

Management & Monitoring Plan for the Enhancement of Big Huckleberry (*Vaccinium membranaceum*) in Government Meadows, Mt. Baker-Snoqualmie National Forest



Photos courtesy of Warren KingGeorge, Muckleshoot Indian Tribe

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ANNOUNCING THE FIRST ANNUAL

Big Huckleberry Summit

Bringing together tribes, agencies, horticultural professionals, and researchers to share knowledge about big huckleberry

(Vaccinium membranaceum)

- Cultural value to indigenous peoples
- Traditional Management Practices
- Propagation of big huckleberry
- Research results of field treatments to enhance production
- Sustainable use in light of increasing harvest pressures



June 21, 2007

Scott Hall in Pack Forest, near Eatonville, Washington.

Register now - space is limited! Registration Deadline June 8, 2007

Registration Form and RFPs are at http://students.washington.edu/jklm/Huckleberry_Summit_2007/

or contact Joyce LeCompte-Mastenbrook: jklm@u.washington.edu

Organized and Sponsored by



A pilot project to try to enhance the production of big huckleberries within selected areas.

A secondary objective of the project is to provide suitable native forage for elk.





The units selected for huckleberry enhancement are a subset of units designated in the 2001 Huckleberry Land Exchange Record of Decision.

The subset was selected according to the following criteria:

- 1) based on oral histories of tribal members, the unit has been productive in the past,**
- 2) the unit is not too steep and thus will be relatively accessible for elders, and**
- 3) the units were selected based on potential site productivity for big huckleberries, according to a preliminary model of plant association groups (USFS Ecology Program).**

