

Preventing the spread of invasive plants spread through contaminated aggregate



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A word cloud centered around the word "INVASIVE". The words are arranged in various orientations and sizes. The largest word is "INVASIVE" in the center. Other prominent words include "WILDFIRE", "NON-NATIVE", "DEGRADE", "WILDLIFE", "DECREASE", "INVASIVE PLANTS", "NATIVE PLANTS", "HABITAT", "WATER", "CROPS", "DISPLACE", "INHIBIT", "RECREATION", "RIGHT-OF-WAYS", "SEVERITY", "DEplete", and "WATER". The colors range from dark brown to light tan.

INVASIVE

WILDFIRE

NON-NATIVE

DEGRADE

WILDLIFE

DECREASE

INVASIVE PLANTS

NATIVE PLANTS

HABITAT

WATER

CROPS

DISPLACE

INHIBIT

RECREATION

RIGHT-OF-WAYS

SEVERITY

DEplete

WATER

Invasive plants spread through contaminated material



Invasive plants spread through contaminated material

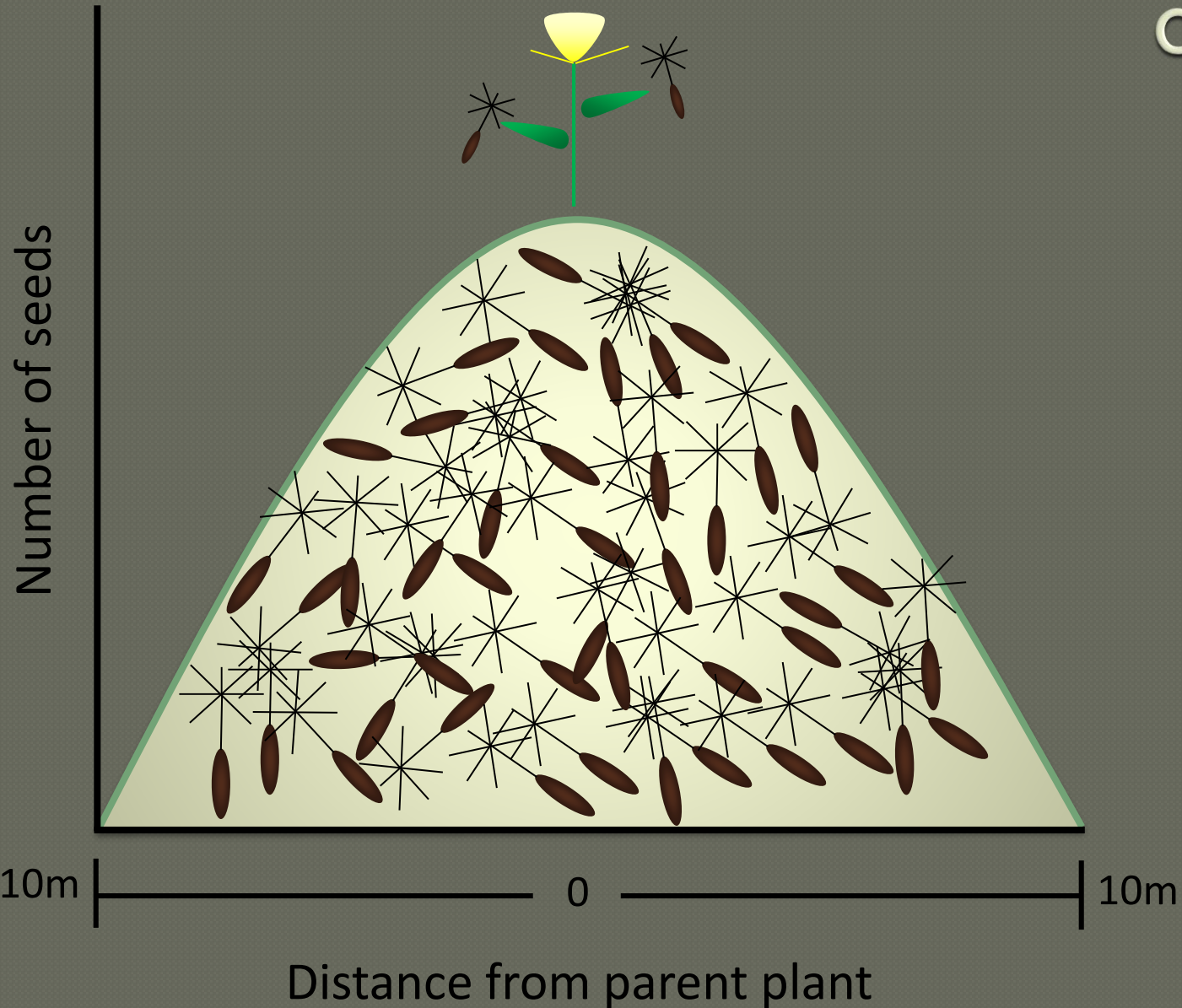


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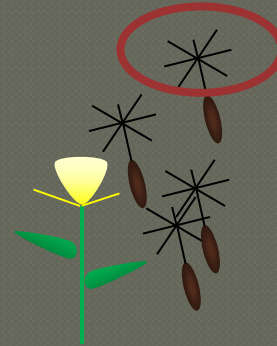
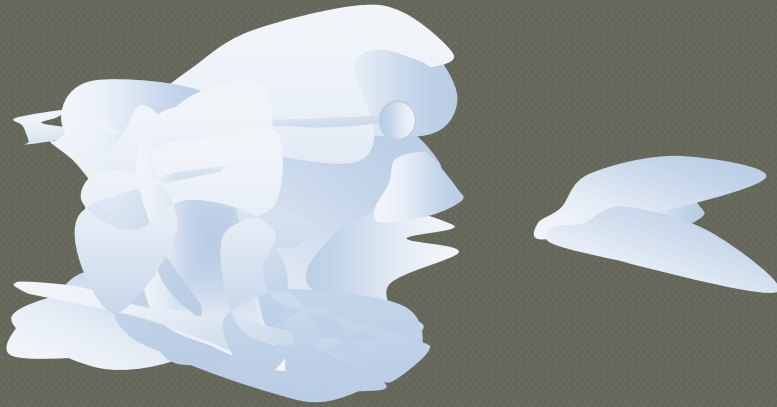
Inspect quarries to prevent this



