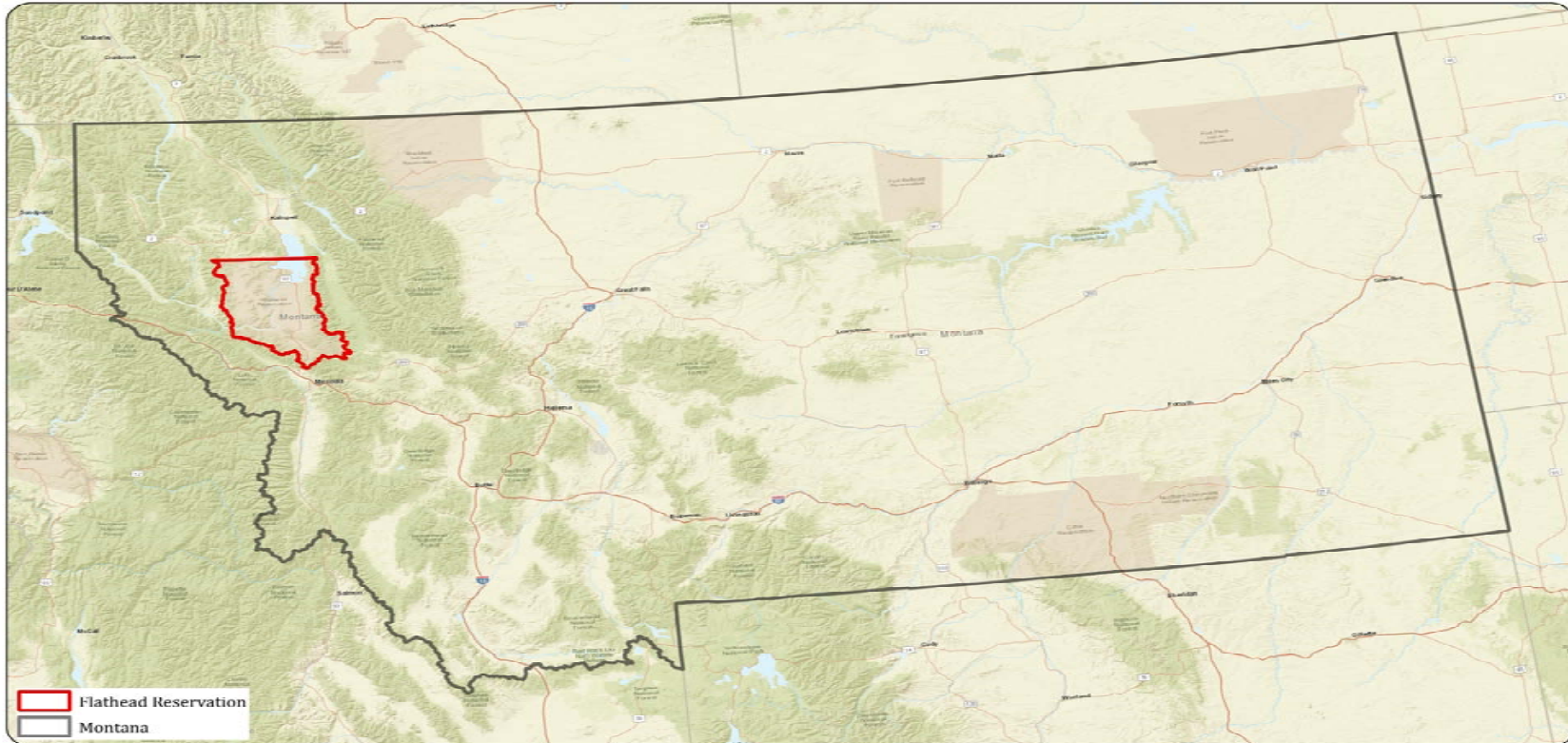


CSKT Forestry

Whitebark Pine Restoration



Confederated Salish and Kootenai Tribes of the Flathead Reservation





Why Whitebark Pine

Forest Management Plan (2000)

