

SAN BRUNO MOUNTAIN GORSE REMOVAL PROJECT

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San Bruno Mountain History

- 1983 Habitat Conservation Plan
 - Protects four federally protected species within the HCP management area
 - Mission blue butterfly
 - San Bruno elfin butterfly
 - Bay checkerspot butterfly
 - Callippe silverspot butterfly
 - Allows for “chaining and scraping/raking” managing woody vegetation in historically grassland areas
 - Has been adapted, via approval of USFWS, to include mastication and crushing via mechanized equipment



Gorse (*Ulex europaeus*) and San Bruno Mountain



- Fabaceae
- Introduced to California prior to 1894
- Seeds can spread about 6' from mother plant
- Colonizes on low nutrient, infertile or sandy soils
- Tends to establish well in areas where it can access water table
- Most growth in Spring and early Summer. Growth slows from moisture stress in Summer and Fall
- Flowers in March at San Bruno Mountain
- Roughly **52 acres** of dense gorse within HCP property boundary.
- About **7 Acres** of dense gorse in private property in adjacent areas.

History of Gorse Management

- 1983 – park staff and volunteers manually removed dense thickets
 - Manual Labor estimated at 350 hours/acre
- Mechanical chaining of gorse
 - Bulldozers towing ship anchor chain. Ripping mature gorse from soil
- Prescribed burning
 - Difficult to achieve effective control
 - If not thoroughly burned, can stump sprout
 - Seedbank is known to be flushed with heat after fire
 - Volatile oils in the stems and leaves can exacerbate the prescribed fire
 - Erratic low to moderate winds at San Bruno Mountain can trigger cancellations of prescribed burns

2004-2008 Pilot Gorse Removal Project

- Grant funded project to remove 31 acres of Gorse
- Led by May & Associates and Shelterbelt Inc.
 - Local CNPS and Sand Bruno Mountain Watch members also provided expertise and guidance
- Dense gorse stands: 90-100% cover
 - Masticated using boom arm masticator
 - Mulch spread in a dense layer 3-5 inches thick, but no thicker than 6 inches
 - “Hot Composting”
 - 3 years follow-up in all areas including other weed suppression
 - Now mostly *Holcus lanatus* grassland
- Scattered gorse stands: 6-25%
 - Mostly foliar sprayed or cut stumped