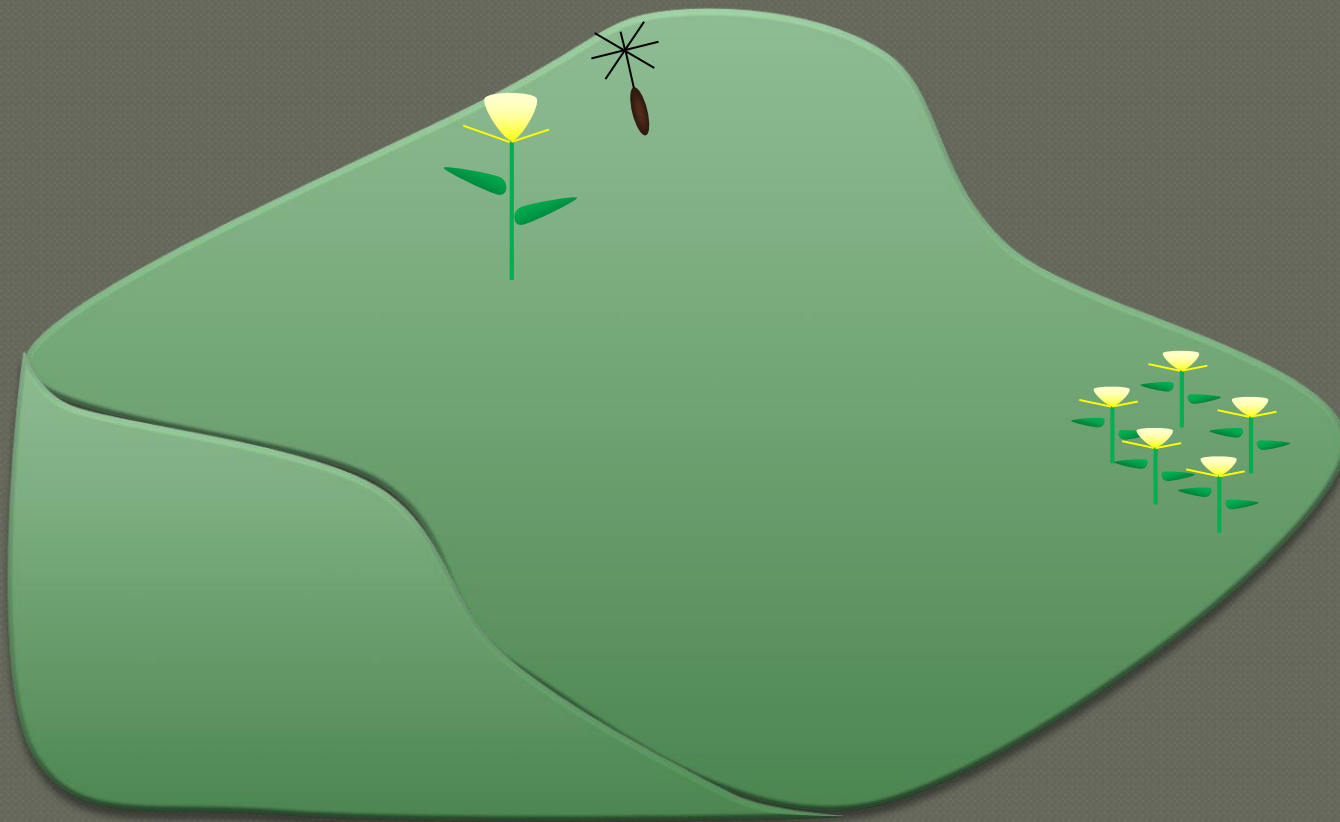
Plants distribute along a bell curve



Wind increases dispersal distance



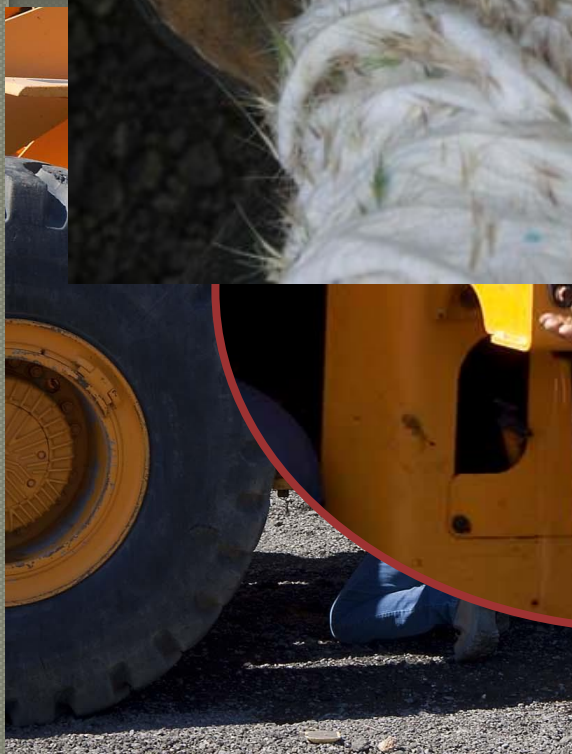
Gravity and water increase dispersal distance



