

# Wading through rivers of information

Detecting and managing emerging  
risks to plant health

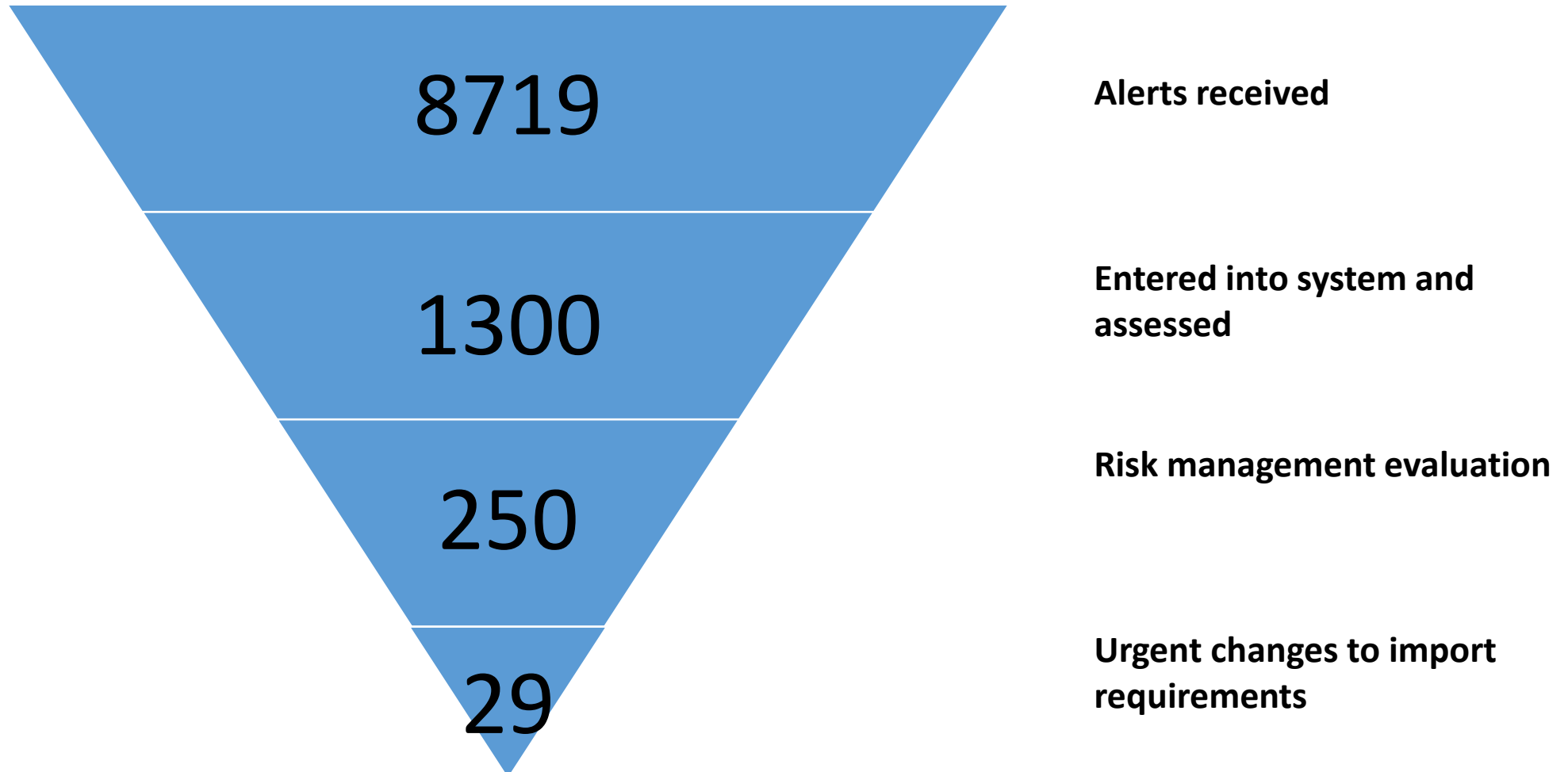
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New Zealand Ministry for Primary Industries

