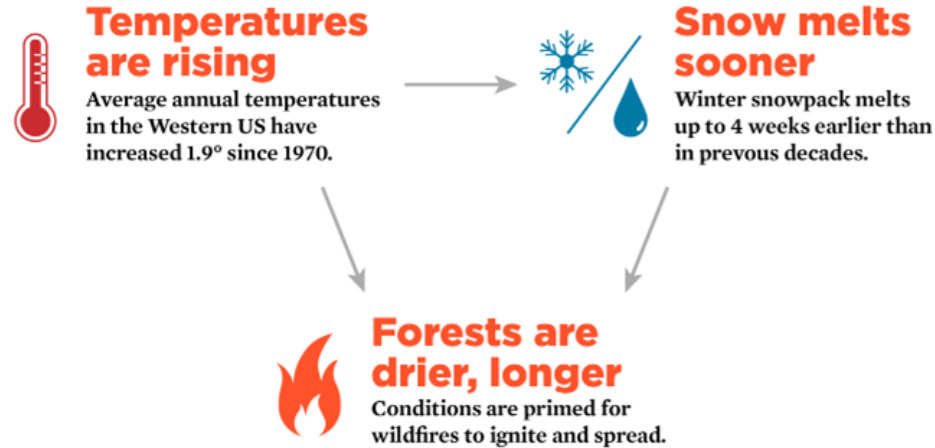


Illustration by Andrew Sullivan/CSIRO, 2021.

GRID-Arendal/Studio Atlantis, 2021

Climate Change is Changing Wildfire

- Extreme fire weather: dry fuels combined with weather
 - Relative Humidity
 - Temperature
 - Windspeed
- 30/30/30
- The effect of “blocking highs”
- 95th percentile weather





Taking a phased approach

We know the problem is urgent but we need to understand the system before we try to change it

If we disagree on root causes, we will never agree on solutions

For our ecosystems, there are some emerging understandings of how this system operates but there are major gaps in basic knowledge and what are the primary drivers of wildfire in our region

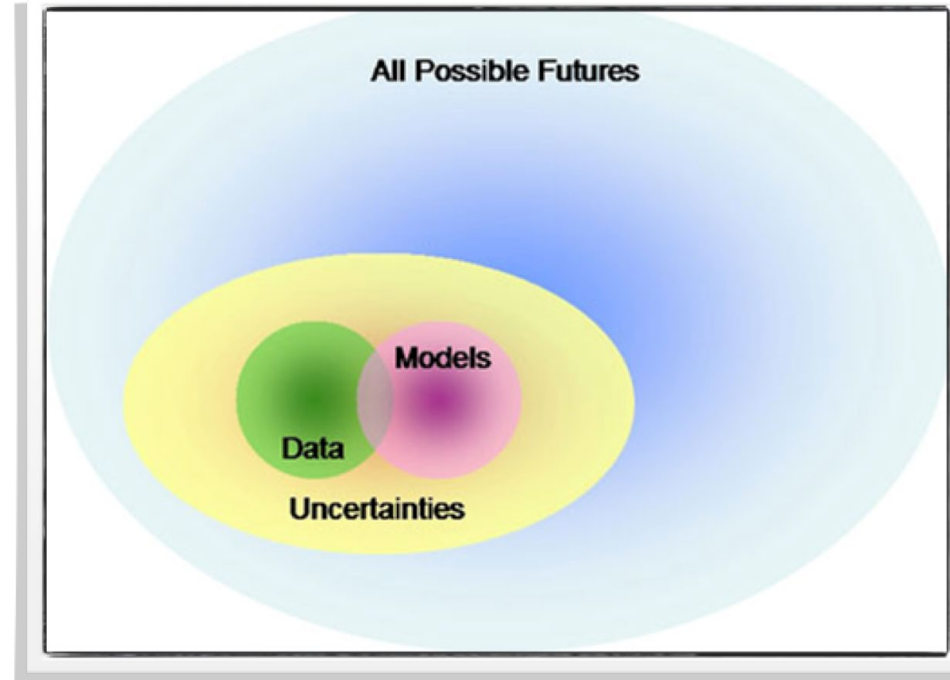
System Exploration, Uncertainty & Decision Support

Questions

- What can happen?
- How likely are each of those to happen?
- What are the consequences?

What do we need?

- A model building process that adapts to fit the decision -making process
- Model building tools that explicitly incorporate the concept of uncertainty



