

Fundamentals of Risk Management

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What is risk management?

- Analytical
 - Identify, evaluate and recommend pest risk management options
- Policy
 - Decide and prescribe measures to mitigate pest risk
- Operational
 - Implement programs and activities to manage pest risk



Risk Management

- What can be done to reduce the risk?
- How much risk management is appropriate?
- What options are feasible; what are the associated tradeoffs in costs and benefits?



Key Principles

- Managed risk = no zero risk
- Minimal impact = least restrictive measure
- Equivalency = different but same result
- Non-discrimination = differences justified
- Consistency = same criteria applied

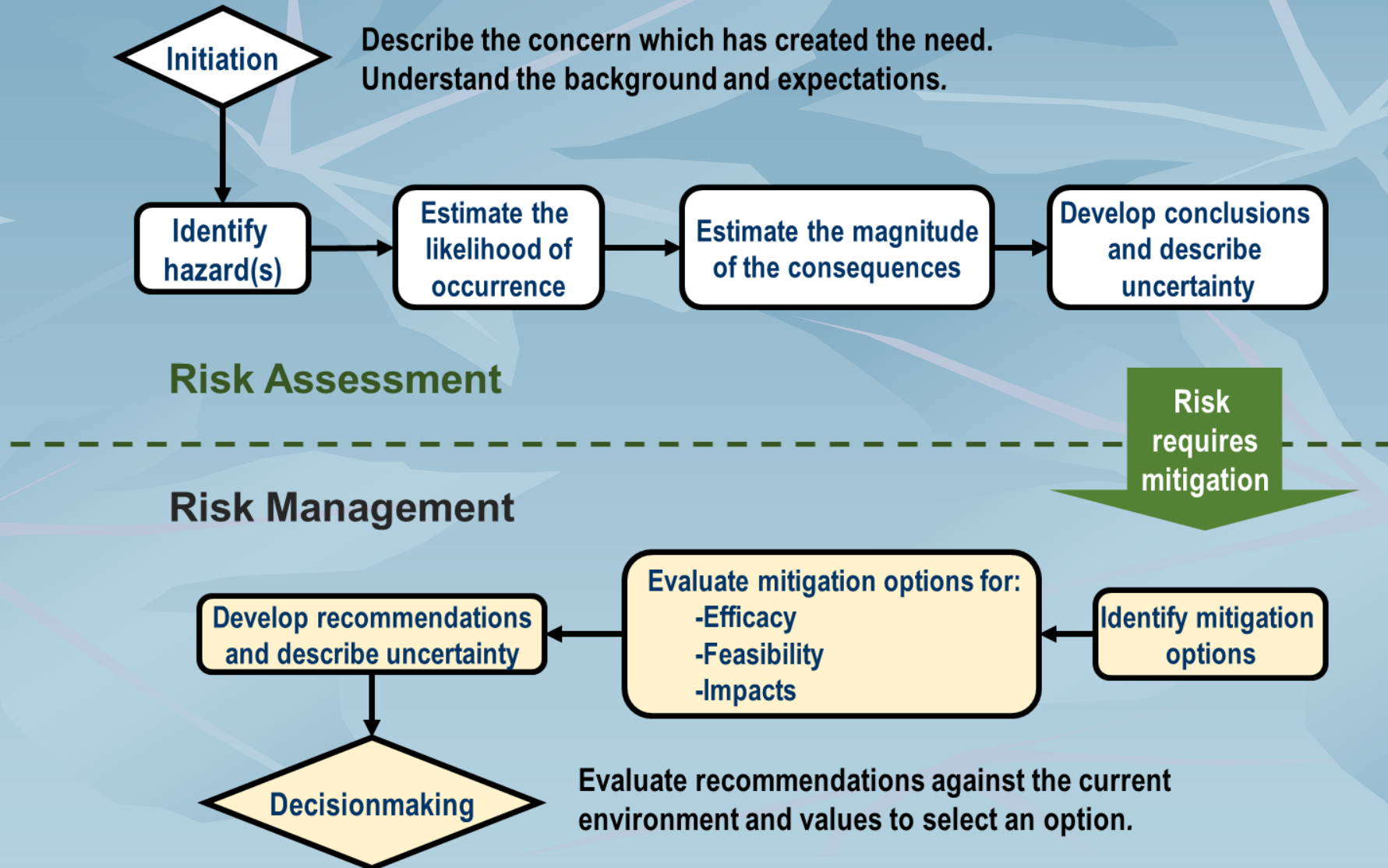


Key Concepts

- Appropriate level of protection (ALOP)
- Acceptable level of risk (ALR)
- Strength of measures