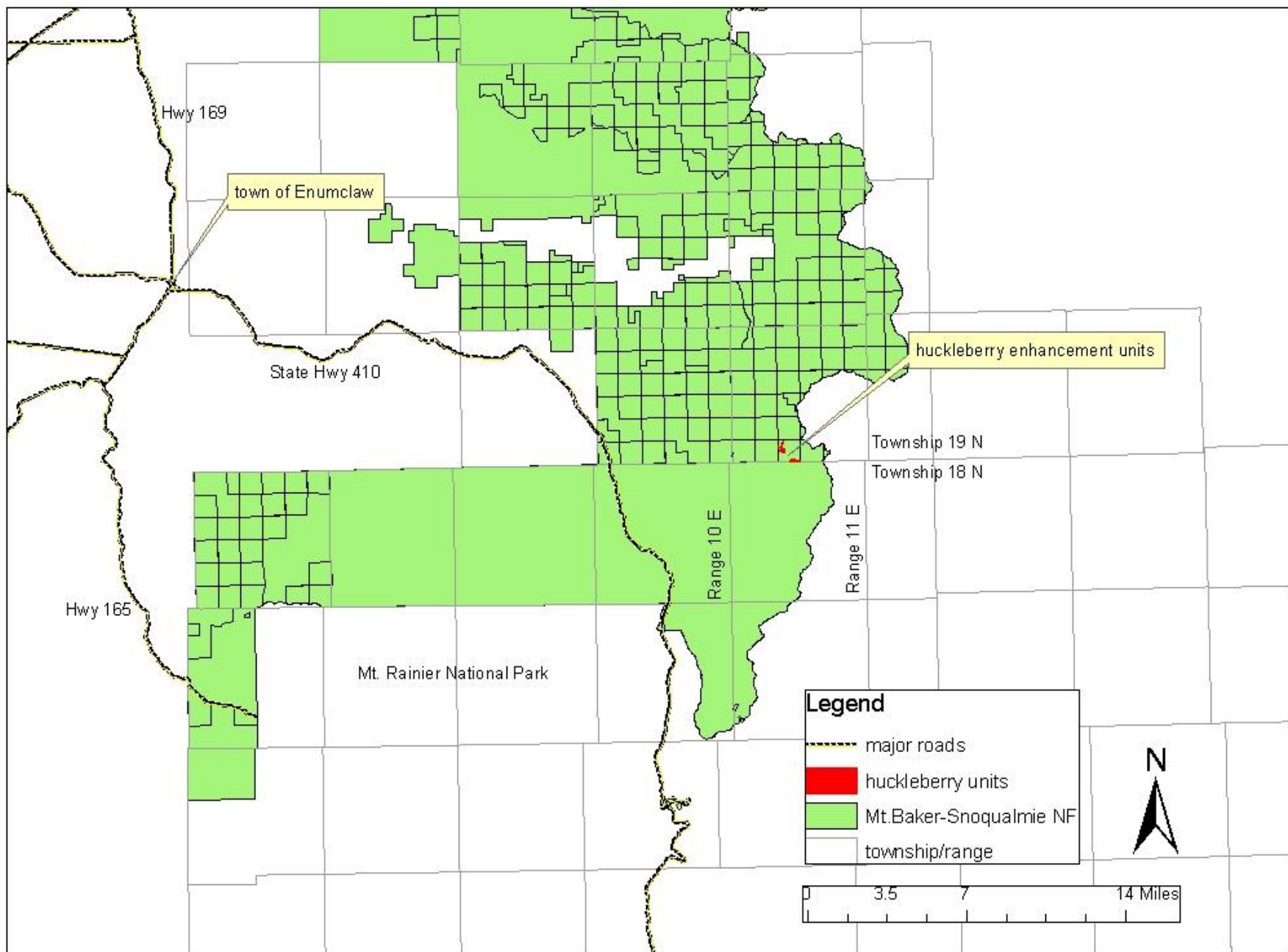


Figure 1. Vicinity map for huckleberry enhancement project.