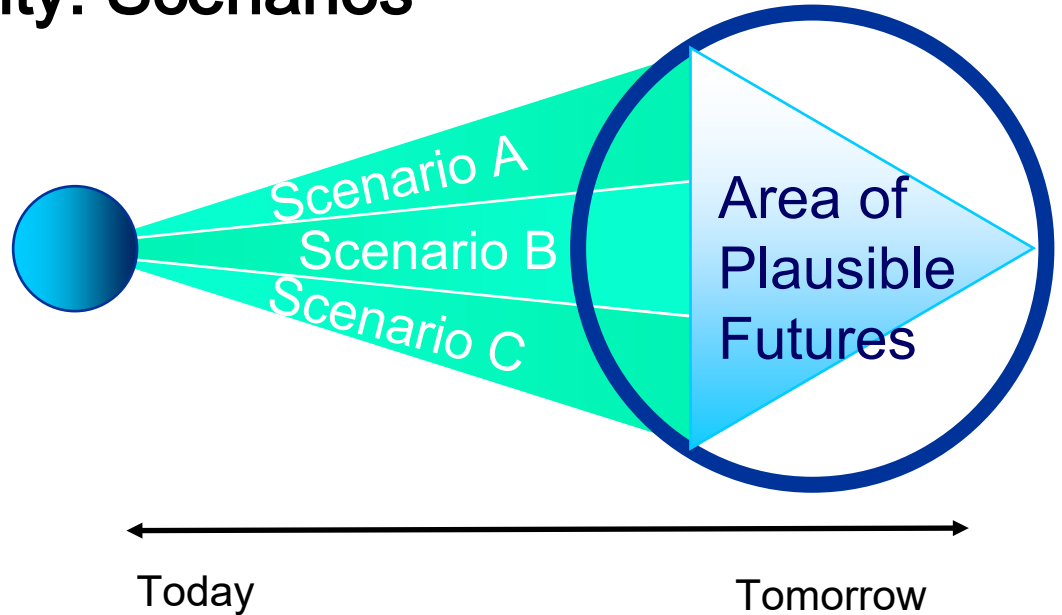
Managing for Uncertainty: Scenarios

System Testing:

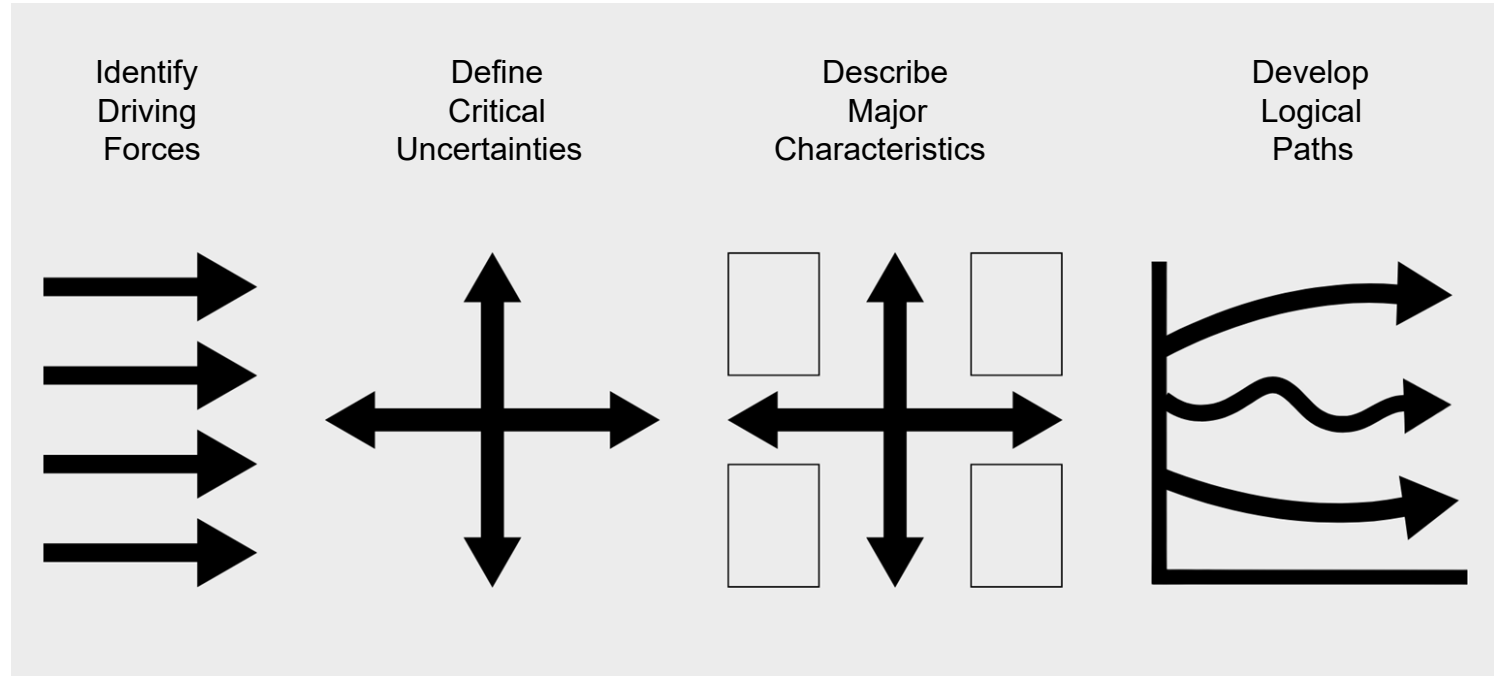
- Model Validation
- System Space Exploration
- Challenge conventional thinking and accepted assumptions

Management Experiments:

- What strategies ensure future ecosystem services?
- Identification of decisions that limit future options.
- Embrace uncertainty - Identify major forces of change