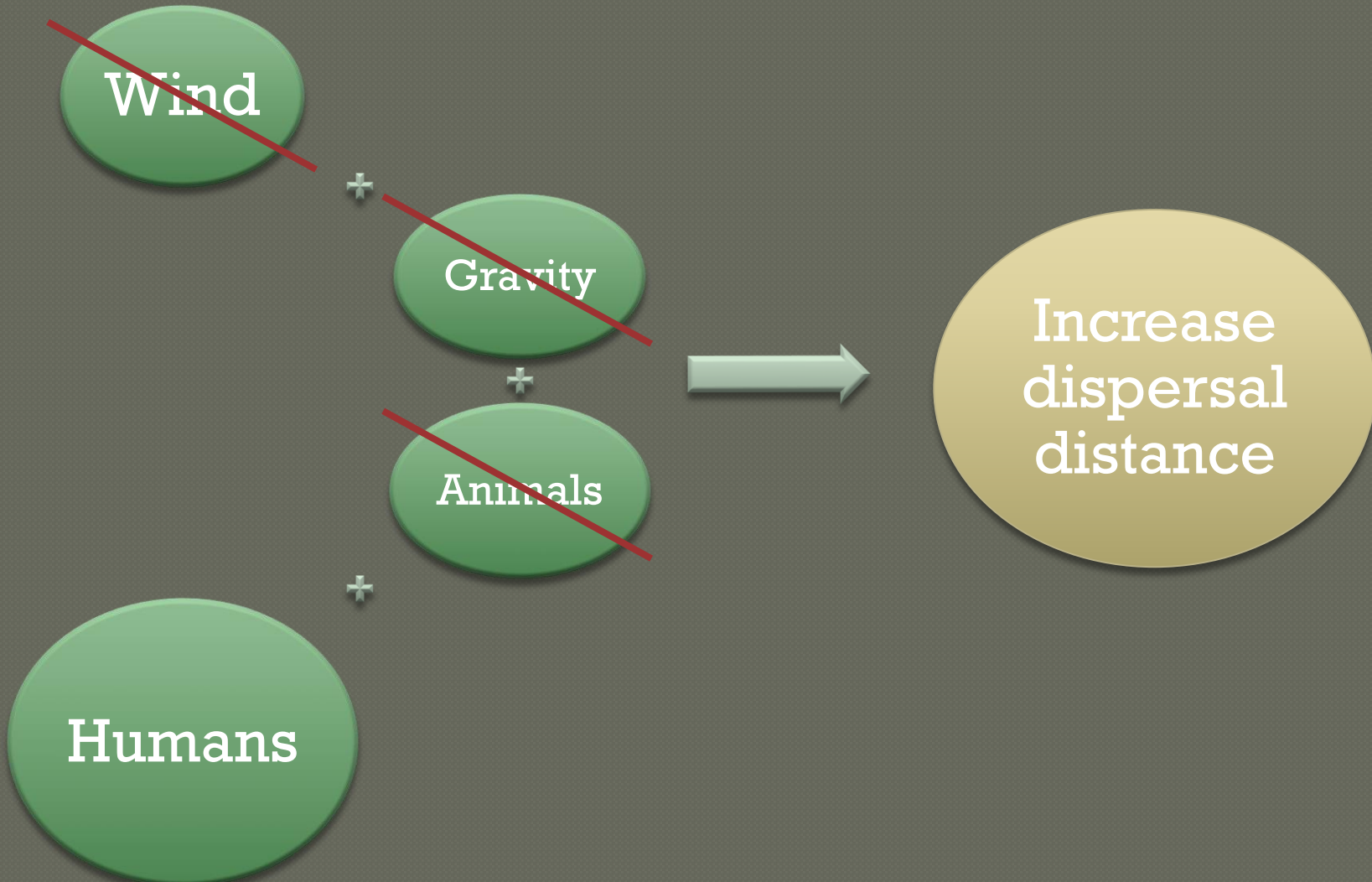
Animals increase dispersal distance



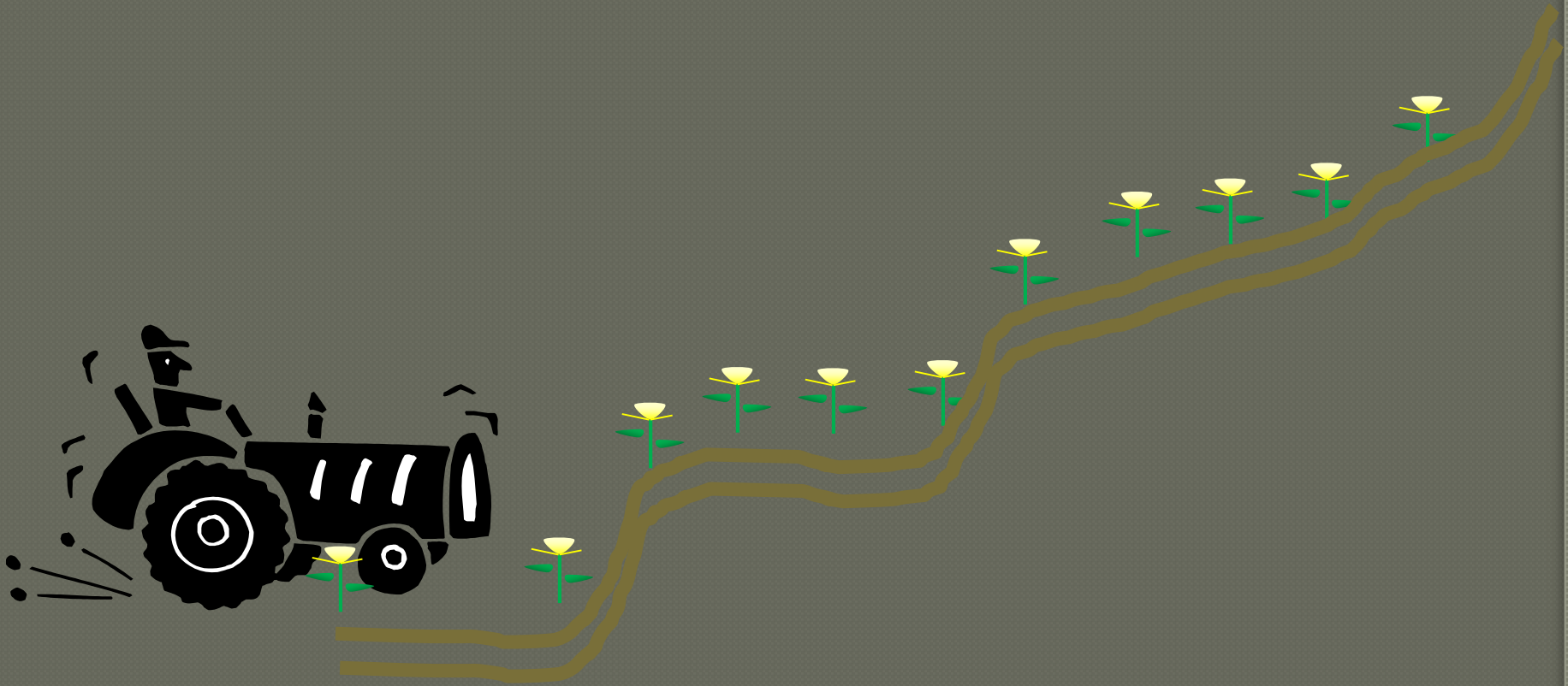
People increase dispersal distance

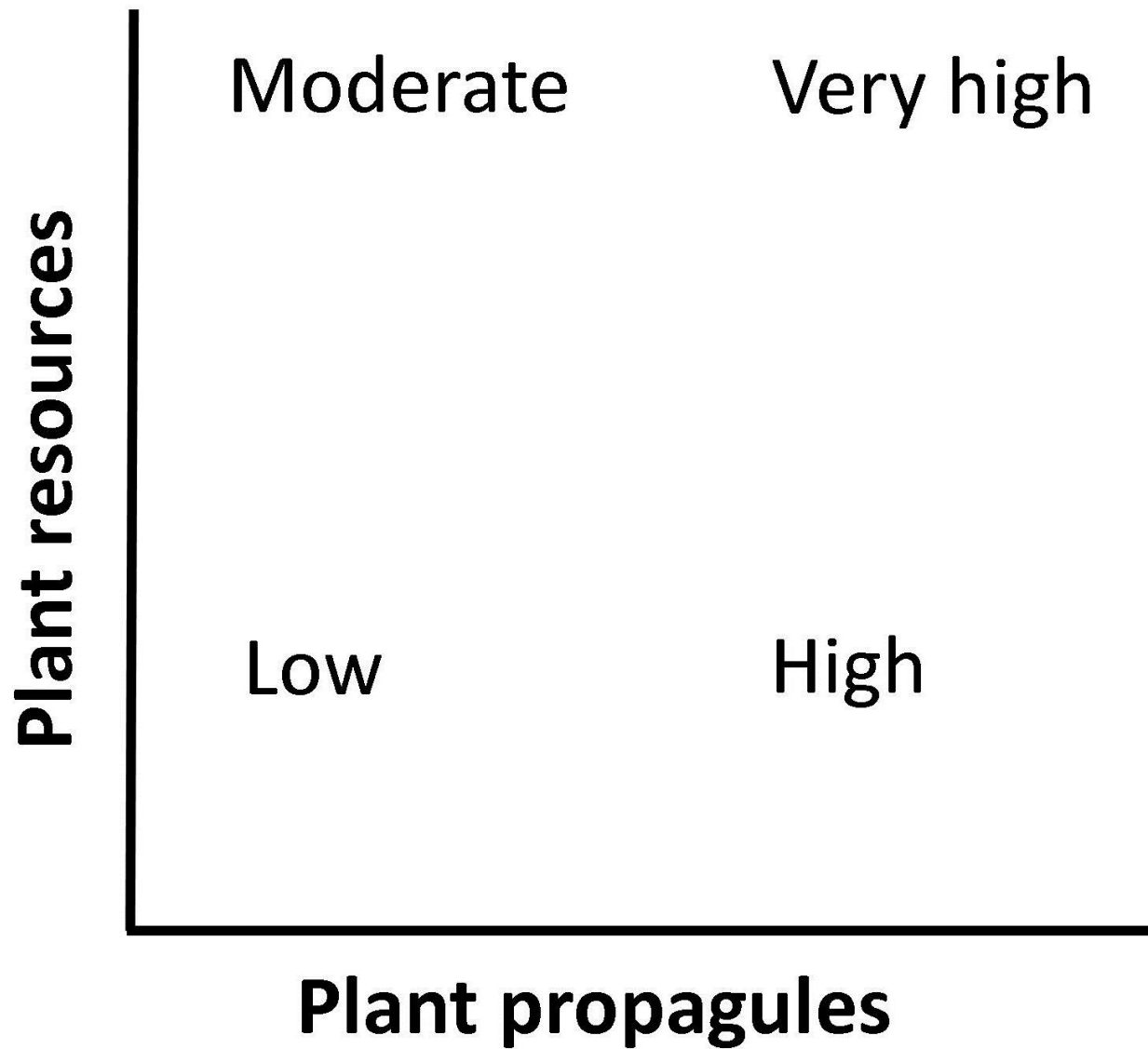


Factors combine to increase dispersal distance



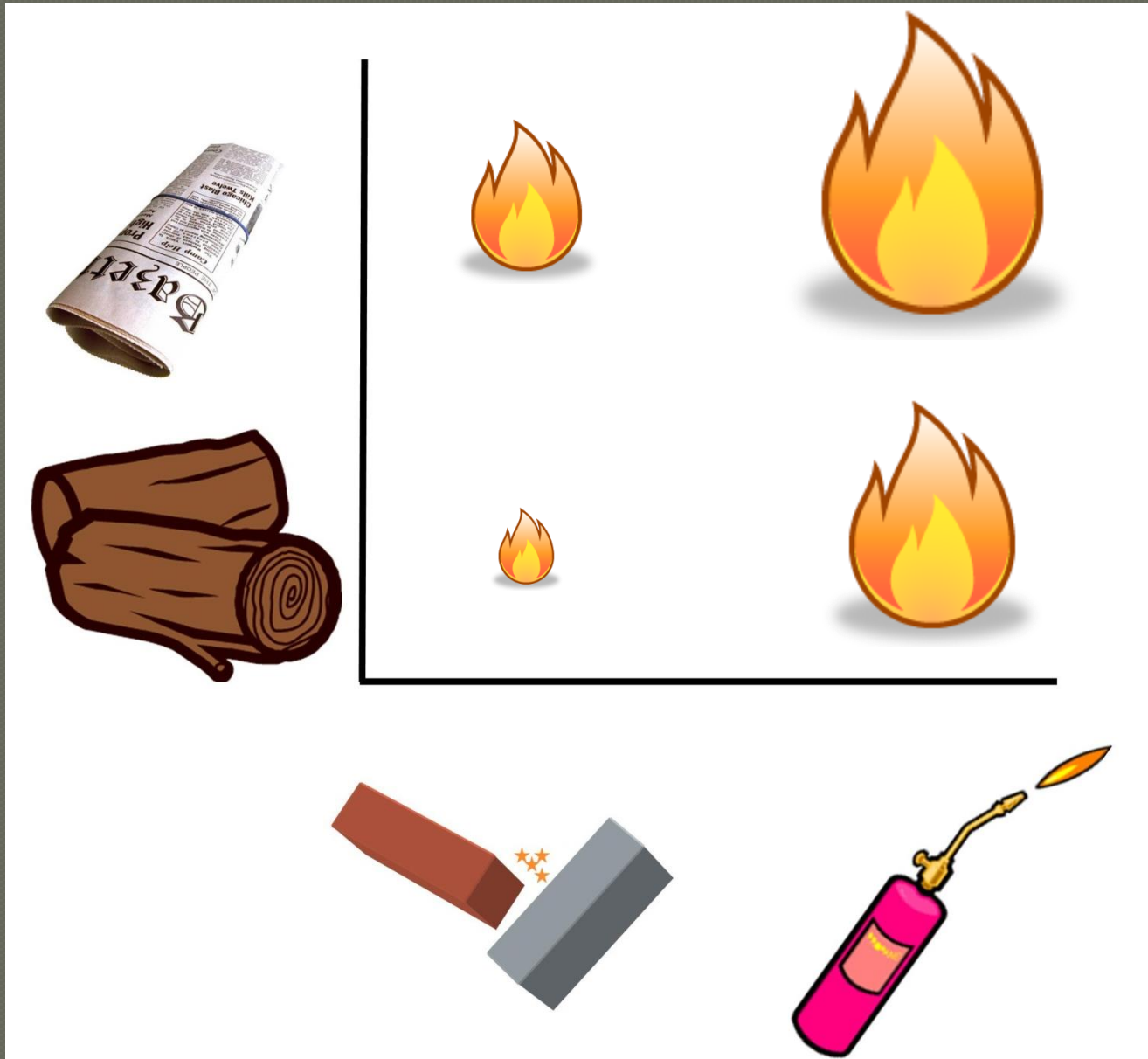
