



Legacy Forest Defense Coalition
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To: Board of Natural Resources
MS 47000
Olympia, WA 98504-7000
Submitted via email: bnr@dnr.wa.gov

Re: **Addendum B** to Letter of Opposition to Freedom Timber Sale:
Structurally Complex Stand Characteristics

DNR is required under the terms of its Policy for Sustainable Forests to manage structurally complex forests to meet older forest targets.¹ The HCP classifies structurally complex stands as those that are more than 70 years old. The SEPA checklist for the Freedom timber sale suggests that the stands proposed for commercial harvest originated between 1923 and 1928, which would make these forests 96 to 101 years old.

Structurally complex stands are defined by DNR as those that are in the botanically diverse, niche diversification, or fully functional stand development stage.² Forests in the niche diversification and fully functional stages of development are virtually absent in the Columbia HCP planning unit.³ DNR guidelines for Identifying Mature and Old Growth Forests suggest that stands in the botanically diverse stage of stand development range between 70 to 160 years old.⁴ The stands contained within the cut boundaries of the Freedom timber sale are well within this age range.

DNR's guidelines define botanically diverse stands as characterized by a shift of the dominate mortality processes from inter-tree competition to stochastic events (disease, wind, fire, pests). This shift results in stem loss of larger trees (dominant and codominant) and a loss of shade. Openings in the Botanically diverse canopy appear, allowing regeneration of shade tolerant species including

¹ See Policy for Sustainable Forests, p. 46.

² See 2004 FEIS on Alternatives for Sustainable Forest Management of State Trust Lands in Western Washington, p. 4-22; PR 14-004-046, p. 1.

³ According to DNR's own analysis, only 1% of the Columbia HCP planning unit has protected forests in the niche diversification or fully functional stages of development. See Table 2, Estep & Buffo. 2021. Identifying Stands to Meet Older Forest Targets in Western Washington.

⁴ See Van Pelt, 2007. Identifying Mature and Old Growth Forests in Western Washington. Department of Natural Resources, Olympia, WA, p. 64.


western hemlock and western redcedar. These stages generally lack large down woody debris and large snags.⁵

The Freedom timber sale is divided into five harvest units. The forest canopy in all five units is dominated almost entirely by conifers. Plant species diversity is a defining characteristic of botanically diverse forests.⁶ Many of the dominant conifers in these five units, which include Douglas fir, western redcedar, and hemlock, are well over three feet in diameter and 200 feet tall (see **Addendum C**, and LiDAR image, below). We also observed numerous gaps in the overstory, and a diverse variety of shrubs and trees growing in the understory of all five units.

The Policy for Sustainable Forests, and 2004 SHC FEIS, define the botanically diverse stand development stage as follows:

Multiple canopies of trees and communities of forest floor plants are evident. Large and small trees have a variety of diameters and heights. Decayed and fallen trees are lacking in abundance.⁷

All five timber sale units meet these criteria and are structurally complex.

A handwritten signature in black ink, appearing to read 'Stephen Kropp', with a horizontal line extending to the right from the end of the signature.

