The pseudocode of the algorithm we implemented annually to track survey duration and progress was as follows:

- For each cell:
  - If cell is newly created then set the number of survey-cycles remaining to 5;
  - Elseif survey-cycles remaining is > 0 then reduce survey-cycles remaining by 1.

- For each cell:
  - Update tables to reflect survey completion (maximum 1 per cycle) for each cell in previous survey-cycle.

The pseudocode of the algorithm we implemented annually to create risk-zones and assign risk to cells was as follows:

- If new infested tree was detected in previous survey-cycle:
  - Add new infested trees to GIS tree layer;
  - Create NEGLIGIBLE-risk zone where all suitable host tree genera have been removed in any survey-cycle (sanitised);
  - Create HIGH-risk zone around all newly detected infested trees;
  - Intersect cell polygon layer with HIGH-risk zone;
    - If any cell contains >10% high-risk zone or is completely encompassed by high-risk zone reset the number of years remaining to 5 and annul previous surveys.
  - Create MODERATE-risk zone around all newly detected infested trees and merge with any existing MODERATE-risk zones;
  - Merge HIGH-risk zone from newly detected infested trees with any previously existing HIGH-risk zones;
  - Intersect cell polygon layer with risk-zones (moderate, high, negligible);
  - For each cell:
    - If cell contains 100% sanitised-risk zone OR if cell is visually verified to contain absolutely no host trees, then assign risk of NEGLIGIBLE;
    - Elseif cell contains >10% high-risk zone or is completely encompassed by high-risk zone, then assign risk of HIGH;
    - Elseif cell contains >20% moderate-risk zone or is completely encompassed by moderate-risk zone, then assign risk of MODERATE;
    - Else assign risk of LOW.
  - For each cell:
    - If assigned risk-zone has been upgraded from LOW to MODERATE in previous step then annul previous surveys and reset number of years remaining to 5.
- Else all assigned risk-zones from previous survey-cycle stand.

The pseudocode of the algorithm we implemented annually to test cells for survey completion and to prioritise future survey efforts was as follows:

- For each cell:
  - If assigned risk is NEGLIGIBLE then assign priority of NO SURVEY – HOST-SWEEP ONLY;
  - Elseif ≥ 3 surveys were completed with at least 1 survey completed 5 years since risk assignment then assign priority of NO SURVEY – COMPLETE;
Elseif ≥ 3 surveys were completed < 5 years since risk assignment then add 1 additional survey to requirements and assign priority of ADDITIONAL SURVEY NEEDED;

Elseif 2 surveys were completed < 4 years since risk assignment then assign priority of NO SURVEY – AHEAD OF SCHEDULE;

Elseif infested trees detected during last survey-cycle ≥ 1 AND total cycles completed ≥ survey duration parameter (5 years) AND surveys completed = 0 then assign priority of IMPERATIVE SURVEY – NEVER SURVEYED;

Elseif infested trees detected during last survey-cycle = 0 AND (minimum required surveys parameter (3) - surveys completed) ≥ (survey duration parameter (5 years) - cycles since risk assigned) then assign priority IMPERATIVE SURVEY – BEHIND SCHEDULE

Elseif assigned risk = LOW or MODERATE and cell number is even in an odd numbered survey-cycle, or odd in an even numbered survey-cycle, then assign priority of DO NOT SURVEY – ODD/EVEN ALTERNATE CYCLE;

Else assign priority of SURVEY.