Disturbance creates habitat for plants



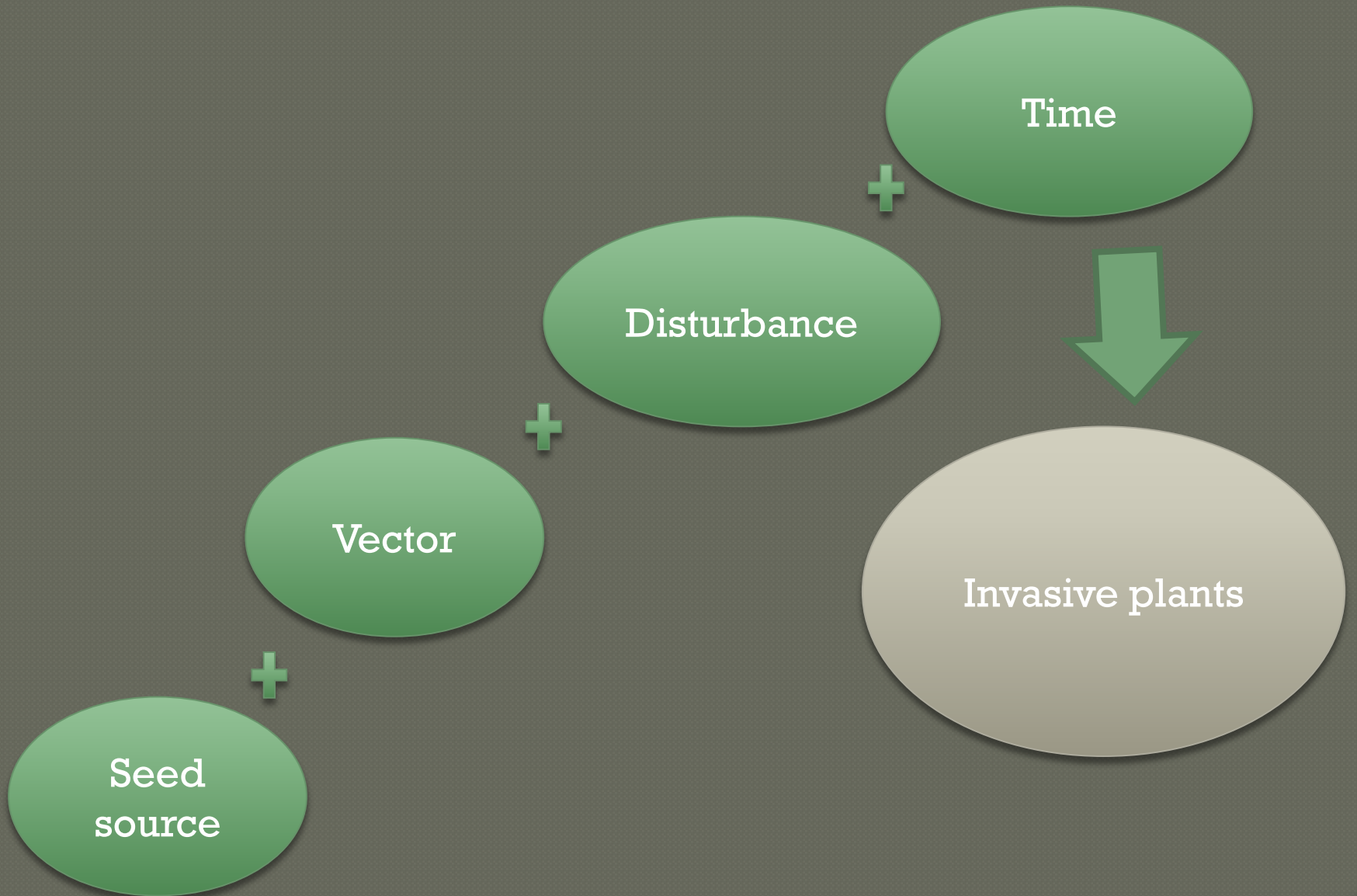


Adapted from Klinger and Brooks 2009

Plant resource availability



Plant propagule pressure



Contaminated aggregate transports invasive plants from one disturbed area to the next



How is aggregate mined?



