WHY THE EAST BAY HILLS WILL BURN AGAIN

THERE WERE SERIOUS FIRES IN 1901, 1905, 1921, 1923, 1937, 1946, 1953, 1960, 1961, 1970, 1980, AND 1991.

THE 1923 FIRE DESTROYED 584 HOMES IN TWO HOURS
THE 1970 FIRE DESTROYED OR DAMAGED 73 HOMES IN ONE HOUR
THE 1991 FIRE DESTROYED 3,800 HOMES (DWELLINGS) IN A ONE DAY FIRE AND 25 PEOPLE DIED

THERE ARE FIRES IN CALIFORNIA EVERY YEAR.

THE TWO MONTH LONG SOBERANES FIRE IS NOW CALLED THE STATES LARGEST FIRE THIS YEAR(132,000 ACRES), COSTLIEST ($210 MILLION), AND 57 HOMES WERE DESTROYED.

IT'S CLEAR THAT OUR EAST BAY HILL FIRES ARE VERY DIFFERENT

The beautiful hills of OAKLAND

IF ONE would build in fancy a perfect setting for a city it would be difficult to improve upon that which Nature has given Oakland. The broad stretch of level land running down to the Bay for business and industry; the gently rising hills for homes.

As the city grows it is taking advantage of this great natural gift and is reaching to the highest points of the hills with its beautiful homes.

MONTCLAIR, JOAQUIN MILLER ACRES, and other tracts belonging to this company include a vast area of hillside property. At this office, therefore, you can obtain information on any type of upland home that you are interested in.

REALTY SYNDICATE CO.

SYNDICATE BUILDING - OAKLAND

DOWNTOWN OAKLAND AND ITS “BEAUTIFUL” HILLS- 1903

IN THE EAST BAY, TWO WEALTHY DEVELOPERS OWNED THE HILLS.

THEY FORMED THE REALTY SYNDICATE COMPANY TO DEVELOP 13,000 ACRES FOR HOMES AND 3,000 ACRES FOR TIMBER PLANTATIONS.

FRANK COLTON HAVENS

FRANCIS MARION "BORAX" SMITH

ONE OF NINE HAVENS NURSERIES

RESIDENTIAL PLANTINGS INCLUDED EUCALYPTUS, PINE, AND CYPRESS

FIELD NURSERY FOR EUCALYPTUS SEEDLINGS

THE RESIDENTIAL FOREST

OAKLAND HILLS ABOVE SHEPHERD CANYON- A NEW FOREST PLANTED IN 1895

THERE'S A FOREST
WITHIN YOUR CITY

Forest Park


Forest Park
BERKELEY
PIEDMONT
BLACK TRI
shows faster
residential are
Bay: ORANG
shows Forest P
same distanc
14th and Br
as Dwight W
High St

You Can Build

FOLLOWING their policy of permanent interest in the properties developed by them, Wickham Havens Inc. have arranged to finance the building of homes upon lots bought in Forest Park. A number of attractive homes have already been built. Many more will be erected during the present year.

Residences in Forest Park are unusually large, having a fifty foot frontage or more. In fact, the lots average more than a quarter of an acre in size and have been so planned that each possesses natural building site. From the point of view of land planning experts, the trees that heavily cover Sunnyside in Forest Park are in themselves worth the prices asked for the lots complete.

The winding roadways which follow the original contours of the land, are of substantial macadam, with eight to ten inch rock foundation, and are built to withstand. Wide curves and easy grades improve driving conditions and add to the beauty of Forest Park. To further beautify the property, Wickham Havens Inc. have planted more than 61,000 plants and 10,000 trees along the road banks, and elsewhere reaching to park like drives reminiscent of English country estates.

In a setting of such scenic beauty, a modest home becomes a masterpiece. Build in Forest Park where opportunity beckons. Here is every advantage the home maker desires most; the beauty and freedom of living that he wishes for his family. Forest Park is, indeed, an ideal permanent location.

NEW OAKLAND HOMESITES IN THE PINE FOREST

OAKLAND HILLS ABOVE MONTCLAIR- LAND FOR HOMES IN THE FOREST- 1935 PHOTO

THORNHILL AND SHEPHERD CANYONS - LAND FOR HOMES IN THE FOREST- 1935 PHOTO

TUNNEL CANYON ABOVE LAKE TEMESCAL- LAND FOR HOMES IN THE FOREST- 1935 PHOTO

1935 PHOTO

TUNNEL CANYON- LAND FOR HOMES IN THE FOREST

1935 PHOTO

TUNNEL CANYON RESIDENTIAL AND RIDGETOP PLANTINGS ABOVE CLAREMONT CANYON

LARGE EUCALYPTUS PLANTATION IN SIESTA VALLEY EAST OF THE RIDGE

MOSTLY GRASS AND SHRUB'S ON CLAREMONT CANYON'S WEST FACING SLOPES

CENTRAL BERKELEY WITH HOMES MOVING INTO THE HILLS ABOVE CAMPUS- 1935 PHOTO

NORTH BERKELEY HILLS WITH EUCALYPTUS PLANTATIONS IN WILDCAT CANYON (TILDEN)

THE PARK FOREST

WILDCAT CANYON (TILDEN PARK) 1900

YOUNG EUCALYPTUS PLANTATION- 1900

WILDCAT CANYON WITH DAIRY CATTLE RANCH, AND EARLY EUCALYPTUS PLANTATIONS- 1911

FRANK COLTON HAVENS

HAVENS EUCALYPTUS AND PINE PLANTINGS ENDED IN 1913
HAVENS LOST CONTROL OF HIS WATER COMPANY IN 1916,
AND PASSED AWAY AT 70-YEARS OF AGE IN 1918


FIVE YEARS LATER
EVERYONE IN BERKELEY WAS SURPRISED ON SEPT. 17, 1923

THE 1923 FIRE DESTROYED 584 HOMES IN 2 HOURS

IT SAYS THAT A GRASS FIRE ENTERED AT THE RIDGE

THE 1923 FIRE PANORAMIC PHOTO

THE LARGE AMOUNT OF SHRUBBERY AND SHADE TREES AS SHOWN, CONTRIBUTED TO THE SPREAD OF THE FIRE, COUPLED WITH THE HIGH WIND, LOW HUMIDITY AND THE TOTAL INADEQUACY OF THE WATER MAINS

THE FIRE STARTED ON PRIVATE WATER COMPANY LAND NEAR TODAYS INSPIRATION POINT, AND BURNED ACROSS WILDCAT CANYON TO THE HIGH RIDGE AND THEN DOWNHILL THROUGH 584 HOMES TO THE CAMPUS - 1935 PHOTO

A DIAGONAL AIRPLANE VIEW FROM ABOVE THE CORNER OF OXFORD STREET AND HEARST AVENUE, AT THE EDGE OF THE UNIVERSITY GROUNDS

THE BERKELEY HILLS- 1935 PHOTO

BERNARD MAYBECK'S HOUSE ON BUENA VISTA WAY ABOVE THE CAMPUS- 1916

A HOME OF WOOD, COVERED WITH SHINGLES AND SURROUNDED BY PLANTED EUCALYPTUS

MAYBECK'S HOUSE IN THE FOREGROUND AFTER THE 1923 FIRE

MAYBECK LOST HIS OFFICE IN THE 1906 S.F. EARTHQUAKE, AND HIS BERKELEY HOME IN THE 1923 FIRE. HIS NEXT HOUSE IN THE BERKELEY HILLS WOULD BE COVERED IN BUBBLESTONE AND FIREPROOF.

FIRE TOWER'S WERE OPERATED ON GRIZZLY AND ROUND TOP PEAKS

Oakland Tribune, Wednesday, April 20, 1960 S-3

JOB'S OVER—Gene Smith's 18-year job as Berkeley fire [illegible] ends June 30 when this watch tower is torn down.

Berkeley's Fire Eye Losing His Tower

TWO FORESTRY LOOKOUT TOWERS SPOT 190 FIRES IN 12 YEARS

3.4.4 Wildland-Urban Interface Fire Risk and Loss Estimates

The 1923 fire was the worst WUI fire to impact Berkeley in recent history. This plan calculates losses that would occur if that fire were to recur today. A repeat of this fire would cause significantly more damage in Berkeley than the recent 1991 Tunnel fire.

The 1923 Berkeley Fire started in Wildcat Canyon to the northeast of the city and burned south and west down to Shattuck Avenue, stopping at the edge of UC Berkeley. Map 3.12 shows the area burned by this fire. The California Railroad Commission documented the burned area in 1923, three months after the fire. By superimposing this historical map onto the current day structures of Berkeley using the City's Geographic Information System, we find that, today, over 3,000 structures are located in the footprint of the 1923 fire. These structures include single-family homes, multi-family residences (many of which house UC Berkeley students), and stores, restaurants, and offices central to downtown Berkeley.

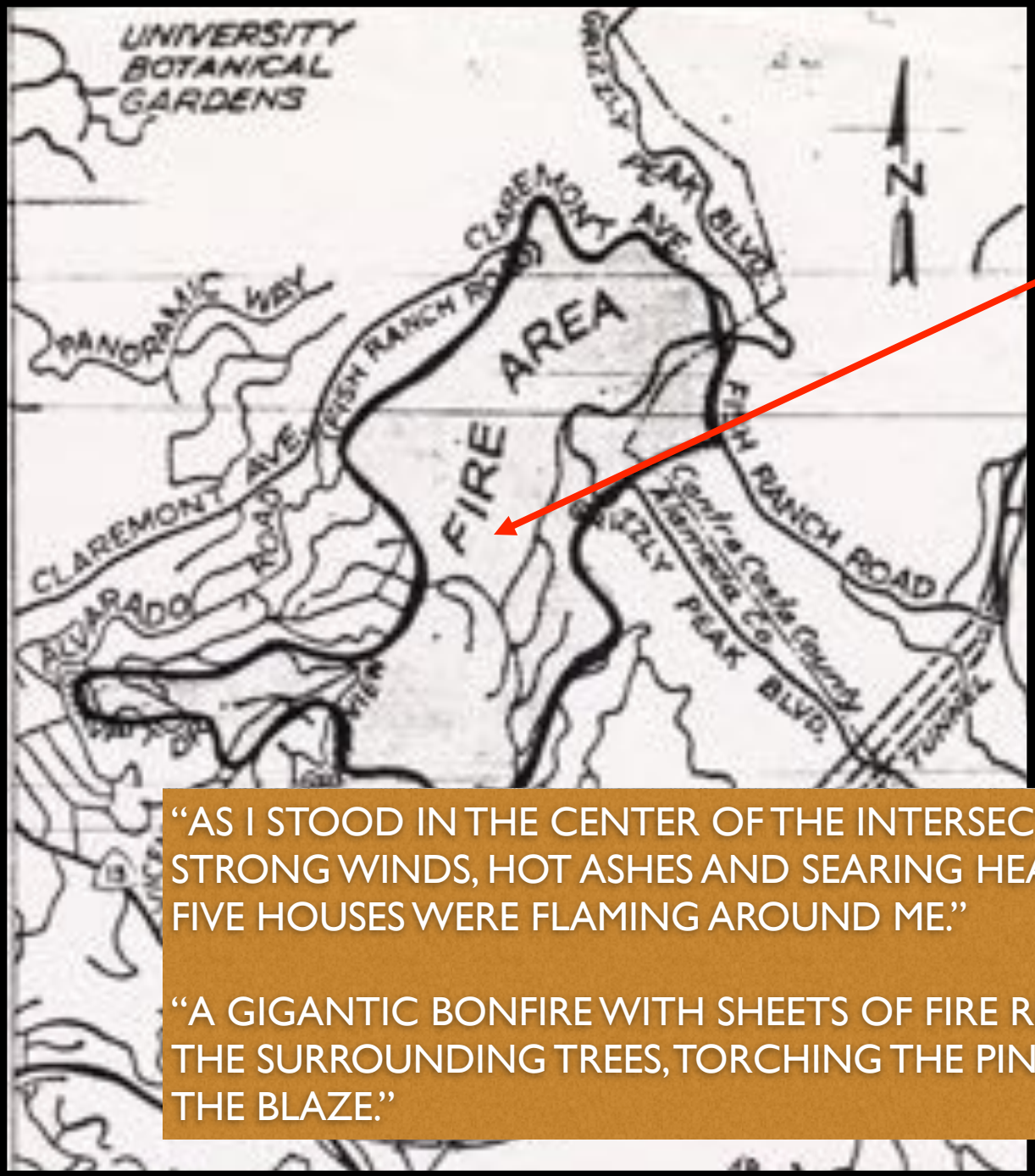
If a fire occurred today that burned the same area, the loss to structures could exceed $3 billion.[86] Destruction of contents in all of the homes and businesses burned could add another $617 million[87] to fire losses. The losses of electricity poles and lines to PG&E, for example, could be enormous. Efforts to stabilize hillsides after the fire to prevent massive landslides would also add costs.

CITY OF BERKELEY, 2014 LOCAL HAZARD MITIGATION PLAN

BETWEEN 1936 AND 1970 REGIONAL PARKS EXPANDED TO INCLUDE MOST OF THE LAND EAST OF THE MAIN RIDGE -

EBMUD AND UC OWN THE UPPER SLOPES AND THE RIDGE ABOVE CLAREMONT CANYON REGIONAL PARK

EVERYONE IN OAKLAND WAS SURPRISED ON SEPT. 22, 1970



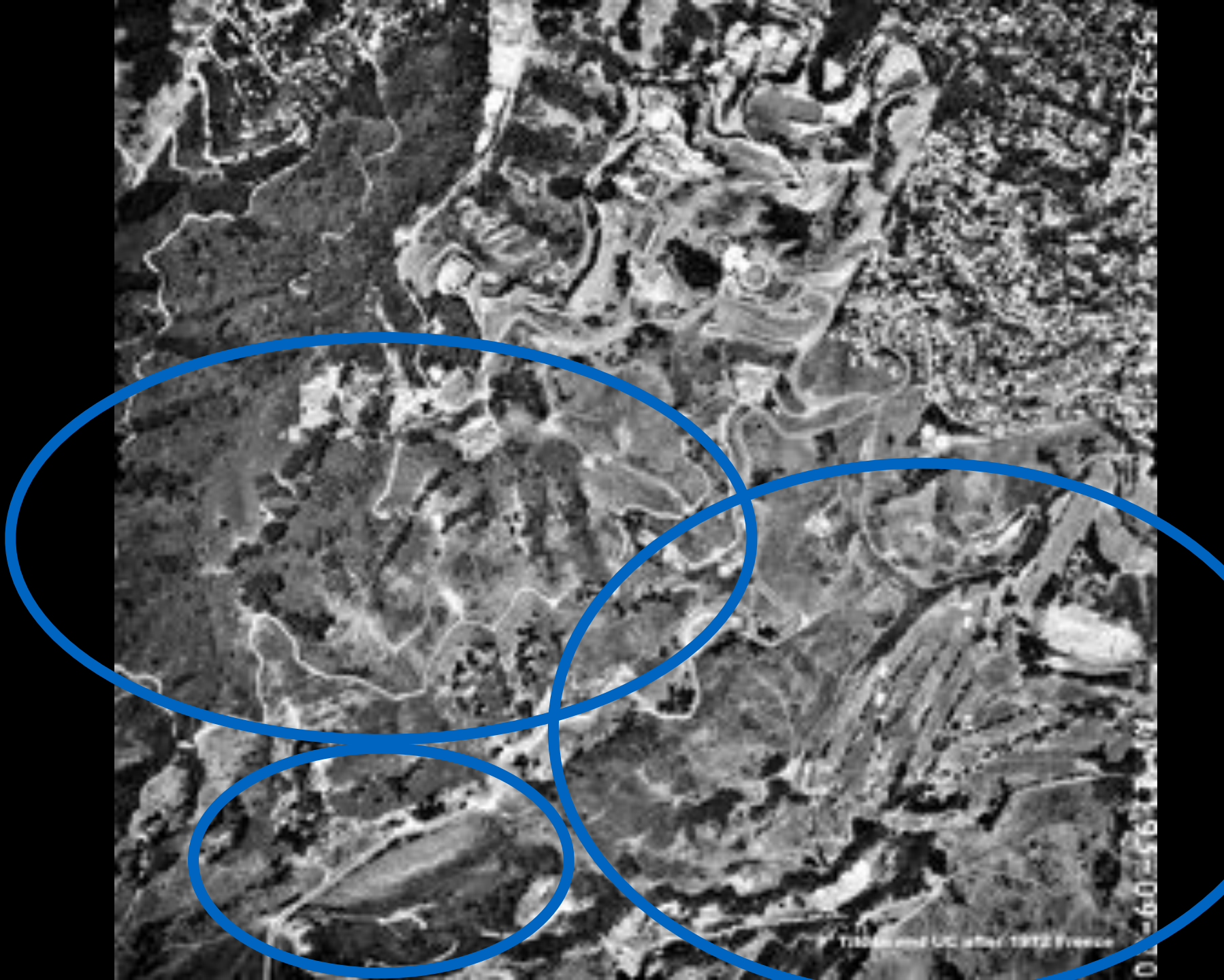
THE 1970 FIRE DESTROYED 36 HOMES WITH 37 HOMES BADLY DAMAGED IN A 70 MINUTE FIRE WEST OF THE RIDGE

"AS I STOOD IN THE CENTER OF THE INTERSECTION, BUFFETED BY STRONG WINDS, HOT ASHES AND SEARING HEAT-LADEN SMOKE, FIVE HOUSES WERE FLAMING AROUND ME."

"A GIGANTIC BONFIRE WITH SHEETS OF FIRE REACHING HIGH INTO THE SURROUNDING TREES, TORCHING THE PINE AND SPREADING THE BLAZE."

A MAJOR NINE DAY FREEZE IN 1972 KILLED RIDGE TOP EUCALYPTUS


AV-402-19-18



FROZEN EUCALYPTUS LOGGED BY GRIZZLY PEAK ROAD AND GOLF GATE ROAD- 1976

EUCALYPTUS LOGGED BY GRIZZLY PEAK ROAD AND GOLF GATE ROAD- 1976

SUCKERS RETURNED BECAUSE STUMPS WERE NOT SUCCESSFULLY TREATED- 1980

20- YEAR OLD EUCALYPTUS BETWEEN SOUTH PARK DRIVE AND GRIZZLY PEAK ROAD- 1997?

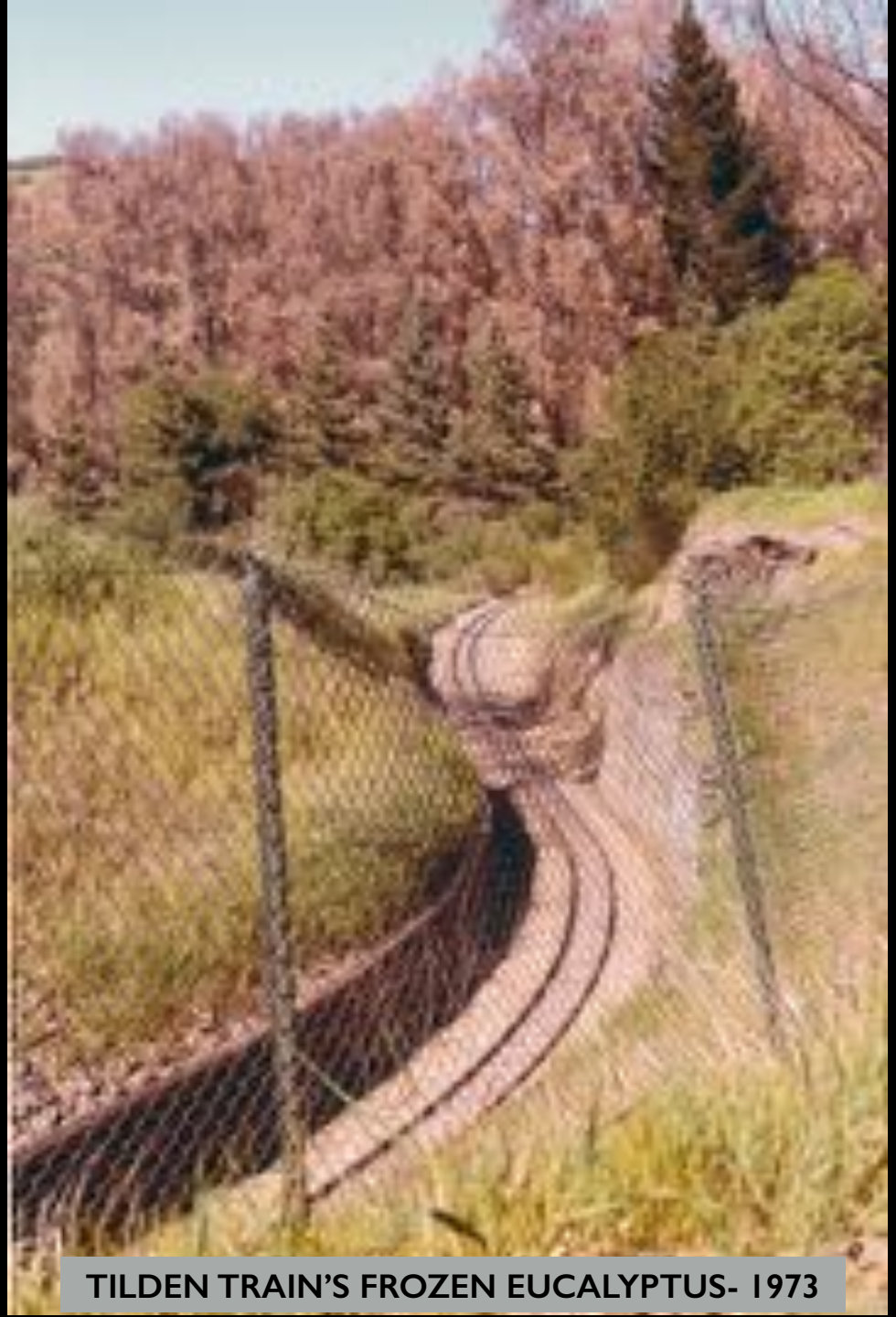
GRIZZLY RIDGE HILLSIDE ABOVE GOLF COURSE, WITH 40 YEAR OLD EUCALYPTUS ON OLD STUMPS- 2016

TILDEN TRAIN AT GRIZZLY AND SOUTH PARK DRIVE, AND CHAPARRAL HILL EUCALYPTUS- 1950

TILDEN TRAIN AT GRIZZLY AND SOUTH PARK DRIVE, CHAPARRAL HILL FROZEN EUCALYPTUS- 1973

UC CHAPARRAL HILL AT GRIZZLY AND SOUTH PARK DRIVE ACROSS FROM TILDEN TRAIN- 2016

TILDEN TRAIN'S FROZEN EUCALYPTUS- 1973



TILDEN TRAIN'S FROZEN EUCALYPTUS- 1973

TILDEN TRAIN'S FROZEN EUCALYPTUS. ALL WERE REMOVED- 1973

40 YEAR OLD REDWOODS THAT REPLACED FROZEN EUCALYPTUS AT THE TRAIN- 2014

RIDGE TOP EUCALYPTUS ON FROWNING RIDGE AND CHAPARRAL HILL WITH SHRUB HILLSIDES- 1967

NATIVE VEGETATION REPLACE EUCALYPTUS ON FROWNING RIDGE AND CHAPARRAL HILL- 2016

OAKS AND BAYS ON FROWNING RIDGE AND REDWOODS AT GILLESPIE CAMP AND TRAINS- 2016

GRIZZLY AND SOUTH PARK DRIVE INTERSECTION 2014- 40 YEAR OLD REDWOODS AT TRAIN

U.C. CHAPARRAL HILL WITH LINE OF 40 YEAR OLD BLUE GUMS (TORCHES) ALONG THE RIDGE- 2014

U.C. CHAPARRAL HILL, LINE OF BLUE GUMS REMOVED. PINES TO BE REMOVED LATER -2014

U.C. CHAPARRAL HILL- NATIVE SHRUBS, OAKS, AND BAYS AFTER REMOVAL OF EUCALYPTUS- 2014

FROWNING RIDGE AND UC HILLSIDE- AFTER REMOVAL OF EUCALYPTUS AND PINE- 2013

PARK DISTRICT FROWNING RIDGE AFTER REMOVAL OF EUCALYPTUS AND PINE- 2013

1972 EUCALYPTUS REMOVED WITH STUMP SUCKERS ON EBMUD's GRIZZLY PEAK- 1975

40 YEAR OLD EUCALYPTUS SUCKERS (TORCHES) ON EBMUD's GRIZZLY PEAK- TODAY

HIGH FIRE RISK EUCALYPTUS ON EBMUD GRIZZLY RIDGE ABOVE CLAREMONT CANYON- 2016

EBMUD MAHONIA (BARBERRY) PEAK AND ITS NATURAL SOUTH SIDE ABOVE HWY. #24 TUNNEL- 2016

1972 NINE DAY FREEZE KILLED OR DAMAGED CLAREMONT CANYON RIDGE TOP EUCALYPTUS

CLAREMONT CANYON

BEFORE THE FREEZE

AFTER THE FREEZE

1980

5 RIDGE TOP HOMES WERE LOST IN A DIABLO WIND FIRE THAT STARTED AT 2PM ON A SATURDAY AFTERNOON IN DECEMBER.

"THE BLAZE, FED BY THICK UNDERBRUSH AND EUCALYPTUS DEBRIS, WAS SO HOT AND FAST THAT THE HOMES LITERALLY EXPLODED."

AN OCTOBER FIRE AT THE SAME LOCATION MIGHT RUN ALL THE WAY TO SHATTUCK

FIVE CITY MAYORS DEMAND THAT A BLUE RIBBON COMMITTEE BE FORMED TO PREPARE A NEW FIRE PLAN FOR THE HILLS

1. FIRES WOULD START IN REGIONAL PARKS EAST OF THE RIDGE.

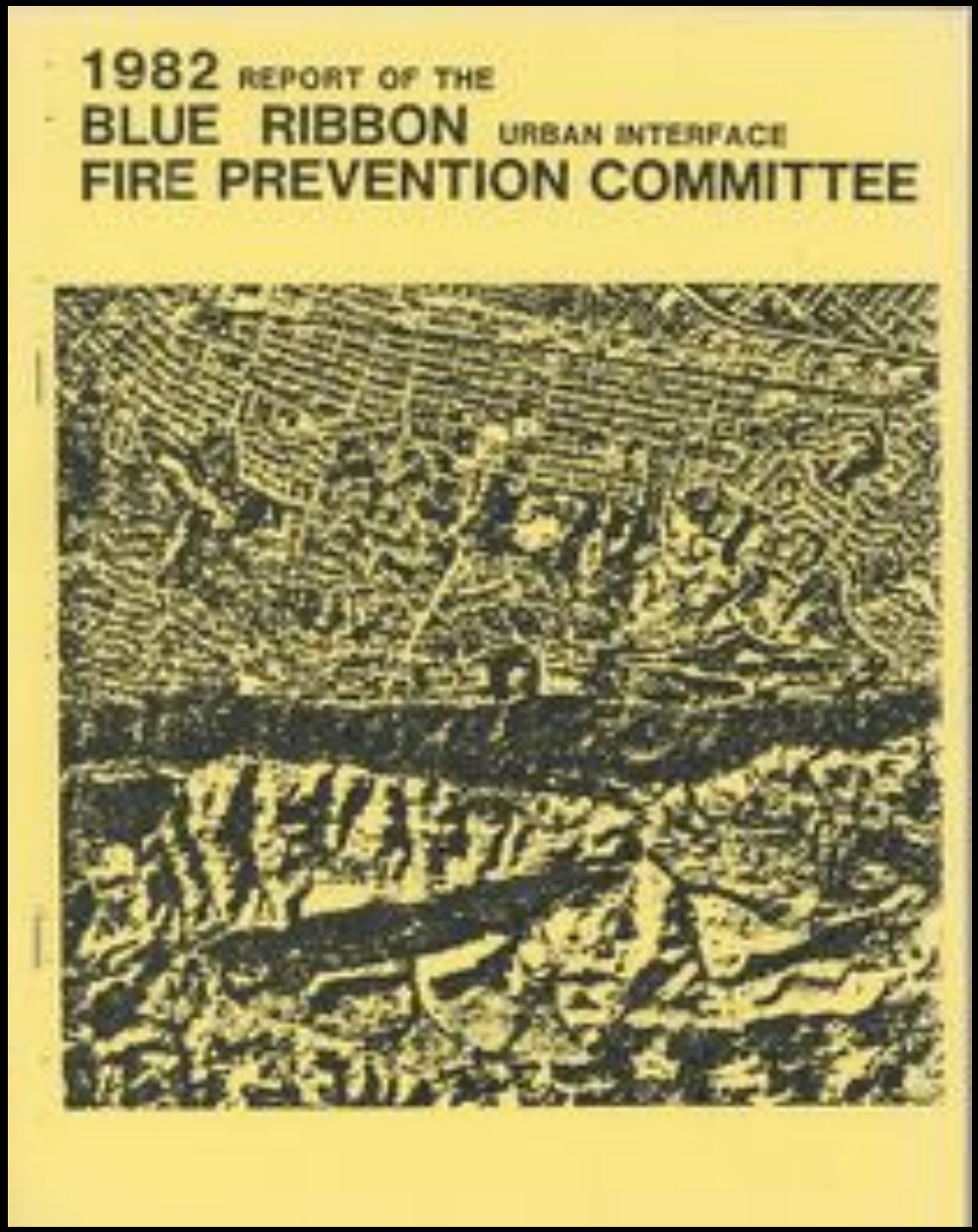
2. FIRES WOULD BURN FAST UPHILL.

3. FUELBREAKS AND QUICK FIREFIGHTING AT THE RIDGE WOULD STOP PARK FIRES BEFORE HOMES ARE INVOLVED.

4. THE "E" ZONE DESIGNATION WOULD RESULT IN FIRE READY INTERFACE RESIDENTIAL AREAS

5. NORMAL FIREFIGHTING

6. FORM A JOINT POWERS AGENCY



NINE YEARS LATER

EVERYONE IN OAKLAND WAS SURPRISED ON OCTOBER 20, 1991

NOTE: VIDEO DOES NOT PLAY IN PDF FORMAT. AT THE END OF THE PDF, PLAY THE SEPARATELY PROVIDED VIDEO OF THE 1991 FIRE.


