

Start here, Eli

September 7, 2026 • Proposed management survey

The question: How many 2026 redwood plugs are alive after their first summer, where are the gaps, and how many replacements would establish the desired stand? Survey in September–October before extra nursery orders.

Do not start from the picture alone. The enclosed map has 40 provisional points but no verified GPS coordinates or scale. Dave/forester must confirm the actual 2026 planting boundary, net acres, exclusions and final grid in onX/GIS before field use. Separate the 2025 trial. Failed areas stay in the unit.

Prepare about 40 evenly spaced points with a random grid origin, selected before inspecting tree success. A final count other than 40 is fine; retain all final IDs and use spare forms. Never move centers to good trees or convenient ground. Do the first three plots with Dave or a forester and agree on categories.

One full sample plot: a circle with 16.65-ft horizontal radius, or about 16 ft 8 in. This is 1/50 acre. Forty full plots sample 0.8 acre. Use tape, not phone GPS, to measure the radius.

Bring: phone, offline map, power bank, tape marked at 16 ft 8 in, stake/flagging, pencil and paper packet, compass, water, suitable boots and a helper if possible. Tell Barb your route and return time. Record unsafe points instead of risking unstable slash, snags or steep ground.

Save as you go: onX actual-center waypoint + notes + photos for every plot. Paper and this fillable PDF are backups. Test editing and saving on your phone before departure. Blank means unrecorded; enter 0 for a completed zero count.

What is already known: Dave reported about 2,000 of 9,000 plugs planted by February 27. The completed tally is unresolved. A nursery acknowledgment lists 1,000 plugs for March 1, 2027; confirm it before ordering more.

Full procedures: the accompanying website review includes the complete survey, replanting and water pages. Sources and calculation notes are at the back of this packet.

Set up the survey record

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Observer / reviewer	
Survey dates	
2026 planting-unit name	
Final boundary file / version	
Verified net planted acres	
Actual 2026 number planted	
Planting dates / nursery lots	
Planting tally evidence	
Final grid file / date	
Final planned plot count	
Exclusions / 2025 trial boundary	
Agreed future stocking target	
Who confirmed target / species	
Nursery reservation confirmed?	

Keep roads/landings, retained forest and the 2025 pilot separate; do not remove mortality patches from the denominator. Use the same boundary and cohort for both the planted count and estimated survivors. No confirmed acres/count means no firm total survival percentage.

Example initial grid spacing: $\sqrt{\text{acres} \times 43,560 / 40}$. For 18 / 25 / 26 acres, this is about 140 / 165 / 168 ft. Final points are created on the verified geographic boundary; map pixels are not geographic coordinates.

At each plot: locate, measure, count

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1 / Locate. Navigate to the planned waypoint, allowing safe detours. Do not change the center to avoid brush or improve stocking. Let GPS settle; record actual coordinates, accuracy if shown and any offset. Mark the center with its plot ID. Keep planned and actual points separate.

2 / Measure horizontally. Hold the tape level, or step short horizontal distances with a helper. If measuring on a slope, the distance in that direction is $16.65 / \cos(\text{angle})$. At 20° it is 17.72 ft; across the contour it stays 16.65 ft. Do not apply one steepest-slope correction to the entire circle.

3 / Sweep four quarters. Move clockwise. Count each stem at its ground-level center; measure borderline stems. Temporarily mark counted plants. Several shoots from one planted root count as one seedling. Avoid pulling roots or damaging plants to decide vitality.

H: living 2026 redwood, apparently healthy. **D:** living 2026 redwood with damage or suppression. **U:** uncertain vitality, needs photo/revisit. **X:** clearly dead identifiable 2026 redwood. **M:** missing known planting position supported by marker/record. **O:** other living conifers, with species/origin in notes. Uncertain species/year stays in notes pending review.

Live2026 = H + D. Living is not the same as suitable future crop stocking. Do not mix trial trees or natural regeneration into 2026 survival. Record zeros when a completed plot has none. Never turn a skipped point into a zero.

4 / Record conditions. Brush cover class (0–25, 26–50, 51–75, 76–100%), browse or other symptoms, gaps, photo names and any optional height with units. Do not diagnose drought/disease from one appearance alone. Photograph the plot ID with an overview and close-ups of uncertain or damaged seedlings.

Edges need review. If the circle crosses a boundary/exclusion, mark EDGE, retain the center, count only trees within both circle and unit, and sketch/photograph the edge. Do not multiply partial counts by 50. A forester must resolve effective area or an appropriate correction. Keep unsafe/skipped/edge records visible until resolved; interior-only results are provisional.

onX Hunt on your phone

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Before leaving: on Wi-Fi, save a detailed Offline Map covering the unit and access. Let it finish. Test in airplane mode with location services enabled: verify imagery, waypoints and your location. Phone GPS can work without cell reception, but imagery must already be saved.