Risk Assessment / Risk Management



Risk Management Strategies

- Inspection
- Treatment
- Pest-free concepts
- Post-entry measures
- Systems approaches
- Prohibition



Inspection

- Visual
 - Statistically designed
- Special examination
 - Laboratory testing
 - Laboratory examination (e.g., microscopic)



Inspection

- Inspection can occur at various stages, e.g.:
 - At the port-of-entry into the importing country
 - In the exporting country
 - As a risk management option during various stages before, during and after the harvest of plants and plant products

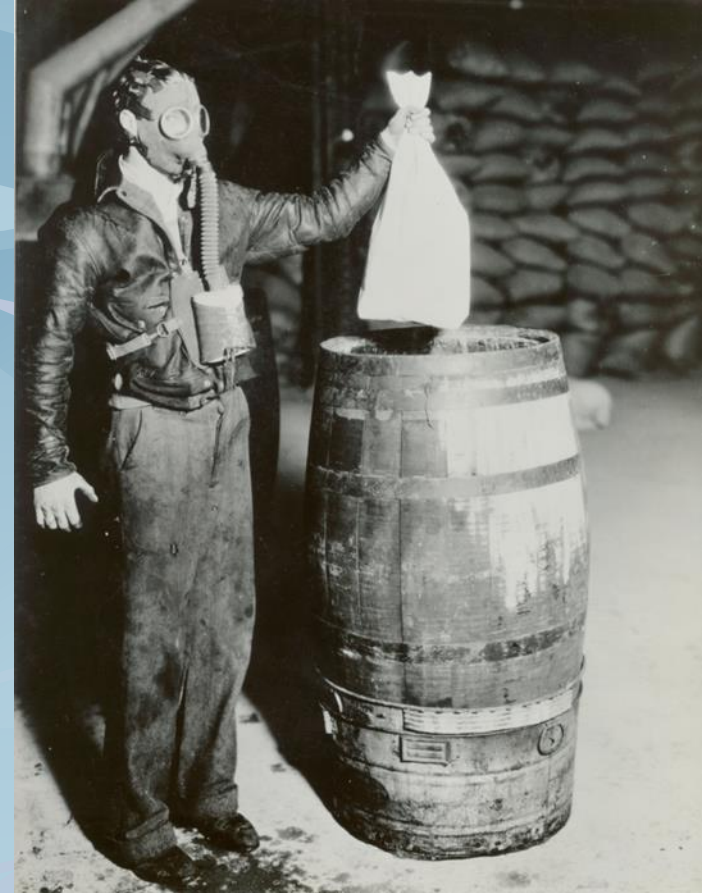
Inspection

Considerations:

- Efficacy, efficiency, sensitivity
- Required inspection/diagnostic expertise
- Detectability and type of targets
- Degree of detection resources required
- Tolerance

Treatments

- Uses
 - Single
 - Combination
 - Systems approach
- Types
 - Mechanical
 - Chemical
 - Physical



Treatments

Ideal treatment:

- Highly effective on the target pest
- Non-toxic to plants and humans
- Easily and cheaply applied
- Not explosive or flammable
- Not persistent
- Environmentally neutral
- Precise delivery and action

Treatments

Desired outcomes:

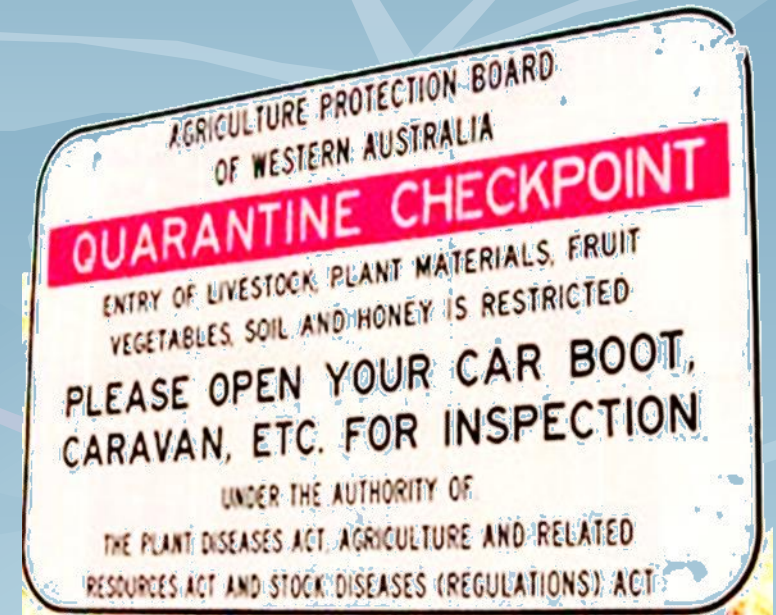
- Mortality
- Inactivation
- Devitalization
- Removal
- Render sterile
- Prevent emergence
- Prevent sprouting
- Weaken



