



**Directory of Forest Fire Control and
Management**
OF
HIMACHAL PRADESH

Introduction:

Himachal takes its name from the Himalayas. Himalayas, the great mountain system extends almost 2,500 Km., from North-West to South-East with a width of 250 to 300 Km. Himalayas are one of the youngest among the mountain system in India and these are believed to be 40 million years old. Himachal literally means 'Land of snowy mountains' is one of most beautiful states of India. It is also backbone of the Indian tourism industry.

Forest Resource of Himachal Pradesh:

Forests are an important resource of H.P. Although the area classified as "Forest" is 66.52 percent of the total geographical area of the Pradesh, the effective forest cover is much lower than this area, primarily on account of the fact that very large area is either alpine meadows or is above the tree line. Forest cover of the State is about 21,325 sq.km. i.e. 38.3 of the total area of the state. The forests are rich in biodiversity and play a vital role in preserving the fragile Himalayan ecosystem. They are primary livelihood source for the rural population and prime source of fresh water for both urban and rural population. The Forest Department mostly concerns itself with conservation and management of forests. The forests and other natural ecosystems of Himachal Pradesh are not only crucial for its environmental, ecological and economic well-being but so also for catering to environmental services to low land states.

General Forest Data

1. Please indicate the area of forest in hectares:

Forest area by administrative category	Total Area (Sq. Km)	Area under valid Working Plan, Working Scheme, or other plan (Sq. Km)
Total Forest Area in the State	37033	27825+ 9208 (Not included in the WP.
Total Forest area	37033	37033
Forest area under forest department (<i>including categories below</i>)		
Reserved forest	1898	
Protected Forest	33130	
Un-Classed Forests	2005	
Total:-	37033	
Assisted natural regeneration forest	No info.	No info.
Forest in protected areas (wildlife sanctuaries, national parks, etc.)	8391.42	

Non-forested lands under forest department	No info.	No info.
Other forest area under forest department (please specify)	No info.	No info.
Forest area under revenue department		
Forest under van Panchayats	No info.	No info.
Area of private forest (<i>e.g., municipal or cantonment forest</i>)		
Area of communal forest	No info.	No info.
Area of forest under other departments or agencies	No info.	No info.

STATE OF FORESTS

Himachal Pradesh is endowed with a vast variety of flora and fauna due to varied topography, climate and forest cover. State is known for its wilderness, landscapes, beautiful forests and wildlife. The forests are crucial to region's environmental and economic well-being, a storehouse of rich bio-diversity, vital in preserving the fragile Himalayan eco-system, and a primary livelihood source for its rural population. Out of total 55,673 sq km geographic area in the state, the forest comprises 37,033 sq km, which is 66.5% of the total area of the state and 4.80% of total forests in the country. According to Forest Survey of India report 2015, the state had 15,453sq km area green cover which is 41.72 % of total forest area and 27.75% of total geographical area.

Legal and administrative status of forests: The forests of Himachal Pradesh have been classified into 3 categories as tabulated below:

	Forests	Area in Sq. Km.
A	Reserved Forest	1,898 sq km
B	Protected Forest	33,130 sq km
C	Un-classed Forest	2,005 sq km
	Total	37,033 sq km
	Of State's Geographical Area	66.52%
	Of India's Forest Area	4.80 %

Source SFR-2013

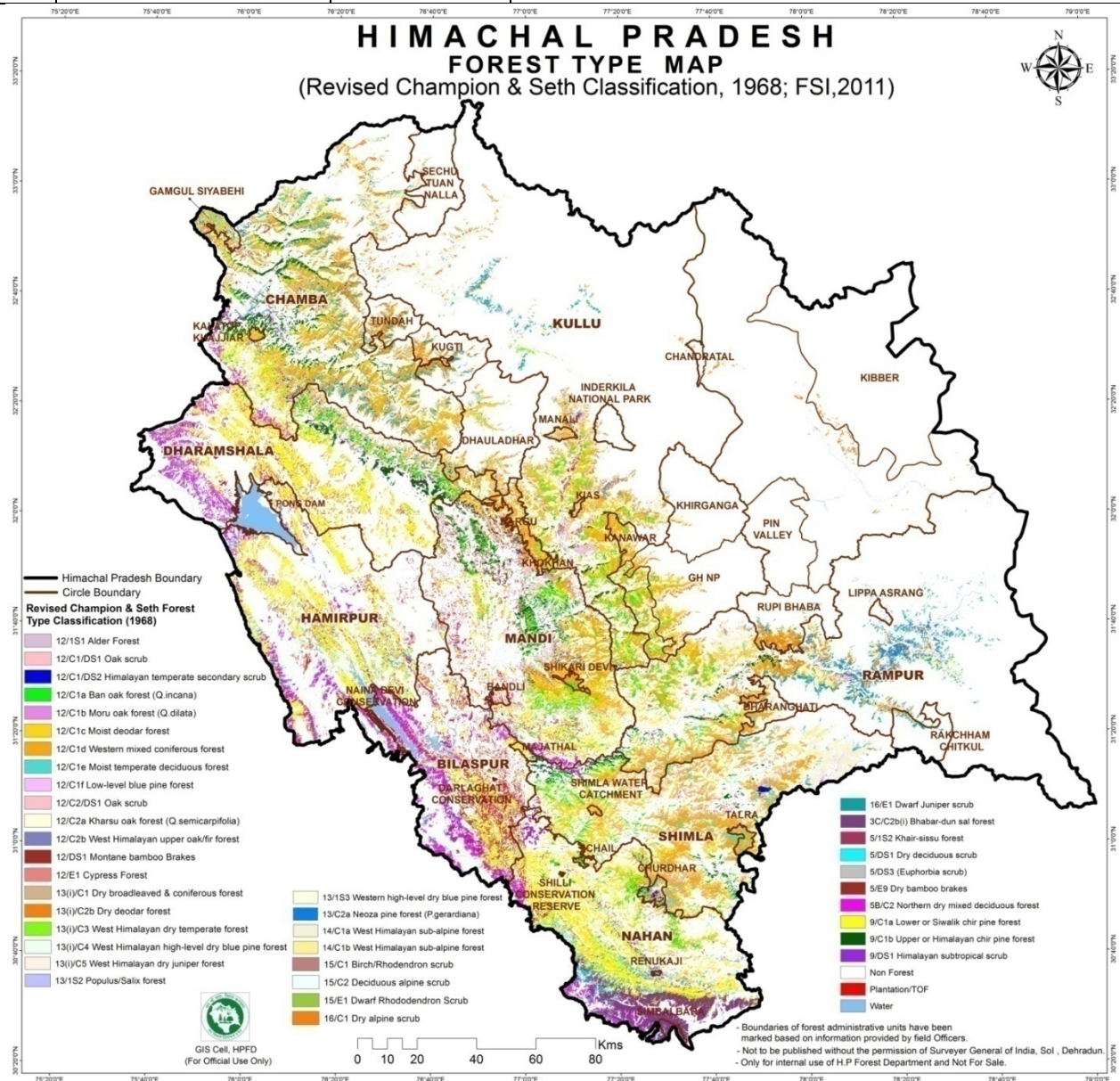
Biodiversity: Forests are rich in biodiversity with 3.120 species of flowering plants, 13 species of conifers, 124 species of pteridophytes and 38 species of orchids most of which are endemic to the State. Forests are also rich in aromatic and medicinal plants.

