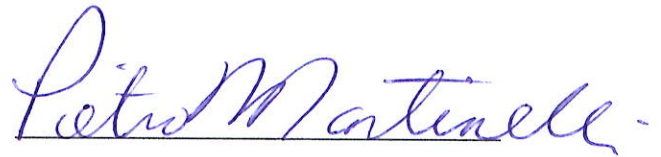


FOBM Noxious Weed Program (2024 Final Report)



By Pietro Martinelli, February 5, 2026

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Introduction

Friends of Badger Mountain (FOBM) is committed to controlling three class B (<http://www.bentonweedboard.com/what-is-a-noxious-weed>) types of noxious weeds found on the Candy Mountain and Badger Mountain Centennial Preserves:

- Rush skeletonweed (RSW)
- Yellow starthistle (YST)
- Russian, diffuse, and spotted knapweed (KW).

FOBM also seeks to reduce the presence of puncturevine (also known as tackweed or goathead) and kochia⁽¹⁾. They too are classified as class B noxious weeds.

In the summer of 2017, a devoted group of volunteers, led by Dave Beach, began to systematically pull and/or treat these invasive weeds by hand, focusing particularly on Candy Mountain. Their hope was to fully eradicate the weeds. While there have been gains in some areas, a significant number of weeds have returned year after year.

A team of some of the most experienced volunteers gathered in November 2024 to brainstorm about how to efficiently and effectively control the remaining noxious weeds in the future. The group concluded that identifying and naming smaller sections of each preserve could result in communicating more easily among volunteers, reducing duplication of efforts, improving reporting of results, and allowing easier sharing of leadership responsibilities.

This report reflects the culmination of the group's efforts to achieve the aforementioned objectives for calendar year 2024. Earlier drafts of this report were used to inform the 2025 weeding efforts. Formal issuance of this report at this time is for record purposes and to serve as a template for the 2025 Report. It reflects the incorporation of comments that were compiled at a January 10, 2025 Meeting at Endive Eatery in West Richland.

This report does not address, but wishes to acknowledge separate efforts lead by Jim Langdon to control Russian thistle along the trails and puncturevine on the preserves.

Candy Mountain

Area 1: Summit Area (about 16 hectares/40 acres) – The area southwest of the Water Tank Service Road (A). The area is defined by the Service Road (A) from the Marker Utility Box (B) to the Summit and extending out along the un-improved trail past the Cell Tower to the west Preserve boundary, the west-facing Preserve boundary, the old east-west 40-Acre Property Line [defined by the Old Northwest⁽⁴⁾ and Old Northeast Property-Line Markers (white posts)], a short imaginary segment uphill from the Northeast Marker to the Trail intersection, and finally the area above the Trail from the aforementioned intersection to the Third Switchback (D) [adjacent to the Water Tank Service Road]. – Light⁽³⁾ RSW.

Area 2: Northeast Area Below the Summit (about 19 ha/46 ac) – The area northeast of the Water Tank Service Road (A). The area is defined by the Water Tank Service Road (A) from the Marker Utility Box (B) to the Summit and extending out along the un-improved trail past the Cell Tower to the west-facing Preserve boundary, the west Preserve boundary, the north Preserve boundary, and the east Preserve boundary from the northern-most corner of the Preserve to the Marker Utility Box (B). – Light weeds: RSW and YST.

Area 3: Western-Most Half of the 40-Acre Section Acquired in 2024; accessed by the Orchard Road (E) [about 8 ha/20 ac] – The area is defined on the western side by white posts at the top and bottom⁽⁴⁾ of the hill (the lower portion of this boundary corresponds to the edge of the recent vineyard extension), the north (uphill) side by the old east-west 40-Acre Property Line (C) [defined by the Old Northwest⁽⁴⁾ and Northeast Property-Line Marks (white posts) up to a point directly north (uphill) of the Third Orchard-Line Utility Pole [Power Pole # 92819-7101] (F), on the east side by a shallow ridge line running from the Utility Pole (F) to the top of the hill, and on the south side by the Vineyard Road (G). – Heavy YST⁽³⁾ and RSW, especially in gullies (draws) and along the agricultural-land borders.