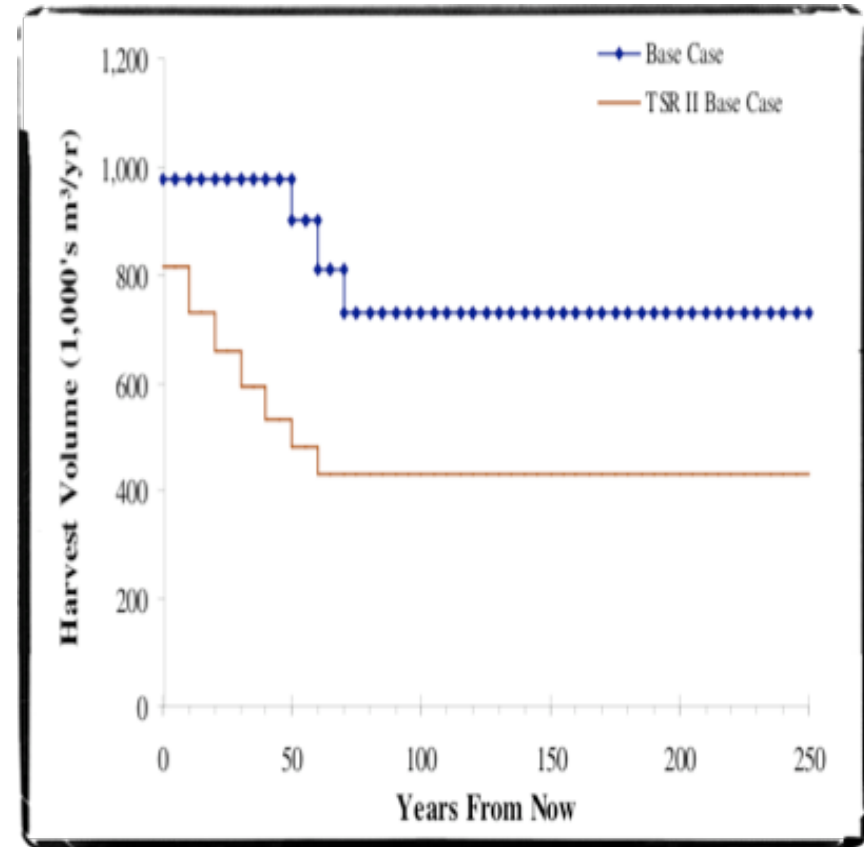


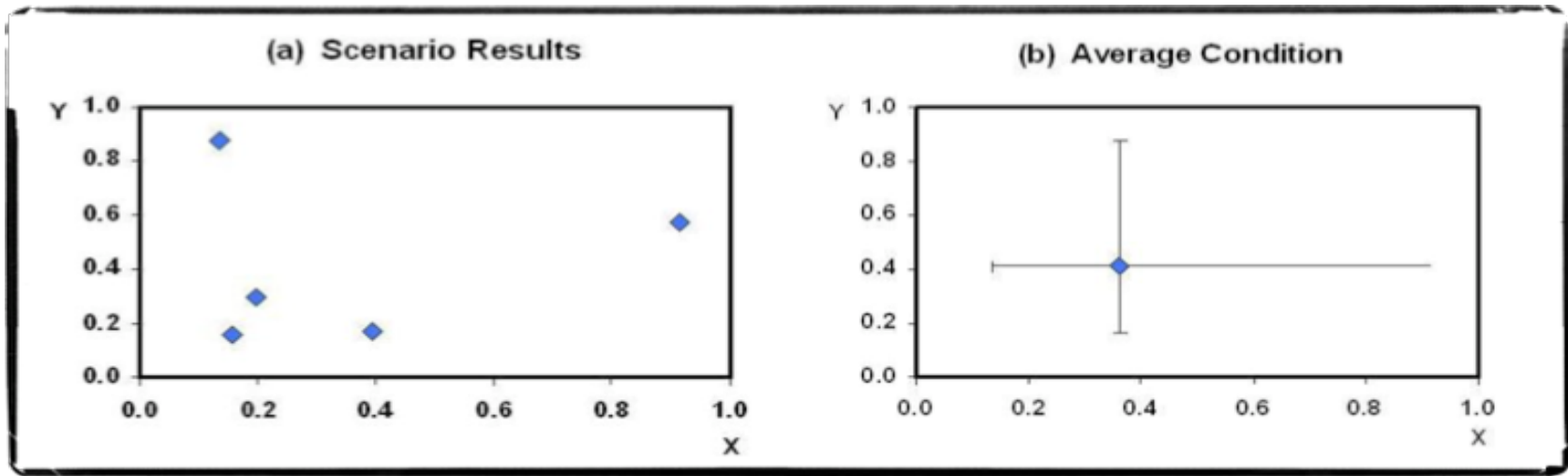
Building Scenarios



What Scenarios are Not!

- **Sensitivity analysis** - varying a single factor
- **Predictions** - general estimate based on a probability distribution
- **Forecasts** - specific estimate of a future condition





Langsdale 2008

Scenario results:

- equally plausible outcomes
- shows variability and outliers
- managing for the variability

Conventional aggregation of results:

- reduction to the average condition
- error bars capture variance
- managing for the mean

Questions?

Break



Background

Approaches

Models

Governance

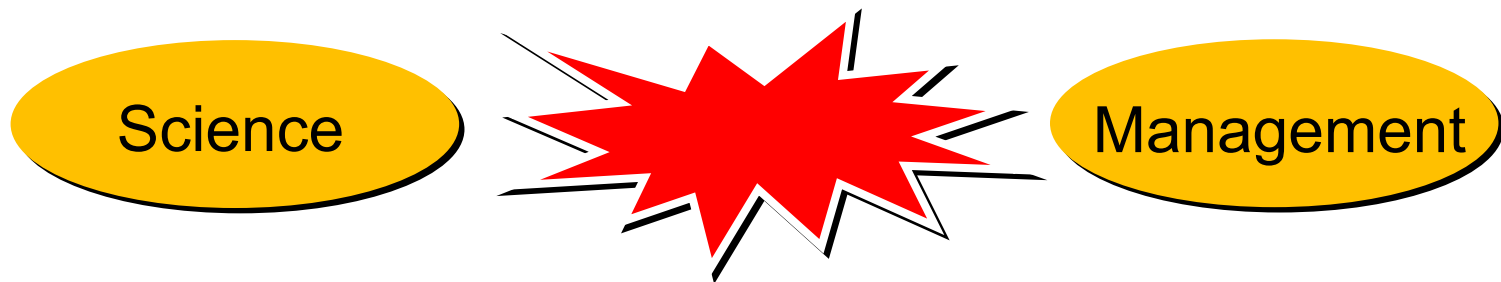
Scope

Common Approaches



- Develop a research model
- Propose application in a management context
- Western science perspective