3,000 BURNING HOMES
THE NIGHT AFTER A ONE DAY FIRE

HOW COULD THIS HAPPEN ?

NO ONE TOLD US !

WHO'S AT FAULT ?

NEVER AGAIN !

The Oakland-Berkeley Hills Fire

By Chief Reginald J. Garcia

Oakland Fire Department

The origin of the fire was on a steep hillside in what some have called a box canyon above state Highway 24 near the entrance to the Caldecott Tunnel. This is a wooded area with heavy underbrush

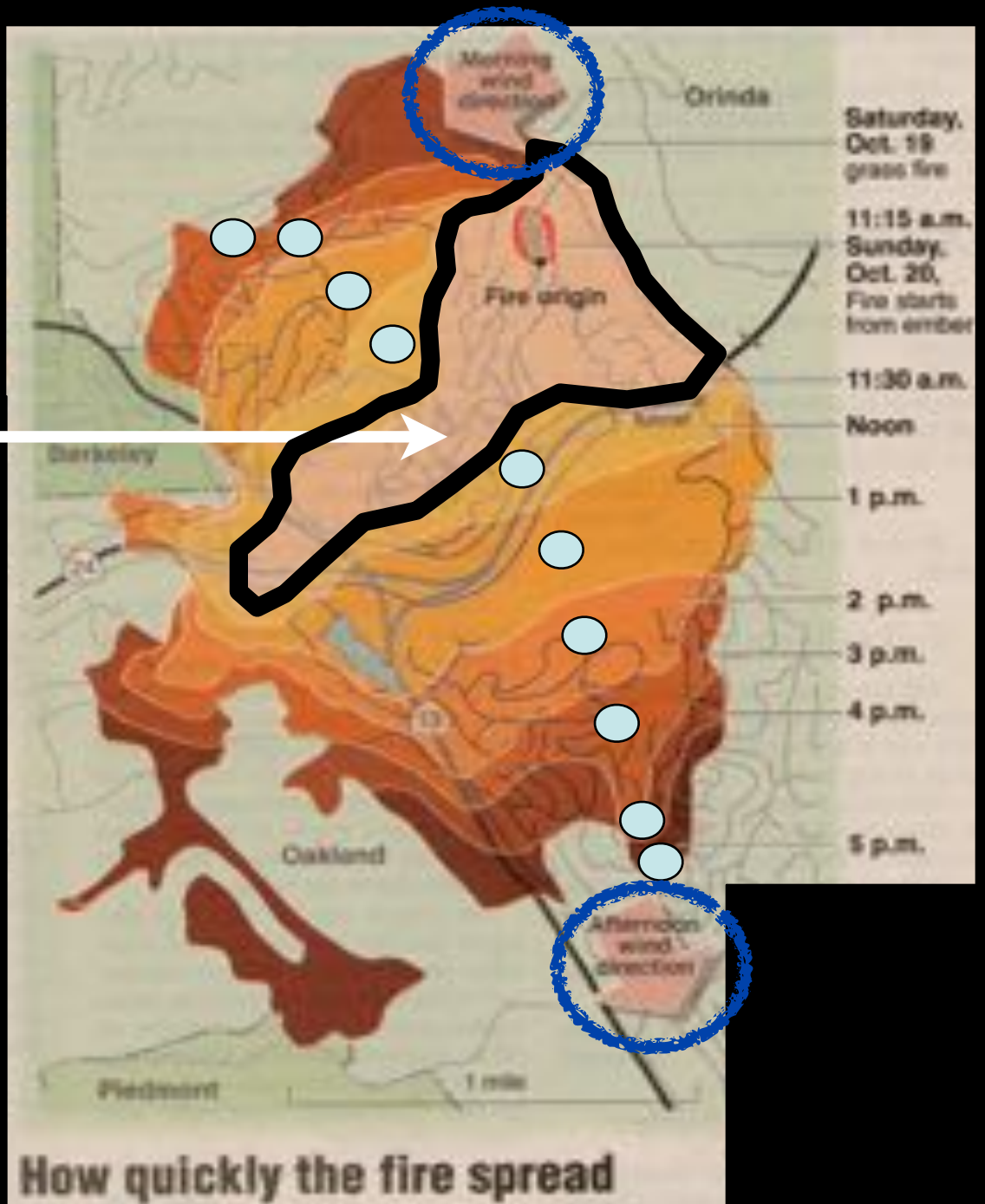
"THIS IS A WOODED AREA WITH HEAVY UNDERBRUSH, NARROW STREETS AND STEEP TERRAIN, POPULATED WITH MANY EXPENSIVE HOMES"

temperatures well into the nineties, the hot dry winds gusted and swirled through five years of drought-dry brush and groves of freeze damaged Monterey Pines and Eucalyptus trees. All the conditions for a major disaster were present that morning of October 20th, 1991."

"THE HOT DRY WINDS GUSTED AND SWIRLED THROUGH FIVE YEARS OF DROUGHT-DRY BRUSH AND GROVES OF FREEZE DAMAGED MONTEREY PINES AND EUCALYPTUS TREES"

TRYING TO STOP THE FIRE IN THIS AREA WAS FUTILE- IT BLEW ONE MILE THROUGH 790 HOMES IN LESS THAN ONE HOUR. ONE HOUSE EVERY 11 SECONDS

450 ENGINES AND 1,500 FIREFIGHTERS



FIVE SIGNIFICANT INVESTIGATIONS

- The Oakland and Berkeley Mayors' Task Force
- The California Office of Emergency Services Fire Fighting Analysis(OES)
- The required FEMA response to the federal disaster declaration

186 RECOMMENDATIONS

- The J. Gordon Routley United States Fire Administration report
- The National Fire Protection Association (NFPA) report

CONSEQUENCES

3,000 homes and 2,000 automobiles destroyed

25 people died and 150 were injured

1,600 acres burned in the fire

100,000 trees burned in the fire

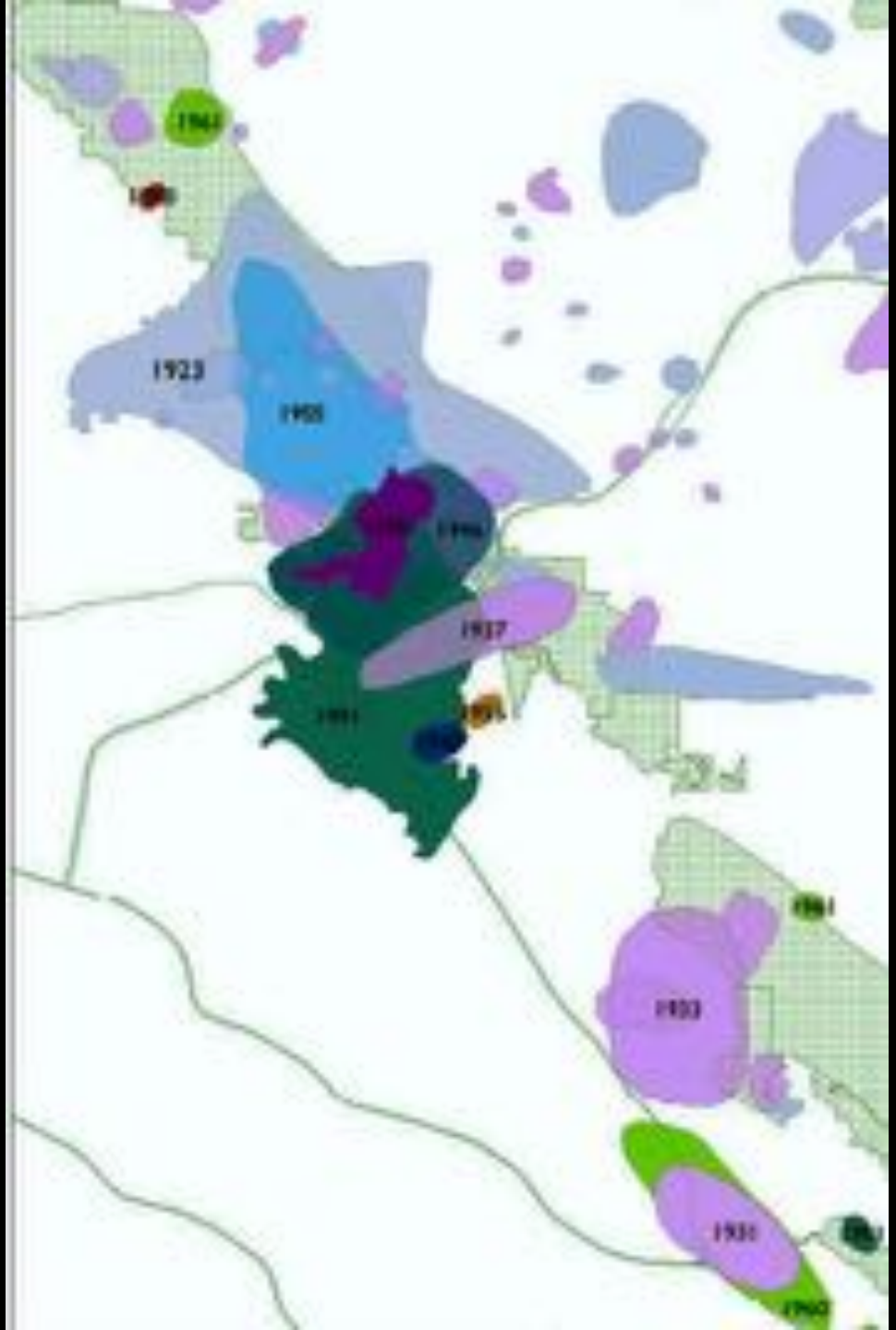
10,000 people were evacuated

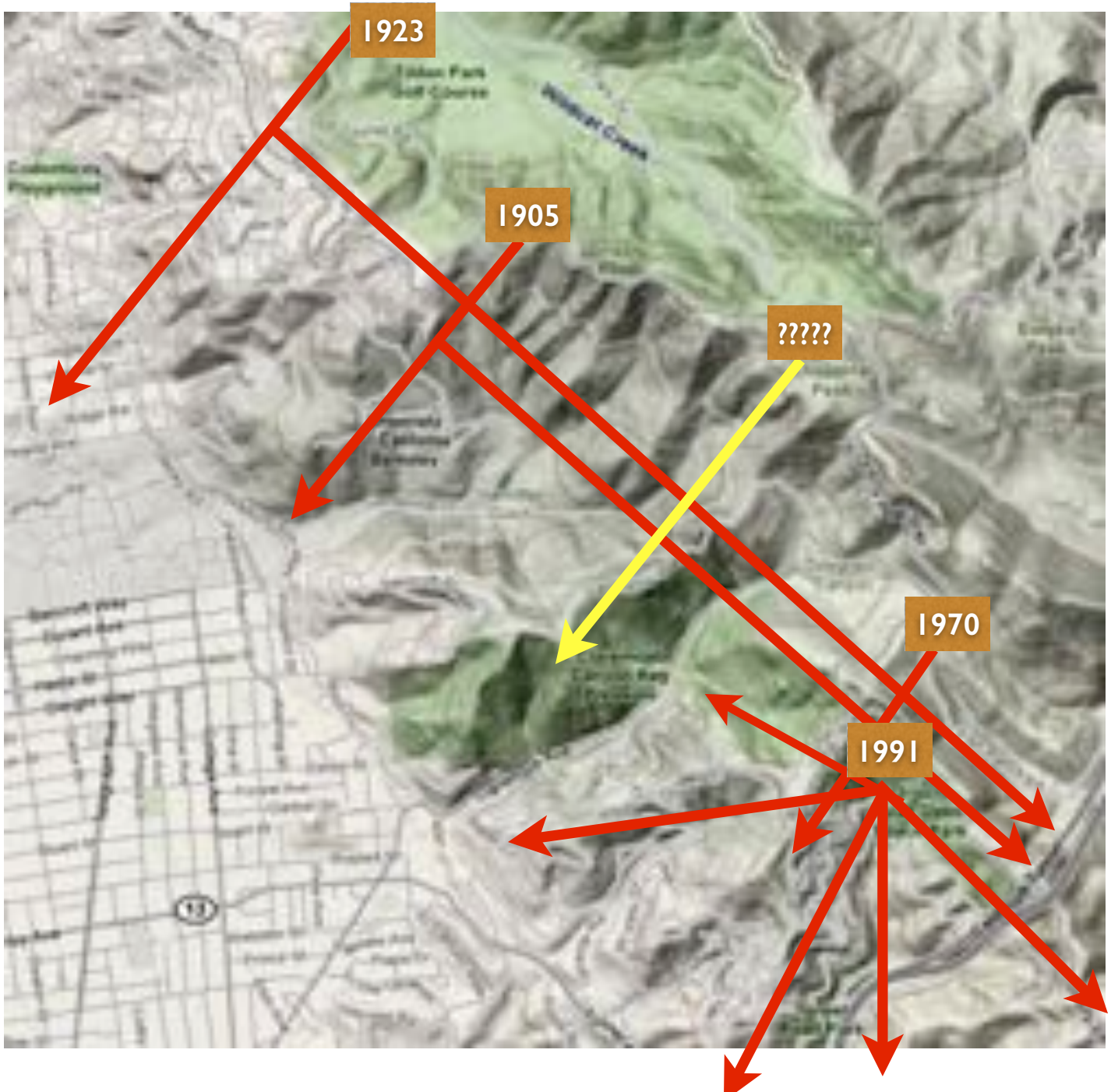
5,000 people were left homeless

4,407 families registered for assistance

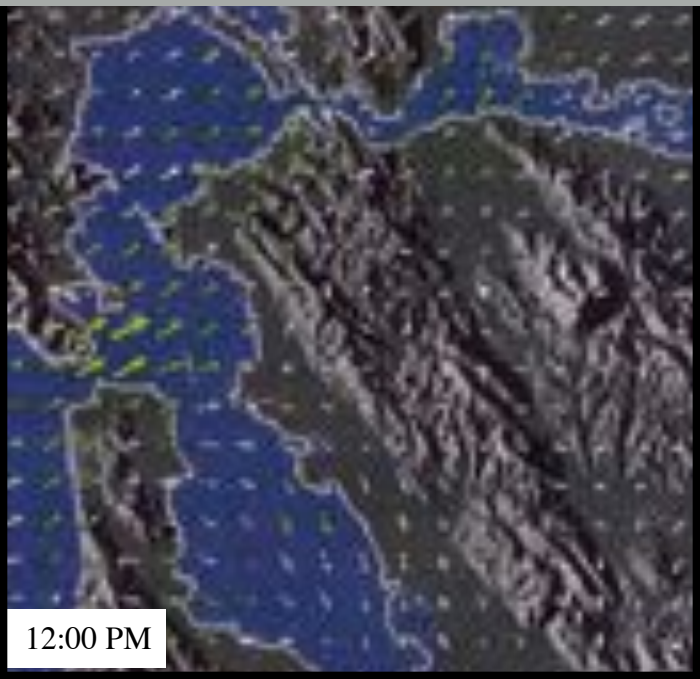
Cost of the fire was more than $1.5 billion dollars

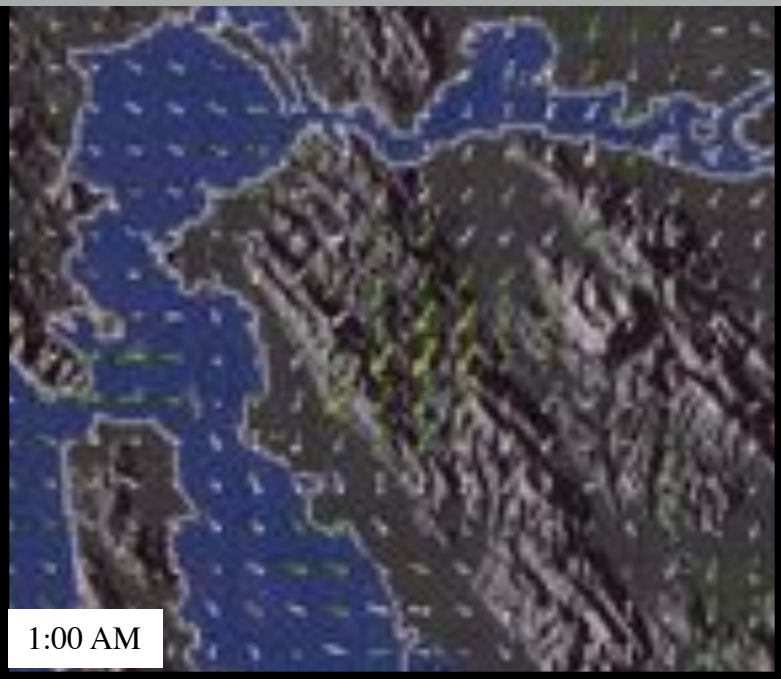
We discovered that the hills had a history of large fires

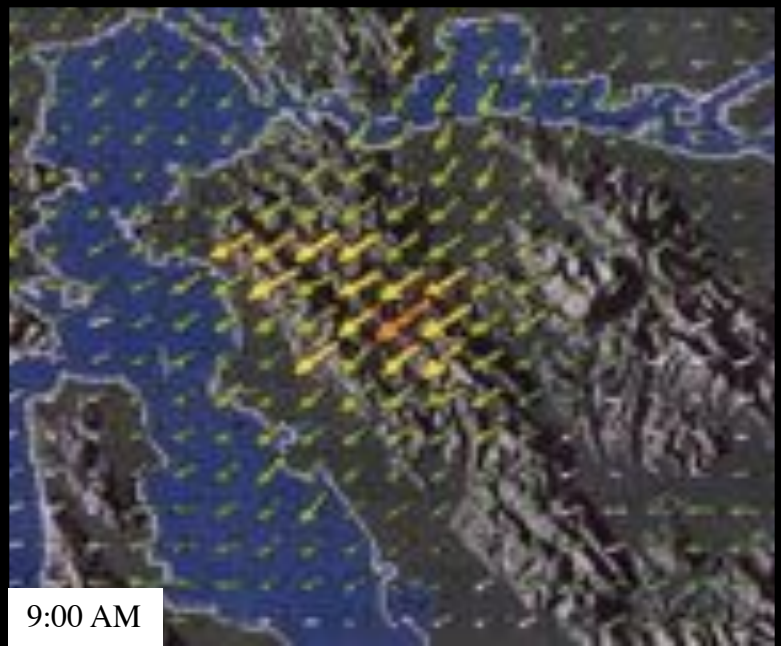



1923
1905
?????
1970
1991

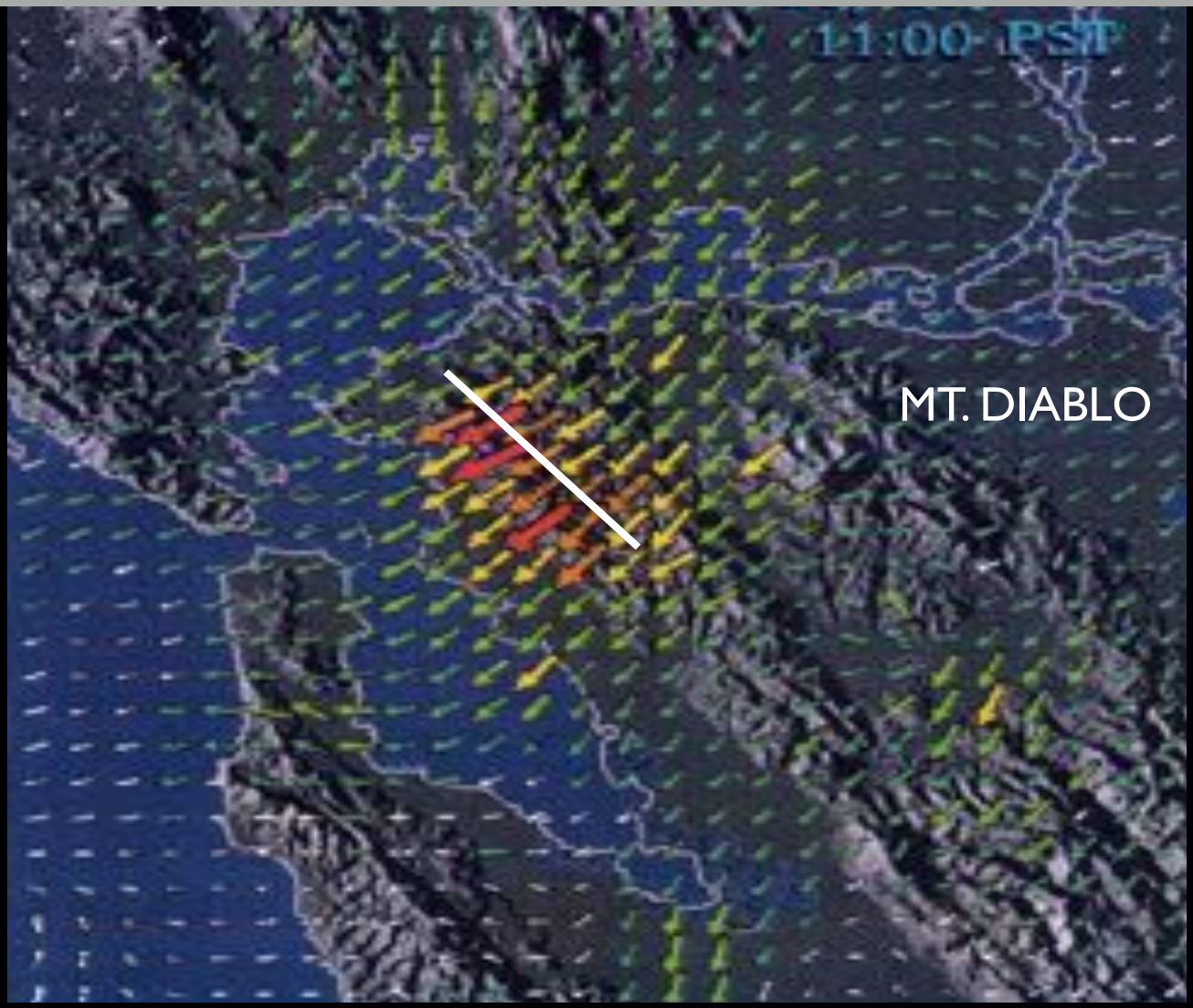
WE NOW UNDERSTAND THAT WINDS WERE THE CRITICAL ENVIRONMENTAL FACTOR







FALL WINDS FROM THE NORTH EAST ARE NOW CALLED DIABLO WINDS

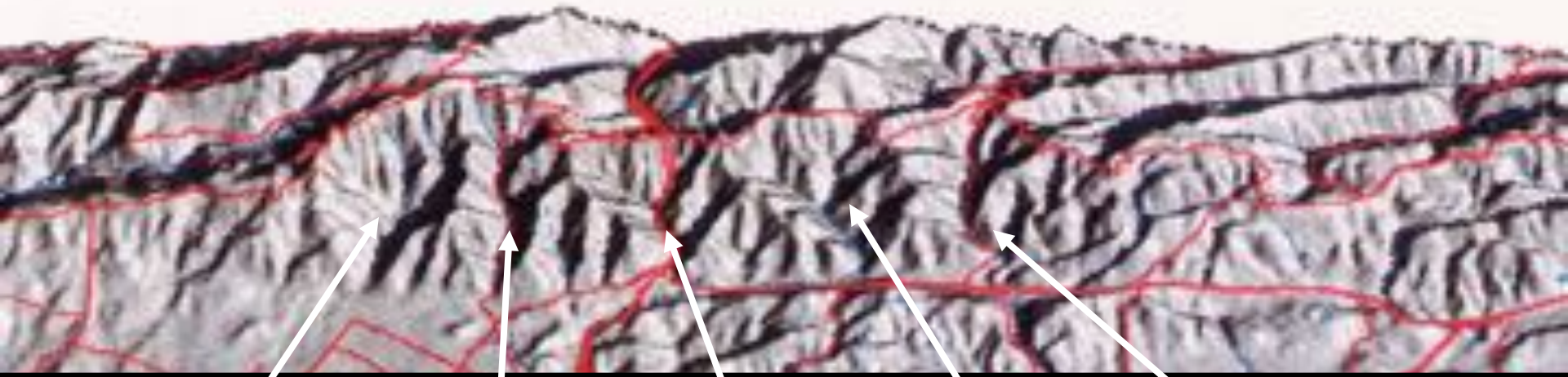


DIABLO WINDS BURN DOWNHILL

Diablo Wind Conditions

Wildland fires are typically wind driven downslope.
Critical ignition and run period = 7 am until noon.
Weather plays a large role in wildland fire size. Hot dry winds can increase fire spread and intensity. Spotting is common.
Under extreme conditions ridge fire can spread to flatlands in 30 minutes.