Ecosystem Management

Wildlife, hydro, fish, timber, culture

Keystone species

High Elevation Fire regime

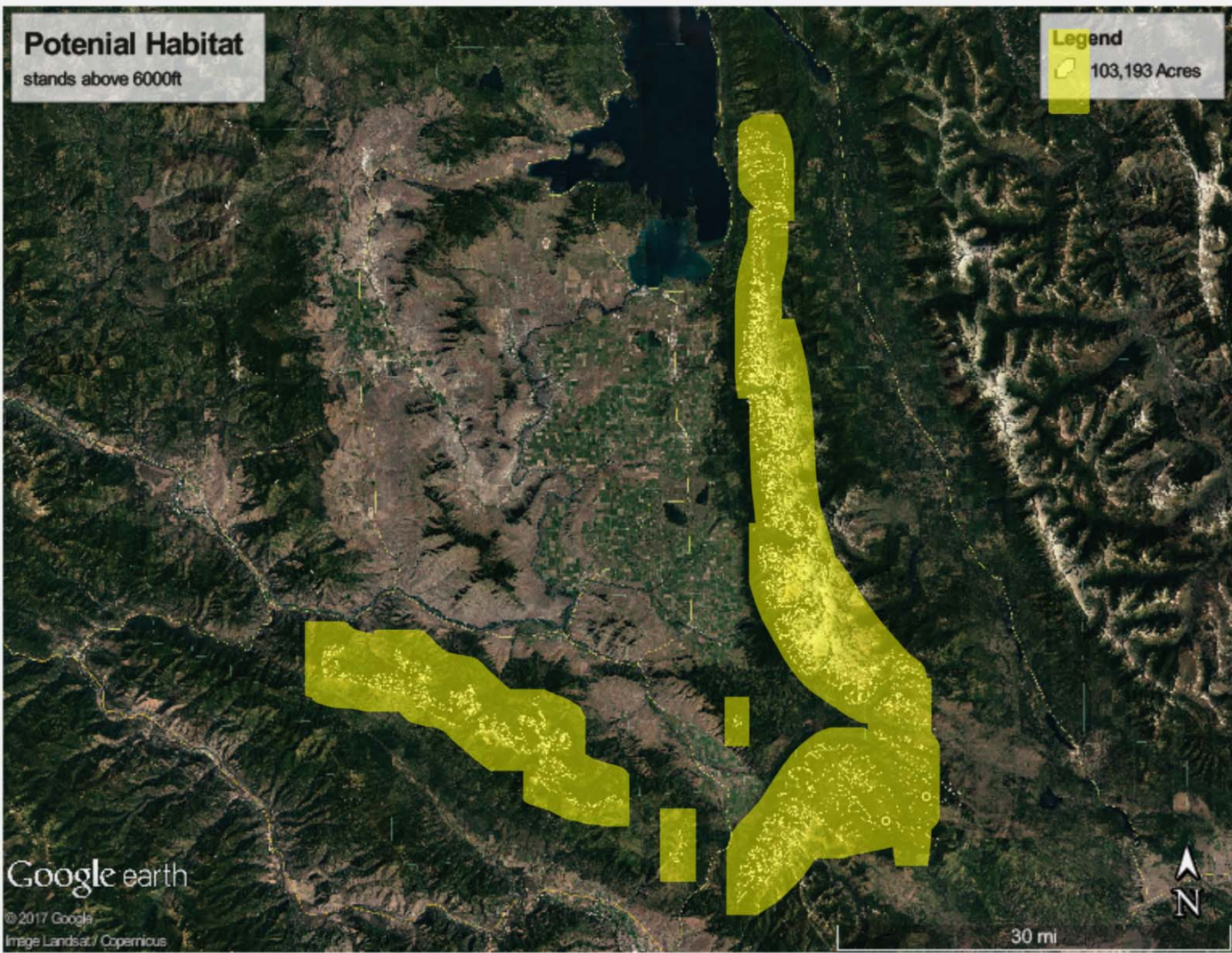
Traditional First Food source

Animals

Restore 6,000-8,000 acres by 2029

Using fire and mechanical