Pest-free Concepts

Pest-free area, site or place of production:

- Recognizes biological, physical or other natural limiting factors
- Effectively regulates human-assisted means for violating the area
- Requires routine monitoring / surveillance
- Includes contingency plans



Pest-free Concepts

Pest-free growing season:

- Based on life cycle of pest and host

Harvest and Shipping Windows:

- Can allow for pest presence
- Frequently relies on lack of colonization potential

Post-entry measures

- Mitigation measures applied to commodity after entry; may be stand-alone measures or used as component of a systems approach.
 - Post-entry quarantine (plants for planting)
 - Intended use
 - Limited distribution



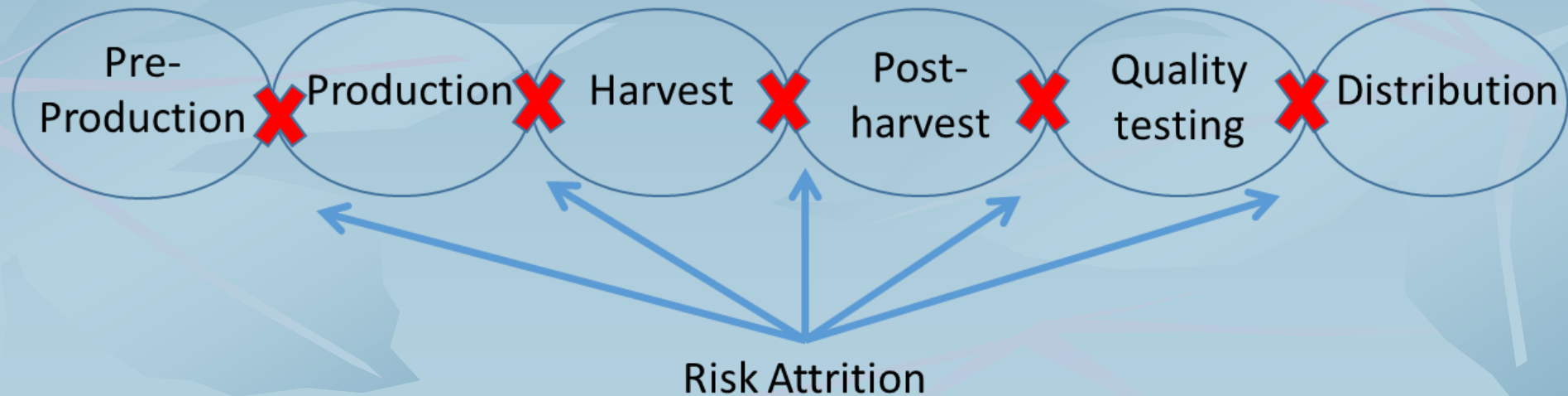
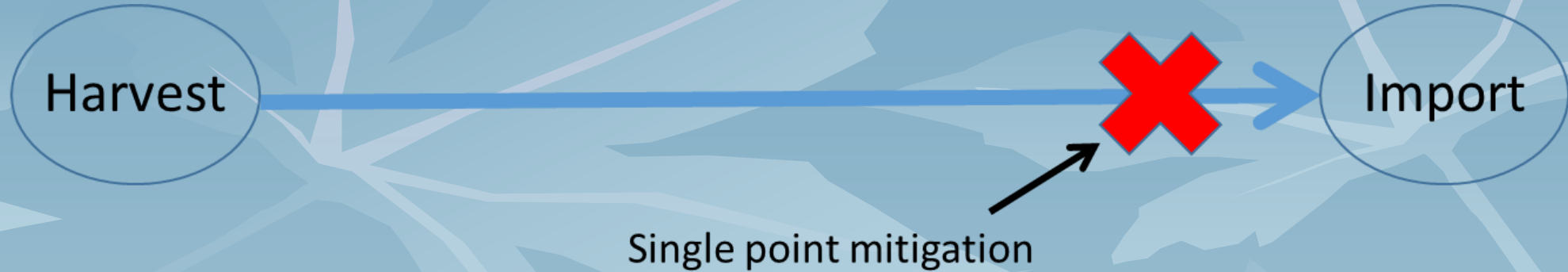
Systems Approaches

ISPM No. 14 defines a systems approach as:

- The integration of different pest risk management measures, at least two of which act independently, and which cumulatively achieve the appropriate level of phytosanitary protection.