Forest types: The forests of the State can be classified on ecological basis broadly into coniferous forests and broad-leaved forests. As laid down by Champion and Seth the Forest Types of the State are tabulated below.

Table 1: Diversity of forest types as per Champion and Seth classification forests

S. No.	Major Forest Group	Classification Code	Forest Type
1.	Tropical Moist Deciduous Forests	3C	Moist Shiwalik Sal forest, Moist Bhabar Sal forest
2.	Tropical Dry Deciduous Forests	5B	Dry Shiwalik Sal forest, Northern Dry Mixed Deciduous forest, Dry Deciduous Scrub, Dry Bamboo Brakes, KhairSissoo Forests
3.	Subtropical Pine Forests	9C1	Himalayan subtropical Pine forests
		9DS1	Himalayan subtropical scrub
		9DS2	Subtropical Euphorbia scrub
4.	Subtropical Dry-Evergreen Forests	10C1	Subtropical dry evergreen forest
		10DS1	Dodona scrub
5.	Himalayan Moist Temperate Forests	12	Lower Western Himalayan Ban Oak forests, Lower Western Himalayan Mohru Oak forests, Lower Western Himalayan moist Deodar forests, Lower Western Himalayan mixed coniferous forests, Lower Western Himalayan moist temperate deciduous forests, Upper Western Himalayan Kharsu Oak forests, West Himalayan upper Oak/ Fir forest Montane bamboo brakes, Himalayan temperate parklands
6.	Himalayan Dry Temperate Forest	13/C	Dry broad leaved and coniferous forest (Q. ilex- P. gerardiana), Dry temperate coniferous – Neoga pine forests, Dry temperate coniferous – dry deodar forests, West Himalayan high-level dry blue pine forest, West Himalayan dry Juniper forest
7.	Sub-alpine Forest	14/C	West Himalayan sub-alpine Fir forest, West Himalayan sub-alpine Birch/ Fir forest
		14/DS1	Sub-alpine pastures
8.	Moist Alpine Scrub	15/C	Birch/ Rhododendron scrub forest, Deciduous alpine scrub, Alpine pastures
		15/E1	Dwarf Rhododendron scrub

9.	Dry Alpine Scrub	16/C1	Dry alpine scrub
		16/E1	Dwarf Juniper scrub



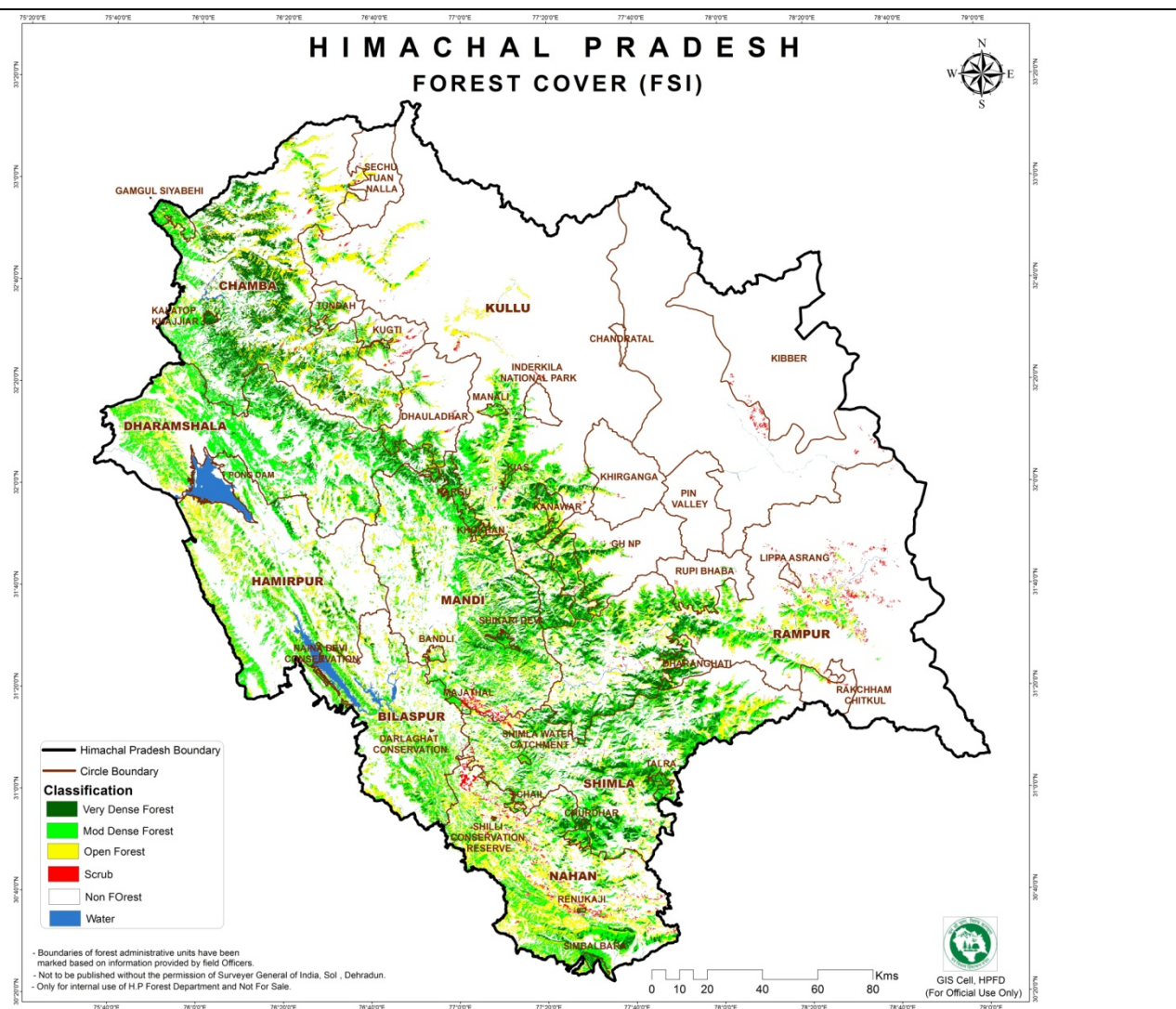
Forest Cover of HP: The comparative forest cover of the state as per last four FSI reports is as under

