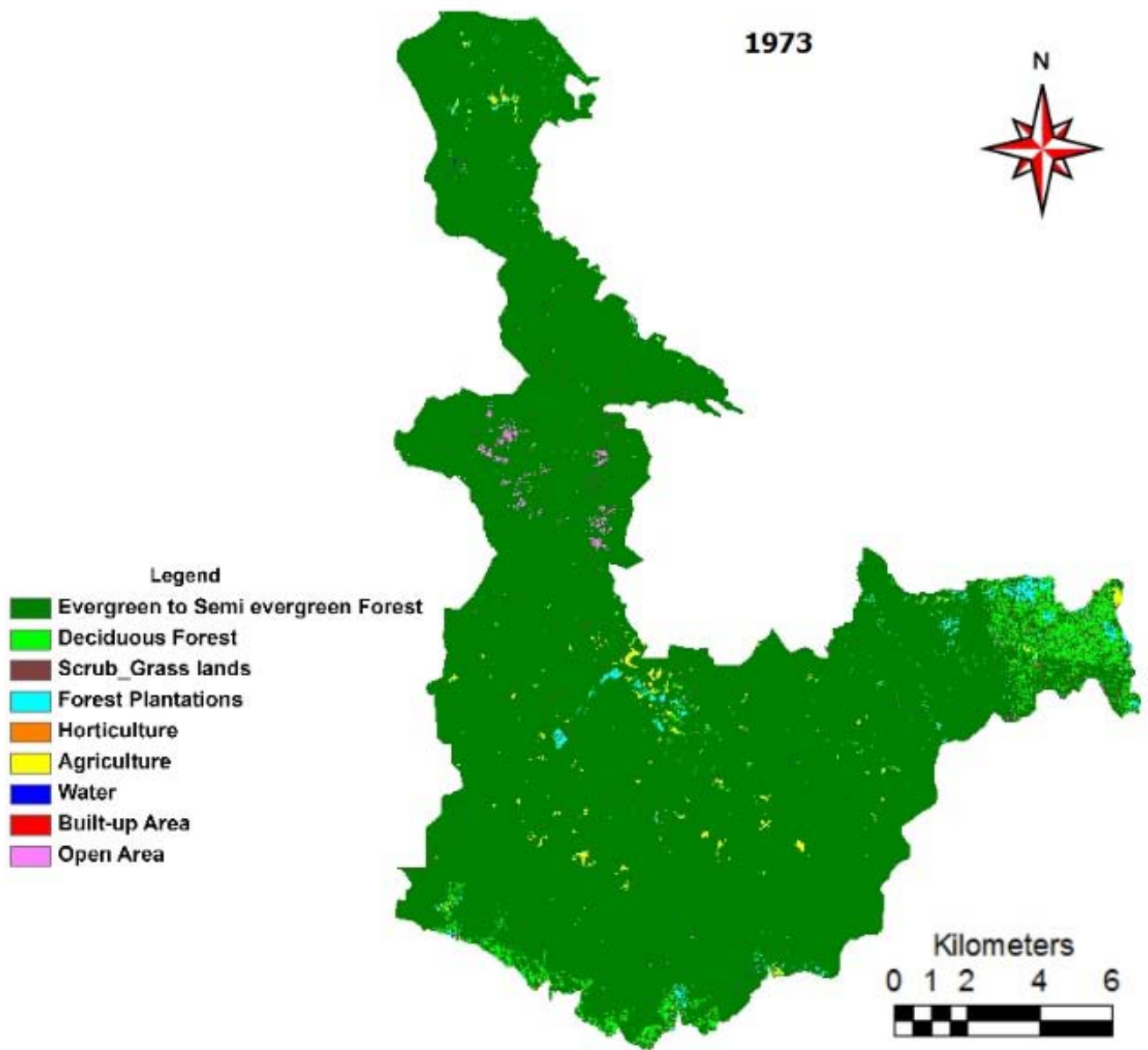


Appendix 1
(Reference: Paragraph 3.1.2, Page 16)

Imageries indicating Land Use Land Cover changes in Protected Areas during 1973-2016

Imageries indicating Land Use Land Cover changes in Protected Areas during the period 1973-2016:

1. Dandeli Anshi Tiger Reserve



Dandeli Anshi Tiger Reserve

1992

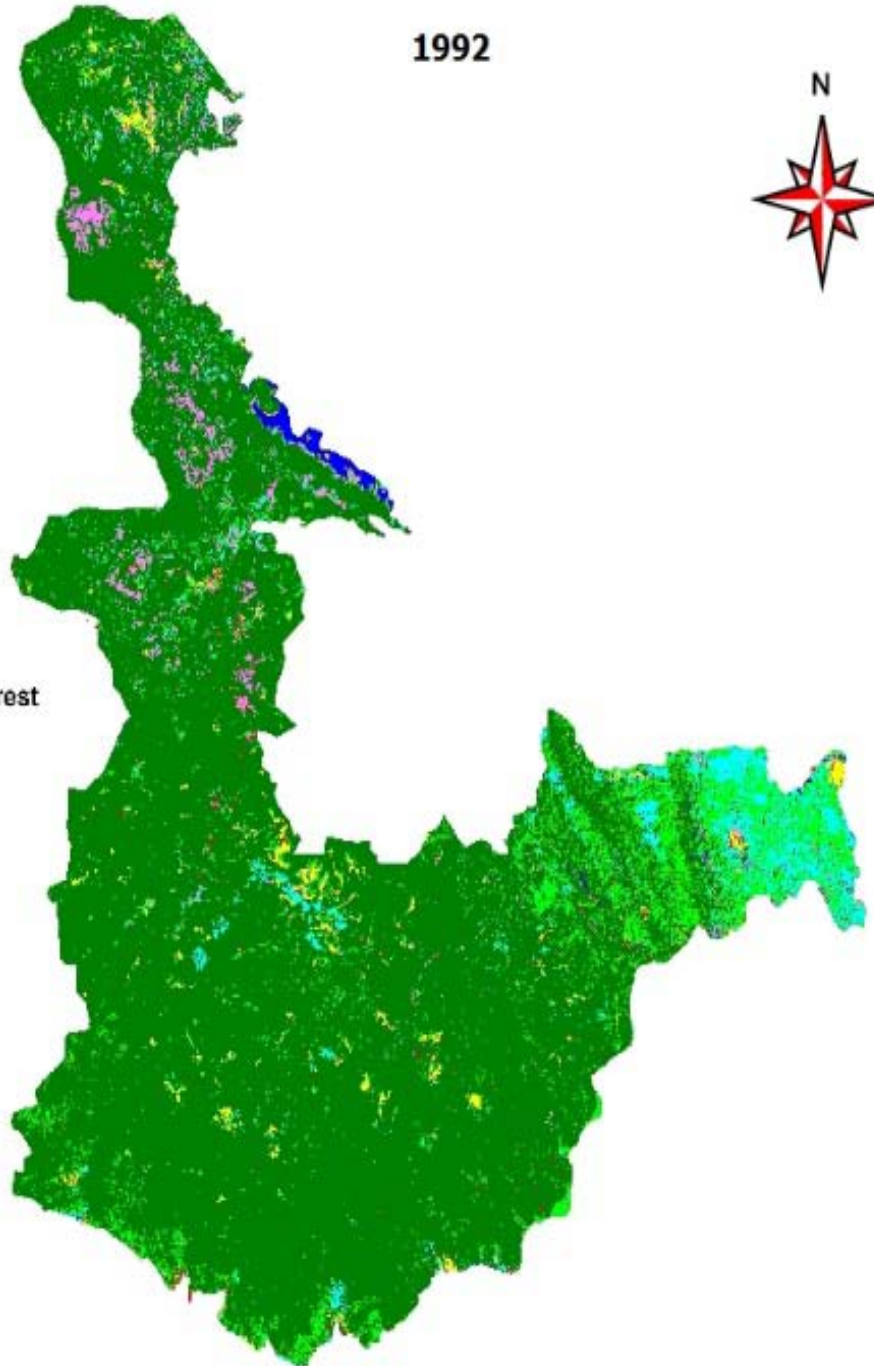


Legend

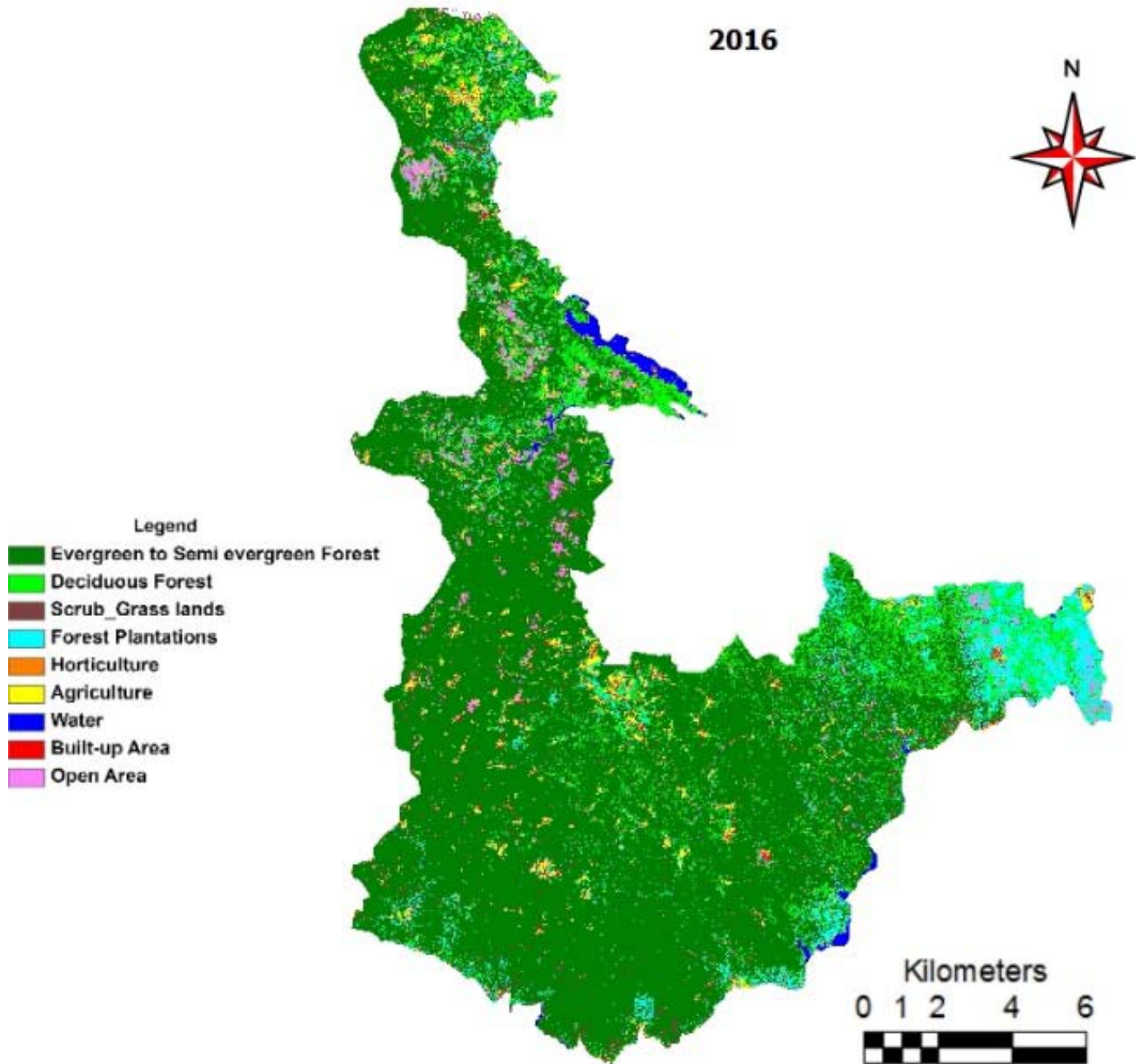
-  Evergreen to Semi evergreen Forest
-  Deciduous Forest
-  Scrub_Grass lands
-  Forest Plantations
-  Horticulture
-  Agriculture
-  Water
-  Built-up Area
-  Open Area

