APPENDIX E
SUPPLEMENTAL INFORMATION

APPENDIX E, PART 1, GGNRA RUN CARD

GGNRA – MT. TAM AREA RUN CARD				
DAILY FIRE DANGER	**MARIN COUNTY RESPONSE ZONES**			
	2A	**2B**	**2D**	**3C**
LOW	BC	BC	BC	BC
	PREV	PREV	PREV	PREV
	E1565	E1565	E1565	E1563
	E1585	Hand crew	E1585	Hand crew
	Hand crew	--	MUI E761/762	PSF BC
	--	--	Hand crew	--
MEDIUM	E1563	E1564	E1563	E1565
	E1566	E1563	E1566	E1566
	E1568	E1566	E1568	E1568
	E1564	D21540	D21540	WT1596
	D21540	--	WT1596	Local Gov't T3(2)
	WT1596	WT1592	SNB E861	
	Local Gov't T3(2)	BOL E265	SNB WT890	--
HI	E1562	E1568	E1564	E1562
	--	E1562	E1562	E1564

AIRCRAFT AND HANDCREW DISPATCH LOCATIONS (Medium & High Dispatch)	
Air Attack Supervisor -- OV-10	AA140 -- Sonoma
Air Tanker Type 2 – S-2T	AT85 AT95 -- Sonoma
Copter Type 2 -- Super 204	H104 -- Boggs Mtn
Hand crew -- Type 1 (Inmate)	Delta Conservation Camp
Hand crew -- Type 1 (Paid County)	Hamilton Field

Key to Abbreviations:
BC – Battalion Chief
BOL – Bolinas
DZ – Dozer
E – Engine
MUI – Muir Beach
PSF – Presidio Fire Dept
PREV – Prevention Officer
SNB – Stinson Beach
T3 – Type 3 Engine
WT – Water Tender

APPENDIX E, PART 2, DAILY RESOURCE AVAILABILITY

BAY AREA NATIONAL PARKS
GOLDEN GATE NRA-POINT REYES NS
DAILY RESOURCE AVAILBILITY

Date:_____

Fire Management Office ……..415-464-5233
Point Reyes Law Enforcement-Public Safety Dispatch……...415-464-5170

Duty Officer (Call in order listed): [personally identifiable information removed]

Roger Wong	**(w)** 415-464-5232	**(c)** xxx-xxx-xxxx	**(h)** xxx-xxx-xxxx
Jordan Reeser	**(w)** 415-464-5235	**(c)** xxx-xxx-xxxx	**(h)**xxx-xxx-xxxx
Jon Haag	**(w)** 415-464-5236	**(c)**xxx-xxx-xxxx	**(h)**xxx-xxx-xxxx
Greg Jones	**(w)** 415-331-6374	**(c)**xxx-xxx-xxxx	**(h)** xxx-xxx-xxxx

Agency Administrator/Chief Park Ranger:

Colin Smith	**(w)** 415-464-5175	**(c)** xxx-xxx-xxxx	**(h)**xxx-xxx-xxxx
Yvette Ruan	**(w)** 415-464-5175	**(c)** xxx-xxx-xxxx	**(h)** xxx-xxx-xxxx

TODAY'S PREDICTED FIRE DANGER (circle):

LOW MODERATE HIGH VERY HIGH EXTREME

<u>TODAY'S AVAILABLE RESOURCES (circle):</u>

ENGINES

Patrol 6-2	Type 6	Available	staffing	_____
Engine 1176	Type 6	Available	staffing	_____
Engine 3-1	Type 3	Available	staffing	_____

HAZARDOUS FUELS REMOVAL MODULE

Crew #9	Type 2-IA	Available	staffing	_____

SINGLE RESOURCES: Contact Duty Officer to confirm availability of positions and personnel listed in /ROSS.

COMMITTED RESOURCES: **ACTIVE FIRES:**

APPENDIX E, PART 3

WEATHER INFORMATION MANAGEMENT SYSTEM WALK-THROUGH (WIMS)

Go to [not public information]

Click on WIMS

User Name: [not public information]

Password: [not public information]

Go to “fast path”, type in “didx” and hit “go”

Click on Station ID, enter date (@1730 today’s date, 0800 yesterday’s date), enter

xxxxx = **Barnabe** or enter PORE in SIG to get all the data

xxxxx = Big Rock

xxxxx = Sky Oaks

As stated in the Step-Up plan, xxxxx **is the first choice**. If it is not available, collect information from either of the others listed (xxxxx, xxxxx)

Scroll over to the BI column to retrieve fire danger information.

forecasted BI (OT column will be F, O = observed)

fuel model MSGC7A2A2 (***NOT*** MSGC7B2A2)

Step-Up Plan

Low	Mod	High	Very High	Extreme
0-18	19-27	28-33	34-37	38+

Fax information to GGNRA Dispatch before 1300 hours daily.

APPENDIX E, PART 4

DISPATCH PROTOCOL FOR FIRES 2008

The Dispatch Protocol is a procedure to be used by the Golden Gate National Recreation Area's Communications Center (CommSec) and responding units, outlining the initial actions to be taken and necessary notifications to be made in the event of a wildland fire within or threatening the Park's boundaries.

The Dispatch Protocol contains time-sensitive information such as names and phone numbers and, thus, should be reviewed and updated annually.

PROCEDURE

1. CommSec gathers the following information about the fire:

   - Location,
   - Type (Structure, Wildland, Vehicle),
   - Color of smoke,
   - Approximate size and character of fire,
   - Any threatened structures/people in the area (which will determine the type of resources dispatched (structural fire, medical, LE for traffic control, etc.),
   - Name, location, and phone number of reporting party.

2. CommSec notifies the following dispatch centers:

   - For Marin County: Marin County Woodacre Dispatch: 415-499-6717

     This dispatch center will become the primary point of contact for ordering resources for both initial attack and extended attack fires in Marin County.
   - For San Francisco County: San Francisco Fire Dept.: 415-558-3268.
   - For San Mateo County: CAL FIRE Felton Dispatch: 831-335-5355 and North County Fire Authority: 650-991-8138.

     San Mateo County Public Safety Communications: 650-363-4342 (Back-up contact).

3. CommSec will notify Wildland Fire Management, Presidio Fire Department, and, per request of responding Fire units, Law Enforcement personnel as necessary to provide additional support to the incident. The notification process is::

- A long tone followed by "[*Vegetation/Structural/Vehicle Fire*] reported in the vicinity of [*reported street/trail/beach, etc.*]". Dispatcher will provide additional information. "The following units to respond [*based on the nature of the call*]:
    - Presidio Fire Units,
    - Fire Management Engine(s) 1166/1176
  - Presidio Fire will be paged out per normal procedure.
  - Responding units will provide enroute and on scene times for documentation by CommSec.

4. CommSec contacts the following individuals:

- Fire Duty Officer (Identified on Daily Resource Availability List),
- Network Fire Management Officer – Roger Wong: 415-464-5232 (work) or xxx-xxx-xxxx (cell),
- Chief Ranger – Yvette Ruan: 415-561-4745 (work) or xxx-xxx-xxxx (cell),
- Public Affairs officer on duty.

5. CommSec and/or Woodacre Dispatch gathers the following fire size-up information from **Qualified** fire personnel upon arrival (first unit on-scene, Initial Attack Incident Commander). **Prompt the I.C. for this information if not relayed**:

- Specific fire location,
- Fire size,
- Fuel type,
- Fire behavior (smoldering, creeping, running, torching, crowning),
- Direction of fire spread and wind speed,
- Values at risk (structures, etc.),
- Best **safe** access,
- Request for resources (type and quantity)
- Special hazards (e.g. downed power lines, aerial hazards, hazmat, etc.).

Note: By this time, a **Qualified I.C.** should have arrived on-scene at the incident, assumed command, and identified himself/herself to CommSec and/or Woodacre Dispatch. In turn, the appropriate dispatch center will alert all incoming and on-scene personnel that an I.C. has been established. Additionally, the dispatch center(s) will broadcast similar updates of any changes in command. All incident tactical radio traffic should be relayed to the I.C. The I.C. will identify himself/herself on the radio by using the fire name, followed by "I.C." **It is the**

understanding that, by agreement, MCFD in Marin County, CAL FIRE and/or NCFA in San Mateo County, and PFD and/or SFFD in San Francisco County, will handle some fire incidents alone. CommSec will, nonetheless, request a copy of the appropriate incident dispatch log for Park records. Once obtained, CommSec will send a copy of the incident dispatch log to the Fire Management Office.

Definition of terms:

Fire Duty Officer (FDO): A designated daily fire supervisor in charge of coordinating wildland fire activities. The Fire Duty Officer is responsible for knowing fire resource availability and, if necessary, responding to wildland fires within or threatening the Park's boundaries.

Network Fire Management Officer (FMO): Currently, the Division Chief for Fire Management at Point Reyes National Seashore (PRNS), Roger Wong, is serving as the FMO for the Bay Area Network Parks (GGNRA, PRNS, Pinnacles National Monument, Eugene O'Neill National Historic Site and John Muir National Historic Site). The FMO will designate an acting FMO when he is unavailable.

APPENDIX E, PART 5

GGNRA

NFDRS INDICES AND PARK VISITOR FIRE RESTRICTIONS

Fire Danger – How Will It Affect You?

If the FIRE DANGER RATING is….	Is this type of use allowed??			
	Self-contained gas stoves (in designated picnic areas and campgrounds)	**Park provided grills (in designated picnic areas and campgrounds)**	**Self-contained charcoal barbecue grills (in designated picnic areas and campgrounds)**	**Beach open pit fires***
LOW	YES	YES	YES	YES
MODERATE	YES	YES	YES	YES
HIGH	YES	YES	YES	NO
VERY HIGH	YES	NO	NO	NO
EXTREME or RED FLAG WARNING	YES	NO	NO	NO

* In conformance with GGNRA revised Ocean Beach Fire Policy.

- Fires shall at all times be maintained in a safe condition that does not threaten any person, natural or structural feature.
- Firewood gathering is prohibited.
- The possession or discharge of fireworks is prohibited.
- Never leave a fire unattended.
- Report all wildfires immediately.
- Extinguish all fires prior to departure.
- Ground fires are not permitted.
- Ask a park ranger for further information.

GOLDEN GATE NATIONAL RECREATION AREA

FIRE MANAGEMENT STEP- UP PLAN (SOP 37)

ACTION CLASS	FIRE DANGER (NFDRS RATING)	BURNING INDEX	ACTIONS
I	**LOW**	**0-18**	➢ Optimal Staffing: Minimum of two (2) firefighters on duty (one FF must be at least ENOP qualified). ➢ Fire personnel conduct preparedness operations during regular tour of duty hours. ➢ Conduct daily fire weather and safety briefings. ➢ Maintain engines in fire-ready condition. ➢ Perform apparatus inspections and report inoperative units to FMO by 1000 hours. ➢ Deliver daily staffing report and fire danger rating to FMO, GGNRA Dispatch, Marin County Fire, and Mendocino N.F. dispatch by 1000 hours. ➢ Ensure PPE and IA gear are immediately available.
II	**MODERATE**	**19-27**	➢ Includes all actions for Action Class I. ➢ Optimal Staffing: Minimum of three (3) firefighters on duty (staffing must include at least one ENOP and one, separate, ICT5).

ACTION CLASS	FIRE DANGER (NFDRS RATING)	BURNING INDEX	ACTIONS
III	**HIGH**	**28-33**	➢ Includes all actions for Action Class II. ➢ Optimal Staffing: Minimum of four (4) firefighters on duty (staffing must include one ENGB and one ICT4). ➢ Engine captain places firefighters on two-hour, after-hour call-back. ➢ GGNRA Dispatch will broadcast the "High" Fire Danger Broadcast at 1000 hours.***** ➢ All open fires prohibited except for portable gas stoves and charcoal grills. ➢ Issued open fire permits are voided. ➢ "High Fire Danger" signs posted at pre-designated locations by fire personnel and ranger staff. ➢ "No Fires" signs posted at pre-designated locations.

ACTION CLASS	FIRE DANGER (NFDRS RATING)	BURNING INDEX	ACTIONS
IV	**VERY HIGH**	**34-37**	➢➢ Includes all actions for Action Class III. ➢➢ Optimal Staffing: Minimum of five (5) firefighters on duty. (staffing must include one ENGB, one ENOP, and one ICT4) ➢ Coordinate with PORE Fire Mgmt. Office on the distribution of BAN suppression resources. ➢➢ Chief Ranger briefed on situation and staffing. ➢➢ Fire personnel may be called to work extended hours and/or weekends at FMO's discretion. ➢ FMO may request additional staffing by red-carded personnel from other park divisions. ➢ Establish funding for extended and/or additional staffing though appropriate emergency account. ➢ Engine crew will patrol for smokes at least once in the afternoon hours. ➢ Engine crew stays within a five minute hike from vehicles after 1000 hours. ➢ Projects may be postponed if they pose an unacceptable fire risk. ➢➢ Firefighters placed on one-hour after-hours call-back. ➢➢ Park Dispatch will broadcast the " Very High" Fire Danger Broadcast at 1000 hours.** ➢ All open fires prohibited except for portable gas stoves.

ACTION CLASS	FIRE DANGER (NFDRS RATING)	BURNING INDEX	ACTIONS
V	**EXTREME**	**38+**	➢ Includes all actions for Action Class IV. ➢ All firefighters will wear full PPE. ➢ Optimal Staffing: Minimum of six (6) firefighters on duty (staffing must include one ICT4, one ENGB, one ENOP, and one FFT1). ➢ Physical fitness training cancelled. ➢ Park Dispatch will broadcast the " Extreme" Fire Danger Broadcast at 1000 hours.******* ➢ FMO recommends road, campground, and/or picnic area closures to the Chief Ranger. ➢ Post "Extreme Fire Danger" signs at pre-designated locations. ➢ Prohibit the use of any equipment that could provide a potential source of ignition. ➢ Prohibit all outdoor "Hot Work" permits.

***** High Fire Danger Rating Broadcast: "Standby for today's fire danger information. Today's fire danger rating is **HIGH**. Action class is 3. All open fires are prohibited today except for charcoal grills and self-contained, portable gas stoves, which are allowed only in designated campground and picnic areas. The Fire Management Office has Engine 1166/1176 staffed today with "X" firefighters. This concludes today's fire danger broadcast."

** Very High Fire Danger Rating Broadcast: "Standby for today's fire danger information. Today's fire danger rating is **Very High**. Action class is 4. All fire personnel and red-carded law enforcement personnel are required to have their wildland fire gear immediately available. All fires, including cooking fires and charcoal grills, are prohibited today except for self-contained, portable gas stoves, which are allowed only in designated campground and picnic areas. The Fire Management Office has Engine 1166/1176 staffed today with "X" firefighters. This concludes today's fire danger broadcast."