Organize: create a My Content folder named “Kraemer redwood survey 2026.” Import the finalized GPX on the phone (My Content -> Import), or GPX/KML on the web map and sync. Verify the property, every ID and final boundary. Button names may vary by version.

Navigate: select a planned point and use Go to Waypoint. Its straight line is a direction, not a safe route. Go & Track can record your walk. Keep the original planned point and create P01-ACTUAL at the stake; continue the same naming pattern.

Record: open Edit on the actual waypoint, paste the matching block from Eli-Survey-Phone-Notes.txt into Notes, add photos, and Save. Use colors for planned/complete/revisit/unsafe. Reopen it before moving on and verify all counts. If dictating, proofread the numbers.

Waypoint note: ID, date/time, observer, unit/cohort, boundary version, status, actual latitude/longitude, accuracy in meters, horizontal radius, H/D/U/X/M/O, other species/origin, brush, symptoms, height/units if taken, photo filenames, edge/offset or skipped reason.

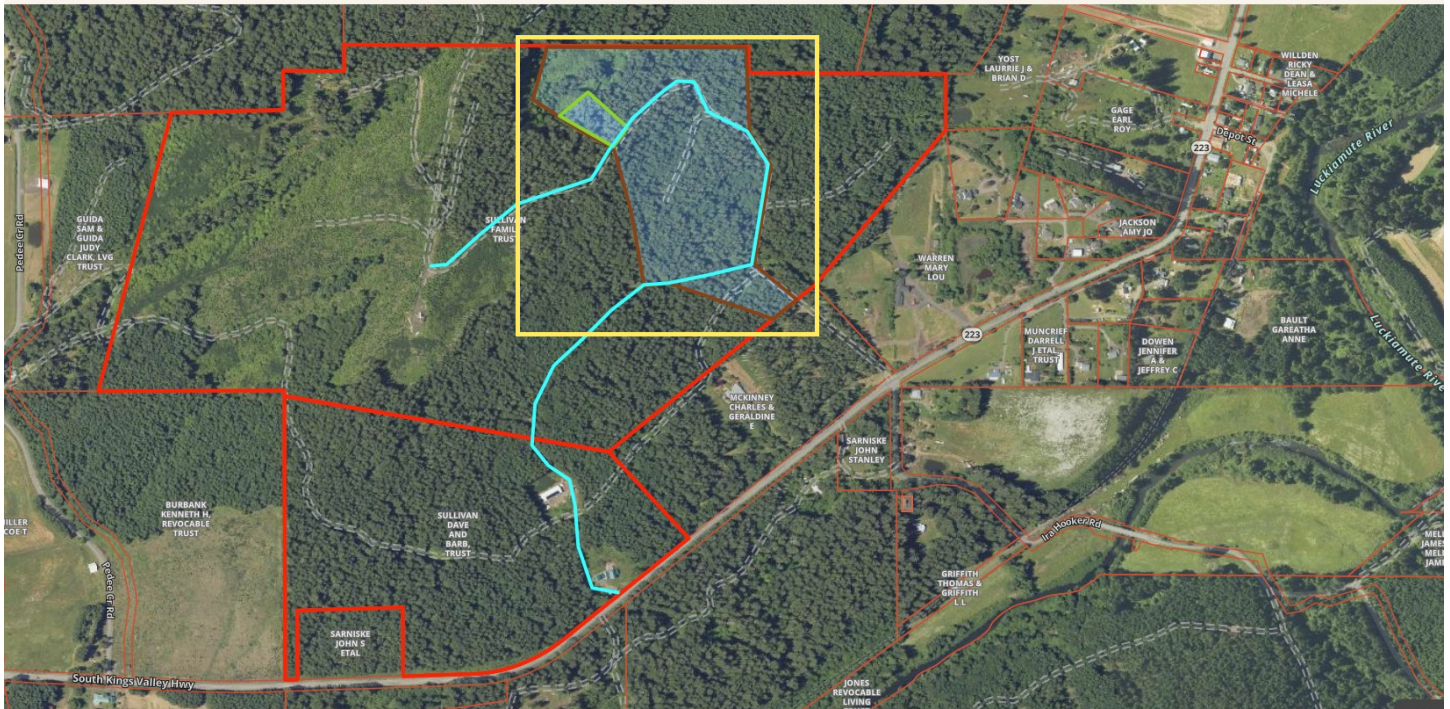
Backup: at breaks, compare IDs with paper. Afterward sync on Wi-Fi and check a second device. Export GPX from the phone; use the web map if you need KML. Photos are never included in exports. Web exports do not retain notes; app-to-app GPX preserves notes. Save a separate notes copy, original photos and photographed paper forms in the Timber survey folder.

Extra work stays separate: record the 2025 pilot in its own tally; consider a full count if its roughly 300 original positions can be reconstructed. Map large gaps as G01, G02... and count suitable empty planting positions. Do not add these targeted gap counts to the systematic sample mean.