Table 2:

Report	2009 Area (Sqkm)	% age	2011 Area (Sqkm)	% age	2013 Area (Sqkm)	% age	2015 Area (Sqkm)	% age
Very dense Forest	3224	5.79	3224	5.79	3224	5.79	3224	5.79
Moderately dense Forest	6283	11.46	6281	11.46	6381	11.46	6381	11.46
Open Forest	5061	9.10	5074	9.11	5078	9.12	5091	9.14
Tree Cover (TOF)							757	1.35
Total	14668	26.35	14679	26.36	14683	26.37	15453	27.76

As per FSI reports 2009,2011,2013,2015 (VDF > 70%, MDF= 40-70%, Open= 10-40%, TC< 10%)

It can be seen that the area is continuously increasing. Changes reported in the forest have been validated through ground truthing of selected sample points in the field are mainly caused due to plantation activities and enhanced protection measures. The change matrix is in the table.....



6

Fire Prone Areas

The area of Chil forests in Himachal Pradesh is 1258.85 Km², which is about 3.4% of total forest area of the State. The following Forest Divisions are highly sensitive to Forest Fires.

Name of the Circle.	Name of the Forest Division				
Chamba	Dalhousie	Chamba	-	-	-
Dharamshala	Nurpur	Dharamsala	Palampur	-	-
Mandi	Joginder Nagar	Mandi	Sundernagar	Nachan	Karsog
Kullu	-	Parvati	Banjar	-	-
Bilaspur	Bilaspur	Nalagarh	Kunihar	-	-
Shimla	Shimla	-	-	-	-
Nahan	Nahan	Renuka	Paonta	Rajgarh	Solan
Rampur	Rampur	Ani	-	-	-
Hamirpur	Hamirpur	Dehra	Una	-	-
CCF.GHNP,Shamshi.	-	-	-	-	-

The HP Forest Department has identified forest fire sensitive beats detailed as under:-

NUMBER OF BEATS SENSITIVE TO FOREST FIRES IN HIMACHAL PRADESH

Name of the Forest Circle	Level of Sensitivity			Total
	High	Medium	Low	
Bilaspur	27	94	37	158
Chamba	18	50	123	191
Dharamsala	37	122	41	200
Hamirpur	9	118	64	191
Kullu	12	44	84	140
Mandi	82	60	150	292
Rampur	35	26	89	150
Nahan	32	55	185	272
Shimla	49	41	141	231
WL Dharamsala	17	8	32	57
WL Shimla	12	0	72	84
GHNP, Shamshi	9	49	2	60
Grand Total =	339	667	1020	2026

7 The Forest Fire incidences occurred in Himachal Pradesh since 2008-09 is tabulated as under:

Year	No. of Fire cases	Total area (in ha)	Estimated Loss (in Rs)
2008-09	572	6586.12	6005064
2009-10	1906	24849.52	25522928
2010-11	870	7837.63	9769363
2011-12	168	1758.15	4307878
2012-13	1798	20773.97	27682589
2013-14	397	3237.52	5231011
2014-15	725	6726.40	11326522
2015-16	672	5749.95	13477730
2016-17	1789	19162.69	32787627
2017-18 up to			

Strategy to make the Himachal Pradesh free from Forest Fires

A. Long Term Strategies:

1. Establishing of Control Rooms & Mobile/ Wireless Communications.
2. Mass Contact (Awareness Campaign) i.e. Contact with the Local People, Panchayats, School Children, JFMCs/ VFDCs, NGOs, Tourists, etc. to make them aware about the damages by the Forest Fires to the Forest Resources, Wild Life & the Environment
3. Distribution of Pamphlets for appeal as part of the awareness campaign. These should also contain the names contact of the Control Rooms, CFs, DFOs, ROs, etc
4. Visit of the Publicity Staff to the field for Mass Contacts/ organizing the Film Shows, Workshops and wide publicity through Electronic/ Print Media
5. Creation of fire lines and their maintenance.
6. Forest Fire Alert Messaging System (FAMS) is in use on the pattern of Madhya Pradesh Forest Department.
7. Forest Fire Rules have been notified by the Govt. of Himachal Pradesh vide Notification No. FFE –A © 7-1/96 –II dated 17-11-1999. These rules are widely publicized amongst the masses through PRI.
8. Identification of Forest Fire Sensitive beats and deployment of Forest Staff.

B. Short Term Strategies:

1. Engagement of Fire watcher in fire sensitive beats
2. Supply of forest fire fighting equipments
3. Control burning in the month of January and February every year
4. To increase the moisture regime by means of construction of water harvesting structures, Van sarovar and Water Storage Tanks etc.
5. Removal of Pine needles and debris.

Strategy to combat Forest Fires in Himachal Pradesh.

