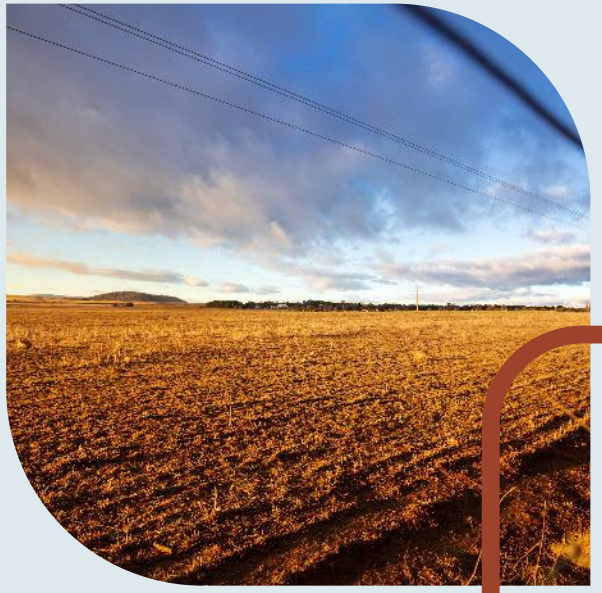
Australian Government
Department of Agriculture, Fisheries and Forestry

ABARES

Demystifying general surveillance programs

Annual Surveillance Workshop

10 June 2025



Heleen Kruger

(with Jen Ticehurst, Scott Burrows and Md Kamruzzaman)

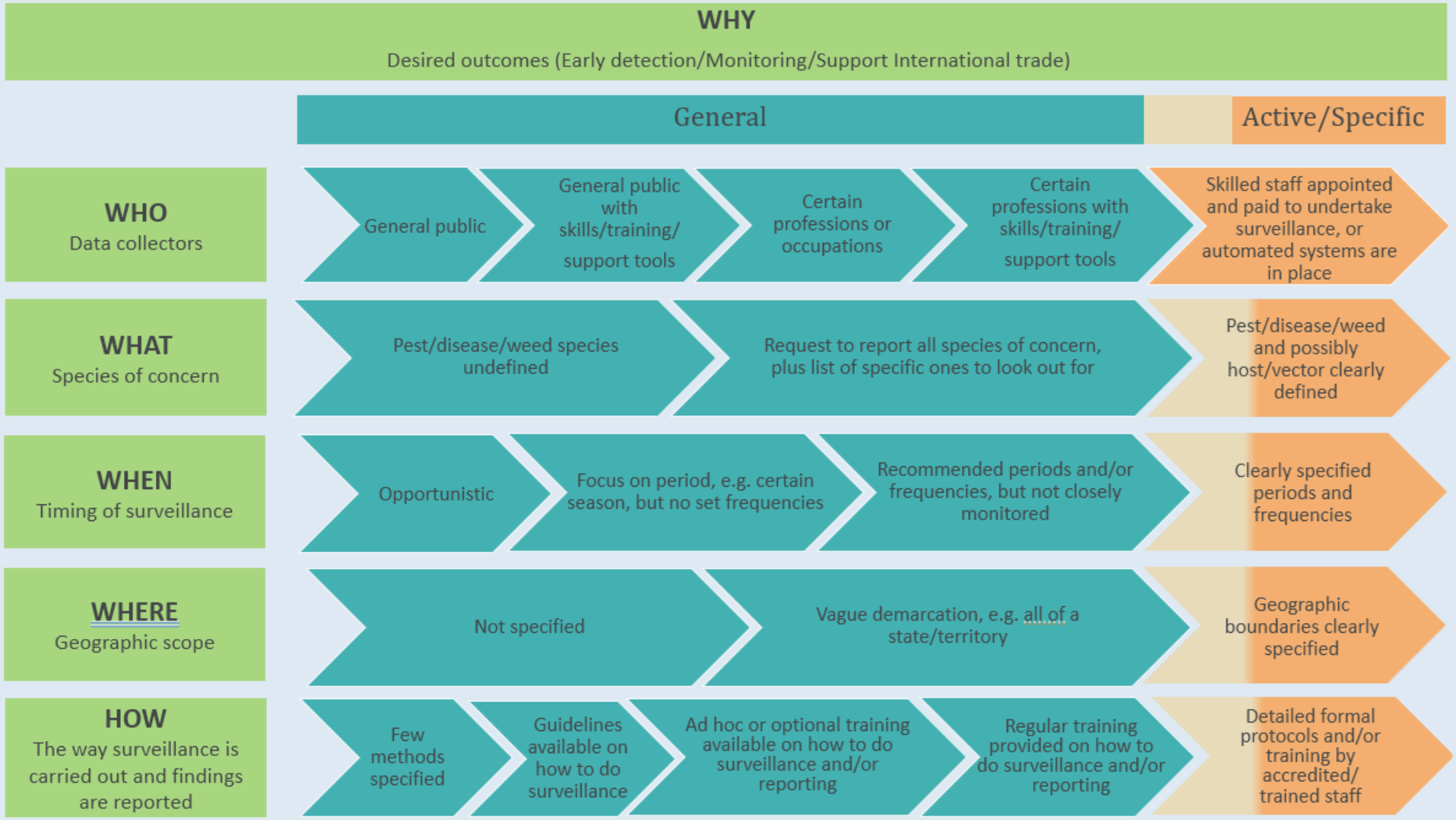
ABARES – Social Science Program

What is a general surveillance program?

General surveillance programs engage with people from all walks of life to monitor pests, weeds and diseases.