*** Extreme Fire Danger Rating Broadcast: "Standby for today's fire danger information. Today's fire danger rating is **Extreme**. (If appropriate) The National Weather Service has issued a Red Flag Warning. Action class is 5. All fire personnel and red-carded law enforcement personnel are required to have their wildland fire gear immediately available. All fires, including cooking fires and

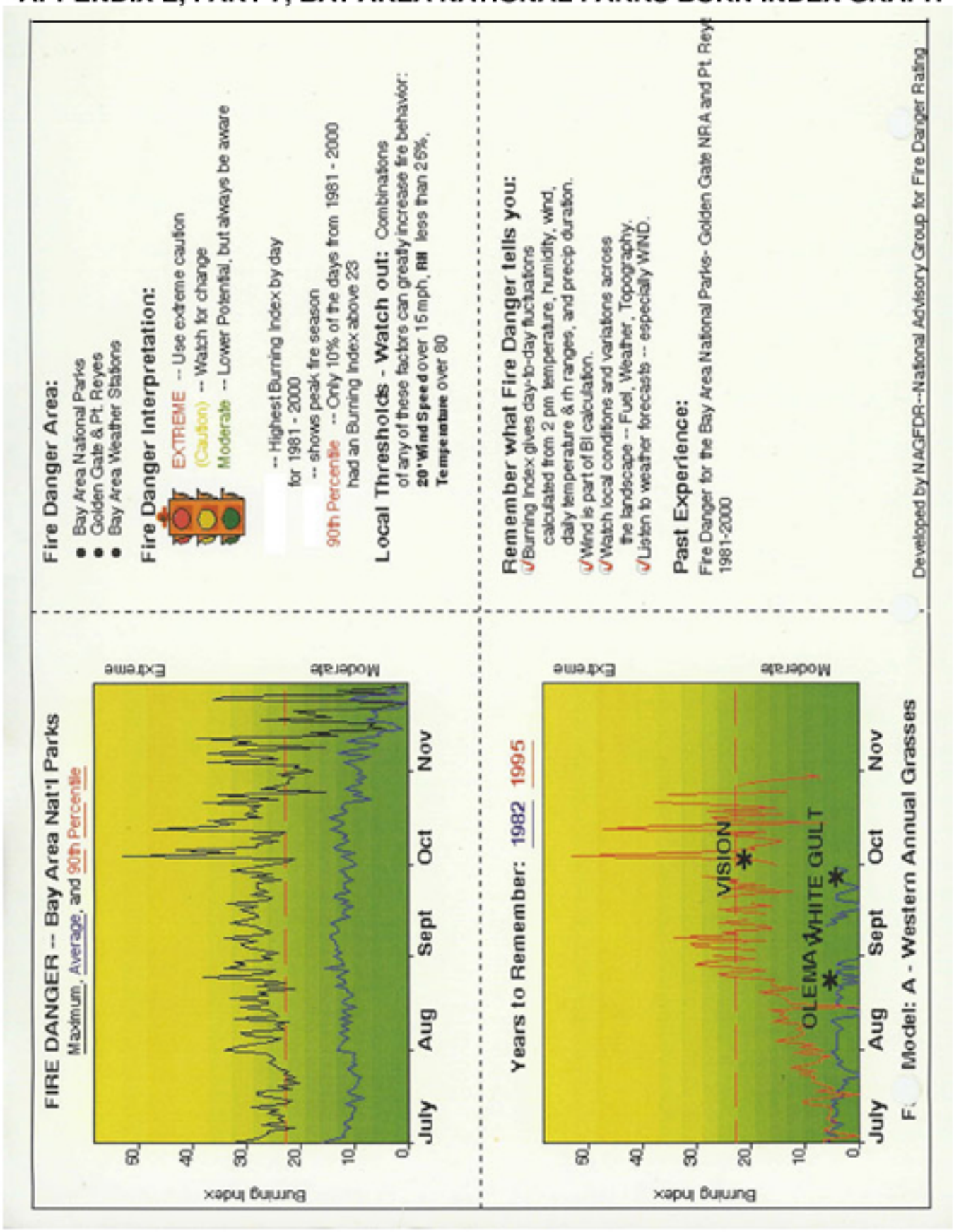
charcoal grills, are prohibited today except for self-contained, portable gas stoves, which are allowed only in designated campground and picnic areas. Smoking on trails is prohibited. The Fire Management Office has Engine 1166/1176 staffed today with "X" firefighters. All fire management personnel are to remain on duty until further notification. This concludes today's fire weather broadcast".

NOTE: Certain factors can potentially contribute to increased fire activity. At the discretion of the Fire Management Officer or, alternatively, the pre-designated Fire Duty Officer, the following conditions may increase the Action Class to level IV (Very High) or Action Class V (Extreme) (per RM-18):

- Extreme wind conditions (e.g. sustained 20-foot wind speed in excess of 20 mph)
- Red Flag Warnings issued by the National Weather Service
- Weather conditions which approximate local thresholds documented on Bay Area National Parks Fire Danger Pocket Cards (i.e. a combination of any two or more of the following factors: 20-foot winds speeds of 15+ mph, relative humidity (of less than 25%, and temperature in excess of 80 degrees Fahrenheit.
- Predicted or observed lightning activity level (LAL) of 4, 5, or 6
- Predicted burn index in exceedance of the 90th percentile (B.I.=24+)
- Periods of unusually high park visitation (e.g. National holidays and special events)

Golden Gate National Recreation Area fire management personnel base management responses to observed and predicted fire danger, including preparedness (pre-suppression) activities and minimum staffing levels, on the Step-up Plan (SOP 37). The Step-up Plan is a policy-compliant plan which provides a documented procedure designed to direct incremental preparedness actions in response to increasing fire danger. The Step-up Plan's five Action Classes are based upon a range of burning indices (BI) predicted daily, using the National Fire Danger Rating System (NFDRS). As the burning index increases with escalating fire danger, preparedness activities and staffing levels subsequently increase. NFDRS outputs can be obtained from the Weather Information Management System (WIMS). Additionally, the Fire Management Officer, or alternatively, the pre-designated Fire Duty Officer, may elect to move the Action Class to a higher level. The criteria for doing so are defined in the Step-up Plan. The Step-up Plan will be in operation from approximately June 1 through November 15 each year.

APPENDIX E, PART 7, BAY AREA NATIONAL PARKS BURN INDEX GRAPH



APPENDIX E, PART 8, DELEGATION FROM SUPERINTENDENT TO FMO

United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Fort Mason, Building 201
San Francisco, California 94123

DELEGATION FOR PARK FIRE MANAGEMENT OFFICER FROM GENERAL SUPERINTENDENT, GOLDEN GATE NATIONAL RECREATION AREA

THE FIRE MANAGEMENT OFFICER FOR POINT REYES NATIONAL SEASHORE IS DELEGATED AUTHORITY TO ACT ON MY BEHALF FOR THE FOLLOWING DUTIES AND ACTIONS:

- PROVIDE DIRECTION, SUPERVISION AND LEADERSHIP TO THE PARK FIRE PREPAREDNESS-OPERATIONS STAFF OUTLINED IN THE ATTACHED ORGANIZATION CHART.

- COORDINATE WITH AND PROVIDE TIMELY AND ACCURATE REPORTS TO CHIEF RANGER ON ALL ACTIVITIES OF FIRE PREPAREDNESS OPERATIONS PERSONNEL.

- COORDINATE HAZARDOUS FUELS BUDGET EXPENDITURES WITH GOGA BUDGET ANALYST TO ASSURE FISCAL GUIDELINE ACCOUNTABILITY PER REGIONAL AND PARK FUNDING CRITERIA.

- ASSURE PERSONNEL PARTICIPATING IN PRESCRIBED FIRE AND WILDFIRE OPERATIONS ARE FULLY QUALIFIED.

- RESPOND TO PREPAREDNESS, SEVERITY AND HAZARDOUS FUELS FUNDING REQUESTS FOR FY08 PARK WILDLAND FIRE OPERATIONS.

- ENSURE ALL PARK FIRE INCIDENTS ARE MANAGED IN A SAFE AND COST-EFFECTIVE MANNER.

- RESPONSIBLE FOR REPRESENTING GOLDEN GATE NATIONAL RECREATION AREA IN ALL MATTERS RELATED TO WILDLAND AND PRESCRIBED FIRE MANAGEMENT WITH LOCAL COOPERATORS AND THE NORTHERN CALIIFORNIA GEOGRAPHICAL AREA.

- COORDINATE PARK FIRE PREVENTION ACTIVITIES WITH THE CHIEF RANGER AND FIRE CHIEF - PRESIDIO FIRE DEPARTMENT AND ASSIST WITH APPROPRIATE PROGRAM DIRECTION AND GUIDANCE.

- COORDINATE, PREPOSITION, SEND AND ORDER FIRE AND AVIATION RESOURCES IN RESPONSE TO CURRENT AND ANTICIPATED PARK, REGIONAL AND NATIONAL FIRE CONDITIONS.

- RESPONSIBLE FOR REPRESENTING GOLDEN GATE NATIONAL RECREATION AREA ON ALL PACIFIC WEST REGION MATTERS RELATED TO THE WILDLAND FIRE MANAGEMENT PROGRAM.

- MANAGE INCIDENT QUALIFICATIONS CERTIFICATION SYSTEM AND CERTIFY INCIDENT QUALIFICATION CARDS EXCLUSIVELY FOR GOLDEN GATE NATIONAL RECREATION WILDLAND FIRE STAFF (EXCLUDES PRESIDIO FIRE DEPARTMENT AND COLLATERAL FIRE DUTY PERSONNEL).

- CREATE AWARENESS THAT PUBLIC AND FIREFIGHTER SAFETY IS THE FIRST PRIORITY IN ANY FIRE ACTIVITY.

- RESPONSIBLE FOR DETERMINING IF SAFETY ISSUES RELATED TO WILDLAND FIRE REQUIRE SITUATIONAL “STAND DOWNS” AND/OR SUSPENSION OF WILDLAND FIRE ACTIVITIES IF SAFETY CONCERNS DICTATE.

THIS DELEGATION AND AUTHORIZATION WILL EXPIRE ON OCTOBER 1, 2007. AFTER THAT DATE GOLDEN GATE NATIONAL RECREATION AREA WILL ASSUME ALL FIRE MANAGEMENT RESPONSIBILTIES UNLESS A NEW DELGATION OF AUTHORITY IS SIGNED.

_____

BRIAN O’NEILL
GENERAL SUPERINTENDENT, GOLDEN GATE NATIONAL RECREATION AREA

MERA FIRE TALKGROUP TEMPLATE - 3/30/07

Z \ M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A EMS	**FD DSP** Fire Dispatch	**EMS** EMS Dispatch	**HOSP** All Hospital	**MGH 1** Marin Consult	**MGH 2** Marin Report	**KSR 1** Kaiser Consult	**KSR 2** Kaiser Report	**NCH 1** Novato Consult	**NCH 2** Novato Report	**EMS 10** EMS Tactical	**LG CLL** Local Gov. Call	**LG TLK** Local Gov. Talk	**PD CLL** Law Call	**PD TLK** Law Talk	**911** Emerg	**FD EMR** Fire Emerg
B DPW	**FD DSP** Fire Dispatch	**FD CLL** Fire Call	**FD TLK** Fire Talk	**CPW** County Pub Wks	**NPW** Novato Pub Wks	**SRPW1** San Rafael Pub Wks	**CMPW** Corte Mad Pw	**LPW** Larkspur Pub Wks	**RPW** Ross Pub Wks	**SAPW** San Ans Pub Wks	**FPW** Fairfax Pub Wks	**SPW** Sausalito Pub Wks	**MVPW** Mill Vly Pub Wks	**TPW** Tiburon Pub Wks	**BPW** Belvedere Pub Wks	**FD EMR** Fire Emerg
C ICS	**FD DSP** Fire Dispatch	**IC CLL** ICS Call	**ICS 3** ICS 3	**ICS 4** ICS 4	**ICS 5** ICS 5	**ICS 6** ICS 6	**ICS 7** ICS 7	**ICS 8** ICS 8	**ICS 9** ICS 9	**ICS 10** ICS 10	**ICS 11** ICS 11	**ICS 12** ICS 12	**ICS 13** ICS 13	**ICS 14** ICS 14	**ICS 15** ICS 15	**FD EMR** Fire Emerg
D Novato	**FD DSP** Fire Dispatch.	**CTL D2** Novato Control	**CTL D3** Novato Control	**TAC D4** Fire Tactical	**CMD D5** Fire Command	**TAC D6** Fire Tactical	**NV CMD** Novato Command	**TAC D8** Fire Tactical	**TAC D9** Fire Tactical	**NP** Novato PD Dispatch	**NP 2** Novato PD Dispatch	**PD MAC** PD Mut Aid	**CNV 13** Fire Car To Car	**CNV 14** Fire Car To Car	**NF AD** Novato Admin	**FD EMR** Fire Emerg
E San Rafael	**FD DSP** Fire Dispatch	**CTL E2** San Rafael Control	**CTL E3** San Rafael Control	**TAC E4** Fire Tactical	**CMD E5** Fire Command	**TAC E6** Fire Tactical	**SR CMD** San Rafael Command	**TAC E8** Fire Tactical	**TAC E9** Fire Tactical	**SRP** SRPD Dispatch	**JL CLL** Jail Call	**COURT** Marin Fire Disp	**CNV 13** Fire Car To Car	**CNV 14** Fire Car To Car	**SRF AD** San Rafael Admin	**FD EMR** Fire Emerg
F Central	**FD DSP** Fire Dispatch	**CTL F2** Central Control	**CTL F3** Central Control	**TAC F4** Fire Tactical	**CMD F5** Fire Command	**TAC F6** Fire Tactical	**CA CMD** Central Command	**TAC F8** Fire Tactical	**TAC F9** Fire Tactical	**TCP** TCPD Dispatch	**SAP** SAPD Dispatch	**FP** Frfx PD Dispatch	**CNV 13** Fire Car To Car	**CNV 14** Fire Car To Car	**CAF AD** Central Admin	**FD EMR** Fire Emerg
G Southern	**FD DSP** Fire Dispatch	**CTL G2** Southern Control	**CTL G3** Southern Control	**TAC G4** Fire Tactical	**CMD G5** Fire Command	**TAC G6** Fire Tactical	**SA CMD** Southern Command	**TAC G8** Fire Tactical	**TAC G9** Fire Tactical	**SMP** SMPD Dispatch	**GGNRA** GoldenGate Nat Rec	**CHP** CHP Dispatch	**CNV 13** Fire Car To Car	**CNV 14** Fire Car To Car	**SAF AD** Southern Admin	**FD EMR** Fire Emerg
H Marin County	**FD DSP** Fire Dispatch	**CTL H2** Woodacre Control	**CTL H3** Woodacre Control	**TAC H4** Fire Tactical	**CMD H5** Fire Command	**TAC H6** Fire Tactical	**WS CMD** Western Command	**TAC H8** Fire Tactical	**TAC H9** Fire Tactical	**SO** Marin SO Disatch	**MMWD** Marin Water Dist	**FD INF** Fire Weather	**CNV 13** Fire Car To Car	**CNV 14** Fire Car To Car	**WSF AD** West Fire Admin	**FD EMR** Fire Emerg
I Event	**FD DSP** Fire Dispatch	**EVNT 2** Special Events	**EVNT 3** Special Events	**EVNT 4** Special Events	**EVNT 5** Special Events	**EVNT 6** Special Events	**EVNT 7** Special Events	**EVNT 8** Special Events	**EVNT 9** Special Events	**EVNT10** Special Events	**EOC** Emrg Ops Center	**OES** County of Marin OES	**CPR RG** Cnty Park Ranger	**OSD** Open Space	**KNOX** Knox Boxes	**FD EMR** Fire Emerg
M USAR	**FD DSP** Fire Dispatch	**USAR 2** USAR Tactical	**USAR 3** USAR Tactical	**USAR 4** USAR Tactical	**USAR 5** USAR Tactical	**ICS 6** ICS 6	**ICS 7** ICS 7	**ICS 8** ICS 8	**ICS 9** ICS 9	**ICS 10** ICS 10	**SAR 1** Search & Rescue	**SAR 2** Search & Rescue	**SAR 3** Search & Rescue	**CWMA R** Mutual Aid Repeater	**CWMA D** Mutual Aid Direct	**FD EMR** Fire Emerg

Scan 1 Conventional Scan

Scan 2 Radio-Wide Trunked Scan

Scan 3 Tac D4, CMD D5, Tac D6, FD EMR

Scan 4 NV CMD, Tac D8, Tac D9, FD EMR

Scan 5 Tac E4, CMD E5, Tac E6, FD EMR

Scan 6 SR CMD, Tac E8, Tac E9, FD EMR

Scan 7 Tac F4, CMD F5, Tac F6, FD EMR

Scan 8 CA CMD, Tac F8, Tac F9, FD EMR

Scan 9 Tac G4, CMD G5, Tac G6, FD EMR

Scan 10 SA CMD, Tac G8, Tac G9, FD EMR

Scan 11 Tac H4, CMD H5, Tac H6, FD EMR

Scan 12 WS CMD, Tac H8, Tac H9, FD EMR

Conventional Channels, Not on Trunked System

APPENDIX E, PART 10, MINIMUM IMPACT SUPPRESSION TACTICS

MINIMUM IMPACT SUPPRESSION TACTICS (MIST) GUIDELINES

TABLE OF CONTENTS

CONCEPT

The concept of Minimum Impact Suppression Tactics (MIST) is to use the minimum amount of forces necessary to effectively achieve the fire management protection objectives consistent with land and resource management objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects when determining how to implement an appropriate suppression response. In some cases, MIST tactics may indicate that cold trailing or wet line would be a more appropriate approach than constructed hand line. In another example, the use of an excavator may be used rather than a dozer. Individual determinations will be dependent on the specific situation and circumstances of each fire.

