



July 16, 2009

Mr. Ken Berg, Manager
Washington Fish and Wildlife Office
U.S. Fish and Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503-1273

Mr. Berg,

I am writing in reference to the WA Department of Natural Resources (DNR) 1997 Habitat Conservation Plan (HCP) for state trust lands relative to marbled murrelet conservation in the HCP South Puget Planning Unit (SPPU). Mark Ostwald, from your office, Peter Harrison, DNR Wildlife Biologist, Alan Mainwaring, South Puget Sound Region Biologist, and I have been participating in the development of an alternate interim marbled murrelet conservation strategy (ICS) for the SPPU. This letter is intended to provide specific guidance for the successful implementation of Step 2 of the HCP interim marbled murrelet conservation strategy using alternative methodology in lieu of the habitat relationship study as the ICS describes.

Background

The 145,000 acre SPPU is located in the Puget Sound Basin and was subjected to harvest early in Euro-American settlement in the late 1800's and extensive rail logging in the early 1900's. Typically, stands were clear cut, burned and allowed to naturally regenerate. Today, suitable marbled murrelet habitat occurs in areas with scattered remnant old-growth, older western hemlock stands infected with dwarf mistletoe, and areas of steep inaccessible terrain with pre-settlement forest conditions. Suitable murrelet habitat comprises less than one percent of the DNR managed forest land in SPPU.

The SPPU is unique within the DNR's HCP planning units, in that although it is within the breeding range of marbled murrelets, the adjacent offshore population of murrelets is extremely low. It is estimated that there are less than 200 birds located offshore during the breeding season. Low population numbers and limited suitable habitat indicate that the probability of inland detections of murrelets is very low. This suspicion is corroborated by the fact that murrelet detections on non-DNR lands, adjacent to the SPPU, have also been low. Without an adequate number of inland detections, the habitat relationship study outlined in the HCP is ineffective. This has been shown to be true for the North Puget Planning Unit (NPPU), where low numbers of detections during the habitat relationship study resulted in an ineffective habitat model. In lieu of the habitat relationship study, the DNR has developed alternate methodologies that we believe effectively identifies potential murrelet habitat in the SPPU. This alternate methodology applies known features of murrelet habitat to existing forest inventory data to develop models and screening tools that identify areas of potential murrelet habitat. This alternate methodology also

incorporates local and historical knowledge of known habitat areas. A similar process has been approved and applied in the NPPU with great success.

The purpose of this alternate approach to identify suitable marbled murrelet habitat is to adapt the current ICS to the unique circumstances in the SPPU while still meeting the overall intent of the HCP for murrelet conservation. It will also maintain conservation options for the forthcoming long-term conservation strategy, while keeping within the guidelines of the Incidental Take Permit issued to the DNR by your agency. We believe the following approach satisfies these objectives.

With the alternate interim marbled murrelet strategy outlined below, this document will supersede and replace the current interim marbled murrelet strategy for the SPPU (DNR HCP, IV pg. 39-46). The process described in this letter is intended for the interim period prior to the development of the long-term marbled murrelet conservation strategy for the SPPU. It is important to note this guidance follows the intent of the ICS five-step approach to implement the interim conservation strategy for the marbled murrelet. Implementation steps are detailed below.

1. Identification of Potential Suitable Marbled Murrelet Habitat

The following sources were used to identify “Potential Suitable Habitat”:

- DNR’s Weighted Old Growth Habitat Index,
- FRIS Age Data,
- Low level aerial surveys (Burger 2004),
- Forest Practices Board Manual Inventory Model Method for identifying marbled murrelet habitat, and
- local knowledge and professional judgment

The above sources were used to identify “Potential Suitable Habitat”. Suitable habitat contains at a minimum, an average of at least 2 platforms per acre, in greater than or equal to a five-acre patch, and within 50 miles of marine water (HCP chapter IV pages 40-42),. “Potential Suitable Habitat” has not been field verified to determine whether it qualifies as suitable habitat.

