

Adaptation Planning Workshop for the Sierra Nevada

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EcoAdaptTM
Meeting the challenges of climate change

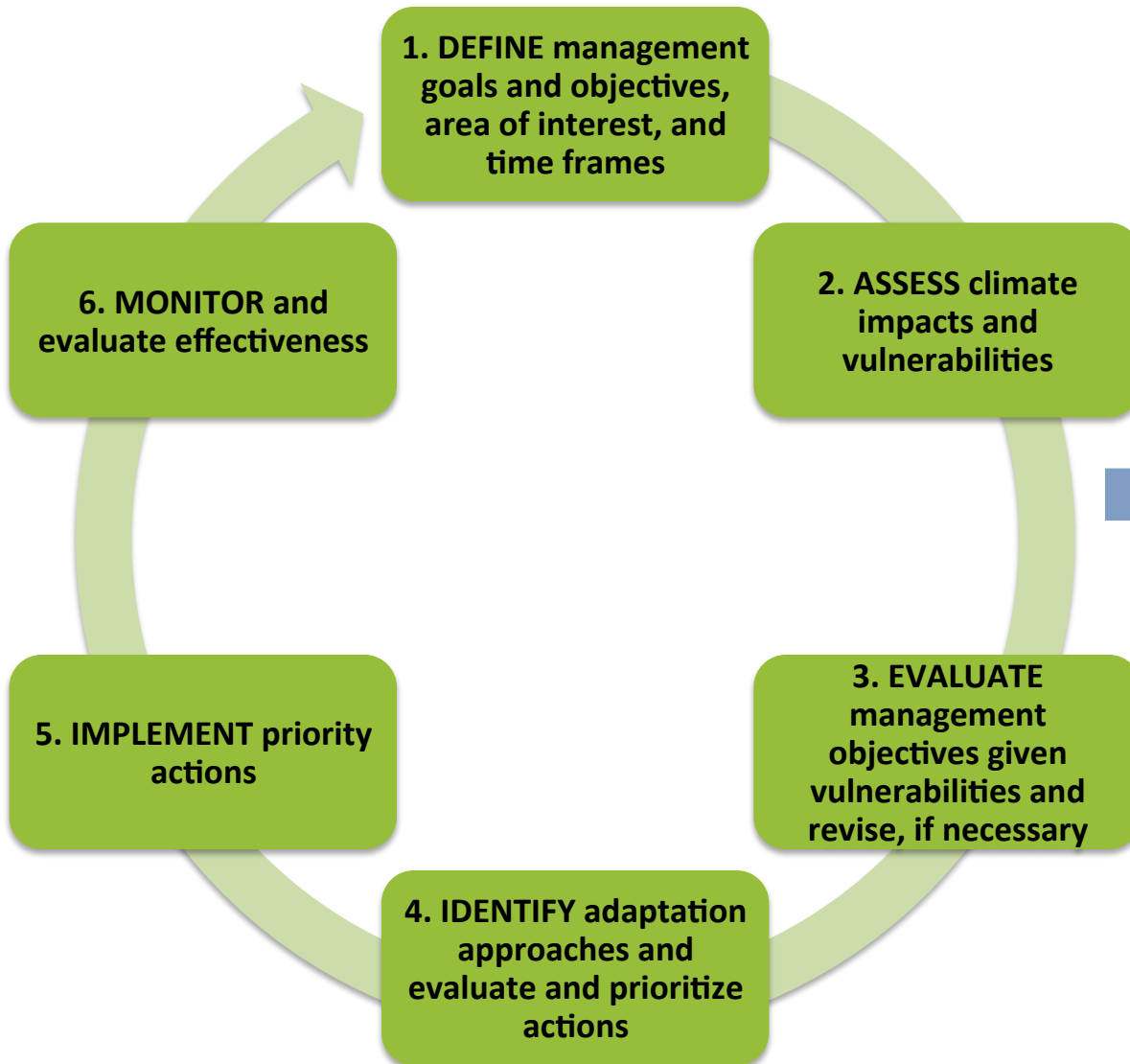
Workshop Goal

To Develop a Portfolio of Adaptation Options for Focal Resources and the Region

- Prioritize actions
- Identify who could implement and when, and what resources are needed
- Where to implement