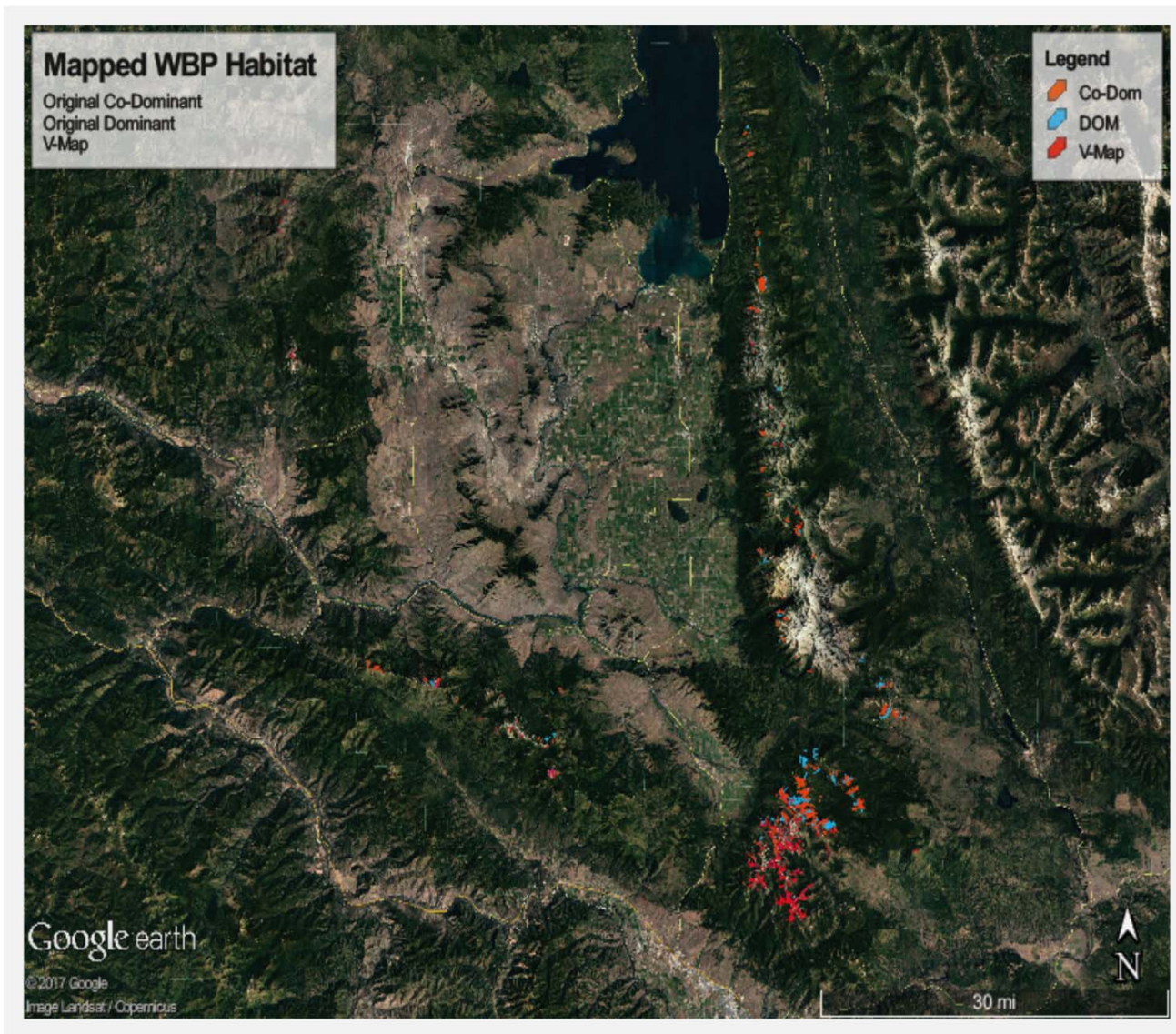


What We Got

Possible habitat = 100,000 Acres

Land base over 6,000 Ft

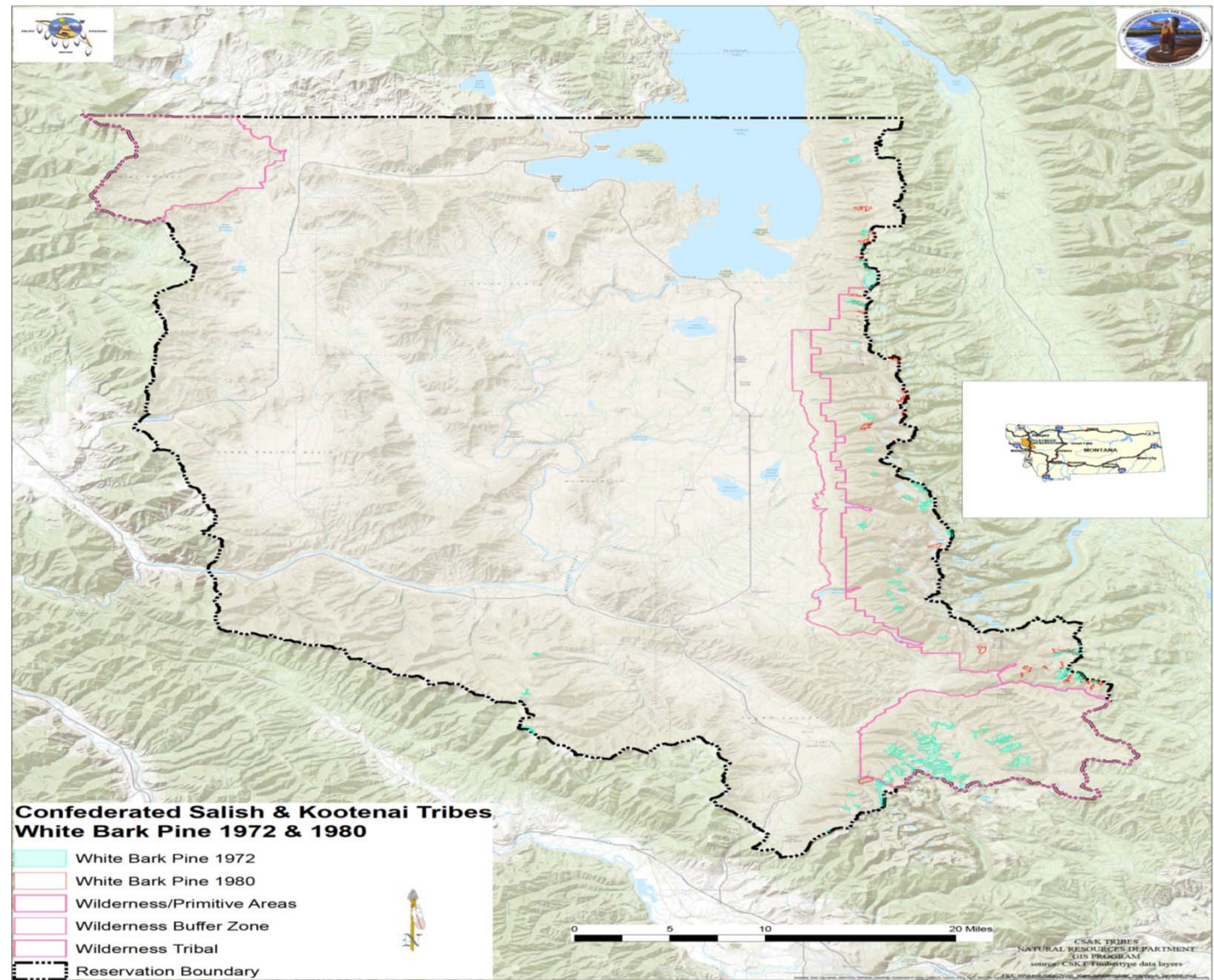




What We Got

Original mapping = 9,800 Acres
Recently mapped = 3,000 Acres
High Probability = 1,350 Acres