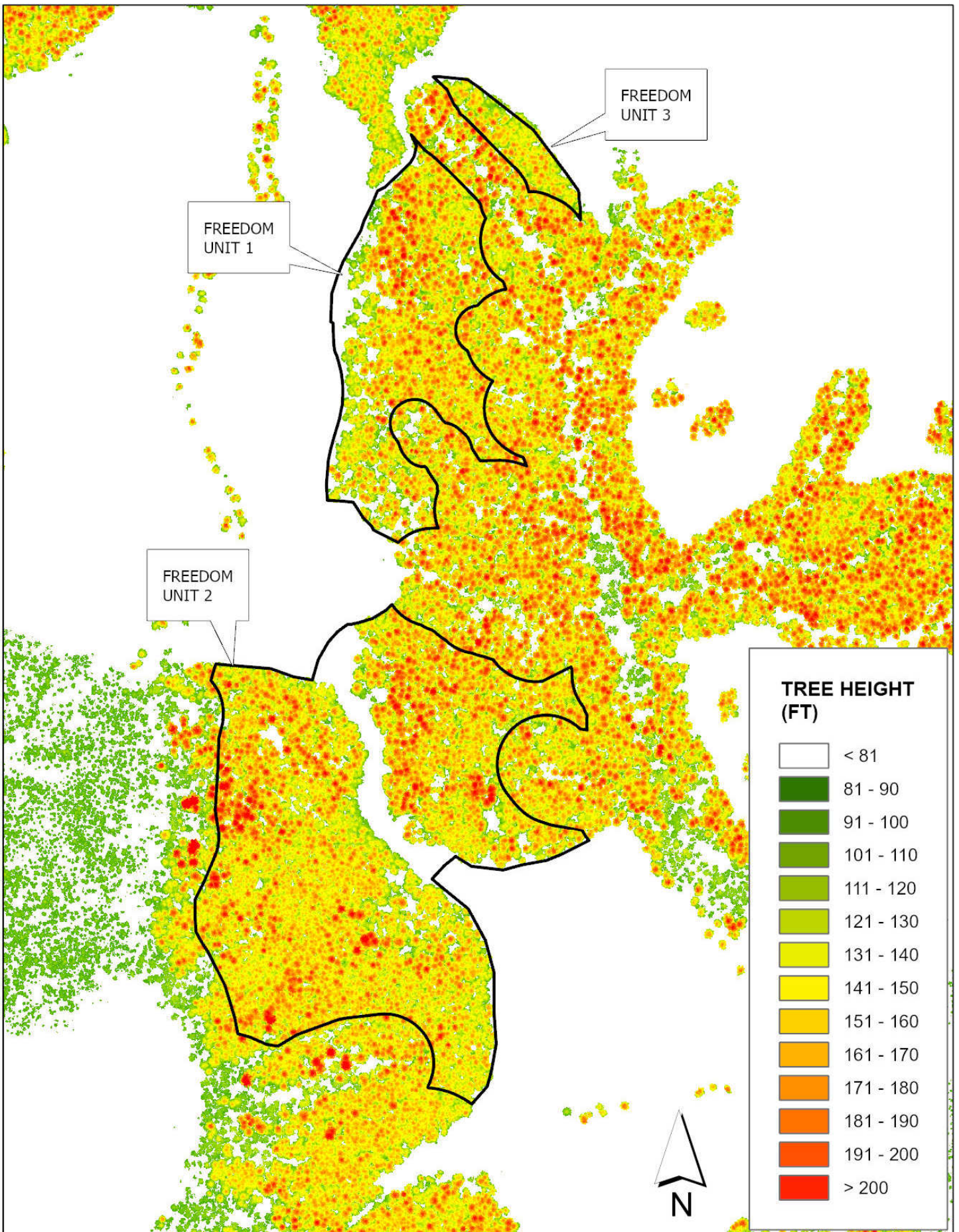
Stephen Kropp
Director

⁵ See Van Pelt, 2007. Identifying Mature and Old Growth Forests in Western Washington. Department of Natural Resources, Olympia, WA, pp. 36-37, 103.

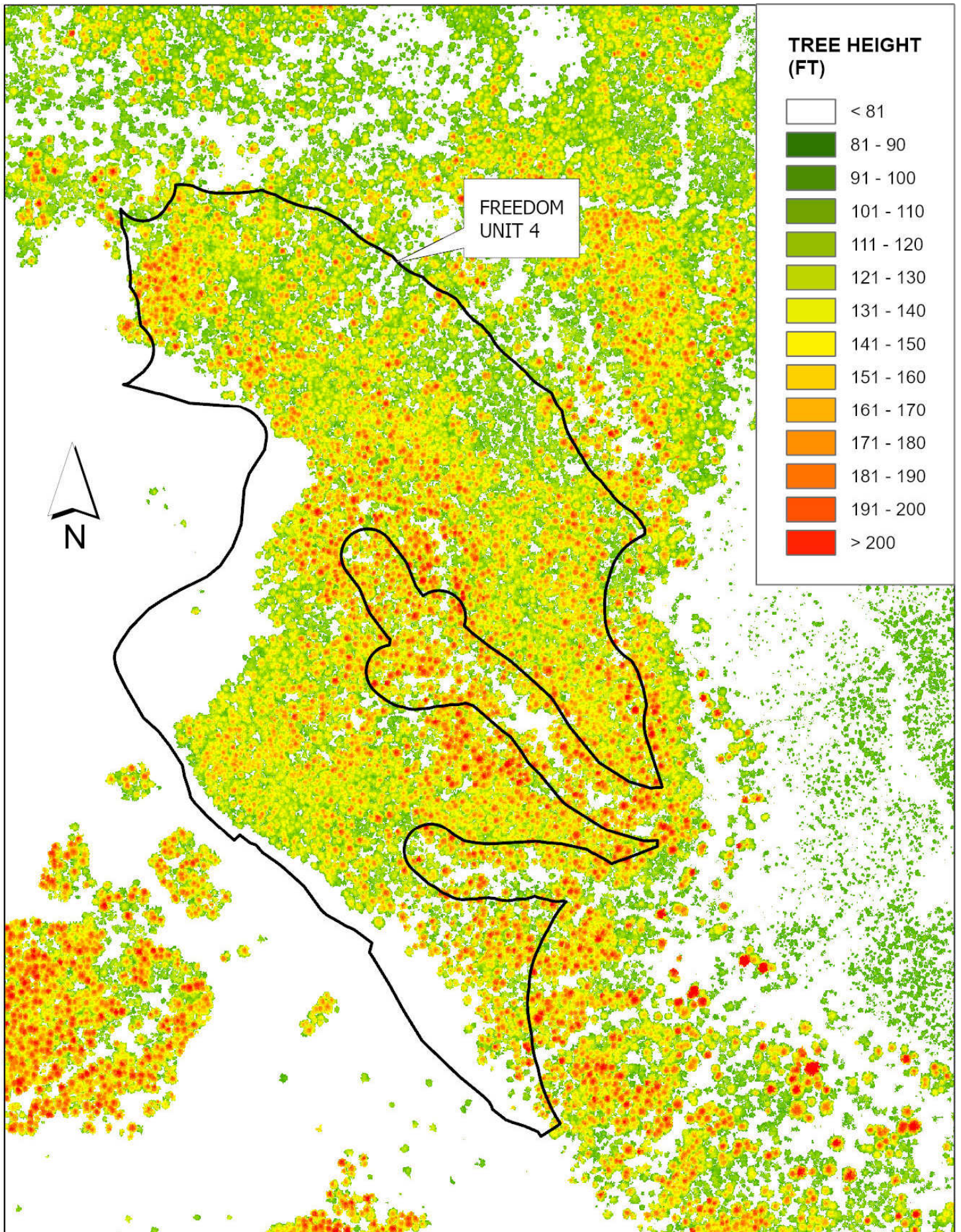
⁶ See Draft 2004 SHC FEIS, p. B-40.

