

INPUTS / VARIABLES (per species):

- Initial Outplant Diameter (m)
- Net Annual Increase in Colony Diameter (m)
- Years of Outplanting
- 10 Year Survival Rate

of Mature colonies (for an X-year effort with Z active years of restoration) = ((Target Cover of Restored Area/ 10 Year Survival Rate) / Sum of Cluster Areas per Year)* No. Years of Outplanting

Target Cover of Restored Area = Desired % cover by species * Restorable Area

Sum of Cluster Areas per Year (across 6 outplanting years, assuming 10 total years of growth) = Area Y1 + Area Y2+ Area Y3+ Area Y4+ Area Y5+ Area Y6

Calculation used for Area of Colony at X Year:

Area of Colony in Year 1 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (9 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$

Area of Colony in Year 2 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (8 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$

Area of Colony in Year 3 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (7 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$

Area of Colony in Year 4 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (6 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$

Area of Colony in Year 5 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (5 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$

Area of Colony in Year 6 = $\text{PI}() \cdot ((\text{Initial Radius of Outplanted Colony} + (4 \cdot \text{Net Annual Increase in Colony Diameter}))^2)$