**DIABLO WINDS BLOW OVER HIGH RIDGES,
AND DOWN VERY STEEP SLOPES**



STRAWBERRY CANYON

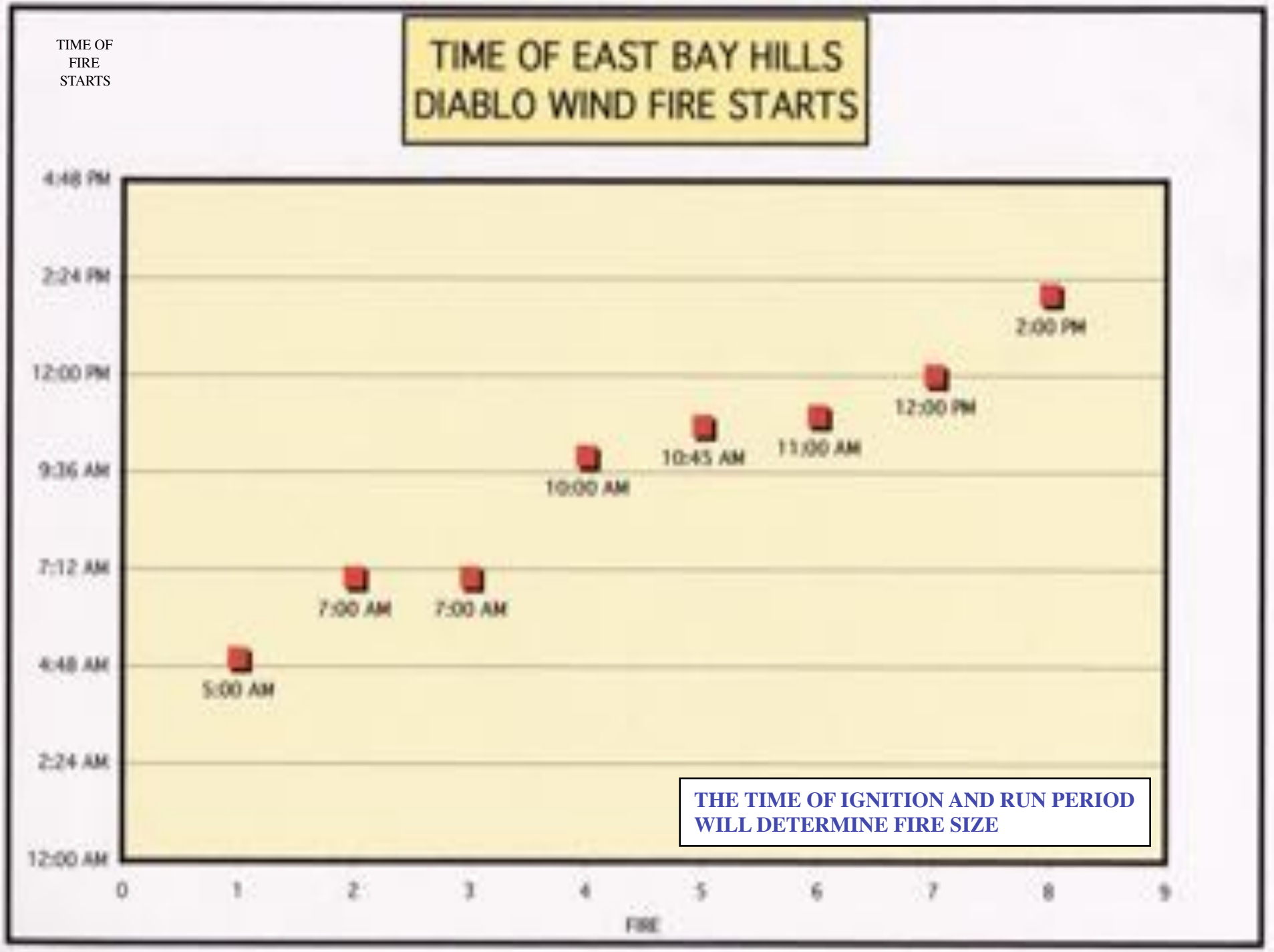
CLAREMONT CANYON

TUNNEL CANYON

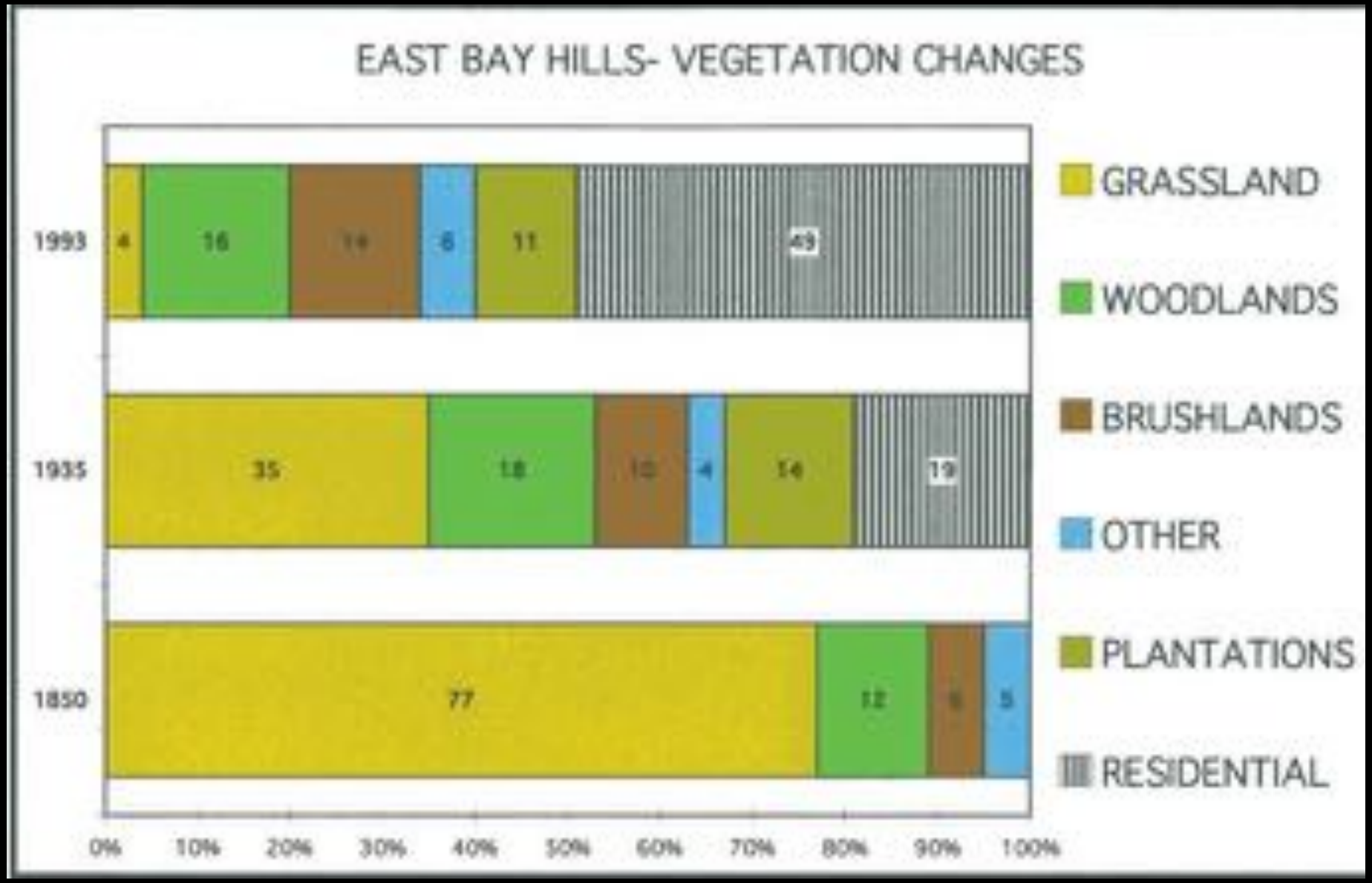
THORNHILL CANYON

SHEPARD CANYON

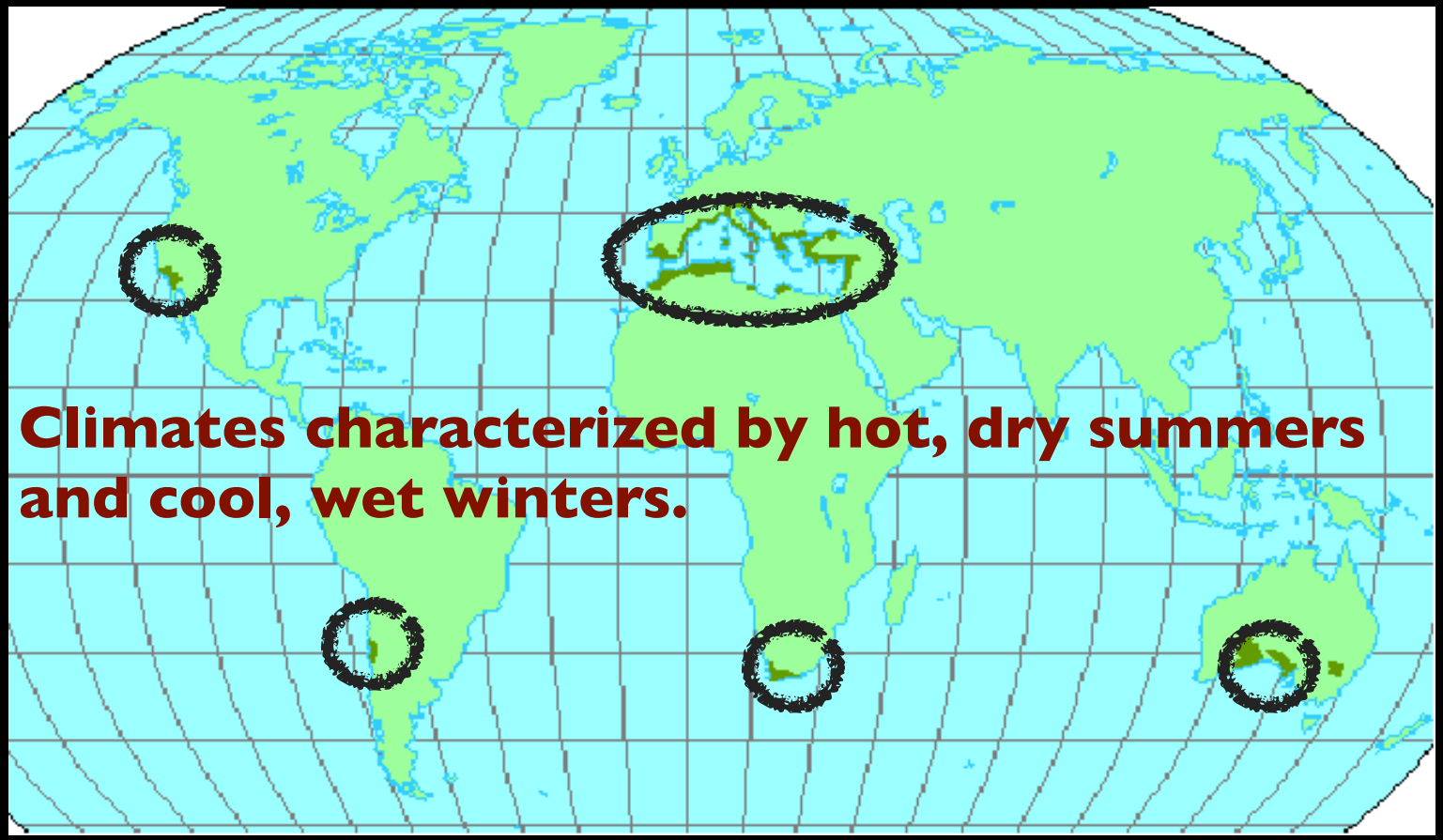
FIVE REVERSE CHIMNEYS WITH POOR ACCESS FOR FIRE FIGHTING CAN FUNNEL DIABLO WINDS INTO DENSE RESIDENTIAL AREAS


TIME OF FIRE STARTS
TIME OF EAST BAY HILLS DIABLO WIND FIRE STARTS
4:48 PM
2:24 PM
12:00 PM
9:36 AM
7:12 AM
4:48 AM
2:24 AM
12:00 AM
5:00 AM
7:00 AM
7:00 AM
10:00 AM
10:45 AM
11:00 AM
12:00 PM
2:00 PM
0
1
2
3
4
5
6
7
8
9
FIRE
THE TIME OF IGNITION AND RUN PERIOD WILL DETERMINE FIRE SIZE

100 YEARS OF CHANGE IN TYPES OF FUEL IN THE HILLS



California Has One of the Worlds Five Mediterranean Ecosystems



With fire adapted vegetation, periodic extreme winds, and periodic uncontrollable wildfire

California Has A History of Cyclical Droughts

EMBERS WERE IDENTIFIED AS A KEY FACTOR FOR FIRE SPREAD

EMBER SPOT FIRE AT TEMESCAL- NOTE FREEWAY TRAFFIC ON HWY. 24

THE EMBER FIRE QUICKLY MOVED INTO ROCKRIDGE RESIDENTIAL AREAS

LAURA MOSLEY SAID HOMEOWNERS WATCHED EMBERS IGNITE TREES THEN HOMES

A Special Report on

Eucalyptus Tree Removal at Lake Temescal

By Laura Mosely

Tra Holloway Bones first became aware of the East Bay firestorm when she looked out her window on Contra Costa Road and saw Eucalyptus trees exploding into flame. Then, her smoke alarms went off and embers rained down the chimney igniting the interior of her house. Although, the fire blocked her escape down the driveway, she found another escape route and got out safely. This is an all too familiar story of the quickness and severity of the Oakland Firestorm on October 20, 1991.

The point is that we now know that firebrands from Eucalyptus trees burning behind Hiller Highlands were apparently responsible for carrying the fire across Highway 24 to Lake Temescal and up the ridge to the Rockridge area. In the future, if the Eucalyptus trees are allowed to flourish on the ridge behind Contra Costa Road, they could potentially contribute to another disastrous fire. We need to protect ourselves now!

As chair of the Park Liaison and Fire Committee, I have met with East Bay Regional Park (EBRP) staff members regarding cutting the Eucalyptus trees as well as some Pine trees on the ridge in Lake Temescal Park that is adjacent to Contra Costa Road. If we act now with the

A community meeting sponsored by EBRP regarding Lake Temescal and tree removal is planned for sometime in April. The park officials say this meeting is the vehicle for homeowners to express their concerns. We need as many people as possible to attend this important community meeting. Many voices produce results. Please call me at (510) 559-8538 for further details.

The next phase of our plan of action is revegetation of the ridge between Lake Temescal and Contra Costa Road. Redwood and Oak trees make good replacement trees because they are native plants and grow rapidly. Also, it is a good idea to plant Hazelnut, Toyon and Elderberry because they are more resistant to fire than the Eucalyptus and Pines they will replace.

The Conservation Corps is very enthusiastic about helping us with the revegetation project. Their involvement would include surveillance of Eucalyptus sprouts and seedling removal, as well as planting of native seedlings and watering them through the establishment period. The Conservation Corps is applying for a FEMA grant which would cover half the cost of the project. We need to encourage the park district to support this revegetation effort.

I would also like to alert property owners to

URBAN WILDLAND INTERMIX ACRES THAT BURNED IN 1991

40%	HOMES WITH TREES AND DENSE LANDSCAPES
3%	ROADS AND HIGHWAYS
43%	**RESIDENTIAL FUEL**
21%	EUCALYPTUS FOREST
10%	MONTEREY PINES
31%	**PLANTED TREE FUEL**
18%	NATIVE SHRUBLAND
5%	COASTAL SCRUB & GRASSLAND
3%	OAK WOODLAND & COASTAL SCRUB
26%	**NATIVE PLANT FUEL**

Source: Comparison of Fuel Load, Structural Characteristics and Infrastructure Before and After the Oakland Hills "Tunnel Fire". Published in 1995 by the USDA Forest Services as Gen. Tech. Rep PSW-GTR-158.

DEFINITIONS MATTER- IT WAS AN URBAN/ INTERMIX FIRE

LESSONS RELEARNED FROM THE OAKLAND-BERKELEY HILLS FIRESTORM
GOLDEN GATE CHAPTER, SOCIETY OF CPCU MAY 28,1993- DON P. MCVEIGH

STATISTICAL SUMMARY AS OF DECEMBER 8, 1992

25 KILLED,

3,810 RESIDENTIAL DWELLINGS DESTROYED- 3,354 HOMES TOTAL LOSSES AND 456 APARTMENTS DESTROYED,

6,128 TOTAL CLAIMS (INCLUDING COMMERCIAL LOSSES),

4,970 INSURANCE POLICIES INVOLVED- 4,356 HOMEOWNER'S POLICIES AND 614 RENTERS/CONDO POLICIES,

49 COMPANIES WITH CLAIMS FROM THE FIRESTORM,

$1,733,355,605 TOTAL ESTIMATED LOSS AS OF OCTOBER 20, 1992,

69.39% OF COMPANIES UPGRADED POLICIES,

380 CONSUMER COMPLAINTS FILED AGAINST COMPANIES FOR CLAIMS ADJUSTMENT ABUSE


AN URBAN/INTERMIX FIRE
WEST OF THE RIDGE
SKYLINE AND GRIZZLY PEAK ROAD

THE MOST SIGNIFICANT 43% OF THE ACRES THAT BURNED


SATURDAY FIRE-
ALL VEGETATION
SUNDAY FIRE-
HOMES AND VEGETATION


BEFORE


AFTER

WOOD RESIDENCE SURROUNDED BY EUCS AND PINE ON BUCKINGHAM BEFORE THE 1991 FIRE

DESTROYED RESIDENCE SURROUNDED BY PINE TREES ON BUCKINGHAM AFTER THE 1991 FIRE


BEFORE


AFTER

HOMES INTERMIXED WITH TALL EUCALYPTUS AND PINE TREES

HOMES INTERMIXED WITH TALL EUCALYPTUS AND PINE TREES

CHARING CROSS ROAD
WITH
EUCALYPTUS GROVE
AND EBMUD TANK

CHARING CROSS ROAD BLOCKED BY CARS AND EUCALYPTUS FLAMES- 11 PEOPLE DIE HERE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DEFINITIONS MATTER-
IT BECAME AN URBAN
FIRE HERE


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TUNNEL CANYON AFTER THE 1991 FIRE

TUNNEL CANYON AFTER THE 1991 FIRE

HILLER HIGHLANDS AFTER THE 1991 FIRE

NORTH EDGE OF THORNHILL CANYON AFTER THE 1991 FIRE

UPPER ROCKRIDGE AFTER THE 1991 FIRE

THE RESIDENTIAL FOREST LEGACY OF FRANK HAVENS TODAY

OAKLAND RESIDENTIAL FOREST

OAKLAND RESIDENTIAL FOREST


OAKLAND RESIDENTIAL FOREST


OAKLAND RESIDENTIAL FOREST
DEFINITIONS MATTER-
IT WOULD BE A
FOREST FIRE HERE


COULD THIS HOME SURVIVE A DIABLO WIND FIRE?


COULD THIS HOME SURVIVE A DIABLO WIND FIRE?


COULD THIS HOME SURVIVE A DIABLO WIND FIRE?

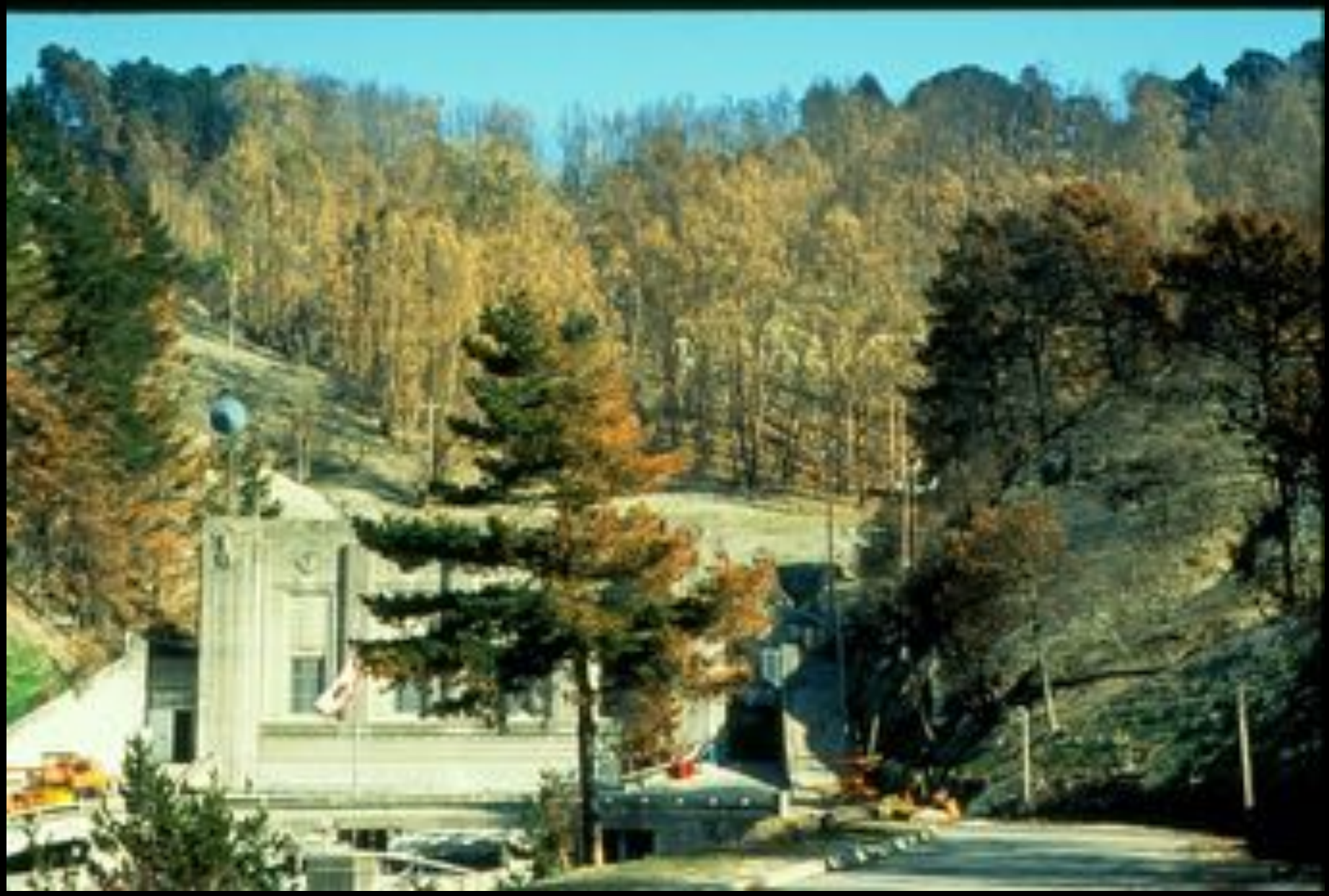

COULD HOMES SURVIVE A DIABLO WIND FIRE HERE?

THE VEGETATION FIRE- 57% OF THE ACRES THAT BURNED

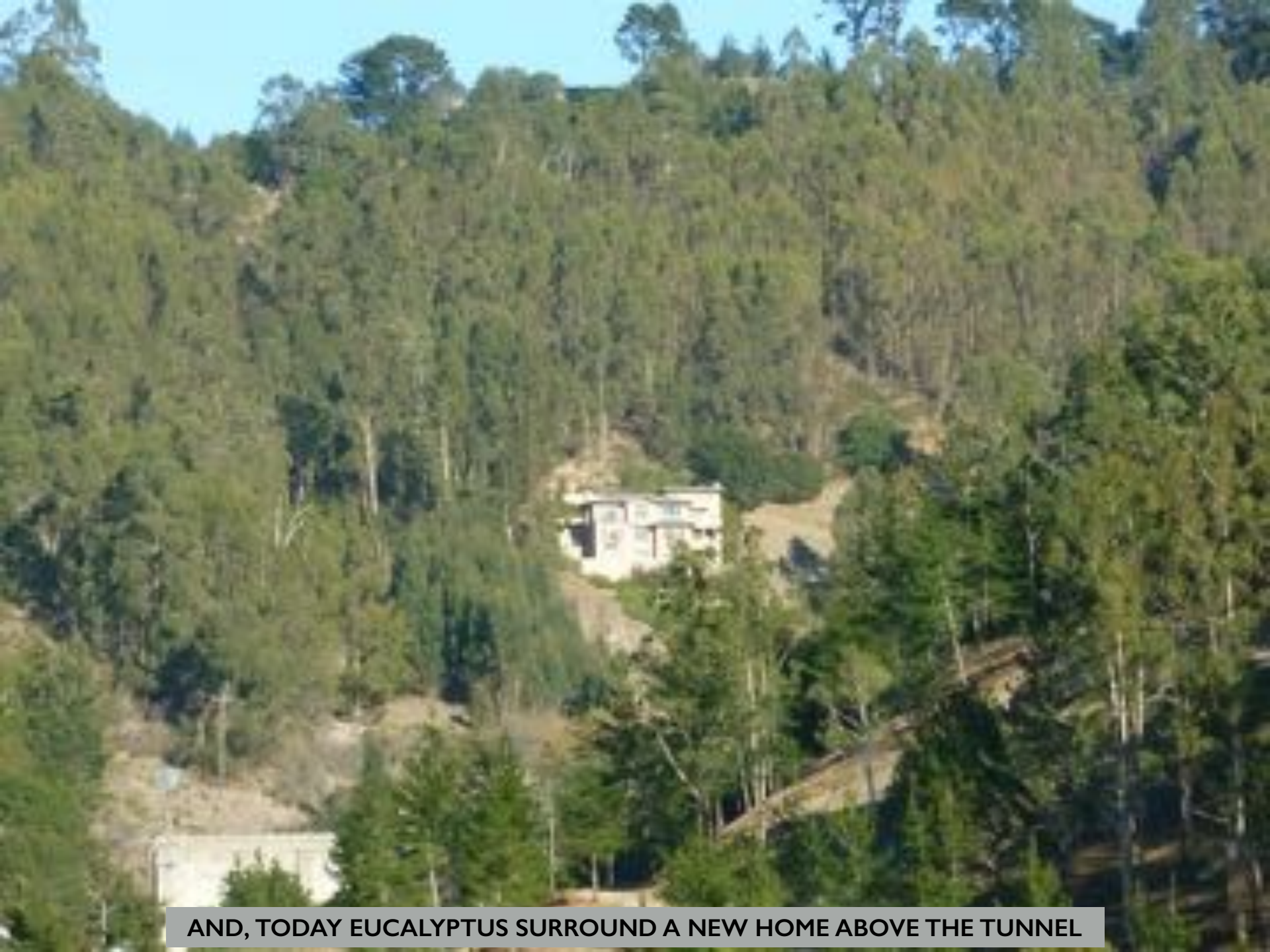
PINE'S DON'T SURVIVE FIRE. FEMA PAID $1 MILLION TO REMOVE DEAD PINES ON OAKLAND PARKLAND

GRIZZLY OPEN SPACE PINE SEEDLINGS- 2002 (OAKLAND'S NORTH HILLS-SKYLINE PDM FEMA AREA)

HILLER HIGHLANDS MANAGED HILLSIDE AFTER 600 PINES WERE REMOVED



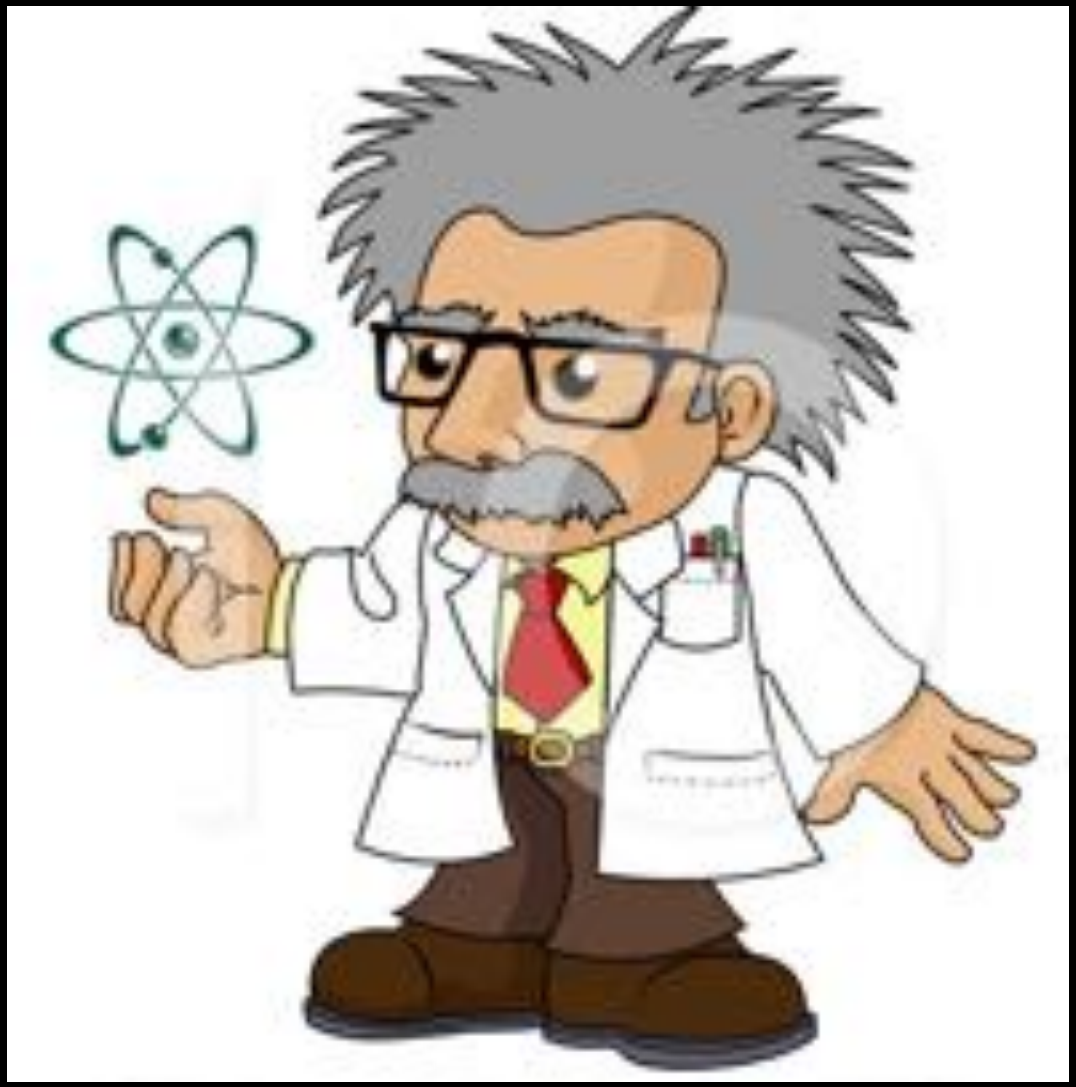
EUCALYPTUS OFTEN SURVIVE FIRE, AND WERE NOT REMOVED



AND, TODAY EUCALYPTUS SURROUND A NEW HOME ABOVE THE TUNNEL

EUCALYPTUS HILLSIDE ABOVE OAKLAND NORTH BALLFIELDS

THERE IS A WILDLAND FIRE HAZARD REDUCTION SCIENCE FOR THE MOUNTIANS

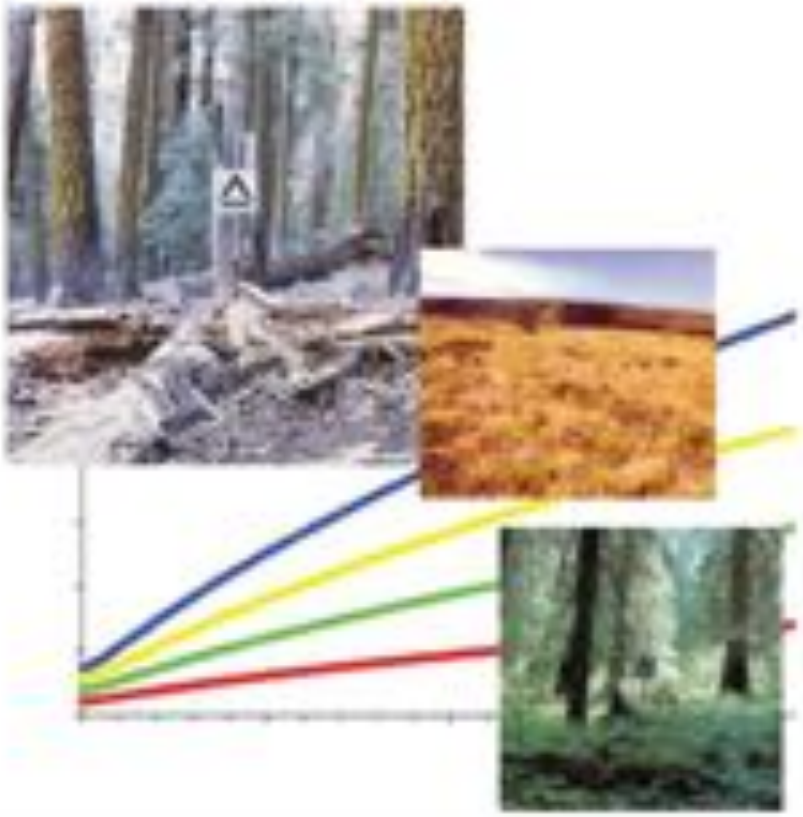


Aids to Determining Fuel Models For Estimating Fire Behavior

Hal E. Anderson

Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model

Joe H. Scott
Robert E. Burgan



FOREST HAZARDS OVER TIME- POTENTIAL FOR EXPLOSIVE STAND REPLACING FIRE

FOREST HAZARDS OVER TIME- FIRE POTENTIAL EXISTS BUT MATURE TREES MIGHT SURVIVE

FOREST HAZARDS OVER TIME- LOW RISK, PERIODIC GROUND FIRES KEEP AREA SAFE

FOREST HAZARDS OVER TIME

100 YEARS OF FIRE EXCLUSION

THINNING AND PRESCRIBED FIRE

A SCIENCE BASED SOLUTION FOR FOREST'S

CALIFORNIA FIRE SCIENCE CONSORTIUM

JOINT FIRE SCIENCE PROGRAM

Research Brief for Resource Managers

Release:	Contact:	Phone:	Email:
August 2013	Chris Lee	(619) 718-1484	cnlee@berkeley.edu

Northern California Fire Science Delivery Consortium, 1650 Leeds Broadway, Eureka, CA 95503-4000

Basic Principles of Forest Fuel Reduction Treatments

Agee, J.K., C.N. Skinner. 2005. Basic principles of forest fuel reduction treatments. Forest Ecology and Management 211: 83-96.
http://www.treesearch.fs.fed.us/pubs/24191

Wildfire severity and size are of increasing concern in the western United States, where fire exclusion and subsequent fuel accumulations have resulted in uncharacteristically large, severe wildfires. This pattern of increased fire risk is well recognized on both management and policy levels, yet the fire community still lacks clear, broadly applicable solutions to the wildfire problem.

A number of treatment options are available on the local level, and land managers employ these options in various combinations and at different time intervals and spatial scales. These options are the focus of a large body of literature, wherein their efficacy, cost, and social acceptability have been examined in detail. However, it can be difficult to navigate this information, and there is a need for a clear, concise analysis of the relative merits of different treatments.

In this paper, Agee and Skinner reviewed related literature, simulated fire behavior in different treatment types, and considered five real-world examples of fuels treatments and wildfire. Using these methods, they distilled a set of basic principles underlying effective treatments that reduce fuels and limit wildfire severity and extent.

Firesafe principles

The authors identify four "firesafe principles" that are essential to successful fuel reduction treatments. Based on their analyses, effective fuel treatments should do the following:

1) Reduce surface fuels.
2) Increase height to the base of live crowns.
3) Decrease canopy density.
4) Keep large trees of fire-resistant species.

These four principles address the drivers of intense surface fires and crown fires, which include surface fuels, ladder fuels, and dense canopies.