Adaptation Planning Cycle

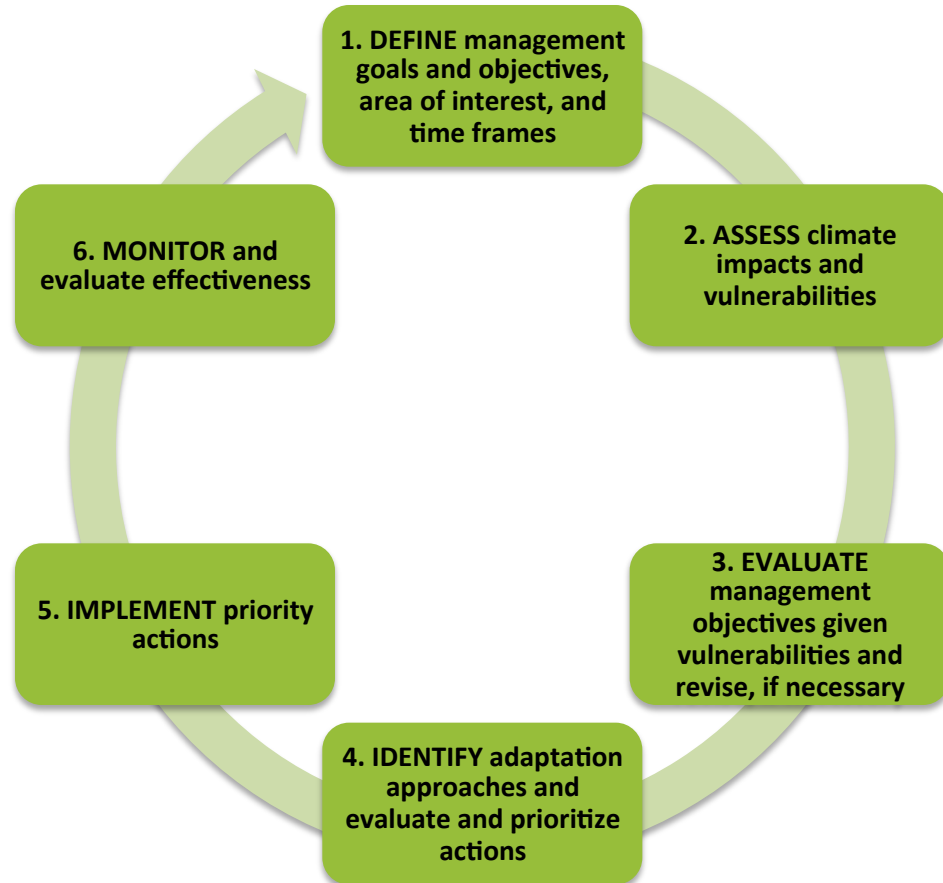


OUR GOAL:
Complete
Steps 1-4 and
part of 5
during this
workshop

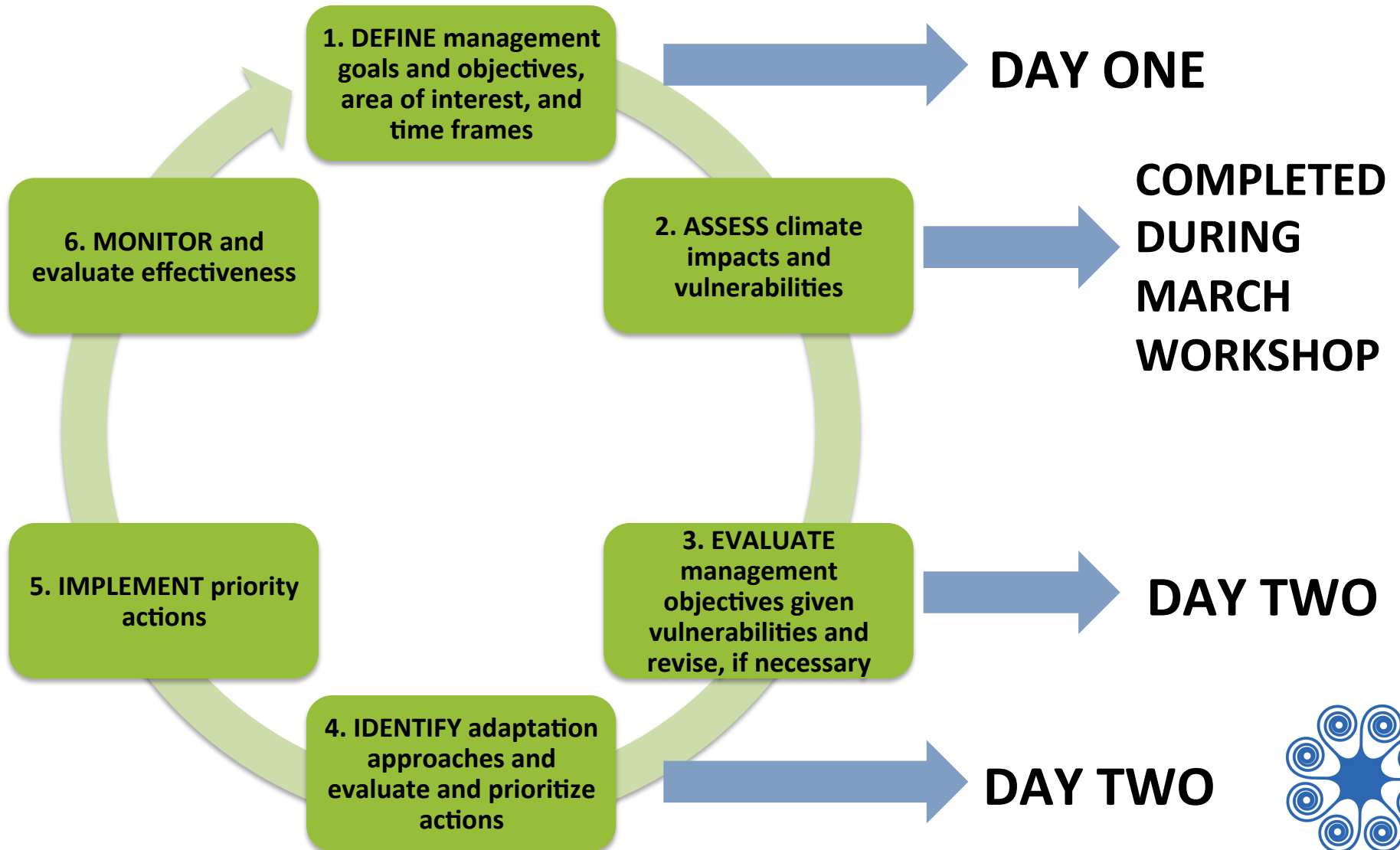


Outcomes

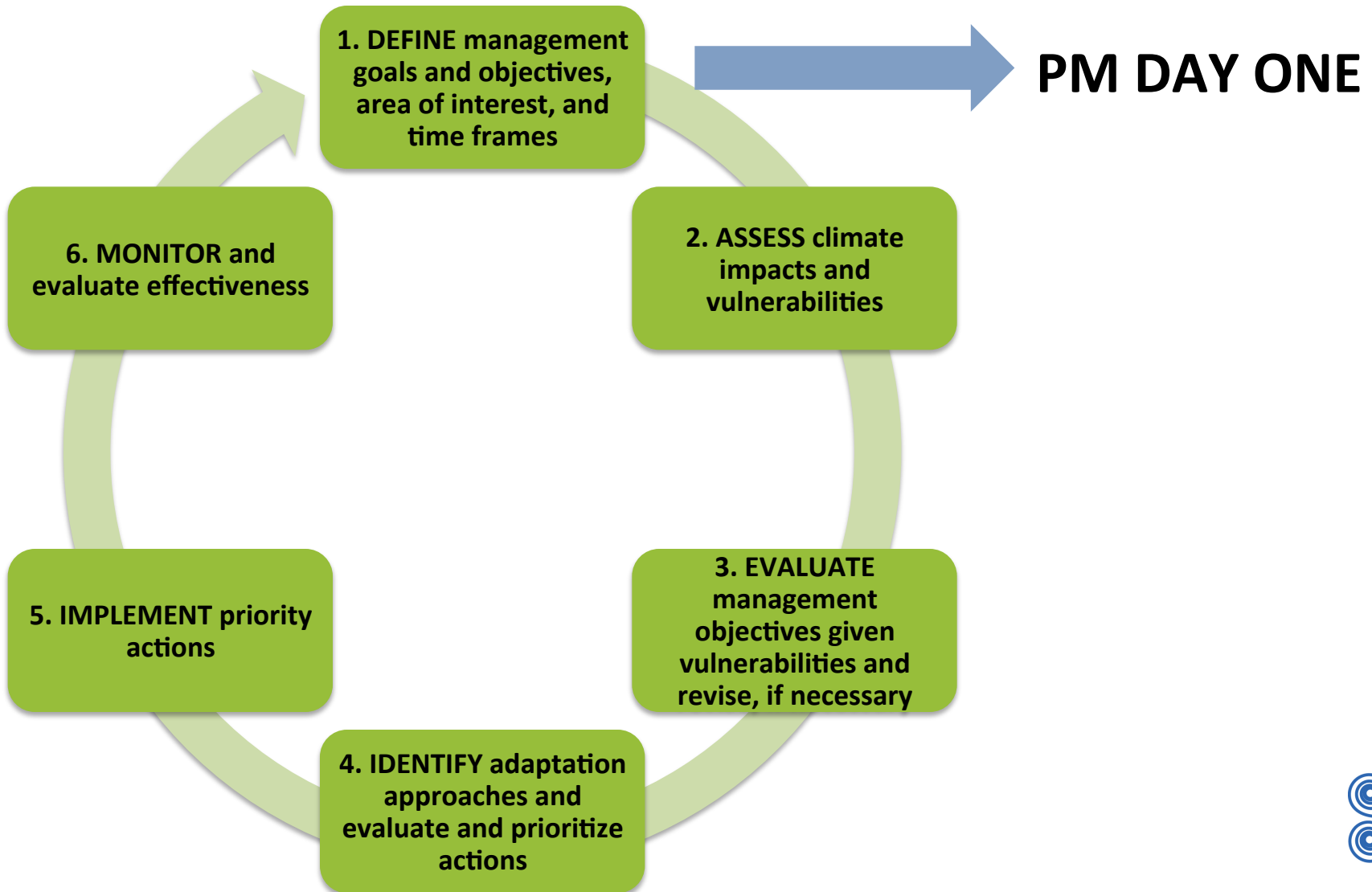
1. List of management objectives for resources
2. Evaluation of management objective feasibility given climate and non-climate stressors
3. Suite of adaptation approaches and actions for a resource
4. Prioritized list of adaptation actions – for resources and across the Sierra Nevada
5. Implementation plans for prioritized actions
 - WHO, WHEN, WHAT/HOW, WHERE



Adaptation Planning Workshop



Adaptation Planning Workshop



Step 1.

DEFINE management goals and objectives, area of interest, and timeframes.

Management Goals: broad, general statements that express a desired state or process to be achieved

– “Maintain and improve forest health and vigor.”