- i) Deployment of Forest Fire watchers (1000 No.) during summer fires beside existing forest field staff (4000 Personnel).
- ii) The Fire Alert Messaging System (FAMS) through the Satellite as developed and used by the MP Forest Department is in force in Himachal Pradesh for early detection of forest fire incidences.
- iii) Seeking an assistance of villagers to combat Forest Fires.
- iv) Forest staff in continuous liaison with PRI & JFMC of the area. An award Money of Rs. 10000/- per Gram Panchayat and Village Forest Development Committee (VFDC) or Self Help Group (SHG) and Joint Forest Management Committee (JFMCs) who have done commendable job in the Prevention of forest fire.
- v) Forest Fire Control Room established at the headquarter of each forest circle, Divisions and Forest Range Offices.
- vi) Thikri Paras got invoked from respective Deputy Commissioners.

Personnel deployed to fight forest fires.

As described in Para 9 above.

11 People participation (VSS/ BDC) to control Forest Fires.

ight holder are actively involved in putting off forest fires. Besides this an award Money of **Rs. 5000/- to 10000/- per Gram Panchyat and Village Forest Development Committee (VFDC) or Self Help Group (SHG)and Joint Forest Management Committee (JFMCs)** who co-operate in the Forest Fire Prevention in the Beats which are highly sensitive to Forest Fires is given every years The Forest Fire Watchers and Forest Officials who have done commendable job in the prevention of Forest Fires awarded during Van MahotsavProgramme of Forest Department. The Radio talk, workshops, TV Chat are arranged by HP Forest Department.

CAUSE OF FOREST FIRE

The cause of forest fire can be broadly grouped into two classes:

(a) Natural and (b) Man-made

The fires caused by man can further be divided into two classes, viz those caused unintentionally by his carelessness and those caused by him deliberately and internationally. Thus forest fires are caused by (1) Natural causes (2) Man's carelessness (3) man's deliberate and international action.

(1) Natural causes- The natural causes which start a forest fire may be lighting, rolling stones or rubbing of dry bamboos with each other. Of these three causes, lighting is responsible for more fire than any of the other two causes. In this country the number of trees that may be caused by the three natural causes are not more than 5 % of the total number of fires caused in any one year.

(2) Man's carelessness- About 95 % of the fire in this country are caused by man. Man may cause these fires either unintentionally, i.e., by his carelessness or deliberately and internationally. The fires that are caused unintentionally by man are called accidental fires as they are caused accidentally by his carelessness. The accidental fires caused by man's carelessness may be due to any of the following causes:

- (i) Leaving fire burning by cart men or travelers, lighted by them for cooking their mid-day meal or spreading of fire from labour camps.
- (ii) Throwing of burning match stick, or bidi or cigarette stumps in the forest by graziers or other travelers;
- (iii) Throwing of the carelessly after illicit collection of honey;
- (iv) Throwing of glowing coal pieces by trains speeding through the forest.
- (v) Throwing of torch wood by villagers while passing through the forest fire in the night;
- (vi) Falling of dry needles or leaves on electric poles giving out sparks;
- (vii) Burning of fields or grass lands in the villages outside but adjacent to the forest fire and leave such fire to spread in the forest area; and
- (viii) Accidental spread of fire in the forest while burning fire lines departmentally.

(3) Man's deliberate and international actions- Often forest fires are caused by man deliberately and internationally. These fires are therefore called deliberate and international fires. The main causes for such fires may be any of the following:

- (i) Burning the undergrowth and grass to collect minor forest produce, such as horn, which otherwise, is not visible;
- (ii) Inducing new shoots of grass in summer by burning the dry grass.
- (iii) Burning undergrowth and grass in the forest to search for injured wild animals or even to trap wild animals.
- (iv) Scaring away wild animals from near villagers;

- (v) Burning in the forest charring the stumps of illicitly felled trees in a forest.
- (vi) Destroying or at least charring the stumps of illicitly felled trees in a forest.