Area 4: Eastern-Most Half of the 40-Acre Section Acquisition; accessed by the Orchard Road (E) [about 8 ha/20 ac] – The area is directly east of Area 3. The area is defined on the western edge by the shallow ridge line running uphill from the Third Orchard-Line Utility Pole (F) to the top of the hill where it intersects with the old East-West 40-Acre Property Line (C), the old East-West Property Line (C) east to the Old Northeast Property Line Marker (white pole at the top of the hill), the Old North-South Property Line (C) white poles at the top and bottom of the hill on the eastern side of the Property) [the white post at the bottom of the hill is near the Fifth Orchard-Line Utility Pole (Power Pole # 92819-7101)], and the Vineyard Road (G). – Heavy YST and RSW, except in unburned areas with sage brush.

Area 5: Triangle-Shaped Section on the southeast side of the Hill (about 7 ha/17 ac). The area is southwest (below) the Summit Road (J), north (uphill) of the Orchard Road (E), and east of the Old North-South 40-Acre-Property Line. (At the top of the hill, the area includes a *de minimis* parcel below the Trail between the Old Northeast Property Line Marker (the white pole) and the Trail/Summit Road intersection. Similarly, at the bottom of the hill, the area includes a *de minimis* parcel at the corner of the Orchard bounded by the Summit Road, the Utility Pole Road (K), and the Orchard Road (E). – Light⁽³⁾ RSW and YST, and occasional KW, except in areas with sage brush. Also, light tackweeds on and on-the-side-of the Orchard Road at the Orchard Corner (I).

Eradication efforts over the years have successfully eliminated large patches of YST along the base of the Preserve next to the Orchard Road.

Area 6: Central Preserve Area (about 12 ha/31 ac) – The area east of the Summit Road (J) and west of the Water Tank Service Road (A). The area is defined at the top of the hill by the Trail between the Trail/Service Road intersection and the Water Tank Service Road [next to the Third Switchback (D)]. At the base of the hill, the area is defined by the Utility Pole Road (K) and the power lines as if extending out to the intersection of the power lines and the Outer Interpretative Loop, the Trail from the Power Line/Outer Interpretative Loop intersection up the hill along the Trail to the intersection of the Trail with an imaginary line that runs from the Orchard Corner (I) to the Marker Utility Box (B), and from the imaginary line/Trail intersection to the Marker Utility Box (B) [roughly corresponding to a community trail along an abandoned road that follows this path]. – Light weeds [except for Heavy RSWs along the Utility Pole Road (K)], especially in the corner section above the Utility Pole Road (K) and below the Trail. Light RSW and YST between the Trail and the community trail along an abandoned road. Eradication efforts over the years have successfully eliminated large patches of YST above the abandoned road.

Area 7: Water Tank Area (about 12 ha/31 ac) – The area south of the West Richland Water Tank and Water Tank Service Road (A) to the power lines as if they extended out beyond the Double Utility Pole (M) to the Preserve eastern boundary. The area is defined by the north Preserve boundary from the northeast corner (near the Water Tank) to the Marker Utility Box (B), the imaginary line that runs from the Marker Utility Box (B) to the Orchard Corner (H) up until it intersects with the Trail (roughly the community trail that leads from the Marker Utility Box (B) to the Trail), the Trail and Outer Interpretative Loop from the Trail/Imaginary Line intersection to the Loop/power line intersection, the power lines from the Loop/power line intersection to the Preserve eastern boundary, and the Preserve eastern boundary. – Heavy RSW and YST directly west and south of the West Richland Water Tank, even after years of eradication efforts.

A large patch of cereal rye⁽²⁾ in the gully south of the Water Tank. It is a triangular patch that extends from the Water Tank to the community trail (abandoned road). A smaller patch of cereal rye is developing on the northern bank of the gully near the abandoned road.

The volunteers have historically weeded portions of the adjacent properties north of the Water Tank and west of the excavation. Their efforts were rendered moot late in the season when renewed grading eliminated all the areas that had been weeded.