MIST is not intended to represent a separate or distinct classification of firefighting tactics but rather a mind set of how to suppress a wildfire while minimizing the long-term effects of the suppression action. When the term MIST is used in the GGNRA Operational FMP it reflects the above principle.

Suppression actions on all wildfires within GGNRA will be those having a minimum impact on the physical resources associated with each site. In so doing, the principle of fighting fire aggressively but providing for safety first will not be compromised.

The key challenge to the line officer, fire manager and firefighter is to be able to select the wildfire suppression tactics that are appropriate given the fire's probable or potential behavior. The guiding principle is always least cost plus loss while meeting land and resource management objectives. It is the second part of this statement which must be recognized more than it has been in the past. Appreciation of the resources, both tangible and intangible, and the elements of the visitor experience at GGNRA, may be sometimes difficult to articulate but, nevertheless, are an important component of wildland fire management. As this recognition grows, actions must be modified to accommodate a new awareness and appreciation of them.

These actions, or MIST, may result in an increase in the amount of time spent watching, rather than disturbing, a dying fire to insure it does not rise again. They may also involve additional rehabilitation measures on the site that may not have been previously employed.

When selecting an appropriate suppression response, firefighter and public safety remain the highest concern. Fire managers must also have confidence and assurance in the selected actions to be implemented – that the actions will be effective and will remain effective for the duration of the emergency situation.

GOAL

The goal of MIST is to halt or delay fire spread in order to maintain the fire within predetermined parameters while producing the least possible impact on the resource being protected. These parameters are represented by the initial attack

incident commander's size-up of the situation in the case of a new start or by the escaped fire situation analysis (EFSA) in case of an escaped fire.

It is important to consider probable rehabilitation need as a part of selecting the appropriate suppression response. Tactics that reduce the need for rehab are preferred whenever feasible.

SUPPRESSION RESPONSIBILITY

As stated previously, safety is the highest priority. All action will be anchored to the standard fire orders and watch out situations. Safety will remain the responsibility of each person involved with the incident.

Initial/Extended Attack

Incident Commander Responsibility – To understand and carry out an appropriate suppression response, which will best meet the land management objectives of the area at the least cost plus loss. Insure all forces used on the fire understand the plan for suppressing the fire in conjunction with MIST.

Keep in communication with responsible fire management or line officer to insure understanding and support of tactics being used on the fire. Evaluate and provide feedback as to the tactical effectiveness during and after fire incident.

Project Fire

Type 1/ Type 2 Incident Commander Responsibility – to carry out instructions given by the responsible line officer both verbally and through the WFSA. Establish and nurture a close dialogue with the resource advisors assigned to the fire team. Review actions on site and evaluate for compliance with land line officer direction and effectiveness at meeting fire management protection objectives.

Responsible Line Officer Responsibility – to transmit the land management objectives of the fire area to the fire team and to define specific fire management protection objectives. Periodically review the operation for compliance.

Resource Advisor Responsibility – to insure the interpretation and implementation of WFSA and other oral or written line officer direction is adequately carried out. Provide specific direction and guidelines as needed. Participate in fire team planning sessions, review incident action plans and attend daily briefings to emphasize resource concerns and management's expectations. Provide assistance in updating WFSA when necessary. Participate in incident management team debriefing and assist in evaluation of team performance related to MIST.

IMPLEMENTATION GUIDELINES

Following is a list of considerations for each fire situation. (Text in parenthesis refers to the specific FMP Mitigation Measure (MM) referenced).

Hot-Line/Ground Fuels

- Allow fire to burn to natural barriers.
- Allow fires to back into, around, or through wetlands and meadows to avoid suppression damage. (FMP MM WET-1)
- Where wetlands are used as a natural boundary to help contain a fire, the control line will be sited outside the wetland area. Trample lines (rather than dug lines) may be used if it is necessary to site the control line in a wetland. (FMP MM WET-1)
- Wetlands will be avoided to the greatest extent possible while constructing fire lines and breaks during wildfire suppression. (FMP MM WET-1)
- Resource advisors will work through the Agency Representative to inform the IC to construct fire lines outside of the habitat of the San Bruno elfin or mission blue butterflies to the greatest extent possible. If habitat areas must be used, wet lines should be used if water is available, and if not, narrow, hand-constructed lines should be considered (FMP MM SS-24 & SS30).
- Use cold-trail, wet line or combination when appropriate.
- If constructed fire line is necessary, use only width and depth to check fire spread.
- Burn out and use low impact tools like swatter or ‘gunny’ sack.
- Minimize bucking and cutting of trees to establish fire line; build line around logs when possible.
- Use alternative mechanized equipment such as excavators, rubber tired skidders, etc. rather than tracked vehicles. Use high pressure type sprayers to clean equipment prior to assigning equipment to the incident command in order to reduce the potential to spread noxious weeds.
- Constantly re-check cold trailed fire line.

B. Hot-Line/Aerial Fuels

- Limb vegetation adjacent to fire line only as needed to prevent additional fire spread.
- During fire line construction, cut shrubs or small trees only when necessary. Make all cuts flush with the ground.

- Minimize felling of trees and snags unless they threaten the fire line or seriously endanger workers. In lieu of felling, identify hazard trees with a lookout or flagging.
- Scrape around tree bases near fire line if it is likely they will ignite.

Mop-up/Ground Fuels

- Do minimal spading; restrict spading to hot areas near fire line.
- Cold-trail charred logs near fire line; do minimal tool scarring.
- Minimize bucking of logs to extinguish fire or to check for hotspots; roll the logs instead if possible.
- Return logs to original position after checking and when ground is cool.
- Refrain from making bone yards; burned and partially burned fuels that were moved should be returned to a natural arrangement.
- Consider allowing large logs to burn out. Use a lever rather than bucking to manage large logs that have to be extinguished.
- Except in emergency situations, water drafting from park streams and creeks that support salmonids must be halted when water levels drop to a level that could result in disconnected pools of water in the channel. Any water pumping from salmonid streams will require measures to prevent injury to fish, such as using offstream sumps, restricting approach velocities to less than 0.8 foot per second, and screening at intake with openings no greater than 0.25 inch. (FMP MM SS-11)
- Use gravity socks in stream sources and/or a combination of water blivits and fold-a-tanks to minimize impacts to streams.
- Consider using infrared detection devices along perimeter to reduce risk.
- Personnel should avoid using rehabilitated fire lines as travel corridors whenever possible because of potential soil compaction and possible detrimental impacts to rehab work, i.e. water bars.

Mop-up/Aerial Fuels

- Remove or limb only those fuels which if ignited have potential to spread fire outside the fire line.
- Before felling consider allowing ignited tree/snag to burn itself out. Ensure adequate safety measures are communicated if this option is chosen.
- Identify hazard trees with a lookout or flagging.
- If burning trees/snags pose a serious threat of spreading fire brands, extinguish the fire with water or dirt whenever possible.

- Align saw cuts to minimize visual impacts from more heavily traveled corridors. Slope cut away from line of sight when possible.

LOGISTICS

Campsite Considerations

- Resource advisors will work through the Agency Representative to inform the IC to avoid, if feasible, staging fire suppression actions in or directly adjacent to the habitat of San Bruno elfin or mission blue butterflies (FMP MM SS-24 & SS-30).
- Coordinate with the Resource Advisor in choosing a site with the most reasonable qualities of resource protection and safety concerns.
- Evaluate short-term low impact camps such as coyote or spike versus use of longer-term higher impact camps.
- Use existing campsites whenever possible.
- New site locations should be on impact resistant and naturally draining areas such as rocky or sandy soils, or openings with heavy timber.
- Avoid camps in meadows, along streams or on lakeshores. Camps should be located at least 200 feet from water resources or other sensitive areas.
- Consider impacts on both present and future users. An agency commitment to resource values will promote those values to the public.
- Lay out the camp components carefully from the start. Define cooking, sleeping, latrine, and water supply.
- Minimize the number of trails and ensure adequate marking.
- Consider fabric ground cloth for protection in high use areas such as around cooking facilities.
- Use commercial portable toilet facilities where available. If these cannot be used a latrine hole should be used.
- Select latrine sites a minimum of 200 feet from water sources with natural screening.
- Do not use nails in trees.
- Constantly evaluate the impacts which will occur, both short and long term.

Personal Camp Conduct

- Use “leave no trace” camping techniques.
- Minimize disturbance to land when preparing bedding site. Do not clear vegetation or trench to create bedding sites.
- Use stoves for cooking, when possible. If a campfire is used limit to one site and keep it as small as reasonable. Build either a “pit” or “mound” type fire. Avoid use of rocks to ring fires.
- Use down and dead firewood. Use small diameter wood, which burns down more cleanly.
- Don’t burn plastics or aluminum – “pack it out” with other garbage.
- Keep a clean camp and store food and garbage so it is unavailable to wildlife. Ensure items such as empty food containers are clean and odor free, never bury them.
- Select travel routes between camp and fire and define clearly.
- Carry water and bathe away from lakes and streams. Personnel must not introduce soaps, shampoos or other personal grooming chemicals into waterways.

AVIATION MANAGEMENT

One of the goals is to minimize the disturbance caused by air operations during an incident.

Aviation Use Guidelines

- Maximize back haul flights as much as possible.
- Use long line remote hook in lieu of constructed helispots for delivery or retrieval of supplies and gear.
- Take precautions to insure noxious weeds are not inadvertently spread through the deployment of cargo nets and other external loads.
- Use natural openings for helispots and paracargo landing zones as far as practical. If construction is necessary, avoid high visitor use areas.
- Consider maintenance of existing helispots over creating new sites.
- Obtain specific instructions for appropriate helispot construction prior to the commencement of any ground work.
- Consider directional falling of trees and snags so they will be in a natural appearing arrangement.

- Buck and limb only what is necessary to achieve safe/practical operating space in and around the landing pad area.
- To the greatest extent possible, avoid operating aircraft below and within 500 feet of Rodeo Lagoon, Bird Island, and Bolinas Lagoon from late spring to early winter to avoid disturbance to the California brown pelican. (FMP MM SS-38)
- To avoid the spread of highly nonnative animal species (e.g., bullfrogs) and protect the habitat of federally listed threatened or endangered species, resource advisors will advise responding fire agencies of the following guidance:
    - Drawing water from freshwater bodies in GGNRA and Rodeo Lagoon should be avoided unless needed to protect life and property and there is no other feasible water source available. (FMP MM SS-4, SS-32 & SS-38)
    - Avoid drawing water from the ocean near Bird Island or Bolinas Lagoon from late spring to early winter to avoid disturbance to California brown pelicans to the greatest extent possible. (FMP MM SS-38)
    - If freshwater is drawn or scooped from water bodies in the park, it should be used on wildfires within the same watershed whenever possible. (FMP MM SS-4)
    - Ocean and bay waters are preferred water sources for fighting wildfires in the park and vicinity. (FMP MM SS-4)
    - Habitats of sensitive aquatic species, such as wetlands, and mission blue butterflies should be avoided when saltwater is used. (FMP MM SS-4)

Retardant, Foam and/or Saltwater Use

During initial attack, fire managers must weigh the non-use of retardant with the probability of initial attack crews being able to successfully control or contain a wildfire. If it is determined that use of retardant may prevent a larger, more damaging wildfire, then the manager might consider retardant use even in sensitive areas. This decision must take into account all values at risk and the consequences of larger firefighting forces' impact on the land.

- Consider impacts of water drops versus use of foam/retardant. If foam/retardant is deemed necessary, consider use of foam before retardant use.
- Determine if there restrictions on certain types of retardant.
- Foams, saltwater or other fire retardants will not be used on or near wetlands to the greatest extent possible. (FMP MM WET-2).

- Resource advisors will work through the Agency Representative to inform the IC to avoid, if feasible, using saltwater or retardant on habitat of the San Bruno elfin and mission blue butterflies. (FMP MM SS-24 & SS-30).

HAZARDOUS MATERIALS

Flammable/Combustible Liquids

- Store and dispense aircraft and equipment fuels in accordance with National Fire Protection Association (NFPA) and Health and Safety Handbook requirements.
- Avoid spilling or leakage of oil or fuel, from sources such as portable pumps, into water sources or soils.
- Store any liquid petroleum gas (propane) downhill and downwind from firecamps and away from ignition sources.

Flammable Solids

- Pick up residual fusees debris from the fire line and dispose of properly.

Fire Retardant/Foaming Agents

- Do not drop retardant or other suppressants near surface waters.
- Use caution when operating pumps or engines with foaming agents to avoid contamination of water sources.

FIRE REHABILITATION

Rehabilitation is a critical need. This need arises primarily because of the impacts associated with fire suppression and the logistics that support it. The process of constructing control lines, transport of personnel and materials, providing food and shelter for personnel, and other suppression activities has a significant impact on sensitive resources regardless of the mitigating measures used. Therefore, rehabilitation must be undertaken in a timely, professional manner.

During implementation, the resource advisor should be available for expert advice and support of personnel doing this work as well as quality control.

Rehabilitation Guidelines

- Pick up and remove all flagging, garbage, litter, and equipment. Dispose of trash appropriately.
- Clean fire pit of unburned materials and fill back in.

- Discourage use of newly established trails created during the suppression effort by covering with brush, limbs, small diameter poles, and rotten logs in a naturally appearing arrangement.
- Replace dug-out soil and/or duff and obliterate any berms created during the suppression effort.
- Resource Advisors will work through the Agency Representatives on advising the preferred techniques to use to prevent soil erosion and sedimentation of drainages. The standard for waterbar placement is presented below. Waterbar construction must be approved by the Park Resource Advisor prior to any construction as waterbars may not be the environmentally preferred solution to control erosion.

Trail Percent Grade	Maximum Spacing Ft.
6-9	400
10-15	200
15-25	100
25+	50

- Where soil has been exposed and compacted, such as in camps, on user-trails, at helispots and pump sites, scarify the top 2-4 inches and scatter with needles, twigs, rocks, and dead branches. Seed from sources other than the park will not be appropriate to use on barren areas, in order to maintain the genetic integrity of the area. It may be possible, depending on the time of year and/or possibility of a rainy period, to harvest and scatter nearby seed, or to transplant certain native vegetation.
- Blend campsites with natural surroundings, by filling in and covering latrine with soil, rocks, and other natural material. Naturalize campfire area by scattering ashes in nearby brush (after making sure any sparks are out) and returning site to a natural appearance.
- Where trees were cut or limbed, cut stumps flush with ground, scatter limbs and boles, out of sight in unburned area. Camouflage stumps and tree boles using rocks, dead woody material, fragments of stumps, bolewood, limbs, soil and fallen or broken green branches. Scattered sawdust and shavings will assist in decomposition and be less noticeable. Use native materials from adjacent, unimpacted areas if necessary.

- Remove newly cut tree boles that are visible from trails or meadows. Drag other highly visible woody debris created during the suppression effort into timbered areas and disburse. Tree boles that are too large to move should be slant cut so a minimal amount of the cut surface is exposed to view. Chopping up the surface with an axe or pulaski, to make it jagged and rough, will speed natural decomposition.
- Leave tops of felled trees attached. This will appear more natural than scattering the debris.
- Consider -- if no other alternatives are available -- helicopter sling loading rounds and tops from a disturbed site when there has been an excessive amount of bucking, limbing and topping.
- Tear out sumps or dams, where they have been used, and return site to natural condition. Replace any displaced rocks or streambed material that has been moved. Reclaim streambed to its predistrubed state, when appropriate.
- Walk through adjacent undisturbed area and take a look at your rehab efforts to determine your success at returning the area to as natural a state as possible. Good examples should be documented and shared with others!