Kilometers

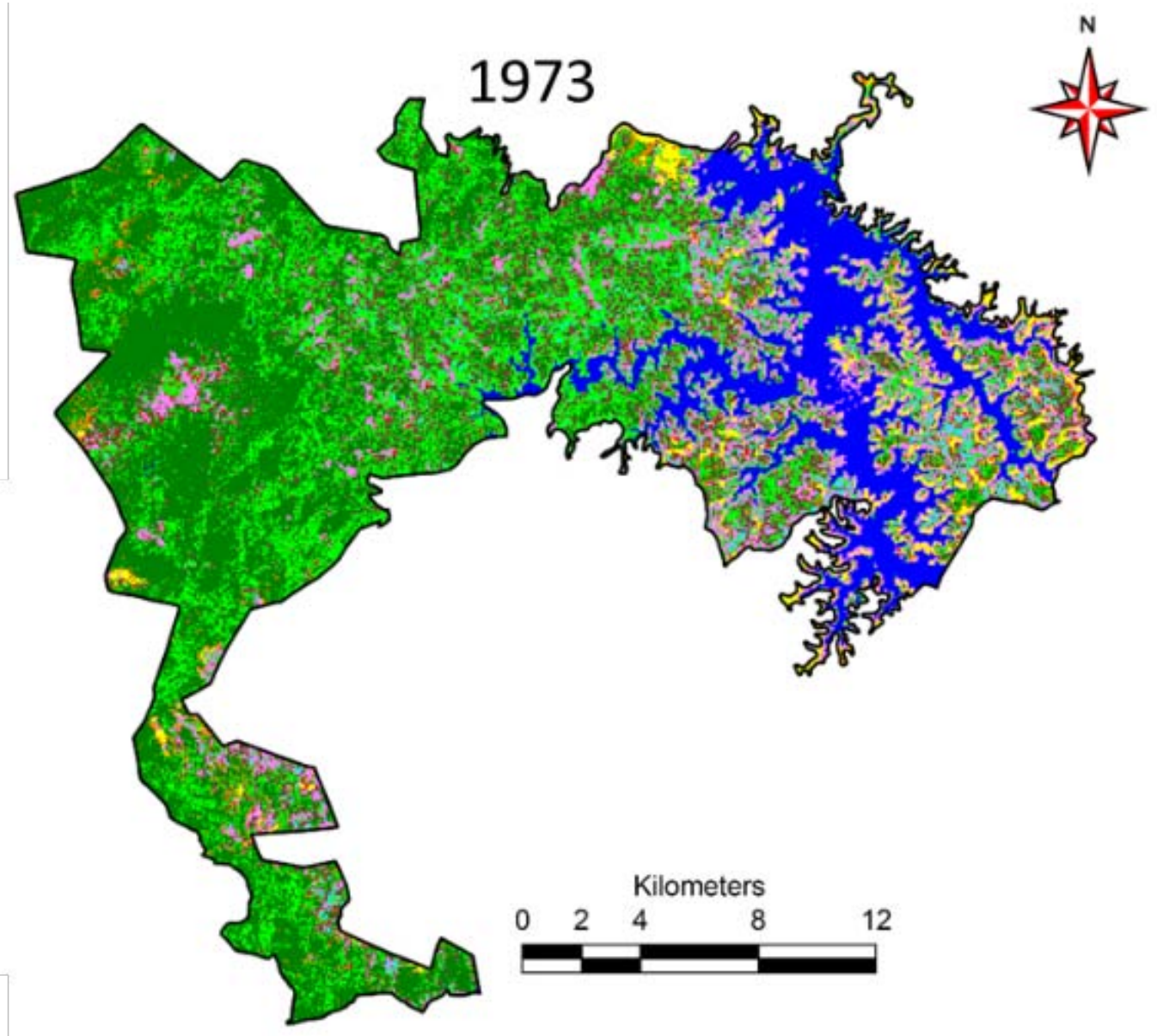
0 1 2 4 6



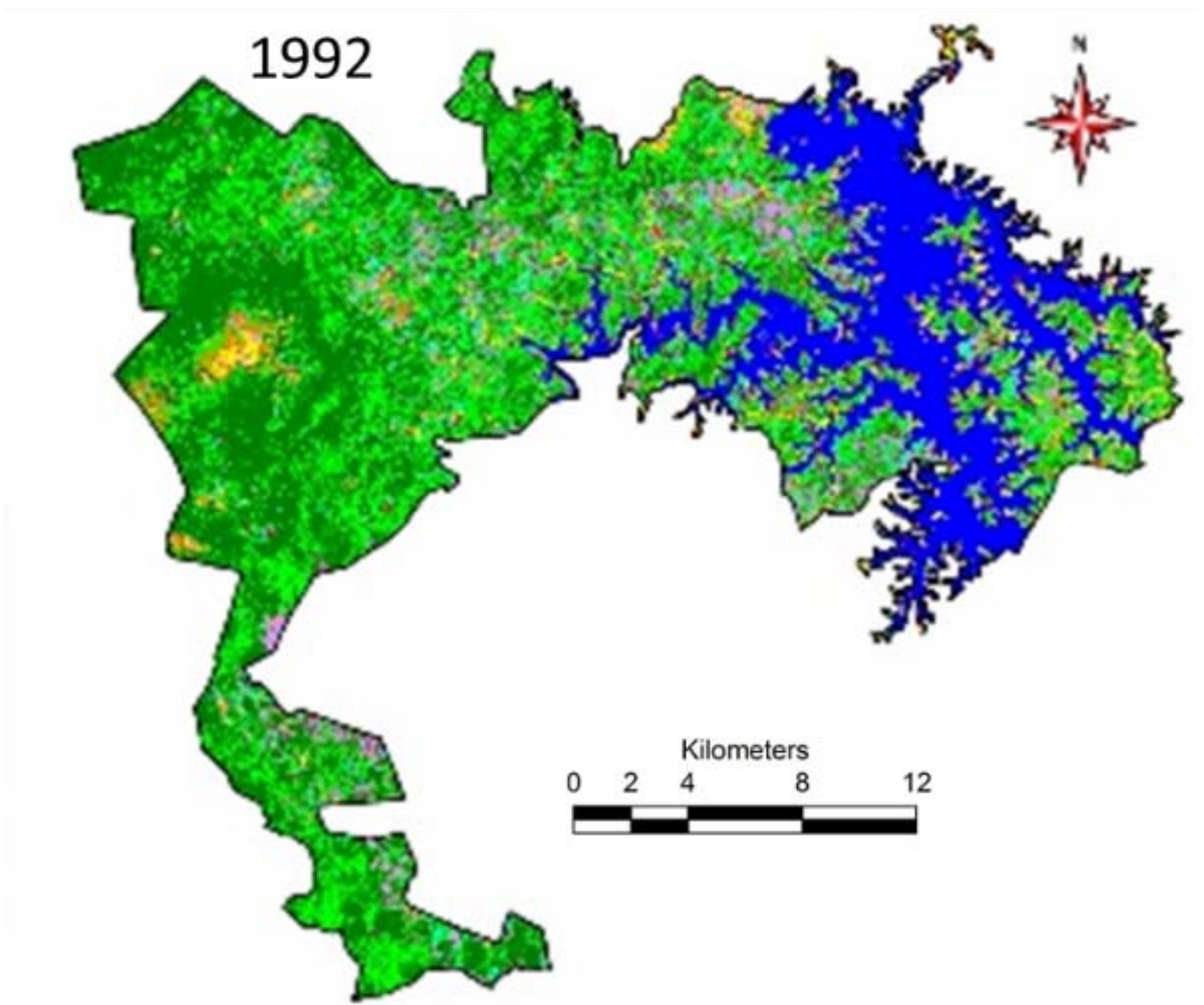
