

Result of Sample Tree Enumeration of Buldhana Forest Division

Buldhana forest division is one of the forest divisions of Amravati circle. Geographical coordinates are latitude 20⁰13 to 21⁰32' North and Longitude 78⁰49' to 75⁰75' East.

Forest Area:-As per Annual Administrative Report, 2017-18, legal Status-wise, the details of forest area of Buldhana Forest Division as on dated 31/03/2018 are as follows.

Table No-1
Classification of Forest area according to Management & Legal status
(Area in Sq. km.)

Sr. No.	Controlling Agency	Reserved forest	Protected forest	Un-classed forest	Total Forest
1.	Area in charge of Forest Department	832.62	10.40	1.46	844.48
2.	Area in charge of F.D.C.M.	0	0	0	0
3.	Private Forest brought under possession of Forest Department	0	0	0	0
Total		832.62	10.40	1.46	844.48
% to total forest area		98.60	1.23	0.17	100

Buldhana Forest Division consist of 7 Ranges. The Range-wise Forest area under Scientific Management as prescribed in Working Plan by Shri Virendra R. Tiwari, Conservator of Forests, Working Plan Division, Amravati is as under.

Table No.2

Sr. No	Names of Ranges	Total Forest area in (ha)
1.	Jalgaon Jamod	16962.88
2.	Khamgaon	13074.90
3.	Motala	11252.95
4.	Buldhana	10755.85
5	Deulgaon Raja	8152.32
6	Mehakar	4929.26
7	Ghatbori	18670.90
		83799.06

Now Dy. Conservator of Forest, Working Plan, Amravati has proposed following working circle wise forest area, for sample tree enumeration in proposed new Working Plan.

Table No.3

Working Circle wise Area proposed for tree enumeration

Sr. No.	Name of working circle	Population area in ha
1	Protection Working Circle	6605.43
2	Selection cum Improvement Working Circle	7884.05
3	Improvement Working Circle	38362.54
4	Pasture Working Circle	29701.31
5	Fuelwood Working Circle	1245.73
	Total	83799.06

Sampling plan of Tree Enumeration.

After enumeration work, data of the same is received vide Dy. Conservator of Forest Working division Amravati vide their letter No. कक्ष-२/उवसं/काआ/अम./रेस/बुल/११३ दिनांक १४.०६.२०१९.

On scrutiny of data and preparation of results i.e. Stock per hectare was calculated and the result are being reported in the form of following statements.

Statement I : Estimated growing stock- No. of Sound trees in population area.

Statement II : Estimated growing stock- No. of Sound trees per ha.

Statement III : Percentage distribution of total stock of species over all girth classes.

Statement IV : Percentage of stock of species in a girth class to the total stock in that particular girth class.

Statement V : Estimated growing stock - volume in cum./ha.

Some noteworthy result on current enumeration is described in following Table No. 4(a)

Table No. 4 (a)
Statement showing estimated No. of trees per ha. in Previous (Oct-2005 to Dec-2005) and Current (April -2018 to March-2019) tree enumeration

Sr. No	Name of Working Circle	Past enumeration	Sr. No.	Name of Working Circle	Current enumeration (April -2018 to March-2019) No. of trees per ha.
1	Afforestation W.C	209.28	1	Protection Working Circle	333.63
2	Catchment W.C.	261.03	2	Selection cum Improvement Working Circle	247.25
3	Babhulban W.C.	70.72	3	Improvement Working Circle	172.59
			4	Pasture Working Circle	102.87
			5	Fuelwood Working Circle	66.25
Weighted Average		206.36	Weighted Average		166.02

Table 4 (b)

Estimated percentage distribution of trees in 15U30 ,31 U 45 and remaining girth class to overall girth class

Sr. No.	Working Circle	Girth class-wise estimated percentage of number of trees			
		15 U 30	31U45	Remaining Girth Classes	Total estimated No. of trees
1	Protection Working Circle	26.61	22.62	50.77	100
2	Selection cum Improvement Working Circle	2.09	37.01	58.90	100
3	Improvement Working Circle	41.12	25.13	33.75	100
4	Pasture Working Circle	43.12	28.80	28.08	100
5	Fuel wood Working Circle	71.70	16.98	11.32	100
Weighted Average		33.48	26.88	39.64	100

Working circle wise estimated, number of sound trees per hectare are as follows.