A. Definitions of Source Data to Identify “Potential Suitable Habitat”

1. Weighted Old Growth Habitat Index¹ (WOGHI)

The WOGHI is a scientifically derived screening tool developed and used by DNR to assess potential old growth. This indexing approach to old growth assessment is based on stand-level structural variables identified below and derived from the Forest Resource Inventory System (FRIS) data. This Geographic Information System (GIS) based tool has helped direct remote sensing review toward areas with large trees and structural complexity associated with murrelet nesting habitat. Variables of the WOGI include:

- Large trees (number of trees per acre > 40 inches dbh).
- Large snags (number of standing dead trees per acre > 20 inches dbh and >16 feet tall).
- Volume of down woody debris (cubic feet per acre).
- Tree size diversity – which is an indicator of multiple canopy structure

¹ Franklin, J. F., T. Spies, R. Van Pelt, T. Riepe, S. Hull, and W. Obermeyer. 2005. Definition and inventory of old-growth forests on DNR-managed state lands. Washington State Department of Natural Resources, Olympia, Washington.

2. FRIS Age Data

Stands recorded as 100 years or older were reviewed with digital orthophotos or aerial photos for canopy structure indicative of older forest.

3. Forest Practices Board Manual for Marbled Murrelet Inventory Model Method

This sampling method utilized the Board Manuals Inventory Model Method-WAC 222-12-090(15) (b). Using DNR's FRIS data DNR queried for stands likely to contain murrelet habitat characteristics utilizing the manuals Platform Units per Tree table which were incorporated into a GIS tool.

4. Low-Level Aerial Surveys

Remote areas of the SPPU and NPPU were evaluated for habitat quality utilizing Alan Burger's *Standard Methods for Identifying and Ranking Nesting Habitat of Marbled Murrelets in British Columbia* (Burger 2004) using Air Photo Interpretation and Low-Level Aerial Surveys.

5. Local Knowledge and Professional Judgment

Experienced state lands foresters and wildlife biologists examined landscape maps and delineated known and potential murrelet habitat based their expert opinion and their local knowledge of the sites. All proposed management activities are also evaluated for the presence of "Potential Suitable Habitat" prior to management activities taking place.

B. Existing Data

To date, approximately 7,853 acres of potential marbled murrelet habitat have been identified in the SPPU. DNR and USFWS biologists have agreed the habitat definition is likely to capture a sufficient proportion of the potential marbled murrelet habitat to advance the interim and long-term conservation strategies.

Over the last several years DNR Biologists and private contractors have field assessed 5,722 acres of the potential habitat (7,853 acres). The remaining 2,131 acres of potential habitat will be field assessed for habitat suitability as time and budget permits. Identified potential habitat will be treated as occupied to include buffers and timing restrictions while in the interim conservation strategy or until field assessments are completed and a habitat determination is made. The table below summarizes the planning unit habitat status to date.

Table 1. Habitat Status by Area and Acreage (see attached maps for SPPU Tiger, Elbe, Black Diamond, and Belfair)

Area	Suitable Habitat	Unsuitable Habitat	Occupied Habitat	Potential Habitat
Tiger Mt.	142	559	0	0
Elbe/Tahoma	96	816	468	1,377
Black Diamond	355	2,524	111	0
Belfair/Kitsap	81	570	0	754
Totals:	674	4,469	579	2,131
Total acres of habitat identified in SPPU				7,853

C. Newly Identified Suitable Habitat

Hereafter, any newly identified suitable habitat blocks of 5 acres or more containing an average of 2 platforms per acre and within 50 miles of marine waters will not be required to be surveyed, but will be deferred from harvest during the ICS. The term “newly identified suitable habitat” is defined as, potential habitat that was not found during the original selection process for potential marbled murrelet habitat. It is expected that the long-term marbled murrelet conservation strategy will make determinations regarding how these newly identified suitable habitat areas may contribute to murrelet conservation. Any newly identified suitable habitat blocks of 5 acres or more will have a forested buffer applied to the habitat patch and a timing restriction applied. DNR will maintain a record of newly identified suitable habitat and report the acreage to the Services annually.

A habitat condition that will require special attention in newly-identified suitable habitat blocks is described as relatively young western hemlock stands in which incipient, mistletoe-induced witch’s brooms comprise essentially the only platform structures in the stand; this is in distinction to older stands with mixed species and an array of platform types, including well-developed mistletoe brooming. USFWS, DNR and WDFW staff biologists met to review this issue and agreed to work directly with WDFW staff when field assessing this habitat condition.