Systems Approaches



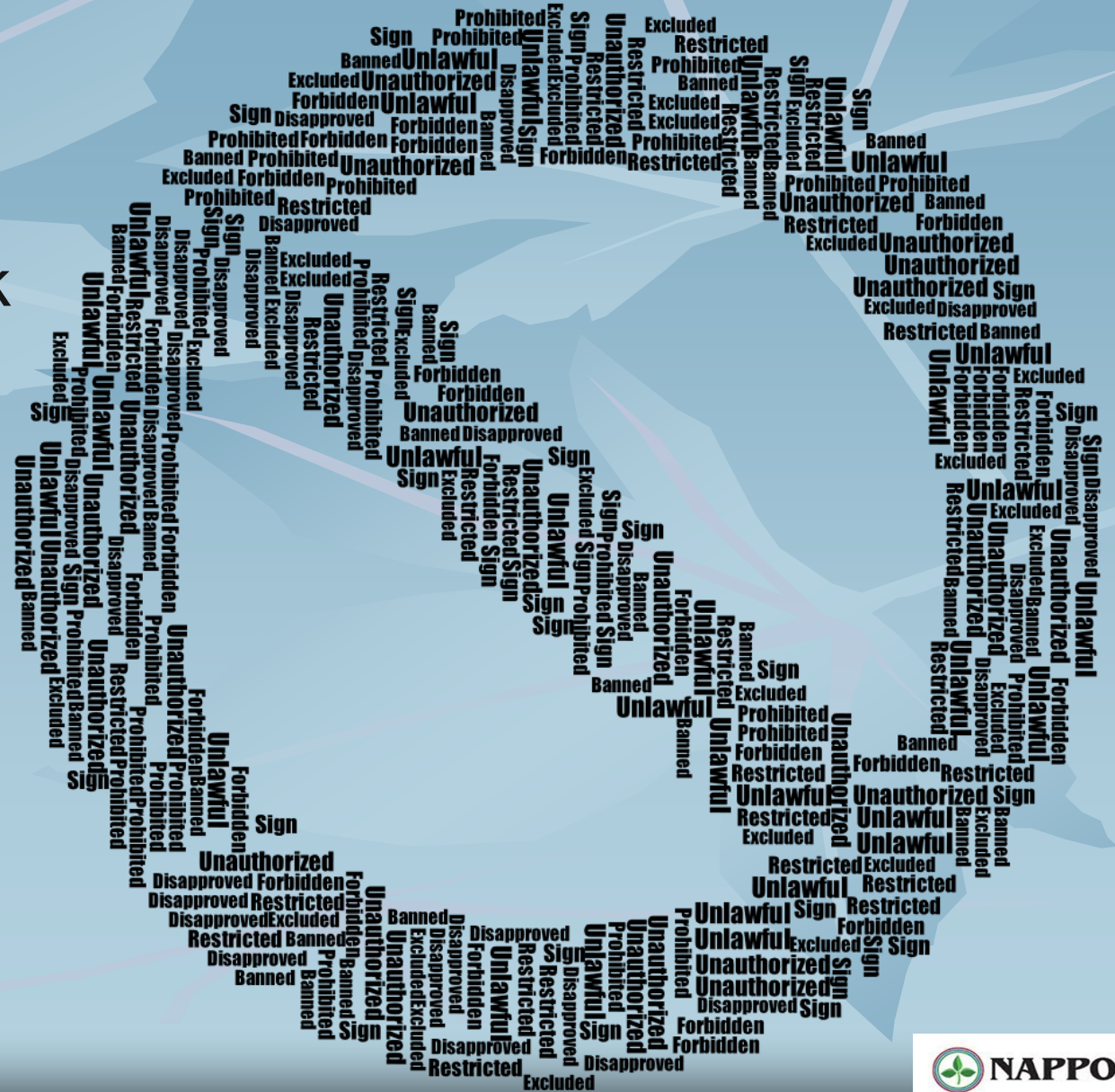
Systems Approaches

ISPM 38 Section 2.5- Systems approaches:

- Opportunity to consider both pre-harvest and post-harvest procedures
- May contribute to effective pest risk management
- Pest management practices throughout the seed production process [industry practices] may be integrated in a systems approach
- ISPM 14 provides guidance

Prohibition

- Most trade restrictive
- Effect may be to increase risk where there is a strong motivation for trade
- May not be the best risk management option



How much is enough?

Strategies other than general inspection may be needed if the pest is:

- Difficult to detect
- Likely to be with the commodity at export and can easily become established via the pathway

Feasibility of Measures

- Availability of technology
- Cost
- Practicality
- Tolerance of the commodity
- Shelf life
- Toxicity

Questions?



**Life Is A
Balance Between
Risks & Benefits**