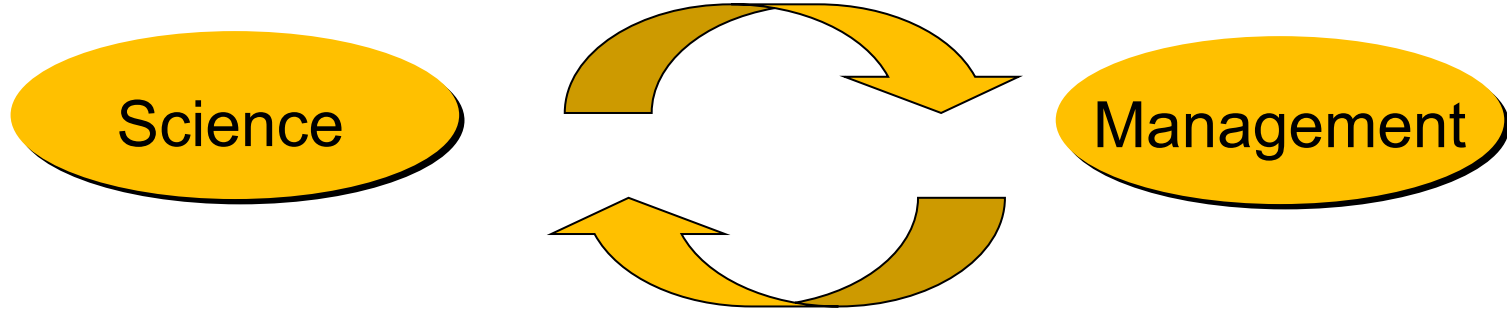
Common Approaches



- Assumes management decisions are based primarily on improved knowledge of system
- Ignores social/economic/political/cultural objectives

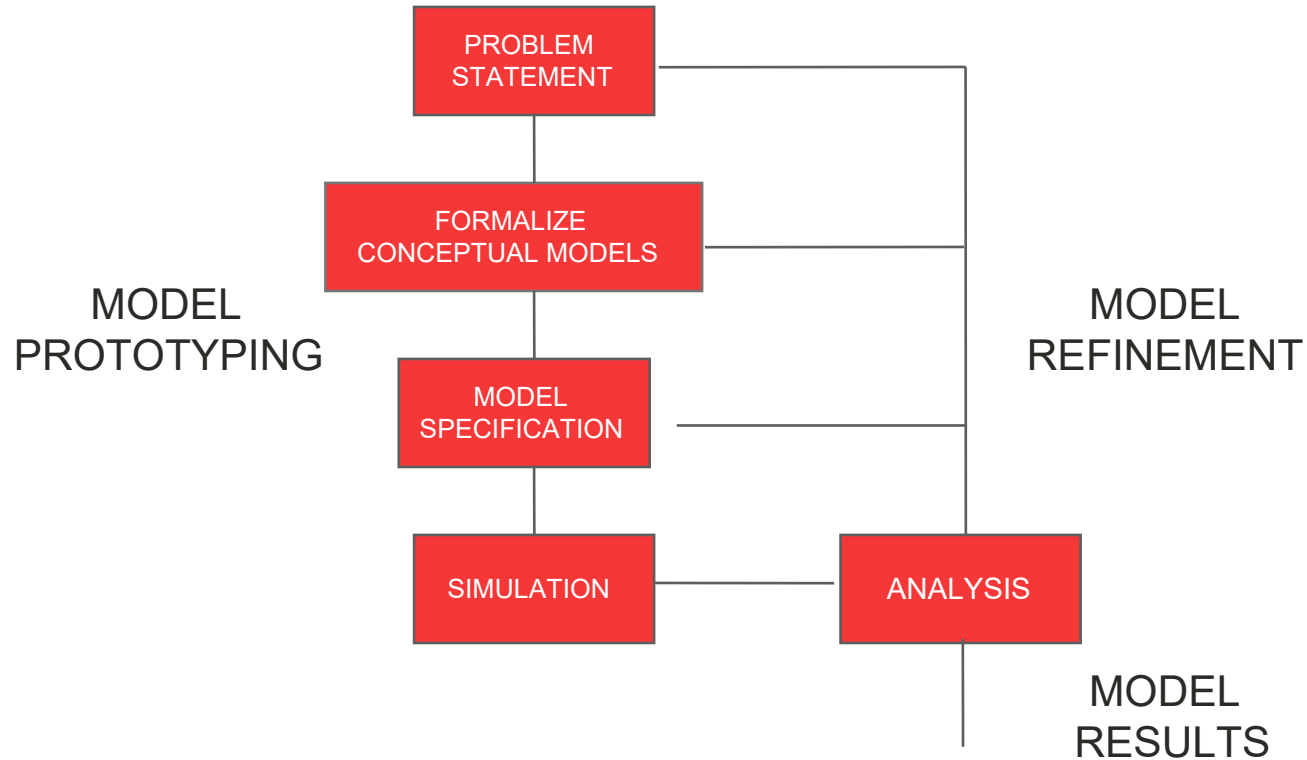
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A Collaborative Approach