2. Field Verification of Potential Marbled Murrelet Habitat Suitability

DNR staff biologists, trained foresters, or trained contractors will review each potential marbled murrelet habitat polygon in the field to verify and map the extent of suitable habitat.

Contiguous areas of suitable habitat extending outside the original (potential marbled murrelet habitat) polygon will be incorporated in the suitable habitat delineation. “Potential Habitat” not meeting the suitable habitat definition as defined above, will be classified as “unsuitable habitat”. Following this field assessment, each potential habitat polygon will be fully resolved into suitable or unsuitable habitat areas. DNR’s GIS marbled murrelet habitat layer will be maintained to reflect this field-based habitat status determination.

3. Release of Unsuitable Marbled Murrelet Habitat

Areas that have been field-verified and identified as unsuitable habitat will be candidates for immediate release within the framework of the HCP. The Ecosystem Services Section of the DNR Land Management Division will be notified before unsuitable habitat is released. This release process requires documentation, both in writing and identified on maps. Once the proper documentation has been received by the Ecosystem Services Section, the unsuitable habitat is officially released for the full range of management activities. Released acreages of unsuitable habitat will also be documented in the HCP Annual Report to the Services. Areas that meet the definition of suitable habitat will not be released at this time, regardless of occupancy status.

4. Protection of Suitable Marbled Murrelet Habitat

All suitable marbled murrelet habitat (field delineated) will be protected with a 300-foot managed buffer (as per WAC 222-16-080 (1) (j) (v)) or a 165-foot no touch buffer. Lesser buffers may be sufficient in certain topographic situations (i.e., buffers generally need not extend over a ridge top onto the opposite slope).

5. Protection of Occupied Sites

All occupied sites will be protected until the long-term conservation strategy for the SPPU is completed. Occupied sites will be protected by a 300-foot managed buffer, or a 165-foot no touch buffer. Timing restrictions will also be applied.

Summary

Throughout the interim strategy outlined above, the Land Management Division's Ecosystem Services Section will be responsible to maintain and update the corporate marbled murrelet habitat GIS layers to reflect the current status of all habitat areas.

If new information on marbled murrelet ecology becomes available relevant to the SPPU, and it conflicts with the intent of the HCP conservation goals, this letter will be modified or replaced. At no time will the HCP conservation goals described for marbled murrelets be compromised. It is DNR's opinion that the approaches described in this document meet the intention of the HCP and USFWS decision documents. Any future information that contradicts this will be closely analyzed by the DNR and USFWS to determine alternative approaches.

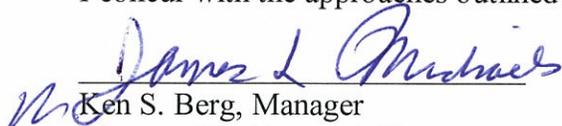
Please signify your concurrence with the approach outlined above by signing each of these two originals. Please return one original to me and retain the other original for your records. It is always a pleasure to work with you and your staff.

Sincerely,



Tami Miketa
Assistant Division Manager
Ecosystem Services Section
Land Management Division
WA Dept. of Natural Resources

I concur with the approaches outlined above:



Ken S. Berg, Manager
Western Washington Office
U.S. Fish and Wildlife Service

Date: 7/17/09

Attachment: Accompanying maps showing areas of potential, suitable, and unsuitable habitat. Known occupied areas are also identified.

cc: Gretchen Nicholas, Land Management Division Manager
Jed Herman, Product Sales and Leasing Division Manager
Randy Acker, South Puget Sound Region Manager

References

Burger, Alan E. 2004. *Standard Methods for Identifying and Ranking Nesting Habitat of Marbled Murrelets (Brachyramphus Marmoratus) in British Columbia Using Air Photo Interpretation and Low-Level Aerial Surveys* Report to Ministry of Water, Land and Air Protection Biodiversity Branch Victoria, BC and Ministry of Forests Vancouver Forest Region, Nanaimo, BC. 31 March 2004

Washington State Department of Natural Resources. 1997. *Final Habitat Conservation Plan*. Olympia, WA.