Table No.5
Working Circlewise No. of sound trees per ha

Sr. No.	Name of Working Circle	Total	General utility species	Special utility species	Minor forest produce species	Other species
1	2	3	4	5	6	7
1	Protection W.C	333.63	209.09	38.18	40.91	45.45
	% of stock to total stock	100	62.68	11.44	12.26	13.62
2	S.C.I W.C.	247.25	170.97	34.03	15.80	26.45
	% of stock to total stock	100	69.15	13.76	6.39	10.70
3	Improvement W.C.	172.59	55.25	30.05	36.94	50.35
	% of stock to total stock	100	32.01	17.41	21.40	29.18
4	Pasture Working Circle	102.87	30.18	12.70	40.24	19.75
	% of stock to total stock	100	29.34	12.34	39.12	19.20
5	Fuelwood W.C	66.25	0	2.50	2.50	61.25
	% of stock to total stock	100	0	3.77	3.77	92.46
Total weighted average		166.02	68.56	24.50	35.92	37.03
% of stock to total stock		100	41.30	14.76	21.64	22.31

Table No.5A
Working Circlewise Volume in cum. per ha

Sr. No.	Name of Working Circle	Total	General utility species	Special utility species	Minor forest produce species	Other species
1	2	3	4	5	6	7
1	Protection W.C.	60.15	33.22	17.52	4.43	4.98
	% of stock to total stock	100	55.23	29.12	7.36	8.29
2	Selection cum improvement W.C.	42.60	22.69	9.40	2.77	7.74
	% of stock to total stock	100	53.26	22.06	6.51	18.18
3	Improvement W.C.	21.98	5.34	7.01	2.77	6.86
	% of stock to total stock	100	24.30	31.90	12.60	31.20
4	Pasture Working Circle	10.18	2.28	1.50	3.01	3.39

	% of stock to total stock	100	22.39	14.73	29.58	33.30
5	Fuelwood W.C	4.30	0	0.10	0.72	3.48
	% of stock to total stock	100	0	2.33	16.64	81.03
Total weighted average		22.49	8.01	6.01	2.95	5.52
% of stock to total stock		100	35.61	26.73	13.13	24.53

Highlights from the results of tree enumeration as given in table No.5, are summarised below:

1) Protection Working Circle:-

Category wise percentage of Species to total growing stock in this working circle is as given below

Sr. No.	Category of Species	Name of Species	% to total growing stock
1	A:-Species of General Utility	Kakad , Lendia, Sajad,Teak	62.68
2	B:-Species of Special Utility	Dhawada, Karam, Moin, Salai	11.44
3	C:-Species of Minor Forest Produce	Apta awala, Behada, Charoli, Moha, Palas, Sitafal, Tendu	12.26
4	D:-Other Species	Amaltas, anjan, Chikati, Dhaman, Dudhi,Karanj, Kuda, Lokhandi,Rohan, Satpuda, Girwal, Kadka, Keshavbhur	13.62

2) Selection Cum Improvement Working Circle:-

Category wise percentage of Species to total growing stock in this working circle is as given below

Sr. No.	Category of Species	Name of Species	% to total growing stock
1	A:- Species of General Utility	Teak, Lendia,Sajad	69.15
2	B:-Species of Special Utility	Dhawada,Hiwar,Khair,Moin,Salai	13.76
3	C:-Species of Minor Forest Produce.	Apata, Behada, Bel, Charoli, Moha ,Neem,Palas, tendu	6.39
4	D:-Other Species	Amaltas, anjan, Dahipalas, Dhaman,Dudhi, Glyricidia, Katsawar, Lakhandi, Medsing Mokha, Rohan, Salguda, Phetra	10.70