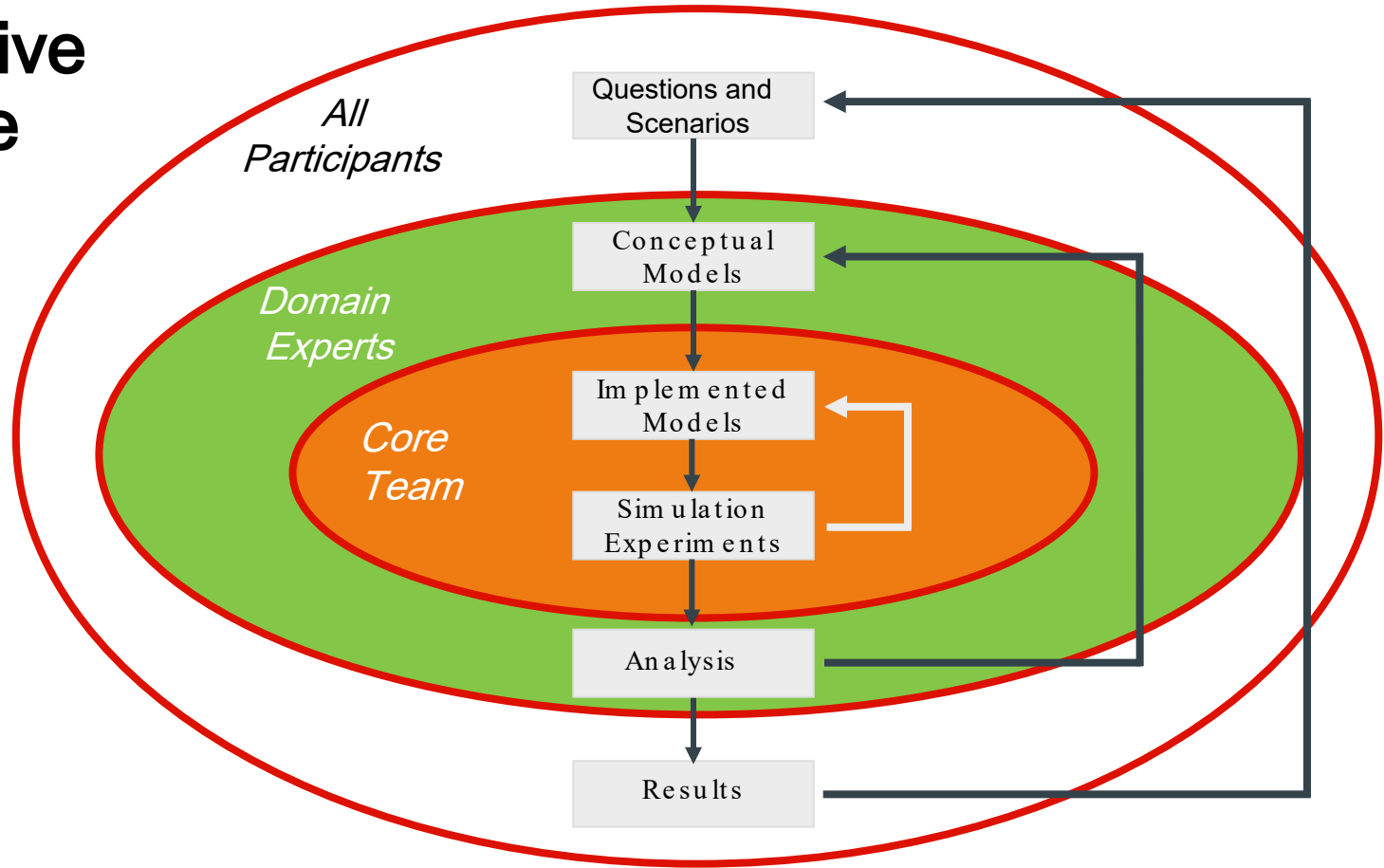


- increased understanding by leaders
- provide information in relevant time frame
- involve and inform interest groups
- document rationale for decisions