**SOUTH PUGET SOUND REGION
NORTH PUGET PLANNING UNIT
AND TIGER UNIT (South Puget Planning Unit)
MARBLED MURRELET HABITAT**

Eight Miles to North in Marckworth State Forest:
13 Unsuitable Polygons, 249 Acres

N. PUGET

Legend
Map Created 02/16/2009
by Dan Ramos, modified by
Alan Mainwaring 4/21/2009

	Road Sites
	MAMU Deletion Sites
	MAMU AV Sites
	NAP's & NRCA's
	HCP Units
	DNR Managed Lands
	SPS Region Murrelet Habitat

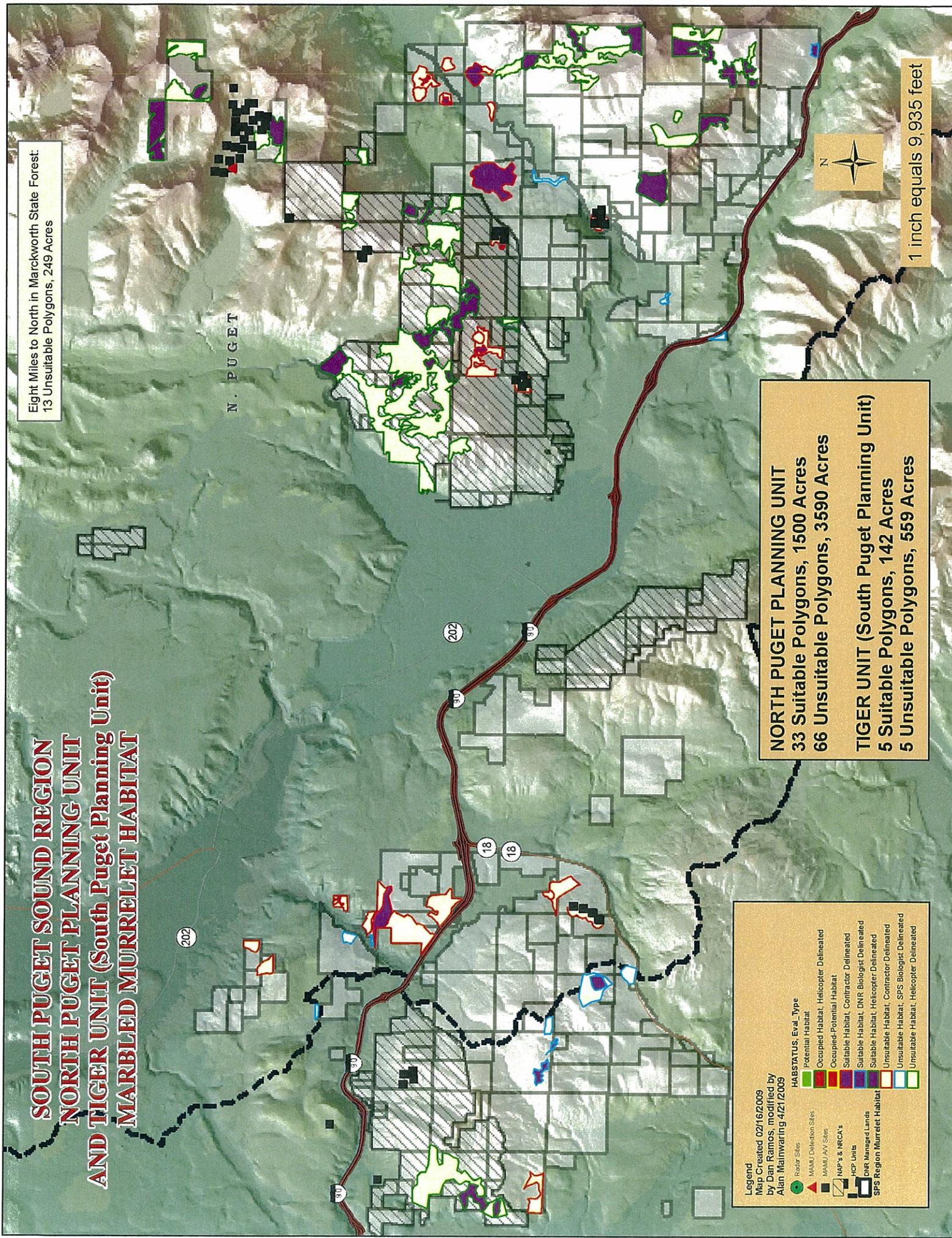
HABSTATUS, Eval_Type

	Potential Habitat
	Occupied Habitat, Helicopter Delineated