- **OPPORTUNISTIC** – tap into people's locations, skills, interests, motivations, etc.
- **LESS STRUCTURED** – about who, what, where, when and how than active surveillance programs

General surveillance programs are on a spectrum



ABARES Social Sciences work on general surveillance (GS)

2019 – 21 Systems thinking

2022 – 23 Understanding how DAFF supports GS

2024-26 Systems thinking & MERI*

Literature review & Analysed nine case studies

- Northern Australian Biosecurity Surveillance Net
- Rural Practitioner Enhanced Disease Surveillance

- Pantry Blitz WA
- NZ General Surveillance (plant health)

- Fish Watch SA
- State-wide Array Surveillance Program (SWASP)

- Weed Spotters Network QLD
- Weed Spotters VIC

- Indigenous engagement about general surveillance

GS program continual improvement
incl. working with four pilot studies

- Weed Spotters Network Queensland

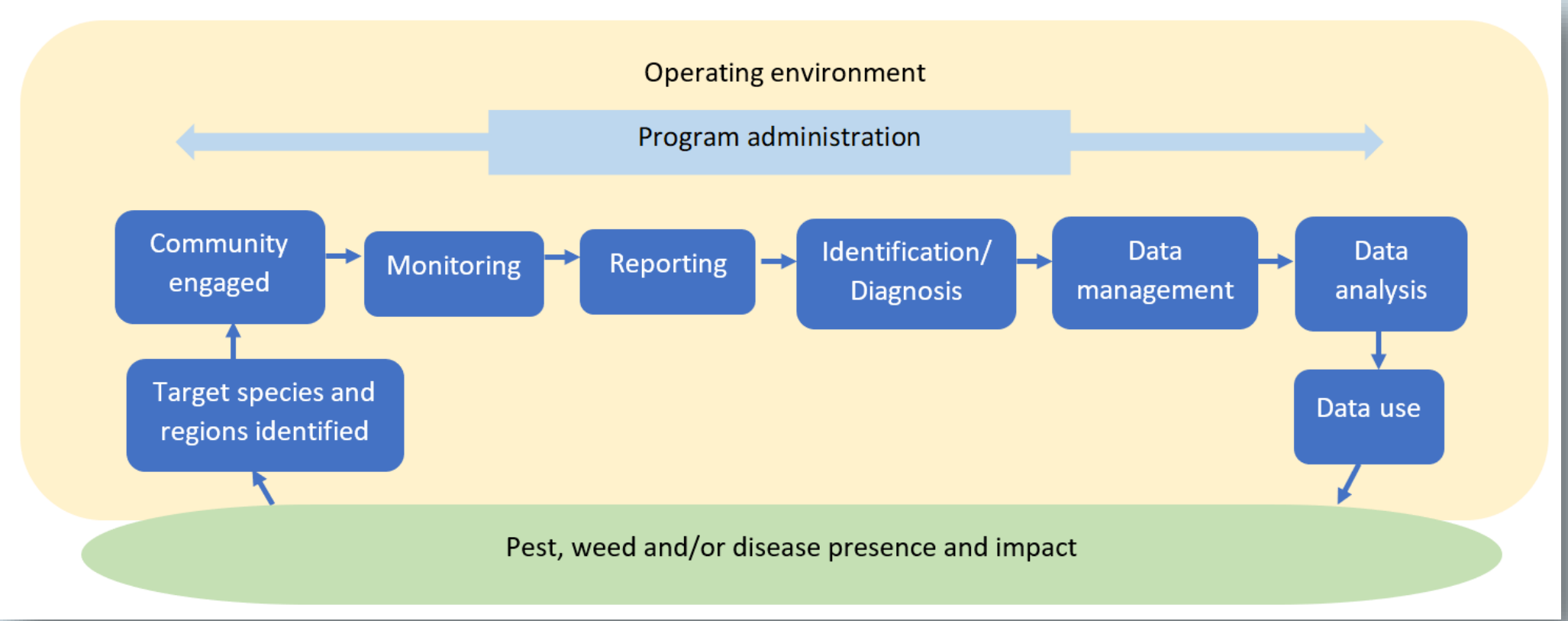
- NSW Marine Ports program

- Wild Bird SOS

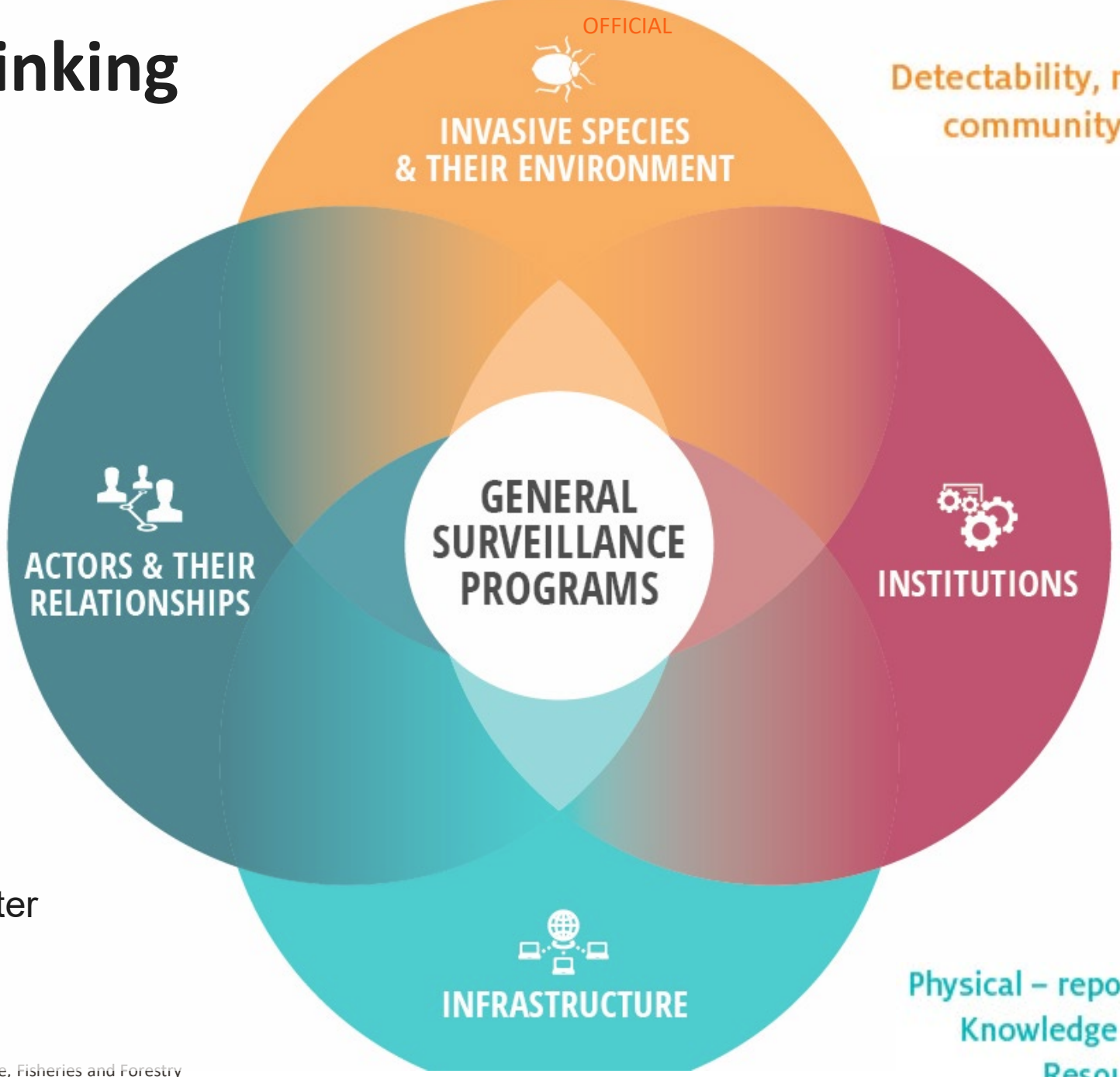
- Fall Army Worm, NSW (RapidAim traps)