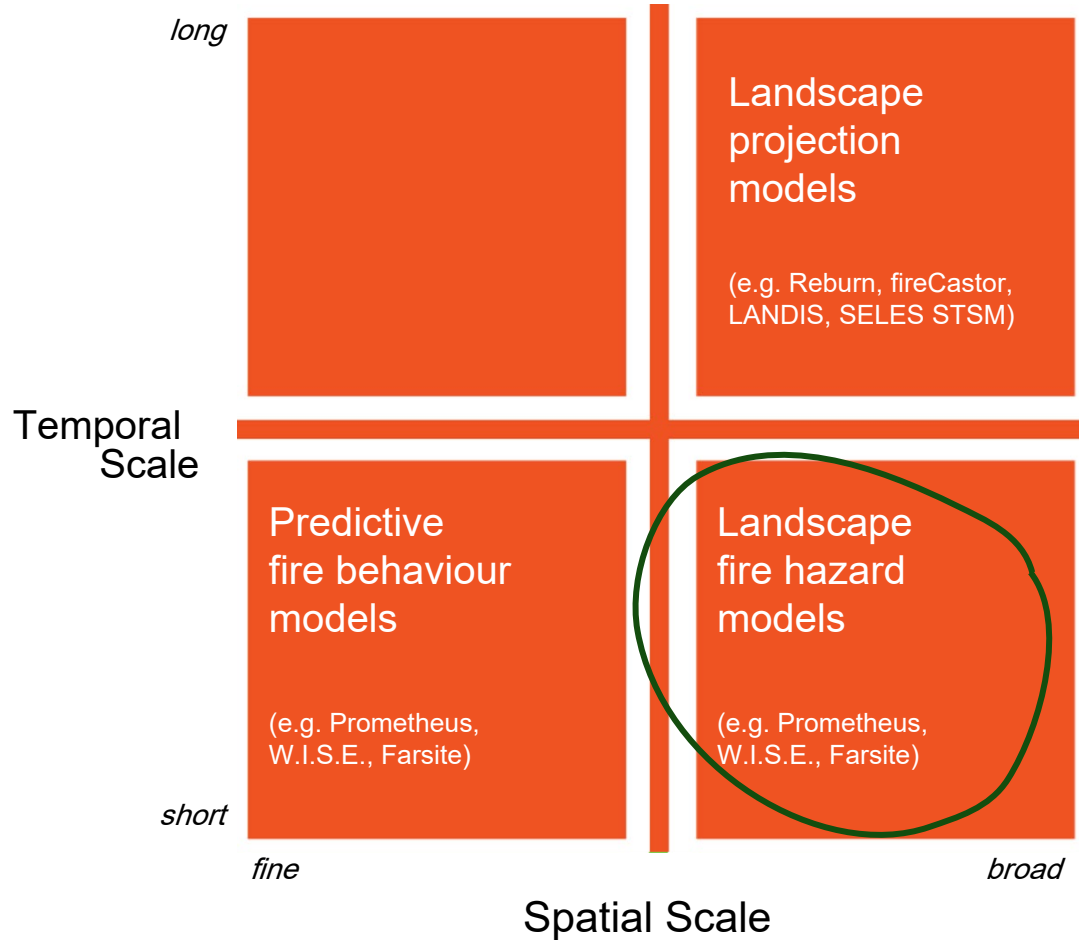
The Modelling Process



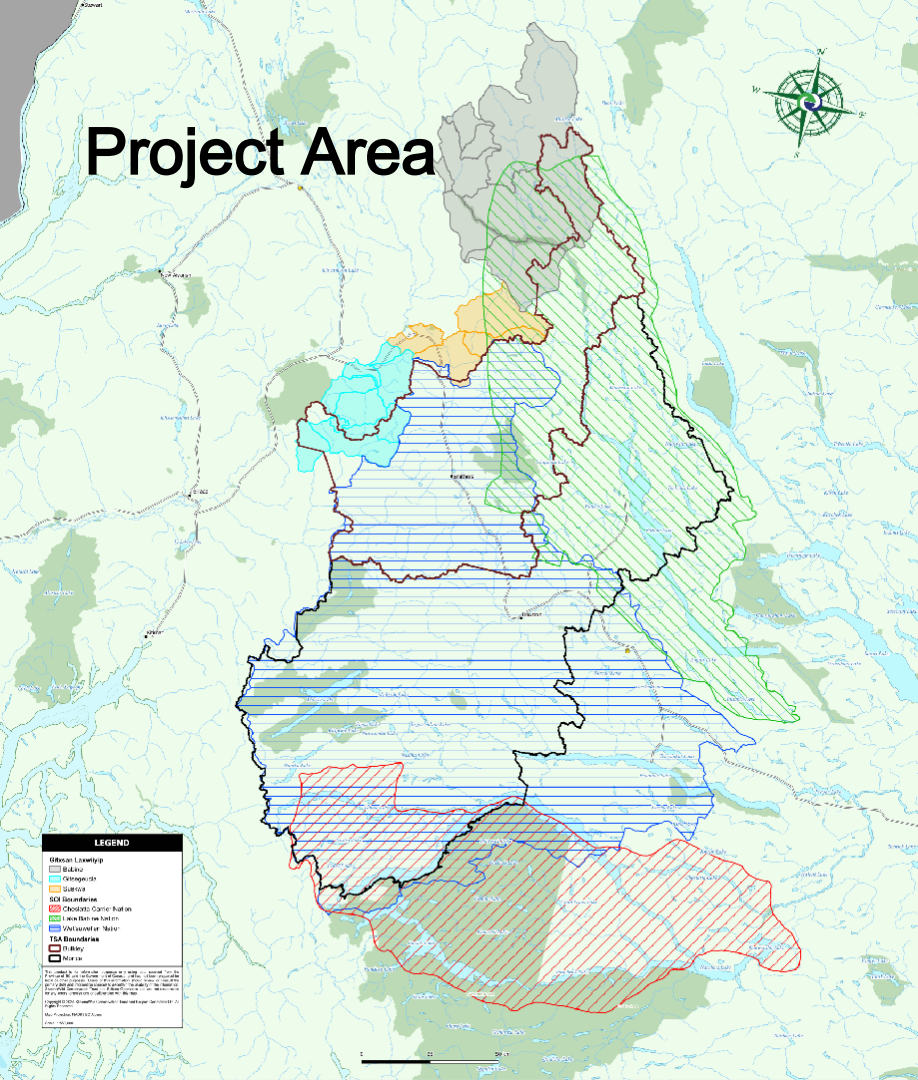
Collaborative Landscape Analysis



Model Scale



Project Area






LEGEND

Gitxsan Laxwiiyip

-  Babine
-  Gitsegeucila
-  Suskwa

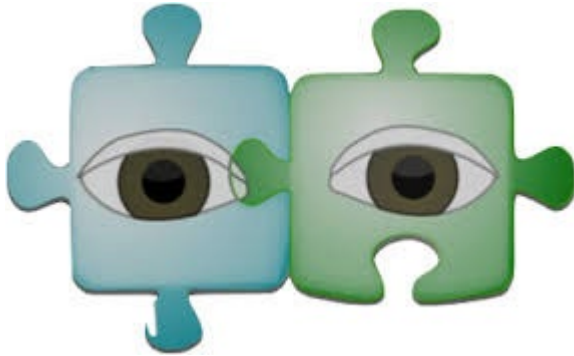
SOI Boundaries

-  Cheslatta Carrier Nation
-  Lake Babine Nation
-  Wet'suwet'en Nation

TSA Boundaries

-  Bulkley
-  Morice

Governance and Knowledge



Co-governance model enabled by the Declaration on the Rights of Indigenous Peoples Act

Two eyed seeing

“learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing ... and learning to use both these eyes together, for the benefit of all.”

Project Governance

STEERING COMMITTEE

Provides oversight and linkages to regional planning and stewardship initiatives.

BVRC

Contract administration, financial management, website and communication support.

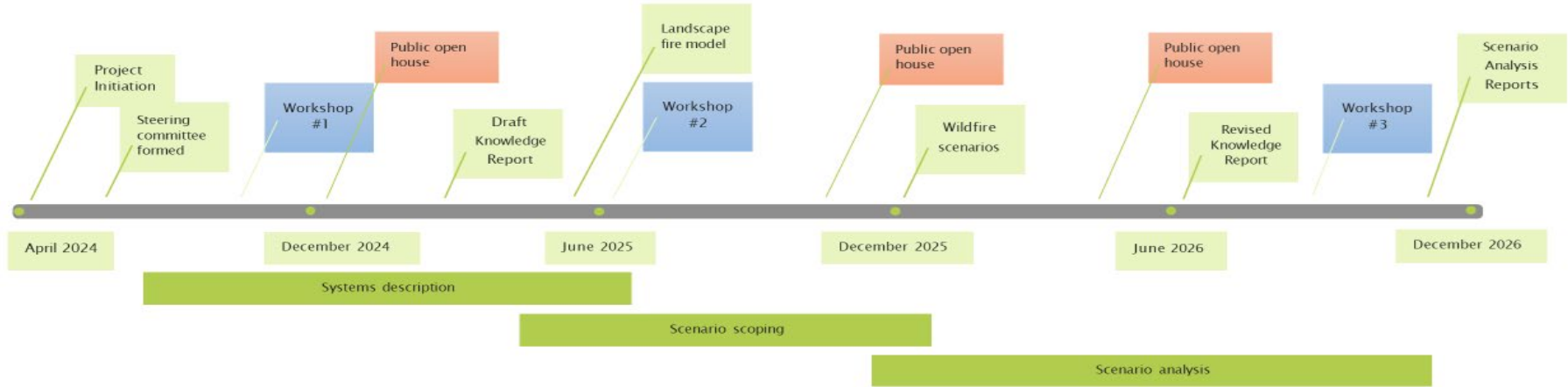
TECHNICAL TEAM

Knowledge report, modelling tools, scenario analysis, expertise and advice.

PROJECT MANAGEMENT TEAM