	Occupied-Potential Habitat
	Suitable Habitat, Contractor Delineated
	Suitable Habitat, DNR Biologist Delineated
	Suitable Habitat, Helicopter Delineated
	Unsuitable Habitat, Contractor Delineated
	Unsuitable Habitat, SPS Biologist Delineated
	Unsuitable Habitat, Helicopter Delineated

NORTH PUGET PLANNING UNIT
33 Suitable Polygons, 1500 Acres
66 Unsuitable Polygons, 3590 Acres

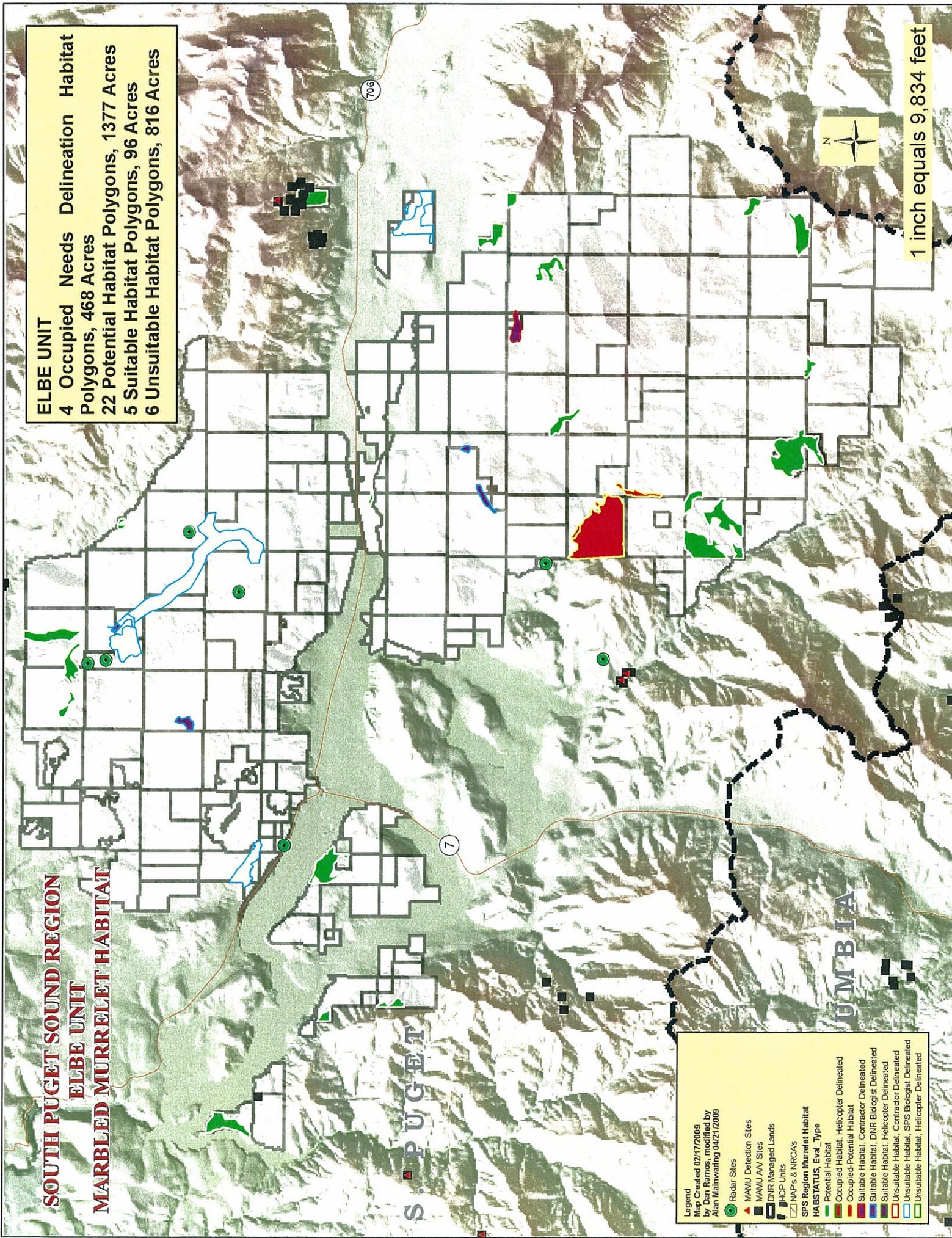
TIGER UNIT (South Puget Planning Unit)
5 Suitable Polygons, 142 Acres
5 Unsuitable Polygons, 559 Acres