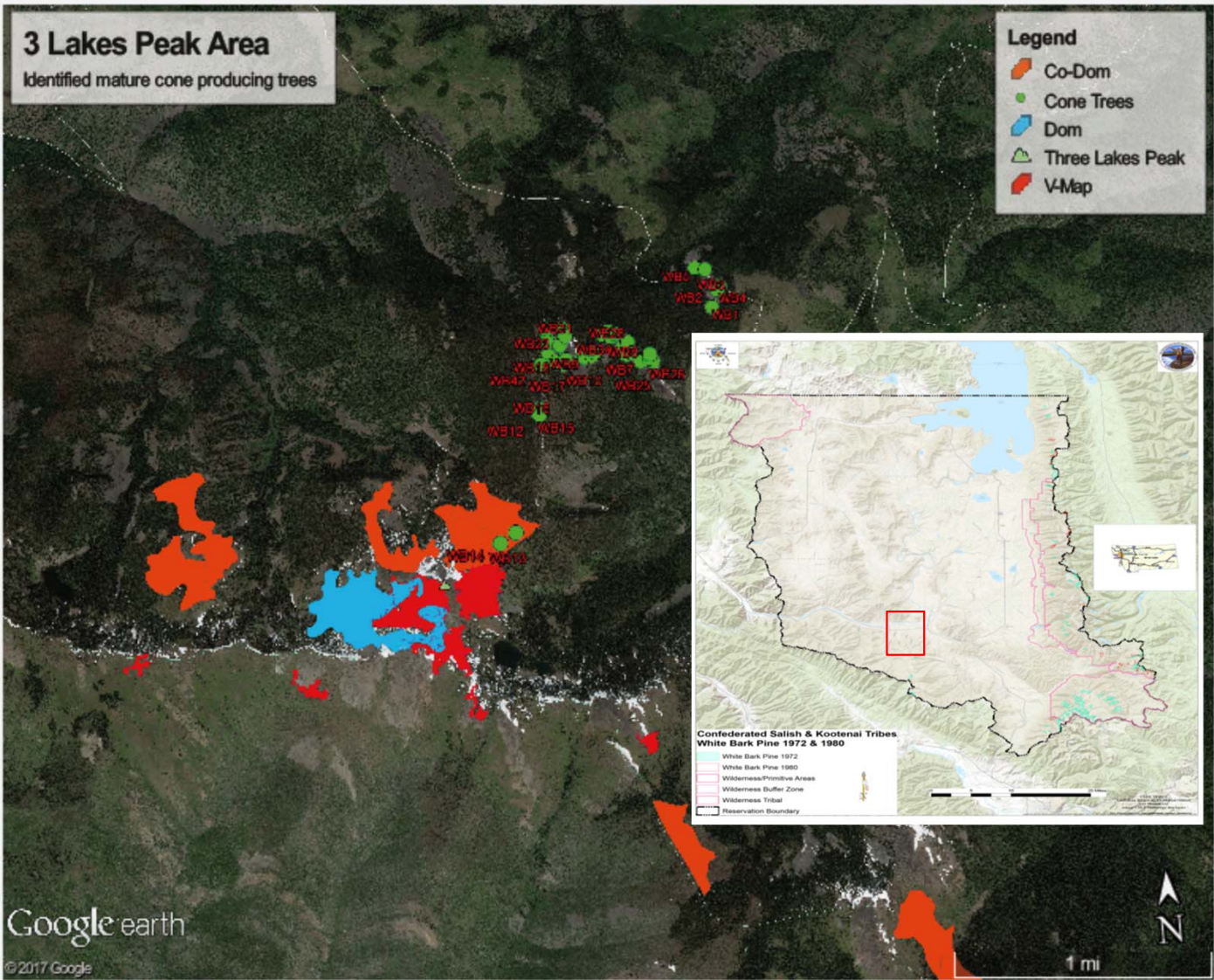




What We Got

- 1972 mapping
- 1980 mapping
- Wilderness and primitive areas





3 Lakes Peak

SW Portion of Reservation

Elevation 6500ft – 7300ft

Thriving reproduction community

Last major disturbance 100 years ago



3 Lakes Peak Whitebark Pine													Notes
Tree	Coordinates	Elevation	Aspect	DBH	Height	Age	Habitat Type	LCR %	(Y or N) Blister Rust	(Y or N) beetle	(#) Cones Visible	(Y or N) # of stems	Notes
WB1 6/16/2016	N 47° 16' 25.8" W 114° 32' 18.5"	6583	N	22.3	60		Abla-Mefe	35	n	n	20+		double top, surrounding dead WB
WB2 6/16/2016	N 47° 16' 29.9" W 114° 32' 15.9"	6511	N	20.5	45		Abla-Mefe		N	N	10		Dead Top, Not healthy, on edge of rock scree male cones present
WB3 6/16/2016	N 47° 16' 31.0" W 114° 32' 15.2"	6482	N	7.7	35		ABLA -MEFE	35	N	N	8+		small but healthy tree, next to one other WB
WB4 6/16/2016	N 47° 16' 30.8" W 114° 32' 15.2"	6515	N	13.5	55		ABLA -MEFE		N	N	2+		two female cones with multiple male cones dead top, not to healthy
WB5 6/16/2016	N 47° 16' 35.4" W 114° 32' 18.9"	6435	N	15.5	60		ABLA -MEFE	40	N	N	5+		Right on the D-5000 Road, above road bank healthy tree
WB6 6/16/2016	N 47° 16' 36.1" W 114° 32' 22.2"	6410	NE	13	50		ABLA -MEFE	40	N	N	15+		Right below D-5000 Road, good health right on edge above cliff
WB7 6/20/2016	N 47° 16' 15.3" W 114° 32' 40.3"	6944	E	10.1	49		Abla - Xete	30	N	N	18+		1 mile up trail, 100 yard above trail, GPS'd bottom of rock scree, blue ribbon
WB8 6/20/2016	N 47° 16' 15.7" W 114° 32' 45.9"	7055	SE	11.9	33	86	Abla - Xete	70	n	n	20		1.25 mile up trail, 200 yard above trail base of rock scree, pink ribbon,
WB9 6/20/2016	N 47° 16' 16.2" W 114° 32' 57.5"	7138	SE	11.5	35	107	Abla - Xete	60	N	N	20+		Pink and blue ribbon, on ridge, good tree
WB10 6/20/2016	N 47° 16' 15.5" W 114° 32' 58.5"	7127	SE	9.9	50		Abla - Xete	50	N	N	10		trees next to it around same size with few cones, apparent frost/ snow damage
WB11 6/20/2016	N 47° 16' 15.3" W 114° 33' 00.8"	7168	SE	11.9	41	112	Abla - Xete	30	y	N	20+		Rust on branch middle third of crown on the south side of tree. Have pic
WB12 6/20/2016	N 47° 16' 03.7" W 114° 33' 16.2"	7192	SE	15.5	40	96	Abla - Xete	70	N	N	25+		Very nice tree, on saddle of ridge in little bowl. Healthy, good size, DoubleTop
WB13 6/20/2016	N 47° 15' 40.3" W 114° 33' 26.1"	7144	E	17.6	70		Abla - Xete	45	N	N	5		larger tree that is fading out, couple nerby large tree fading, few cones, weaker crowns
WB14 6/20/2016	N 47° 15' 38.3" W 114° 33' 30.9"	7183	E	15.3	60		Abla - Xete	50	N	N	10+		Fair crown with dying branches spaced in area of more larger dia fading out WB
WB 15 6/27/16	N 47° 16' 04.4" W 114° 33' 16.7"	7216	SE	11.6	35	95	Abla - Xete	60	y	N	20		tree has visible rust on the top leader dead red flag with bole damage
WB16 6/27/2016	N 47° 16' 04.9" W 114° 33' 16.1"	7212	s lv	8.9	30	82	Abla-Xete	60	N	N	20		North of WB12 1 ch
WB17 6/27/2016	N 47° 16' 14.5" W 114° 33' 10.0"	7222	SE	16	70		""	50	N	N	10		check next year
WB18 6/27/2016	N 47° 16' 14.8" W 144° 33' 06.7"	7200	SE	9	45		""	70	Y??	N	30		4 trees in on cash smallest has possible rust tough to climb and reach top cones passed on
WB19 6.27.16	N 47° 16' 18.0" W 114° 33' 08.2"	7212	S	8	35		""	90	N	N	6		check next year
WB20	N 47° 16' 15.8" W 114° 33' 00.9"	7169	E	10	40		""	35	n	n	8		