Project management-project coordination, logistics, budget and reporting, ensures deliverables, community engagement and extension.

Project Timeline and Deliverables



Project scope

A place based independent research project linked to local planning

IN

Compile and synthesize existing research

Document what we know and areas of uncertainty

Build a wildfire modelling tool kit that integrates with other planning models

Management scenarios that support planning tables and land managers

OUT

New research

Land use planning and land use decisions

Wildfire risk reduction prescriptions and treatments

Suppression operations

Outcomes for today

About laying the foundation - need to know how the system works before we can apply management to it

- *What questions we need to ask and answer vs perspectives, solutions and policy*
- *Identify critical gaps or errors in our knowledge of the system*

Why only 3 topics today?



Your role

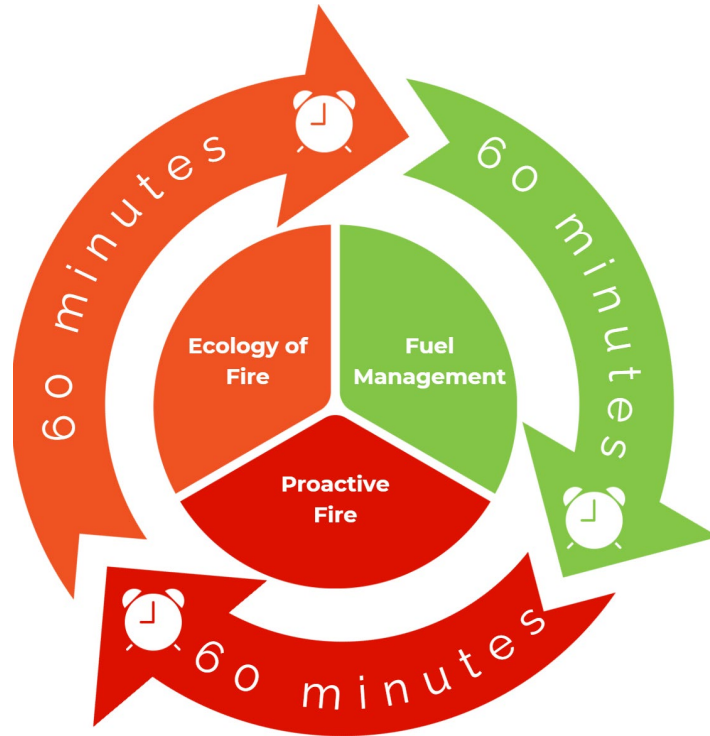
Surfacing knowledge and
knowledge gaps versus solutions