August 29, 2004



November 22, 2004

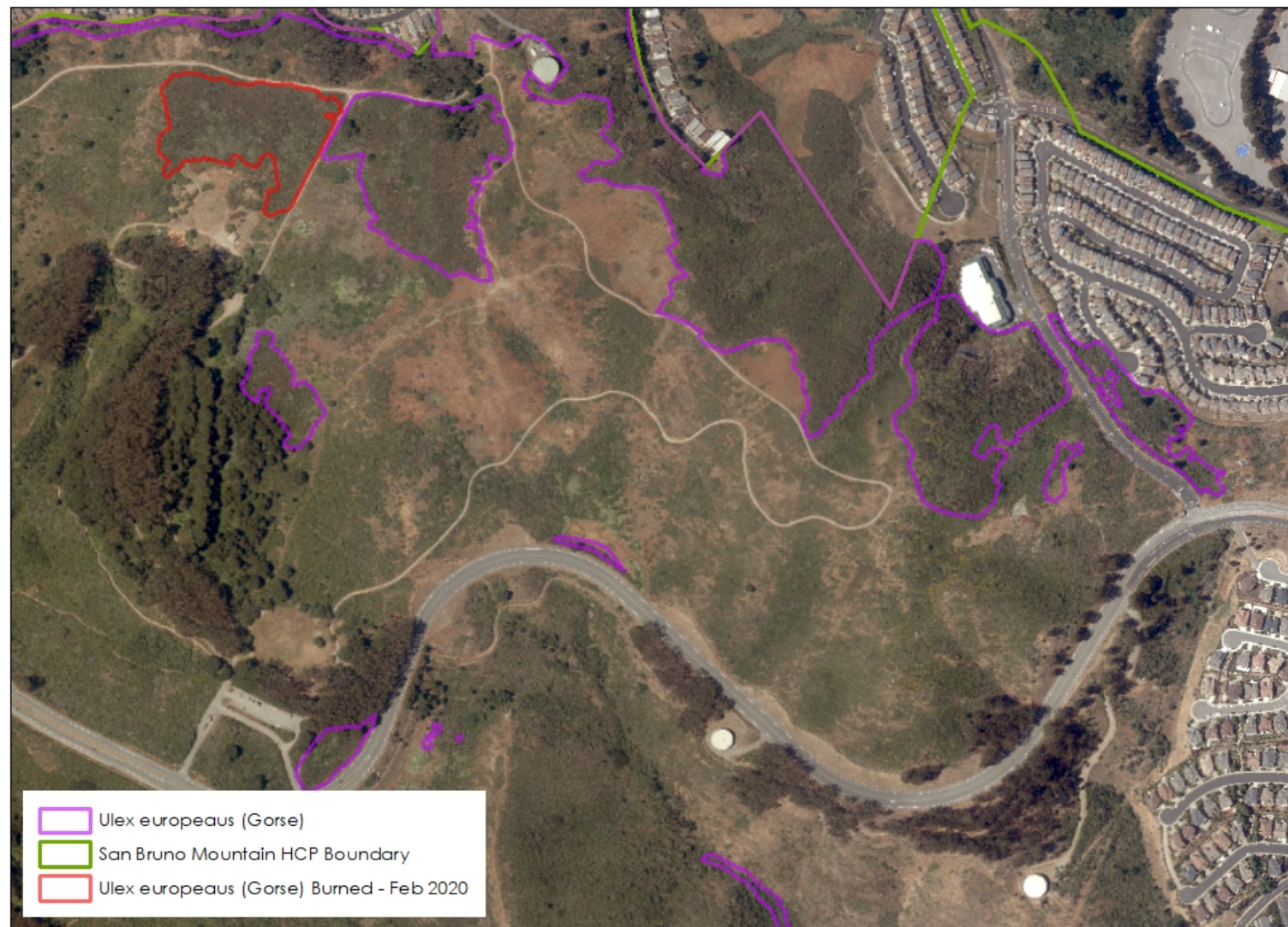


February, 28 2020 Fire

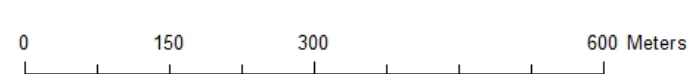
- About 5 acres burned
 - Almost entirely gorse
- Unknown ignition
- Homes within 200' of perimeter
- North County Fire and CalFire responded to event
 - Trails acted as Natural Fire Breaks
 - Fire lines still cut, but inside the trail boundary







San Bruno Mountain State and County Park:
2020 Gorse Populations









Community Response & Treatment Approach

- Neighbors and community leaders urged County parks to control Gorse immediately
- Best Treatment option was determined to be fall 2020 to avoid bloom/seed period
 - Challenges with red flag days
 - Late fall treatment allowed for dry soil conditions minimizing deep soil disturbance





2020 Mechanical Treatment

- ~7 acre Gorse stand
 - Mastication with SMCP Caterpillar 299
- ~5 acre burned Gorse stand
 - Dozer used to crush gorse in burn site
 - Break down biomass of gorse skeletons
 - CalFire will bring in brush rake to create burn piles