1 inch equals 9,935 feet



**SOUTH PUGET SOUND REGION
ELBE UNIT
MARBLED MURRELET HABITAT**

ELBE UNIT
 4 Occupied Needs Delineation Habitat Polygons, 468 Acres
 22 Potential Habitat Polygons, 1377 Acres
 5 Suitable Habitat Polygons, 96 Acres
 6 Unsuitable Habitat Polygons, 816 Acres



Legend
 Map Created 02/17/2009
 by Dan Ramos, modified by
 Alan Mainwaring 04/21/2009

- Radar Sites
- MANU Detection Sites
- MANU AVW Sites
- DNR Managed Lands
- JHCP Units
- NAP's & NRCA's
- SPS Region Murrelet Habitat
- HABSTATUS, Eval_Type
- Potential Habitat
- Occupied Habitat, Helicopter Delineated
- Occupied-Potential Habitat
- Suitable Habitat, Contractor Delineated
- Suitable Habitat, DNR Biologist Delineated
- Suitable Habitat, Helicopter Delineated
- Unsuitable Habitat, Contractor Delineated
- Unsuitable Habitat, SPS Biologist Delineated
- Unsuitable Habitat, Helicopter Delineated

1 inch equals 9,834 feet

**SOUTH PUGET SOUND REGION
BLACK DIAMOND UNIT
MARBLED MURRELET HABITAT**

BLACK DIAMOND UNIT
1 Occupied Polygon, 111 Acres
17 Suitable Polygons, 355 Acres
29 Unsuitable Polygons, 2524 Acres

To West in Isolated Holdings:
 5 Unsuitable Polygons, 229 Acres, 2, 6, and 10 miles away.