3 Lakes Peak

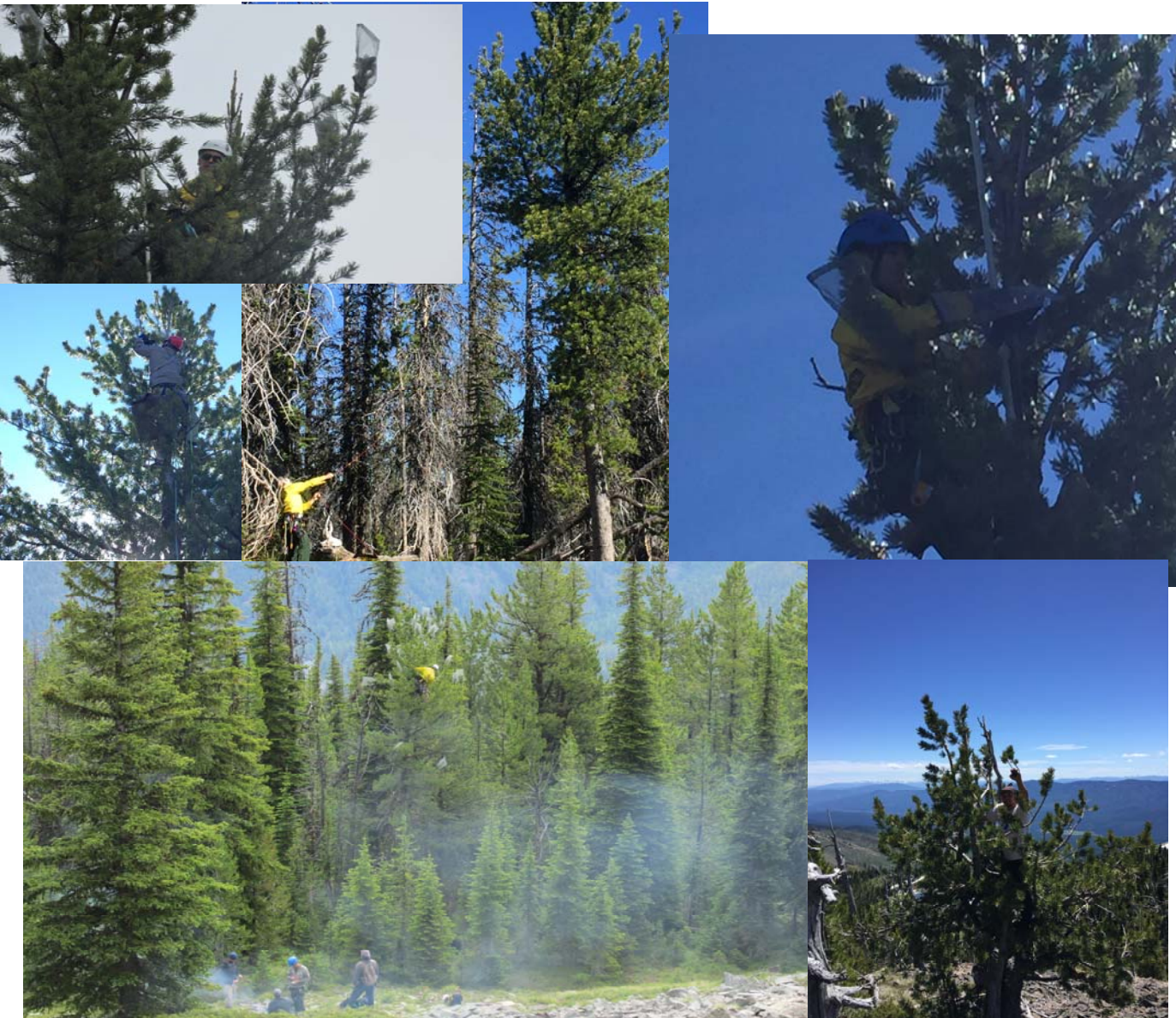
Over 50 Trees identified for cone collection

Data collection

Tree characteristics

Health and rust observation for future monitoring





3 Lakes Cone Collection

2016 collection year

BLM climbers

11 trees selected

238 cages

471 cones

14,064 seeds / 4.5LBS



9-21-2017 Germination Survey of 9 CSKT Whitebark Pine Seed Lots sown for Cycle 6 Rust Screening

All of these lots exceed the minimum of 144 trees needed to rust screen 4 reps of 36 trees each.

All of these lots had high quality filled seed as determined by digital xray.

CSKT Lot	CDA Nursery Lot	Tree	Cells Sown	Cells Filled with Trees	% Filled Cells
WB9	WBP1797	6284	196	166	85%
WB11	WBP1798	6286	196	194	99%
WB12	WBP1796	6287	196	155	79%
WB15	WBP1795	6288	196	195	99%
WB16	WBP1791	6289	196	179	91%
WB24	WBP1792	6290	196	178	91%
WB25	WBP1793	6318	196	181	92%
WB26	WBP1790	6319	196	169	86%
WB27	WBP1794	6320	196	168	86%