*Monitoring, Evaluation Reporting & Improvement

General surveillance programs are extensive undertakings



System thinking



Detectability, mobility, risk pathways, community attitudes to species

Data collectors, species identifiers, data users, administrators, funders, scientists

Formal – regulations & strategies

Informal – norms, values & expectations

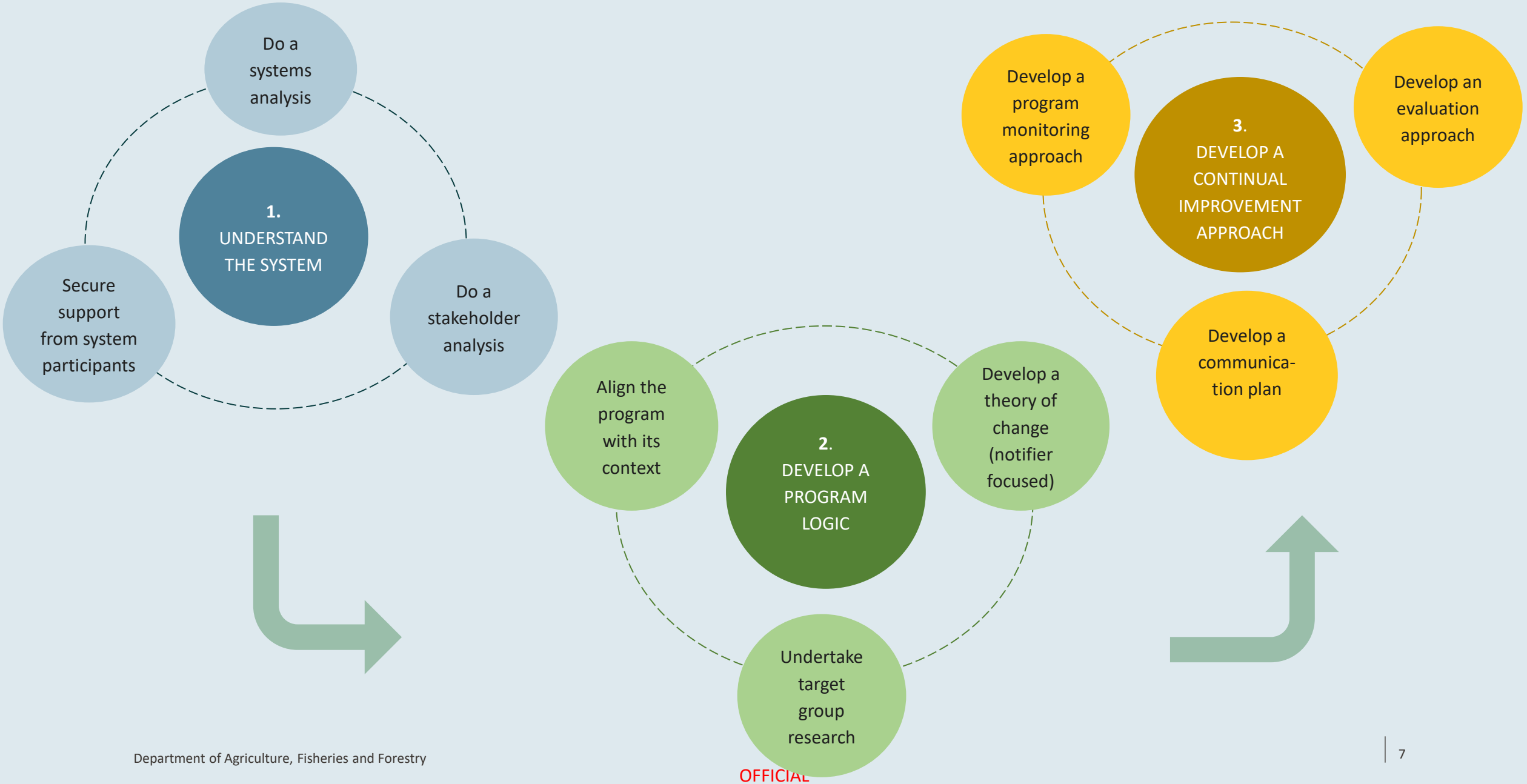
Interactions matter

Physical – reporting & management technologies

Knowledge – scientific, policy, experience

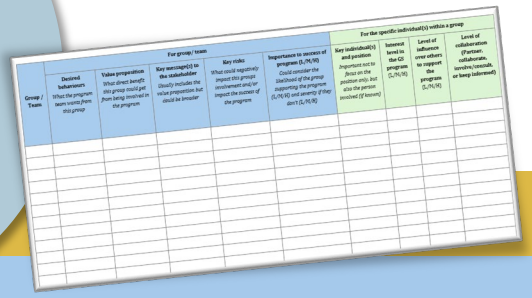
Resources – funding & in-kind

Current project: Combining MERI with systems thinking



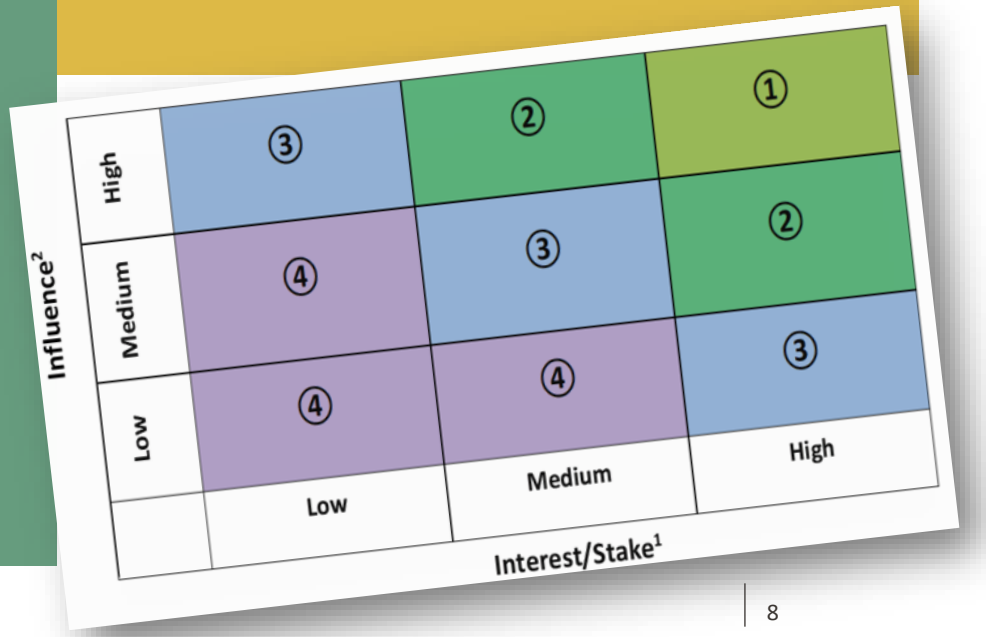
UNDERSTAND THE SYSTEM: Stakeholder analysis

Do stake-holder analysis



Group / Team	For group/ team				
	Desired behaviours	**Value proposition**	**Key message(s) to the stakeholder**	**Key risks**	**Importance to success of program (L/M/H)** *Likelihood of support (L/M/H) and severity if they don't (L/M/H)*