Area 8: Outer Interpretive Loop Area (about 15 ha/38 ac) – The area west of the outer Interpretive Loop to the Preserve western boundary. The area is defined on the north (uphill) side by the Utility Pole Road (K) and the power lines that extend beyond the Road from the Orchard Corner to the power line/Outer Interpretive Loop Intersection. On the south (downhill) side, the area is bounded by the south Preserve boundary to the approximate intersection of the Trail and the curve where Road E 685 PR NE turns from E-W to N-S. – Light to relatively weed-free, except for YST near houses. Years of eradication efforts have proven to have successfully eliminated both RSWs and YST. However, YST made a surprising comeback this year near the recently-constructed buildings on the periphery of the Preserve.

Area 9: Lower Eastern Boundary Area (about 7 ha/17 ac) – The area east of the outer Interpretive Loop to the east Preserve boundary. On the north (uphill) side, the area extends from the power lines (as if extending out beyond the Double Utility Pole (M) to the Preserve eastern boundary). On the south (downhill) side, the area is bounded by the neighboring private-property lines to the inflection point where 685 PR NE turns from E-W to N-S (near where the Inner and Outer Interpretive Loops join). – Heavy YST and light RSW at the base of the eastern boundary despite years of eradication efforts. Heavy RSW on the southern portion of the plateau rim and light YST along the rim. Two large patches of Cereal Rye on the slope are out-competing all other native or noxious plants.

10: Parking Lot and Private Lands Along Roads (about 4 ha/10 ac) – The areas surrounding the Parking Lot, and the areas crisscrossed by Roads 680 PR NE, E 685 PR NE, and Arena PR NE north of the Road 680 PR NE/E 685 PR NE intersection. – RSW, KW, YST. Years of eradication efforts have eliminated much of the YST in this area. Heavy RSW west of the Parking Lot and on the adjacent property west of Road E 685 PR NE.

Kochia is prevalent along the road and Parking Lot p in this area. Light puncturevine is present in the section north of where Roads and the Trail intersect. Heavy RSW and light YST west of the Parking Lot and on the adjacent property.

Badger Mountain Centennial Preserve

Area 1: Dallas Parking Lot Area (about 8 hectares/20 acres) – The triangular area near the Dallas Parking Lot. It is bounded on the north end by the northern section of the Service Road (210 Private Road) [C], from the Dallas Parking Lot Entrance to the Stirling Compound (A); the Farm Road (climbing section) on the south end (B), from the Parking Lot Entrance to the Farm Field Corner (D), and on the east (uphill) side by an imaginary line from the Farm Field Corner (D) to the Stirling Compound (A). – Heavy KW and puncturevine along the Farm Road, with heavy YST and potentially some RSW on private property north of the Service Road (especially below the Water Tank). Within the perimeters, the area is considered weed-free.

Area 2: The Northwest Approaches Area (about 25 ha/62 ac) – The western slope of the Preserve between the north end of the Service Road (C) at the top of the hill and the Farm Road (flat-contour-following-section) [B] at the bottom of the hill. The area is bounded on the north end by the Area 1 Farm Field Corner-to-the Stirling Compound [(D) to (A)] boundary and on the south end by an imaginary line of sight running from Pumphouse 2 to the intersection of the Skyline Trail and the Service Road (E). – In the lower reaches below the Langdon Trail, heavy RSW, YST in gullies, and heavy KW and puncturevine along Farm Road. Heavy RSW on some of the upper slopes, light YST in the lower gullies above the Langdon Trail, and light KW randomly along the area bordering the Service Road.

Area 3: Central West Slope Area (about 49 ha/121 ac) – The western slope between the Skyline Trail at the top of the hill and the Farm Road (flat-contour-following-section) [B] at the bottom of the hill. It is bounded on the north end by the Area 2 – Pumphouse 2-to-Skyline-Trail/Service-Road Intersection line (E) and on the south end by the power lines to the Cell Towers (Cell Tower Power Lines) [F]. – Heavy RSW, heavy YST in gullies (especially the one with the car body in it), and heavy KW and puncturevine along the Farm Road. Light KW along the Skyline Trail near the Summit.