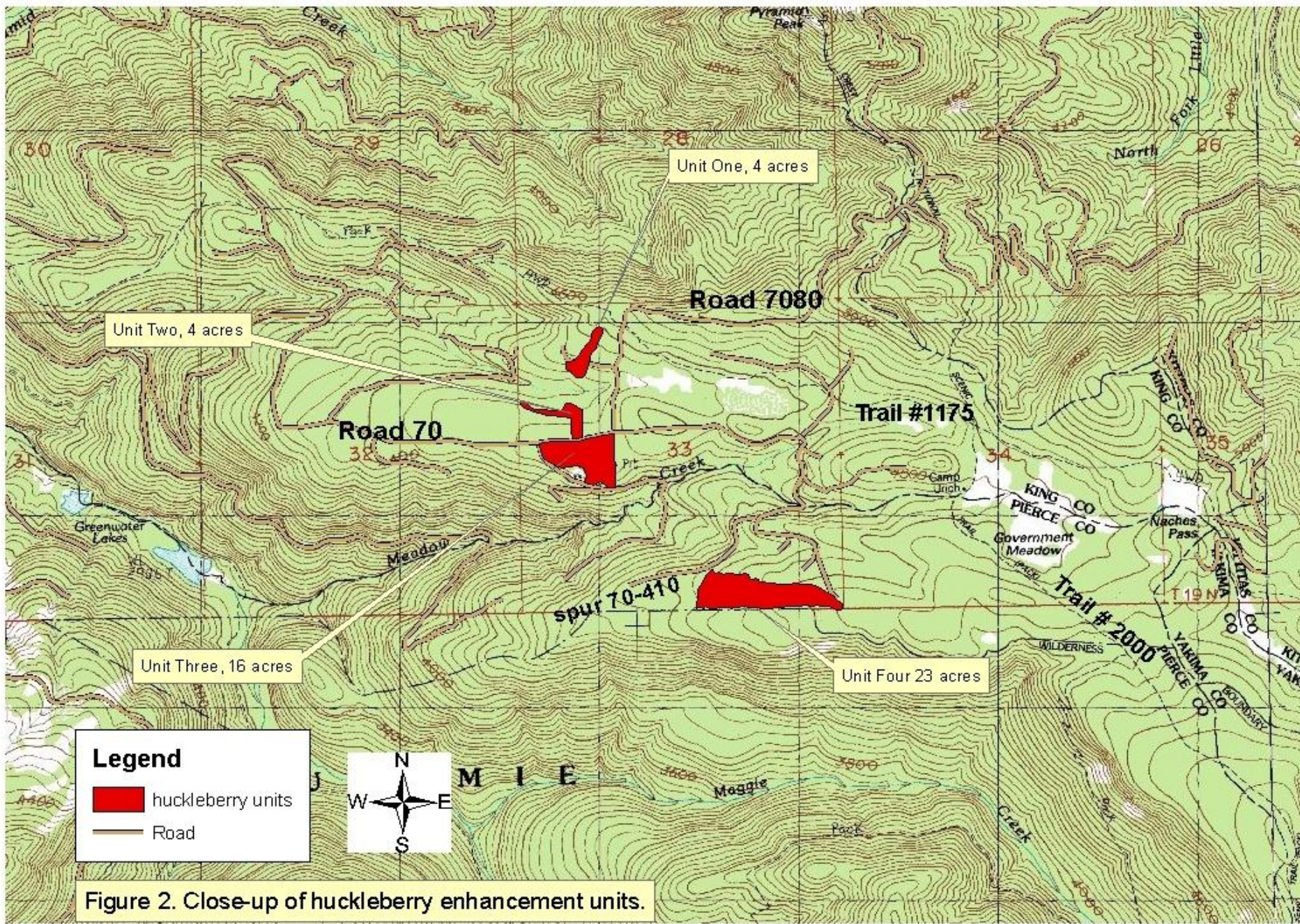