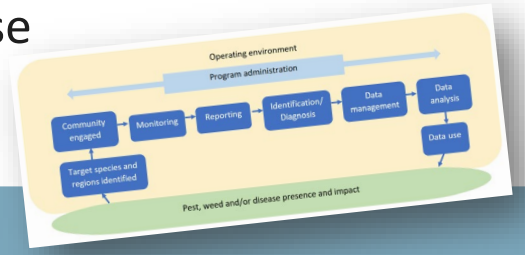
For the specific individual(s) within a group			
Key individual(s) and position	**INTEREST level in the GS program** *(L/M/H)*	**Level of INFLUENCE over others** *(L/M/H)*	**Level of collaboration** *(Partner, collaborate, involve/consult, or keep informed)*



UNDERSTAND THE SYSTEM: Systems analysis

Program function

- Program management
- Target pest(s), weed(s) or disease(s) determined
- Target region(s) identified
- Community engaged (notifiers)
- Surveillance activities
- Reporting
- Identification/ Diagnosis
- Data management and analysis
- Data use



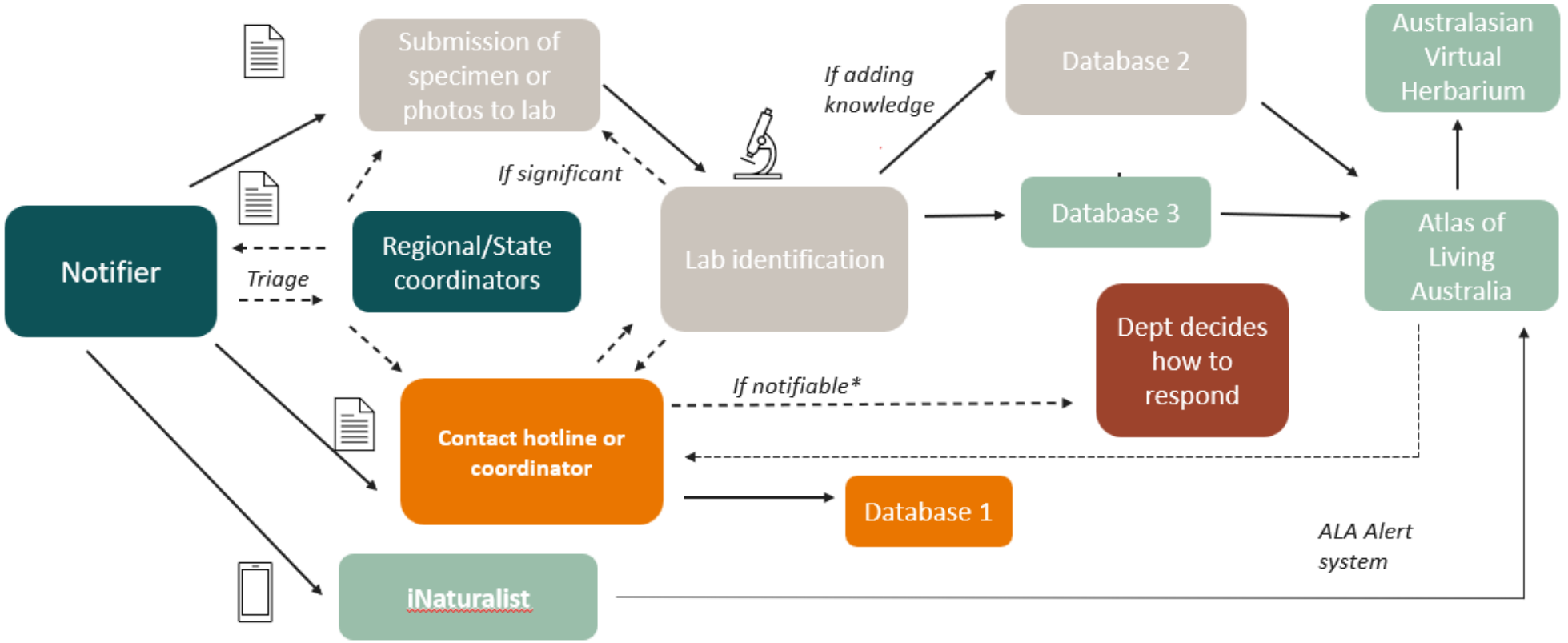
For each function:

- Key people/group(s) involved
- How do those involved connect with others about this function??
- What tools are used to support this function?
- What information sources support this function?
- How is this function resourced?
- What external rules apply to this function? (e.g. legislation, strategic plans, etc.)
- What program rules apply to this function?