Dandeli Anshi Tiger Reserve



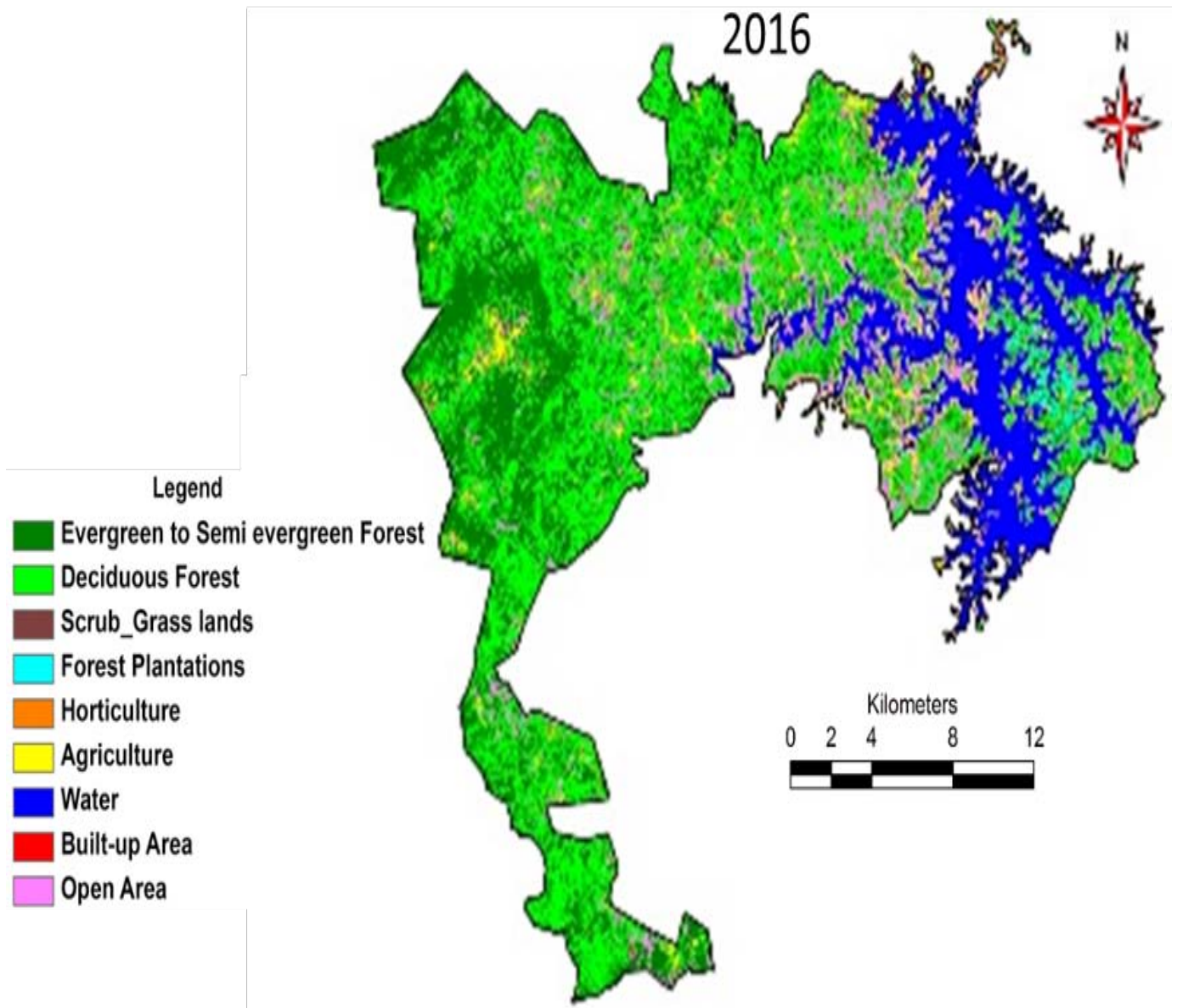
2. Sharavathi