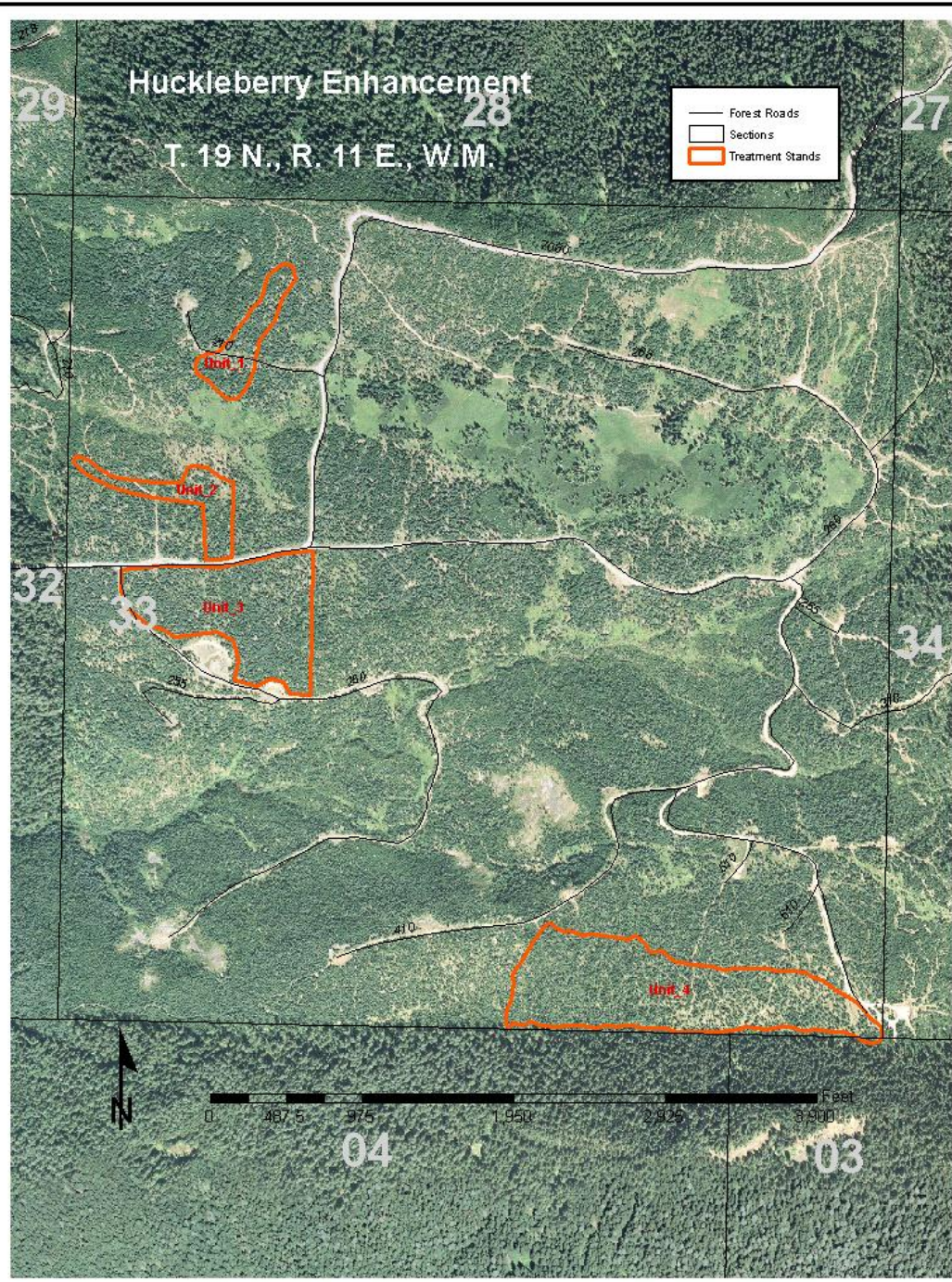