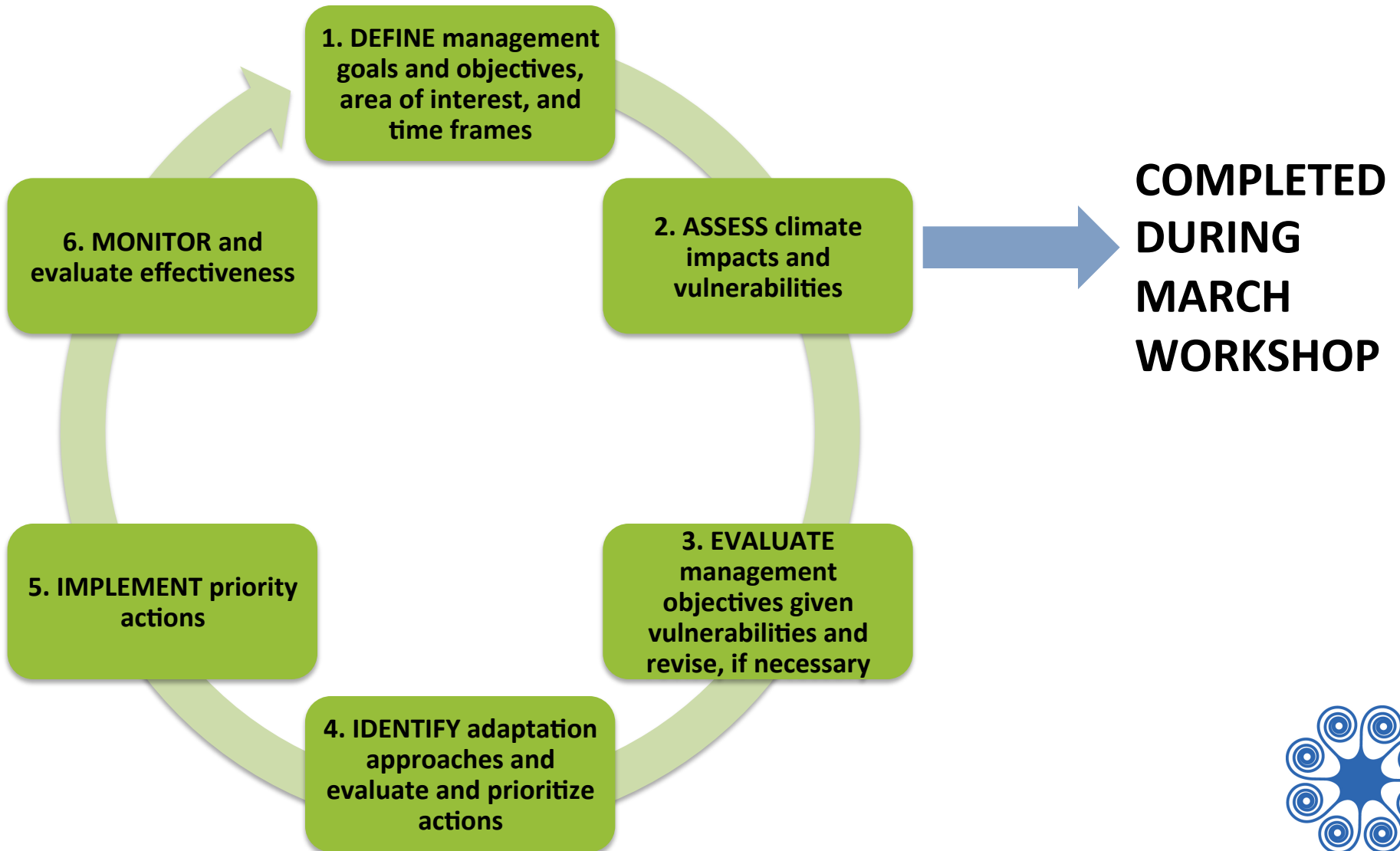
Management Objectives: concise statements of measurable planned results that correspond to preestablished goals in achieving a desired outcome

– “Implement silvicultural treatments within 5 years in order to increase the oak component of selected stands and enhance wildlife habitat.”

Area of Interest: describe a geographic area (e.g., management unit, stands, general locations, etc.)



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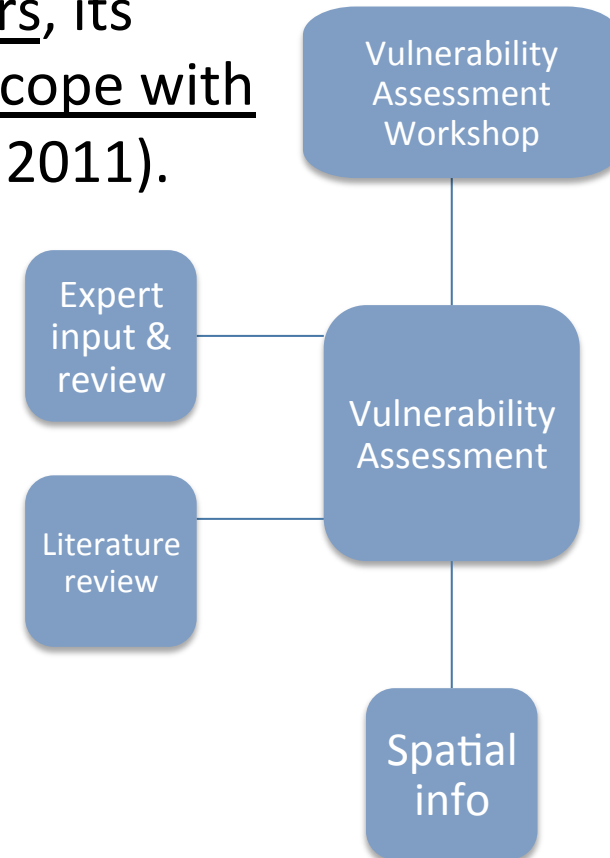


Step 2.

ASSESS climate impacts and vulnerabilities.