# MPI's Biosecurity Emerging Risk System



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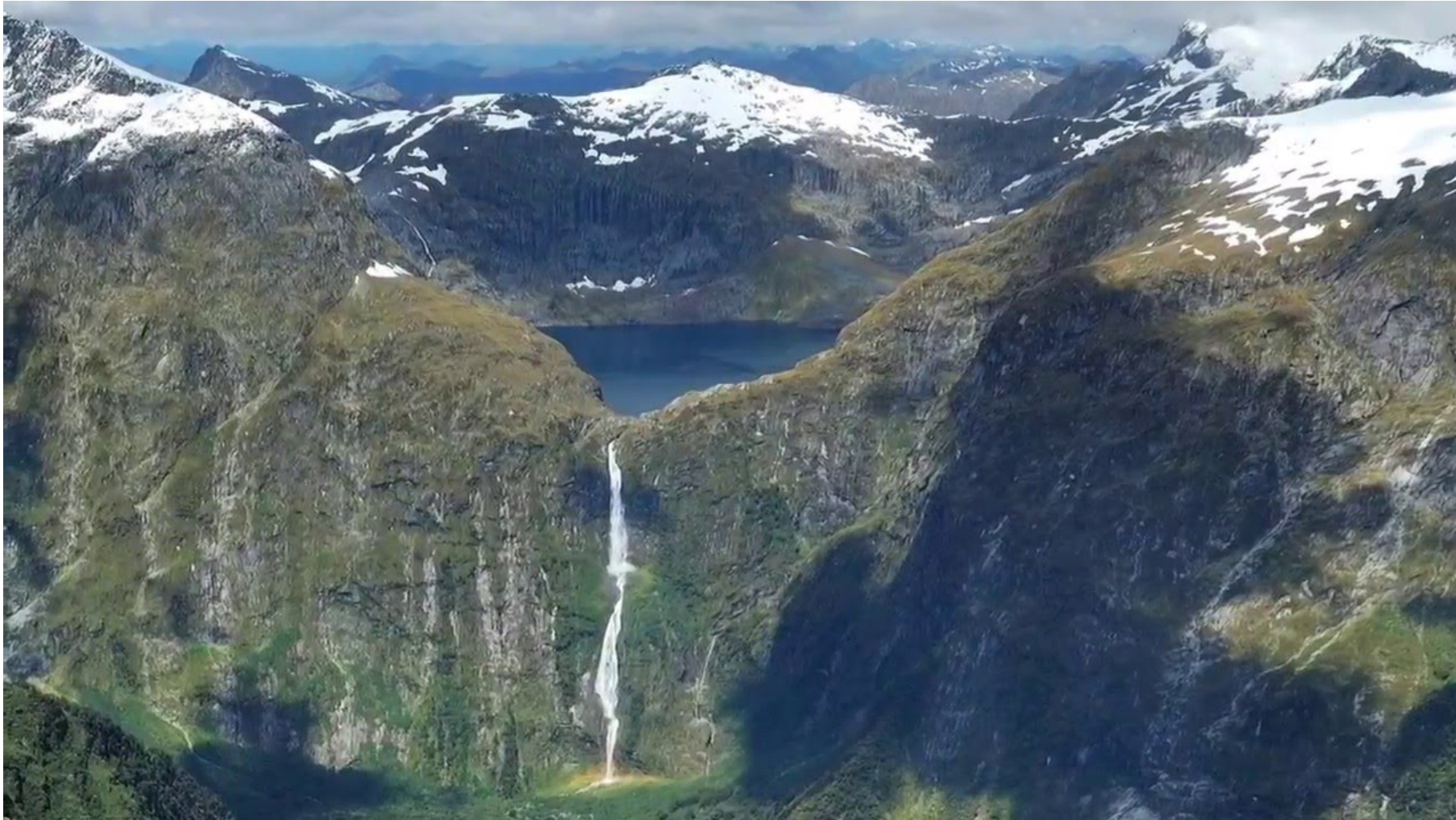