Area 4: South Entrance Area (about 48 ha/119 ac) – The area between the southern end of the Service Road (210 Private Road) at the top of the hill and the Farm Road (flat-contour-following-section) at the bottom of the hill. The area is bounded on the northern end by the Area 3 Power Line boundary (F), on the east (uphill) end by the Skyline Trail, the Canyon Trail from the Skyline/Canyon Trail Junction (just south of the South Cell Tower) to the Canyon Trail/Service Road intersection, and on the southern end by the Service Road (C) itself as it turns north-south along the old Preserve boundary from the Canyon Trail/Service Road

intersection to the South Preserve entrance (G). – Light RSW and Light YST (except for heavy KW along the Farm Road and light KW along the Service Road).

Area 5: Summit Plateau Area (about 27 ha/67 ac) – The area consists of the comparatively gradual slope south of the Stirling Compound (A) and the comparatively flat area around the three Cell Towers (West Tower, North Tower, and South Tower). It is bounded on the northeast side by the shear-cliff edge (H) from the Stirling Compound (A) to the Canyon Trail, on the south end by the Canyon Trail from the cliff edge (where the Canyon Trail crests onto the plateau) to the Skyline/Canyon Trail intersection, and on the west side by the Skyline Trail from the Skyline/Canyon Trail intersection to the northern Skyline Trail/Service Road intersection, and by the Service Road (C) from the Skyline Trail/Service Road intersection to the Stirling Compound (A). – Light YST, light RSW, and light KW off road or trail on the plateau. Heavy KW on the slope south of the Stirling Compound, especially on and along the Service Road. The use of pre-emergent herbicide in this area in the winter of 2023 significantly reduced the population of KW along the road beds in this area. Additional details such as name of herbicide, application method, dosage, etc. are not known.

Area 6: Trailhead Slope Area (about 32 ha/79 ac) – Area 6 is the east slope above Trailhead Park. It is bounded on the north end by the Canyon Trail from the Trailhead to the intersection of the Trail with the southern end of the Service Road (C) at the Summit (near the South Tower), the Service Road to a point where the Service Road, Langdon Trail, and Sage Brush Trail roughly join, the Sage Brush Trail from the approximate juncture (of the three trails) to the Trailhead. The area also includes the wildland portions of Trailhead Park (Badger Flats) north of the Park from the Trailhead to the northeast corner of the lower Parking Lot. – Light RSW (kochia and RSW just before the trailhead). Above the lower bench on the Canyon Trail just past the 1/4-Mile Marker, a heavy patch of RSW was spotted this year for the first time. The patch covered the northern branch of the gully at the bench, the bowl of the gully to the north and east, the saddle near the Lake Lewis marker, and areas above the Trail just below the so-called “Windy Ridge” switchback.

Portions of the area below the Service Road have not been well-scouted.

Area 7: Queensgate Area (about 15 ha/37 ac) – This area is all Preserve and FOBM land east of the Sage Brush Trail or east of the Service Road (near the South Entrance) [C]. It includes land in the saddle area associated with the new Little Badger Trail to Queensgate Drive, wildland portions of Trail Head Park east of the Trailhead from the trailhead to the lower Parking Lot entrance, and the new Sagebrush Slope Property below the Sagebrush Trail and around the West Cliff Water Tanks. – Light noxious weeds, but major Russian Thistle infestation.

Area 8: Town Facing Area (about 124 ha/306 ac) – This area is (for the most part) the sheer cliffs east of the Summit Plateau (H) and north of the Canyon Trail to the northern and eastern boundaries of Preserve. The area includes portions of Badger Flats outside of the Trailhead Park boundary out towards the Horse Street Water Tanks (tanks uphill of the Bridle Dr./ Thoroughbred Way intersection). - Light weeds. Much of the area is too steep to properly scout. Also, the base of the hill along the north and east boundaries of the Preserve at the base of the hill have not been extensively scouted.

Little Badger

For the most part, the area has not been scouted. Diffuse knap (KW) noted on the Trail from the Falconcrest feeder junction to the summit of the Water Tank. Little RSW off the lower half of the Trail.