➤ **Vulnerability**: susceptibility of a system/species to the adverse effects of climate change. A function of its sensitivity to climate and non-climate stressors, its exposure to those stressors, and its ability to cope with impacts with minimal disruption (Glick et al. 2011).

➤ Resource vulnerabilities assessed during March workshop



Step 2.

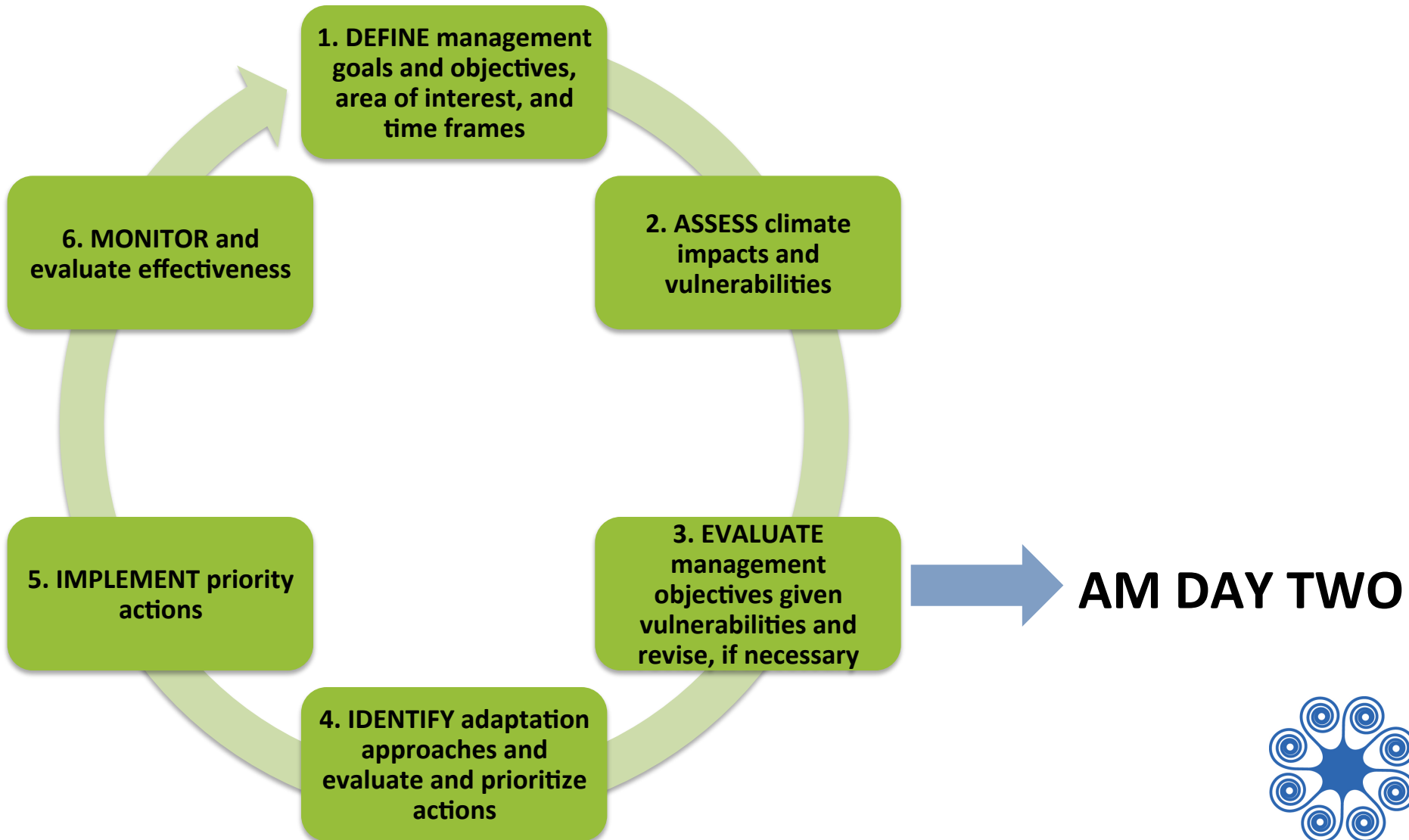
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- Resource vulnerabilities assessed during March workshop
- Summaries are included in resource packets on group tables
- Detailed results can be found on workshop support page <http://ecoadapt.org/workshops/sierra-nevada-adaptation-workshop>



Adaptation Planning Workshop



Step 3.