Management Implications

- Fuel reduction treatments are most likely to be successful if they are planned within a landscape context that takes into account historical burning patterns, rates of fuel accumulation, and the scale of treatment needed for the particular landscape.
- Successful fuel reduction treatments to prevent severe and/or large wildfires in the western U.S. will address the reduction of surface fuels, ladder fuels, and canopy bulk density.
- Both prescribed fire and thinning can be used to reduce fuels. However, thinning techniques have little effect on surface fuels, while prescribed fire alone has little effect on canopy density.
- Fuels reduction treatments must be repeated at intervals appropriate for the particular landscape to maintain effectiveness.
- Thinning treatments should be accompanied by post-thinning surface fuel reduction treatments.

1. REDUCE SURFACE FUELS
2. INCREASE HEIGHT TO BASE OF LIVE CROWN
3. DECREASE CROWN DENSITY- 50%
4. THIN TO KEEP LARGE FIRE RESISTANT TREES

THE PARK FOREST LEGACY OF FRANK HAVENS TODAY

TILDEN, JEWELL LAKE


TILDEN NATURE AREA


TILDEN NATURE AREA


TILDEN NATURE AREA


TILDEN, LAKE ANZA


TILDEN, BEHIND BRAZIL BUILDING


TILDEN, MINERAL SPRINGS

TILDEN MONTEREY PINE


KENNEDY GROVE


CLAREMONT CANYON, UC


CLAREMONT CANYON, UC


CLAREMONT CANYON, UC RIDGE

SIBLEY, VISITOR CENTER


SIBLEY, ROUND TOP


SIBLEY, PAST FIRE AREA


CHABOT, BRANDON TRAIL


CHABOT, MARKSMANSHIP ROAD

CHABOT, FIRE SEEDLINGS


CHABOT, REDTAIL RIDGE

The Park District EIR (and the FEMA EIS) Identified two methods to reduce fire risk.

OPTION 1 **"It should be noted that selective thinning, pruning and removal of ground and ladder fuels are the recommended actions for the majority of the approximately 1,360 acres of eucalyptus stands within the identified treatment areas (see Table III-2 in the Project Description chapter of this EIR.)"**

OPTION 2 **"There is also widespread agreement that the replacement of eucalyptus and pine plantations with plant communities that present a lower wildfire risk and a higher concentration of native plants is an effective way to reduce fire risk.**

"Removal of eucalyptus or pine stands is the recommended action when the eucalyptus or pines:
(1) are located along a ridgeline close to homes to minimize ember production and distribution during a wildfire under Diablo wind conditions;

(2) have heavy concentrations of understory fuels and are located adjacent to designated strategic fire routes or major roadways used for evacuation and emergency access; and

(3) are located above a well-developed understory of native plant communities e.g., oak-bay woodland."

TWO EAST BAY FIRE HAZARD REDUCTION OPTIONS

THIN & MAINTAIN

KEEP SELECTED EUCS & PINES, AND REMOVE NATIVE UNDERSTORY

REMOVE & RESTORE

REMOVE SELECTED EUCS & PINES, AND KEEP UNDERSTORY NATIVES

ENVIRONMENTAL IMPACTS AND COSTS ARE VERY DIFFERENT

FOREST THIN AND MAINTAIN OPTION

CHABOT CAMPGROUND AFTER THINNING- 120 TREES PER ACRE

THINNED EUCALYPTUS WITH PILE OF EXCESS STEMS

TILDEN NIKE GROVE BEFORE THINNING

TILDEN NIKE GROVE THINNING UNDERWAY- JULY 20, 2016


POINT PINOLE- 3,500 TREES PER ACRE


POINT PINOLE- 58 TREES PER ACRE

THE UC FOUNDERS THINNED GROVE- 30 TREES PER ACRE


THIS IS GROUND ZERO FOR UC'S
HILL FIRE MITIGATION PROGRAM
SHOULD THE UNIVERSITY KEEP EUCALYPTUS OR KEEP UNDERSTORY NATIVE TREES ??

UC GROVE IN CLAREMONT CANYON

UC GROVE IN CLAREMONT CANYON

THE REMOVE AND RESTORE OPTION

UC SELECTED REMOVAL OF EUCALYPTUS TO SAVE LESS FLAMMABLE NATIVE OAKS AND BAYS

UC CLAREMONT CANYON- KEEP UNDERSTORY BAY AND OAKS

SELECTIVE REMOVAL OF EUCALYPTUS TO SAVE NATIVE OAKS AND BAYS


SELECTIVE REMOVAL OF EUCALYPTUS TO SAVE NATIVE OAKS AND BAYS

SELECTIVE REMOVAL OF EUCALYPTUS TO SAVE NATIVE OAKS AND BAYS

SELECTIVE REMOVAL OF EUCALYPTUS TO SAVE NATIVE OAKS AND BAYS

GARLON STUMP SPROUT CONTROL, APPLIED BY LICENSED APPLICATOR

IF YOU DON'T KILL THE STUMP THE FIRST TIME


MOBILE CHIPPER

THE REMOVE AND RESTORE OPTION

RESTORED SOUTH SIDE OF CLAREMONT CANYON

THE REMOVE AND RESTORE OPTION

RESTORED SOUTH SIDE OF LAKE CHABOT ROAD

THE REMOVE AND RESTORE OPTION

RESTORED AND MANAGED REDWOOD PRAIRIE

VEGETATION MANAGEMENT FOR FIRE SAFETY IN THE EAST BAY HILLS

A model for fire prevention designed to reduce fire risk, encourage healthy ecosystems, and reduce the financial burden on taxpayers.

PLANNING FOR DRY TIMES:

Given the very serious drought conditions facing California, combined with longer and more serious wildfire seasons due to climate disruption, it's more important than ever to prioritize fire prevention in our vegetation management strategies for the East Bay hills.

Ever since the Great Fire of 1991 devastated the East Bay hills, the Sierra Club has worked closely with fire experts, public officials, fire fighters, and fellow environmental groups like the Golden Gate Audubon Society, the California Native Plant Society, and the Claremont Conservancy to design an ecologically- and fiscally-sustainable model for fire management that not only reduces the risk of fires, but also promotes diverse and healthy ecosystems.

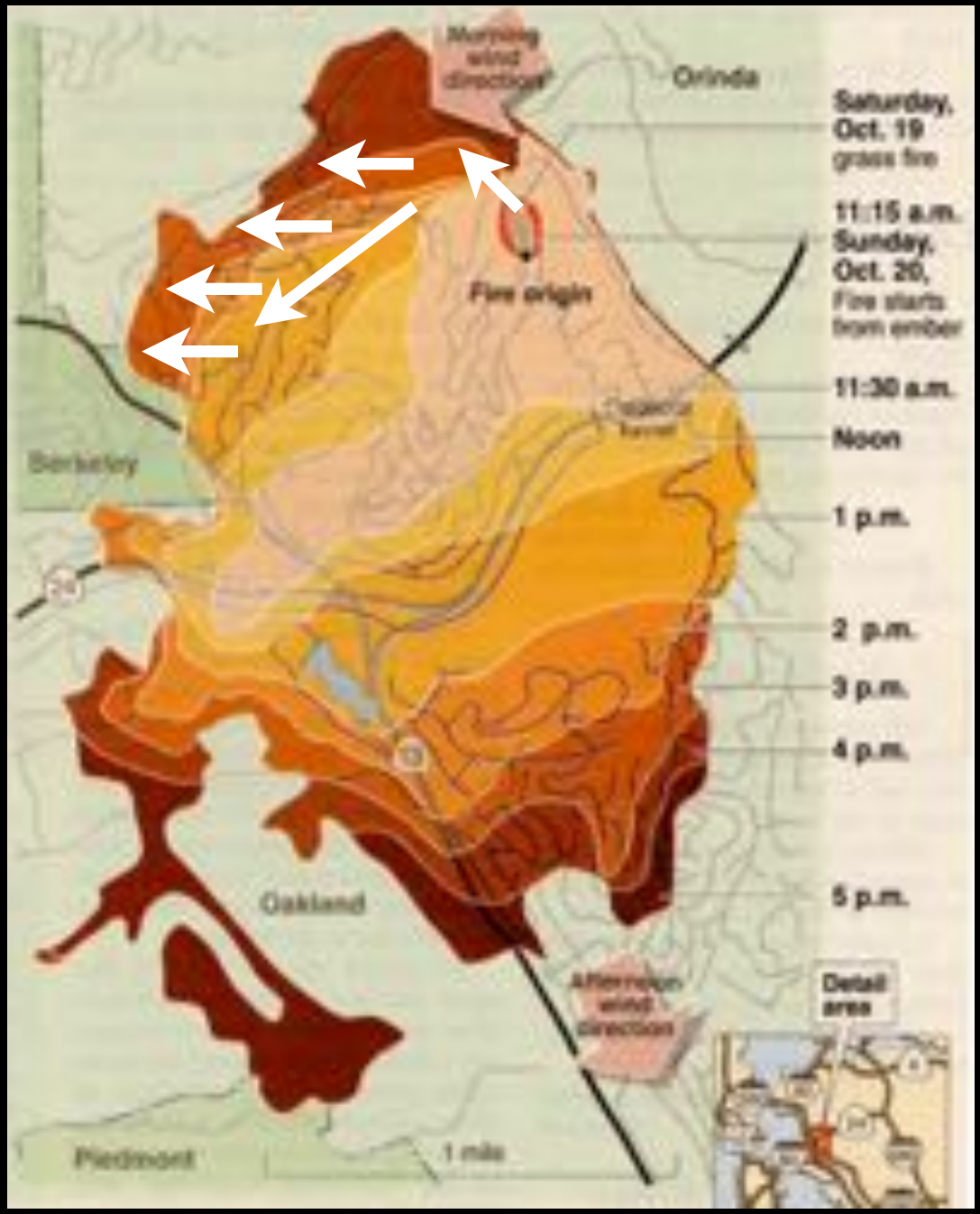
When it comes to preventing fire, replacing flammable invasives with diverse ecosystems of fire-resistant native species is the best, safest, and cheapest option.

The Sierra Club's program for vegetation management can be summarized as the "Three R's"

1. Remove the most flammable and ember-generating species in select areas considered most at risk for fire along the urban-wild interface of the East Bay hills;
2. Restore those areas with more naturally fire-resistant native trees and plants; and
3. Re-establish greater biodiversity of flora and fauna, including endangered species like the Alameda whipsnake.

WHAT ABOUT CLAREMONT CANYON AND ALVARADO RIDGE ?

ALVARADO RIDGE AFTER THE 1991 FIRE


Morning wind direction
Orinda
Saturday, Oct. 19 grass fire
11:15 a.m. Sunday, Oct. 20, Fire starts from ember
Fire origin
11:30 a.m.
Noon
Berkeley
1 p.m.
2 p.m.
3 p.m.
4 p.m.
Oakland
5 p.m.
Afternoon wind direction
Detail area
Piedmont
1 mile

FIRE IN GWIN CANYON

GWIN CANYON- SIMONSON HOUSE AT THE BOTTOM OF DRURY ROAD

HOUSE THAT WAS LOST IN THE 1970 AND 1991 FIRE AT THE BOTTOM OF DRURY ROAD

NEW EMBER RESISTANT HOUSE ON RIDGE ABOVE GWIN CANYON SURVIVED THE FIRE 1991

THESE HOMES DID NOT SURVIVE THE FIRE IN GWIN CANYON 1991

GWIN CANYON

1991

GWIN CANYON

1991

GWIN CANYON 1992

GWIN CANYON 1992

GWIN CANYON

1992

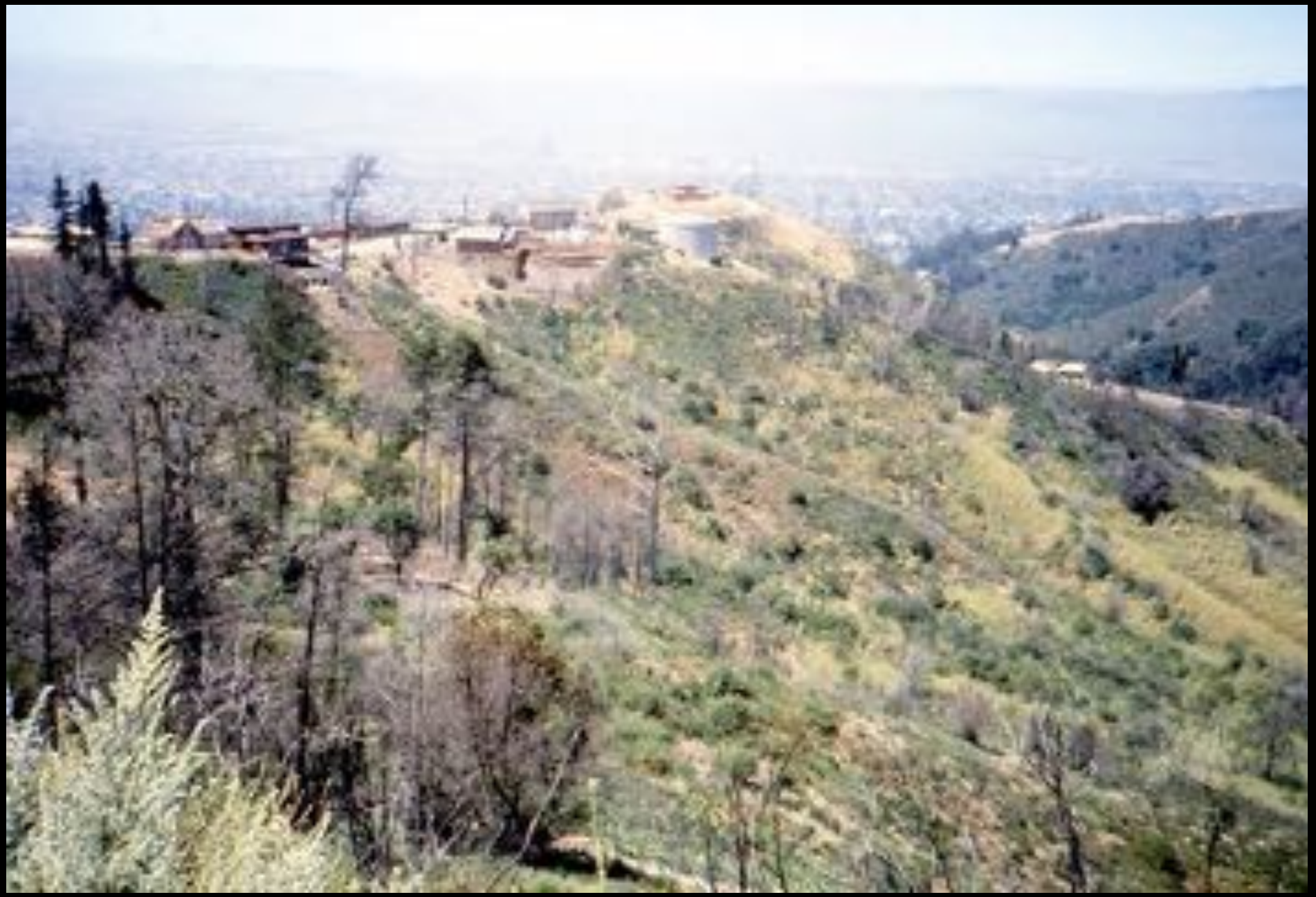
GWIN CANYON

1992

GWIN CANYON 1992

GWIN CANYON 1993

GWIN CANYON 1993



GWIN CANYON

1994

GWIN CANYON 1998

GWIN CANYON

2001

GWIN CANYON

2003

GWIN CANYON 2003

GWIN RIDGE TOP HOUSES BURNED IN 1970 AND 1991- ARE THEY PREPARED TO SURVIVE THE NEXT FIRE ?

WHERE COULD A WIND DRIVEN FIRE BE STOPPED IN THIS STEEP CANYON ?

WHERE COULD A WIND DRIVEN FIRE BE STOPPED IN THIS STEEP CANYON ?

WHAT ABOUT THE BERKELEY HILLS TODAY ?

TILDEN MANAGED RESIDENTIAL EDGE FUELBREAK- FROZEN EUCALYPTUS REMOVED

IF A BERKELEY HILLS FIRE HAPPENED TODAY, IT MIGHT BE VERY DIFFERENT THAN IN 1923 !!

THIS IS THE CURRENT INTERFACE. COULD A WIND DRIVEN FIRE BE STOPPED HERE ?
WOULD THESE HOMES SURVIVE A WILDFIRE?

COULD THIS HOME SURVIVE A DIABLO WIND FIRE?

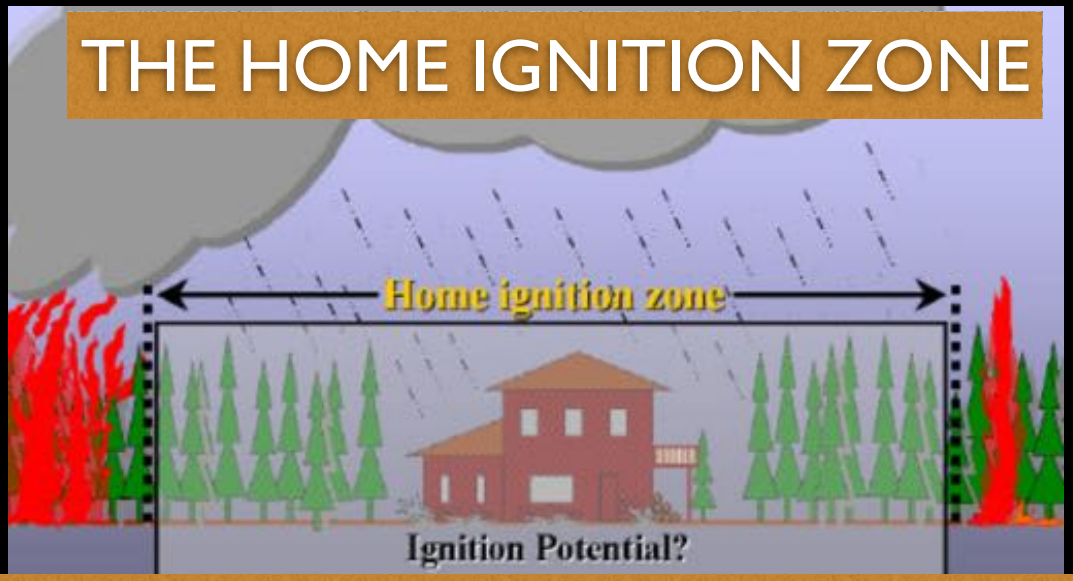

COULD THIS HOME SURVIVE A DIABLO WIND FIRE?

BLOCKED RESIDENT EVACUATION AND FIRE TRUCK ACCESS

WHAT IS THE FIRE HAZARD REDUCTION SCIENCE FOR THE URBAN WILDLAND INTERMIX OR INTERFACE NEAR HOMES ?

THIS HOME BURNED FROM LACK OF DEFENSIBLE SPACE, LOFTED EMBERS, AND NO FIRE SUPPRESSION- THE BURNING HOME IGNITED THE TREES

THE HOME IGNITION ZONE

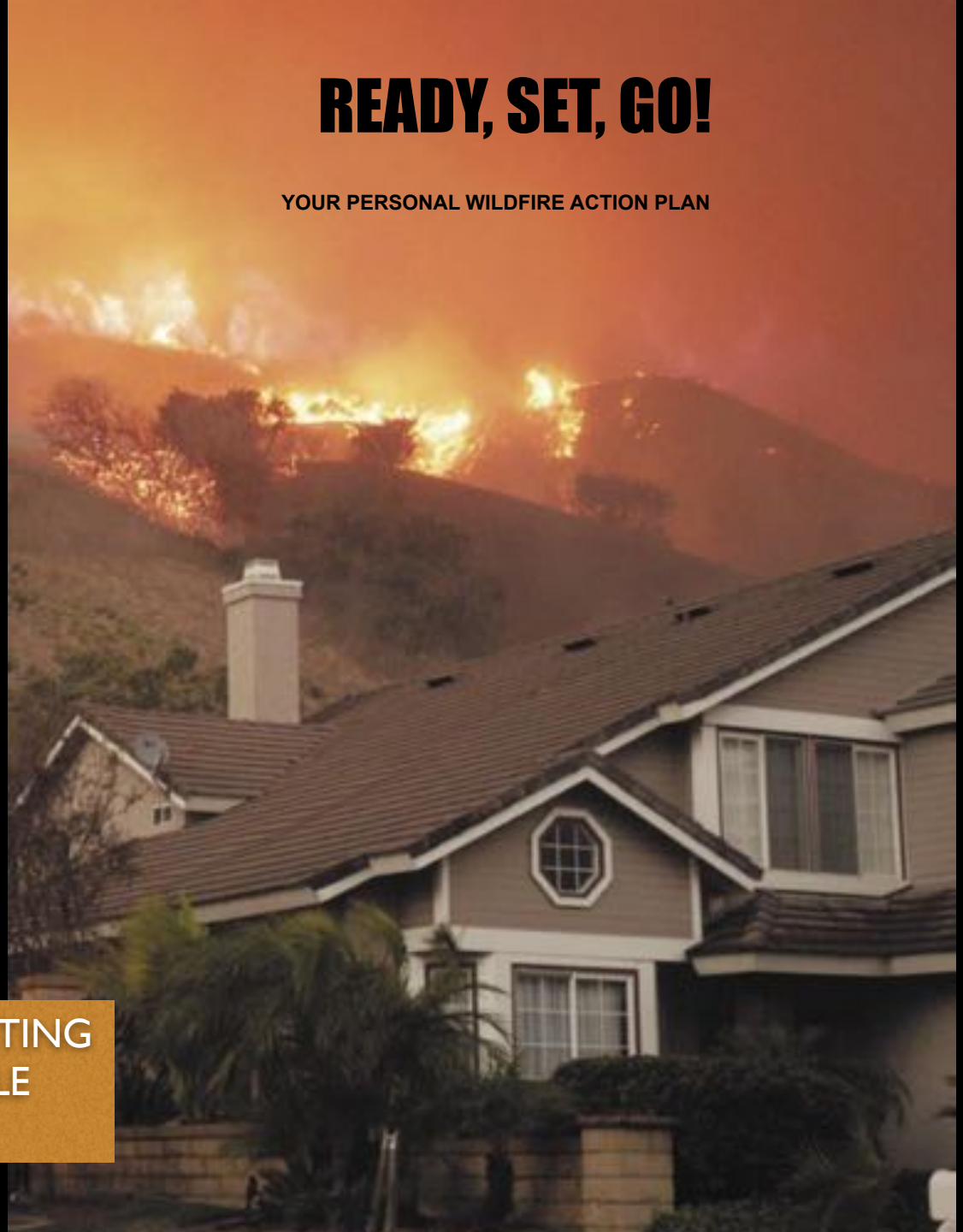


RESEARCH AND EXPERIENCE SHOW THAT THIS ZONE
AND AN EMBER RESISTANT HOME ARE THE KEY FOR SURVIVABILITY

SCIENCE FOR HOMES
IN THE FOREST-
JACK COHEN, USFS

100' OF DEFENSIBLE SPACE, AND EMBER RESISTANT HOME

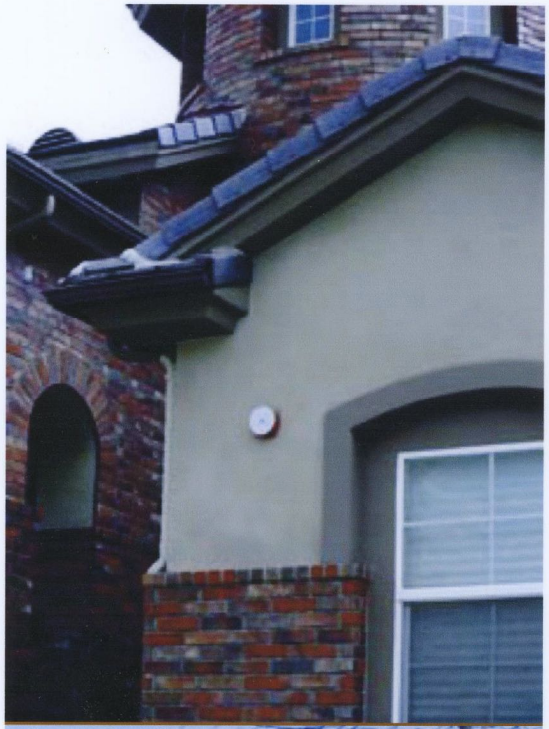
ON STEEP SLOPES IT'S 200'



SCIENCE FOR PROTECTING HOMES AND PEOPLE IN CALIFORNIA

MAINTAIN DEFENSIBLE SPACE

BE READY- PREPARE YOUR HOME



ROOFS

Roofs are the most vulnerable surface where embers land because they can lodge and start a fire. Roof valleys, open ends of barrel tiles and rain gutters are all points of entry.

EAVES

Embers can gather under open eaves and ignite exposed wood or other combustible material.

VENTS

Embers can enter the attic or other concealed spaces and ignite combustible materials. Vents in eaves and cornices are particularly vulnerable, as are any unscreened vents.

WALLS

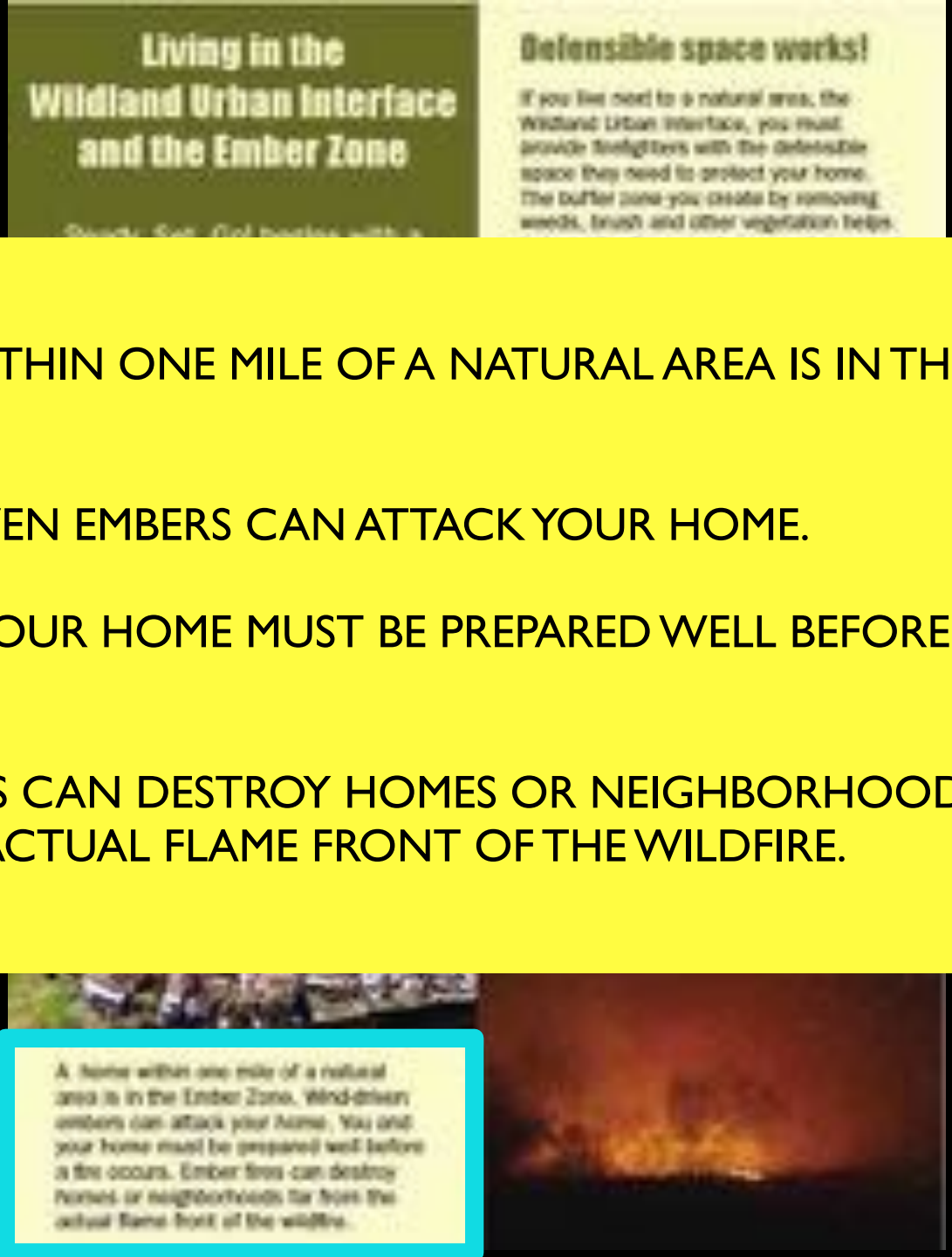
Combustible siding or other combustible or overlapping materials provide surfaces or crevices for embers to nestle and ignite.

WINDOWS and DOORS

Embers can enter gaps in doors, including garage doors. Plants or combustible storage near windows can be ignited from embers and generate heat that can break windows and/or melt combustible frames.

BALCONIES and DECKS

Embers can collect in or on combustible surfaces or the undersides of decks and balconies, ignite the material and enter the home through walls or windows.



A HOME WITHIN ONE MILE OF A NATURAL AREA IS IN THE EMBER ZONE.

WIND-DRIVEN EMBERS CAN ATTACK YOUR HOME.

YOU AND YOUR HOME MUST BE PREPARED WELL BEFORE A FIRE OCCURS.

EMBER FIRES CAN DESTROY HOMES OR NEIGHBORHOODS FAR FROM THE ACTUAL FLAME FRONT OF THE WILDFIRE.

The Maybecks 1925 Cottage in the Berkeley Hills was clad in Bubblestone. It was expanded over time, and served as their principal residence until the end of their lives. Yet, no defensible space in 2016!

Maybeck's 1937 Wallen- His son's home above Wildcat Canyon
GOAL: RAIN AND FIRE PROOF WITH METAL ROOF AND CONCRETE SIDEWALLS
Note: oak trees with great defensible space in 2016

EAST BAY HILL FIRE ZONE ARCHITECTURE- 80 YEARS OF TRADITION UNIMPEDED BY PROGRESS !