DEMOBILIZATION

Because demob is often a time when people are tired or when weather conditions are less than ideal, enough time must be allowed to do a good job. When moving people and equipment, choose the most efficient and least impactive method to both the landscape and fire organization mission. An on-the-ground analysis of “How Things Went” will be important.

POST-FIRE EVALUATION

Post-fire evaluation is important for any fire occurrence so management can find out how things went. Identify areas needing improvement, to formulate strategies and to produce quality work in the future. This activity is especially important in sensitive areas due to their fragility and inclination to long-term damage by human impacts.

Resource advisors and functional specialists such as park ecologists, hydrologists, fire management staff and rangers will be responsible for conducting the post-fire evaluation. They are the people who have the experience and knowledge to provide information required to make the evaluation meaningful and productive.

Post-fire evaluation by Burn Area Response Team (BAER) will begin during the suppression effort. An emergency stabilization plan will be completed within 7 days of the date of fire containment per 620 DM 3.

DATA COLLECTION/DOCUMENTATION/RECOMMENDATIONS

This phase will be completed by a review of the rehab plan and visit to the fire site as soon after demobilization as possible. An inventory of comps and helispots will be completed. This will also include an objective overview of other areas covered by the rehab plan.

Observations will be documented in a brief report to the line officer with a copy to the appropriate incident commander. In the report, the evaluator will include recommendations for ensuing fire suppression activities on similar lands. It is important that the evaluator recognize and commend the initial attack forces or overhead team for positive activities. Make special note of the extra efforts and sensitivity to suppression impacts.

STANDARD FIRE ORDERS

FIRE BEHAVIOR

1. Keep informed on the fire weather conditions and forecasts.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.

FIRELINE SAFETY

4. Determine escape routes and safety zones and make them known.
5. Post lookouts where there is possible danger.
6. Be alert. Be calm. Think clearly. Act decisively.

ORGANIZATIONAL CONTROL

7. Maintain prompt communications with your forces, your boss and adjoining forces.
8. Give clear instructions and be sure they are understood.
9. Maintain control of your forces at all times.

IF YOU CONSIDER 1 – 9, THEN

10. Fight fire aggressively, having provided for safety first.

WATCH OUT SITUATIONS

1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics and hazards.
6. Instructions and assignments not clear.
7. No communication link with crew members/supervisor.
8. Constructing fire line without safe anchor point.
9. Building fire line downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather is getting hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zone difficult.
18. Taking a nap near the fireline.

APPENDIX E, Part 11 -- FMP EIS RECORD OF DECISION

WILDLAND FIRE SITUATION ANALYSIS

Wildland Fire Situation Analysis (WFSA) is a decision-making process in which the Agency Administrator or representative describes the situation, establishes objectives and constraints for the management of the fire, compares multiple strategic wildland fire management alternatives, evaluates the expected effects of the alternatives, selects the preferred alternative, and documents the decision. The format and level of detail required is dependent on the specific incident and it's complexity. The key is to document the decision.

WFSA INITIATION

FIRE NAME	
JURISDICTION(S)	
DATE AND TIME INITIATED	

WFSA COMPLETION/FINAL REVIEW

THE SELECTED ALTERNATIVE ACHIEVED DESIRED OBJECTIVES ON (DATE/TIME):	
THE SELECTED ALTERNATIVE DID NOT ACHIEVE THE DESIRED OBJECTIVES AND A NEW WFSA WAS PREPARED ON (DATE/TIME):	
AGENCY ADMINISTRATOR OR REPRESENTATIVE SIGNATURE:	

WFSA INSTRUCTIONS

Section I. WFSA Information Page

The Agency Administrator completes this page.

I.A. Jurisdiction(s): Assign the agency that have or could have fire protection responsibility, e.g., USFWS, Forest Service, BLM, etc.

I.B. Geographic Area: Assign the recognized "Geographic Coordination Area" in which the fire is located, e.g., Northwest, Northern Rockies, etc.

I.C. Unit: Designate the local administrative unit, e.g., Hart Mountain Refuge Area, Flathead Indian Reservation, etc.

I.D. WFSA #: Identify the number assigned to the most recent WFSA for this fire.

I.E. Fire Name: Self-explanatory.

I.F. Incident Number: Identify the agency number assigned to the fire, e.g., BOD 296, BNF 001.

I.G. Accounting Code: Insert the local unit's accounting code.

I.H. Date/Time Prepared: Self-explanatory.

I.I. Attachments: Check here to designate attachments used in the completion of the WFSA. "Other" could include data or models used in the development of the WFSA. Briefly describe the "other" items used.

I. WILDLAND FIRE SITUATION ANALYSIS

A. JURISDICTION(S):	B. GEOGRAPHIC AREA:
C. UNIT(S):	D. WFSA #:
E. FIRE NAME:	F. INCIDENT #:
G. ACCOUNTING CODE:	
H. DATE/TIME PREPARED:	

I. ATTACHMENTS:

- ☐ COMPLEXITY MATRIX/ANALYSIS[1]
- ☐ RISK ASSESSMENT[1]
- ☐ PROBABILITY OF SUCCESS[1]
- ☐ CONSEQUENCES OF FAILURE[1]
- ☐ MAPS[1]
- ☐ DECISION TREE[2]
- ☐ FIRE BEHAVIOR PROJECTIONS[1]
- ☐ CALCULATIONS OF RESOURCE REQUIREMENTS[1]
- ☐ OTHER (SPECIFY)

[1] Required
[2] Required by the USFS

Section II. Objectives and Constraints

The Agency Administrator completes this page.

II.A. Objectives: Specify criteria that should be considered in the development of alternatives.

Safety objectives for firefighters, aviation, and public must receive the highest priority, Suppression objectives must relate to resource management objectives in the unit resource management plan.

Economic objectives could include closure of all portions of an area, thus impacting the public, or impacts to transportation, communication and resource values.

Environmental objectives could include management objectives for airshed, water quality, wildlife, etc.

Social objectives could include any local attitudes toward fire or smoke that might affect decisions on the fire, safety, etc.

Other objectives might include legal or administrative constraints which would have to be considered in the analysis of the fire situation, such as the need to keep the fire off other agency lands, etc.

II.B. Constraints: List constraints on wildland fire action. These could include constraints to designated wilderness, wilderness study areas, environmentally or culturally sensitive areas, irreparable damage to resources or smoke management/air quality concerns. Economic constraints such as public and Agency cost could be considered here.

II. OBJECTIVES AND CONSTRAINTS

A. OBJECTIVES (must be specific and measurable):

1. SAFETY:

Public

Firefighter

2. ECONOMIC:

3. ENVIRONMENTAL:

4. SOCIAL:

5. OTHER:

B. CONSTRAINTS:

Section III. Alternatives

The FIRE MANAGER/and or INCIDENT COMMANDER complete(s) this page.

III.A. Wildland Fire Management Strategy: Briefly describe the general wildland fire strategies for each alternative. Alternatives must meet resource management plan objectives.

III.B. Narrative: Briefly describe each alternative with geographic names, locations, etc., that would be used when implementing a wildland fire strategy. For example, "Contain within the Starvation Meadows' watershed by the first burning period".

III.C. Resources Needed: Resources listed must be reasonable to accomplish the tasks described in Section III.B. It is critical to also look at the reality of the availability of these needed resources.

III.D. Estimated Final Fire Size: Estimated final size for each alternative at time of containment.

III.E. Estimated Contain/Control Date: Estimates for each alternative shall be made based on predicted weather, fire behavior, resource availability and the effects of wildland fire management efforts.

III.F. Cost: Estimate all fire costs for each alternative. Consider mopup, rehabilitation, and other costs as necessary.

III.G. Risk Assessment: Probability of success/Consequences of failure: Describe probability as a % and associated consequences for success and failure. Develop this information from models, practical experience or other acceptable means. Consequences described will include fire size, days to contain, days to control, costs and other information such as park closures and effect on critical habitat. Include fire behavior and long-term fire weather forecasts to derive this information.

III.H. Complexity: Assign the complexity rating calculated in the Guide for Assessing Fire Complexity.

III.I. Maps: A map for each alternative must be prepared. The map shall be based on the "Probability of success/Consequences of Failure" and include other relative information.

III. ALTERNATIVES

	A	B	C
A. WILDLAND FIRE STRATEGY:			
B. NARRATIVE:			
C. RESOURCES NEEDED:			
HANDCREWS			
ENGINES			
DOZERS			
AIRTANKERS			
HELICOPTERS			
D. ESTIMATED FINAL FIRE SIZE:			
E. ESTIMATED CONTAIN/ CONTROL DATE			
F. COSTS:			
G. RISK ASSESSMENT: PROBABILITY OF SUCCESS/ CONSEQUENCES OF FAILURE			
H. COMPLEXITY:			
I. ATTACH MAPS FOR EACH ALTERNATIVE			

Section IV. Evaluation of Alternatives

The Agency Administrator(s), FMO and/or Incident Commander(s) completes this page.

IV.A. Evaluation Process: Conduct an analysis for each element of each objective and each alternative. Objective shall match those identified in section II.A. Use the best estimates available and quantify whenever possible. Provide ratings for each alternative and corresponding objective element. Fire effects may be negative, cause no change or may be positive. Examples are: 1) a system which employs a "-" for negative effect, a "0" for no change, and a "+" for positive effect; 2) a system which uses a numeric factor for importance of the consideration (soils, watershed, political, etc.) and assigns values (such as -1 to +1, -100 to +100, etc.) to each consideration, then arrives at a weighted average. If you have the ability to estimate dollar amounts for natural resource and cultural values this data is preferred. Use those methods which are most useful to managers and most appropriate for the situation and agency. To be able to evaluate positive fire effects, the area must be included in the resource management plan and be consistent with prescriptions and objectives of the Fire Management Plan.

Sum Of Economic Values: Calculate for each element the net effect of the rating system used for each alternative. This could include the balance of: pluses (+) and minuses (-), numerical rating (-3 and +3), or natural and cultural resource values in dollar amounts. (Again resource benefits may be used as part of the analysis process when the wildland fire is within a prescription consistent with approved Fire Management Plans and in support of the unit's Resource Management Plan.)

IV. EVALUATION OF ALTERNATIVES

A. EVALUATION PROCESS	A	B	C
SAFETY			
Firefighter			
Aviation			
Public			
Sum of Safety Values			
ECONOMIC			
Forage			
Improvements			
Recreation			
Timber			
Water			
Wilderness			
Wildlife			
Other (specify)			
Sum of Economic Values			
ENVIRONMENTAL			
Air			
Visual			
Fuels			
T & E Species			
Other (specify)			
Sum of Environmental Values			
SOCIAL			
Employment			
Public Concern			
Cultural			
Other (Specify)			
Sum of Social Values			
OTHER			

Section V. Analysis Summary

The Agency Administrator(s), FMO and/or Incident Commander(s) complete this page.

V.A. Compliance with Objectives: Prepare narratives that summarize each alternative's effectiveness in meeting each objective. Alternatives that do not comply with objectives are not acceptable. Narratives could be based on effectiveness and efficiency. For example: "most effective and least efficient", "least effective and most efficient", "or "effective and efficient". Or answers could be based on a two-tiered rating system such as "complies with objective" and "fully complies with or exceeds objective". Use a system that best fits the manager's needs.

V.B. Pertinent Data: Data for this section has already been presented and is duplicated here to help the Agency Administrator(s) confirm their selection of an alternative. Final Fire Size is displayed on page three, section III.D. Complexity is calculated in the attachments and displayed on page three, section III.H. Costs are displayed on page three, section III.F. Economic Values have been calculated and displayed on page four. Probability of Success/Consequences of Failure are calculated in the attachments and displayed on page three, section III.G.

V.C. External and Internal Influences: Assign information and data occurring at the time the WFSA is signed. Identify the Preparedness Index (1 through 5) for the National and Geographic levels. If available, indicate the Incident Priority assigned by the MAC group. Designate the Resource Availability status. This information is available at the Geographic Coordination Center and needed to select a viable alternative. Designate "yes" indicating an up-to-date weather forecast has been provided to, and used by, the Agency Administrator(s) to evaluate each alternative. Assign information to the "other" category as needed by the Agency Administrator(s).

Section VI. Decision

Identify the alternative selected. Must have clear and concise rationale for the decision, and a signature with date and time. Agency Administrator(s) signature is mandatory.

V. ANALYSIS SUMMARY

ALTERNATIVES	A	B	C
A. COMPLIANCE WITH OBJECTIVES:			
SAFETY			
ECONOMIC			
ENVIRONMENTAL			
SOCIAL			
OTHER			
B. PERTINENT DATA:			
FINAL FIRE SIZE			
COMPLEXITY			
COST			
RESOURCE VALUES			
PROBABILITY of SUCCESS			
CONSEQUENCES of FAILURE			

C. EXTERNAL/INTERNAL INFLUENCES:

NATIONAL AND GEOGRAPHIC PREPAREDNESS LEVEL _____

INCIDENT PRIORITY _____

RESOURCE AVAILABILITY _____

WEATHER FORECAST (LONG-RANGE) _____

FIRE BEHAVIOR PROJECTIONS

VI. DECISION

The selected alternative is:

RATIONALE:

AGENCY ADMINISTRATOR SIGNATURE _____

DATE/TIME _____

Section VII. Daily Review

The Agency Administrator(s), or designate complete(s) this page.

The date, time and signature of reviewing officials are reported in each column for each day of the incident. The status of Preparedness Level, Incident Priority, Resource Availability, Weather Forecast, and WFSA Validity is completed for each day reviewed. Ratings for the Preparedness Level, Incident Priority, Resource Availability, Fire Behavior, and Weather Forecast are addressed on page five, section V.C. Assign a "yes" under "WFSA Valid" to continue use of this WFSA. A "no" indicates this WFSA is no longer valid and another WFSA must be prepared or the original revised.

VII. DAILY REVIEW

SELECTED ALTERNATIVE TO BE REVIEWED DAILY TO DETERMINE IF STILL VALID UNTIL CONTAINMENT OR CONTROL

PPENDIX E, PART 19, BAAQMD APPLIC/

DATE	TIME	BY	PREPAREDNESS LEVEL	INCIDENT PRIORITY	RESOURCE AVAILABILITY	WEATHER FORECAST	FIRE BEHAVIOR PROJECTIONS	WFSA VALID

IF WFSA IS NO LONGER VALID, A NEW WFSA WILL BE COMPLETED

APPENDIX E, PART 12, INCIDENT COMPLEXITY ANALYSIS: TYPES 5, 4 AND TRANSITION TO TYPE 3

If you have checked "Yes" on 3 to 5 of the analysis boxes, consider requesting the next level of incident management support.		
Incident Complexity Analysis (Type 3, 4, 5)		
Fire Behavior	**Yes**	**No**
Fuels extremely dry and susceptible to long-range spotting or you are currently experiencing extreme fire behavior.		
Weather forecast indicating no significant relief or worsening conditions.		
Current or predicted fire behavior dictates indirect control strategy with large amounts of fuel within planned perimeter.		
Firefighter Safety		
Performance of firefighting resources affected by cumulative fatigue.		
Overhead overextended mentally and/or physically.		
Communication ineffective with tactical resources or dispatch.		
Organization		
Operations are at the limit of span of control.		
Incident action plans, briefings, etc. missing or poorly prepared.		
Variety of specialized operations, support personnel or equipment.		
Unable to properly staff air operations.		
Limited local resources available for initial attack.		
Heavy commitment of local resources to logistical support.		
Existing forces worked 24 hours without success.		
Resources unfamiliar with local conditions and tactics.		
Values to be protected		
Urban interface; structures, developments, recreational facilities, or potential for evacuation.		
Fire burning or threatening more than one jurisdiction and potential for unified command with different or conflicting management objectives.		
Unique natural resources, special-designation areas, critical municipal watershed, T&E species habitat, cultural value sites.		
Sensitive political concerns, media involvement, or controversial fire policy.		
Release Date: January 2007		

APPENDIX E, PART 13, REDBOOK COMPLEXITY ANALYSIS

Guide to Completing the Incident Complexity Analysis. (Type 1, 2)

- If positive responses exceed, or are equal to, negative responses within any primary factor (A through G), the primary factor should be considered as a positive response.
- If any three of the primary factors (A through G) are positive responses, this indicates the fire situation is or is predicted to be of Type 1 complexity.
- Factor H should be considered after numbers 1–3 are completed. If more than two of the items in factor H are answered yes, and three or more of the other primary factors are positive responses, a Type 1 team should be considered. If the composites of H are negative, and there are fewer than three positive responses in the primary factors (A-G), a Type 2 team should be considered. If the answers to all questions in H are negative, it may be advisable to allow the existing overhead to continue action on the fire.