# MPI's Biosecurity Emerging Risk System



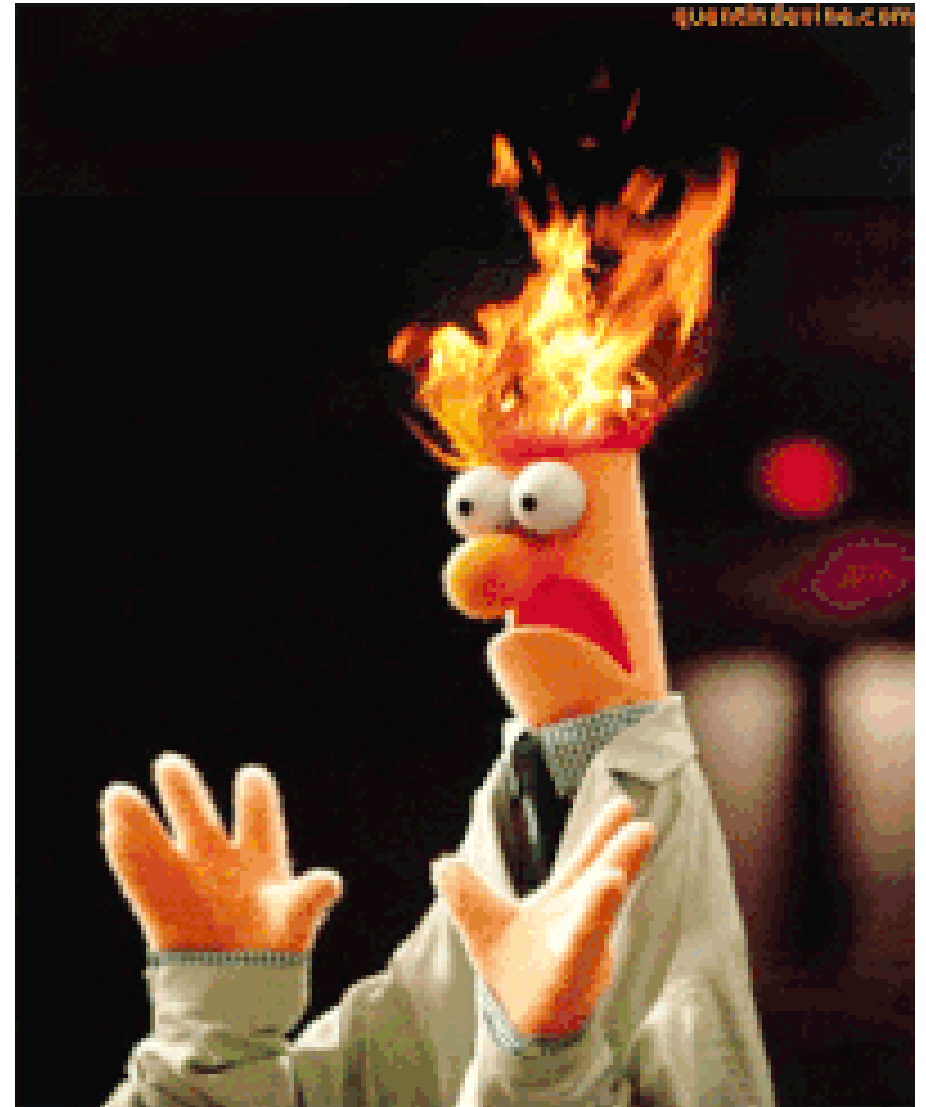


# MPI's Biosecurity Emerging Risk System



# Uncertainty in the first stage of assessment

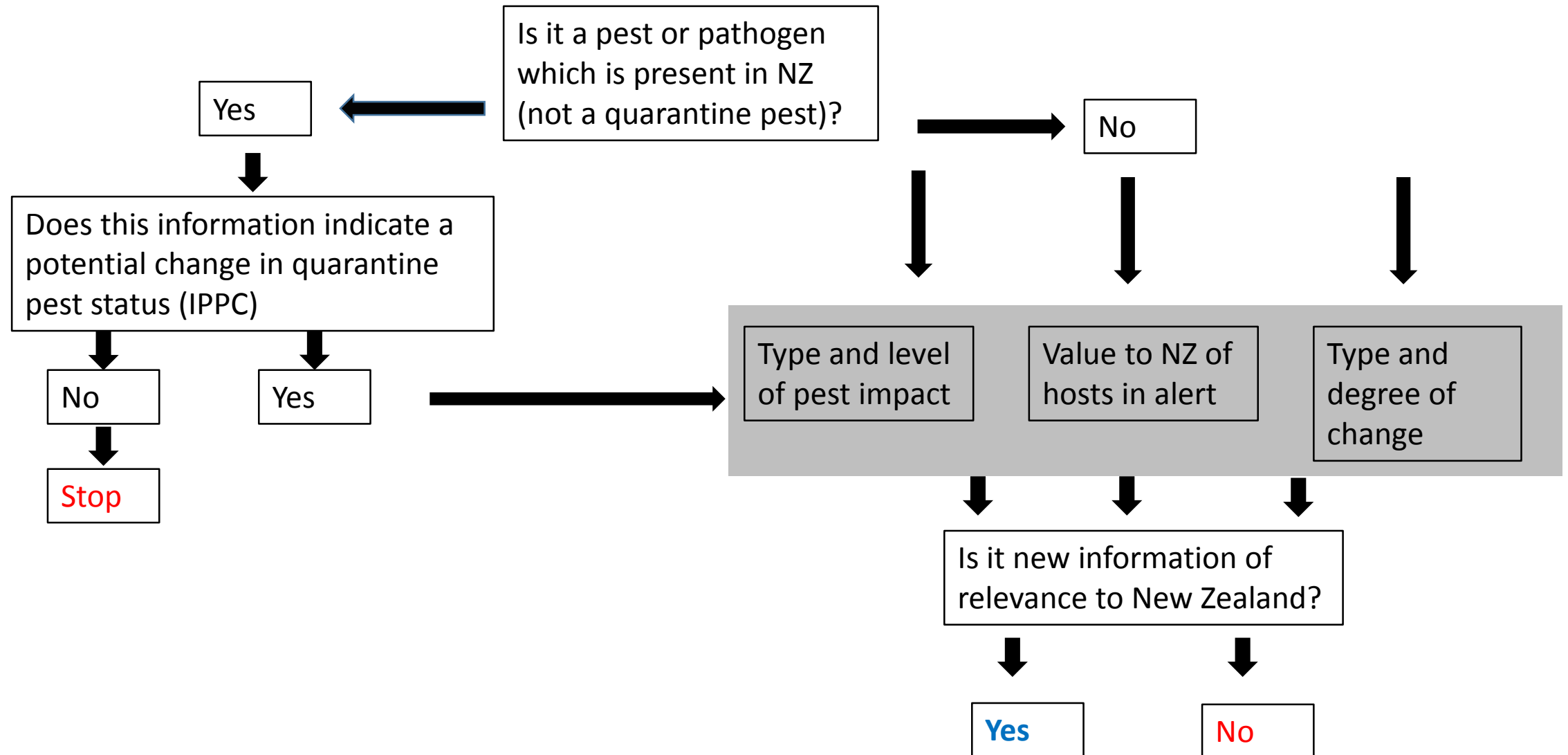
- Quality of the original information – source reliability
- Accessing information required in the time available
- We could fix lots of uncertainty with more time
- Does it matter?