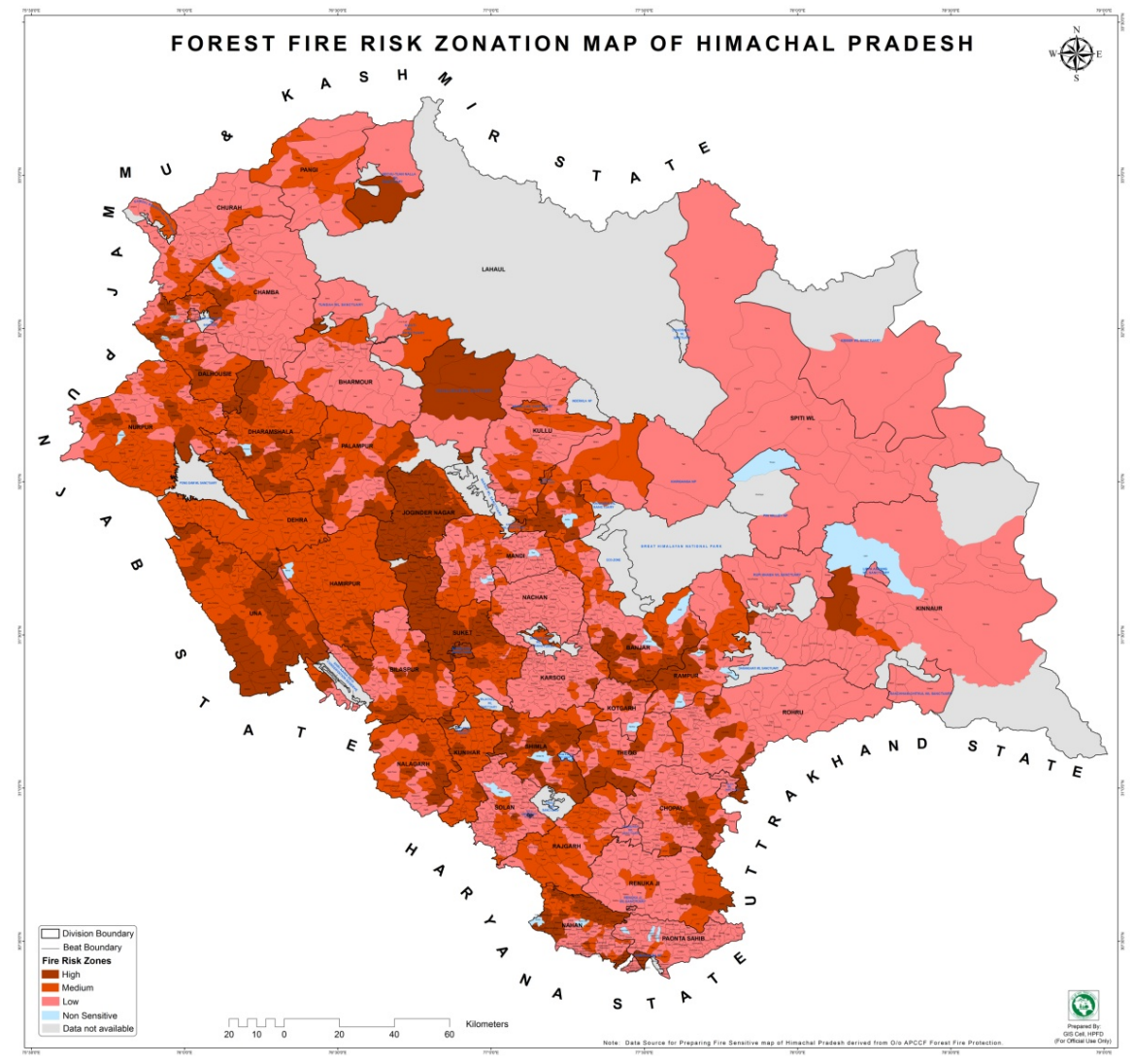
CLASSIFICATION OF FOREST FIRE

Forest fires are classified in two ways, viz, (a) on the basis of causative factors and (b) on the basis of the place of their action as described below:

- (a) **On the basis of causative-** On the basis of causative factors, forest fires are as already mentioned, classed in to (i) Natural fires, (ii) accidental fires, and (iii) deliberate or intentional fires.
- (b) **On the basis of the place of their action-** On the basis of the place of their action forest fires are classified into:
 - (i) *Creeping fire is defined as a forest fire spreading slowly over the ground with low flame.* Such a fire usually occurs in forest with practically no ground cover or undergrowth in summer night without any strong wind. Usually the ground is cover with a layer of dry leaves which burn slowly in the absence of strong wind.
 - (ii) **Ground fire-** ground fire defined as a forest fire that burns the ground cover only, i.e. the carpet of herbaceous plants and low shrubs, which covers the soil. In other countries, it refers to any fire that consumes the organic materials of the forest floor and also burns into the underlying soil itself, as for example, a peat fire. Such a fire, sometimes, Occurs in deodar forests as a result of slash disposal when it burn inside the humus for days without giving out flames and then causes a huge conflagration. that is why slash disposal in deodar forests should preferably by done after rains and before snowfall so that there may be no change of ground fire shouldering inside humus.
 - (iii) **Surface fire-** Surface fire is defined as a forest fire which burns not merely the ground cover but also undergrowth. In other countries, it refers to any fire that runs over the forest floor and burns only the surface litter, the loose debris and small vegetations. Most of the fire in the plains are surface fire as they burn the groundcover as well as undergrowth.
 - (iv) **Crown Fire-** Crown fire is defined as a forest fire which spreads through the crown of tress and consumes all of part of the upper branches and foliage. This usually occurs in coniferous forests. The above classes of fires are not exclusive, and independent of each other, i.e., once a fire of a particulars class starts it will not remain confined to that class. Usually one kind of fire may start and may develop into some into some other class or

combination of two classes depending on the circumstances such as conditions of wind and undergrowth. For instance, in a forest with no undergrowth or ground cover, a fire may, to start with, be a creeping fire but after spreading cover some area it may come across patches with ground cover as well as undergrowth. Here it will turn into a surface fire similarly a fire in coniferous forests may start as a surface fire but with the help of lichens or dry climbers, it may reach the crown of a tree and then onwards, it may become a combination of surface & crown fire.

ANNWXURE-A



ANNEXURE-II

Forest Fire Management Plan.

1. State : Himachal Pradesh
2. Name of Forest Territorial Circle/ Wild life Circle/ Social Forestry Circle. All Circle as per Annexure- A.
3. Division/ Protected Area (in the Circle)
All Division as per Annexure- B.
4. Control Room

- i. **Location:** Himachal Pradesh.
- ii. **Address:** The office of Chief Conservator of Forest (Forest Protection and Fire Control) Himachal Pradesh with headquarter at Bilaspur has been established for monitoring of Forest Fires. Forest Fire Control Room have been established in the headquarters of each Forest Circles, Divisions and Range Office of the HP Forest Department.
- iii. **Toll Free Number**

No Toll Free Number is required in Himachal Pradesh as most of the Forest Fires are ground fires and are not of grave in nature. Only 0177-2624186 EPBX Office of Principal Chief Conservator of Forests (HoFF), Himachal Pradesh at Shimla and 01978-221616 & Telefax of Chief Conservator of Forest (Forest Protection and Fire Control) Himachal Pradesh with headquarter at Bilaspur are operative for 24 hours during fire season.

5 Area

Geographical area of Himachal Pradesh is 55,673 KM² with a population of 68,64,602. An area of 37,033 KM² is classified as forest which is 66 % of the geographical area of the State. The forests of Himachal Pradesh comprises of Chir, Deodar, Kail, Fir, Spruce, Oak, Khair, Saal, Bamboo and broad leaved species. Out of above species area having Chir is highly prone to forest fires in summer season in view of shedding of highly inflammable chil needles. The area of Chil forests in Himachal Pradesh is 1258.85 Km², which is about 3.4% of total forest area of the State.

There are two types Chil Forests in Himachal Pradesh

- 1) **9/C1a Lower or Shivalik Chil Pine Forests:** - These forests are found in Bilaspur, Nalagarh, Hamirpur, Una, Dehra, Nurpur, Mandi, joginder-nagar, parts of Dalhousie Forest Divisions. Forest Fires incidences occurs in these area during 15th April to 15th May in Summer Season
- 2) **9/ C1b Upper or Himalayan Chil Pine Forests:** - These forests are found in Solan, Nahan and Shimla. The Forest Fires incidences are common during 15th May to till the onset of rainy season (Monsoon) .

6 Fire Prone Areas

The area of Chil forests in Himachal Pradesh is 1258.85 Km², which is about 3.4% of total forest area of the State. The following Forest Divisions are highly sensitive to Forest Fires.