Footnotes:

- '1) The FOBM poster entitled “*Maintaining the Candy Mountain Preserve*”, not dated and last viewed January 27, 2026, at the Candy Mountain Trailhead kiosk, states YST, RSW, diffuse knapweed, Russian thistle (tumbleweed), and Tackweed (goathead). Russian thistle is not listed either by the Benton County Noxious Weed Control Board (BCNWCB) or the Washington State Noxious Weed Control Board (WSNWCB) to be a noxious weed. It is widespread and invasive, but not subject to mandatory control measures.
- (2) Cereal rye is classified by the Benton County Noxious Weed Control Board as a class C weed. Class C weeds are typically common and widespread. Control of these plants is determined on a case-by-case basis. They are a concern to FOBM because cereal rye displaces native plants and increases the fire loading in the Candy Mountain Preserve.
- (3) The terms “heavy” and “light” are used as a semi-quantitative measure of the relative concentration of a weed in an area. In general, an area or subarea characterized as having a “light” concentration of a weed can be abated of all weeds in the area by a 4-person crew in one 3-hour period. An area or subarea characterized as having a “heavy” concentration of a weed may take three times as long. The terms do not specifically factor in the time it takes to pull or treat an individual weed, nor does it specifically factor in the fact that some individual weed plants may be scattered randomly or may be found in patches (clusters).

- 4) Conditions along the western boundary of the Preserve have recently changed as of January 2026. At the time of the 2024 Weeding Season, the four white poles of the 40-Acre Acquisition were readily apparent. Several additional white poles have been added along the western boundary. The Old NW 40-Acre Section Boundary Post is the first White Post 1 (46° 15' 26" N, 119° 22' 08" W, 1160 ft) uphill of the intersection of the Old and New Vinyard Roads.