Incident Complexity Analysis Type 1 & 2	YES	NO
A. Fire Behavior (Observed or Predicted)		
1. Burning index (from on-site measurement of weather conditions) predicted to be above the 90% level using the major fuel model in which the fire is burning.		
2. Potential exists for extreme fire behavior (fuel moisture, winds, etc.).		
3. Crowning, profuse or long-range spotting.		
4. Weather forecast indicating no significant relief or worsening conditions.		
Total		
B. Resources Committed		
1. 200 or more personnel assigned.		
2. Three or more divisions.		
3. Wide variety of special support personnel.		
4. Substantial air operation which is not properly staffed.		
5. Majority of initial attack resources committed.		
Total		

Incident Complexity Analysis Type 1 & 2	YES	NO
C. Resources Threatened		
1. Urban interface.		
2. Developments and facilities.		
3. Restricted, threatened, or endangered species habitat.		
4. Cultural sites.		
5. Unique natural resources, special-designation areas, wilderness.		
6. Other special resources.		
Total		
D. Safety		
1. Unusually hazardous fireline construction.		
2. Serious accidents or fatalities.		
3. Threat to safety of visitors from fire and related operations.		
4. Restrictions and/or closures in effect or being considered.		
5. No night operations in place for safety reasons.		
Total		
E. Ownership		
1. Fire burning or threatening more than one jurisdiction.		
2. Potential for claims (damages).		
3. Different or conflicting management objectives.		
4. Disputes over suppression responsibility.		
5. Potential for unified command.		
Total		
F. External Influences		
1. Controversial fire policy.		
2. Pre-existing controversies/relationships.		
3. Sensitive media relationships.		
4. Smoke management problems.		
5. Sensitive political interests.		
6. Other external influences.		
Total		
G. Change in Strategy		
1. Change in strategy to control from confine or contain		
2. Large amounts of unburned fuel within planned perimeter.		
3. WFSA invalid or requires updating.		

Incident Complexity Analysis Type 1 & 2	YES	NO
Total		
H. Existing Overhead		
1. Worked two operational periods without achieving initial objectives.		
2. Existing management organization ineffective.		
3. Overhead overextended mentally and/or physically.		
4. Incident action plans, briefings, etc. missing or poorly prepared.		
Total		
Release Date: January 2008		

APPENDIX E, PART 14, MINIMUM REQUIREMENT DECISION GUIDE

ARTHUR CARHART
NATIONAL WILDERNESS TRAINING CENTER
"Fostering interagency excellence in wilderness stewardship"

MINIMUM REQUIREMENTS DECISION GUIDE

Process Outline 2008

Step 1: Determine if any administrative action is *necessary*

First, describe the situation that may prompt action and describe why it is a problem or issue.

Then, answer the following questions to determine if administrative action is necessary in wilderness:

A. Options Outside of Wilderness - Is action necessary within wilderness ?

B. Valid Existing Rights or Special Provision of Wilderness Legislation - Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of the Section 4(c) prohibited uses?

C. Requirements of Other Legislation - (ESA, ARPA, NHPA, Dam Safety Act, Clean Air Act, etc.) - Is action necessary to meet the requirements of other laws?

D. Other Guidance - Is action necessary to conform to direction contained in agency policy, unit and wilderness management plans, species recovery plans, or agreements with tribal, state and local governments or other federal agencies?

E. Wilderness Character - Is action necessary to preserve one or more of the qualities of wilderness character including: ***untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation***, or unique components that reflect the character of this wilderness area?

F. Public Purposes of Wilderness - Is action necessary to support one or more of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act) of recreation, scenic, scientific, education, conservation, and historical use?

Step 1 Conclusion: Is Administrative Action Necessary?
If action is necessary, proceed to Step 2 to determine the minimum activity which least impacts the wilderness resource and character.

Step 2: Determine the *minimum* activity

A. Description of Alternative Action - For each alternative, describe what methods and techniques will be used, when the action will take place, where the action will take place and what mitigation measures are necessary.

Alternatives considered should include one with the use of the suggested prohibited equipment or facilities, one with none of the Section 4 (c) prohibitions, and, if possible one with a mix of prohibited and non-prohibited uses. Alternatives should be "feasible" and creative.

B. Alternative Comparison - For each alternative, describe effects based on:

- Wilderness Character
  - Untrammeled
  - Undeveloped
  - Natural
  - Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation
- Heritage and Cultural Resources
- Maintaining Traditional Skills
- Special Provisions
- Safety of personnel, visitors, and contractors
- Economics and Time Constraints
- Additional wilderness-specific Criteria.

- Include mitigation (timing, location, frequency, design standards, etc.)

Step 2 Decision: What is the Minimum Activity?

- Identify the selected alternative.
- Describe the rationale for selecting this alternative, based on law and policy criteria.
- Describe any monitoring and reporting requirements.

Approvals and NEPA analysis - Follow agency guidelines.

Reporting – Follow agency requirements

Refer to the MRDG ***Instructions*****,** and ***Worksheets*** for more information.

ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER
2008

MINIMUM REQUIREMENTS DECISION GUIDE

WORKSHEETS

". . . except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."

– the Wilderness Act, 1964

Please refer to the accompanying MRDG *Instructions* for filling out this guide.
The spaces in the worksheets will expand as necessary as you enter your response.

Step 1: Determine if any administrative action is necessary.

Description: Briefly describe the situation that may prompt action.

To determine if administrative action is necessary, answer the questions listed in A - F on the following pages.

A. Describe Options Outside of Wilderness

Is action necessary within wilderness?

Yes: ☐ **No:** ☐

Explain:

B. Describe Valid Existing Rights or Special Provisions of Wilderness Legislation

Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of the Section 4(c) prohibited uses? Cite law and section.

Yes: ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

C. Describe Requirements of Other Legislation

Is action necessary to meet the requirements of other laws?

Yes: ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

D. Describe Other Guidance

Is action necessary to conform to direction contained in agency policy, unit and wilderness management plans, species recovery plans, or agreements with tribal, state and local governments or other federal agencies?

Yes: ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

E. Wilderness Character

Is action necessary to preserve one or more of the qualities of wilderness character including: untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation, or unique components that reflect the character of this wilderness area?

Untrammeled: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Undeveloped: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Natural: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Outstanding opportunities for solitude or a primitive and unconfined type of recreation:

Yes: ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Other unique components that reflect the character of this wilderness:

Yes: ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

F. Describe Effects to the Public Purposes of Wilderness

Is action necessary to support one or more of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act) of recreation, scenic, scientific, education, conservation, and historical use?

Recreation: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Scenic: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Scientific: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Education: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Conservation: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Historical use: **Yes:** ☐ **No:** ☐ **Not Applicable:** ☐

Explain:

Step 1 Decision: Is any administrative action necessary in wilderness?

Yes: ☐ **No:** ☐ **More information needed:** ☐

Explain:

If action is necessary, proceed to Step 2 to determine the minimum activity.

Step 2: Determine the minimum activity.

Please refer to the accompanying MRDG *Instructions* for an explanation of the effects criteria displayed below.

Description of Alternatives

For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.

Alternative # _____

Description:

Effects:

Wilderness Character
- **"Untrammeled"**
- **"Undeveloped"**
- **"Natural"**
- **"Outstanding opportunities for solitude or a primitive and unconfined type of recreation"**

Heritage and Cultural Resources

Maintaining Traditional Skills

Special Provisions

Safety of Visitors, Personnel, and Contractors

Economic and Time Constraints

Additional Wilderness-specific Comparison Criteria

Step 2 Decision: What is the Minimum Activity?

Please refer to the accompanying MRDG *Instructions* before describing the selected alternative and describing the rationale for selection.

Selected alternative:

Rationale for selecting this alternative:

Monitoring and reporting requirements:

Check any Wilderness Act Section 4(c) uses approved in this alternative:

- ☐ mechanical transport
- ☐ motorized equipment
- ☐ motor vehicles
- ☐ motorboats
- ☐ landing of aircraft
- ☐ temporary road
- ☐ structure or installation

Record and report any authorizations of Wilderness Act Section 4(c) uses according to agency procedures.

Approvals	Signature	Name	Position	Date
Prepared by:				
Recommended:				
Recommended:				
Approved:				

ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER
2008

MINIMUM REQUIREMENTS DECISION GUIDE

INSTRUCTIONS

". . . except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."

– the Wilderness Act, 1964

Introduction

The Minimum Requirements Decision Guide (MRDG) is designed to assist wilderness managers in making appropriate decisions for wilderness. These instructions refer to completing the MRDG *Worksheets*. More information about the background of the MRDG and its appropriate uses can be found in the *Overview*. Please also refer to your agency policies and other guidance in *Agency Guidelines* for more direction on how and when to use the MRDG.

Use of this document assumes familiarity with the Wilderness Act, other relevant legislation, and agency policy.

The MRDG is derived from Section 4.(c) of the Wilderness Act and involves two steps. Step 1 determines whether action is ***necessary***. If action is necessary, then Step 2 provides guidance for determining the ***minimum*** activity.

Worksheet Instructions

Step 1: Determine if any administrative action is <u>necessary</u>

Description: Briefly describe the situation. This should not be a description of a possible method or tool, but rather of the situation that prompts the possible need for action. This step should **not** be used to justify use of motorized equipment or mechanical transport, or to approve placement of a structure, facility, or temporary road. In wilderness, the appropriate administrative response may be no action at all.

Correct Examples of description	Incorrect examples of description
An administrative cabin is deteriorating	Need to restore the administrative cabin
A request is received for access into a valid, existing mining claim	Need to build a temporary road for mining claim access.
Blown down trees are blocking trails	Need to use chainsaws to clear the blown down trees
Lack of information on a wildlife species	Need to land a helicopter to survey population
Fire alters wildlife habitat	Need to re-seed area to maintain wildlife habitat
A trail bridge has washed out	Need to replace the washed out bridge, using mules for supplies
Riverbank erosion is destabilizing a pioneer cabin listed on the National Historic Register	Need to sling-load rock gabions to stop erosion
Lack of information on air quality in Class I wilderness air shed	Need to set up air quality monitoring station in wilderness
Invasive species present	Need to use motorized sprayer to treat invasives

A. Options Outside of Wilderness

Is action necessary within wilderness ?

Examples of administrative action that might be explored outside wilderness include:

- Putting up nest boxes or conducting wildlife surveys outside wilderness boundaries.
- Surveying visitors about user conflicts at the trailhead or visitor center, rather than on the trail or at their wilderness campsite
- Locating trail destination and distance signs can be located at trailheads outside wilderness (unless already determined by agency policy).
- Locating monitoring or other administrative structures outside wilderness.

B. Valid Existing Rights or Special Provisions of Wilderness Legislation

Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of the Section 4(c) prohibited uses? Cite law and section.

If there is special provision language (e.g. maintenance of dams and water storage facilities with motorized equipment and mechanical transport, control of fire, insects and disease, access to private lands, etc), whether in the Wilderness Act of 1964 or subsequent designation legislation, consideration of some actions may be required even though they would otherwise be prohibited. The exact reference to the legislation is needed in this box. Examples include:

- Existence of public use cabins and subsistence use and access in Wilderness (Alaska National Interest Lands Conservation Act of 1980, P.L. 96-487, Sec. 1315.(c)).
- Use of motorboats of ten horsepower or less in the Okefenokee Wilderness (Wilderness Act of 1964, P.L. 88-577, Sec. 4.(d)(1); Okefenokee Wilderness Act of 1974, P.L. 93-430, Sec.2).

Some Valid Existing Rights or the provisions of special legislation may be satisfied by an option outside wilderness. Such possibilities would likely reduce impacts to the wilderness resource and character and should be explored.

C. Requirements of Other Legislation

Is action necessary to meet the requirements of other laws ?

Laws not directly concerned with wilderness (such as the Endangered Species Act or National Historic Preservation Act) may influence the need for actions in Wilderness. In some instances, the administrator is asked to satisfy the requirements of multiple laws. For example:

- Recovery of an endangered species dependent on wilderness ecosystems (Endangered Species Act).
- Treatment of a site listed on the National Register of Historic Places (National Historic Preservation Act).

Apparent conflicts between the Wilderness Act and other legislation may require innovative approaches. Not all apparent conflicts are genuine. The requirements of all applicable laws must be met.

D. Other Guidance

Is action necessary to conform to direction contained in agency policy, unit and wilderness management plans, species recovery plans, or agreements with tribal, state and local governments or other federal agencies?

Review guidance for conformance and carefully consider the context of the guidance, plan or agreement. Plans developed using a NEPA analysis are decisions that provide stronger guidance than plans developed with less public or interdisciplinary involvement. Examples include:

- A programmatic decision to treat invasive weeds has already been addressed in a unit level plan that included wilderness. No decision was made regarding the method of treatment.

- The need for bridges, fords, or in-stream structures has been addressed in a listed fish species recovery plan. The plan does not dictate the type of structure, method of construction, or tools required.

Even if relevant programmatic decisions have already been made that satisfy Step 1 of the MRDG, both Step 1 and Step 2 should be completed to determine the minimum administrative activity.

E. Wilderness Character

Is action necessary to preserve one or more of the qualities of wilderness character including: untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation, or unique components that reflect the character of this wilderness area?

Explain how taking action in wilderness is necessary to preserve wilderness character. If there is no need to take action to preserve character explain how taking action may impair one or more of the qualities of wilderness character.

Section 2.(a) of the Wilderness Act directs us to manage wilderness areas for the preservation of their wilderness character. Similar direction is repeated in Section 4.(b). It is recommended that particular attention is paid to the general guidance in the Wilderness Act, as outlined in the boxes on Page 2 of the *Overview*, and to agency policy. In addition, at least four major components of wilderness character* are mentioned in Section 2.(c) of the Wilderness Act. These are:

"**Untrammeled**" – Wilderness is ideally unhindered and free from modern human control or manipulation. We strive to have areas where wild nature is allowed to "run free."

"**Undeveloped**" – Wilderness retains its primeval character and influence, and is essentially without permanent improvement or human occupation. It provides a contrast with other areas where humans and their work dominate the landscape.

One of the purposes of the Wilderness Act is "…to assure that …expanding settlement and growing mechanization, does not occupy and modify all areas…". Structures, installations, and the use of tools which make it easier for modern humans to occupy and modify the land (e.g., motorized equipment and mechanical transport) are limited.

"**Natural**" – Wilderness ecological and evolutionary systems are substantially free from the effects of modern civilization. Changes in wilderness areas should be the result of natural conditions.

"**Outstanding opportunities for solitude or a primitive and unconfined type of recreation**" – Wilderness provides opportunities for people to encounter experiences such as natural sights and sounds, solitude, freedom, risk, and the physical and emotional challenges of self-discovery and self-reliance.