Do a systems analysis

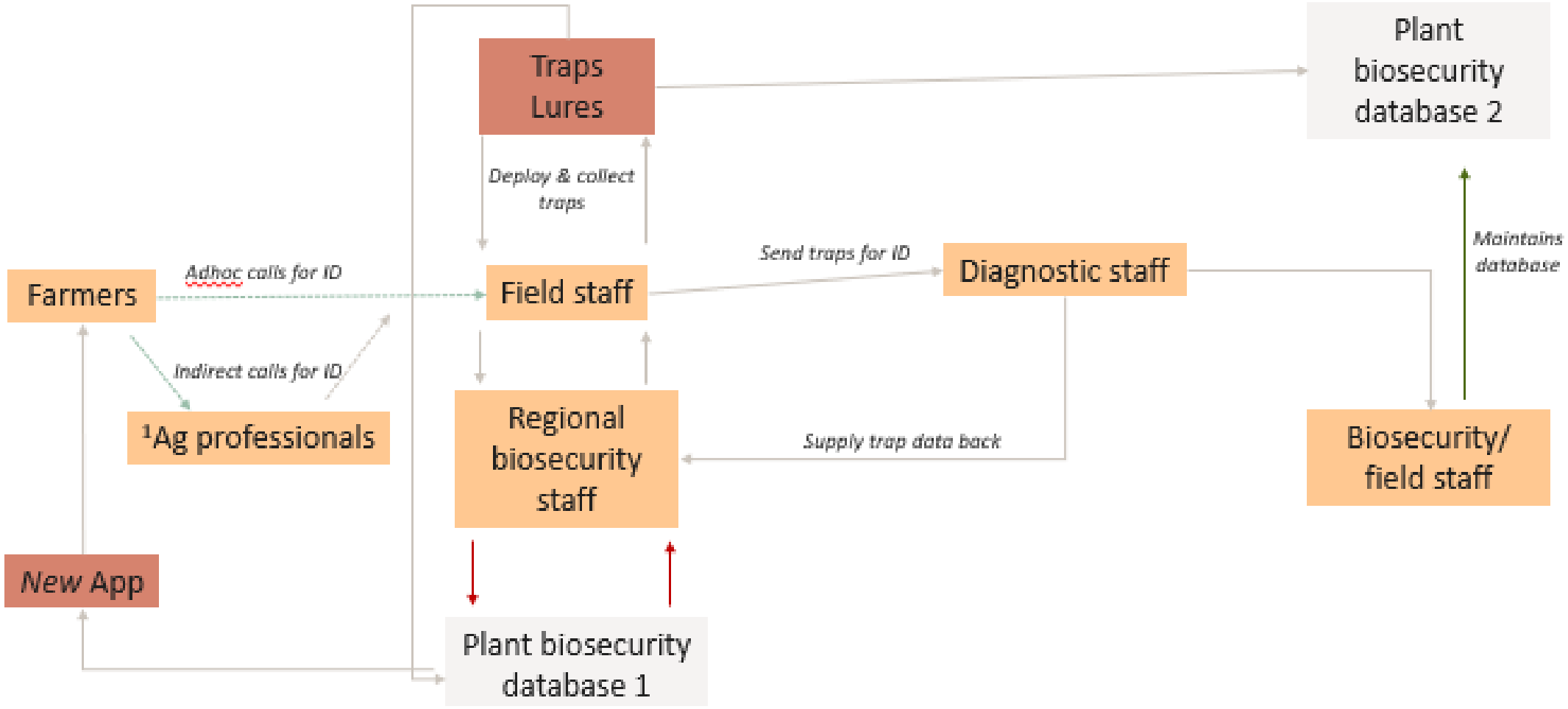
UNDERSTAND THE SYSTEM: Draft a data flow diagram

Example 1



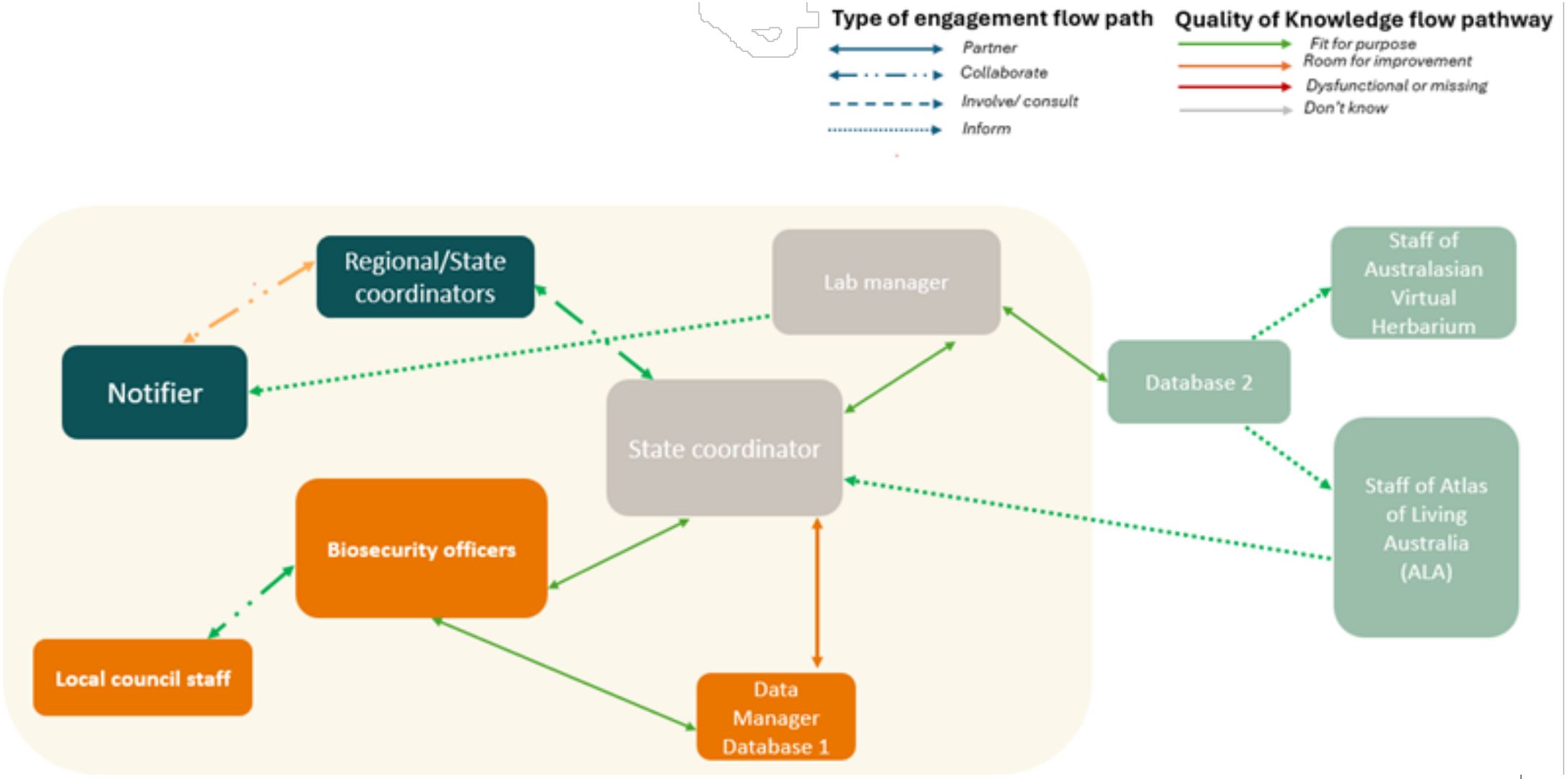
UNDERSTAND THE SYSTEM: Draft a data flow diagram