Name of the Circle.	Name of the Forest Division				
Chamba	Dalhousie	Chamba	-	-	-
Dharamshala	Nurpur	Dharamsala	Palampur	-	-
Mandi	Joginder Nagar	Mandi	Sundernagar	Nachan	Karsog
Kullu	-	Parvati	Banjar	-	-

Bilaspur	Bilaspur	Nalagarh	Kunihar	-	-
Shimla	Shimla	-	-	-	-
Nahan	Nahan	Renuka	Paonta	Rajgarh	Solan
Rampur	Rampur	Ani	-	-	-
Hamirpur	Hamirpur	Dehra	Una	-	-
CCF.GHNP,Shamshi.	-	-	-	-	-

The HP Forest Department has identified forest fire sensitive beats detailed as under:-

NUMBER OF BEATS SENSITIVE TO FOREST FIRES IN HIMACHAL PRADESH

Name of the Forest Circle	Level of Sensitivity			Total
	High	Medium	Low	
Bilaspur	27	94	37	158
Chamba	18	50	123	191
Dharamsala	37	122	41	200
Hamirpur	9	118	64	191
Kullu	12	44	84	140
Mandi	82	60	150	292
Rampur	35	26	89	150
Nahan	32	55	185	272
Shimla	49	41	141	231
WL Dharamsala	17	8	32	57
WL Shimla	12	0	72	84
GHNP, Shamshi	9	49	2	60
Grand Total =	339	667	1020	2026

7. Area where fire has occurred for consecutive 5 years in Himachal Pradesh is nil. However, the Forest Fire incidences occurred in Himachal Pradesh since 2008-09 is tabulated as under:

Year	No. of Fire cases	Total area (in ha)	Estimated Loss (in Rs)
2008-09	572	6586.12	6005064
2009-10	1906	24849.52	25522928
2010-11	870	7837.63	9769363
2011-12	168	1758.15	4307878
2012-13	1798	20773.97	27682589
2013-14	397	3237.52	5231011
2014-15	725	6726.40	11326522
2015-16	672	5749.95	13477730
2016-17 (up to 20-01-2017)	1789	19162.69	32787627

8 Strategy to make the Himachal Pradesh free from Forest Fires

C. Long Term Strategies:

9. Establishing of Control Rooms & Mobile/ Wireless Communications.
10. Mass Contact (Awareness Campaign) i.e. Contact with the Local People, Panchayats, School Children, JFMCs/ VFDCs, NGOs, Tourists, etc. to make them aware about the damages by the Forest Fires to the Forest Resources, Wild Life & the Environment
11. Distribution of Pamphlets for appeal as part of the awareness campaign. These should also contain the names contact of the Control Rooms, CFs, DFOs, ROs, etc
12. Visit of the Publicity Staff to the field for Mass Contacts/ organising the Film Shows, Workshops and wide publicity through Electronic/ Print Media
13. Creation of fire lines and their maintenance.
14. Forest Fire Alert Messaging System (FAMS) is in use on the pattern of Madhya Pradesh Forest Department.
15. Forest Fire Rules have been notified by the Govt. of Himachal Pradesh vide Notification No. FFE –A © 7-1/96 –II dated 17-11-1999. These rules are widely publicized amongst the masses through PRI.
16. Identification of Forest Fire Sensitive beats and deployment of Forest Staff.

D. Short Term Strategies:

6. Engagement of Fire watcher in fire sensitive beats
7. Supply of forest fire fighting equipments
8. Control burning in the month of January and February every year
9. To increase the moisture regime by means of construction of water harvesting structures, Van sarovar and Water Storage Tanks etc.
10. Removal of Pine needles and debris.

9 Strategy to combat Forest Fires in Himachal Pradesh.

- i) Deployment of Forest Fire watchers (1000 No.) during summer fires beside existing forest field staff (4000 Personnel).

- ii) The Fire Alert Messaging System (FAMS) through the Satellite as developed and used by the MP Forest Department is in force in Himachal Pradesh for early detection of forest fire incidences.
- iii) Seeking an assistance of villagers to combat Forest Fires.
- iv) Forest staff in continuous liaison with PRI & JFMC of the area. An award Money of Rs. 10000/- per Gram Panchyat and Village Forest Development Committee (VFDC) or Self Help Group (SHG) and Joint Forest Management Committee (JFMCs) who have done commendable job in the Prevention of forest fire.
- v) Forest Fire Control Room established at the headquarter of each forest circle, Divisions and Forest Range Offices.
- vi) ThikriParas got invoked from respective Deputy Commissioners.

10 Personnel deployed to fight forest fires.

As described in Para 9 above.

11 People participation (VSS/ BDC) to control Forest Fires.

ight holder are actively involved in putting off forest fires. Besides this an award Money of **Rs. 5000/- to 10000/- per Gram Panchyat and Village Forest Development Committee (VFDC) or Self Help Group (SHG)and Joint Forest Management Committee (JFMCs)** who co-operate in the Forest Fire Prevention in the Beats which are highly sensitive to Forest Fires is given every years The Forest Fire Watchers and Forest Officials who have done commendable job in the prevention of Forest Fires awarded during Van MahotsavProgramme of Forest Department. The Radio talk, workshops, TV Chat are arranged by HP Forest Department.

12 Other Departments involved in fighting Forest Fires and their role:

In case of most devastating forest fires in inhabited area the services of Homeguards& Civil Defence Services are also taken for deploying Fire Brigade for fighting with fires.

- i Revenue: Nil
- ii Police: Although situation for help does not arise yet forest fire cases are reported to police for registration and Help will be sought in case of any miscreant kindle forest fire deliberately or incendiaries.
- iii Hospital / Medical services: In case any tragedy occurs due to fire spreads to villages or other inhabitation area for treatment.
- iv Fire Department Assistance of Fire Department will be sought when the staff are unable to control the fire their own near habitation.
- v Panchayats : Help will be sought for creating awareness and putting off fires.
All Villagers provide their full co-operation to the forest staff and associate in fire fighting.
- vi Parliamentary Forces: Not applicable
- vii Any others : Help of Army is sought in Dalhousie, Kasuali and Nahan areas of Himachal if urgency arises.

13 **Forest Fire Map (Division/ PA's)**

Himachal Pradesh Forest Department has devised a fire risk zonation map is attached .