# Implications of uncertainty for the decision

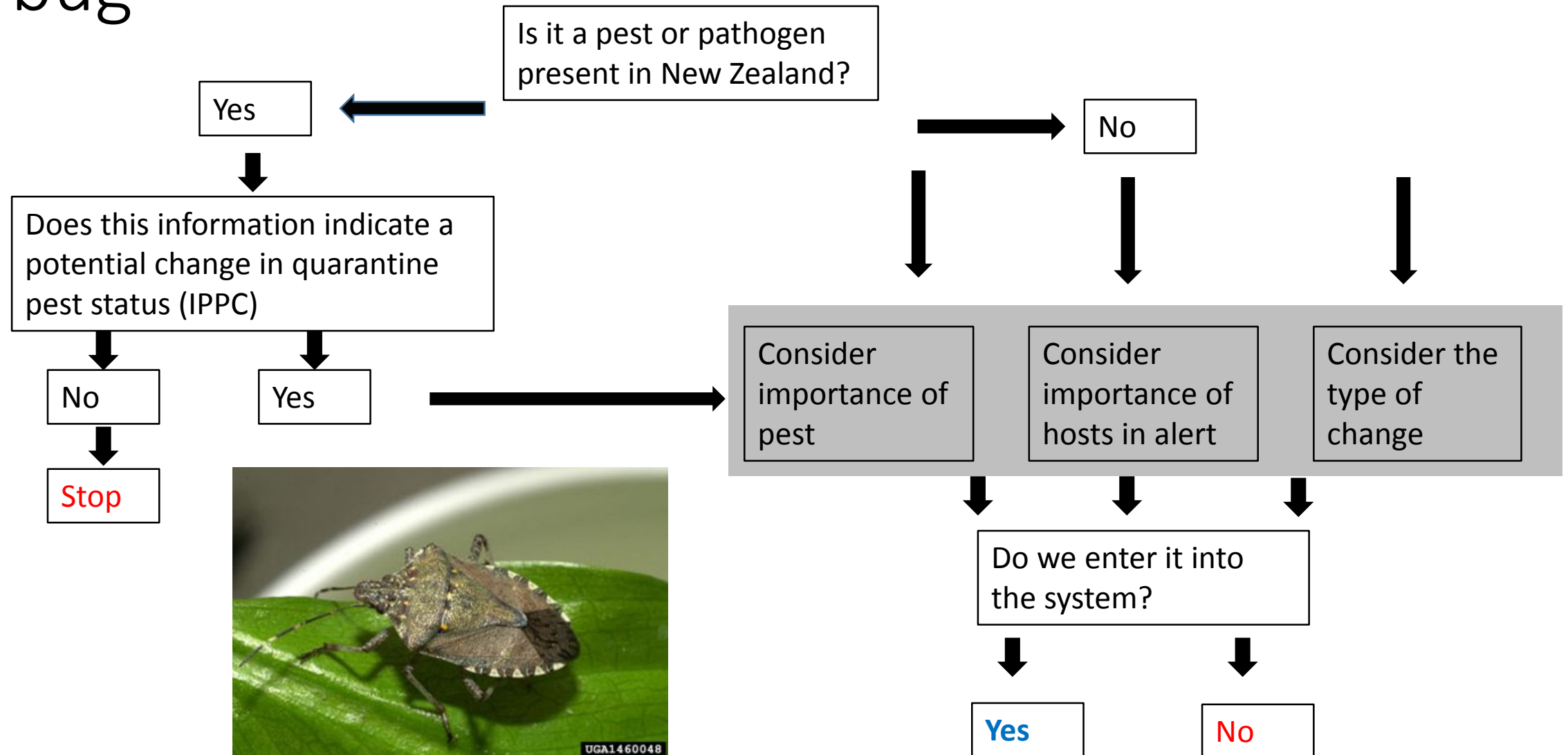
- Decision is binary – yes or no
- Decision is frequent – multiple times a day, so must be quick
- Decision must be defensible – rationale explained in a sentence or two
- Decision is reviewed
- Decision is relatively low impact;
  - If we enter something into the system that we didn't need to (false positive), we waste a couple of hours.
  - If we miss something important (false negative), there's a good chance it will come up again – important alerts are often reported by multiple sources