Example 2



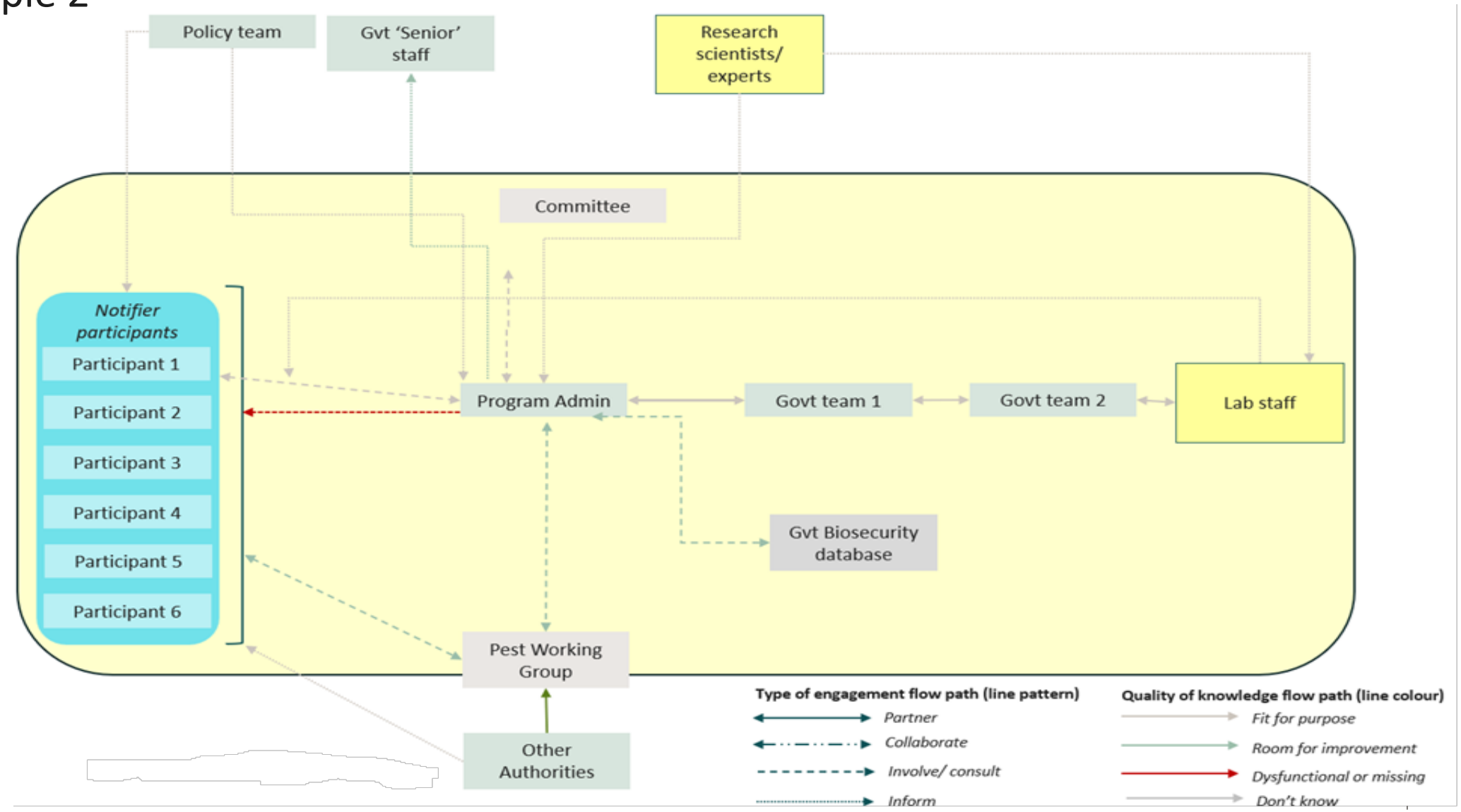
UNDERSTAND THE SYSTEM: Draft a knowledge flow diagram