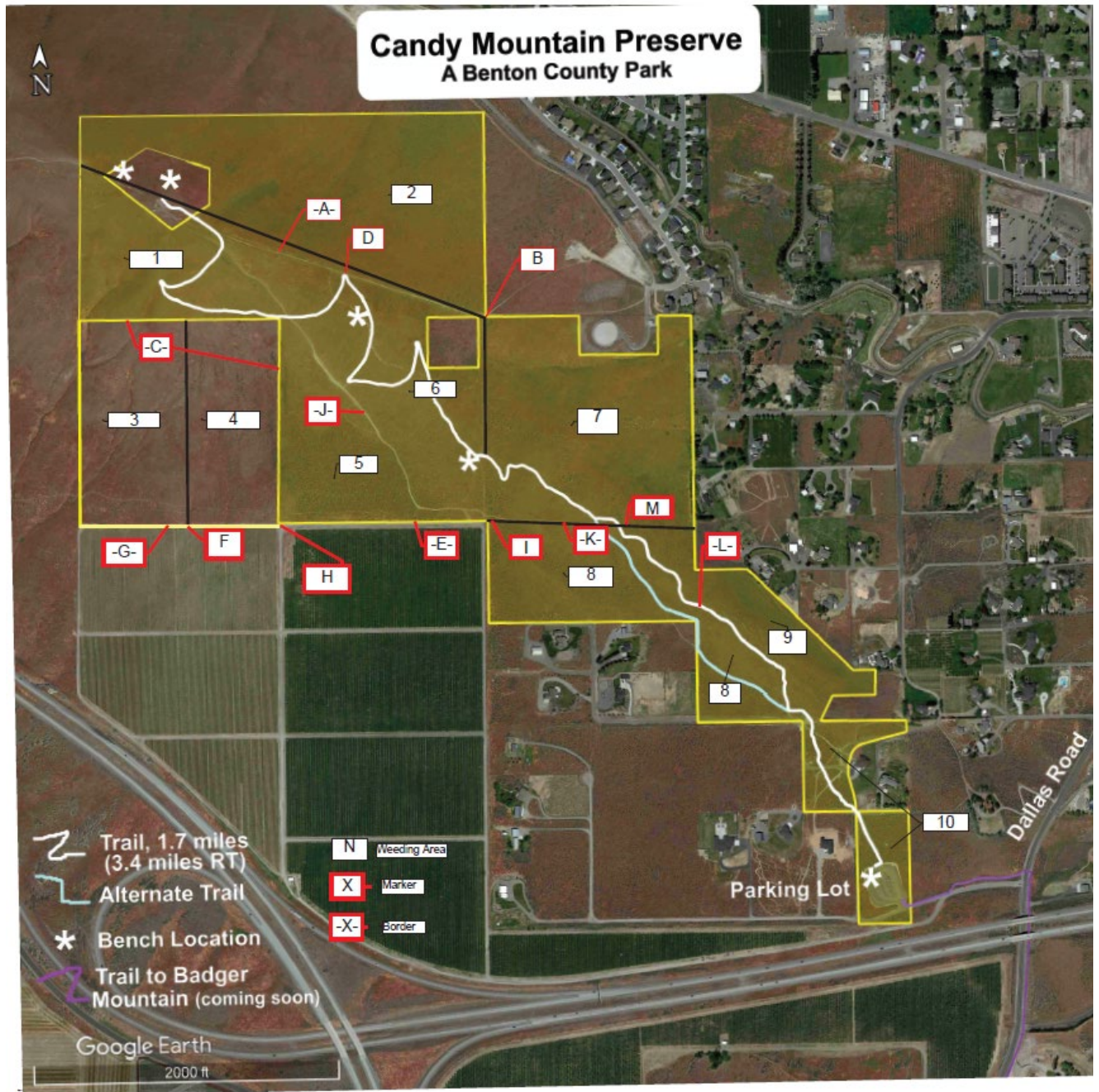


Figure 1 – Candy Mountain Weeding Areas

Candy Mountain Weeding Area Landmarks and Borders

A – Water Tank Service Road

B – Marker Utility Box – 50195802 (46° 15' 25" N, 119° 21' 30" W, 930 ft)

C – Old 40-Acre Property Lines

D – Third Switchback (46° 15' 28" N, 119° 21' 43" W, 1180 ft)

E – Orchard Road

F – Third Vineyard-Line Utility Pole (Power Pole # 92819 7101) [46° 15' 13" N, 119° 21' 59" W, 1000 ft]. The only Pole on the old 40-Acre parcel with the two guy cables.

G – Vineyard Road

H – Fifth Vineyard-Line Utility Pole (Power Pole # 92819-7201)
[46° 15' 13" N, 119° 21' 51" W, 1010 ft]

I – Orchard Corner (46° 15' 12" N, 119° 21' 30" W, 970 ft)

J – Summit Road

K – Utility Pole Road

L – Outer Interpretative Loop

M – Double Utility Pole (Power Pole # Double Pole - 92819 7701) [46° 15' 11" N, 119° 21' 14" W, 840 ft]