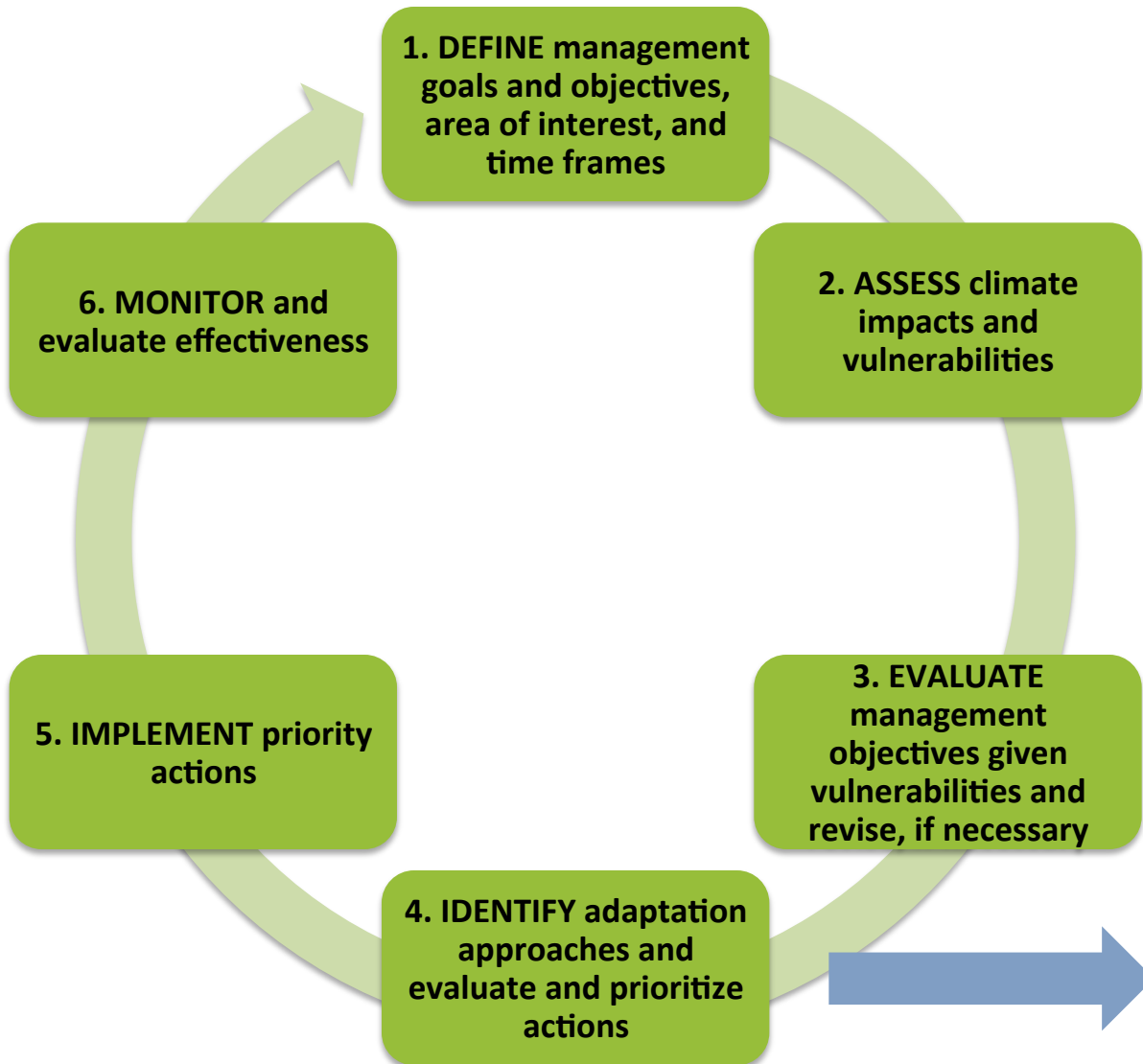
EVALUATE management objectives given vulnerabilities and revise, if necessary.

Use Vulnerability Assessment results provided to:

- Identify challenges to meeting management objectives
 - How will climate impacts and associated vulnerabilities make it more difficult to achieve management objectives?
- Identify opportunities
 - How will climate impacts and associated vulnerabilities make it easier to achieve management objectives?
- Evaluate feasibility of meeting your objectives under current management strategies and actions
 - Can existing management options be used to overcome challenges or are new approaches required?



Adaptation Planning Workshop



AM DAY TWO



Step 4.

IDENTIFY adaptation approaches and evaluate and prioritize actions.

Adaptation: efforts to reduce the negative effects of or respond to climate change

- Identify adaptation *approaches* that will help you achieve your management objective
 - “Alter forest structure or composition to reduce risk or severity of fire.”
- Describe more specific *actions* that you can take to implement the adaptation approach
 - “Use prescribed burning or other ground cover management to minimize fuel loading and reduce severity of potential fires.”
 - “Plant fire-resistant species, such as hardwoods, between more flammable conifers to reduce vulnerability to wildfires.”



Step 4. Continued

Identify adaptation approaches and **EVALUATE** and **PRIORITIZE** actions.