14 **Mechanism to ensure that forests fires do not occur**

As described in para No. 8

15 **Mechanism to control forest fires if it occurs**

1. Fire Fighting Teams (Forest Task Force) under the leadership of Forest Guards/Block Officer/ROs are constituted in Fire Prone areas. These teams will have fire watchers and forest workers in it and they will try to extinguish the fire immediately on its occurrence.
2. Counter fire
3. Beating the Ground Fire by brushwood
4. Removal or clearing of forest debris especially pine needles.
5. Use of water or Soil, if available

16 **Mechanism to combat forest fires in large scale fires/ emergencies (Crisis Management)**

Help of Fire Brigade or NDRF teams will be sought.

17.	Mechanism in case forest fire spread outside forest	<ul style="list-style-type: none">• Assistance of Police, Fire Brigade and district administration will be sought.• Early Warning to the Villagers• Evacuation of live stock to safer places• Evacuation to safer place by vehicles
i)	ii) For safeguarding property and livestock	
iii)	iv) For safeguarding Human life	

18 **Any other remarks:- Nil**

Name of Forest Territorial Circle/ Wild life Circle/ Social Forestry Circle.

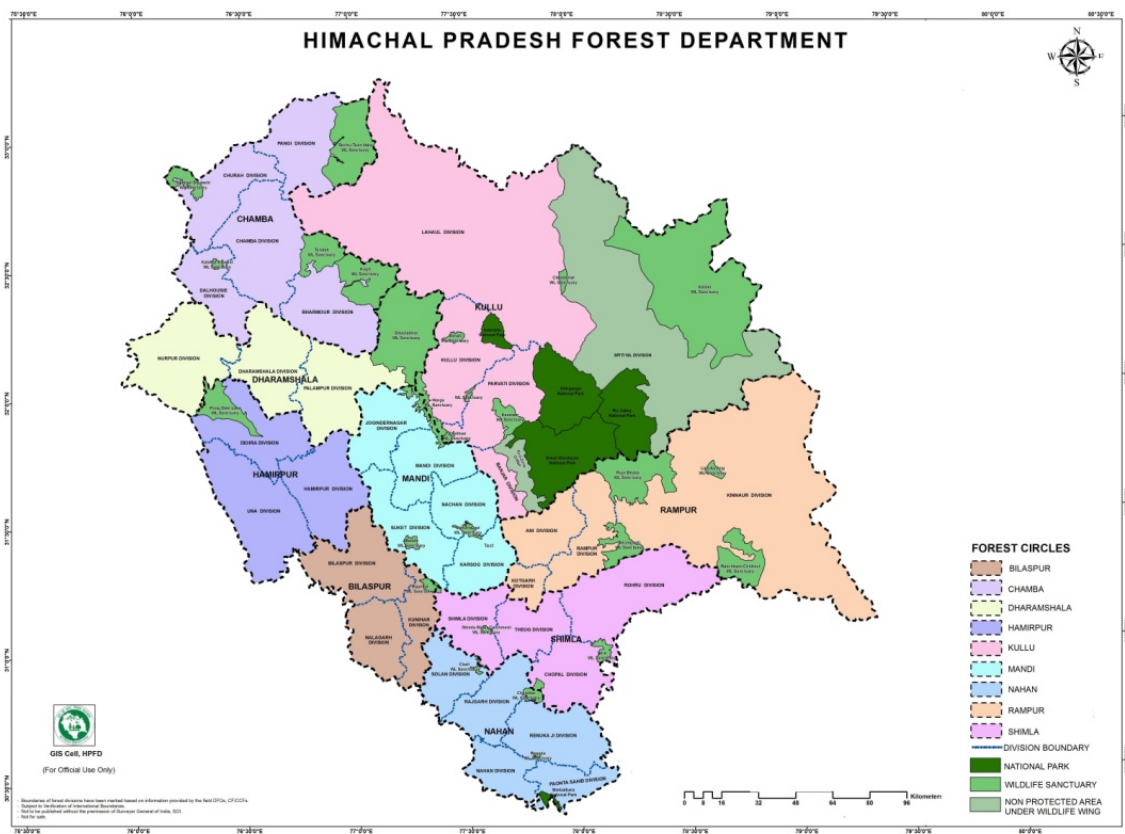
There are 09 Territorial Forest Circle and 03 Wild Life Circle in Himachal Pradesh.

Territorial Forest Circle:

1. Bilaspur
2. Chamba
3. Dharamshala
4. Hamirpur
5. Kullu
6. Mandi
7. Nahan,
8. Rampur
9. Shimla.

Wild Life Forest Circle (Overlapping with Territorial Forest Circles.

1. Wild Life (North) at Dharamshala Distt. Kangra H.P.
2. Wild Life (South) at Shimla Distt. Shimla H.P.
3. Great Himalayan National Park, Shimla Kullu HP.