In some cases, a particular quality of wilderness character may not be applicable to a proposed action because there would be no change as a result of taking action. For example, replacing an existing trail bridge does not increase or decrease the number of structures and there would be no change to the undeveloped quality of wilderness character. Similarly use of a chainsaw to clear a trail has no effect on wilderness being unhindered or un-manipulated and therefore does not apply to the untrammeled quality of wilderness character.

An example of an action that would preserve or impair certain qualities of wilderness character is treatment to control non-native invasive weeds:

Untrammeled: Weed treatment would impair the untrammeled quality because the action, even if necessary, is an intentional human caused manipulation of "the earth and its community of life".

Undeveloped: Weed treatment is not applicable to this quality unless motorized equipment or mechanical transport is to be used. In that case, assess the effects of implementing specific alternatives in Step 2.

Natural: Weed treatment improves naturalness and helps preserve this quality.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation: Weed treatment is largely not applicable to this quality. Any enhancement of opportunities for primitive recreation that result from weed eradication is because of the contribution to preserving naturalness.

The potential loss of opportunities for solitude or primitive recreation due to workers using motorized sprayers or other methods may be an impairment of this quality. The effects of implementing specific alternatives should be determined in Step 2.

* This list of wilderness character components is not comprehensive. For a detailed discussion of wilderness character refer to the U.S. Forest Service, Rocky Mountain Research Station, General Technical Report, RMRS-GTR-151: *Monitoring Selected Conditions Related to Wilderness Character: A National Framework.* Other components can be defined that are of particular importance and reflect the character of your wilderness.

F. The Public Purposes of Wilderness

Is action necessary to support one or more of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act) of recreation, scenic, scientific, education, conservation, and historical use?

Identify which of the public purposes are applicable to the issue and then describe how they apply. For example:

Trail bridge replacement.

- Recreation Purpose – Considering whether there is a need to replace an existing trail bridge is consistent with the Recreation public purpose of wilderness.
- Explanation – A trail bridge, as part of the trail system which provides for recreation visitor access, may be considered a necessary structure in wilderness if needed to address safety or resource protection needs.

Air quality monitoring station

- Scientific Purpose – Considering whether there is a need for an installation in wilderness to monitor air quality is consistent with the Scientific public purpose of wilderness.
- Explanation – Gathering information about wilderness use and the effects of outside forces on wilderness may be needed to assist in the management of wilderness.

Commercial cabin rental program

- Recreation purpose - Considering a commercial proposal for a cabin rental program in wilderness is not consistent with the Recreation purpose of wilderness.
- Explanation - Section 4.(c) prohibits commercial enterprise in wilderness.

Step 1 Decision: Is any administrative action <u>necessary</u>? Evaluate the responses made to all questions in Step 1 and determine whether there is a need to proceed to Step 2 and why. If the responses indicate adverse impacts to the wilderness resource and character, document whether there is sufficient reason to proceed to Step 2.

It is possible that at this point more information will be needed in order to ascertain if administrative action is needed. In rare instances, it may be useful to continue with Step 2 to evaluate the benefits and effects of alternatives in order to help determine if any administrative action is necessary.

Step 2: Determine the <u>minimum</u> activity.

Description of Alternatives

For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.

The description of alternatives and effects varies by the complexity of the activity. Identify and describe a full range of feasible alternatives, including necessary mitigation measures that represent the various activities and the methods and tools that could be used. Include a “No Action” alternative to allow for a comprehensive comparison of effects. Complete a form for each alternative being considered.

Compare the potential effects of each alternative on the wilderness resource and character by describing the effects of implementation using the criteria below. This list is not all-inclusive, and other criteria which address the special features or unique character of each wilderness should be developed as needed. Use the criteria for comparing the effects of each applicable phase of the activity including design, construction, management, removal, or restoration.

Alternative Comparison Criteria

Wilderness Character

Describe the effects of each alternative on the preservation of wilderness character in terms of the four qualities listed below. Determine if there will be effects that will prevent the wilderness from remaining unimpaired for the future use and enjoyment as wilderness.

"Untrammeled"

Discuss the degree to which the components or processes of ecological systems are intentionally controlled or manipulated.

"Undeveloped"

Identify how "the imprint of man's work will remain substantially unnoticeable" and wilderness will continue to be in contrast to other areas of "growing mechanization." Include the effects of the use of any motorized equipment, mechanical transport, structures or installations on maintaining the undeveloped quality of wilderness character.

"Natural"

Describe the potential for protection, impairment, or restoration of natural conditions (air, water, soil, wildlife, fish, plants, etc.) including endangered, threatened, or rare species, natural biological diversity, and self-regulating ecosystems.

Discuss effects related to protecting natural conditions within the regional landscape (i.e. insects, disease, or non-native species).

"Outstanding opportunities for solitude or a primitive and unconfined type of recreation"

Identify how opportunities for visitors to experience solitude or a primitive and unconfined type of recreation will be protected or impaired.

Describe the effects that will be noticeable to the visitor and that could affect their experience in wilderness. Include effects on visitors from the use of motorized equipment, mechanical transport, landing of aircraft, structures, or installations.

Heritage and Cultural Resource

Describe any effects on protection or management of historic or pre-historic artifacts, sites, structures, or landscapes.

Maintaining Traditional Skills

Explain how the alternative helps maintain proficiency in the use of primitive and traditional skills, non-motorized tools, and non-mechanical travel methods.

Special Provisions

Explain how the special provisions or rights (grazing, mining, water developments, access to non-federal land, etc.) identified in the Wilderness Act (Sections 4 and 5) or subsequent legislation, are managed to minimize impairment to the wilderness resource and character.

Safety of Visitors, Personnel, and Contractors

Describe any safety concerns associated with implementing the alternative on agency personnel, volunteers, and/or contractors and identify hazards that cannot be addressed through training and use of protective equipment.

Identify any potential public safety hazards resulting from implementation of the alternatives.

Economic and Time Constraints

Describe the costs and the amount of time it will take for implementation of the alternative.

Explain how each alternative satisfies any significant timing requirements or identified need for urgency based on protection of the wilderness resource and character.

Note - while administrative activities should always be accomplished with economic efficiency, neither the cost nor the time required for implementation are the over riding factors for administrative use of otherwise prohibited activities.

Additional Wilderness-specific Comparison Criteria

Identify any other decision factors that are relevant to the unique characteristics and special features of this wilderness.

Step 2 Decision: What is the minimum activity?

Select the alternative that represents the minimum requirements necessary to administer the areas as wilderness.

Describe the rationale for selecting it. The selected alternative must conform to law and agency policy and explain why the use of motorized equipment, mechanical transportation, structures, or installations is the minimum necessary requirement.

List any monitoring or reporting requirements.

Track and report the number and type of authorizations by checking the box for each Section 4.(c) use that is included in the selected alternative. Your agency may require additional reports.

Approvals

Depending on agency policy, include the signatures of the administrator who has the authority to approve Section 4.(c) uses or other activities included in the decision, and sign the MRDG. Check your agency policy and consult with your regional or state wilderness program managers to determine the current policy.

APPENDIX E, PART 15
EXAMPLE OF DELEGATION OF AUTHORITY FORM
Fire Management Plan

Delegation of Authority
Golden Gate National Recreation Area

As of *[Time] [Date]*, I have delegated authority to manage the [*Fire Name*], *[Fire Number]*, at Golden Gate National Recreation Area, to *[IC's Name]*, the Incident Commander and *[Team Name]*, the Incident Management Team.

The *[Fire Name]* Fire, which originated on *[Date]* is burning in the *[Location]*. My considerations for management of this fire are:

1. Provide for firefighter and public safety.
2. Manage the fire with as little environmental damage as possible. The guide to Minimum Impact Suppression Tactics (MIST) is attached.
3. Key cultural features requiring priority protection are: *[list here]*
4. Key resource considerations are: *[list here]*
5. Restrictions for suppression actions include: *[list here]*
6. Minimum tools for use are: *[list here]*
7. My agency Resource Advisor will be: *[list here]*
8. Manage the fire cost-effectively for the values at risk.
9. Provide training opportunities for the resources area personnel to strengthen our organizational capabilities.
10. Minimum disruption of visitor use consistent with public safety.

Signature and Title of Agency Administrator Date

Amendment to Delegation of Authority (if appropriate)
The Delegation of Authority dated *[Date]*, issued to *[Name of IC]* for the management of the *[Fire Name]* Fire, *[Fire Number]*, is hereby amended as follows. This will be effective at *[Time]*, *[Date]*.

[Text of Amendment here].

Signature and Title of Agency Administrator Date

APPENDIX E, PART 16
BRIEFING CHECKLIST TEMPLATE

FIRE MANAGEMENT PLAN
GOLDEN GATE NATIONAL RECREATION AREA
BRIEFING CHECKLIST TEMPLATE

Situation
Fire name, location, map orientation, other incidents in the area
Terrain influences
Fuel type and conditions
Fire weather (previous, current, and expected)
Winds, RH, temperature, etc.
Fire behavior (previous, current and expected)
Time of day, alignment of slope and wind, etc.

Mission/Execution
Command
Incident commander/immediate supervisor
Commander's intent
Overall strategy/objectives
Specific tactical assignments
Contingency plans

Communications
Communication plan
Tactical, command, air-to-ground frequencies
Cell phone numbers
Medivac plan

Service/Support
Other resources
Working adjacent and those available to order
Aviation operations
Logistics
Transportation
Supplies and equipment

Risk Management
Identify known hazards and risks
Identify control measures to eliminate hazards/reduce risk
Anchor point and LCES
Identify trigger points for disengagement/re-evaluation of operational plan

Questions or Concerns?

APPENDIX E, PART 17, BRIEFING TO THE INCIDENT MANAGEMENT TEAM

Agency Administrator's Briefing to Incident Management Team – Page 1/7

GENERAL INFORMATION
Name of Incident:
Type of Incident:
Incident Start Date:
Approximate Size of Incident:
Location:
Time:
Cause:
General Weather Conditions:
Local Weather or Behavioral Conditions:
Land Status:
Local Incident Policy:
Resource Values Threatened:
Private Property or Structures Threatened:
Capability of Unit to Support Team (Suppression and Support Resources):
Agency:
Agency Administrator's Representative:

Agency Administrator's Briefing to Incident Management Team – Page 2/7
INCIDENT COMMAND (IC) AND TRANSITION
Name of Current Incident Commander:
Incident Type (circle one): Type 3 Type 2 Type 1
Date and Time Team will Assume Command:
Recommended Local Participation in IMT Organization
Current IC and Staff Roles Desired after Transition:
Other Incidents in Area:
Other Command Organizations (Unified/Area/MAC):
Local Emergency Operations Center (EOC) Established:
Trainees Authorized:
Legal Considerations (Investigations in Progress):
Known Political Considerations:
Sensitive Residential and Commercial Developments:
Resource Values:
Cultural/Archaeological Sites:
Roadless, Wilderness Areas
Other Unique Suppression Considerations:
Local Social/Economic Considerations:
Private Representatives such as timber, utility, railroads, environmental groups:

Agency Administrator's Briefing to Incident Management Team – Page 3/7
Incident Review Team Assigned (FAST, Audit, Other):
Name of Incoming Incident Commander:
Name of Agency Administrator:
Local Community Public Affairs Contact(s):
Agency Public Affairs Contact:
Other Contacts:
Unit FMO:
Expanded Dispatch
Other Dispatch:
SAFETY INFORMATION
Accidents and Injuries to Date:
Condition of Local Personnel:
Known Hazards:
Injury and Accident Reporting Procedures:
PLANNING SECTION/GENERAL INFORMATION
Access to Fax and Copy Machines:
Access to Computers and Printers:
Existing Pre-Attack Plans:
Other Nearby Incidents Influencing Strategy/Tactics/Resources:

Agency Administrator's Briefing to Incident Management Team – Page 4/7
Training Specialist Assigned or Ordered:
Training Considerations:
SITUATION UNIT
General Weather Conditions/Forecasts:
Fire Behavior:
Local Unusual Fire Behavior and Fire History in Area of Fire:
Fuel Type(s) at Fire:
Fuel Type(s) Ahead of Fire:
RESOURCES UNIT/REFER TO ATTACHED RESOURCE ORDERS
Personnel on Incident (General):
Equipment on Incident (General):
Resources on Order (General):
Incident Demobilization Procedures:
OPERATIONS SECTION
Priorities for Control, Wildland Fire Situation Analysis Approved:
Current Tactics:
Incident Accessibility by Engines and Ground Support:
AIR OPERATIONS
Air Tactical Group Supervisor:
Air tankers Assigned:

Agency Administrator's Briefing to Incident Management Team – Page 5/7
Effectiveness of Air tankers:
Air Base: Telephone:
LOGISTICS SECTION/FACILITIES UNIT
ICP/Base Pre-Plans: Yes No
ICP/Base Location:
Catering Service/Meals Provided:
Shower Facilities:
Security Considerations:
Incident Recycling:
SUPPLY UNIT
Duty Officer or Coordinator Phone Number:
Expanded Dispatch Organization:
Supply System to be Used (Local Supply Cache):
Single Point Ordering:
LOGISTICS SECTION/COMMUNICATIONS
National Radio Cache System on Order: Yes No Type:
Local Network Available: Yes No
Temporary:

Agency Administrator's Briefing to Incident Management Team – Page 6/7		
Cell Phone Cache Available:	Yes	No
Landline Access to ICP:	Yes	No
Local Telecom Technical Support:		
GROUND SUPPORT UNIT		
Route to ICP/Base:		
Route From ICP/Base to Fire:		
Medical Unit:		
Nearest Hospital or Desired Hospital:		
Nearest Burn Center, Trauma Center:		
Nearest Air Ambulance:		
FINANCE SECTION		
Name of Incident Agency Administrative Representative: \		
Name of Incident Business Advisor (If Assigned):		
Agreements and Annual Operating Plans in Place:		
Jurisdictional Agencies Involved:		
Need for Cost Share Agreement:		
COST UNIT		
Fiscal Considerations:		
Cost Collection or Trespass:		
Management Codes in Use:		

Agency Administrator's Briefing to Incident Management Team – Page 7/7
PROCUREMENT UNIT
Buying Team in Place or Ordered:
Contracting Officer Assigned:
Copy of Local Service and Supply Plan Provided:
Is All Equipment Inspected and Under Agreement?
Emergency Equipment Rental Agreements:
COMPENSATION/CLAIMS UNIT
Potential Claims:
Status of Claims/Accident Reports:
TIME UNIT
Payroll Procedure Established for T&A Transmittal:

APPENDIX E, PART 18: Prescribed Fire Plan Template

A standardized, reproducible template form for the Prescribed Fire Plan development process is included in this appendix. A standardized format is provided for the Prescribed Fire Plan in PDF. An electronic version editable in Word is also available. Users should prepare the plan using the electronic version.

In the electronic Word version, the Project Name and/or Unit Name should be entered in the document's header which will automatically appear on each following page of the plan.

To insert information into the document's header:

1. Double-click in the header region (upper region of each page displayed on the screen).
2. Type Project and/or Unit information.
3. Double-click *outside* the header region in the body of the document.

You may also access the header under **View** > **Headers and Footers**. This will open the header region for edits automatically. After entering the information, go again to **View** > **Headers and Footers** which will return you to being able to enter information into the body of the document.

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT(S): _____

PRESCRIBED FIRE NAME: _____

PREPARED BY: _____ **DATE:** _____

Name & Qualification

TECHNICAL REVIEW BY: _____ **DATE:** _____

Name & Qualification

COMPLEXITY RATING: _____

APPROVED BY: _____ **DATE:** _____

Agency Administrator

Project Name: _____

Unit Name: _____

ELEMENT 2: AGENCY ADMINISTRATOR PRE-IGNITION APPROVAL CHECKLIST

Instructions: The Agency Administrator's Pre-Ignition Approval is the intermediate planning review process (i.e. between the Prescribed Fire Complexity Rating System Guide and Go/No-Go Checklist) that should be completed before a prescribed fire can be implemented. The Agency Administrator's Pre-Ignition Approval evaluates whether compliance requirements, Prescribed Fire Plan elements, and internal and external notifications have been or will be completed and expresses the Agency Administrator's intent to implement the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval will be required.