Wildlife Sanctuary



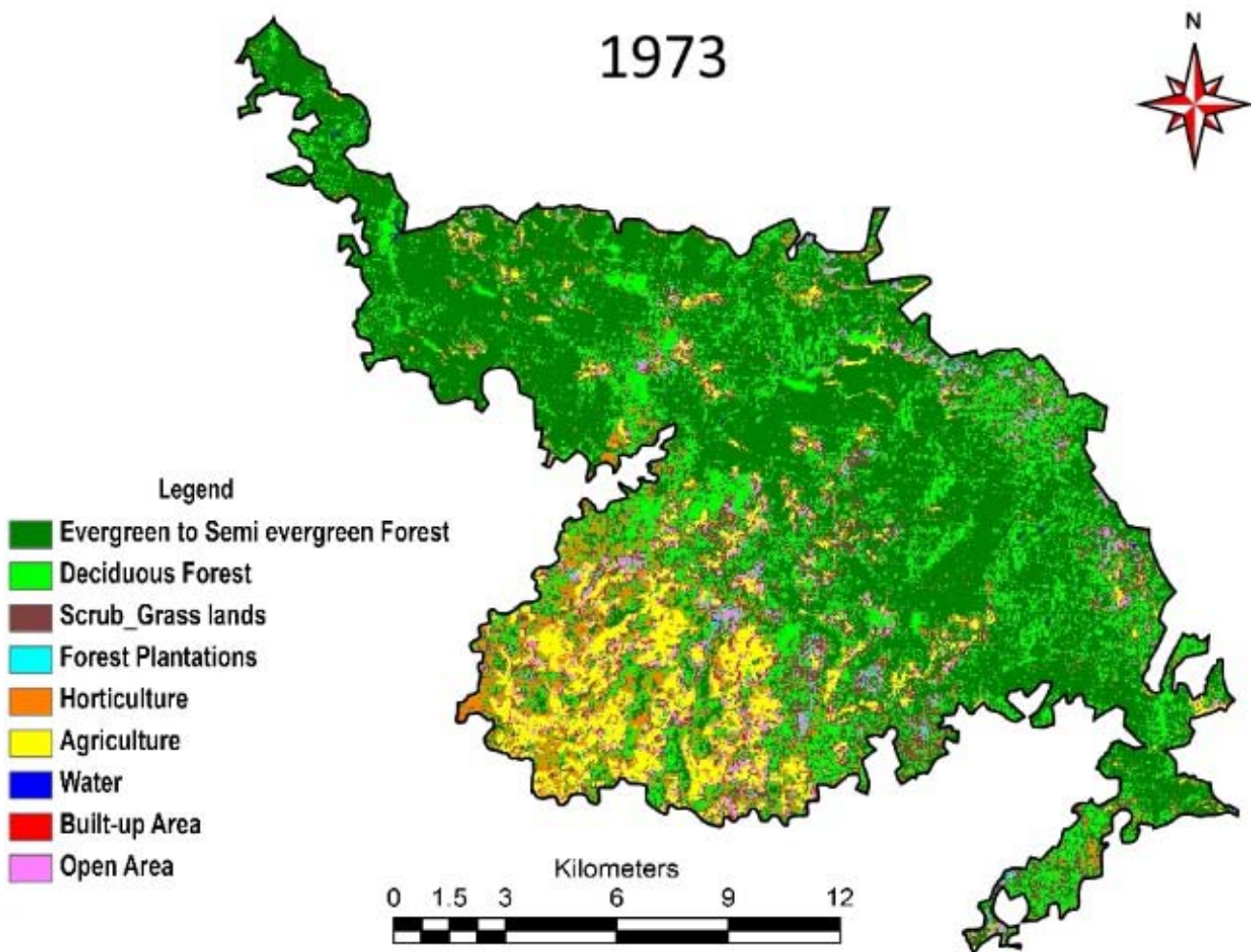
Sharavathi Wildlife Sanctuary