Active pit



Taken along internal access roads



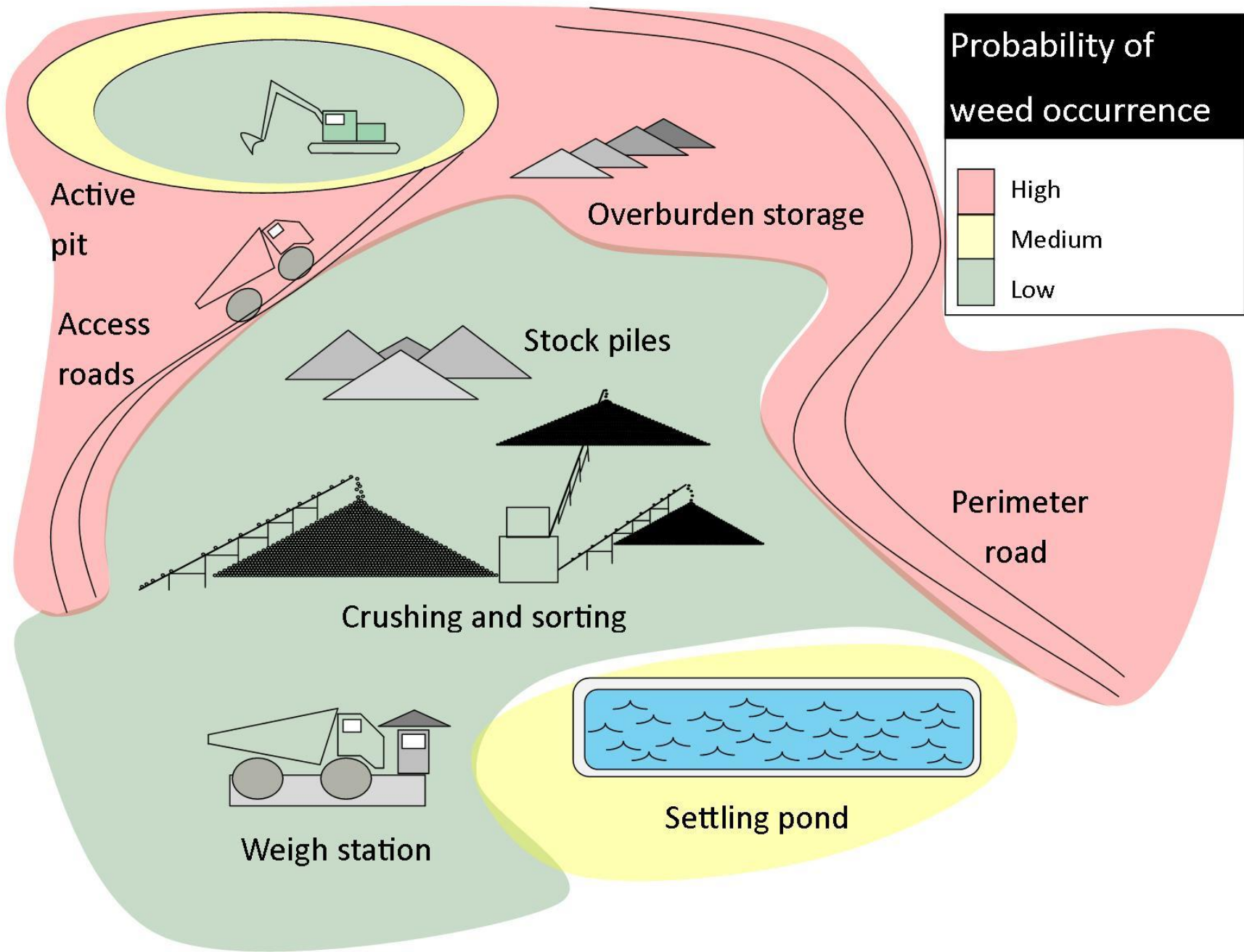
Crushed and sorted

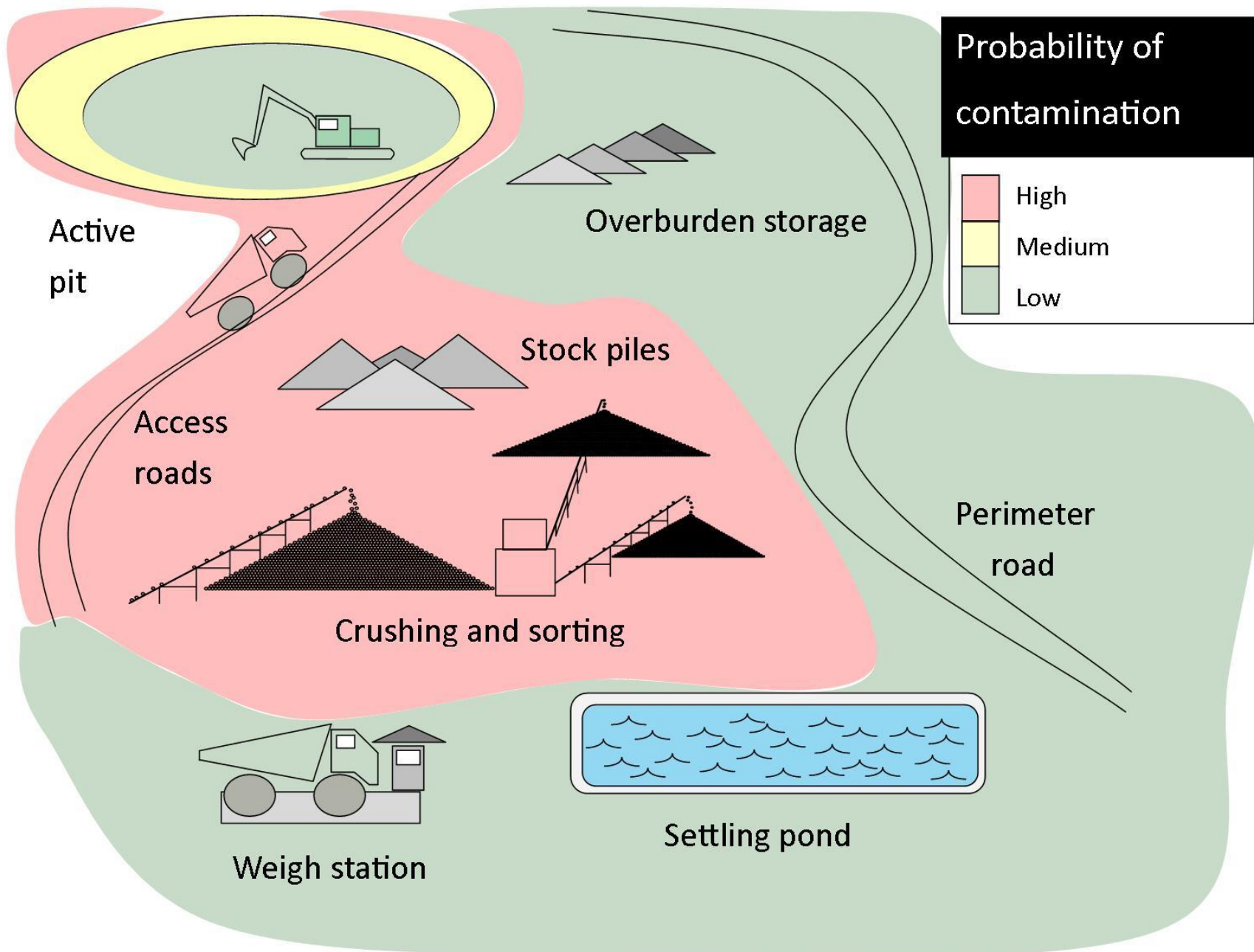


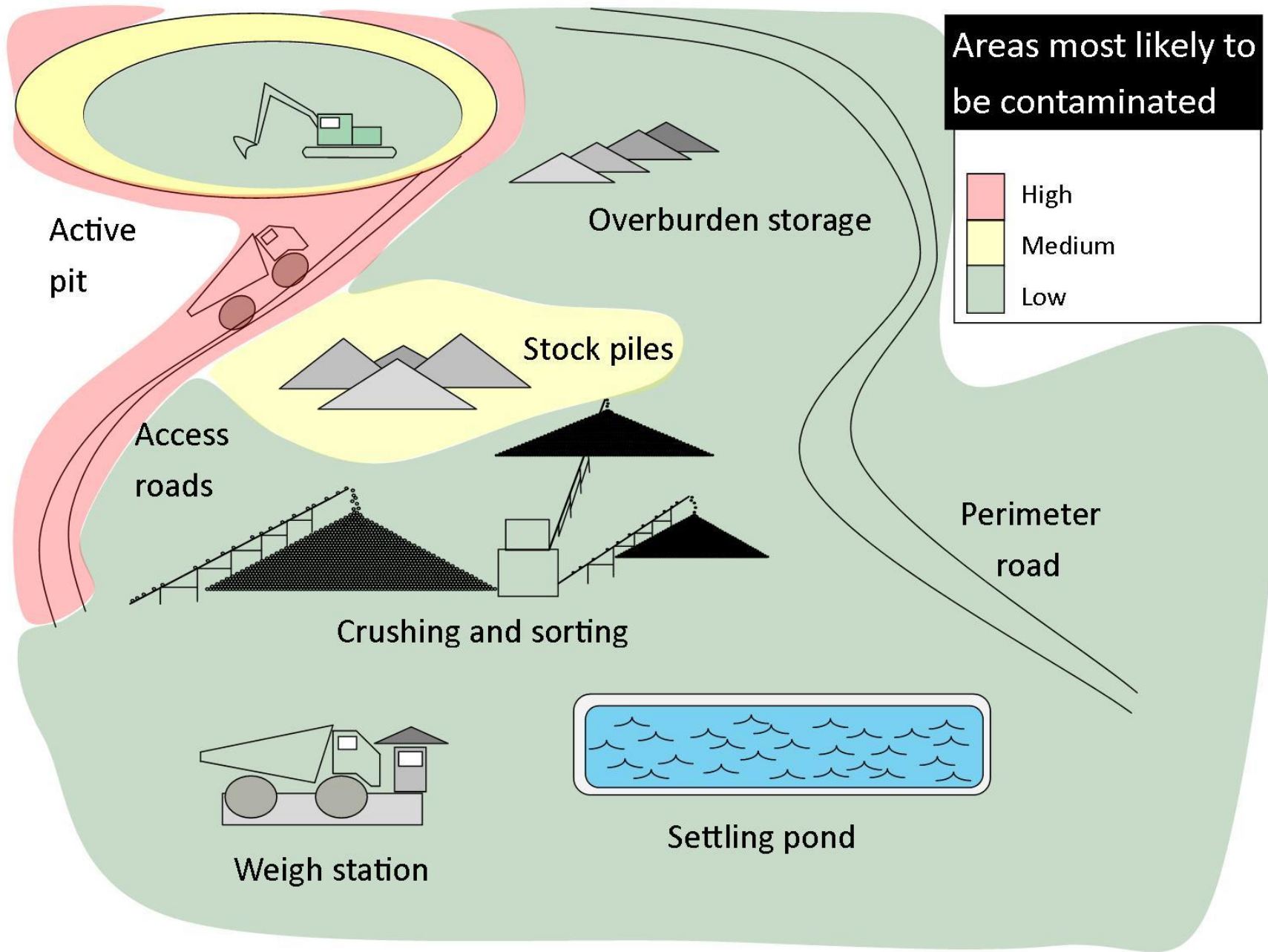
Sits in stockpiles



Sent to the markets







Areas most likely to be contaminated

- High
- Medium
- Low

Active pit

Overburden storage

Stock piles

Access roads

Crushing and sorting

Weigh station

Settling pond

Perimeter road

Some materials are weedier than others

Weediness
increases