Figure 2. Close-up of huckleberry enhancement units.

Huckleberry Enhancement

T. 19 N., R. 11 E., W.M.

— Forest Roads
□ Sections
▭ Treatment Stands





Our Fire Management Officer advised us that burning is not a practical treatment option in these particular units. Some areas are too open to carry a natural fire, while other stands are too thick to prevent an intense blaze that could sterilize the soil and fry the huckleberry roots.



Example of thick “dog-hair” stands



The treatment will be the same in all four units. The treatment will be to thin small trees as needed in order to achieve the objective of 30-50% canopy cover. Slash will be hand carried and burned in small piles.

What is being measured/documentated in each plot

1. Weight of **green** berries (to nearest 1/10th ounce)
2. Number of berries
3. % cover of *V. membranaceum*
4. % cover of tree canopy in each plot (using visual estimate)
5. Plant association (as per Henderson *et al.* 1992) in each plot
6. Observations about phenology (% already fallen to the ground, ripe, green, flowering)
7. % slope
8. Aspect (degrees)
9. Digital photo taken from southern border of plot looking due north through plot center.

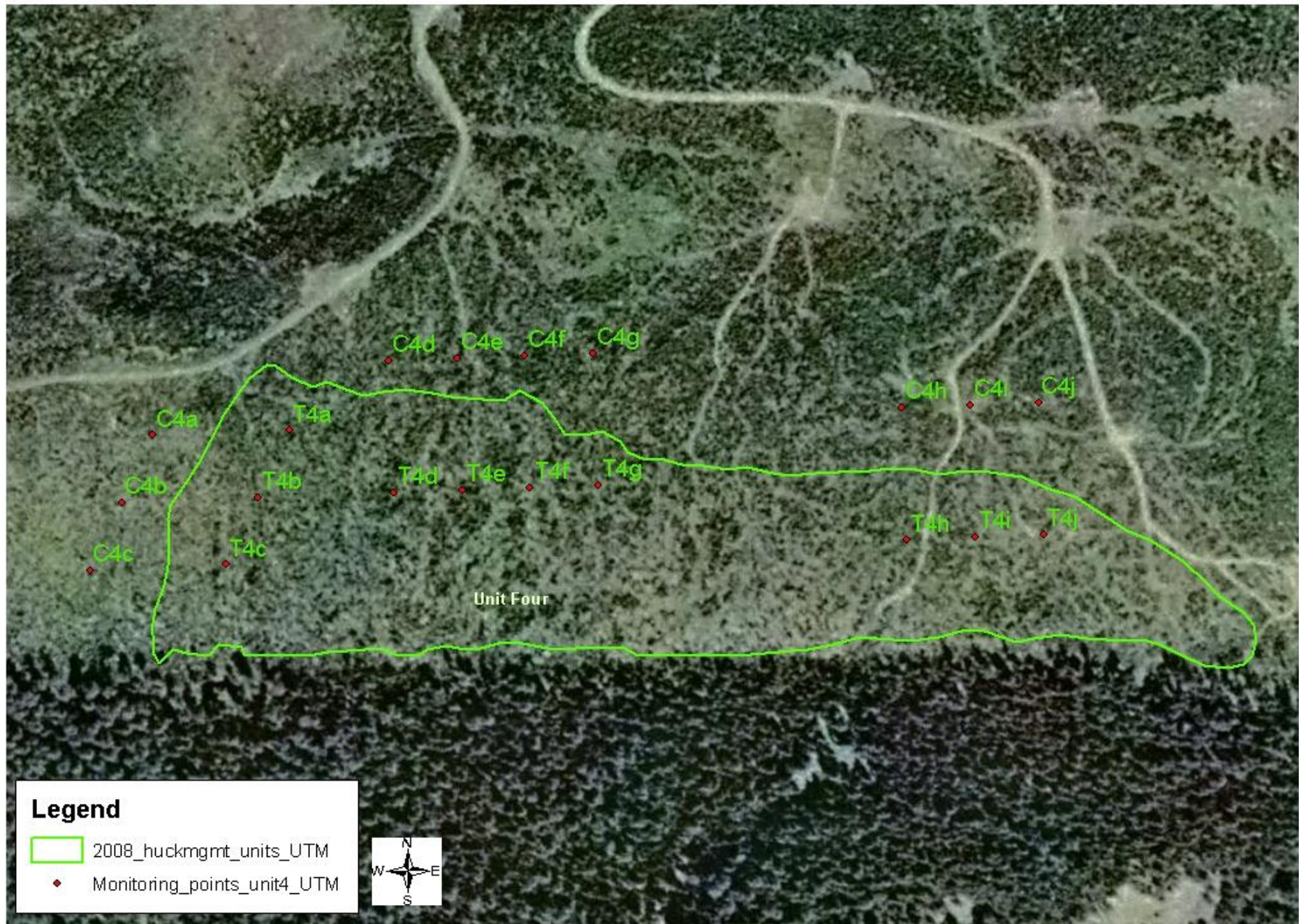
Assessing Treatment Effectiveness

Weight and number of berries in treatment plots vs. control plots.

Beginning in one year after thinning treatments and continuing every 5 years until 2050.

Weights in treatment and control units will be recorded:

- per individual plot**
- per sum of plots per unit,**
- per sum of all plots in the project area.**