YES	NO	KEY ELEMENT QUESTIONS
		Is the Prescribed Fire Plan up to date? *Hints: amendments, seasonality.*
		Will all compliance requirements be completed? *Hints: cultural, threatened and endangered species, smoke management, NEPA.*
		Is risk management in place and the residual risk acceptable? *Hints: Prescribed Fire Complexity Rating Guide completed with rational and mitigation measures identified and documented?*
		Will all elements of the Prescribed Fire Plan be met? *Hints: Preparation work, mitigation, weather, organization, prescription, contingency resources*
		Will all internal and external notifications and media releases be completed? *Hints: Preparedness level restrictions*
		Will key agency staff be fully briefed and understand prescribed fire implementation?
		Are there any other extenuating circumstances that would preclude the successful implementation of the plan?
		Have you determined if and when you are to be notified that contingency actions are being taken? Will this be communicated to the Burn Boss?
		Other:

Recommended by: _____ Date: _____
FMO/Prescribed Fire Burn Boss

Approved by: _____ Date: _____
Agency Administrator

Approval expires (date): _____

Project Name: _____

Unit Name: _____

ELEMENT 2: PRESCRIBED FIRE GO/NO-GO CHECKLIST

	YES	NO
A. Has the burn unit experienced unusual drought conditions or contain above normal fuel loadings which were not considered in the prescription development? If NO proceed with checklist., if YES go to item B.		
B. If YES have appropriate changes been made to the Ignition and Holding plan and the Mop Up and Patrol Plans? If YES proceed with checklist below, if NO STOP.		

YES	NO	QUESTIONS
		Are ALL fire prescription elements met?
		Are ALL smoke management specifications met?
		Has ALL required current and projected fire weather forecast been obtained and are they favorable?
		Are ALL planned operations personnel and equipment on-site, available, and operational?
		Has the availability of ALL contingency resources been checked, and are they available?
		Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?
		Have all the pre-burn considerations identified in the Prescribed Fire Plan been completed or addressed?
		Have ALL the required notifications been made?
		Are ALL permits and clearances obtained?
		In your opinion, can the burn be carried out according to the Prescribed Fire Plan and will it meet the planned objective?

If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location, and results

_____ _____

Burn Boss Date

Project Name: _____

Unit Name: _____

ELEMENT 3 COMPLEXITY ANALYSIS SUMMARY

PRESCRIBED FIRE NAME			
ELEMENT	**RISK**	**POTENTIAL CONSEQUENCE**	**TECHNICAL DIFFICULTY**
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site Values			
4 On-Site Values			
5. Fire Behavior			
6. Management organization			
7. Public and political interest			
8. Fire Treatment objectives			
9 Constraints			
10 Safety			
11. Ignition procedures/ methods			
12. Interagency coordination			
13. Project logistics			
14 Smoke management			

COMPLEXITY RATING SUMMARY	
	OVERALL RATING
RISK	
CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	
RATIONALE:	

Project Name: _____

Unit Name: _____

ELEMENT 4: DESCRIPTION OF PRESCRIBED FIRE AREA

A. Physical Description

1. Location**:**
2. Size:
3. Topography:
4. Project Boundary:

B. Vegetation/Fuels Description:

1. On-site fuels data
2. Adjacent fuels data

C. Description of Unique Features:

ELEMENT 5: GOALS AND OBJECTIVES

A. Goals:

B. Objectives:

1. Resource objectives:
2. Prescribed fire objectives:

ELEMENT 6: FUNDING:

A. Cost:

B. Funding source:

Project Name: _____

Unit Name: _____

ELEMENT 7: PRESCRIPTION

A. Environmental Prescription:

B. Fire Behavior Prescription:

ELEMENT 8: SCHEDULING

A. Ignition Time Frames/Season(s):

B. Projected Duration:

C. Constraints:

ELEMENT 9: PRE-BURN CONSIDERATIONS

A. Considerations:

1. On Site:

2. Off Site

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

Project Name: _____

Unit Name: _____

ELEMENT 10: BRIEFING

Briefing Checklist:

- ☐ Burn Organization
- ☐ Burn Objectives
- ☐ Description of Burn Area
- ☐ Expected Weather & Fire Behavior
- ☐ Communications
- ☐ Ignition plan
- ☐ Holding Plan
- ☐ Contingency Plan
- ☐ Wildfire Conversion
- ☐ Safety

ELEMENT 11: ORGANIZATION AND EQUIPMENT

A. Positions:

B. Equipment:

C. Supplies:

Project Name: _____

Unit Name: _____

ELEMENT 12: COMMUNICATION

A. Radio Frequencies

1. Command Frequency(s):

2. Tactical Frequency(s):

3. Air Operations Frequency(s):

B. Telephone Numbers:

ELEMENT 13: PUBLIC AND PERSONNEL SAFETY, MEDICAL

A. Safety Hazards:

B. Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency facilities:

ELEMENT 14 TEST FIRE

A. Planned location:

B. Test Fire Documentation:

1. Weather conditions On-Site:

2. Test Fire Results:

Project Name: _____

Unit Name: _____

ELEMENT 15: IGNITION PLAN

A. Firing Methods:

B. Devices:

C. Techniques:

D. Sequences:

E. Patterns:

F. Ignition Staffing:

ELEMENT 16: HOLDING PLAN

A. General Procedures for Holding:

B. Critical Holding Points and Actions:

C. Minimum Organization or Capabilities Needed:

ELEMENT 17: CONTINGENCY PLAN

A. Trigger Points:

B. Actions Needed:

C. Additional Resources and Maximum Response Time(s):

Project Name: _____

Unit Name: _____

ELEMENT 18: WILDFIRE CONVERSION

A. Wildfire Declared By:

B. IC Assignment:

C. Notifications:

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression:

ELEMENT 19: SMOKE MANAGEMENT AND AIR QUALITY

A. Compliance:

B. Permits to be Obtained:

C. Smoke Sensitive Areas/Receptors:

D. Impacted Areas:

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

ELEMENT 20: MONITORING

A. Fuels Information (forecast and observed) Required and Procedures:

B. Weather Monitoring Required and Procedures:

C. Fire Behavior Monitoring Required and Procedures:

D. Monitoring Required To Ensure That Prescribed Fire Plan Objectives Are Met:

Project Name: _____

Unit Name: _____

E. Smoke Dispersal Monitoring Required and Procedures:

ELEMENT 21: POST-BURN ACTIVITIES

Post-burn Activities That Must be Completed:

Project Name: _____

Unit Name: _____

APPENDICES

A. Maps: Vicinity and Project

B. Technical Review Checklist

C. Complexity Analysis

D. Job Hazard Analysis

E. Fire Behavior Modeling Documentation or Empirical Documentation (unless it is included in the fire behavior narrative in Element 7; Prescription)

Project Name: _____

Unit Name: _____

A: MAPS

1. Vicinity Map:

Project Name: _____

Unit Name: _____

2. Project Map:

Project Name: _____

Unit Name: _____

C. TECHNICAL REVIEWER CHECKLIST

PRESCRIBED FIRE PLAN ELEMENTS:	S /U	COMMENTS
1. Signature page		
2. GO/NO-GO Checklists		
3. Complexity Analysis Summary		
4. Description of the Prescribed Fire Area		
5. Goals and Objectives		
6. Funding		
7. Prescription		
8. Scheduling		
9. Pre-burn Considerations		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Conversion		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-burn Activities		
Appendix A: Maps		
Appendix B: Complexity Analysis		
Appendix C: JHA		
Appendix D: Fire Prediction Modeling Runs		
Other		

S = Satisfactory **U = Unsatisfactory**

Recommended for Approval: **Not Recommended for Approval:**

_____ _____ _____

Technical Reviewer Qualification and currency (Y/N) Date

☐ **Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.**

Project Name: _____

Unit Name: _____

C: COMPLEXITY ANALYSIS

Project Name: _____

Unit Name: _____

D. JOB HAZARD ANALYSIS

Project Name: _____

Unit Name: _____

E. FIRE BEHAVIOR MODELING DOCUMENTATION OR EMPIRICAL DOCUMENTATION

APPENDIX E, PART 19, BAAQMD APPLICATION FOR PILE BURNING

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000
Fax # (415) 928-0338
24-Hour Burn Status Recording (800) 792-0787

REGULATION 5
OPEN BURNING

NOTIFICATION FORM "C"

HAZARD REDUCTION FIRES

Please Print Legibly **BURNER AND BURN SITE INFORMATION**

Property Owner(s): Date:
Location (Street Address): Tel: ( )
City: County: Planned burn dates:
Name of Person Setting the Fire if different:

SPECIFIC TYPE(S) OF MATERIAL TO BE BURNED

Natural Vegetation Cleared From Around Buildings or Structures: (PRC Section 4291-related)	Quantity: ( ) Yd^3 or ( ) Tons
Natural Vegetation Cleared From Other Areas on Property: (Unrelated to PRC Section 4291)	Quantity: ( ) Yd^3 or ( ) Tons

Fires must be set or allowed by the public fire official having jurisdiction. Compliance with Regulation 5 does not relieve a person of the responsibility to know and comply with any other applicable rule, regulation, or law governing the use of fire.

BURN AUTHORIZATION (if required by local fire agency)

Authorizing Public Fire Official: Tel: ( )
Title: Date Authorized:
Authorizing Fire Agency:

Emergency Waivers (This section should only be completed by an authorizing public fire official to grant an emergency waiver, pursuant to Regulation 5-404.)

☐ 5-401.6 Hazardous Material – See Regulation 5 for definition.

Authorizing Public Fire Official: Tel: ( )

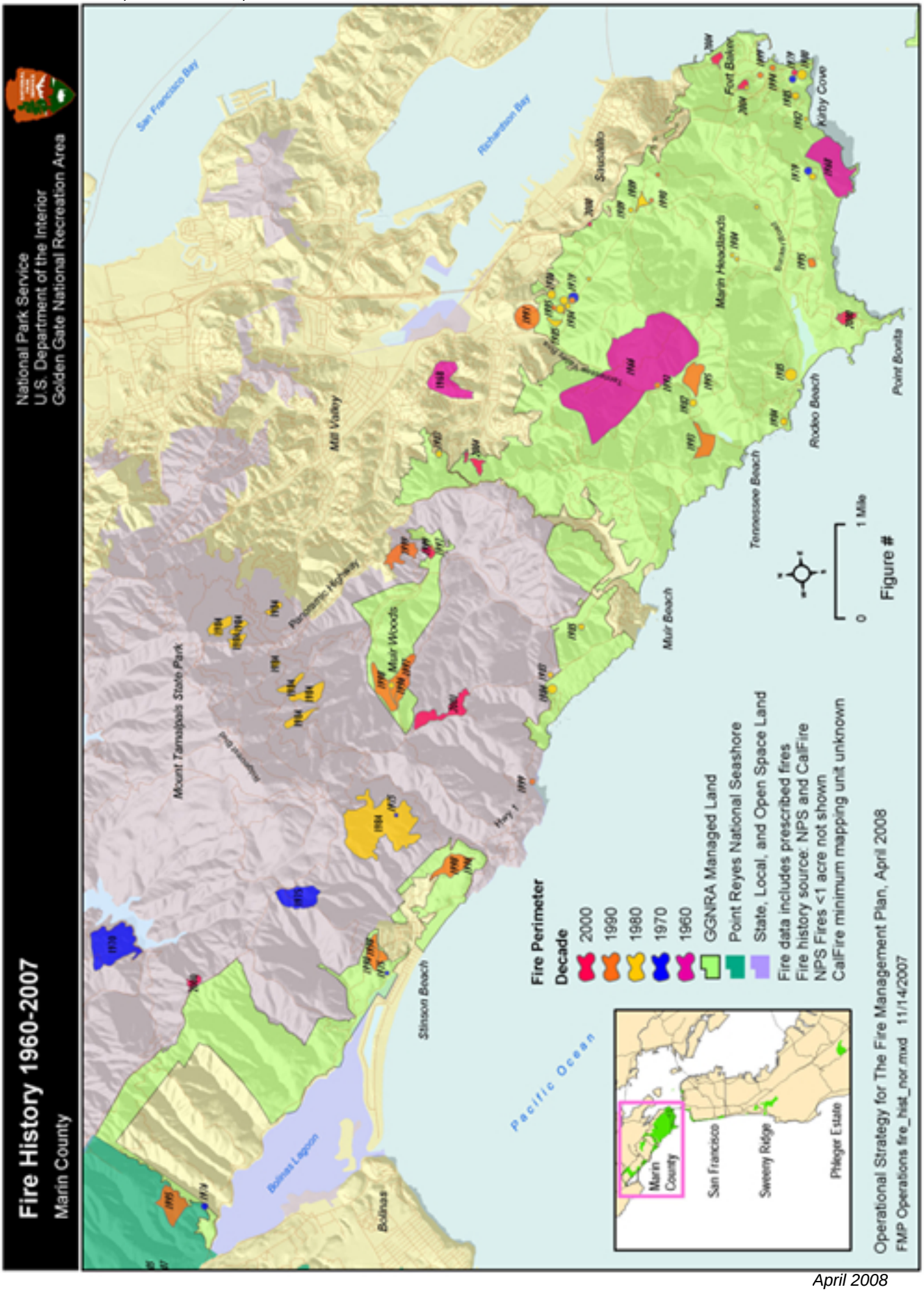
*This notification form is **not** an application for a permit. The District does **not** require a permit in order to burn. You are required to notify the District prior to burning by submitting this form. You will **not** receive a response.*

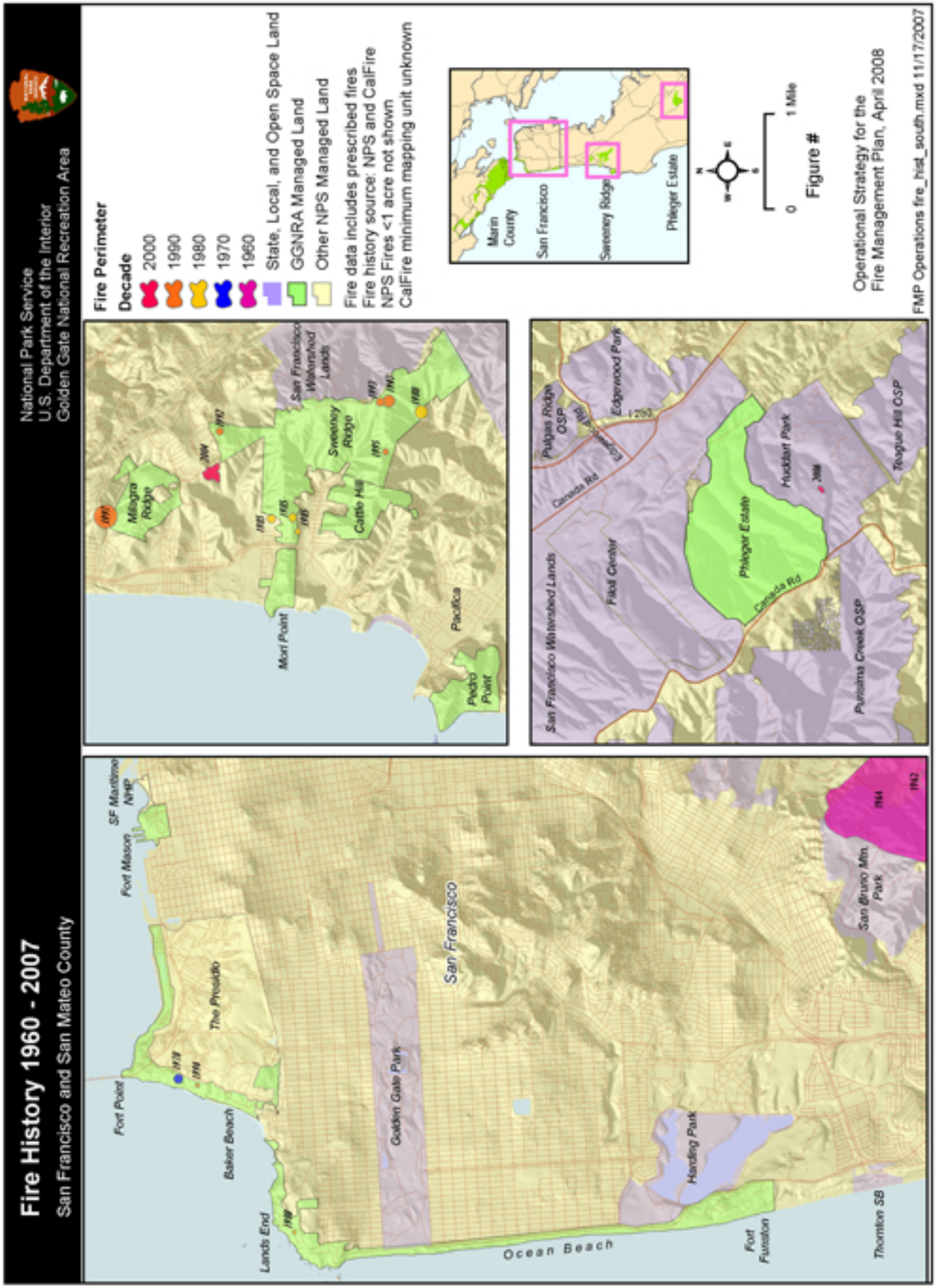
By submitting this notification, I understand and acknowledge the restrictions set forth for a Hazardous Material fire as defined in BAAQMD Regulation 5-208, "Hazardous Material."