Asphalt

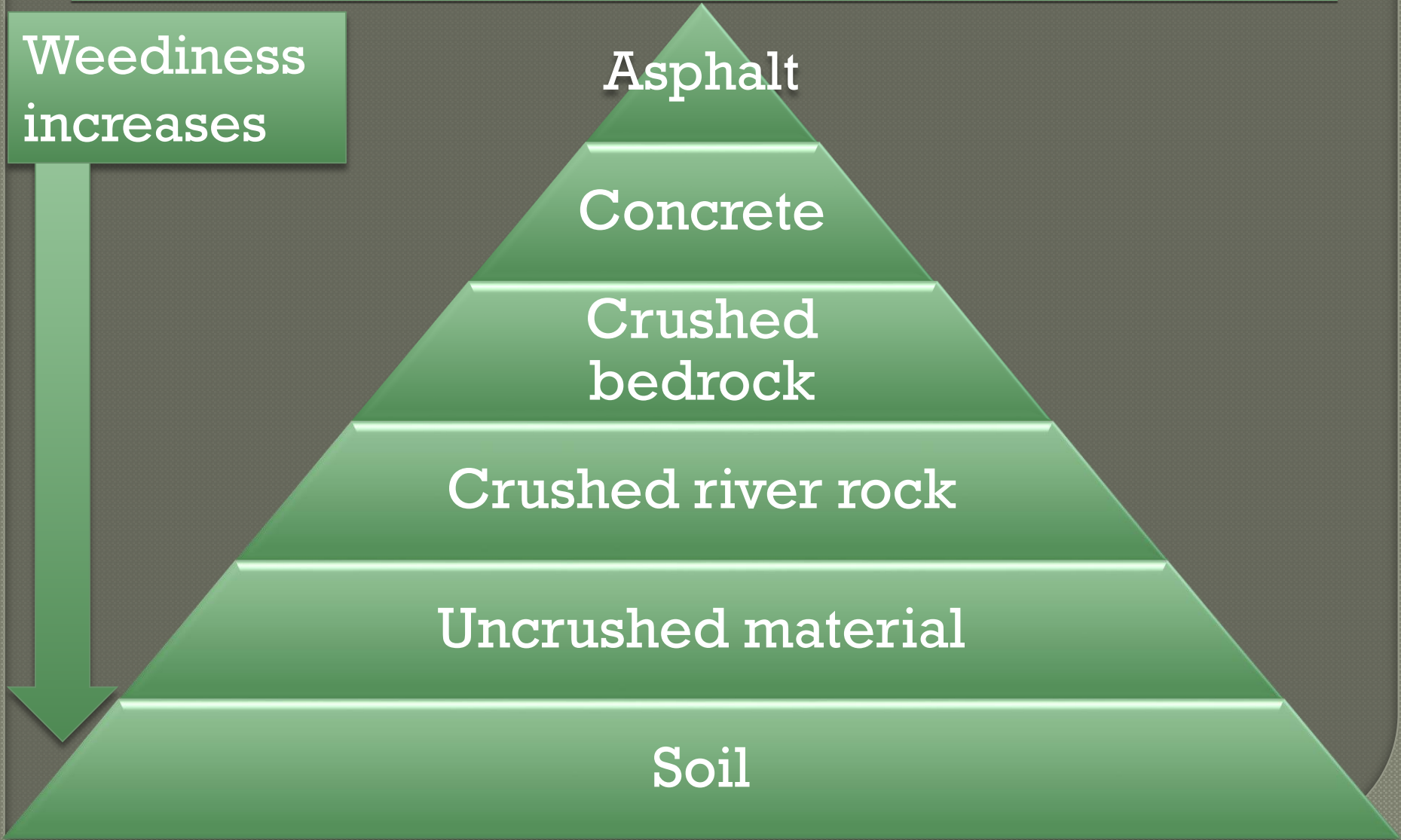
Concrete

Crushed
bedrock

Crushed river rock

Uncrushed material

Soil



Ranking criteria

Passing

Probability of
contamination
is extremely

low



Ranking criteria

Conditional

Probability of
contamination is

possible, but

unlikely



Ranking criteria

Failing

Probability of
contamination is

likely



Difficulties in inspections

Seed bank

Wind

Pits are big,
dangerous

Snap-shot
in time

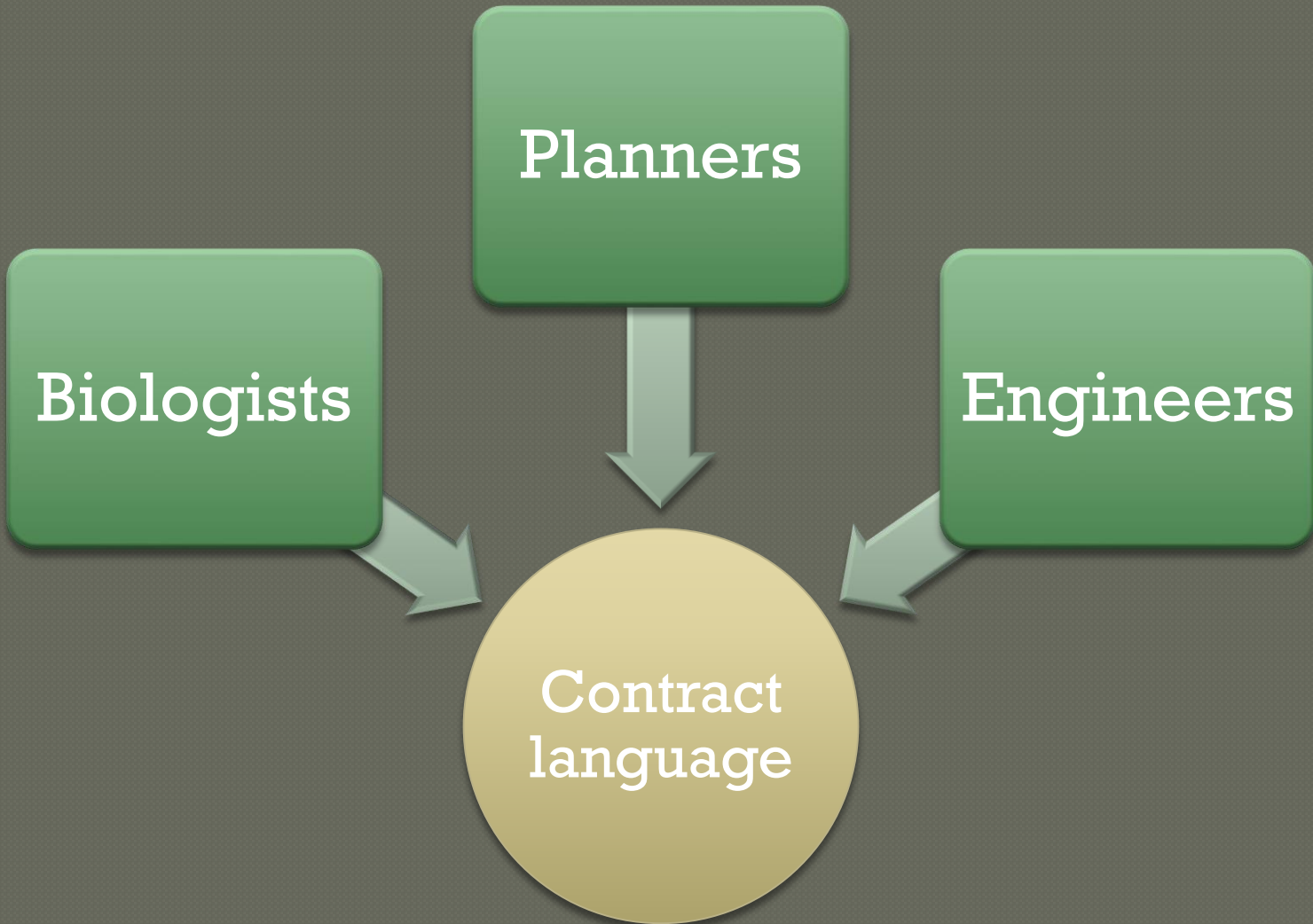
Compliance