CDA Cycle 6

9 trees selected for Rust Screening

Scheduled for inoculation Sept. 2018



Boulder WBP



Legend

- Co-Dom
- Dom
- North Boulder Trees
- South Boulder Trees
- V-Map

Boulder WBP

NE Portion of the reservation

Elevation 6000ft – 6500ft

Active reproducing community

Active management in past 30 years

Seedling and saplings in management areas

Google earth

© 2017 Google

4 mi



3 Lakes Peak Whitebark Pine													
Tree	Coordinates	Elevation	Aspect	DBH	Height	Age	Habitat Type	LCR %	(Y or N) Blister Rust	(Y or N) beetle	(#) Cones Visible	stem, top GROWTH	Notes
B-1 7/18/2017	N 47°51'37.9 W 113°58'37.9	6265	NE	11.6	56	80	ABLA-MEFE	40	N	N	17	SINGLE, MUTLI	3 empty cages
B-2 7/18/2017	N 47.857198 W 113.97665	6314	NE	9.2	49	97		40	N	N	17	SINGLE, MULTI	
B-3	N 47°51'24.9 W 113°58'37.1	6316	NE	15.7	61	100		35	N	N	17	SINGLE	1 empty cage
B-4	N 47°51'25.2 W 113°58'38.3	6324	NE	8	43	80		50	N	N	17	SINGLE	
B-5			NE	8.7	46	87			N	N	17		
B-6	N 47°51'25.1 W 113°58'24.1	6240	NE	10	45	87		50	N	N	17	SINGLE	
B-7	N 47°51'25.5 W 113°58'25.0	6249	NE	11.7	60	77		40	Y	n	17	SINGLE	FLAGGING ON BRANCH 2/3 UP
B-8	N 47°51'23.7 W 113°58'25.8	6249	NE	15.1	63	79		35	N	N	17	SINGLE	
9													
10													
11													
12													
13													
B-14 7/18/2017	N 47°84'30.7 W 113° 97'02.9	6185	SE	13.7	61			70	N	N	17	SINGLE	
15													
16													
17													
18													
19													
B-20 18-Jul	N 47°50'19.4 W 113°58'43.6	6192	S	12.9	34	57		50	N	N	17	MULTI	1 cage on ground empty