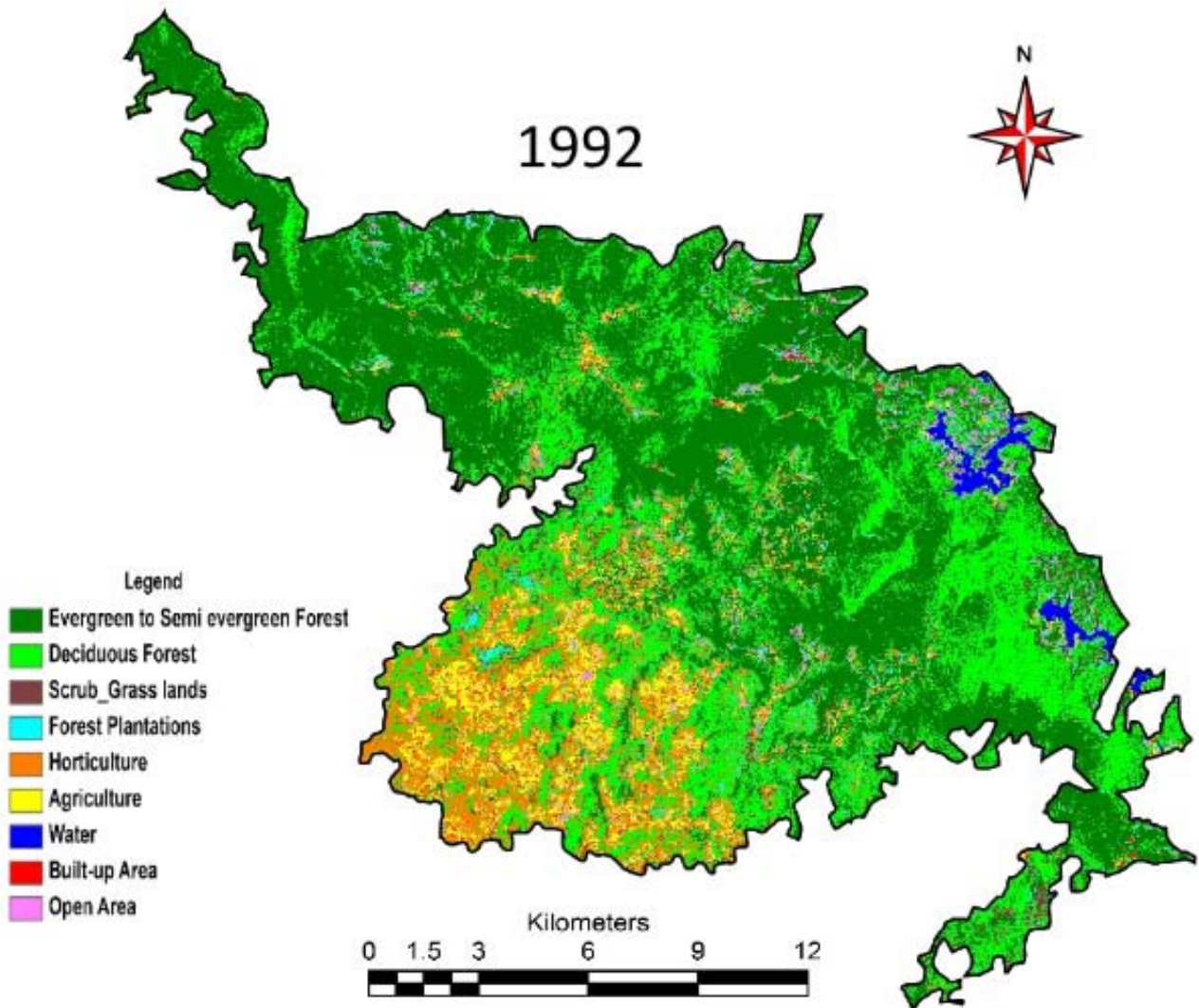
Sharavathi Wildlife Sanctuary



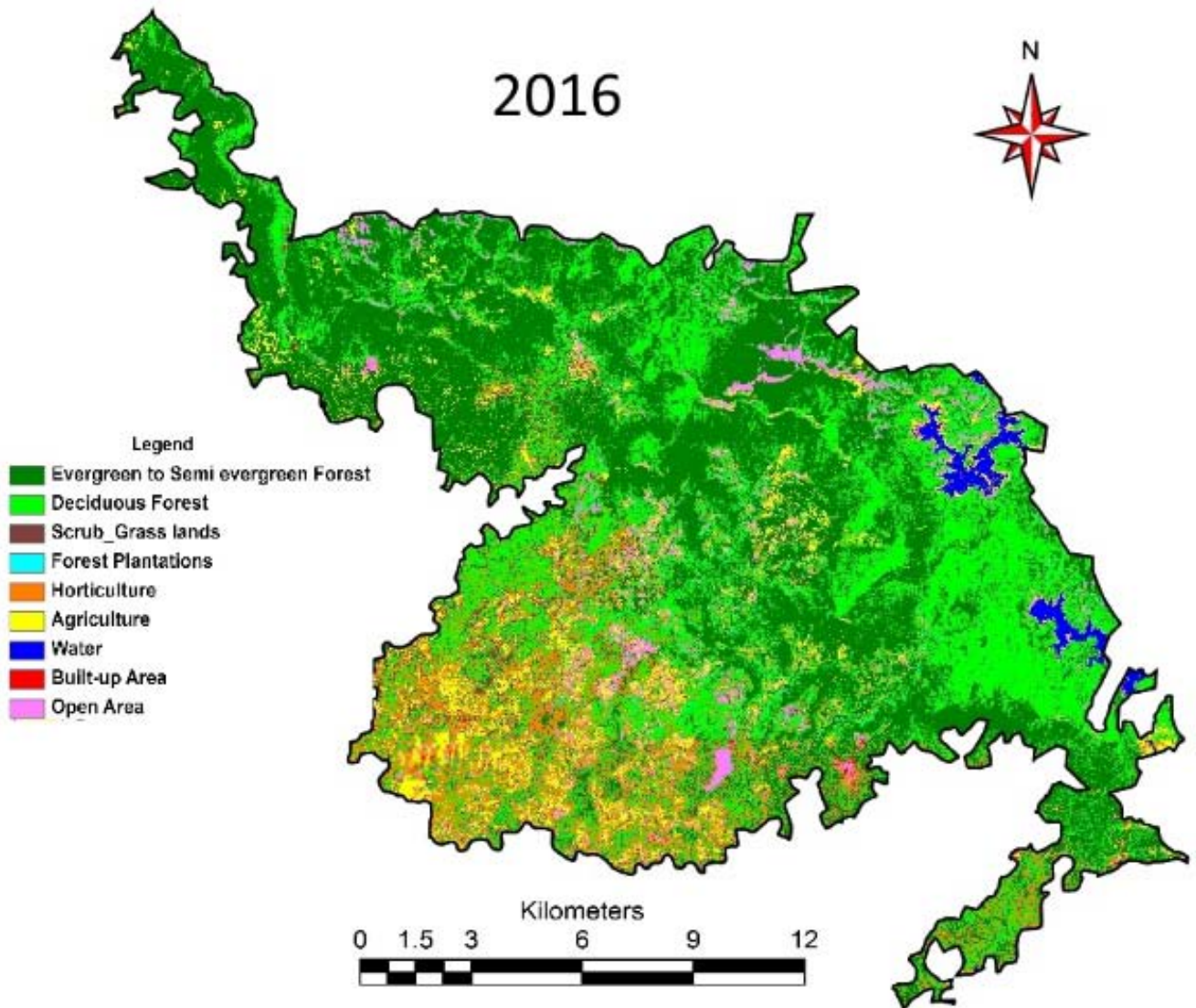