Pressure to
pass

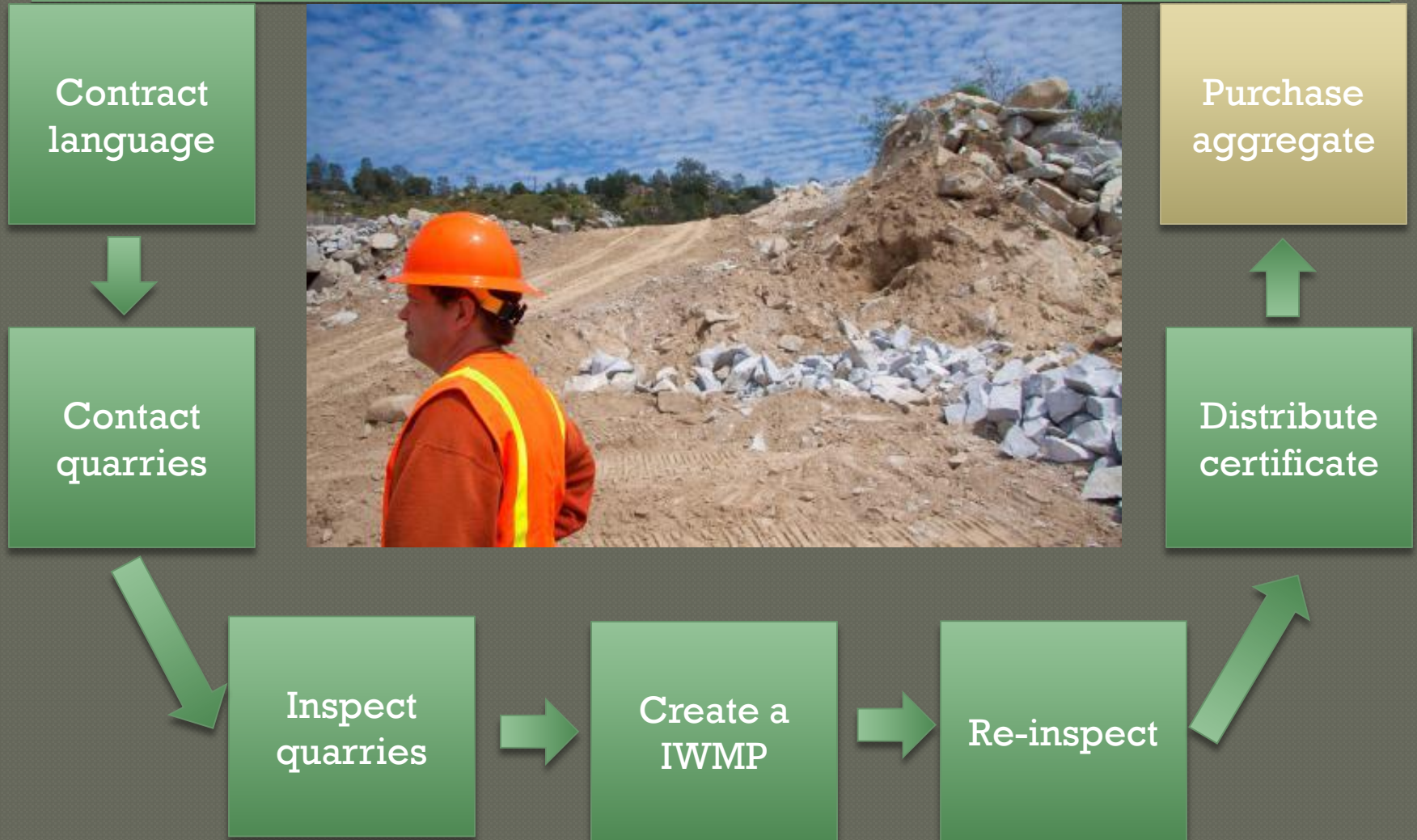
Difficulties in inspections



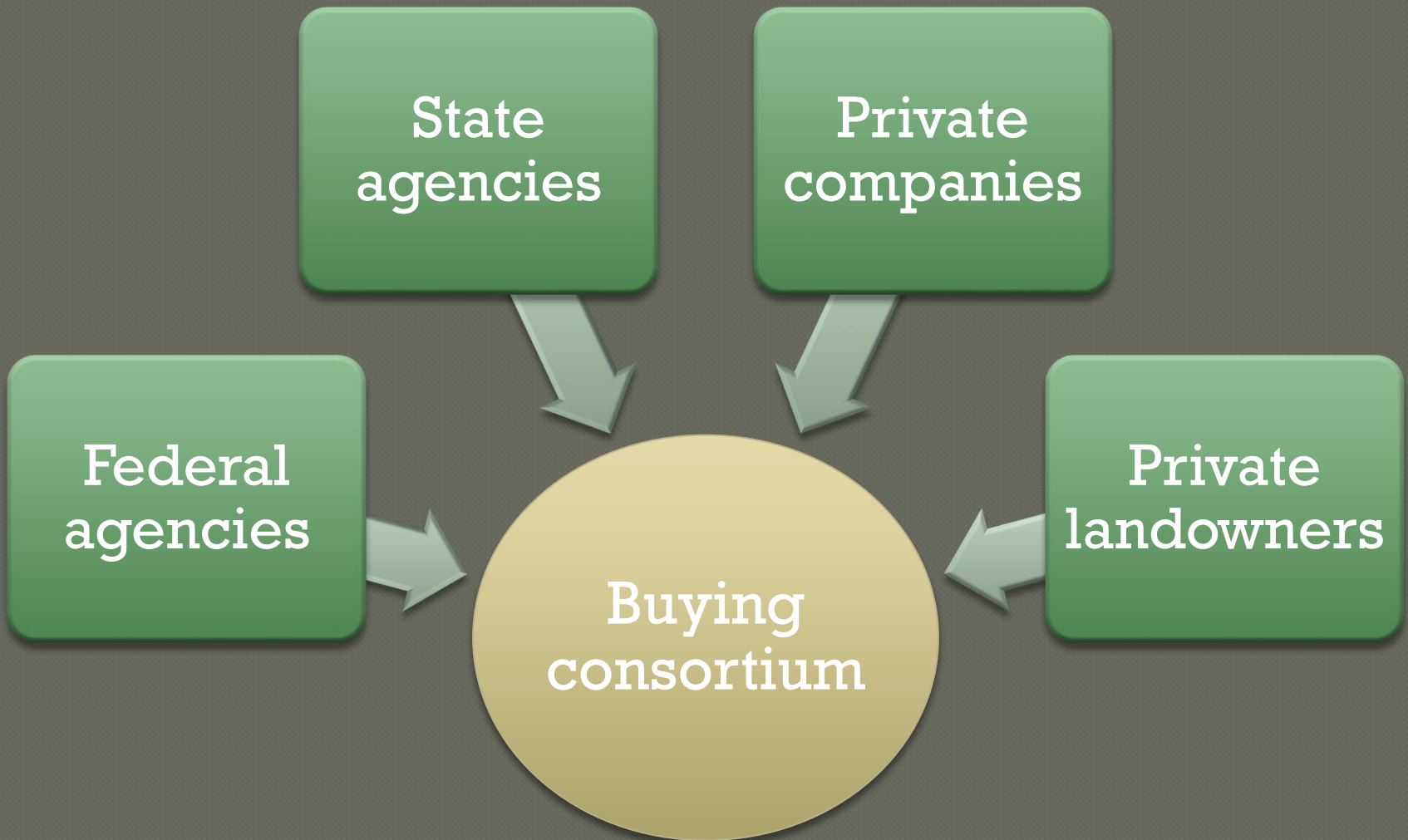
All groups in an organization need to participate



Steps to purchasing weed-free aggregate



Create a buying consortium



The costs are low

**Land
managers**

Inspectors

**Potential
increase in
price**

**Quarry
managers**

**Invasive plant
management
plan**

**Especially when
compared to the cost
of large-scale
treatments**

Quarries have good reasons to provide weed-free aggregate