Example 1

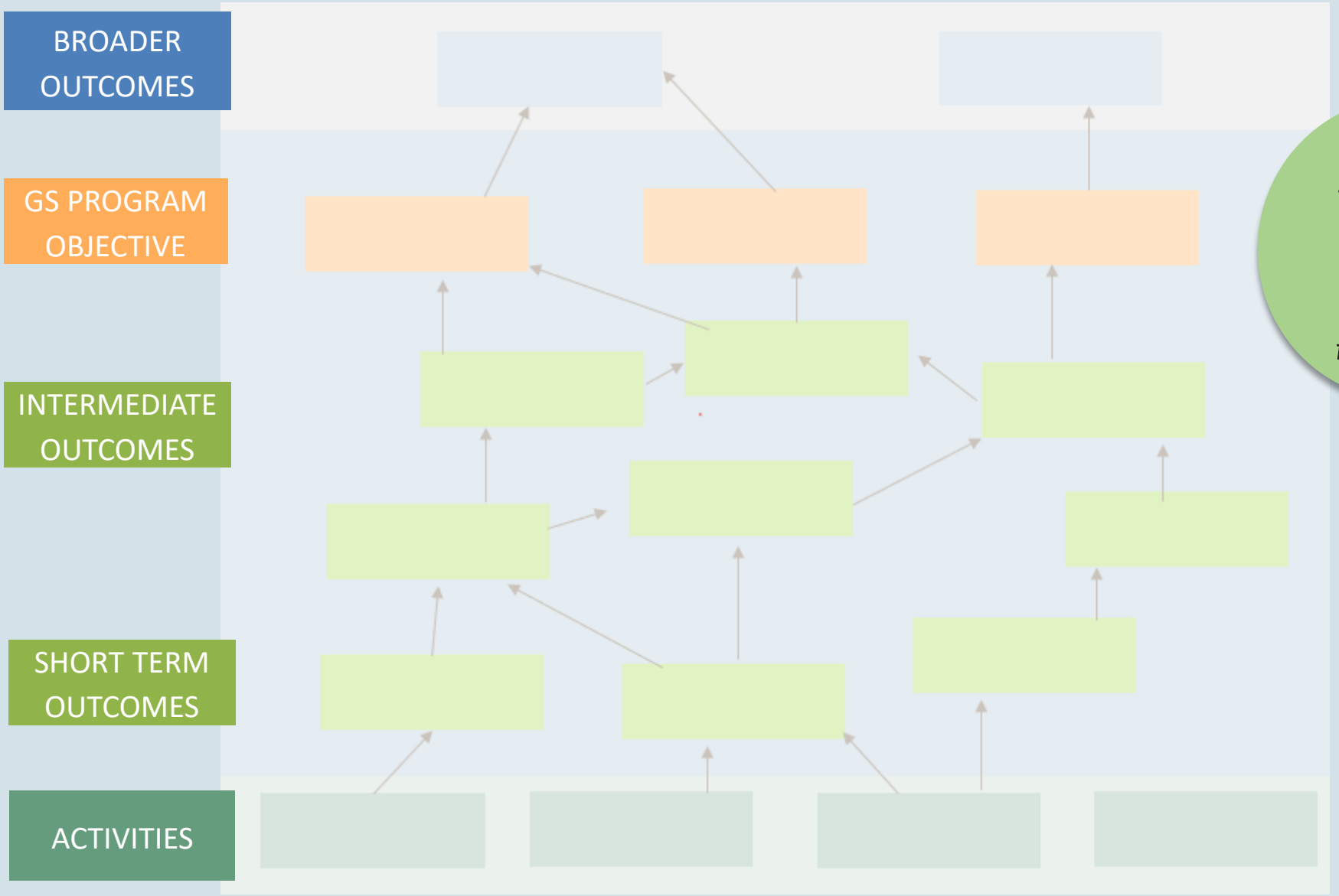


UNDERSTAND THE SYSTEM: Draft a knowledge flow diagram

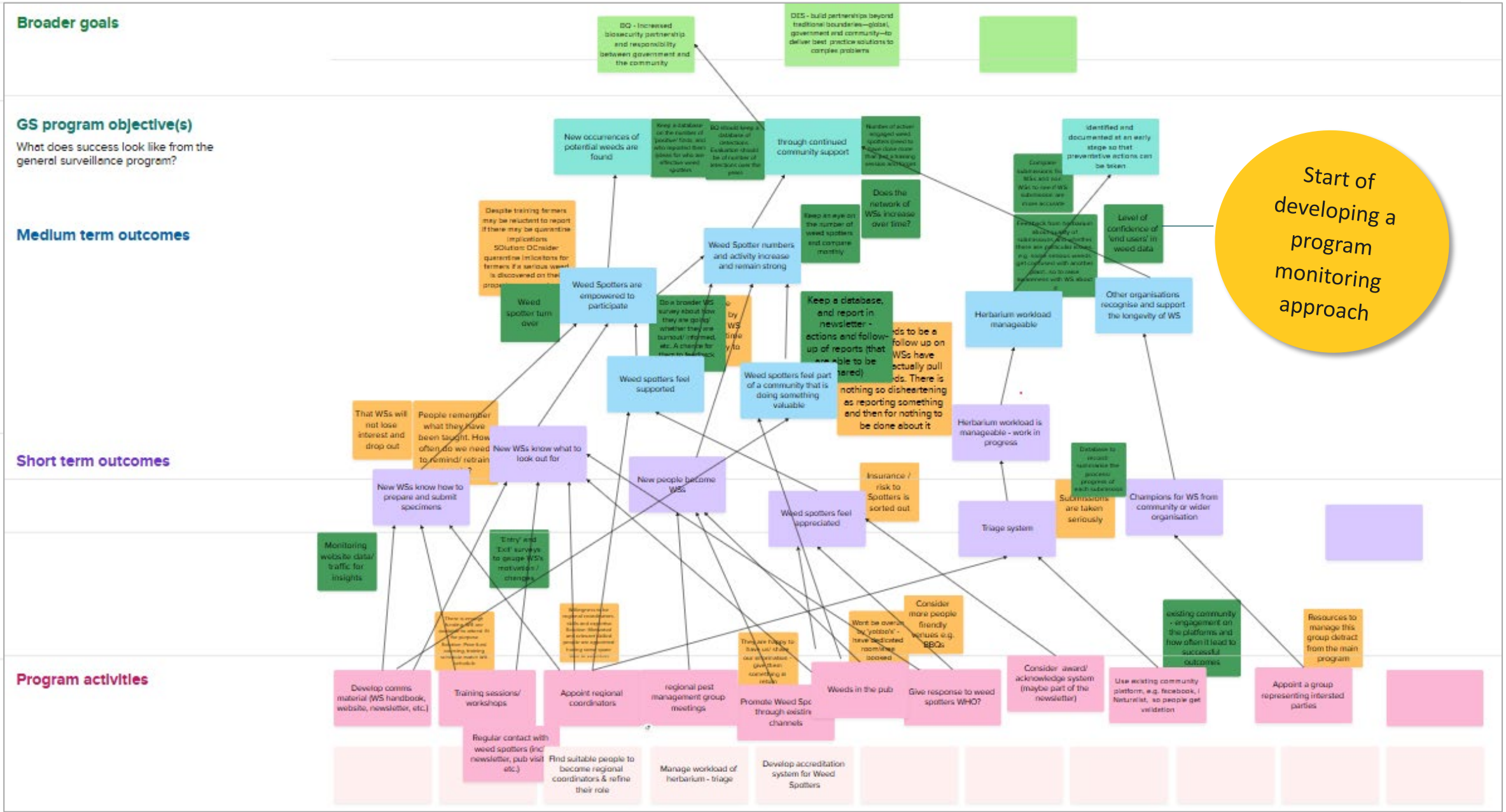
Example 2



DEVELOP A PROGRAM LOGIC: Theory of change for notifiers

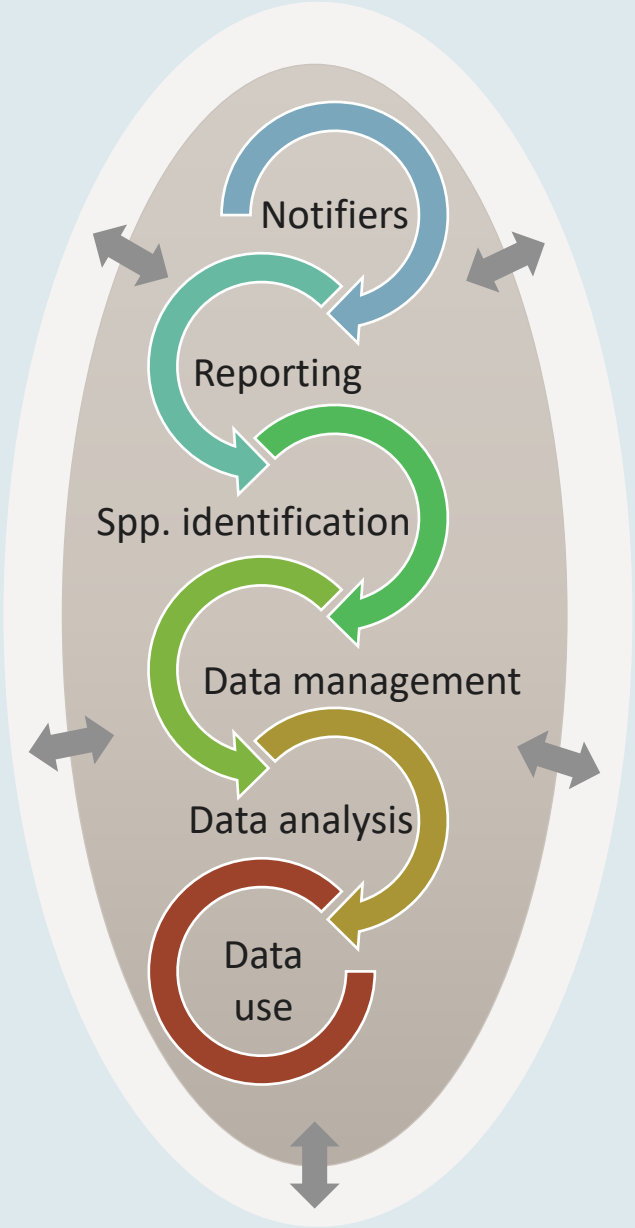


Develop a theory of change (notifier focused)


Broader goals
GS program objective(s)
What does success look like from the general surveillance program?
Medium term outcomes
Short term outcomes
Program activities
BQ - Increased biosecurity partnership and responsibility between government and the community
DES - build partnerships beyond traditional boundaries—global, government and community—to deliver best practice solutions to complex problems
New occurrences of potential weeds are found
through continued community support
Weed Spotter numbers and activity increase and remain strong
Weed Spotters are empowered to participate
Weed spotters feel supported
Weed spotters feel part of a community that is doing something valuable
Weed spotters feel appreciated
Herbarium workload manageable
Other organisations recognise and support the longevity of WS
Herbarium workload is manageable - work in progress
Triage system
Champions for WS from community or wider organisation
Submissions are taken seriously
Level of confidence of end users' in weed data
Does the network of WSs increase over time?
Keep an eye on the number of weed spotters and compare monthly
Keep a database, and report in newsletter - actions and follow-up of reports (that are able to be shared)
Despite training farmers may be reluctant to report if there may be quarantine implications
Solution: DCnsider quarantine implications for farmers if a serious weed is discovered on their property
Weed spotter turn over
That WSs will not lose interest and drop out
People remember what they have been taught. How often do we need to remind/ retrain
New WSs know what to look out for
New WSs know how to prepare and submit specimens
New people become WSs
Insurance / risk to Spotters is sorted out
Monitoring website data/ traffic for insights