GET READY | Prepare Your Family

- ☐ Create a **Family Disaster Plan** that includes meeting locations and communication plans and practice it regularly. Include in your plan the evacuation of large animals such as horses.
- ☐ Have fire extinguishers on hand and train your family how to use them.
- ☐ Ensure that your family knows where your gas, electric and water main shut-off controls are and how to use them.
- ☐ Plan several different evacuation routes.
- ☐ Designate an emergency meeting location outside the fire hazard area.
- ☐ Assemble an emergency supply kit as recommended by the American Red Cross.
- ☐ Appoint an out-of-area friend or relative as a point of contact so you can communicate with family members who have relocated.
- ☐ Maintain a list of emergency contact numbers posted near your phone and in your emergency supply kit.
- ☐ Keep an extra emergency supply kit in your car in case you can't get to your home because of fire.
- ☐ Have a portable radio or scanner so you can stay updated on the fire.

YOU MAY ONLY HAVE 15 MINUTES !!

ORGANIZED AFTER THE 1991 FIRE TO COORDINATE AGENCY FIRE SUPPRESSION AND VEGETATION MANAGEMENT

THE EAST BAY HILLS EMERGENCY FORUM WAS FORMED IN 1992 BY A LETTER OF INTENT

To consider fire-related standards, fire suppression fuel management, equipment, and training,

To evaluate hill area fire hazards,

To provide a forum for decision makers to build consensus,

To demonstrate a united and coordinated effort,

To serve as a possible intermediary step for a more formal local or regional organization

1995 HILLS EMERGENCY FORUM PROGRAM & PLAN

Fire Hazard Mitigation Program

&

Fuel Management Plan

for the

East Bay Hills

Technical Appendices

Fire Hazard Program

&

Fuel Management Plan

for the

East Bay Hills

Urban-Wildland Interface Mitigation

Policy Programs

Background Materials

THE ONLY COMPREHENSIVE PLAN FOR THE EAST BAY HILLS

Table of Contents

3 MILES WIDE AND 19.3 MILES LONG STUDY AREA- 58 SQUARE MILES

35,OOO ACRE STUDY AREA
16,170 ACRES ARE RESIDENTIAL WITH 28,000 HOMES

18,400 ACRES ARE WILDLAND
5,900 ACRES OF OAK/BAY WOODLAND or SUCCESSIONAL WOODLAND
3,700 ACRES OF GRASSLAND
3,700 ACRES OF SHRUBLAND
3,500 ACRES OF EUCALYPTUS AND PINE FOREST
1,600 ACRES OF REDWOODS AND RIPARIAN WOODLAND

Urban-Wildland Intermix Hazard Assessment

There is no existing modeling program to predict fire behavior where urban development is predominant or intermixed with relatively low areas of wildlands. The computer modeling program BEHAVE was not utilized since its supporting fuel models do not recognize structures nor differentiate between vegetation common to our domestic landscapes. In these areas a proxy approach was used to identify the factors that relate to fire behavior, house survivability, and the ability to suppress a fire. Two categories were used to identify widely recognized contributing factors:

1. Structural Materials: Investigators classified the percentage of wood roofs and wood siding/decking materials.
2. Vegetation: The amount of "defensible space" clearance was identified as well as 5 critical components. Investigators classified the general surface fuel density, aerial fuel density (canopy cover), vertical continuity/ ladder fuel density, tree height and dominant vegetation fuel species flammability index.

Relative hazard was established by field investigation that evaluated the developed portions of the study area based not on the conditions of an individual property or structure, but on the characteristics of "neighborhoods." The investigating team evaluated groups of structures to establish "neighborhoods" of similar physical attributes. These neighborhoods generally do not correlate to the socially recognized neighborhoods except where the structures and landscapes were developed and maintained with similar features. In most cases the "neighborhood" represent a cluster of structures and landscapes with, similar fire hazard characteristics.

The rating system includes a weighted ranking to provide appropriate emphasis on the most critical factors based on fire behavior and structure survival. The relative weighting assigned to each factor is:

Roofs	75%
Siding & Decking	25%
Subtotal Structure Components	**100%**
Overall Defensible Space	25%
Surface Fuel Density	25%
Aerial Fuel Density	10%
Vertical Continuity	20%
Tree Canopy Height	10%
Dominant Species Flammability	10%
Subtotal Landscape Components	**100%**

The rating system results in three categories of relative hazard that combine to assess the neighborhood's potential role in fire moderate

Structure hazards are evaluated based on the amount of wood roofs & wood siding/ decking in neighborhoods.

The urban-wildland intermix is evaluated for structural & landscape hazards to allow each "neighborhood" a unique mitigation response.

3,200 INDIVIDUAL INVENTORIES WERE COLLECTED FOR RESIDENTIAL AREAS. AT LEAST ONE FOR EACH STREET IN THE EAST BAY HILL STUDY AREA.

DATA COLLECTED FOR:

- **HOME ROOFING**
- **HOME SIDING**) ……..…40%
- **YARD SURFACE FUELS**
- **AERIAL FUELS**
- **LADDER FUELS**
- **FLAMMABILITY OF VEGETATION** ……40%
- **TREE HEIGHT**
- **DEFENSIBLE SPACE**
- **ROADS**……..…20%

HAZARD RATINGS WERE THEN DEVELOPED FOR AREAS OF COMMON FEATURES

Structure Hazards Rating in the Urban -Wildland Intermix

Extreme Hazard

High Hazard

Moderate Hazard

Study Area Wildlands - See High Hazard Areas in Study Area Wildlands for Rating

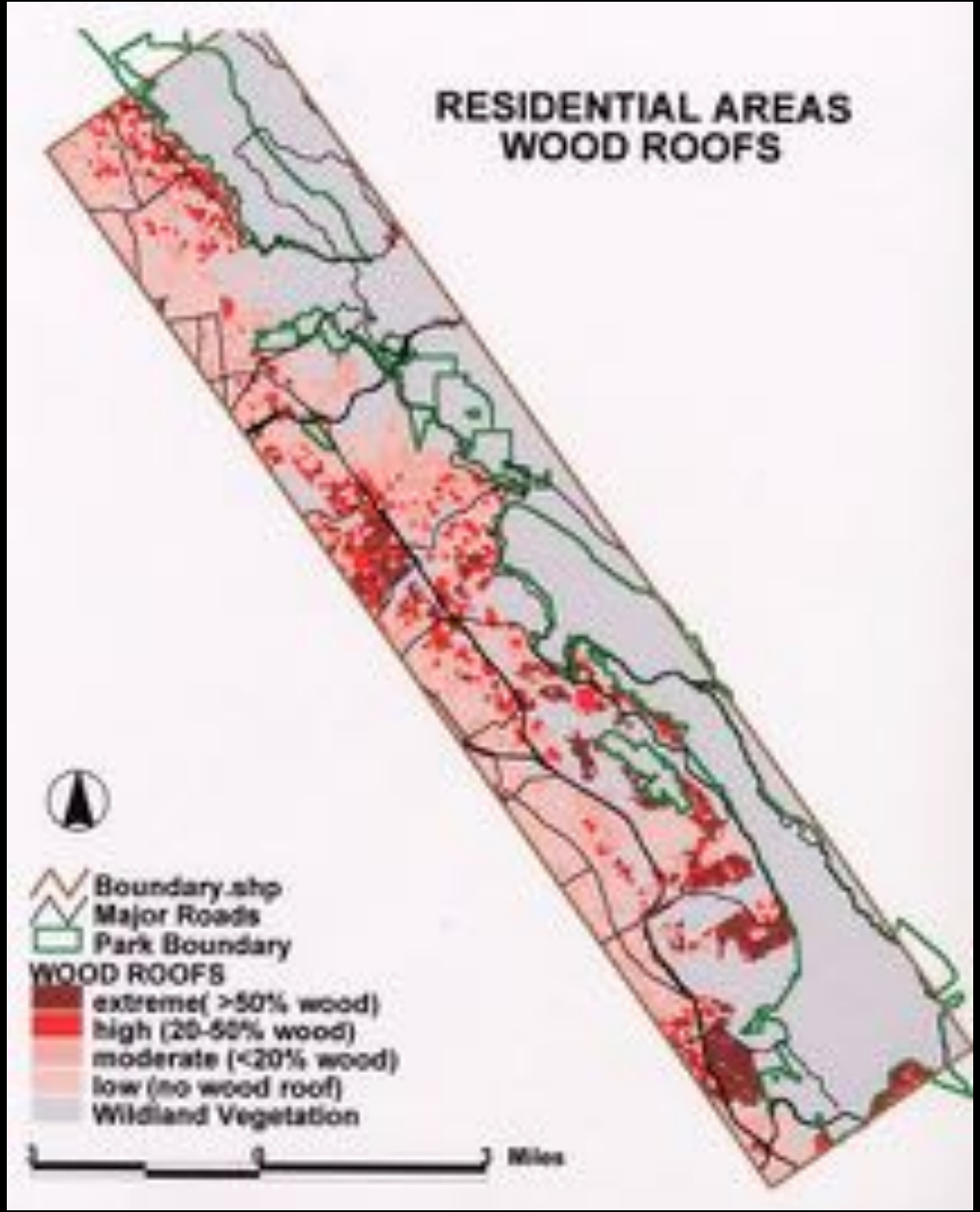
Vegetation Hazards Rating in the Urban -Wildland Intermix

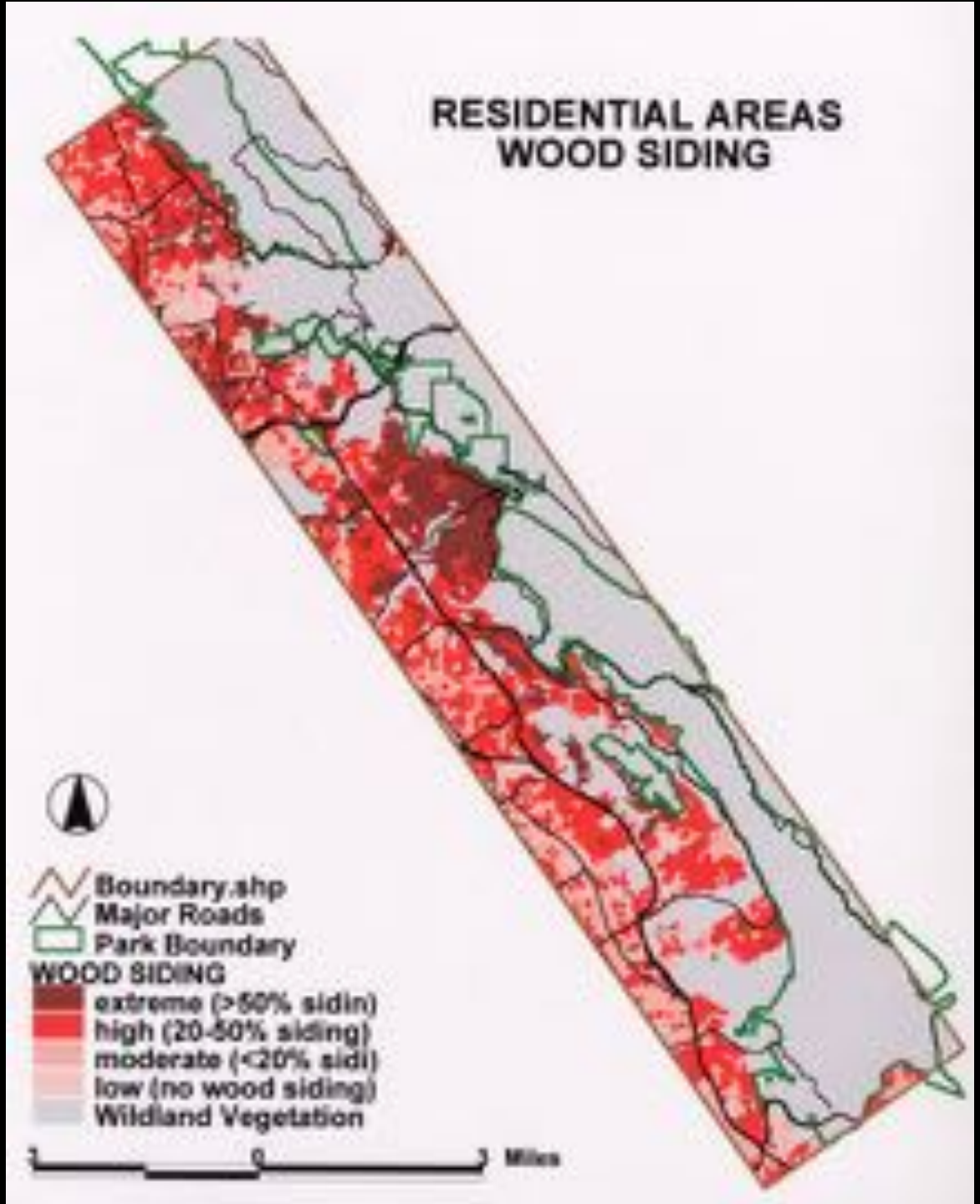
Extreme Hazard

High Hazard

Moderate Hazard

Study Area Wildlands - See High Hazard Areas in Study Area Wildlands for Rating


RESIDENTIAL AREAS
WOOD ROOFS
Boundary.shp
Major Roads
Park Boundary
WOOD ROOFS
extreme(>50% wood)
high (20-50% wood)
moderate (<20% wood)
low (no wood roof)
Wildland Vegetation
Miles


RESIDENTIAL AREAS
WOOD SIDING
Boundary.shp
Major Roads
Park Boundary
WOOD SIDING
extreme (>50% sidin)
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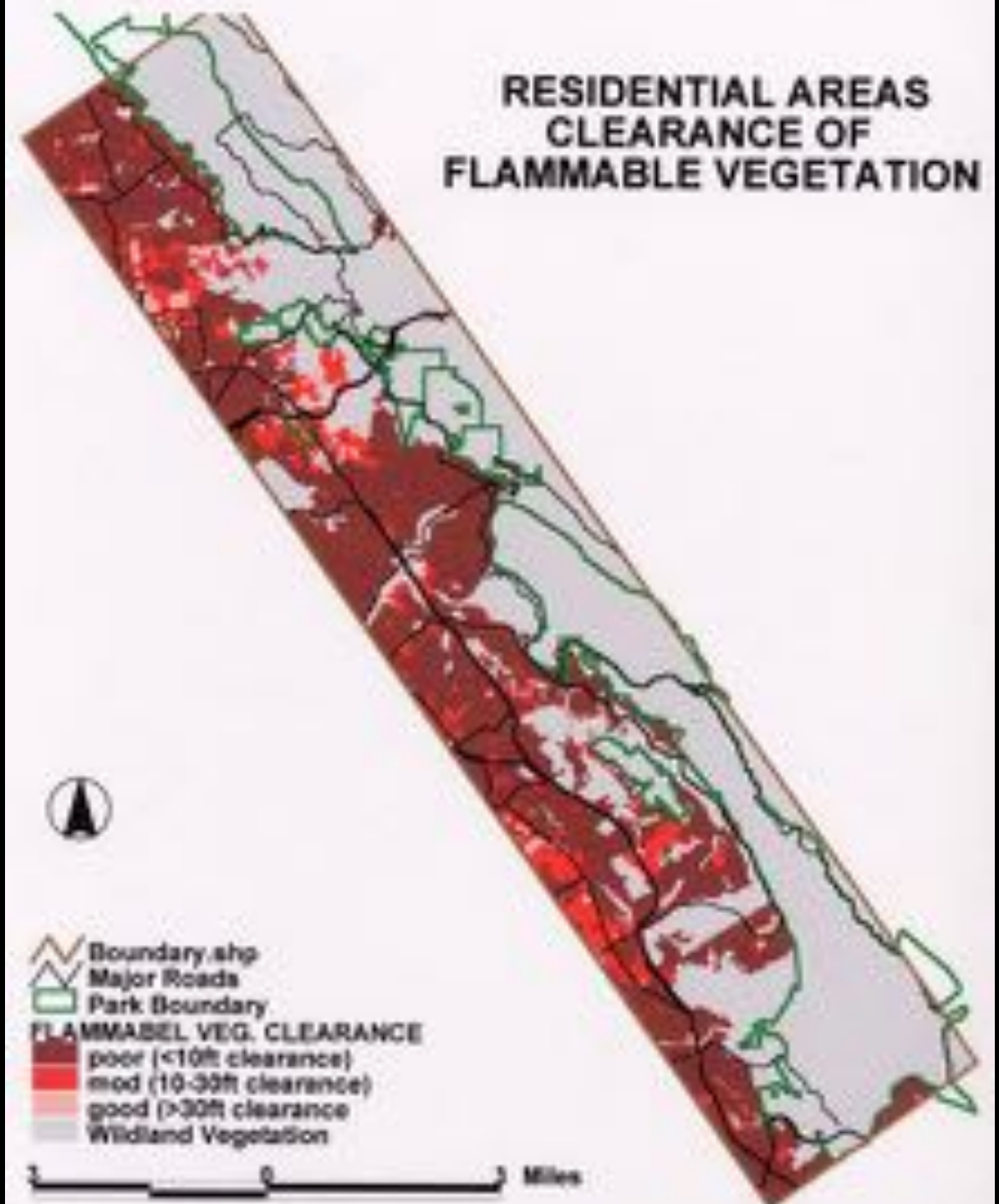
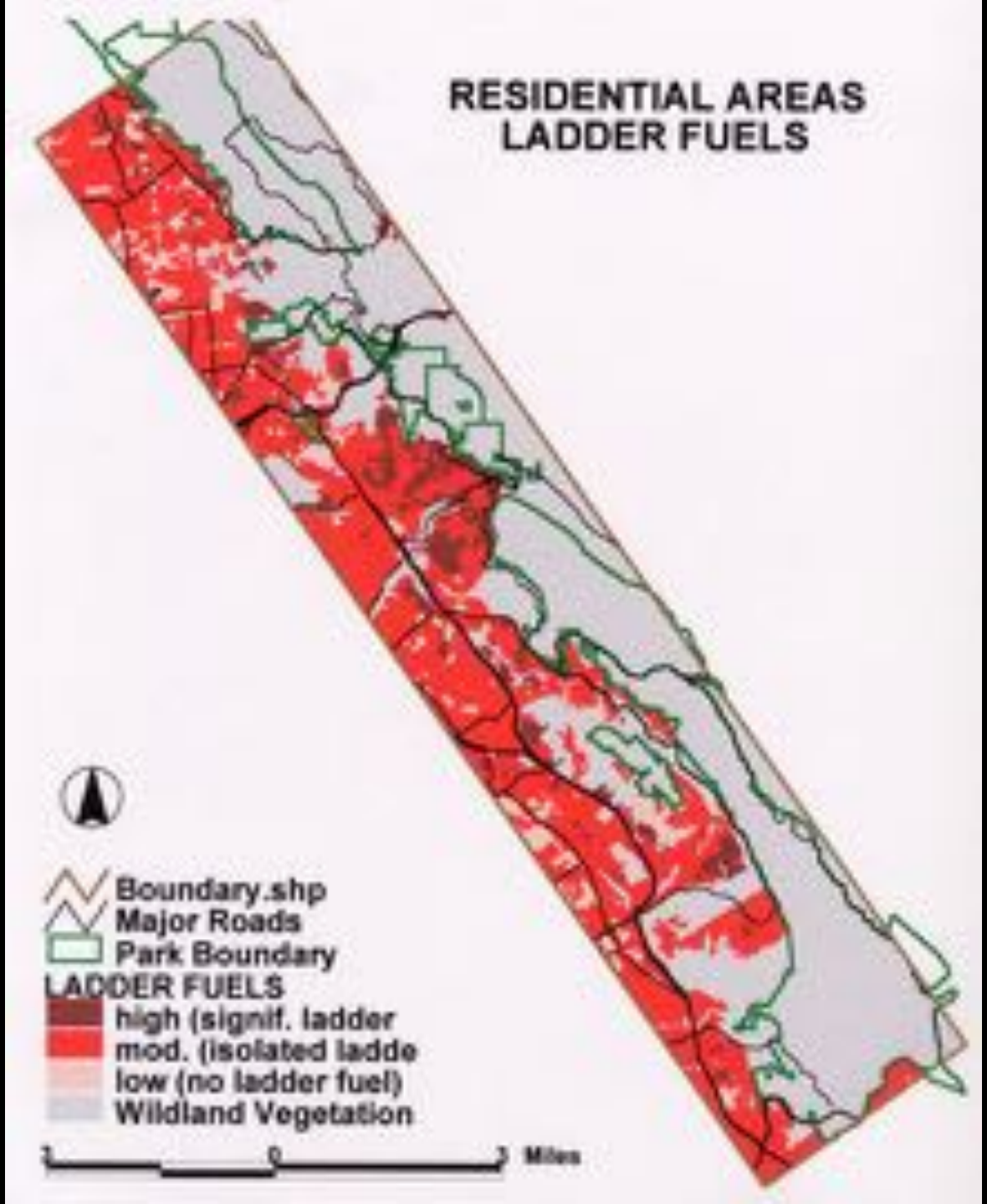
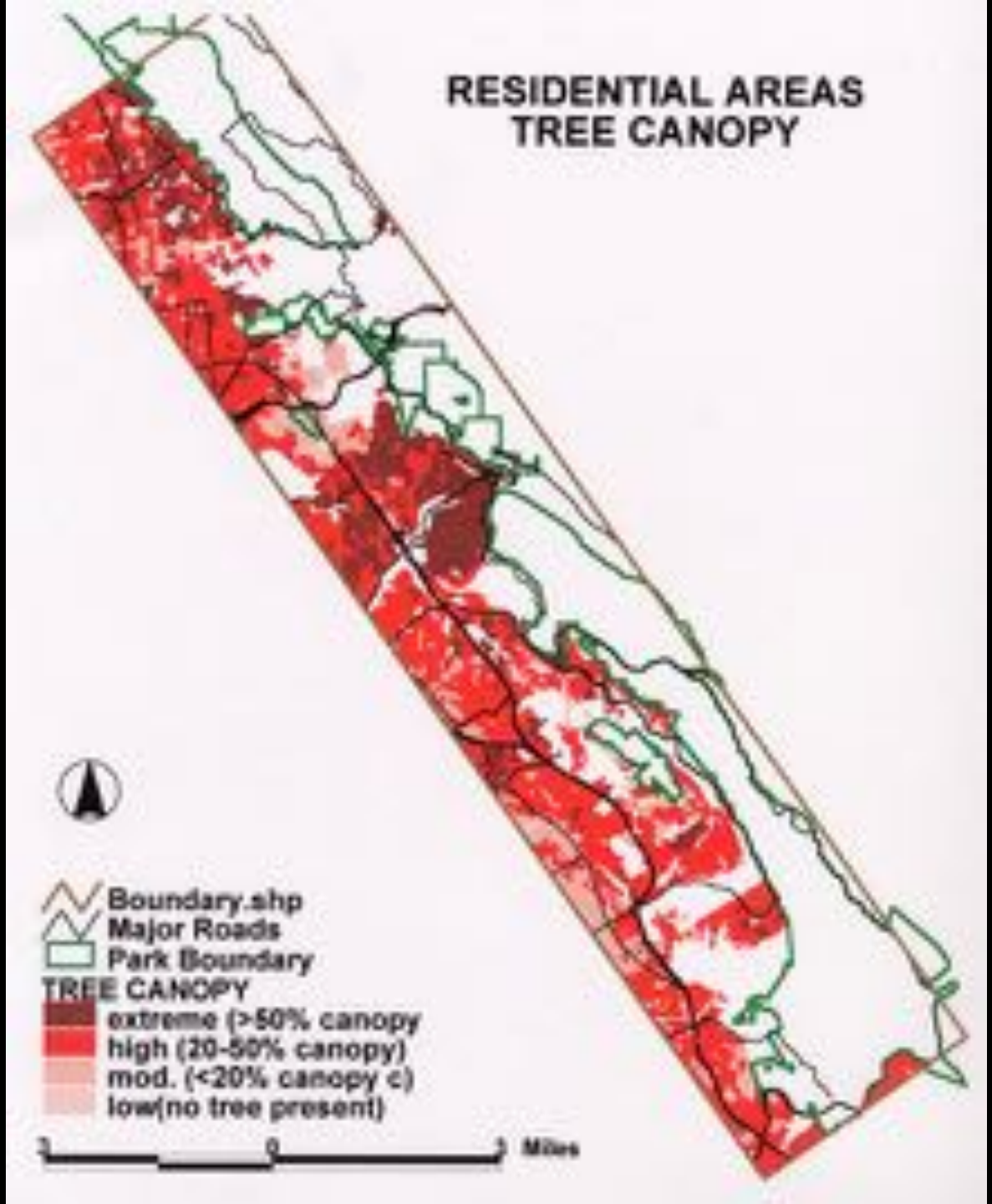
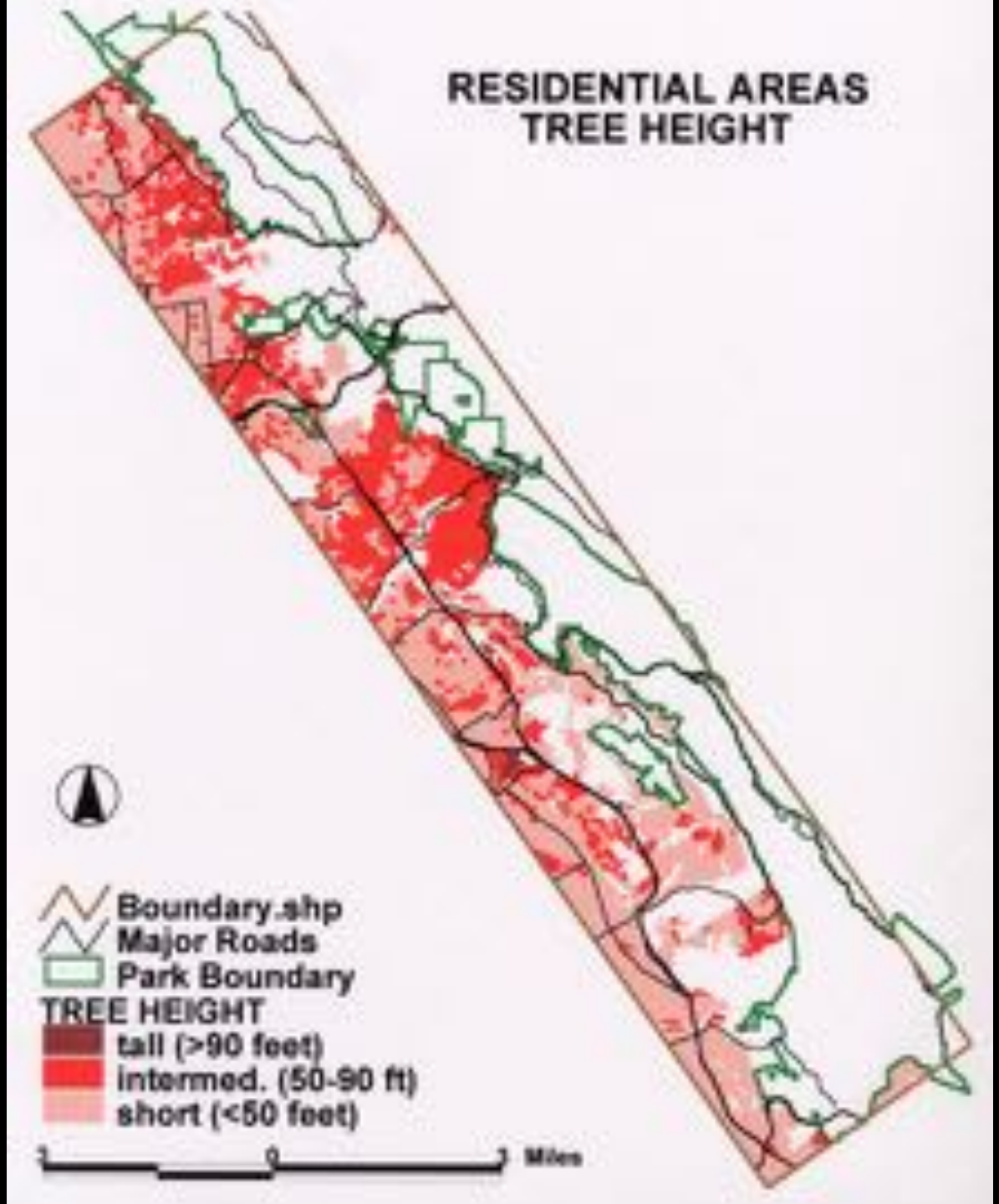
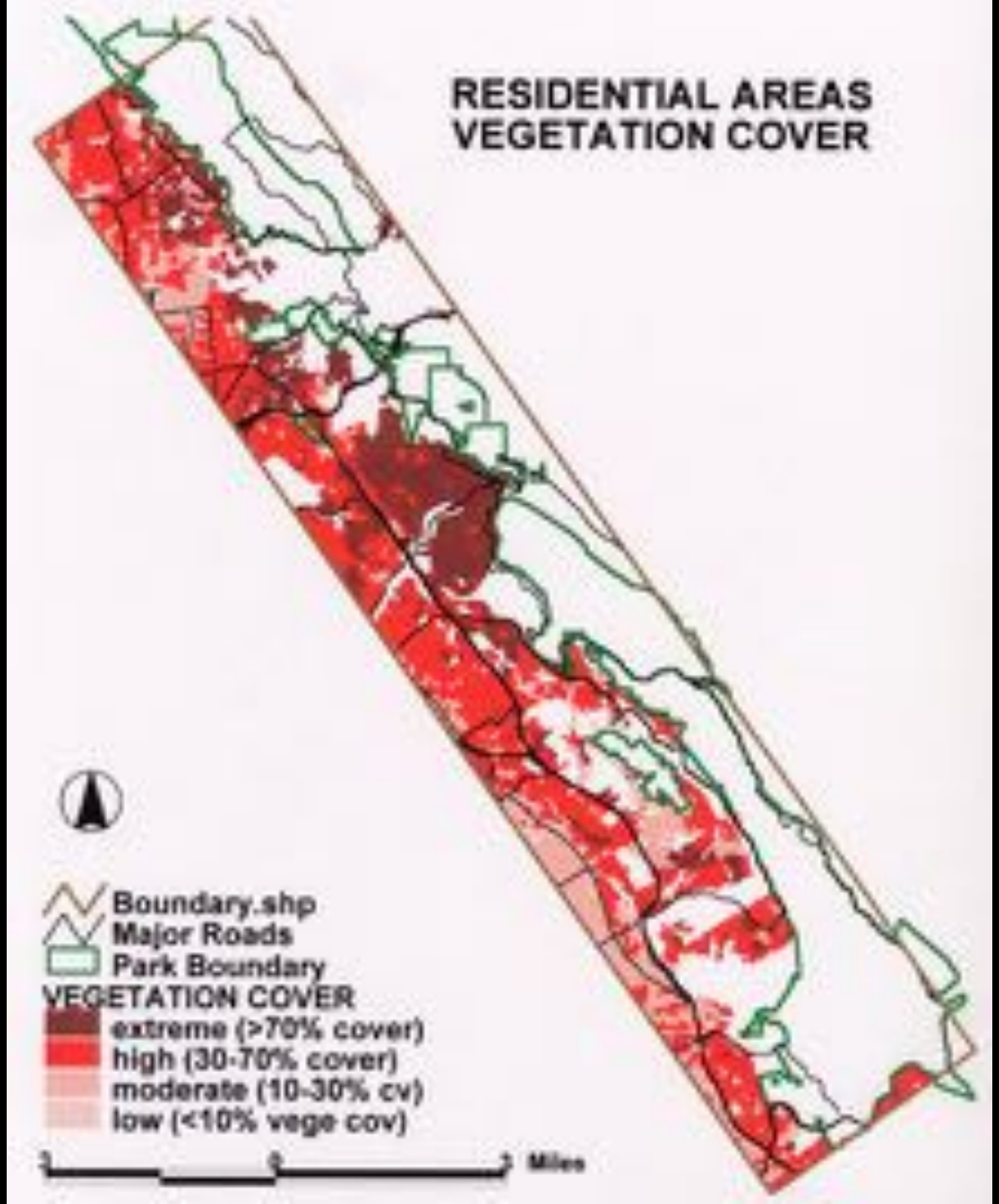
Wildland Vegetation
Miles