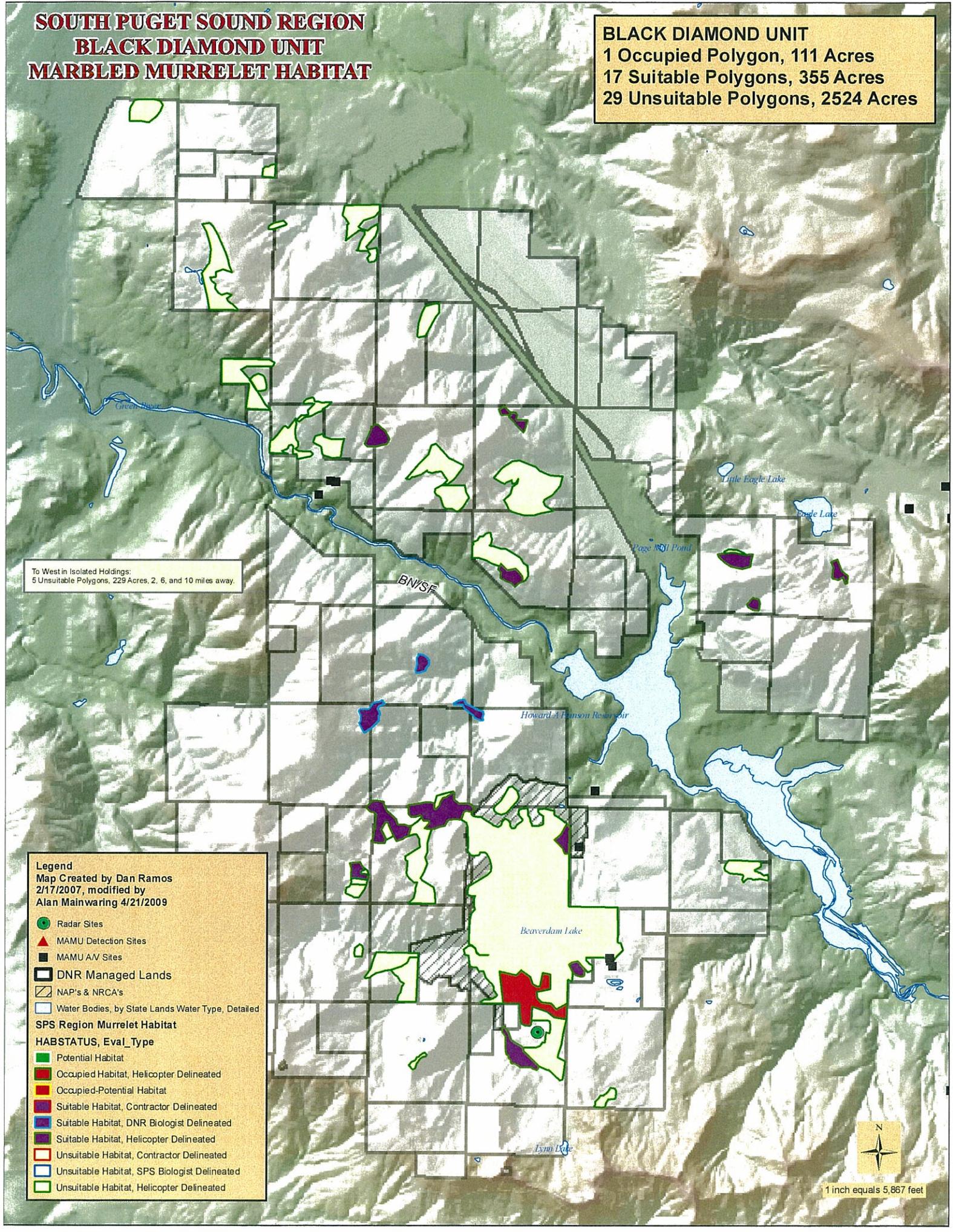
Legend
 Map Created by Dan Ramos
 2/17/2007, modified by
 Alan Mainwaring 4/21/2009

- Radar Sites
- ▲ MAMU Detection Sites
- MAMU AV Sites
- DNR Managed Lands
- ▨ NAP's & NRCA's
- Water Bodies, by State Lands Water Type, Detailed

SPS Region Murrelet Habitat

HABSTATUS, Eval_Type

- Potential Habitat
- Occupied Habitat, Helicopter Delineated
- Occupied-Potential Habitat
- Suitable Habitat, Contractor Delineated
- Suitable Habitat, DNR Biologist Delineated
- Suitable Habitat, Helicopter Delineated
- Unsuitable Habitat, Contractor Delineated
- Unsuitable Habitat, SPS Biologist Delineated
- Unsuitable Habitat, Helicopter Delineated