⁷ See 2004 SHC FEIS, p. B-51.

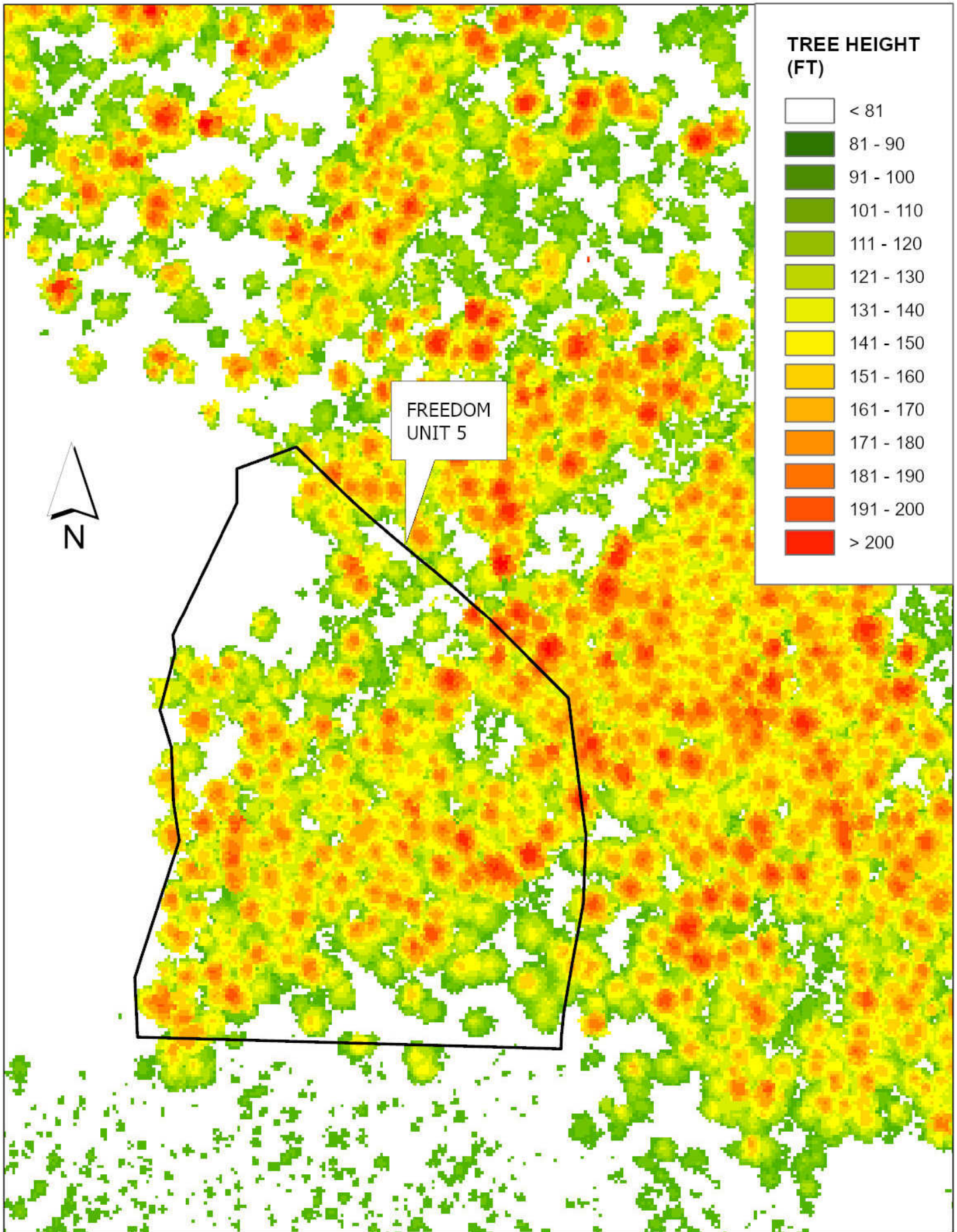
Map of Tree Heights: Units 1-3



Map of Tree Heights: Unit 4



Map of Tree Heights: Unit 5



2018 Aerial Photo: Units 1 and 3



2018 Aerial Photo: Unit 2



2018 Aerial Photo: Unit 4



2018 Aerial Photo: Unit 5