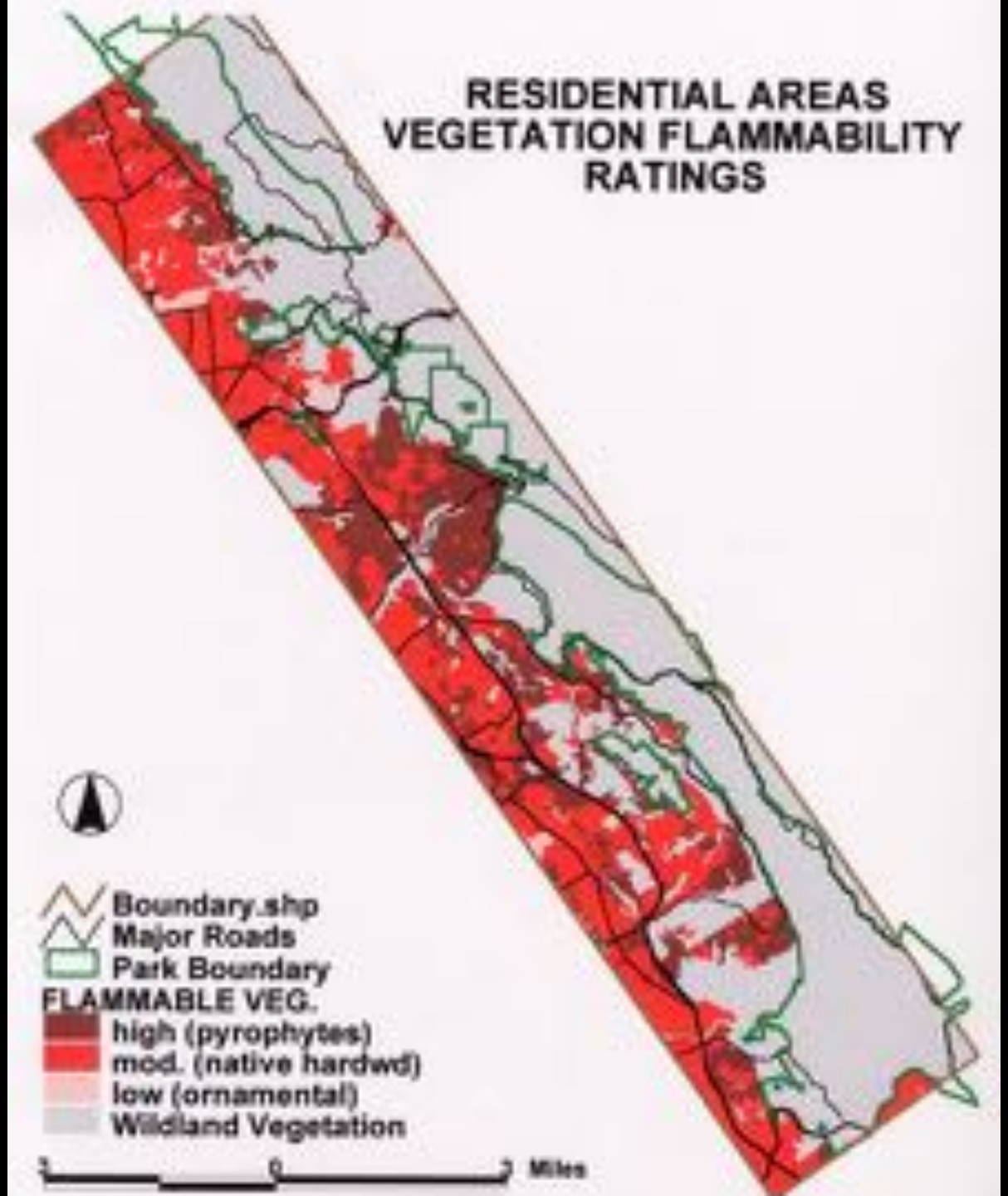

RESIDENTIAL AREAS
CLEARANCE OF
FLAMMABLE VEGETATION
Boundary.shp
Major Roads
Park Boundary
FLAMMABEL VEG. CLEARANCE
poor (<10ft clearance)
mod (10-30ft clearance)
good (>30ft clearance
Wildland Vegetation
Miles

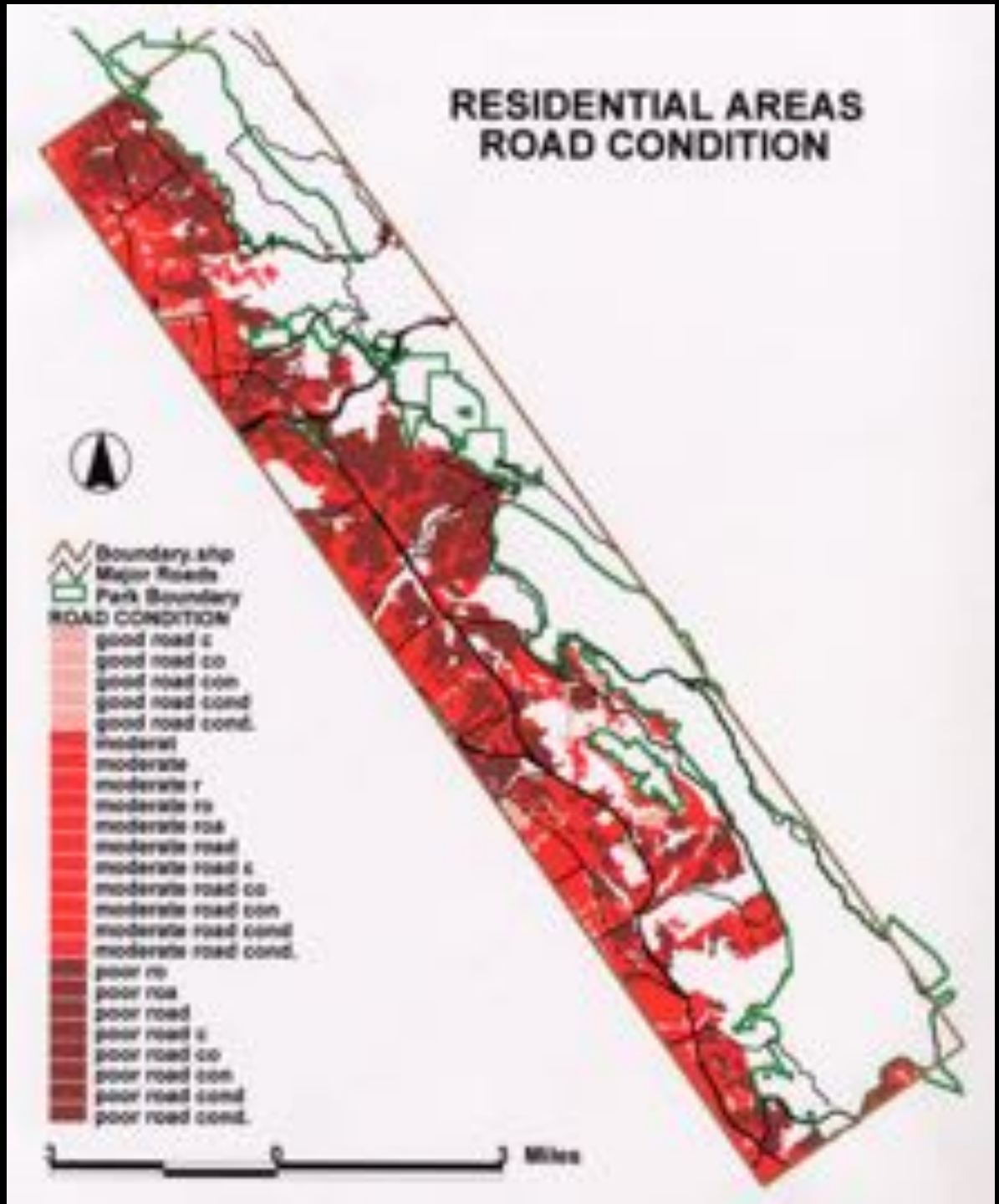

RESIDENTIAL AREAS
LADDER FUELS
Boundary.shp
Major Roads
Park Boundary
LADDER FUELS
high (signif. ladder
mod. (isolated ladde
low (no ladder fuel)
Wildland Vegetation
Miles

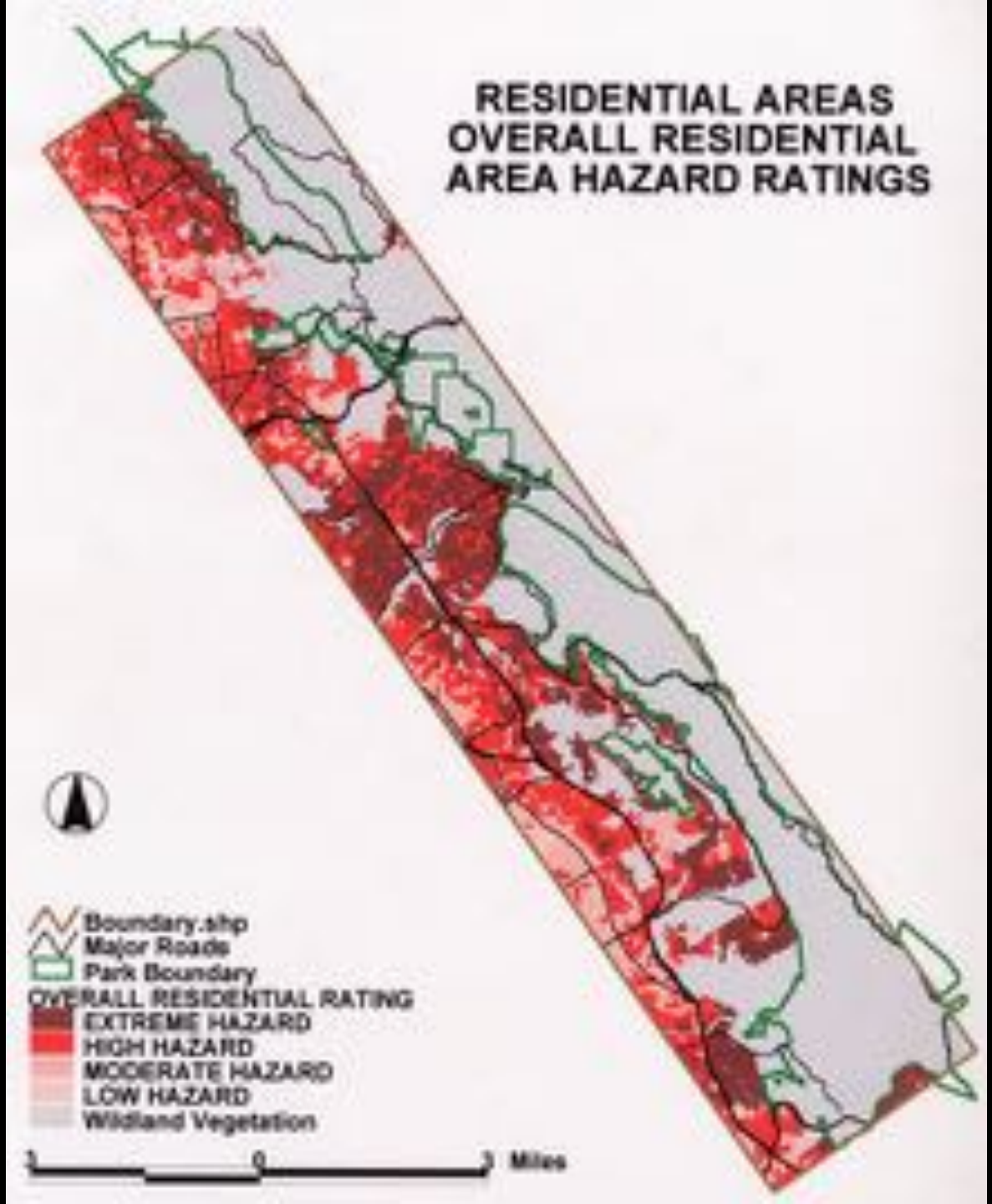

RESIDENTIAL AREAS
TREE CANOPY
Boundary.shp
Major Roads
Park Boundary
TREE CANOPY
extreme (>50% canopy
high (20-50% canopy)
mod. (<20% canopy c)
low(no tree present)
Miles


RESIDENTIAL AREAS
TREE HEIGHT
Boundary.shp
Major Roads
Park Boundary
TREE HEIGHT
tall (>90 feet)
intermed. (50-90 ft)
short (<50 feet)
Miles


RESIDENTIAL AREAS
VEGETATION COVER
Boundary.shp
Major Roads
Park Boundary
VEGETATION COVER
extreme (>70% cover)
high (30-70% cover)
moderate (10-30% cv)
low (<10% vege cov)
Miles


RESIDENTIAL AREAS
VEGETATION FLAMMABILITY
RATINGS
Boundary.shp
Major Roads
Park Boundary
FLAMMABLE VEG.
high (pyrophytes)
mod. (native hardwd)
low (ornamental)
Wildland Vegetation
Miles


RESIDENTIAL AREAS
ROAD CONDITION
Boundary.shp
Major Roads
Park Boundary
ROAD CONDITION
good road c
good road co
good road con
good road cond
good road cond.
moderat
moderate
moderate r
moderate ro
moderate roa
moderate road
moderate road c
moderate road co
moderate road con
moderate road cond
moderate road cond.
poor ro
poor roa
poor road
poor road c
poor road co
poor road con
poor road cond
poor road cond.
Miles


RESIDENTIAL AREAS
OVERALL RESIDENTIAL
AREA HAZARD RATINGS
Boundary.shp
Major Roads
Park Boundary
OVERALL RESIDENTIAL RATING
EXTREME HAZARD
HIGH HAZARD
MODERATE HAZARD
LOW HAZARD
Wildland Vegetation
0
Miles

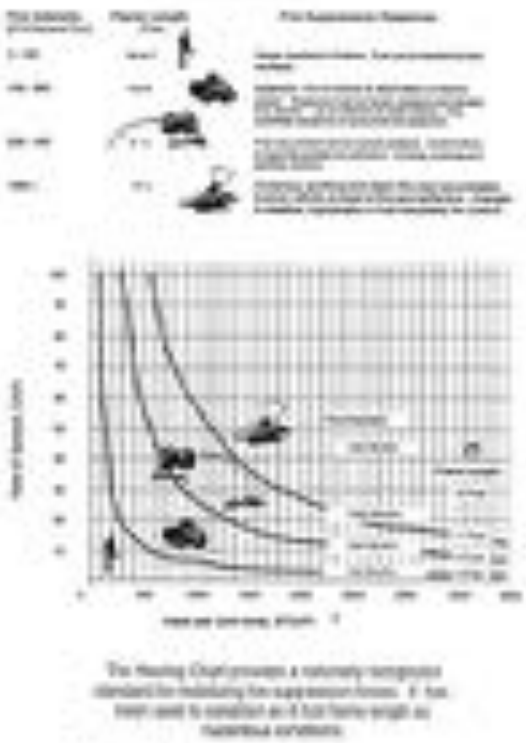
IN 1994

33% AT EXTREME RISK
43% AT HIGH RISK
21% AT MODERATE RISK
3% AT LOW RISK

Wildland Hazards Assessment

There are two widely accepted wildland fire behavior prediction systems. The National Fire Danger Rating System (NFDRS) and the Fire Behavior Prediction System (FBPS) that uses the computer modeling program BEHAVE. NFDRS typically evaluates the approximate upper limit or most extreme wildfire behavior for a 24-hour period and is used as a guide for pre-suppression action in large areas. A system based on NFDRS was utilized in the 1982

FIRE BEHAVIOR



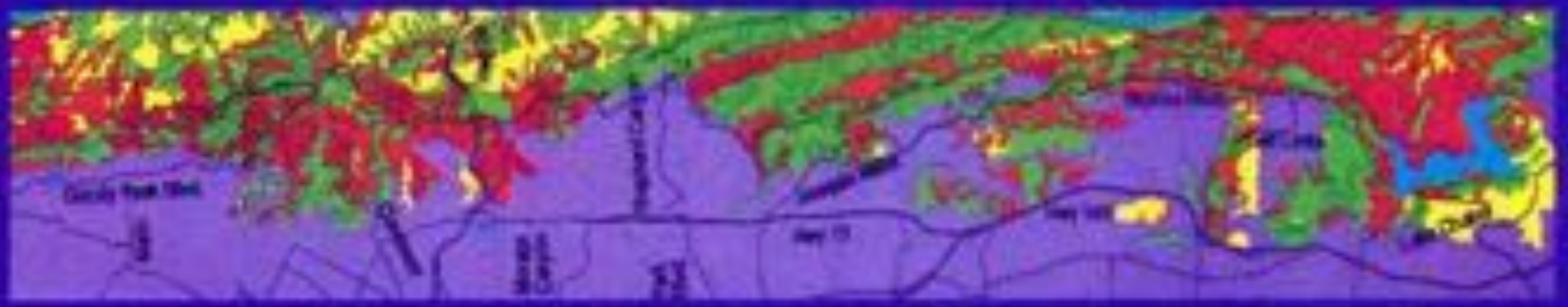
The Hazard Chart provides a nationally recognized standard for evaluating fire suppression forces. It has been used to establish an 8 foot flame length as hazardous conditions.

Report of the Blue Ribbon Urban Interface Fire Prevention Committee that ranked hazard severity by vegetation type, slope and aspect. In contrast, BEHAVE predicts probable fire behavior and was designed to be used in directing suppression activities. Because of the finer resolution available, the FBPS and BEHAVE modeling were utilized to evaluate the wildland hazards in the study area.

The BEHAVE modeling program considers the fuel available, topography and fire weather. Fuel in the study area was classified first by vegetation type through photo-interpretation and field verification. This allowed the study area to be categorized into one of the standard fuel models that were further customized through field analysis into developmental stages. This customization permitted the modeling of fire behavior in vegetation such as North Coastal Scrub and Eucalyptus where no standard models apply. It also provides the opportunity to predict the positive impacts prescribed vegetation treatments can have on anticipated fire behavior.

The fuel interpretation layer of the GIS documents the results of the BEHAVE modeling. The interactive system, is currently "on-line" at the East Bay Regional Park District, but is available to all consortium members who have computer systems that can support ARC/INFO GIS data. Potential fire behavior attributes are displayed by polygons of similar vegetation, fuel characteristics, and slope throughout the study area. Fire behavior attributes include flame length, rate of spread, heat per area and crowning potential. These attributes are used to prioritize hazard areas

High Hazard Areas in Study Area Wildlands



Data from: GIS Laboratory UC Berkeley College of Environmental Design, 1994

Trees with Flame Length >8' or High Crowning Potential

Shrubs with Flame Length >8'

Grasslands with Flame Length >8'

Vegetation with Flame Length <8' or Not Crowning Potential

Urban Wildland Intermix - See "Hazards Rating in the Urban Wildland Interface" for Assessment

Major Roads

Streams or Lakes

High Hazard Areas in Study Area Buffer

Data from: GIS Laboratory UC Berkeley College of Environmental Design, 1998

Trees with Flame Length >8' or High Crowning Potential

Shrubs with Flame Length >8'

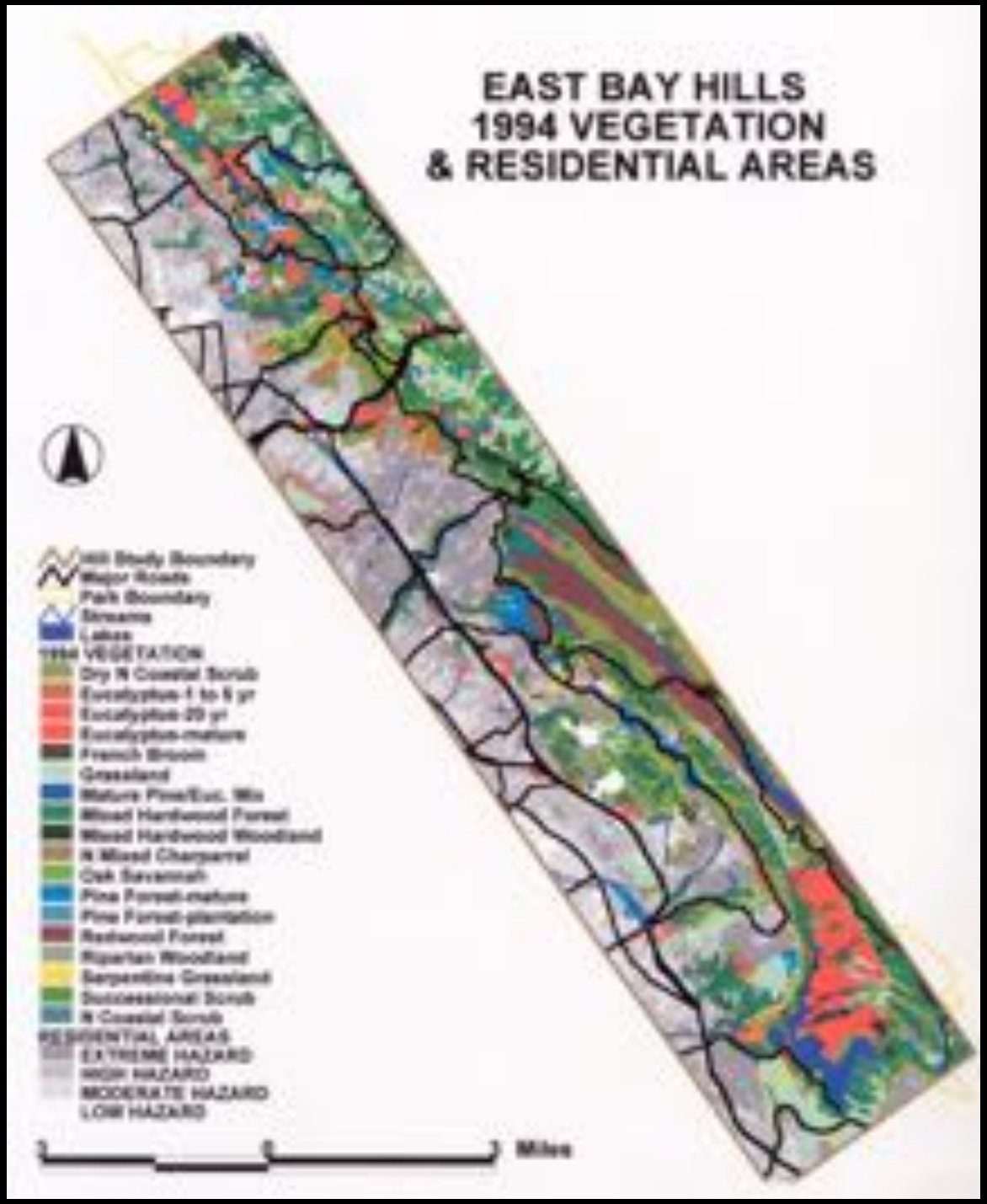
Grasslands with Flame Length >8'

Vegetation with Flame Length <8' or No Crowning Potential

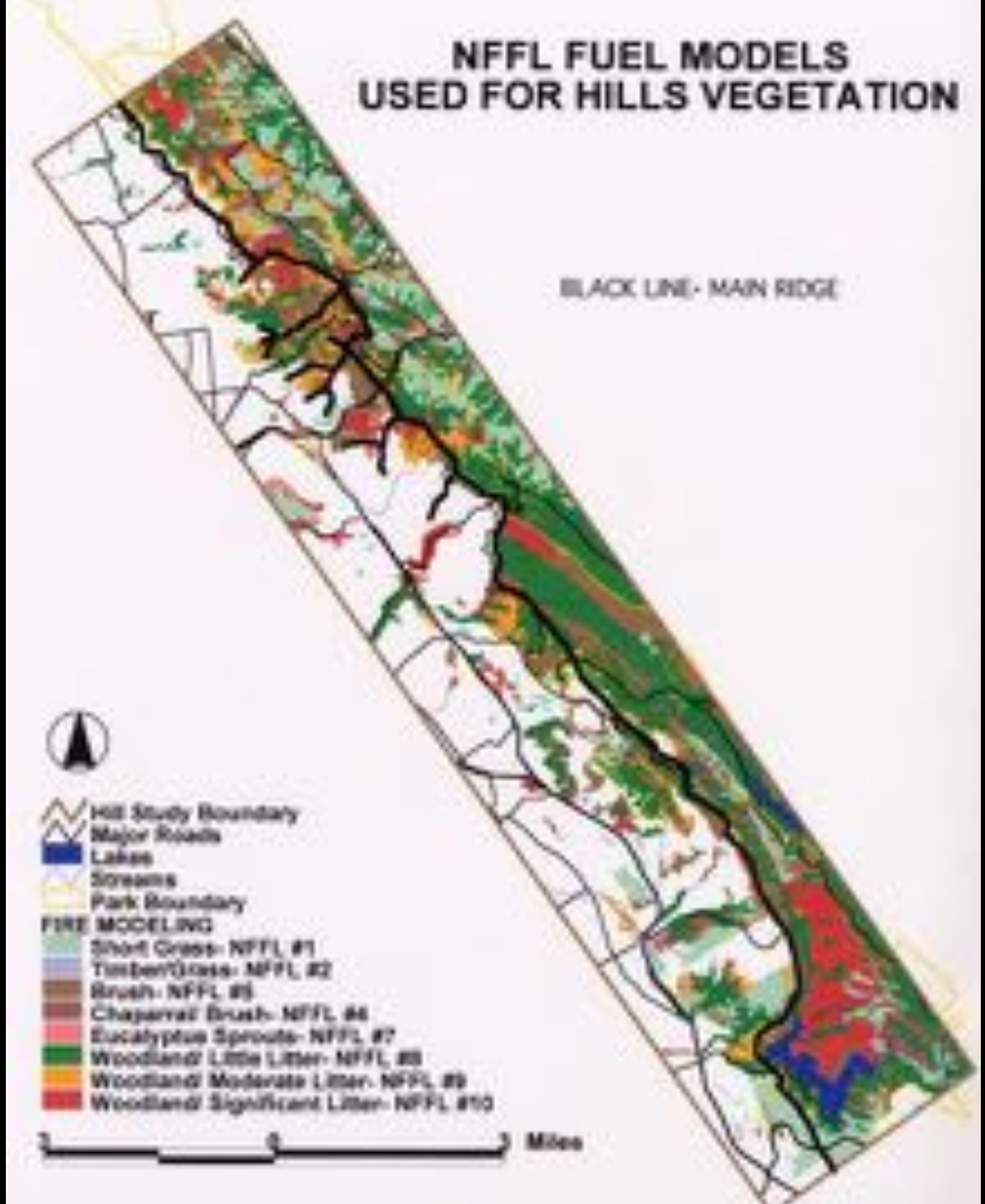
Urban Wildland Interface - See "Hazards Rating in the Urban Wildland Interface" for Assessment