Increased
marketability

Quality
product

Reclamation

Stewardship

BMP's for quarry managers

Keep piles
active

Stage material
away from
invasive plants



Create a buffer between piles, active areas and vegetation

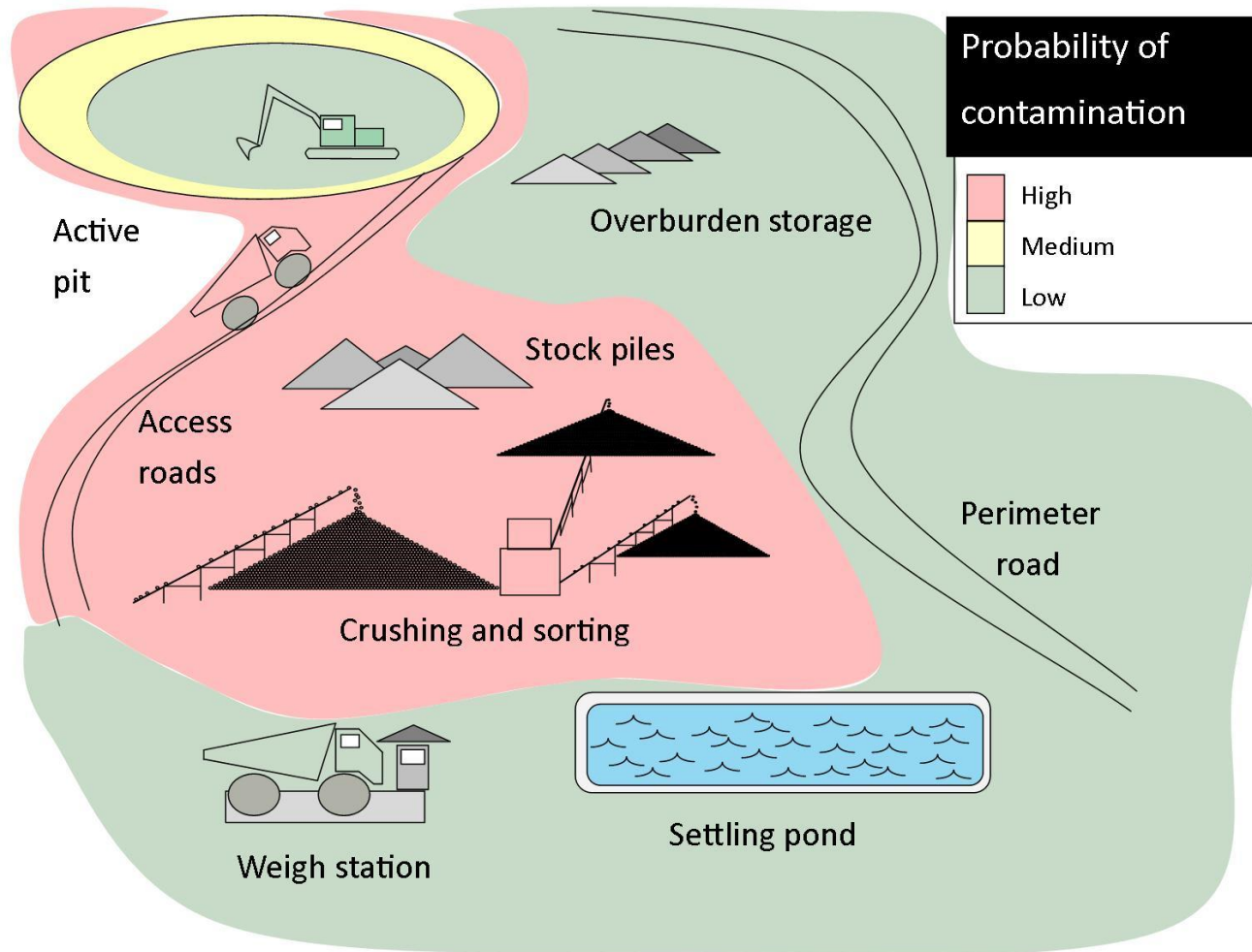


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Keep your equipment clean



Treat areas where there's both a vector and disturbance



Collaboration

Advertise

Education

Shared
certificates

Purchasing