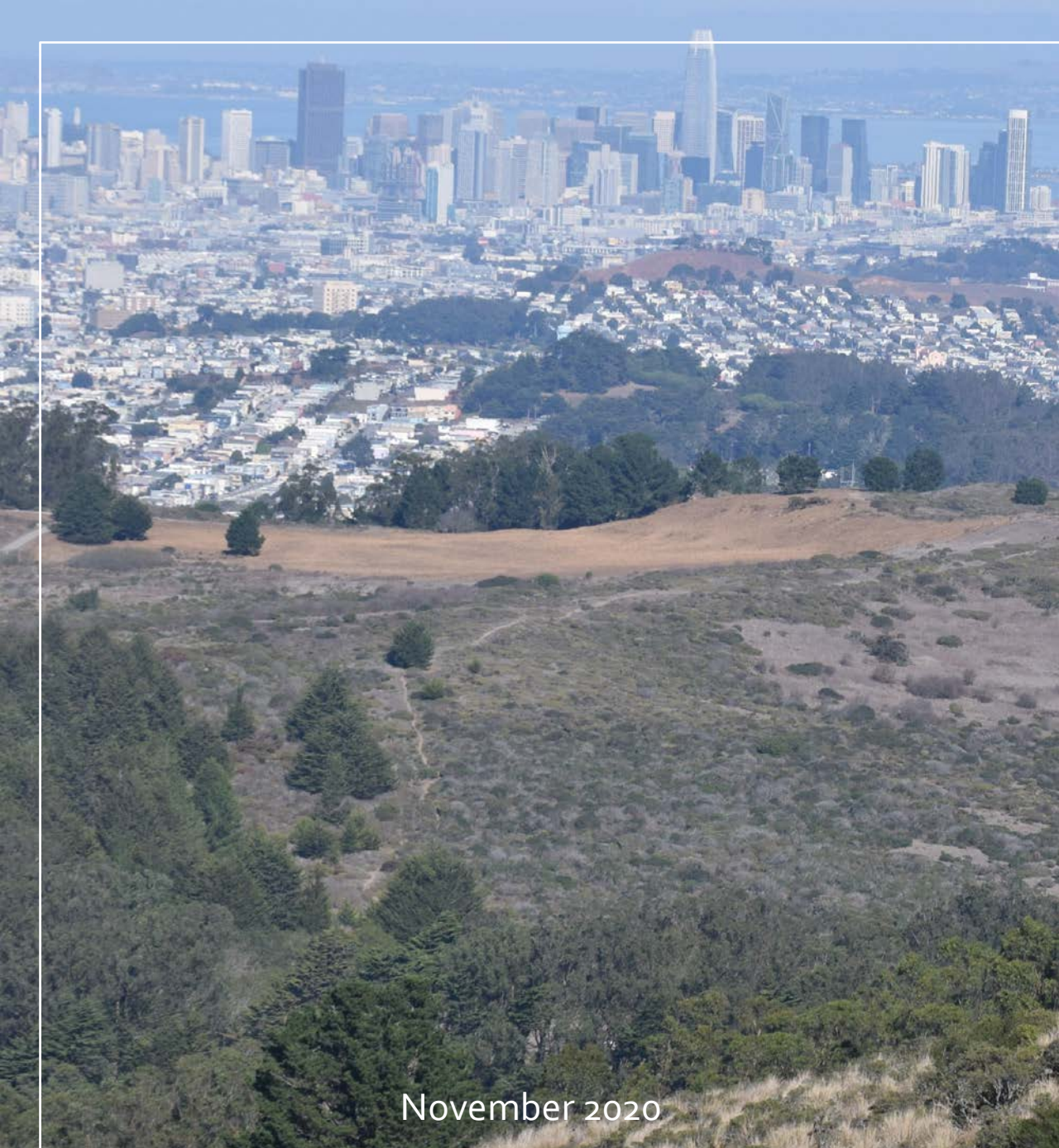




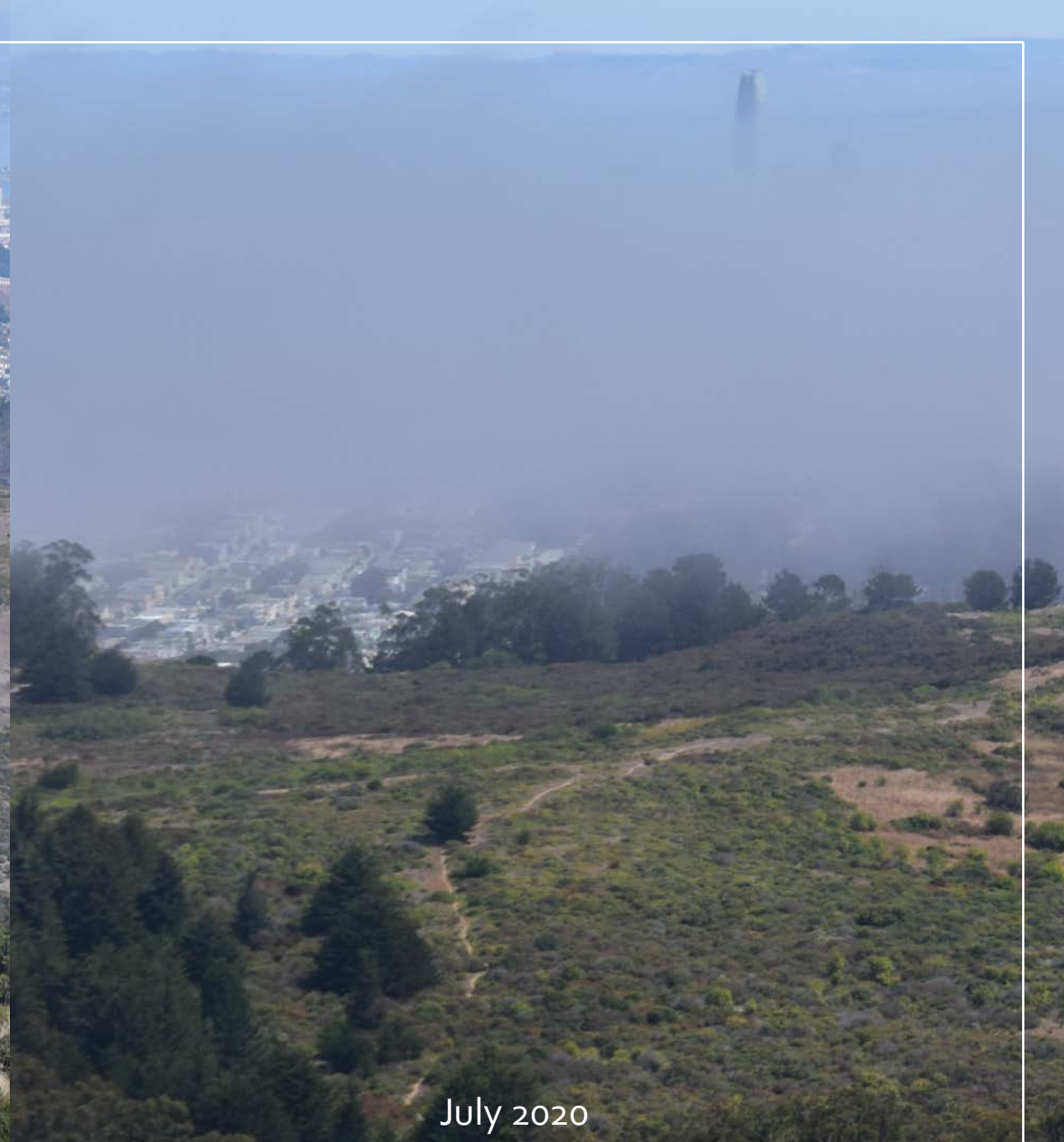








November 2020



July 2020

Follow-up Treatment

- Foliar of small sprouts and outliers
 - 1.5% Roundup Pro Max
 - 80-100% coverage
 - Last week Go Native foliar treated gorse in areas south and east of mastication
 - Including small gorse on outskirts of 2004-2008 management area
- Grazing
 - Considering goat grazing for gorse control
 - Would be a couple years as we continue to monitor success of initial treatment
- Other weeds
 - Burn area:
 - Solanum, Poison Hemlock, Sweet Pea, Cape Ivy, Himalayan Blackberry, Thistles, Ice Plant
 - Masticated area:
 - English ivy – under Monterey pine

Future Mechanical Treatment?

- Slopes on east side of Saddle
 - Too steep for man-operated masticator
 - Could use Green Climber
 - Remote operated can handle fairly steep slopes
 - Go Native would need to get current equipment modified for it
 - San Mateo Fire Safe Council recently obtained one via Cal Fire CCI grant funding

QUESTIONS?