Major Roads

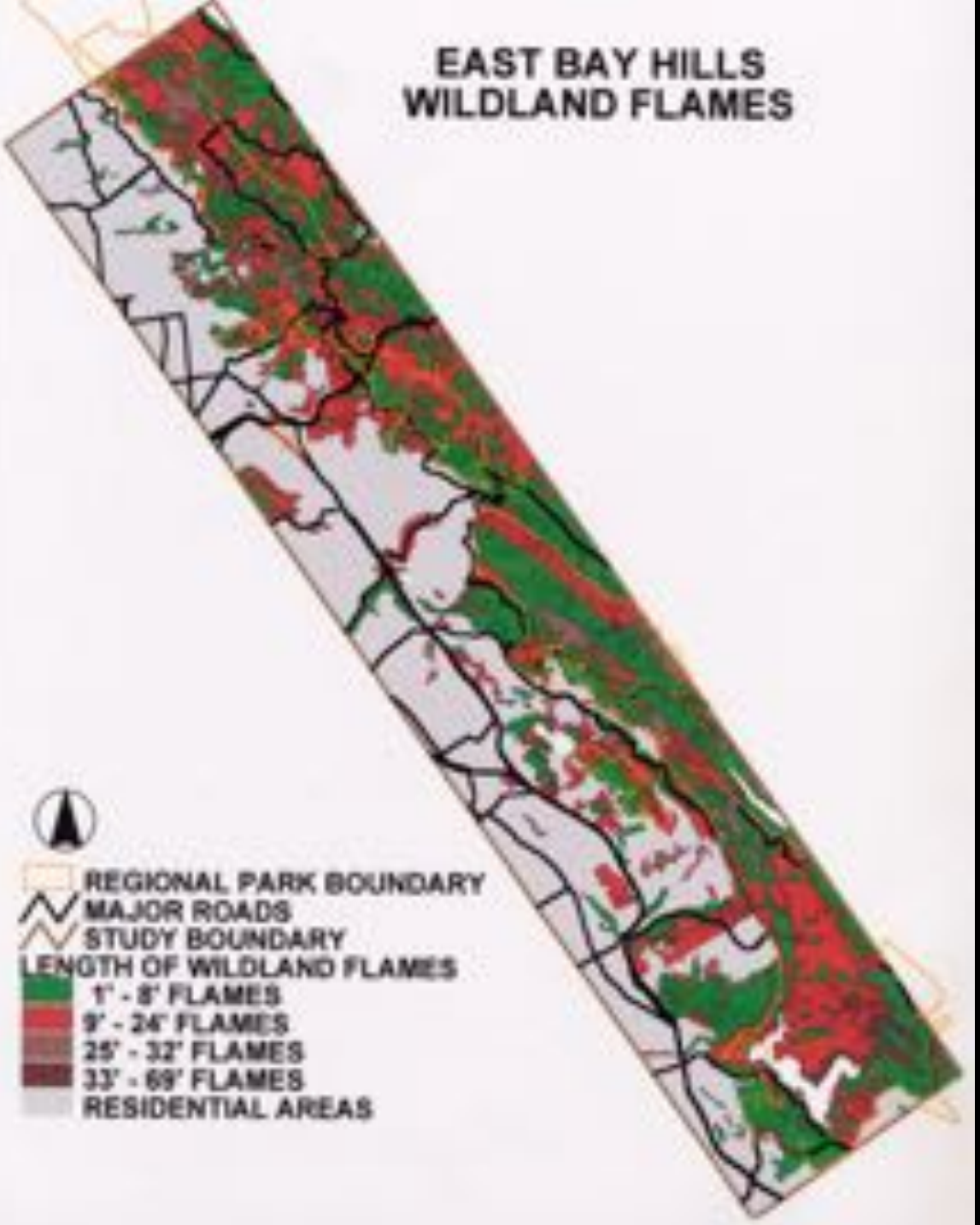
Streams or Lakes

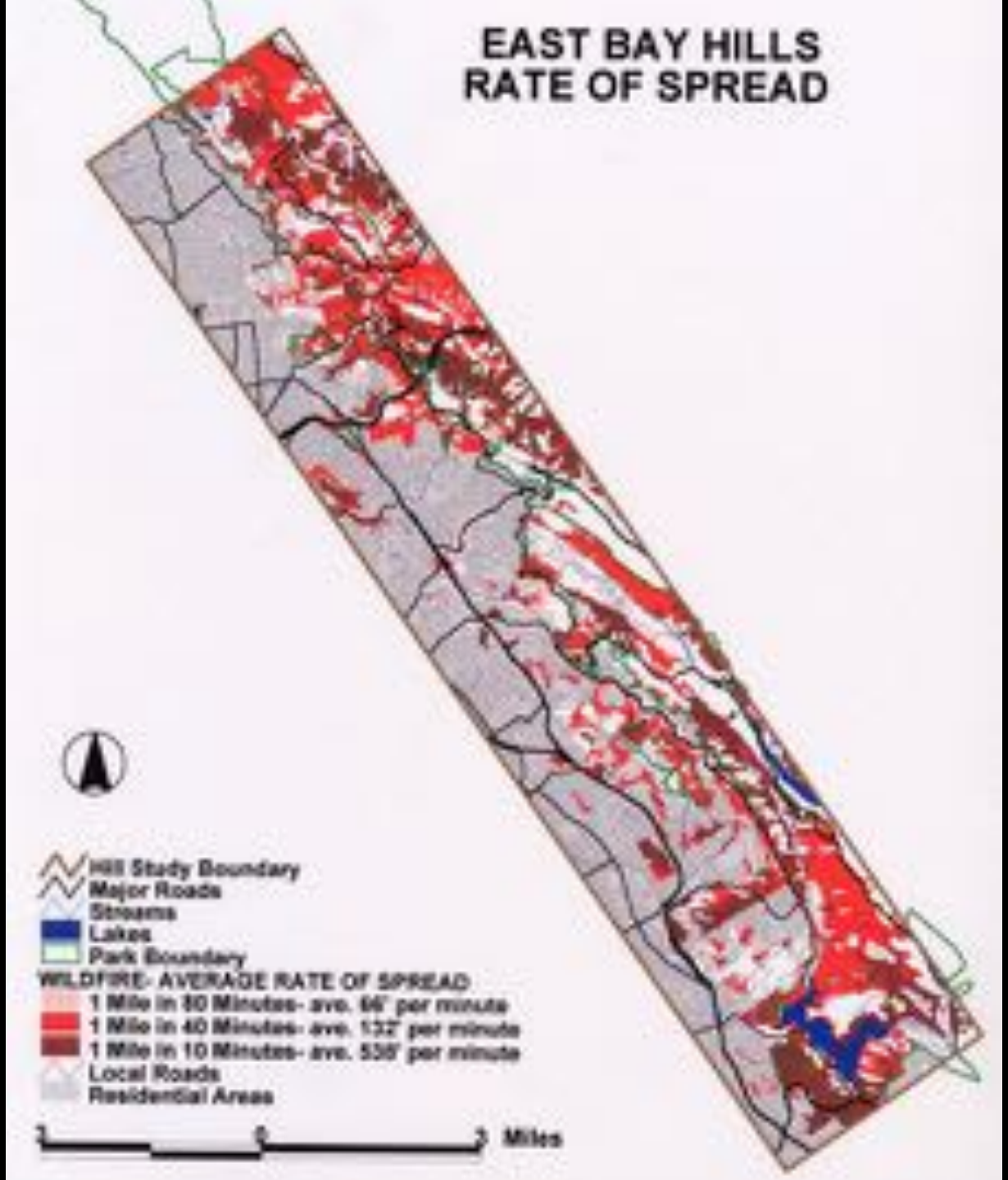

EAST BAY HILLS
1994 VEGETATION
& RESIDENTIAL AREAS
Hill Study Boundary
Major Roads
Park Boundary
Streams
Lakes
1994 VEGETATION
Dry N Coastal Scrub
Eucalyptus-1 to 5 yr
Eucalyptus-20 yr
Eucalyptus-mature
French Broom
Grassland
Mature Pine/Euc. Mix
Mixed Hardwood Forest
Mixed Hardwood Woodland
N Mixed Chaparral
Oak Savannah
Pine Forest-mature
Pine Forest-plantation
Redwood Forest
Riparian Woodland
Serpentine Grassland
Successional Scrub
N Coastal Scrub
RESIDENTIAL AREAS
EXTREME HAZARD
HIGH HAZARD
MODERATE HAZARD
LOW HAZARD
Miles

NFFL FUEL MODELS USED FOR HILLS VEGETATION

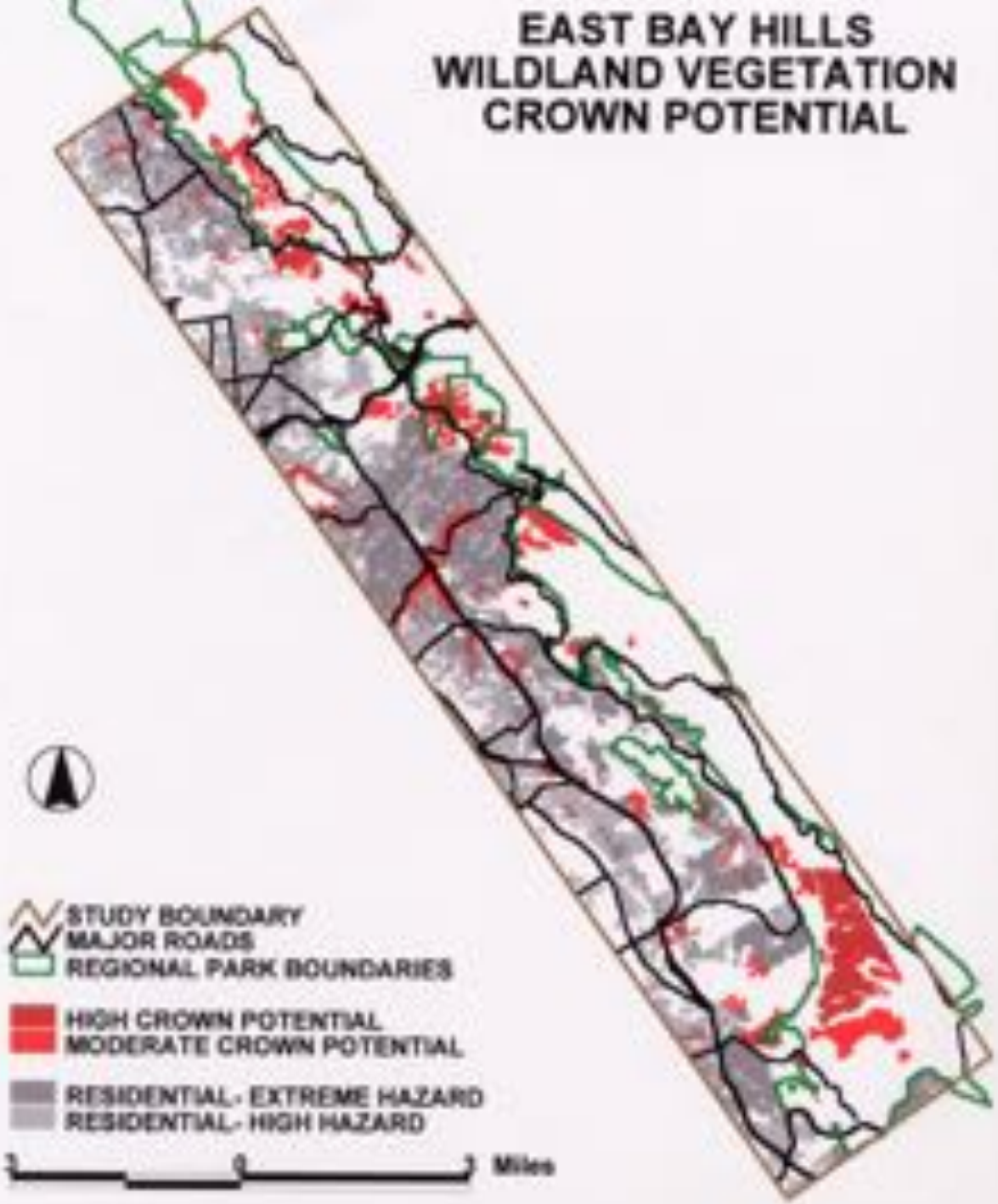


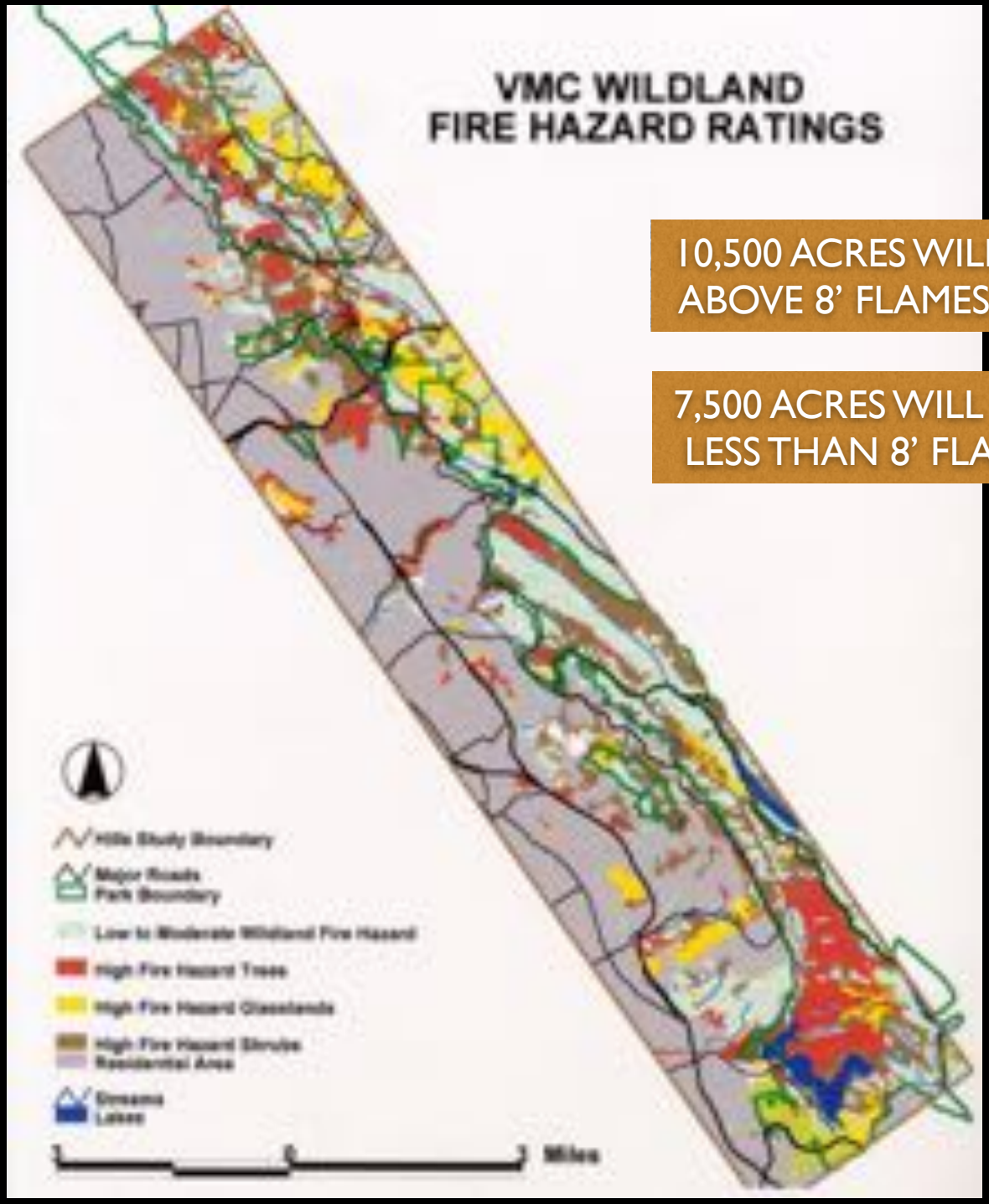
EAST BAY HILLS
WILDLAND FLAMES




EAST BAY HILLS
RATE OF SPREAD
Hill Study Boundary
Major Roads
Streams
Lakes
Park Boundary
WILDFIRE- AVERAGE RATE OF SPREAD
1 Mile in 80 Minutes- ave. 66' per minute
1 Mile in 40 Minutes- ave. 132' per minute
1 Mile in 10 Minutes- ave. 528' per minute
Local Roads
Residential Areas
Miles

EAST BAY HILLS
WILDLAND VEGETATION
CROWN POTENTIAL

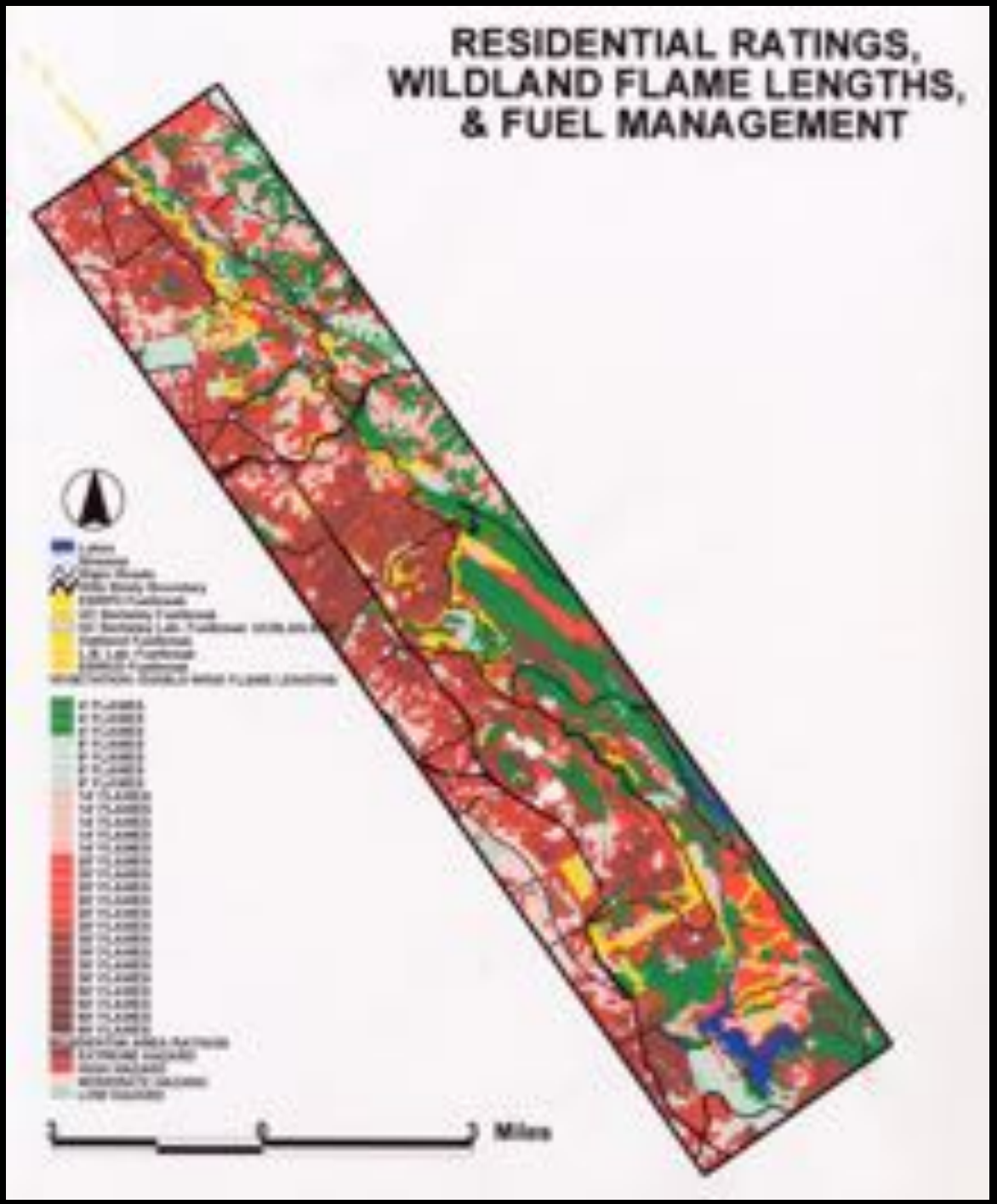




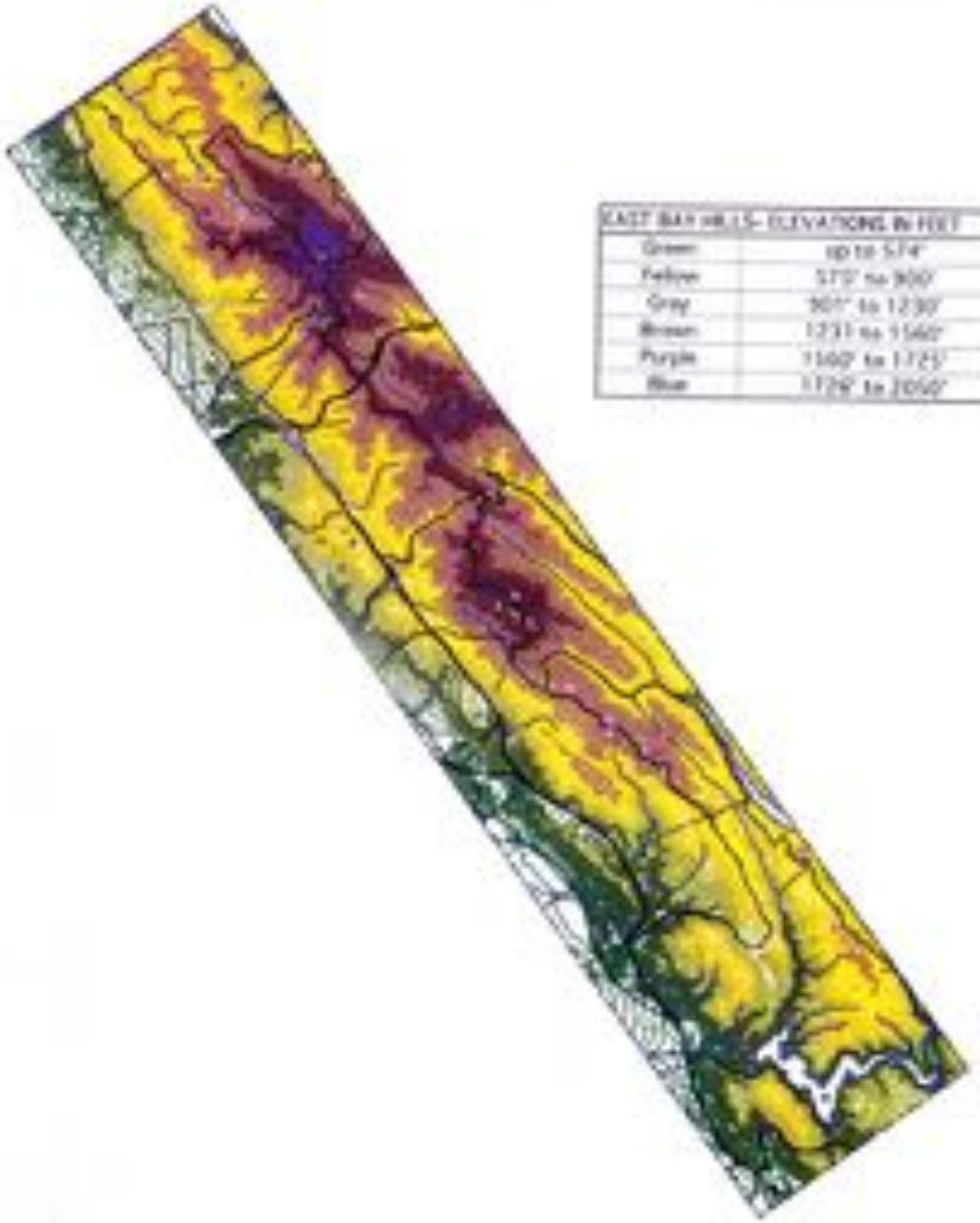
10,500 ACRES WILL BURN WITH ABOVE 8' FLAMES

7,500 ACRES WILL BURN WITH LESS THAN 8' FLAMES

RESIDENTIAL RATINGS, WILDLAND FLAME LENGTHS, & FUEL MANAGEMENT

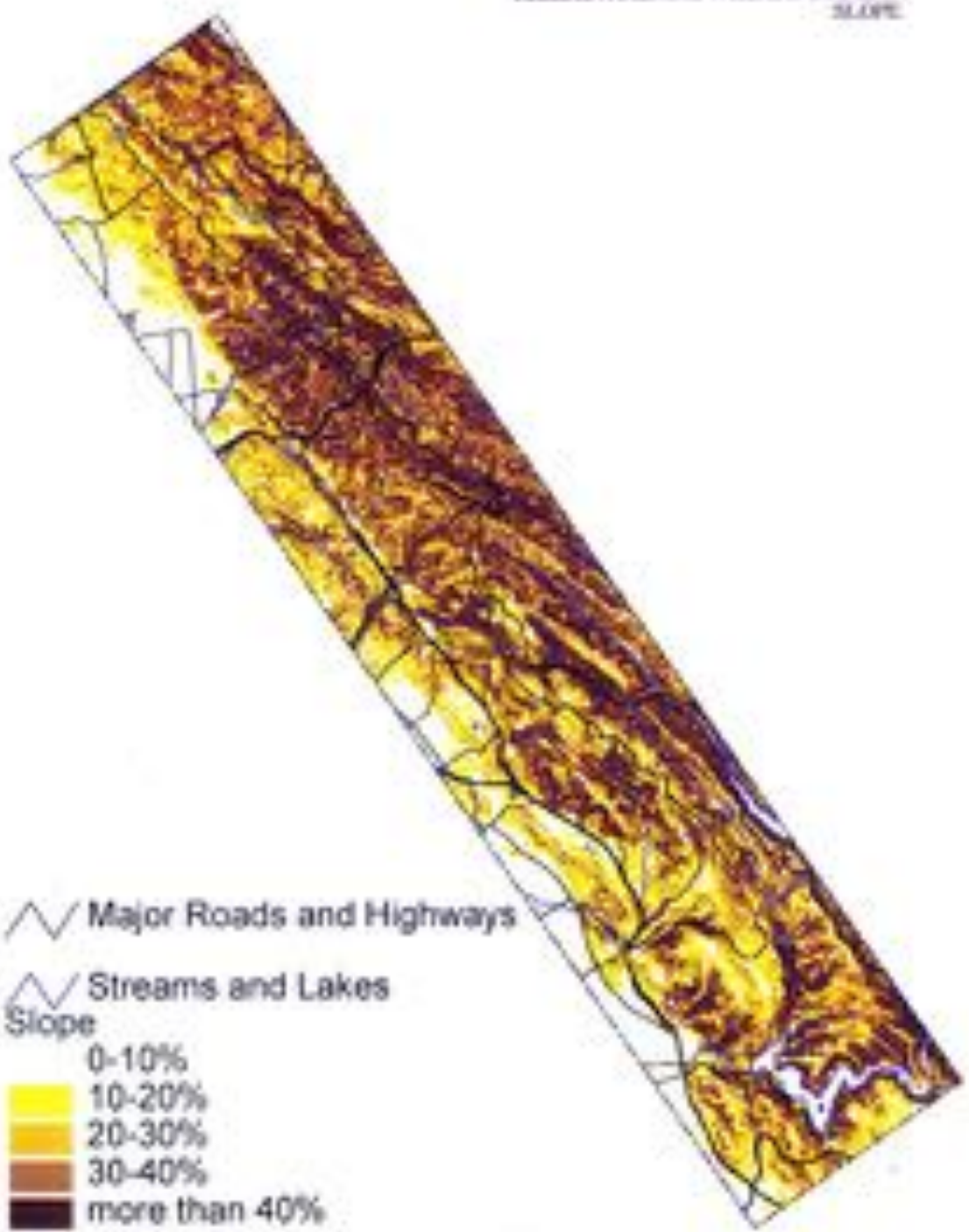


RESIDENTIAL AND WILDLAND AREAS
TOPOGRAPHY



EAST BAY HILLS ELEVATIONS IN FEET	
Green	up to 574'
Yellow	575' to 900'
Gray	901' to 1230'
Brown	1231 to 1560'
Purple	1560' to 1725'
Blue	1726' to 2050'

RESIDENTIAL AND WILDLAND AREAS
SLOPE



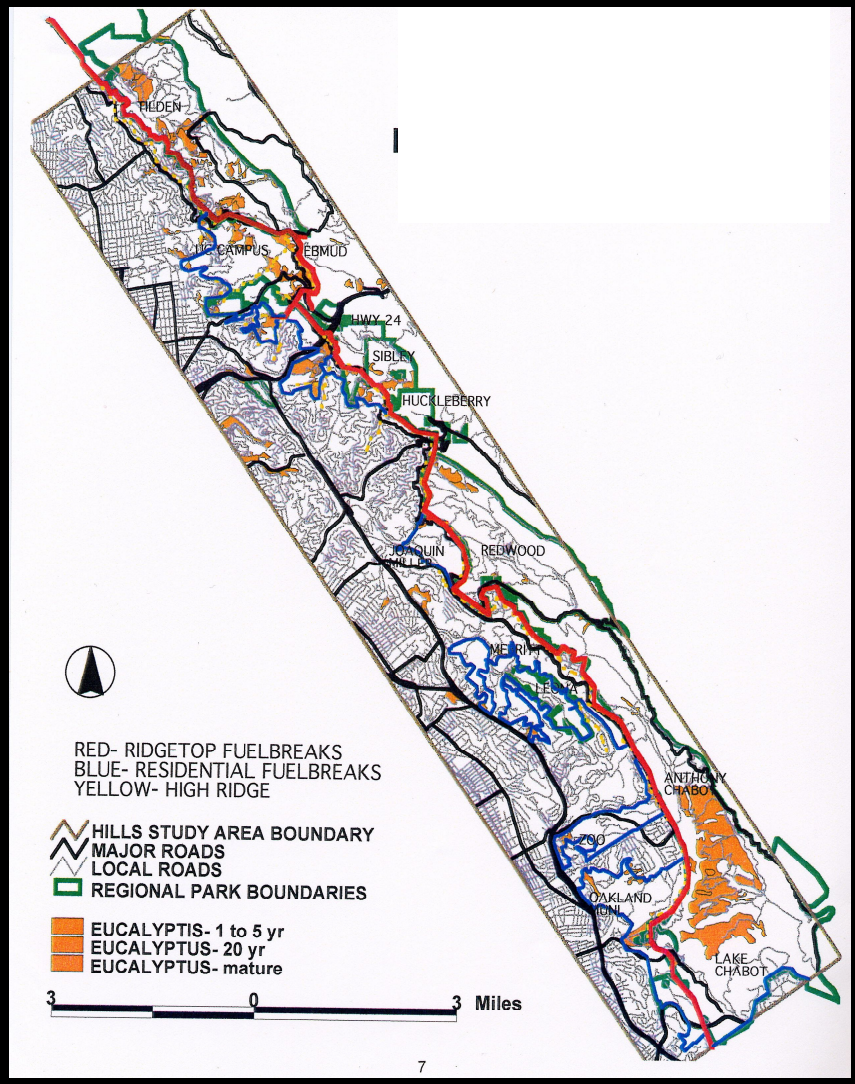
THE 1995 HEF PLAN CALLED FOR:

FIRE ADAPTED RESIDENTIAL AREAS WITH DEFENSIBLE SPACE AND EMBER RESISTANT HOMES

FUELBREAKS AT THE RESIDENTIAL INTERMIX AND ALONG THE MAIN RIDGELINE INTERFACE.

REDUCTION OF EMBER POTENTIAL FROM PINE AND EUCALYPTUS.