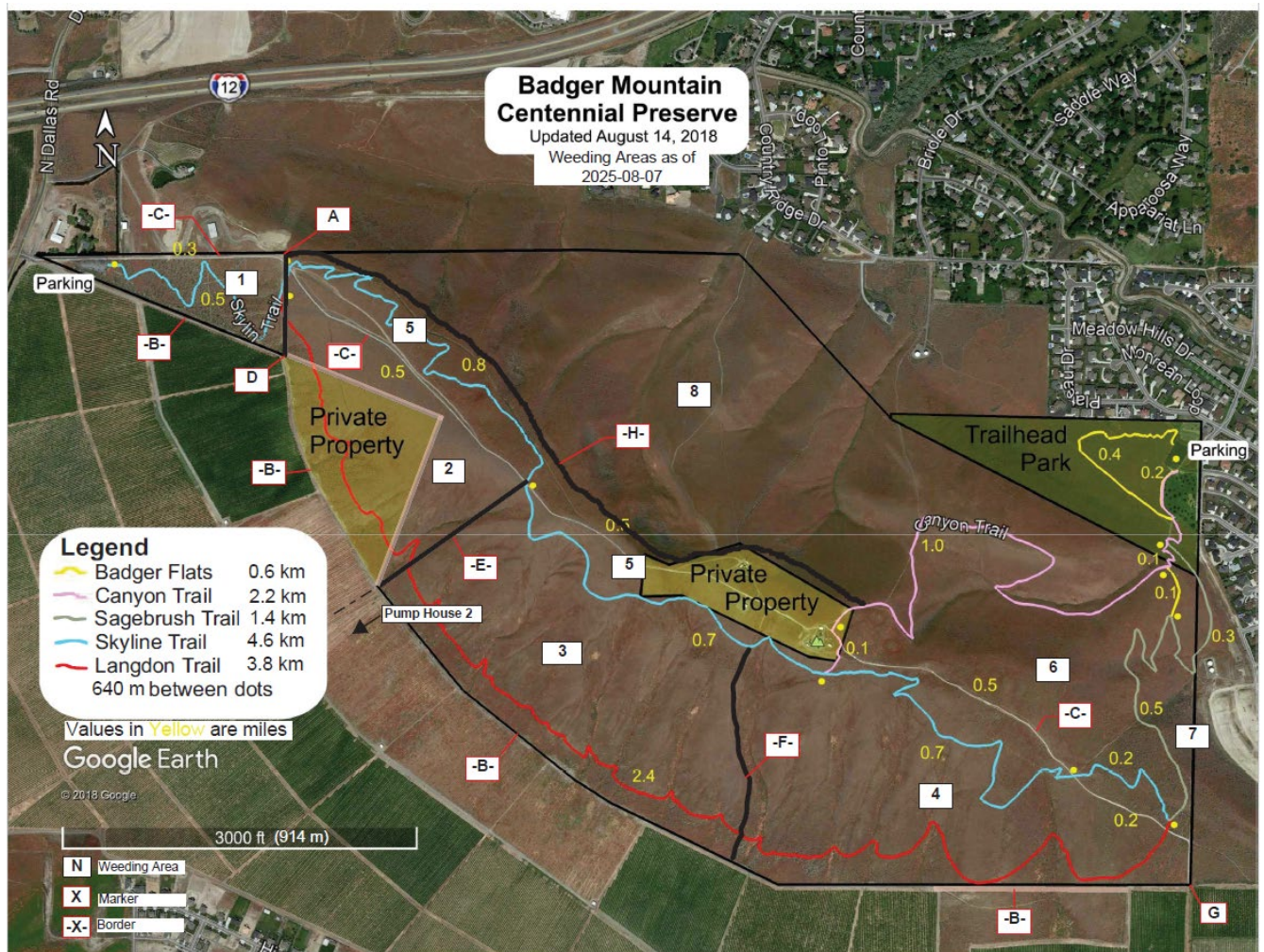


Figure 2 – Badger Mountain Weeding Areas

Badger Mountain Weeding Area Landmarks and Borders

- 'A – Stirling Compound (46° 14' 33" N, 119° 20' 12" W, 1130 ft)
- 'B – Farm Road
- 'C – Service Road (210 Private Road) [changes from north to south at the South Cell Tower, the western-most (cliff-edge) track in Area 6.
- 'D – Farm Field Corner (46° 14' 24" N, 119° 20' 13" W, 1090 ft)
- 'E – Pumphouse 2 to Service-Road/Skyline Trail Intersection line
- 'F – Cell Tower Power Lines (northern most set of the three power lines traversing the Preserve)
- 'G – South Preserve Entrance (46° 13' 41" N, 119° 18' 24" W, 1080 ft)
- 'H – Cliff Edge

Miscellaneous Data for Perspective

Area of Candy Mountain Preserve – 97.1 ha (240 acre)

Elevation of Candy Mountain Trailhead – 840 ft (256 m)

Elevation of Candy Mountain – 1394 ft (425 m)

Area of Badger Mountain Preserve - 314.0 ha (776 acre)

Elevation of Trailhead (East) – 770 ft (235 m)

Elevation of Dallas Road Trailhead – 880 ft (268 m)

Elevation of Badger Mountain – 1593 ft (486 m)

Lake Lewis Elevation Marks – 1250 ft (381 m)