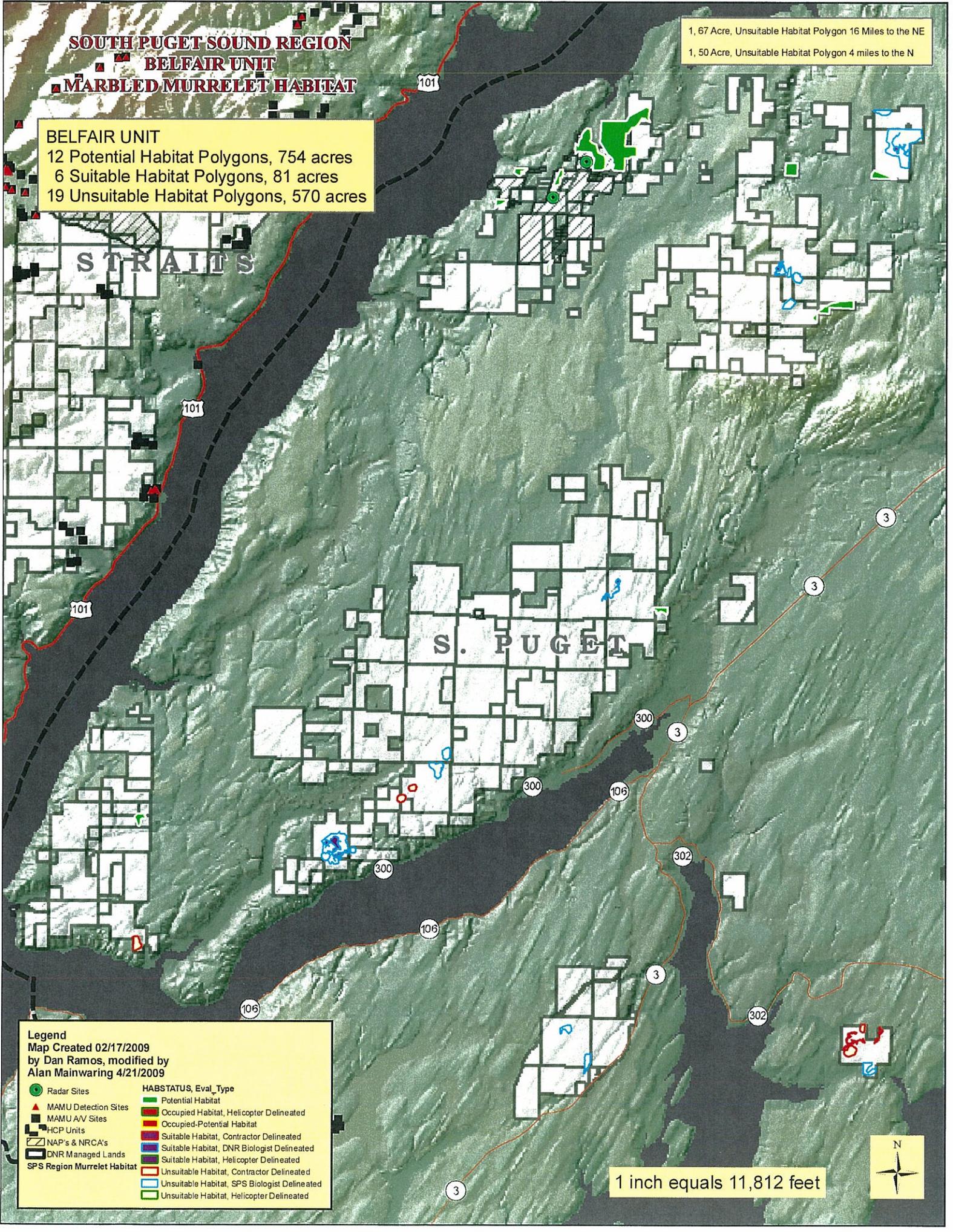


1 inch equals 5,867 feet

**SOUTH PUGET SOUND REGION
BELFAIR UNIT
MARBLED MURRELET HABITAT**

1, 67 Acre, Unsuitable Habitat Polygon 16 Miles to the NE
1, 50 Acre, Unsuitable Habitat Polygon 4 miles to the N

BELFAIR UNIT
12 Potential Habitat Polygons, 754 acres
6 Suitable Habitat Polygons, 81 acres
19 Unsuitable Habitat Polygons, 570 acres



Legend
Map Created 02/17/2009
by Dan Ramos, modified by
Alan Mainwaring 4/21/2009

- | | |
|-------------------------------|--|
| ● Radar Sites | HABSTATUS, Eval_Type |
| ▲ MAMU Detection Sites | ■ Potential Habitat |
| ■ MAMU A/V Sites | ■ Occupied Habitat, Helicopter Delineated |
| ■ HCP Units | ■ Occupied-Potential Habitat |
| ■ NAP's & NRCA's | ■ Suitable Habitat, Contractor Delineated |
| ■ DNR Managed Lands | ■ Suitable Habitat, DNR Biologist Delineated |
| ■ SPS Region Murrelet Habitat | ■ Suitable Habitat, Helicopter Delineated |
| | ■ Unsuitable Habitat, Contractor Delineated |
| | ■ Unsuitable Habitat, SPS Biologist Delineated |
| | ■ Unsuitable Habitat, Helicopter Delineated |

1 inch equals 11,812 feet