3. Mookambika Wildlife Sanctuary



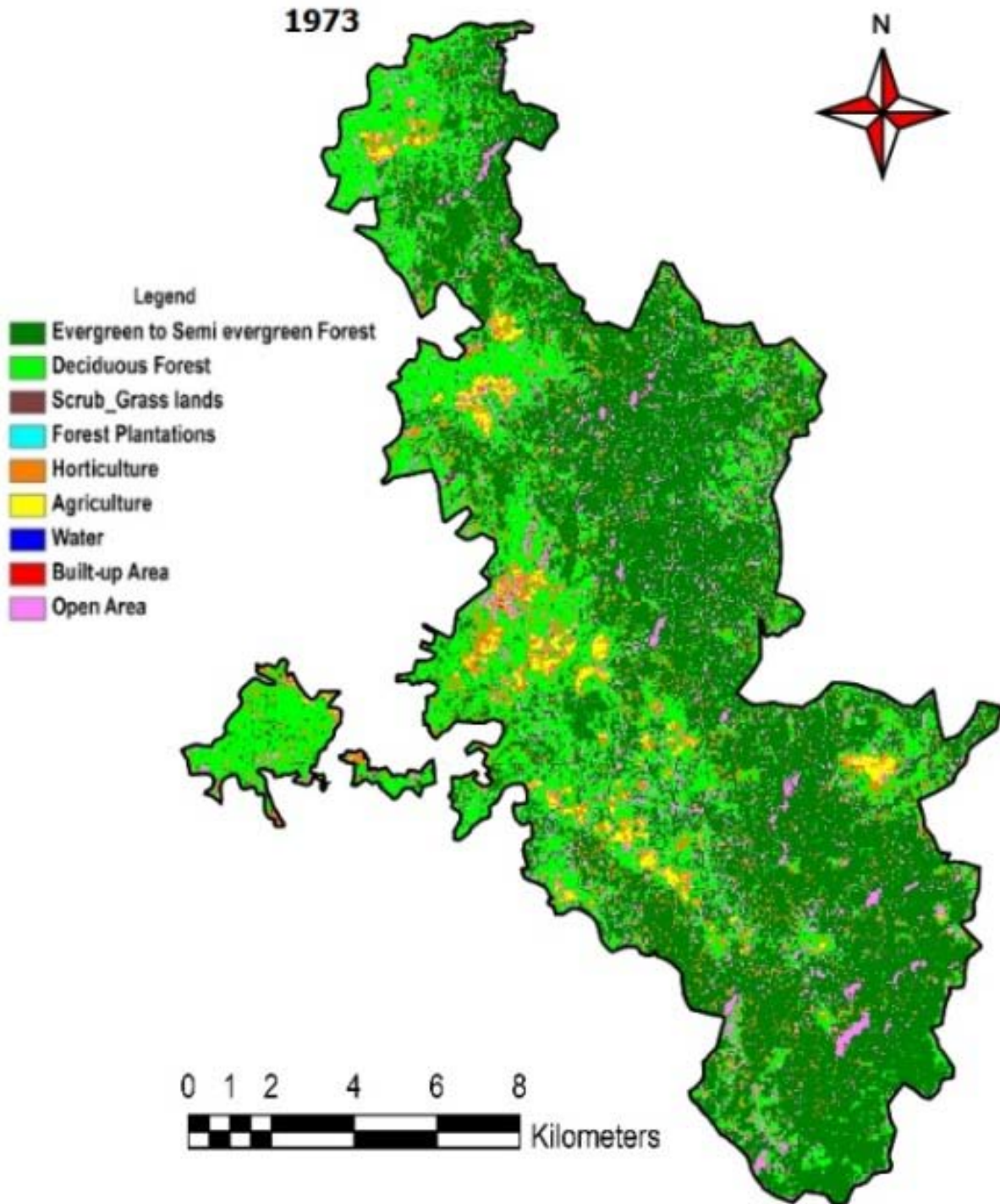