'Entry' and 'Exit' surveys to gauge WSs motivators / changes
Develop comms material (WS handbook, website, newsletter, etc.)
Training sessions/ workshops
Appoint regional coordinators
regional pest management group meetings
Promote Weed Spc through existin channels
Weeds in the pub
Give response to weed spotters WHO?
Consider award/ acknowledge system (maybe part of the newsletter)
Use existing community platform, e.g. facebook, i Naturalist, so people get validation
Appoint a group representing intersted parties
Resources to manage this group detract from the main program
Regular contact with weed spotters (inc newsletter, pub visit etc.)
Find suitable people to become regional coordinators & refine their role
Manage workload of herbarium - triage
Develop accreditation system for Weed Spotters
Start of developing a program monitoring approach

DEVELOP A PROGRAM LOGIC: Context alignment

Align the program with its context



Consider the data value chain

- Quality data (timely, accurate & complete)
- Activities for function, e.g.:
  - Herbarium review procedures to deal with more weed specimens
  - Database to deal with more images
  - Training of lab staff to interact with public
  - Training of those who will analyse data
- Consider data flow holistically for vulnerabilities

Broader context alignment

Examples:

- Government communication protocols
- Processes for receival & storage of specimens /samples
- Get various teams in a government department on the same page
- Agreements between parties, e.g. government agency and private lab, or for data sharing between organisations

Conclusion

- This project is a work in progress
- General surveillance programs are diverse
- Holistic planning, with wide stakeholder input and built-in adaptive management are key to success
- M&E helps put adaptive management and continual improvement in place
- Understanding target groups and stakeholders help working with their needs
- Change may be needed throughout system to accommodate a general surveillance program
  - Time & resourcing for designing and setting up GS programs need to be realistic