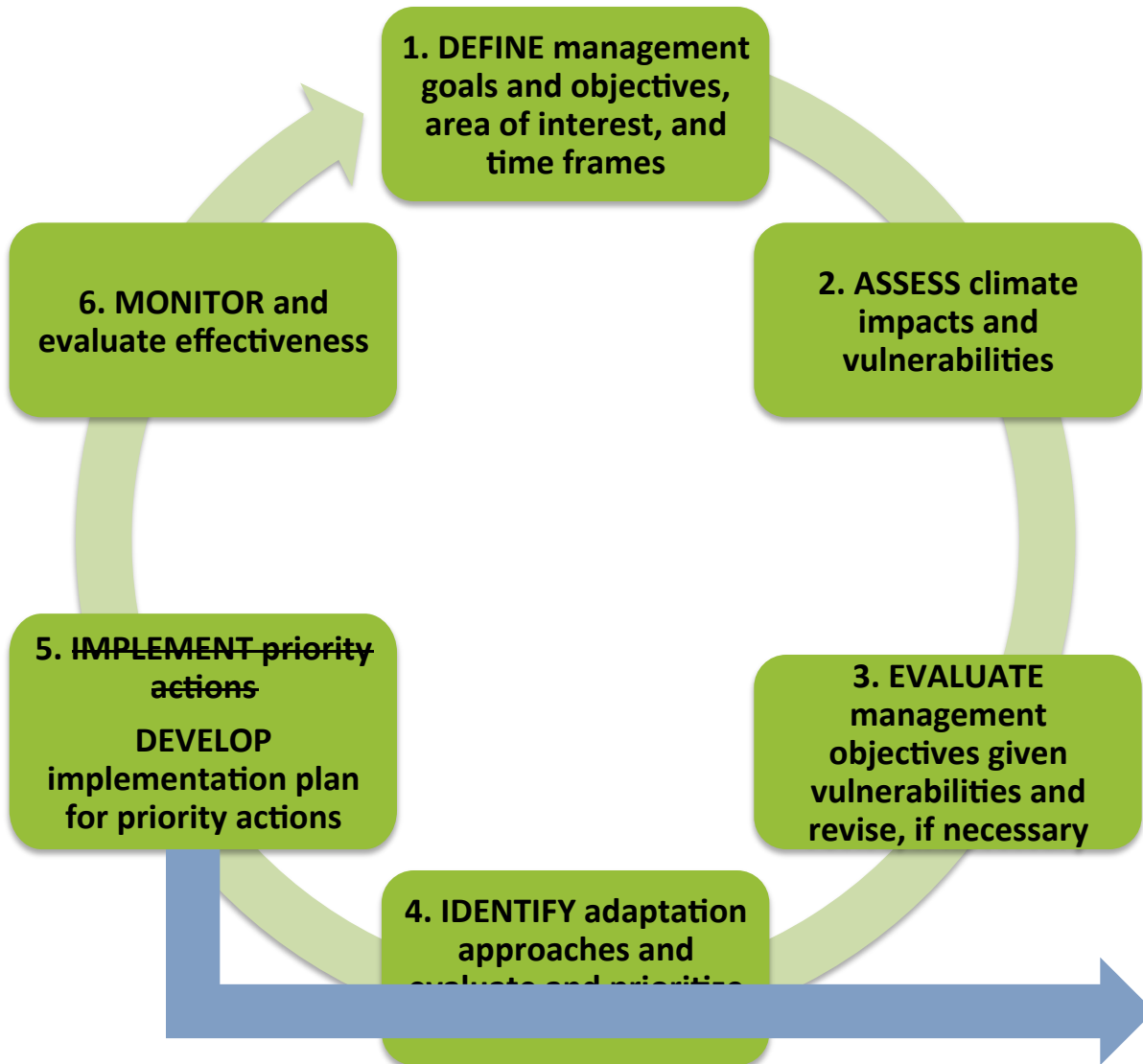
Adaptation: efforts to reduce the negative effects of or respond to climate change

➤ For each action, identify:

- 1. Feasibility** – how difficult will it be to implement? Are there barriers to implementation (e.g., legal, social, financial, technical etc.) or benefits (e.g., addresses multiple challenges)?
- 2. Priority** – how important is it that the action be implemented now?



Adaptation Planning Workshop



PM DAY TWO



Step 5.

DEVELOP implementation plan for priority actions.

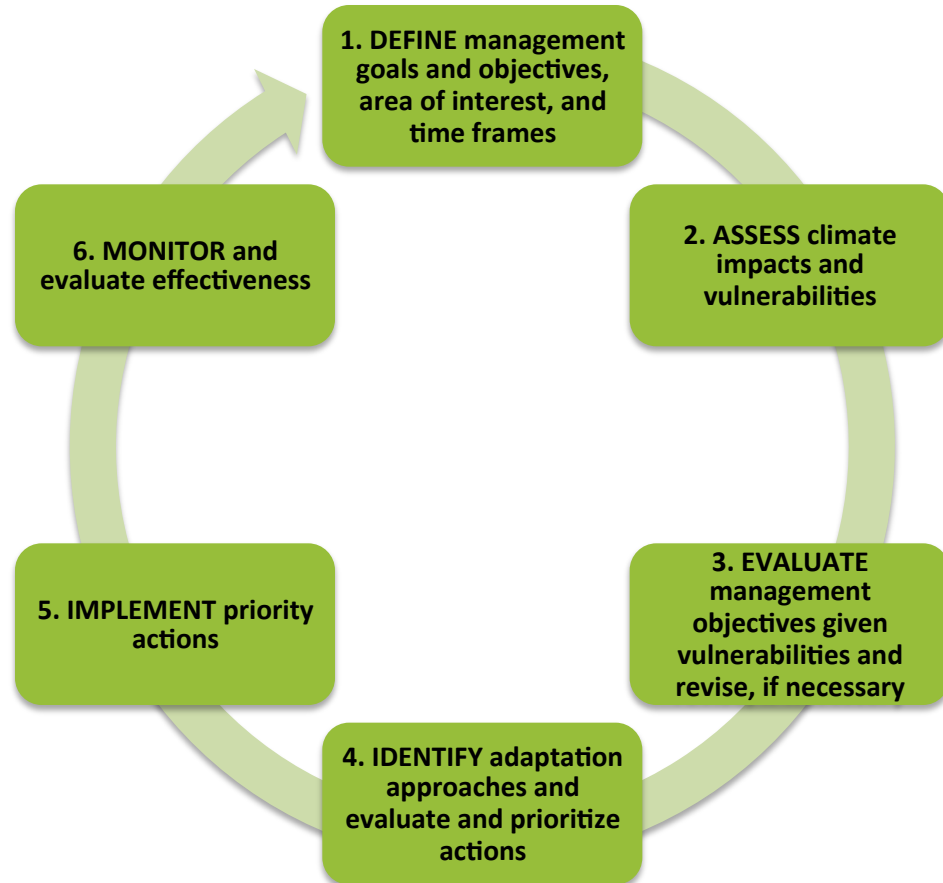
For priority actions:

- Who could implement – agency, organization, private landowner?
- Resources needed – data/information, funding, permits, etc.
- Partners – who can help with data? Obtaining funding? Materials?
- Timeframe – near-term actions vs. longer-term
- Where to implement – possible areas to target actions



Outcomes

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Example: Red Fir

Management Objective

Double recruitment of red fir in mid-elevation stands in next 10 years.

Climate & Non-Climate Stressors

Dispersal limited by nearby clear cut/logging

Less fire tolerant; Intense fires result in high mortality

Adaptation Approaches

Enhance dispersal capabilities

Alter forest structure or composition to reduce risk of severe fire

Actions

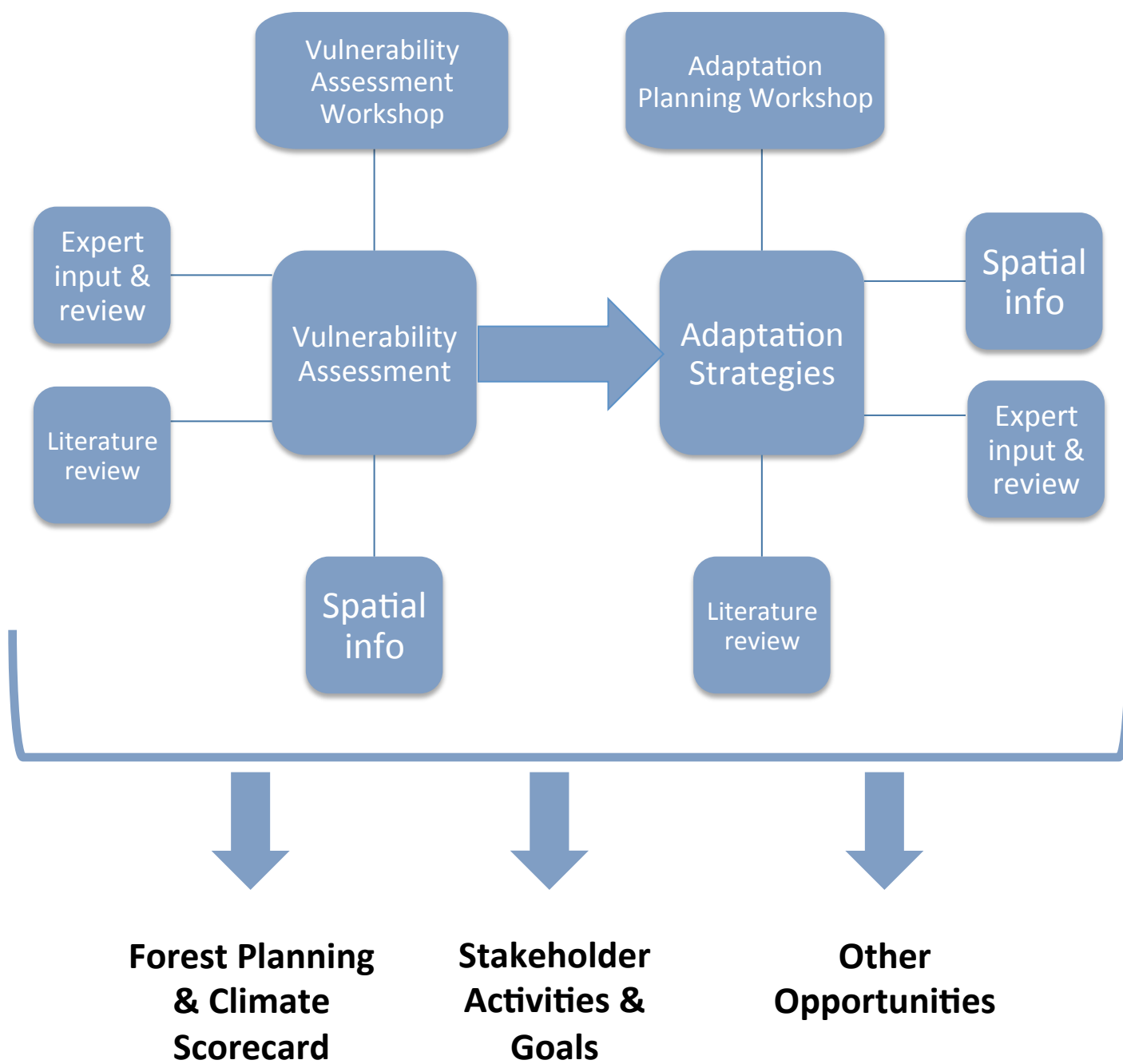
Facilitated migration (aka "the Johnny Appleseed")

Plant fire-resistant species between more flammable ones

Use prescribed burning to minimize fuel loading

Implementation Plan

- Who
- Resources needed
- Timeframe
- Where



Questions?

*Up Next: Introduction to Adaptation
Strategy Development*