3) Improvement Working Circle:-

Category wise percentage of Species to total growing stock in this working circle is as given below

Sr. No.	Category of Species	Name of Species	% to total growing stock
1	A:-Species of General Utility	Bondara,Kakad,Lendia,sajad,Teak	32.01
2	B:-Species of Special Utility	Arjun, Dhawada,Haldu, Hiwar, Kalam, Kalamb, Khair, Moin, Salai, Shivan	17.41
3	C:-Species of Minor Forest Produce	Apta, awala, Behada, Bel, Biba,Charoli, Moha, Neem, Pals, Sitaphal, Tendu	21.40
4	D:-Other Species	Amaltas Anjan, Babjl, Bangali Babul, Dudhi, Ghatbor, Glirisidia, Kadukha, Lokhandi, Medsing, Parijatak, Sisoo, Others	29.18

4) Pasture Working Circle:-

Category wise percentage of Species to total growing stock in this working circle is as given below

Sr. No.	Category of Species	Name of Species	% to total growing stock
1	A:-Species of General Utility	Lendia, Sajad, Teak	29.34
2	B:-Species of Special Utility	Dhawada, Hiwar, Khair, Moin, Salai, Moin, Salai, Shivan	12.34
3	C:-Species of Minor Forest Produce	Apata, Behada, Bel, Biba, Bor, Chandan, Charoli, Jambhul, Moha,Neem,Palas,Tendu	39.12
4	D:-Other Species	Amaltas, Anjan, Babul, Bengali Babul, Bhera, Dhaman, Dudhi, Ghatbor, Glirisidia, Katbor, Kavath, Lokhandi,Maharukh,Sisoo,Wedibabul	19.20

5) Fuelwood Working Circle:-

Category wise percentage of Species to total growing stock in this working circle is as given below

Sr. No.	Category of Species	Name of Species	% to total growing stock
1	A:-Species of General Utility	-----NIL-----	--
2	B:-Species of Special Utility	Hiwar	3.77
3	C:-Species of Minor Forest Produce	Jambhul	3.77
4	D:-Other Species	Babul, BangaliBabul, Hinganbet, Pangara, Soundad.	92.45

Table No.6

Availability of Teak in Previous Enumeration (No. of sound trees per ha.)

Sr. No	Name Working Circle	Total growing Stock	Teak/Ha	% of stock of trees to the total stock
1	2	3	4	5
1	Afforestation W.C	209.28	94.14	44.98
2	Catchment W.C.	261.03	37.86	14.50
3	Babhulban W.C.	70.72	---	--
	Weighted Average	206.36	89.26	43.25

Table No.6 (A)

Availability of Teak in Current (April -2018 to March-2019) enumeration. (No. of sound trees per ha.)

Sr. No	Name Working Circle	Total growing Stock	Teak/Ha	% of stock of Teak trees to the total stock
1	2	3	4	5
1	Protection Working Circle	33.63	182.42	54.68
2	Selection cum Improvement Working Circle	247.25	161.29	65.23
3	Improvement Working Circle	172.59	49.64	28.76
4	Pasture Working Circle	102.87	29.63	28.80
5	Fuelwood Working Circle	66.25	00	0
	Total (Weighted Average)	166.02	62.78	37.81

Statistical Analysis: -

The Statistical personnel of the office of the Chief Forest Statistician, Maharashtra State, Nagpur has carried out the statistical analysis of the data. The percentage standard error is calculated for each Working Circle is given in the following table No. 7

Table No.7
Working circlewise standard error

Sr. No.	Name of working circle	Population area in ha	Sample area in ha.	Intensity of sampling %	% Standard Error
1	Protection Working Circle	6605.43	3.3	0.050	10.23
2	Selection cum Improvement Working Circle	7884.05	6.2	0.079	7.67
3	Improvement Working Circle	38362.54	19.6	0.051	8.48
4	Pasture Working Circle	29701.31	16.3	0.055	12.07
5	Fuelwood Working Circle	1245.73	0.8	0.064	25.19
	Total	83799.06	46.2	0.055	--

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