EXCEPTIONAL FIREFIGHTING



INSTEAD OF PREPARING A JOINT PROGRAM EIR BASED ON THE HEF PLAN, MEMBERS WENT THEIR OWN WAY IN 2005 WITH THE PARK DISTRICT AND EBMUD DEVELOPING THEIR OWN INDIVIDUAL FIRE PLAN'S AND EIR'S

4 YEARS AND $1 MILLION PLAN COMPLETED IN 2010, WITH AN HCN SUIT THAT WAS SETTLED IN 2012

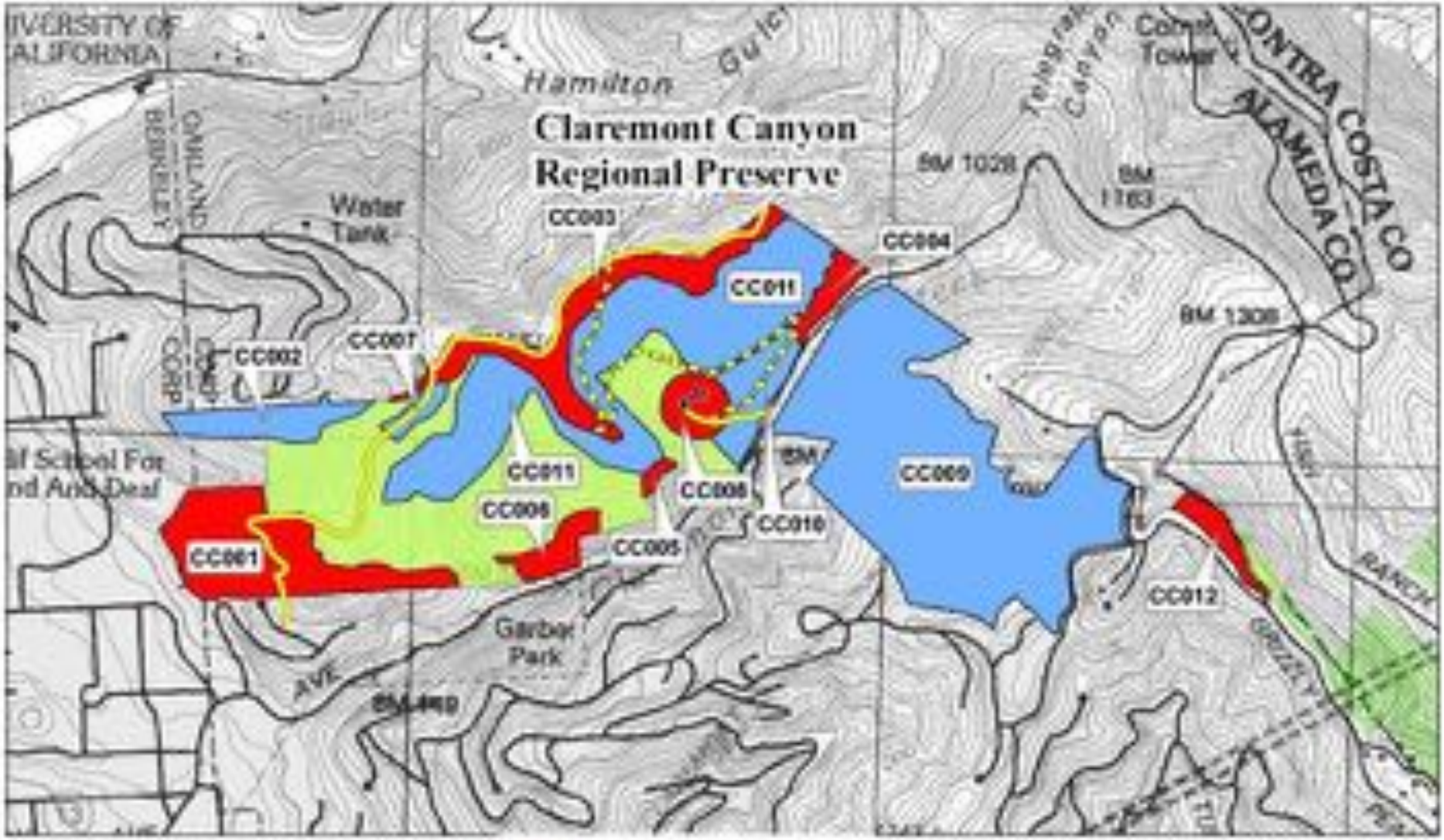


FIGURE III-7

EBRPD Wildfire Hazard Reduction and Resource Management Plan EIR

Recommended Treatment Areas in Claremont Canyon Regional Preserve

Table 1: Distribution of High-Hazard Ember Producing Tree Stands

Park	Acres
Chabot	805
Claremont Canyon	17
Huckleberry	3
Kennedy Grove	5
Lake Chabot	58
Leon	
Miller-Knox	3
Pt. Pinole	0
Redwood	105
Sibley	84
Sobrante Ridge	0
Temescal	0
Tilden	396
Wildcat	38

EUCALYPTUS AND PINE

Source: East Bay Regional
"Ebhil_06.dbf" dated 11-1-07.

1,514 ACRES

FEMA WAS REQUIRED TO PRODUCED AN EIS TO COVER THREE GRANTS OF $5.6 MILLION AWARDED IN 2005

Hazardous Fire Risk Reduction Record of Decision

East Bay Hills, California

February 2015

A 10 YEAR ENVIRONMENTAL EIS PROCESS FOR OAKLAND, UC, AND EBRPD COVERING 2,000 ACRES AND A USFWS BIOLOGICAL OPINION FOR 3,000 ACRES

FEMA

Federal Emergency Management Agency
Department of Homeland Security
500 C Street, SW
Washington, DC 20472

LAWSUIT'S WERE QUICKLY FILED BY TWO GROUPS TO CHALLENGE THE EIS

THOSE WHO OPPOSE THE FEMA FIRE HAZARD MITIGATION PROJECTS INVOLVING TREES SAID.

Clear-cutting will kill 500,000 trees
The fire hazard claim is a nativist myth
Eucalypts stop fires. Just clean up the debris
Eucalyptus and pine will be replaced by grasslands and shrubs, and fire risks will be increased
It's a pro eradication and pro herbicide plan
We like living in the hills and accept the fire risk

"I want to live in the urban/wildland interface, and want everyone to respect my right to put myself in harm's way"

In my opinion, the prior statements were used to highjack the public discussion about how the city of Oakland, the University of California, and the Regional Park District would use funds awarded in 2005 to mitigate existing fire hazards on their lands.

They were also used to mislead and confused the public about what was factually included and carefully considered in the FEMA EIS.

And in the process, to undermine agency efforts to deal with the significant fire risks that threaten homes and people in the East Bay Hills.

From the beginning all of the statements applied to all three agencies, but eventually they focussed on just Oakland and the University even though the Park District would manage by thinning or conversion to oaks and bays on 88% of the eucalyptus and pine acres and a similar number for "poison" used for stump control.

Will cutting down 450,000 trees in the Oakland & Berkeley hills make you any safer?

Learn the details & get answers from a panel of experts:

DAN GRASSETTI
President, Hills Conservation Network

DAVID MALONEY
former Chief of Fire Prevention, Oakland Army Base

PETER SCOTT
Instigated 1991 Hills Fire Grand Jury Investigation

MODERATOR: JACK GESCHEIDT
The TreeSpirit Project founder

Mayor Schaaf to Clear Cut & Poison Oakland Hills

Oakland Mayor Libby Schaaf, U.C. Berkeley Chancellor Nicholas Dirks and East Bay Regional Parks District Manager Robert Doyle are moving forward with an environmentally catastrophic plan to clear cut an estimated 100,000-400,000 trees and spread thousands of gallons of poisonous chemicals throughout the East Bay hills. Costing nearly $8 million, this plan - which is scheduled to begin in August - will radically transform the character and appearance of the hills by eliminating the forests on public lands so that they can be replaced by "grassland with islands of shrubs." In order to prevent regrowth, clear cut areas will be repeatedly sprayed w/ toxic herbicides made by Monsanto and Dow; chemicals which are officially classified as "hazardous," are toxic to wildlife, cause blood, liver and kidney damage in dogs, and have been linked to an increased risk of Non-Hodgkin's Lymphoma in humans.

Plan Will INCREASE Fire Risk

While claims of fire abatement are being used to justify this assault on our forests, this plan will actually increase the risk of fire. Instead, mature tech trees are to be chopped down and turned into wood chips which will be spread around shallower, clear cut hillsides at a depth of several feet, creating thick beds of highly combustible dried wood. Lush forests are to be replaced by brush - the exact environment in which the 1991 and 2008 fires began.

Indeed, not since the Firestorm tragedy have the East Bay hills been under a similarly devastating threat but for one crucial difference: this time, the danger to our well-being and the scars upon our landscape will be deliberately inflicted by our public officials.

More information: savetheeastbayhills.org

Follow us: facebook.com/savetheeastbayhills

Voice Your Opposition!

City of Oakland

Mayor Libby Schaaf
1 Frank H Ogawa Plaza, 3rd Floor
Oakland, CA 94612
(510) 238-3141

mayor@oaklandnet.com
twitter.com/libbyschaaf
facebook.com/MayorLibbySchaaf

Visit our website for contact info for the members of the Oakland City Council.

UC Berkeley

Chancellor Nicholas Dirks
Office of the Chancellor
200 California Hall # 1500
Berkeley, CA 94720
(510) 643-7404

chancellor@berkeley.edu

East Bay Regional Parks District

Manager Robert Doyle
East Bay Regional Park District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, CA 94605-0381
bdoyle@ebparks.org

Visit our website for contact info for the members of the EBRPD Board of Directors.

A TREE SPIRIT PROJECT MEDIA EVENT TO SAVE EUCALYPTUS

THE SPRAWLEF AND SIERRA CLUB LITIGATION CHALLENGED THE LAST MINUTE ADDITION OF THE "UNIFIED METHOD" IN THE FEMA EIS.

THEIR SUIT URGED THE PARK DISTRICT TO USE LESS THINNING OF EUCALYPTUS BY APPLYING THE "THREE R's WHERE APPROPRIATE.

COINCIDENTLY, THE UNIVERSITY AND OAKLAND FEMA PROJECTS DID SELECTIVELY REMOVE EUCALYPTUS SUCKERS THAT GREW AFTER THE 1972 FREEZE TO SAVE NATIVE OAKS AND BAYS, AND TO PROVIDE FOR ON SITE MITIGATION FOR ALAMEDA WHIPSNAKE

HCN OBJECTED TO REMOVAL OF EUCALYPTUS AS HAD BEEN SUCCESSFULLY DONE ON THE SOUTH SIDE OF CLAREMONT CANYON. THE CLAREMONT CANYON CONSERVANCY AND THE EAST BAY CHAPTER OF THE CALIFORNIA NATIVE PLANT SOCIETY SUPPORTED THE SIERRA CLUB AND SPRAWLEF SUIT.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

San Francisco Division

HILLS CONSERVATION NETWORK,

Plaintiff,

v.

FEDERAL EMERGENCY MANAGEMENT AGENCY, et al.,

Defendants.

Case No. [redacted]

ORDER REGARDING SUMMARY-JUDGMENT HEARING

Re: ECF No. 95

SPRAWLDEF, et al.,

Plaintiffs,

v.

FEDERAL EMERGENCY MANAGEMENT AGENCY, et al.,

Defendants.

Case No. [redacted]

ORDER REGARDING SUMMARY-JUDGMENT HEARING

Re: ECF No. 93

LAUREL BEELER
United States Magistrate Judge

FEMA AND THE JUDGE TOOK THE EASY WAY OUT. THEY SETTLED WITH HCN (EIGHT INDIVIDUALS), WHO CHALLENGED THE ENVIRONMENTAL IMPACT STATEMENT. THE SETTLEMENT LEFT THE EIS AND USFWS BIOLOGICAL OPINION IN PLACE, BUT REMOVED 28 ACRES OF UNIFIED METHOD AND WITHDREW $3.5 MILLION IN FUNDING FOR OAKLAND AND UNIVERSITY PROJECTS. THE SPRAWLDEF ET AL SUIT WAS DISMISSED.

THE PARK DISTRICT WILL GET THE $5.6 MILLION FOR PROJECTS ON ITS LANDS.

IF THEY CHOOSE TO PROCEED, THE UNIVERSITY AND THE CITY WILL BE REQUIRED TO PREPARE INDIVIDUAL FIRE PLANS AND CEQA DOCUMENTS FOR THEIR PROJECTS, AND THEN RE-APPLY FOR FEMA FUNDING THAT WOULD BE SUBJECT TO A FURTHER FEDERAL NEPA PROCESS.

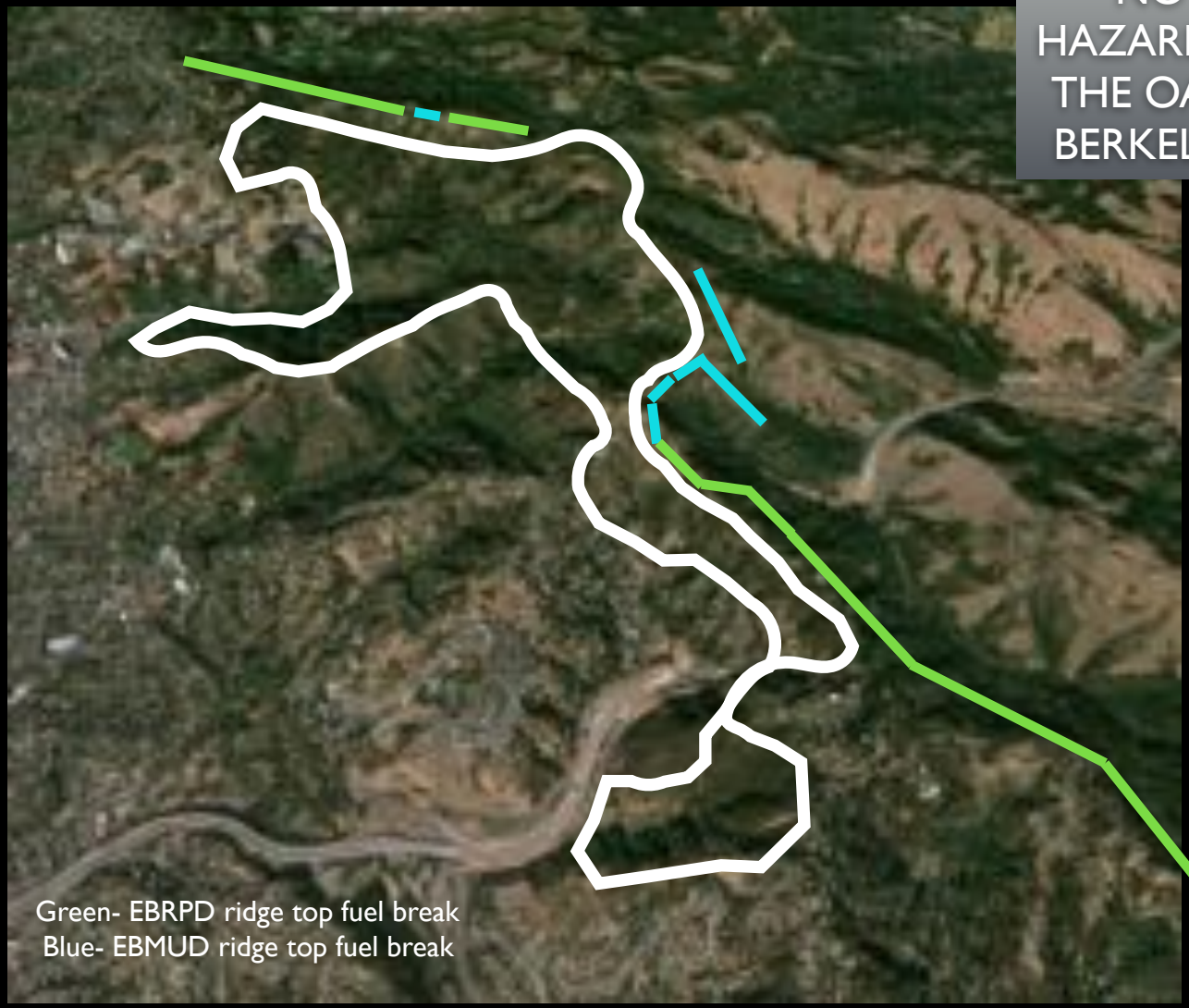
APPLICANT AND PROJECT AREA	FEMA PROJECT ACRES
OAKLAND- SKYLINE (OAKLAND PDM)	68.34
OAKLAND- CALDECOTT (OAKLAND PDM)	153.62
	221.96
UCB- FROWNING RIDGE (OAKLAND PDM)	185.18
UCB- STRAWBERRY CANYON (UCB PDM)	56.34
UCB- CLAREMONT CANYON (UCB PDM)	42.81
	284.33
EBRPD- TILDEN GP (OAKLAND PDM)	34.28
EBRPD- SIBLEY ISLAND (OAKLAND PDM)	3.92
EBRPD- CLAREMONT STONEWALL (OAKLAND PDM)	13.65
EBRPD- SOBRANTE (EBRPD HMGP)	4.05
EBRPD- WILDCAT CANYON (EBRPD HMGP)	65.60
EBRPD- TILDEN (EBRPD HMGP)	97.70
EBRPD- CLAREMONT CANYON (EBRPD HMGP)	21.56
EBRPD- SIBLEY (EBRPD HMGP)	43.61
EBRPD- HUCKLEBERRY (EBRPD HMGP)	17.75
EBRPD- REDWOOD (EBRPD HMGP)	58.33
EBRPD- LEONA (EBRPD HMGP)	4.58
EBRPD- A. CHABOT (EBRPD HMGP)	199.99
EBRPD- KENNEDY	0
EBRPD- TEMESCAL	0
EBRPD- L. CHABOT (EBRPD HMGP)	4.79
EBRPD- MILLER-KNOX (EBRPD HMGP)	22.23
	582.04
TOTAL	998.33

400 ACRES WEST OF THE RIDGE IN THE RESIDENTIAL INTERMIX

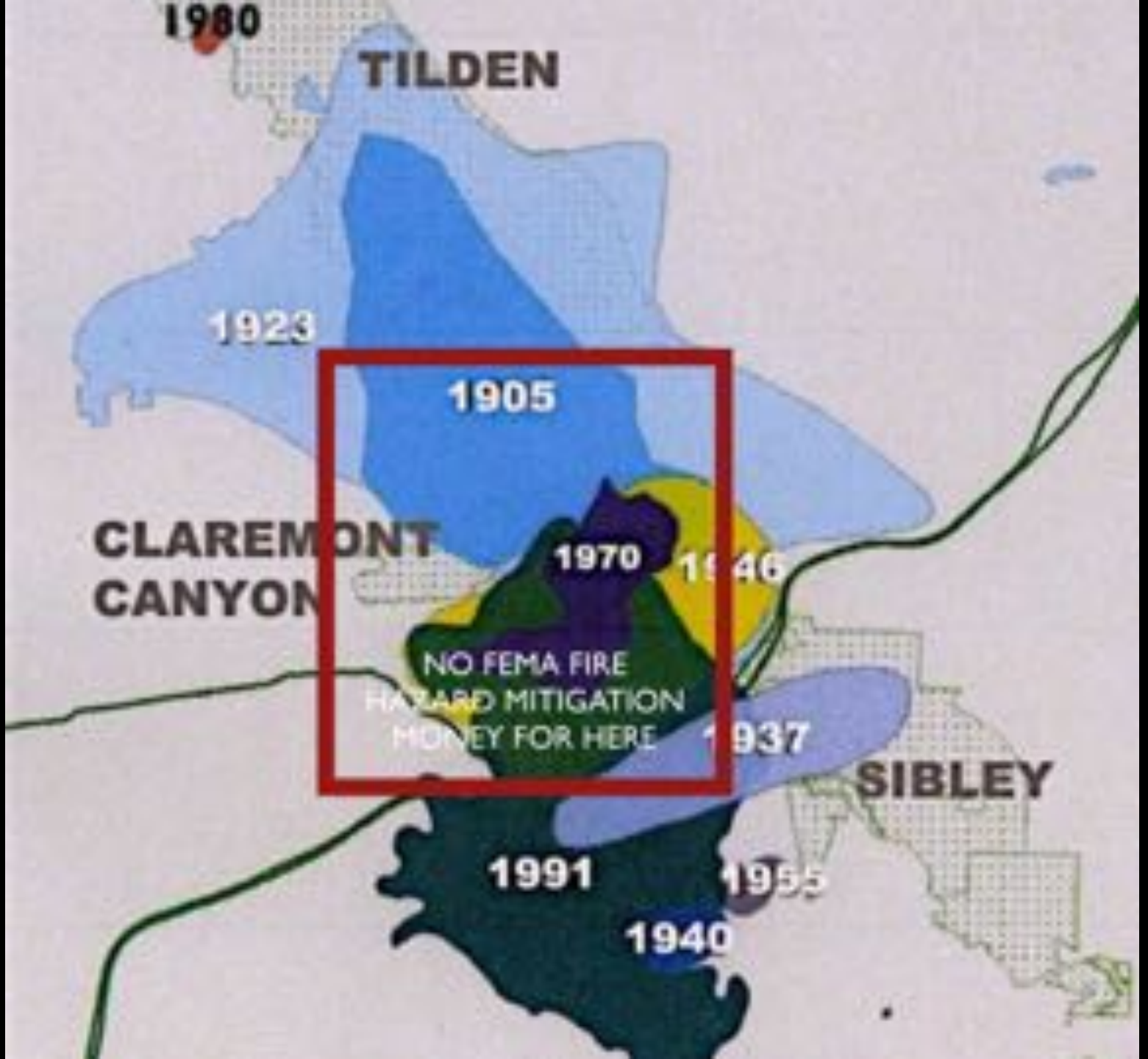
600 ACRES EAST OF THE RIDGE AT THE RESIDENTIAL INTERFACE

AN ADDITIONAL 400 ACRES OF PARK DISTRICT PROJECTS WILL BE POSSIBLE WITH FUNDS TAKEN FROM THE UNIVERSITY AND THE CITY

NO FEMA FIRE HAZARD MONEY FOR THE OAKLAND AND BERKELEY INTERMIX



THE FEMA EIS REQUIRED 172 ACRES 0F EUCALYPTUS/PINE TO BE CONVERTED TO OAK/BAY WOODLAND WITH 28 UNIFIED METHOD ACRES, AND 200 ACRES OF ALAMEDA WHIPSNAKE HABITAT ALL IN THE INTERMIX


1980
TILDEN
1923
1905
CLAREMONT
CANYON
1970
1946
NO FEMA FIRE
HAZARD MITIGATION
MONEY FOR HERE
1937
SIBLEY
1991
1955
1940

THERE ARE FEDERALLY PROTECTED ALAMED WHIPSNAKES IN MANY OF THE FEMA PROJECT AREAS. THE UNIVERSITY AND OAKLAND PROVIDED FOR ON-SITE MITIGATION FOR THEIR PROJECTS, AND THE PARK DISTRICT PROVIDED FOR SOME ON-SITE WITH MOSTLY OFF-SITE MITIGATION.

In order to be exempt from the prohibitions of section 9 of the Act, FEMA must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The following Terms and Conditions implement Reasonable and Prudent Measure Number One (1):

   a. FEMA shall ensure that each applicant has a final Service-approved 15-year MMP prior to their initiation of the proposed project. The MMPs shall include interim and final success criteria for the cover of native and invasive plant species, the cover of suitable listed species habitat, and the decomposition of wood chips within all proposed treatment areas. FEMA shall ensure that the applicants develop and implement Service-approved contingency plans in case the interim and final success criteria are not achieved.

   b. FEMA shall ensure that UCB creates at least 167 acres of suitable habitat for the Alameda whipsnake consisting of at least 32 acres of core scrub habitat.

   c. FEMA shall ensure that Oakland creates at least 40 acres of suitable habitat for the Alameda whipsnake consisting of at least 10 acres of core scrub habitat.

   d. FEMA shall ensure that EBRPD creates at least 62 acres of suitable habitat for the Alameda whipsnake.

   e. FEMA shall ensure that EBRPD has a compensation plan finalized and approved by

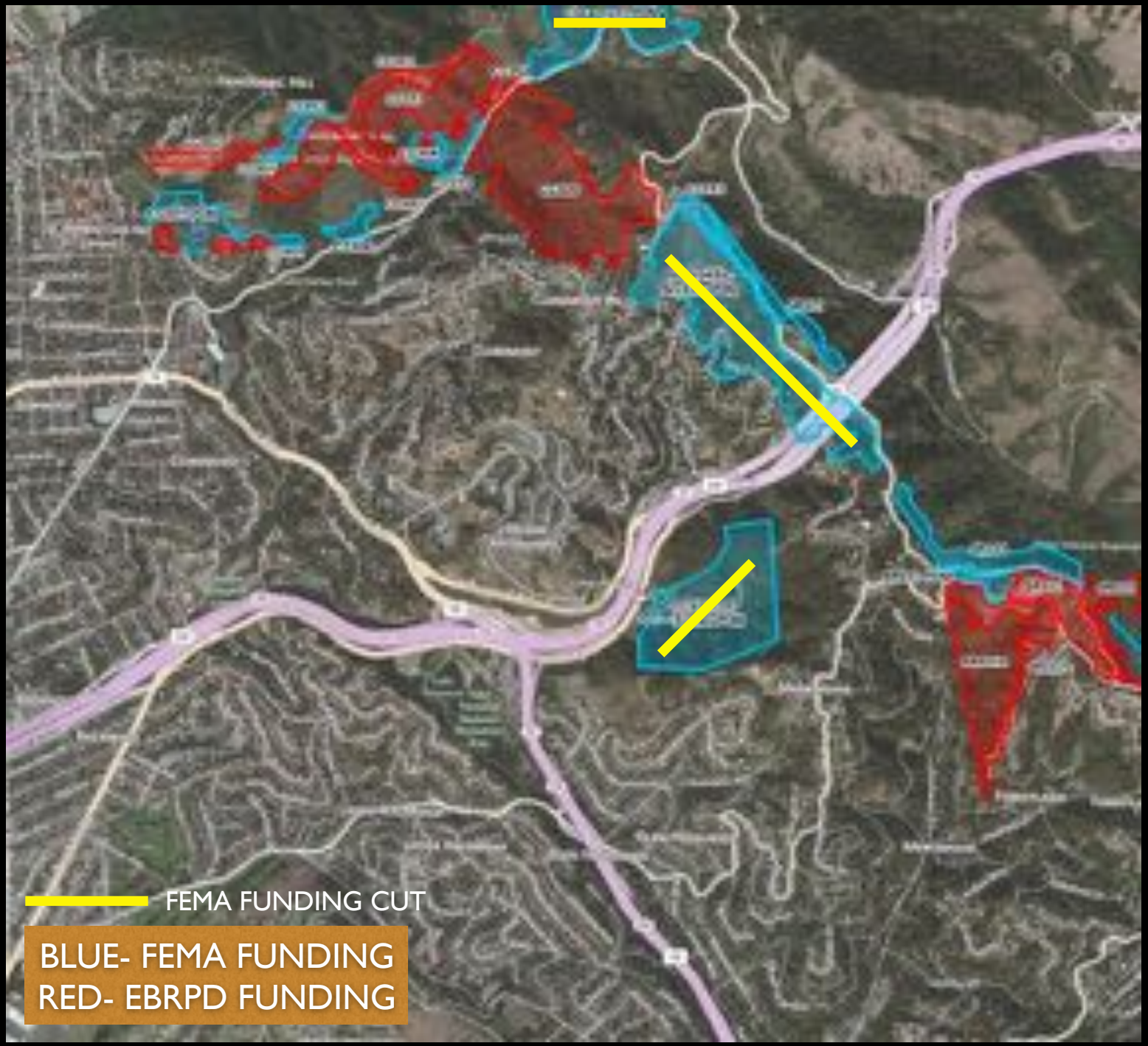
UC MUST CREATE 167 ACRES OF HABITAT
OAKLAND MUST CREATE 40 ACRES OF HABITAT
EBRPD MUST CREATE 62 ACRES OF HABITAT

EBRPD MUST BUY 386 ACRES OF HABITAT TO BE MANAGED IN PERPETUITY WITH AN ENDOWMENT

habitat.

   g. FEMA shall ensure that EBRPD has a final Service-approved long-term management plan for all stands of the pallid manzanita that occur on EBRPD lands prior to the initiation of any vegetation management activities within areas that contain the pallid manzanita.


FEMA FUNDING CUT
BLUE- FEMA FUNDING
RED- EBRPD FUNDING


FEMA FUNDING CUT
BLUE- FEMA FUNDING
RED- EBRPD FUNDING

UC AND OAKLAND ARE NOW WORKING ON THEIR FIRE HAZARD MITIGATION PLANS AND EIRS.

UC HAS COMPLETED ITS PLAN,
BUT HAS BEEN SUED BY HCN

OAKLAND HOPES TO COMPLETE ITS PLAN
IN TWO TO FIVE YEARS

REGIONAL SCALE FIRE HAZARD MITIGATION PLANS

1. 1923 BERKELEY FIRE REPORT
2. 1936 TILLEY GENERAL FIRE PLAN FOR REGIONAL PARK HILLS
3. 1980 FENWICK CHABOT FOREST PLAN
4. 1982 EAST BAY HILL BLUE RIBBION REPORT
5. 1991 NFPA REPORT AFTER THE '91 FIRE
6. 1991 FIRE, LESSONS LEARNED. OAKLAND CHIEF EUWELL

FIRE MITIGATION PLANNING HAPPENS BUT, A SINGLE AUTHORITY IS NEEDED TO:

USE INDIVIDUAL PLANS AND CEQA DOCUMENTS TO CREATE A SINGLE WORKING FIRE HAZARD MITIGATION PLAN AND PROGRAM FOR THE HILLS THAT WILL INFORM THE PUBLIC.

TO LINK AGENCY FIRE SUPPRESSION AND THE
FIRE HAZARD MITIGATION PLAN
TO RESOLVE DIFFERENCES AMONG MEMBERS,
TO DEAL WITH THE MEDIA,
TO DEAL WITH CONTROVERSY,
TO DEAL WITH STATE AND FEDERAL AGENCIES,
TO HELP MEMBERS OBTAIN FUNDING,
AND TO ENSURE RESULTS

17. 2015 FEMA EIS FOR 4.7 MILLION IN EAST BAY HILL GRANT PROJECTS

READY, SET, GO!

YOUR PERSONAL WILDFIRE ACTION PLAN