Boulder WBP

Over 30 trees identified for cone production

2017 was low cone year, could be more in area

Data collection

Tree characteristics

Health and rust observation for future monitoring





Boulder Cone Collection

2017 collection year

BLM climbers

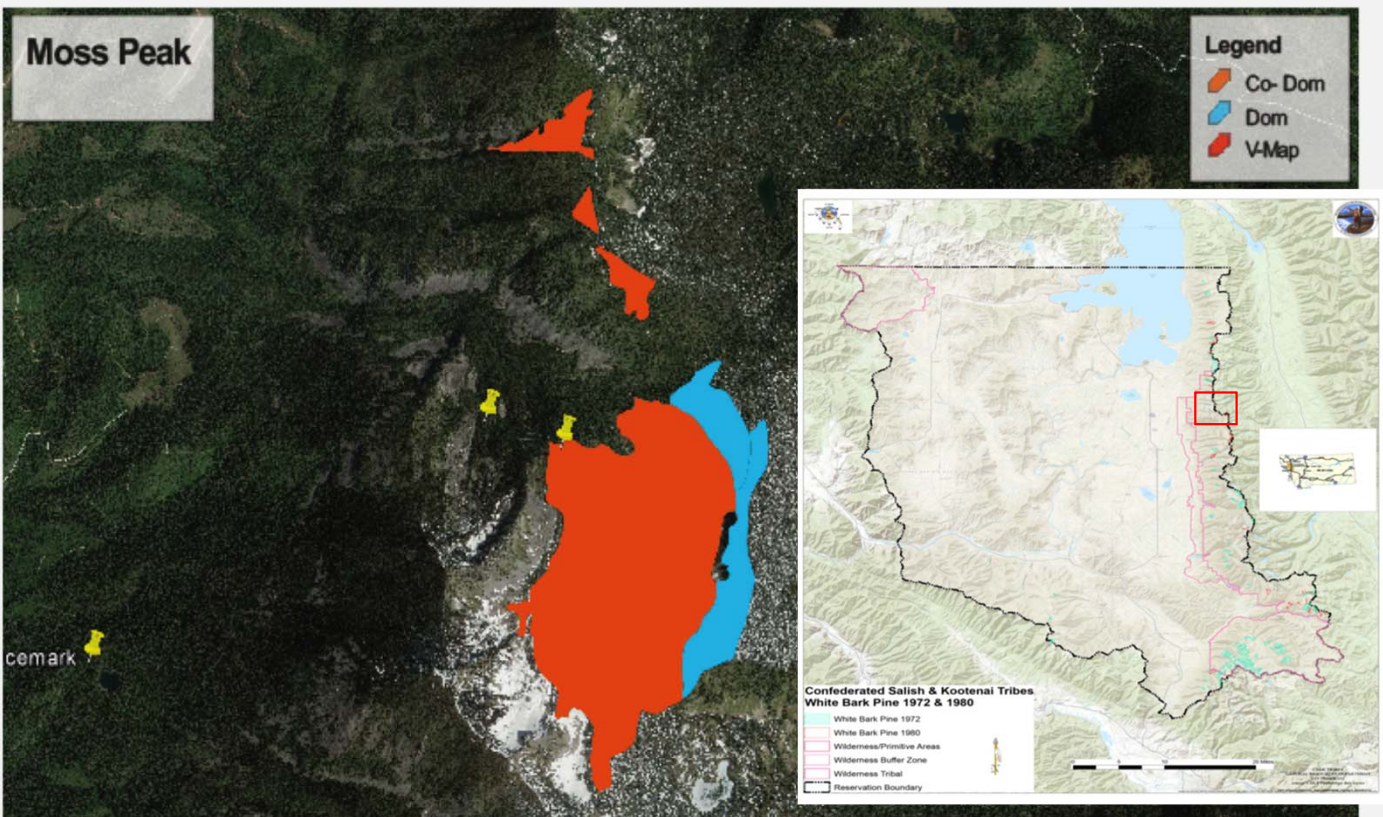
12 trees climbed

Cones are currently drying for cleaning

Low cone crop year

Pollen boom 📌



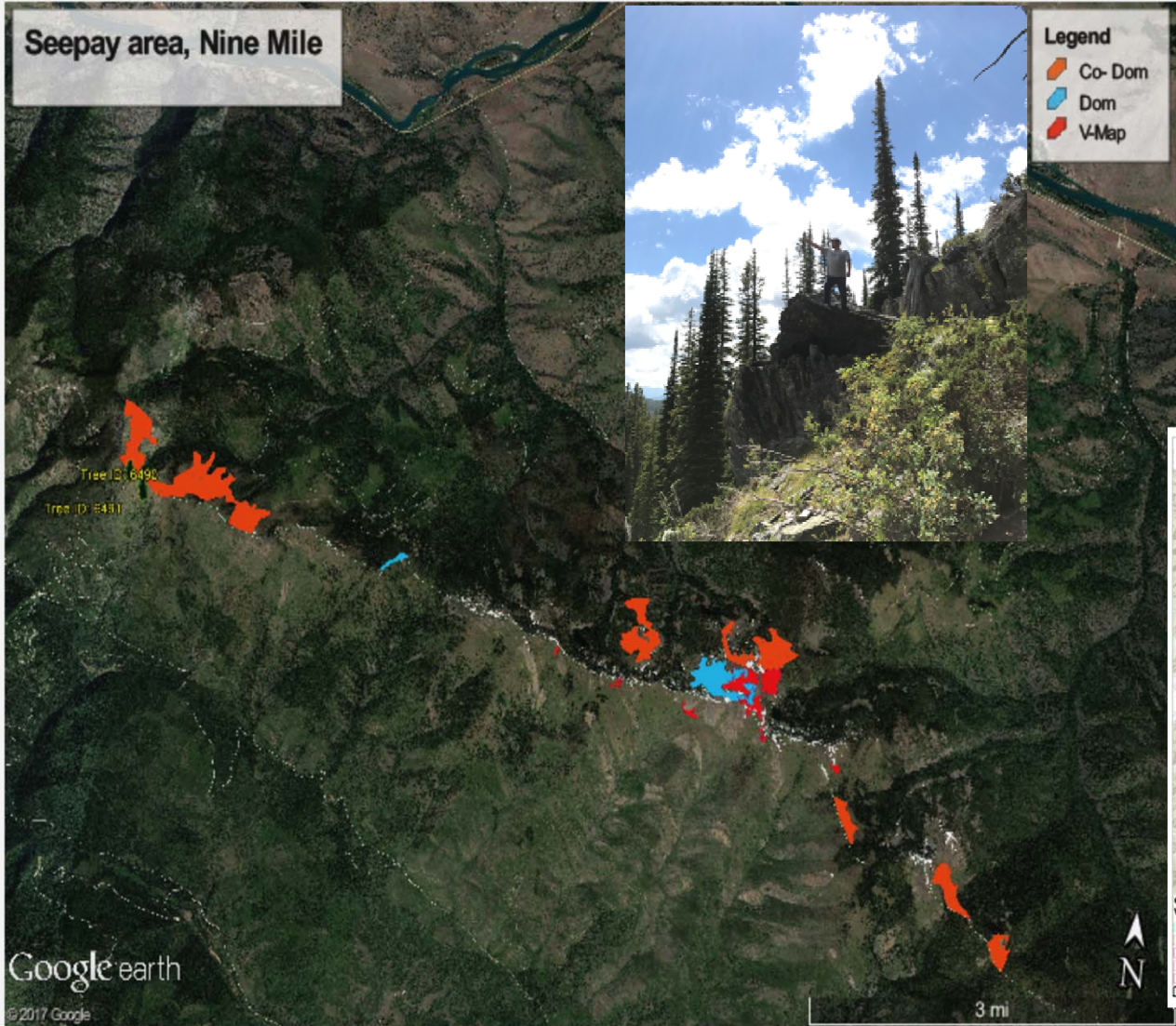


Other Areas

Actively Scouting other areas for Whitebark pine plus trees

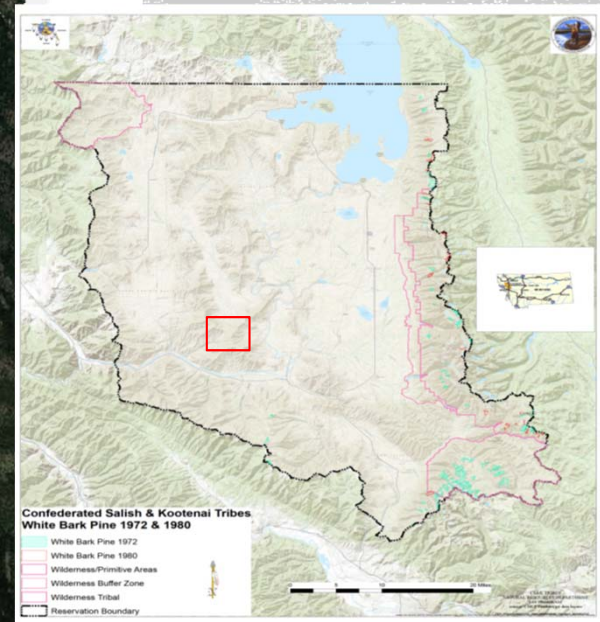


Seepay area, Nine Mile



Other Areas

Areas near Forest Service Plus Trees



Valley Creek Area

Legend

- Co-Dom
- Dom
- V-Map

Google earth