Name: Date:

SEE BACK OF FORM FOR INSTRUCTIONS

APPENDIX E, PART 20, FMU MAPS OF PAST AND PROPOSED FMP PROJECTS




Fire History 1960 - 2007
San Francisco and San Mateo County
National Park Service
U.S. Department of the Interior
Golden Gate National Recreation Area
Fire Perimeter
Decade
2000
1990
1980
1970
1960
State, Local, and Open Space Land
GGNRA Managed Land
Other NPS Managed Land
Fire data includes prescribed fires
Fire history source: NPS and CalFire
NPS Fires <1 acre not shown
CalFire minimum mapping unit unknown
Marin County
San Francisco
Sweeney Ridge
Pfleiger Estate
0
1 Mile
Figure #
Operational Strategy for the
Fire Management Plan, April 2008
FMP Operations fire_hist_south.mxd 11/17/2007
Milagra Ridge
Sweeney Ridge
Cattle Hill
San Francisco Watershed Lands
Mori Point
Pacifica
Pedro Point
Pulgas Ridge OSP
Edgewood Park
Canada Rd
Fifield Cemetery
San Francisco Watershed Lands
Pfleiger Estate
Huddart Park
Teague Hill OSP
Purisima Creek OSP
SF Maritime NHP
Fort Mason
The Presidio
Fort Point
Baker Beach
Lands End
Golden Gate Park
San Francisco
Ocean Beach
Harding Park
Fort Funston
San Bruno Mtn. Park
Thornton SB

APPENDIX E, PART 21, IGNITION INDEX & FUEL HAZARD RATING WILDAND RESOURCE MANAGEMENT, INC., LSA ASSOCIATES, 2007.

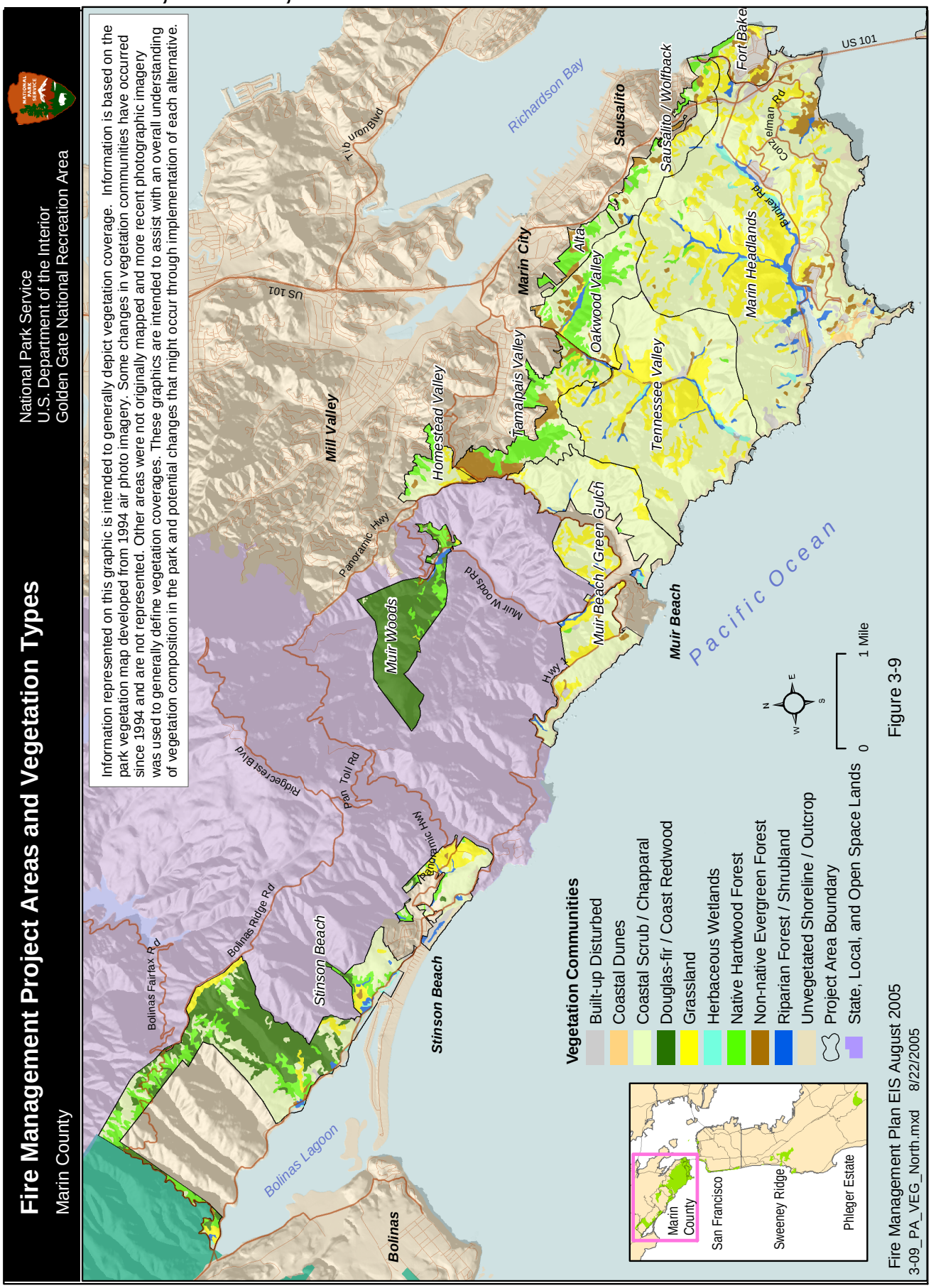
Vegetation Type	Fuel Hazard Rating (low, moderate, high, extreme)	Ignition Index (1 to 10; 1 is easy to ignite)	Key Resource Considerations	Potential Fuel Treatments	Treatment Cycle
Grassland and Herbaceous Vegetation					
Coastal Prairie Serpentine bunchgrass California Annual Grassland Ruderal Vegetation	Moderate	1 to 2	• Special status plants • Special status animals • Ground nesting birds • Native perennial grasslands • Serpentine grassland • Control of ruderal vegetation	• Hand labor • Grazing (goats) • Prescribed burn • Mechanical (mowing of open fields and roadsides).	1 to 3 years
Scrub Vegetation					
Maritime Chaparral	Extreme	6	• Sensitive plant community • Pallid manzanita • Obligate seeders • Nesting special status birds	• Hand labor • Grazing (goats) • Prescribed burn • Mechanical (mosaic thinning with small equipment to cut selected shrubs) • Chemical (Direct application of Garlon 4 limited to eucalyptus stumps)).	5 to 7 years
North Coast Scrub (Xeric and Mesic)	Xeric – Extreme Mesic – High	Xeric – 4 Mesic – 8	• Nesting special status birds • Alameda whipsnake	• Hand labor • Mechanical (knock down shrubs or cut off tops)	3 to 7 years
Coyote Brush Scrub	High	4	• Special status nesting birds • Alameda whipsnake	• Hand labor • Mechanical (knock down shrubs or cut off tops)	3 to 7 years

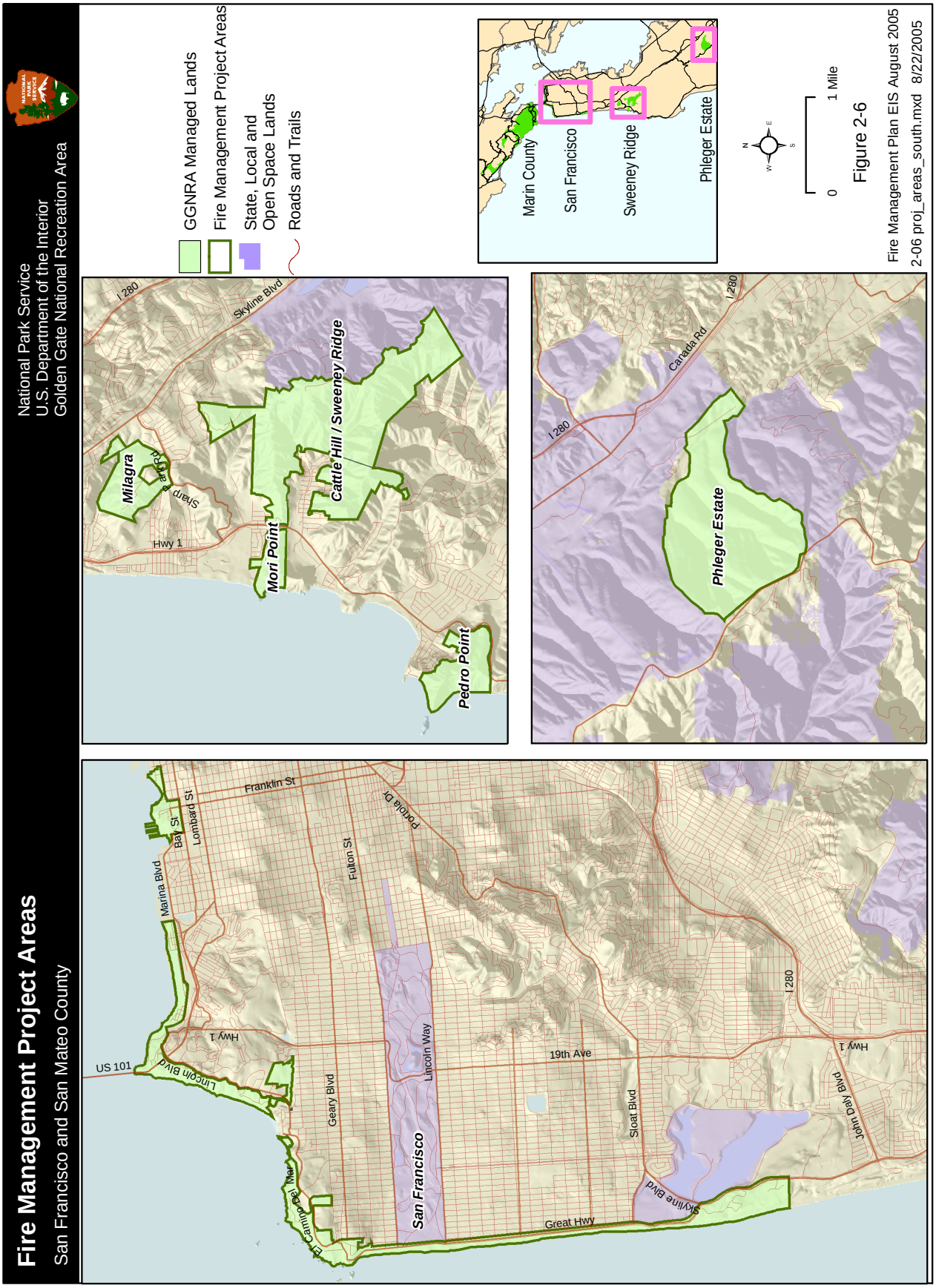
Vegetation Type	Fuel Hazard Rating (low, moderate, high, extreme)	Ignition Index (1 to 10; 1 is easy to ignite)	Key Resource Considerations	Potential Fuel Treatments	Treatment Cycle
Broom Scrub	High	6	• Alameda whipsnake • Control of non-native perennials	• Hand labor • Grazing (goats) • Prescribed burn • Mechanical (cut broom prior to seed production) • Chemical (Direct application of Garlon 4 for French broom).	Annually
Woodlands and Forest					
Mature Eucalyptus Forest (over 5 years old)	High	1	• Nesting raptors • Wintering monarch butterflies • Hummingbirds winter food source • Native understory trees & shrubs	• Hand labor • Prescribed burn • Mechanical (tree removal) • Chemical (Garlon 4 directly applied to stump to reduce resprouts).	5 to 7 years
Young Eucalyptus Forest	HIgh	2	• Intermixed native species (shrubs & trees)	• Hand labor • Prescribed burn (other methods required to prepare stand) • Mechanical (removal of tree stumps • Chemical (Garlon 4 directly applied to stump to reduce resprouts).	2 to 3 years
Mature Monterey Pine Forest	Moderate to High	2	• Native understory trees and shrubs • Raptor nesting	• Hand labor • Grazing (goats) • Prescribed burn (other methods required to prepare stand) • Mechanical (tree removal)	3 to 10 years

Vegetation Type	Fuel Hazard Rating (low, moderate, high, extreme)	Ignition Index (1 to 10; 1 is easy to ignite)	Key Resource Considerations	Potential Fuel Treatments	Treatment Cycle
Young Monterey Pine Forest (under 20 years old)	High	2	• Native shrubs and trees	• Hand labor • Prescribed burn (other methods required to prepare stand) • Mechanical (tree removal)	2 to 3 years
Oak – Bay Woodland	Low	6 to 8	• Special status plants • Animal species of special concern • Nesting special status birds and raptors	• Hand labor • Grazng (cattle, goats) • Prescribed burning(other methods required to prepare stand) • Mechanical (small equipment to cut selected shrubs and remove brush)	3 to 10 years
Redwood Forest	Low	8	• Raptor nesting	• Hand labor • Prescribed burning(other methods required to prepare stand) • Mechanical (small equipment to cut selected shrubs and remove brush)	10 – 15 years
Riparian Woodland	Low	8	• Regulatory restrictions • Special status species (e.g. steelhead, San Francisco dusky-footed woodrat, California red-legged frog) • water quality, e.g., erosion and sediment • Streams and water bodies which provide aquatic habitat	• Hand labor	10 to 15 years

Source: LSA Associates, Inc. Wildland Resource Management, Inc. 2007

APPENDIX E, PART 22, GGNRA FMU VEGETATION MAPS




Fire Management Project Areas
San Francisco and San Mateo County
National Park Service
U.S. Department of the Interior
Golden Gate National Recreation Area
GGNRA Managed Lands
Fire Management Project Areas
State, Local and Open Space Lands
Roads and Trails
Marin County
San Francisco
Sweeney Ridge
Phleger Estate
0
1 Mile
Figure 2-6
Fire Management Plan EIS August 2005
2-06 proj_areas_south.mxd 8/22/2005
Milagra
Cattle Hill / Sweeney Ridge
Mori Point
Pedro Point
Phleger Estate
I 280
Skyline Blvd
Sharp Park
Hwy 1
Canada Rd
Franklin St
Bay St
Lombard St
Marina Blvd
Lincoln Blvd
US 101
Fulton St
Portola Dr
Geary Blvd
Lincoln Way
19th Ave
Sloat Blvd
Skyline Blvd
Great Hwy
John Day Blvd
El Camino Del Mar
San Francisco