Strategic and tactical versus
operational and response

Please...make a mess!



Breakout groups



- Review
- Feedback
- Discussion

Breakout Group assignments

Group A

Adam
Ryan
Dean
Dale
Doug L
Neal
Karine
Matt
Steven
Bernie

Group B

Patrick
Cam
Sebastian
Sam
Shannon I
Jade
Chris
Kevin S
Peter
Veronica

Group C

Duane
Jim
Pam
Andrew
Doug H
Brad
Jon
Tony
Irene
Shannon H

Breakout session #1

Lunch



Breakout session #2

Quick Break

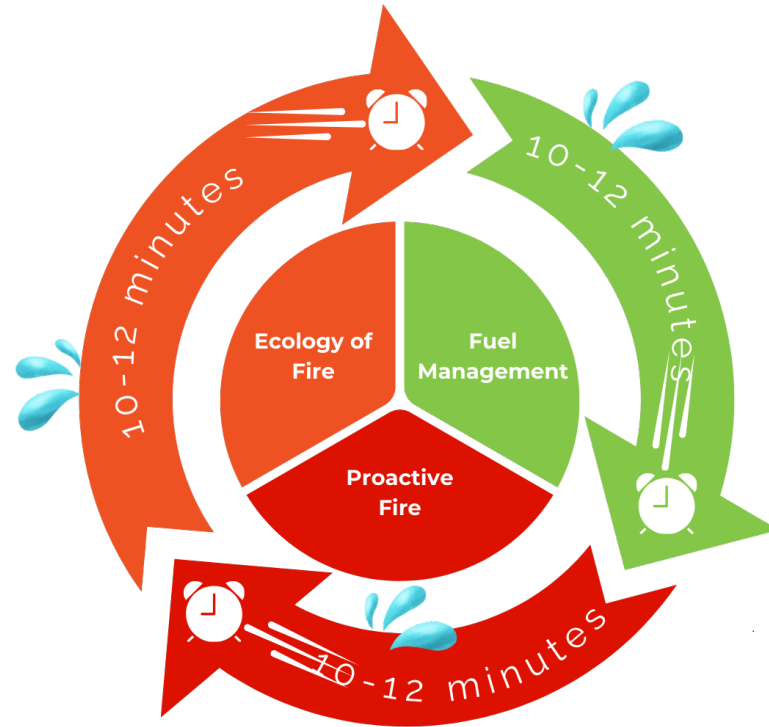


Breakout session #3

Break



Breakout content review



- Summary
- Outcomes
- Final feedback

Synthesis

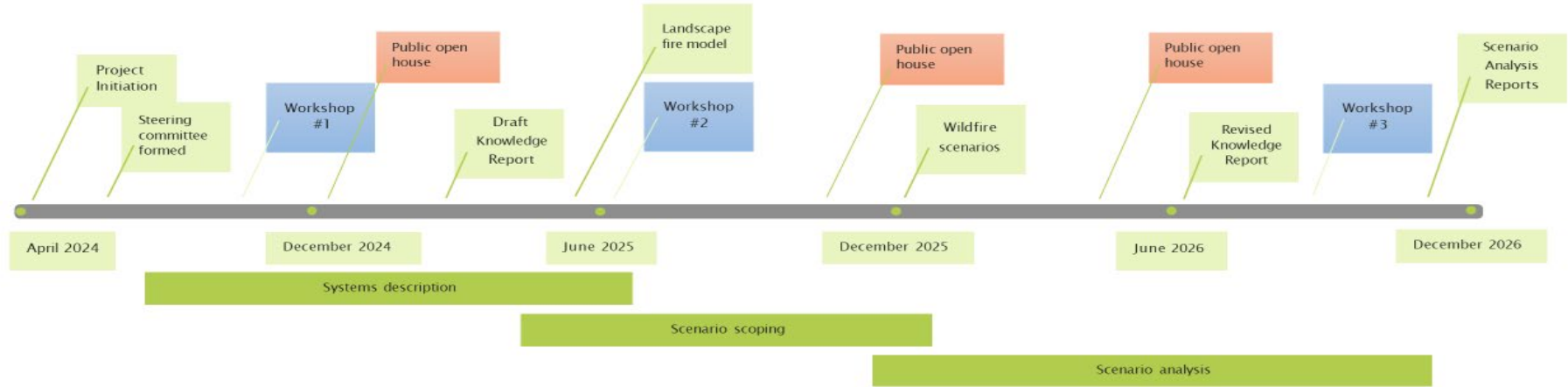
Observations

Themes

Where to next?



Wrap -up



Tell us

Survey

Ongoing engagement



THANK YOU.