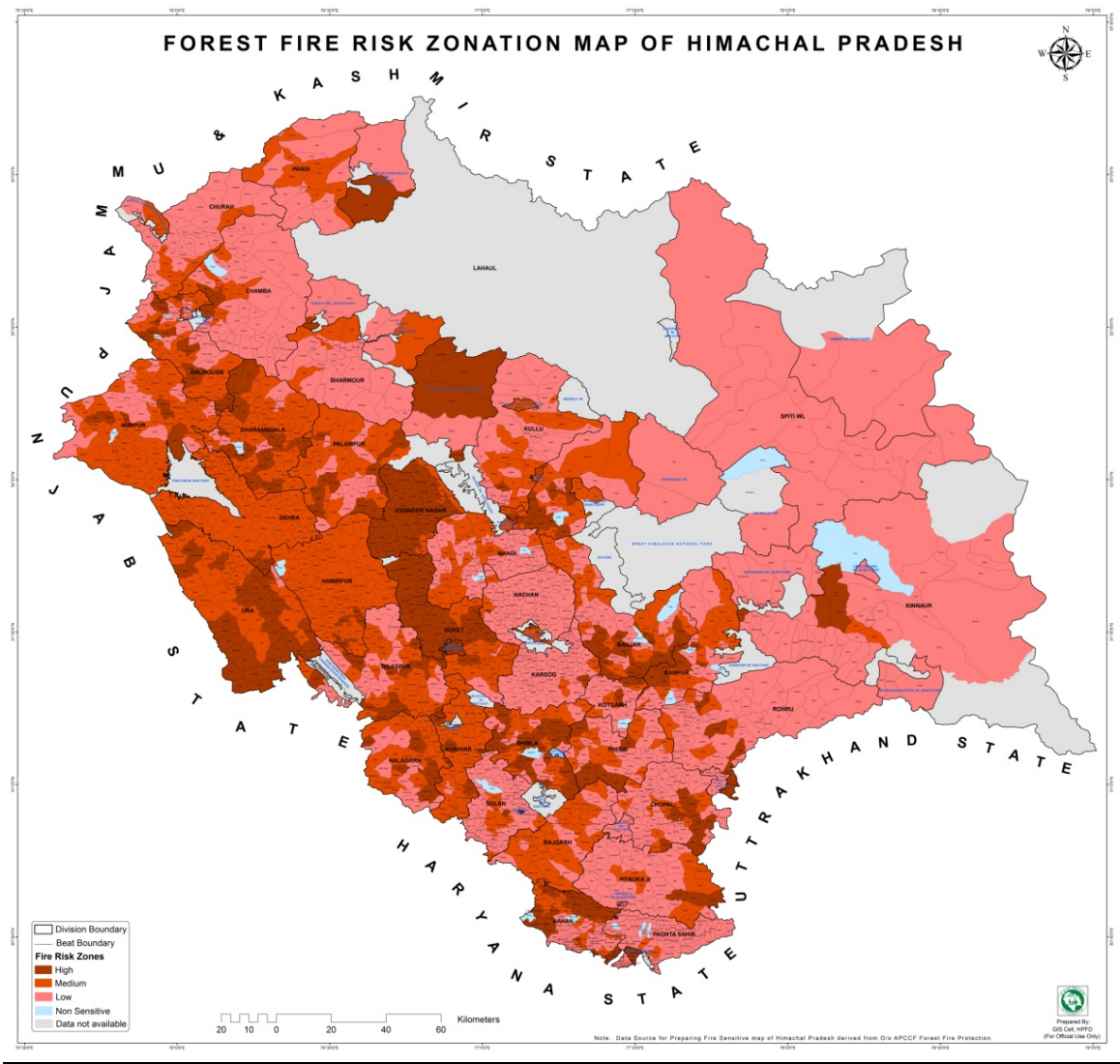


Division/ Protected Area (in the Circle):-

There are 36 Territorial Division and 01 Urban Division and 07 Wild Life Division in Himachal Pradesh detailed as under:-

Name of Circle	Name of Division
Bilaspur	Bilaspur
	Kunihar
	Nalagarh
Chamba	Chamba
	Churah
	Dalhousie
	Bharmour
	Pangi
Dharamsala	Dharamsala
	Palampur
	Nurpur
Hamirpur	Hamirpur
	Dehra
	Una
Kullu	Kullu
	Seraj
	Parvati
	Lahaul
Mandi	Mandi
	Nachan
	Suket
	Karsog
	Jogindernagar
Rampur	Rampur
	Kotgarh
	Anni
	Kinnaur
Nahan	Nahan
	Solan
	Rajgarh
	Paonta
	RenukaJi
Shimla	Shimla
	Shimla (Urban)
	Theog
	Rohroo
	Chopal
Wild Life Forest Circle	

WL Dharamsala	WL Chamba
	WL Hamirpur
WL Shimla	WL Shimla
	WL Sarahan
	WL Spiti
GHNP Shamshi	GHNP Shamshi



Forest Fire Evaluation

1. State : **Himachal Pradesh**

2. Name of Forest Territorial Circle/ Wild life Circle/ Social Forestry

Circle:All Forest Circles.

3. Division/ Protected Area (in the Circle): All Divisions.

4	Area where forest fire have occurred (with area in ha. Above 10 ha) and loss of vegetation and any other loss.			
	Abstract of Forest Fire Cases since 2008-09 to 20-01-2017			
	Year	No. of Fire cases	Total area (in Ha)	Estimated Loss (in Rs)
	2008-09	572	6586.12	6005064
	2009-10	1906	24849.52	25522928
	2010-11	870	7837.63	9769363
	2011-12	168	1758.15	4307878
	2012-13	1798	20773.97	27682589
	2013-14	397	3237.52	5231011
	2014-15	725	6726.40	11326522
	2015-16	672	5749.95	13477730
	2016-17	1789	19162.69	32787627
	2017-18 up to			

5 **Forest Fire occurrence Map:** This map is prepared by NRSC, Hyderabad on their Bhuwan Portal every year. The Forest Fire Map for the year 2012 is attached as Annexure-D.

6 **Evaluation of role of**

a) **Personnel in combating fire:** Adequate

b) **VSS/ BDC in combating fire:** All members enthusiastically took part in combating forest fires

c) Other Departments:

- i Revenue:** Situation for help did not arise.
- ii Police :** Although situation for help does not arise yet forest fire cases are reported to police for registration and help will be sought in case of any miscreant kindle forest fire deliberately or incendiaries.
- iii Fire Department:** Situation for help did not arise.
- iv Medical services/ Hospital:** Situation for help did not arise.
- v Panchayats:** Situation for help did-not arise as the right holders voluntarily participate actively in putting off forest fires.
- vi Any others**

7. Evaluation Strategy to:

- a) Make the circle free of forest fires:** The strategy worked satisfactory.
- b) Combat Forest Fires :** The strategy worked satisfactory.

8. Evaluation of mechanism to :

- a) Combat Forest Fires:** Although it is on declining but every third or fourth year when weather is dry incidences of fire occurrence rises in Chil areas.
- b) To combat forest fires in large scale fires/ emergencies (Crisis Management):** Situation did not arise.
- c) To Combat Forest Fires spreading out side forest:** Situation did not arise
- d. Safeguard:**
 - i) Property & Live Stock:** Situation did not arise
 - ii) Human Life:** Situation did not arise

9. Post fire Season Analysis: The strategy worked satisfactory.

10. Any other remarks: Since most of the forest fires are ground fires in Himachal Pradesh. During rainy season the fire burnt area got recovered naturally. Generally the loss and area affected by forest fires are inspected and remedial measure like afforestation and Patch sowing are taken during the rainy season to make the loss good.