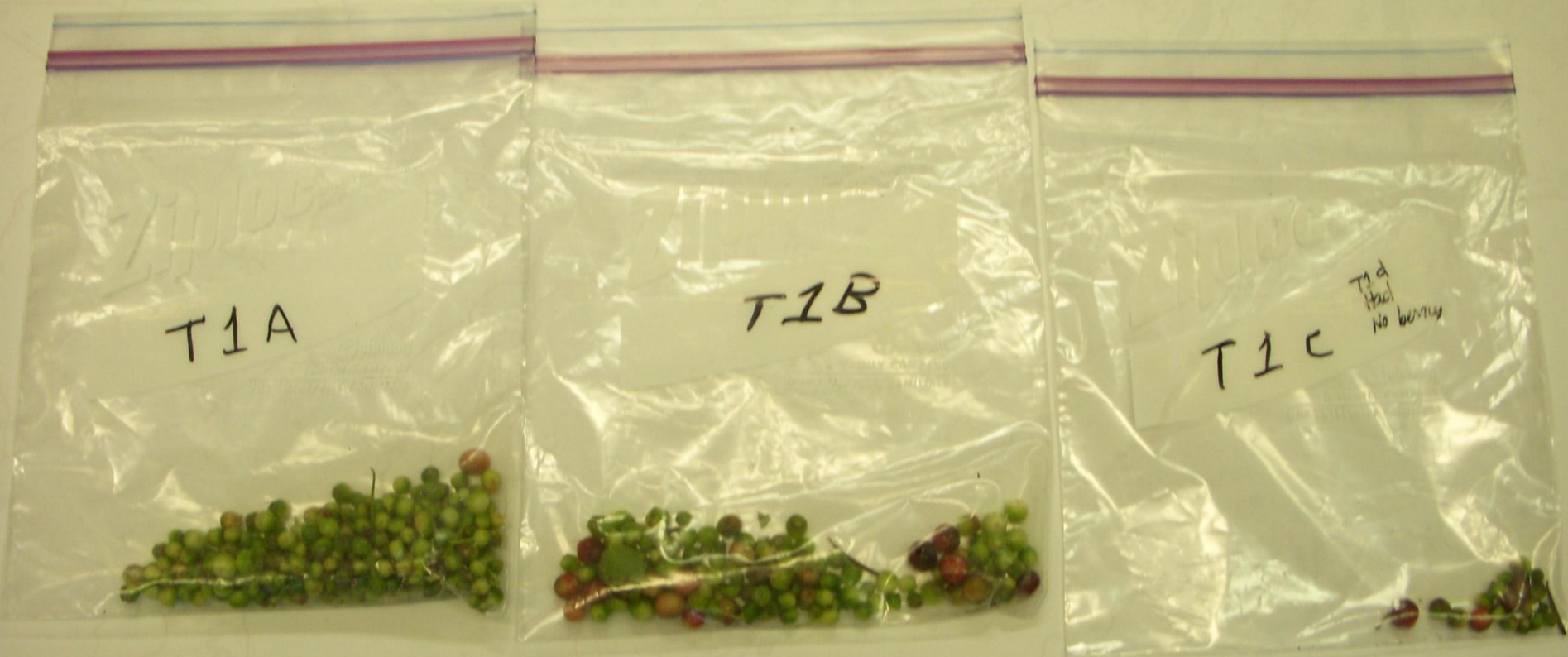




Plots are $1/200^{\text{th}}$ acre in size. A grid was laid to divide the plot into quarters.

2008 baseline monitoring: treatment plots, Unit One

(treatment plot 1d and 1e had no berries)



2008 baseline monitoring: treatment plots in Unit 2



2008 baseline monitoring: treatment plots in Unit 3



2008 baseline monitoring- treatment plots in Unit 4



2008 baseline monitoring: adjacent control plots



UNIT NAME	average % VAME cover	average % tree canopy cover	average percent slope	berry weight nearest 1/10th oz	total # of berries
C1	22	80	4	0.2	27
T1	37	55	4	1.6	478
C2	9	68	7	1.2	257
T2	21	59	7	0.6	412
C3	38	60	39	2.4	319
T3	26	63	7	2.6	365
C4	38	58	9	6.4	1084
T4	25	50	5	4.4	886

We hope to infer that the treatment was effective if...

- **there is a significant increase between pre and post-treatment weights, *and* the corresponding control plots do not show the same relative amount of increased weight.**

- **In addition, we hope to learn if there is a correlation between productivity and the amount of: tree canopy, relative cover of big huckleberry, plant association, slope, or aspect.**

- **Management treatments outside of this pilot study area will be, at least in part, based on the findings of this study.**

An additional component of the Government Meadows huckleberry enhancement project ...





Completion of this plan would not have been possible without funding, in 2006 & 2007, from Title II, Secure Rural Schools and Community Self Determination Act of 2000.

Key Collaborators

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The MBS Government Meadows Huckleberry Management Plan is now
available on line

www.fs.fed.us/r6/mbs/about/botany-program.shtml