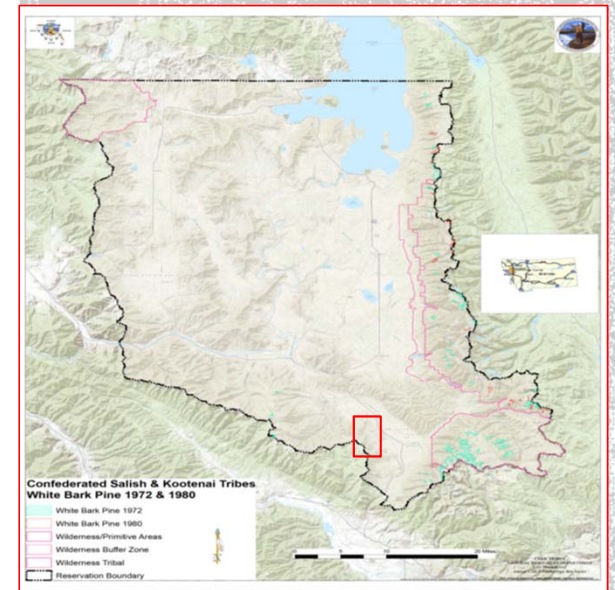
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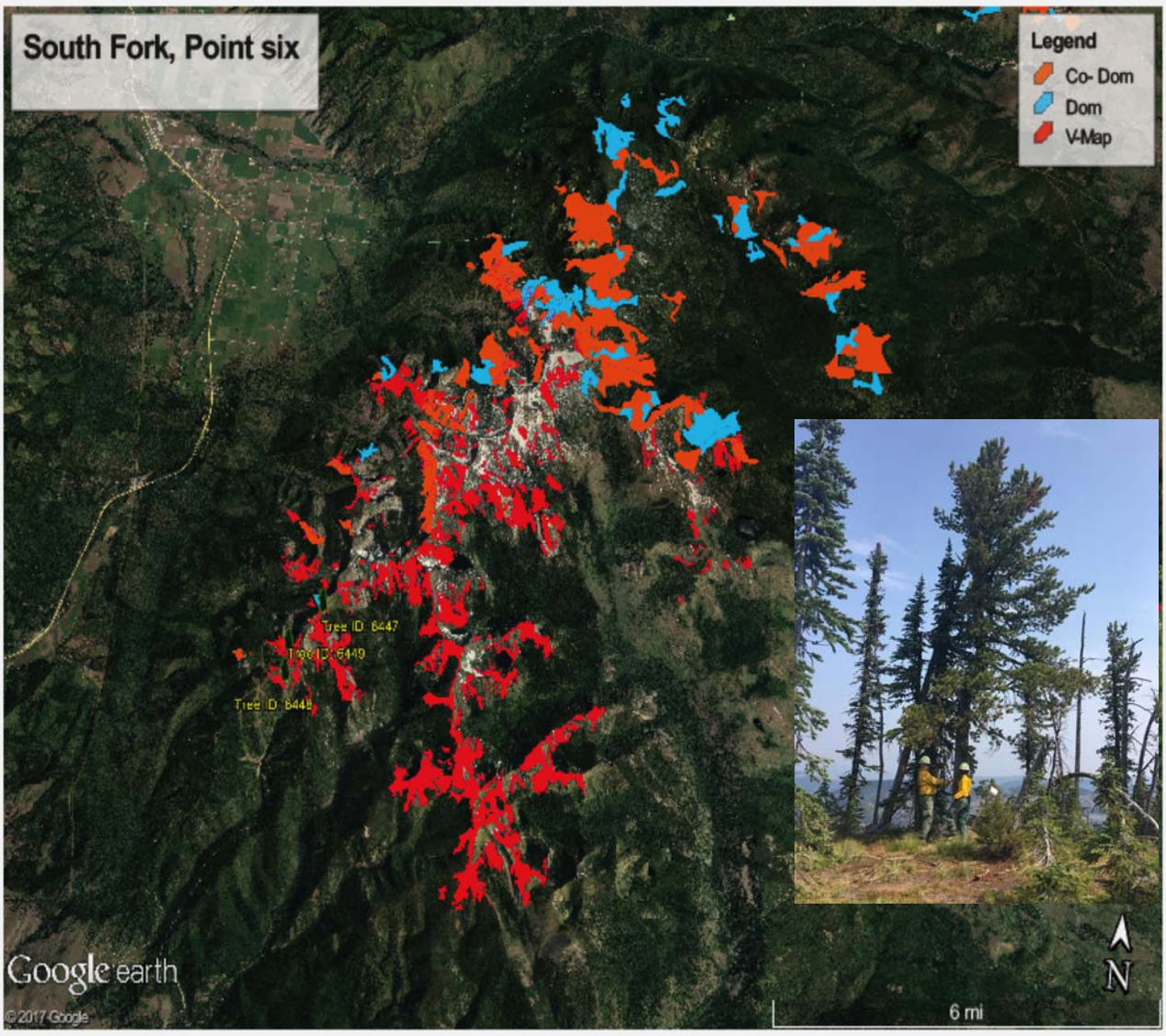
1 mi



Other Areas

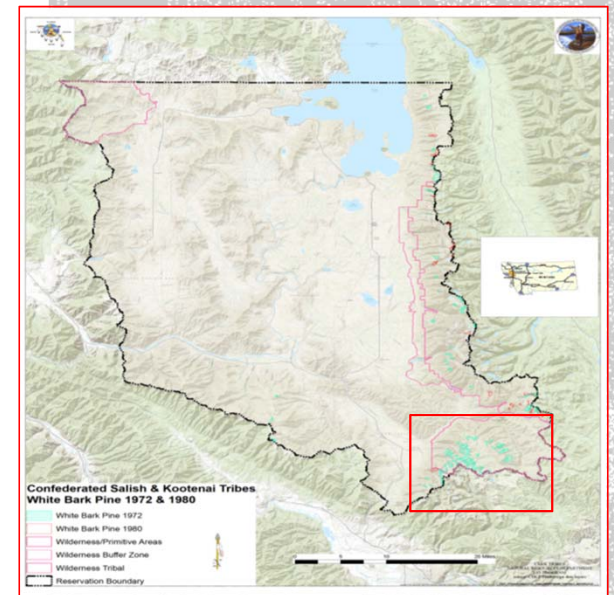
Possible plus trees





Other Areas

Areas near Forest Service Plus Trees





Grow WBP

Collect – build seed bank

Clean – fine tune seed extraction

Store – large capacity cooler

Sow !!! – fine tune seed scarification
and germination process





CSKT Plan

Continue scouting and mapping

Continue collecting cones

certify CSKT climbers

Fine tune WBP grow protocols

Establish High elevation seed orchard

Develop projects to restock WBP

Develop Rx burning projects to restore/ maintain habitat