Map 1 / Whole-property context

Archived planning image • No verified north, scale or GPS coordinates

SURVEY CONTEXT | Archived harvest planning map



Yellow box = detail map. No verified scale, north arrow or GPS coordinates.

The yellow rectangle shows the enlargement on the next page. The underlying aerial image predates current planting; canopy is not evidence of current survival. Brown is the owner-described harvest area, green the pilot and cyan the access road. Finalize the actual 2026 planting boundary separately.

Acreage conflict: approximately 18 acres in the signed logging contract; roughly 25 acres in later owner correspondence; 26 acres described for the brown mapped area. Do not choose whichever figure makes the desired result. Measure the matching completed planting unit.

Map 2 / Provisional sample sites

Finalize georeferenced points before field use • Symbols are not plot radii

40 PROVISIONAL SAMPLE SITES

Coverage illustration • finalize in onX/GIS before sampling



01 = P01 • Green pilot excluded • Dots do not show plot radius

Verify 2026 boundary, road exclusions and every point. No GPS coordinates.

Image orientation retained; no verified scale or north arrow.

Sample forms / P01–P04

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P01 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P02 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P03 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P04 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P05–P08

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P05 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P06 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P07 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P08 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P09–P12

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P09 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P10 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P11 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P12 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P13–P16

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P13 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P14 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P15 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P16 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P17–P20

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P17 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P18 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P19 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P20 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P21–P24

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P21 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P22 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P23 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P24 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P25–P28

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P25 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P26 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P27 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P28 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P29–P32

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P29 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P30 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P31 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P32 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P33–P36

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P33 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P34 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P35 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P36 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Sample forms / P37–P40

H healthy live • D damaged live • U uncertain • X dead • M known missing • O other conifers

P37 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P38 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P39 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

P40 Date/time + observer: Status:

Actual lat / lon + accuracy (m):

H D U X M O Brush % class:

Symptoms / other species, origin / height + units:

Photo names / edge sketch ref / offset or skip reason:

Summary and replacement worksheet

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First resolve completeness. List all final planned IDs. Separate COMPLETE full plots from EDGE, REVISIT and UNSAFE/skipped records. Obtain review/corrections for boundary plots. Do not claim a whole-unit estimate from convenient interior plots alone.

Full-plot calculation: $\text{sum}(H+D) / n \times 50 = \text{estimated living 2026 redwoods/acre}$. Multiply by verified matching acres for estimated survivors. $\text{Estimated survival} = \text{survivors} / \text{verified planted count} \times 100$. If a boundary-corrected design is used, have the reviewer apply its estimator instead of this full-plot formula.

Replacement calculation: for each area, $\text{max}(0, \text{target acceptable trees/acre} - \text{measured acceptable stocking/acre}) \times \text{acres} = \text{survivor shortfall}$. Divide by an explicit assumed replacement-survival fraction; add only a justified handling allowance. Reconcile mapped suitable positions and confirmed nursery reservations. A dense patch must not erase a bare patch.

Invented example: 240 live trees in 40 full plots -> 300/acre. At 25 acres -> 7,500 survivors. If 9,000 were planted -> 83.3% estimated survival. Target 350/acre with all survivors acceptable -> 1,250 shortfall. At 90% replacement survival -> 1,389 plugs; less a confirmed 1,000 reservation -> 389 additional. These are not property results.

n / unresolved plot IDs	
H / D / U / X / M / O totals	
Mean / range / zero-tree plots	
Acres / planted count / survivors	
Target / acceptable crop stocking	
Gap acres / suitable positions	
Replacement allowance / reservation	
Reviewer / decision / planting window	

Gaps, extra plots and review notes

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Record ID: G01 / pilot / extra P41...

Date / observer / boundary version

Coordinates / polygon file / area

Method: full tally / plot / gap walk

Counts H / D / U / X / M / O

Suitable empty planting positions

Brush / symptoms / photos

Edge / skip reason / review action

Copy this page for additional gaps or plots. Keep 2025 pilot, targeted gap checks and any extra randomized grid separate. Do not combine unequal-intensity sampling by a simple unweighted mean. Weight genuinely separate strata by their verified acres.

Uncertainty: report sample size, count range, zero plots, damaged/uncertain trees and unresolved records. Forty plots do not guarantee precision. A single systematic grid has no simple design-based confidence interval. If results are patchy or the order hinges on a small difference, obtain an independent grid or census the gaps and have a forester review the result.

Sources: ODF reforestation compliance monitoring protocol (1/50-acre horizontal circles); Oregon OAR 629 division 610 (confirm species/stocking/deadlines with ODF); onX official offline-map, import/export and editing guidance. The 40-plot intensity, record categories and replacement workflow are project recommendations.

[ODF plot protocol](#)

[Oregon reforestation rules](#)

[onX offline maps](#)

[onX editing and notes](#)

[onX import/export](#)