# First stage: do we enter it in to the system?

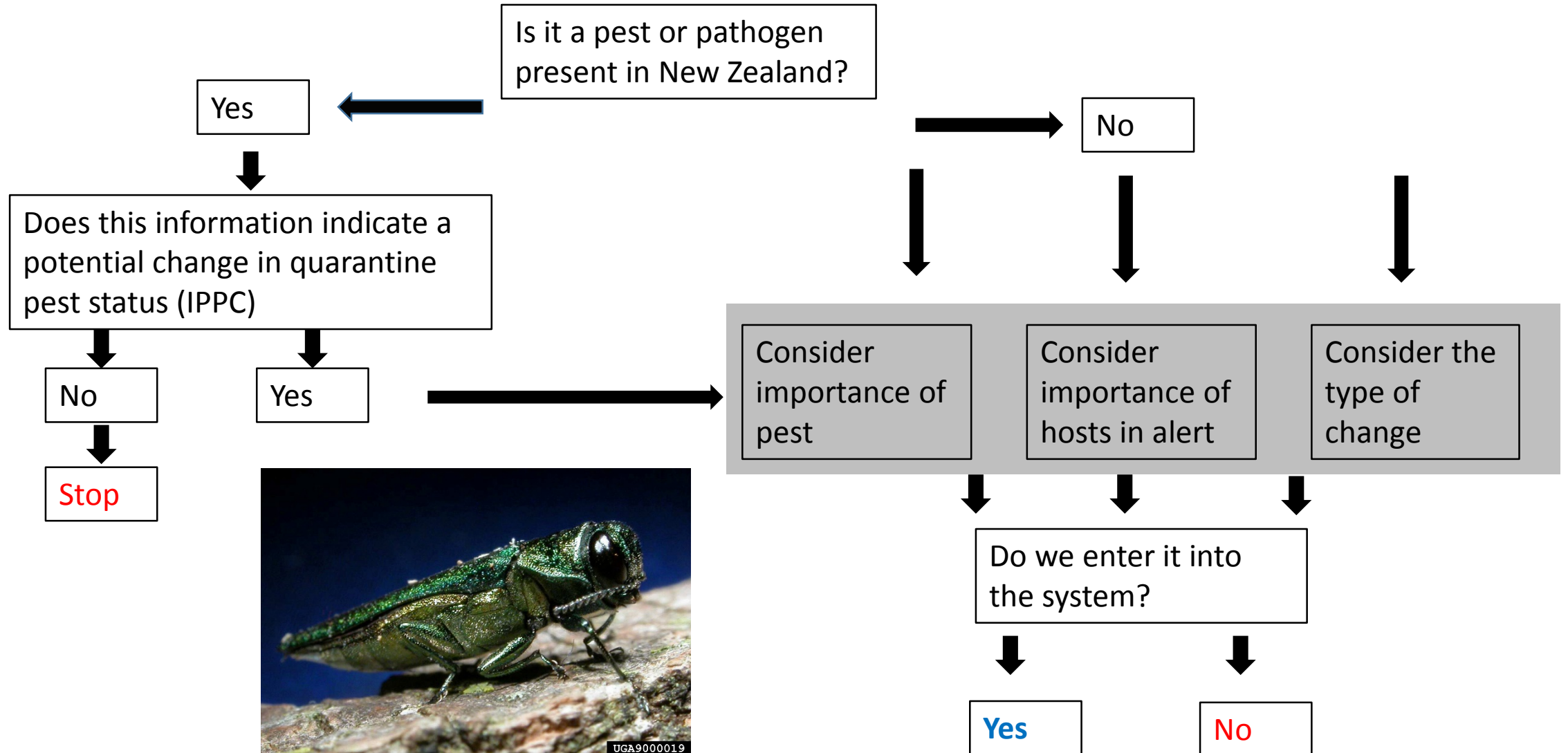




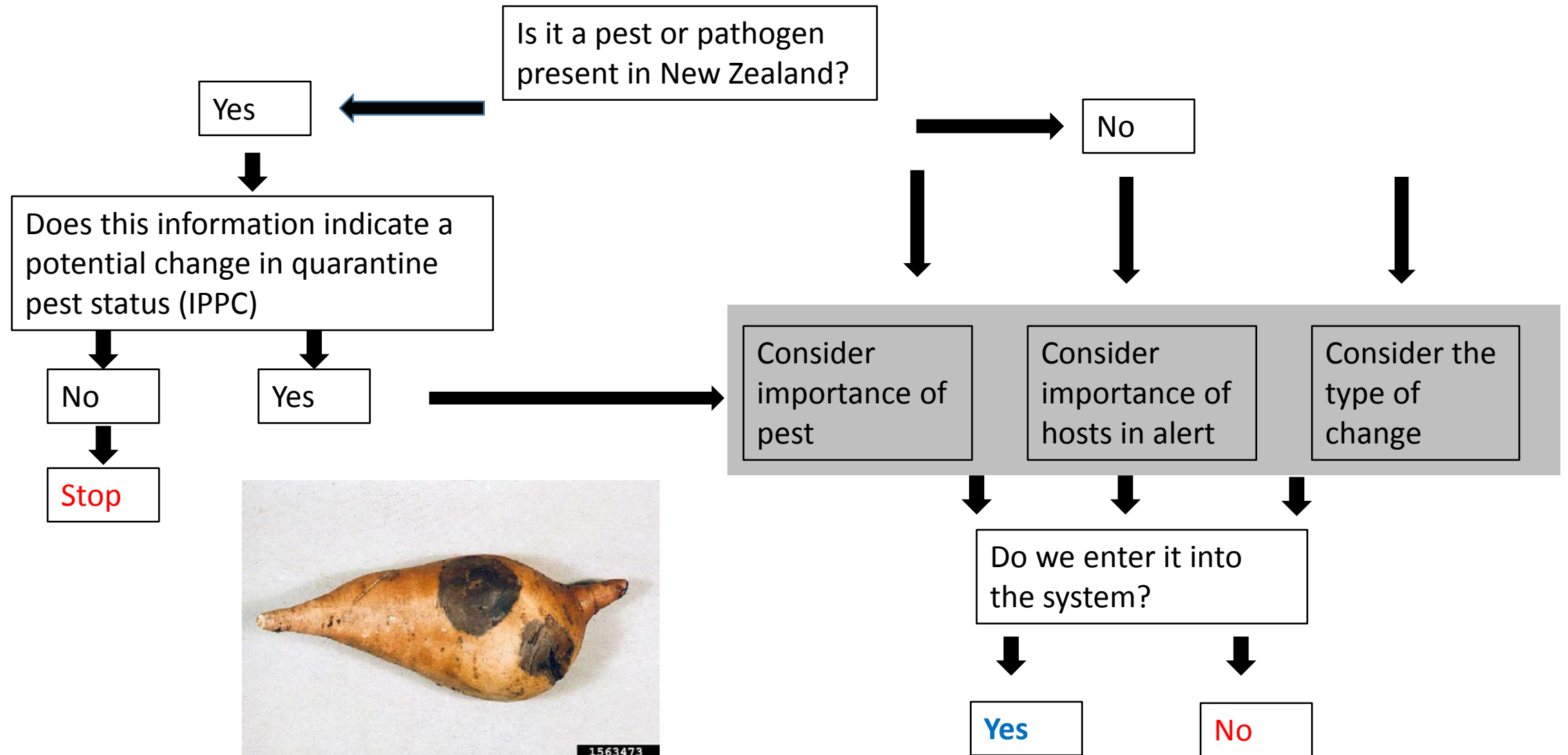
# Halyomorpha halys: brown marmorated stink bug



# Agrilus planipennis: emerald ash borer



# *Ceratocystis fimbriata*



# Does uncertainty matter?

- Decisions have context
- Uncertainty matters within that context
- Even quick assessments can be made more robust



# Thank you

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**Ministry for Primary Industries**  
Manatū Ahu Matua

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