Mookambika Wildlife Sanctuary



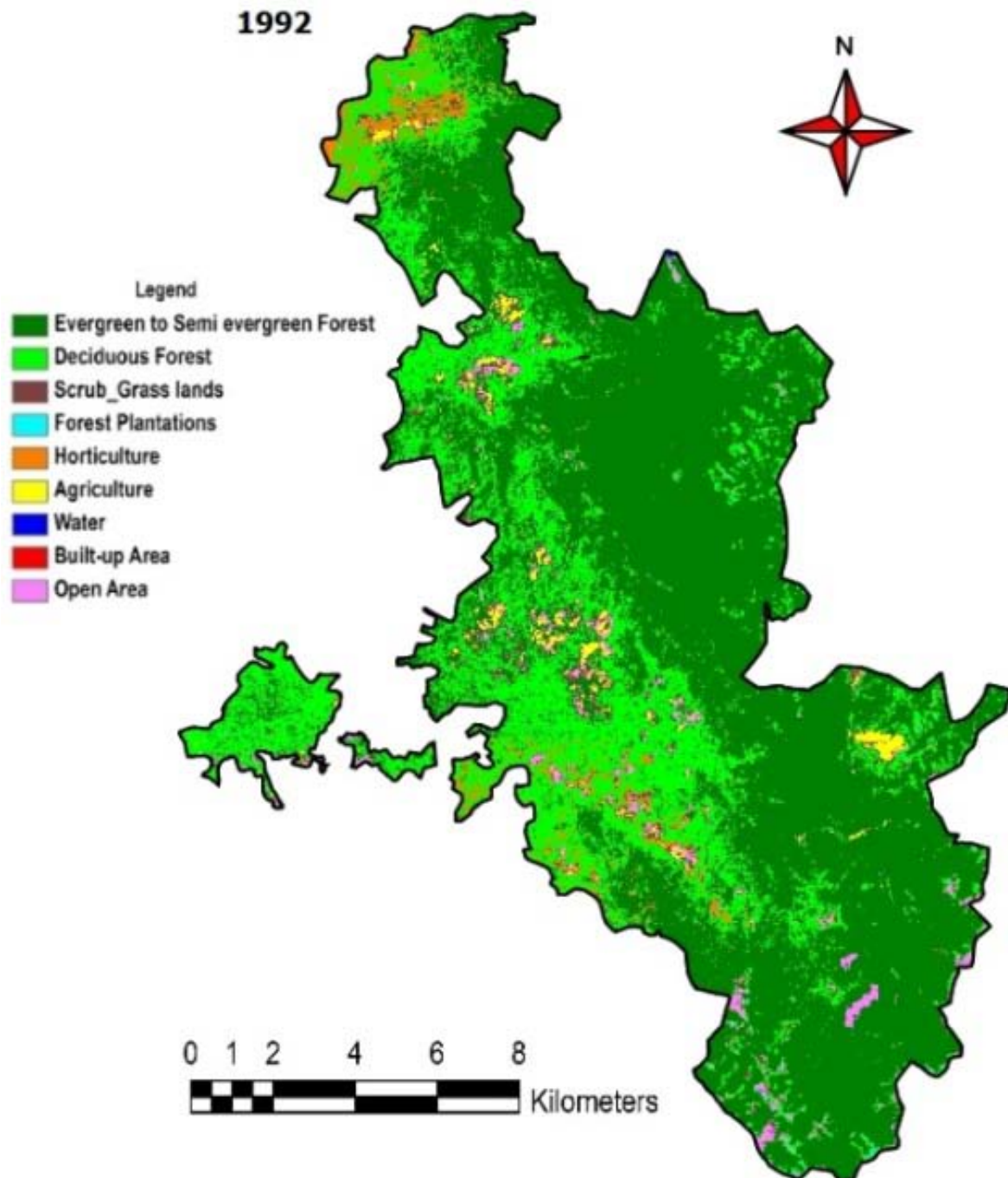
Mookambika Wildlife Sanctuary



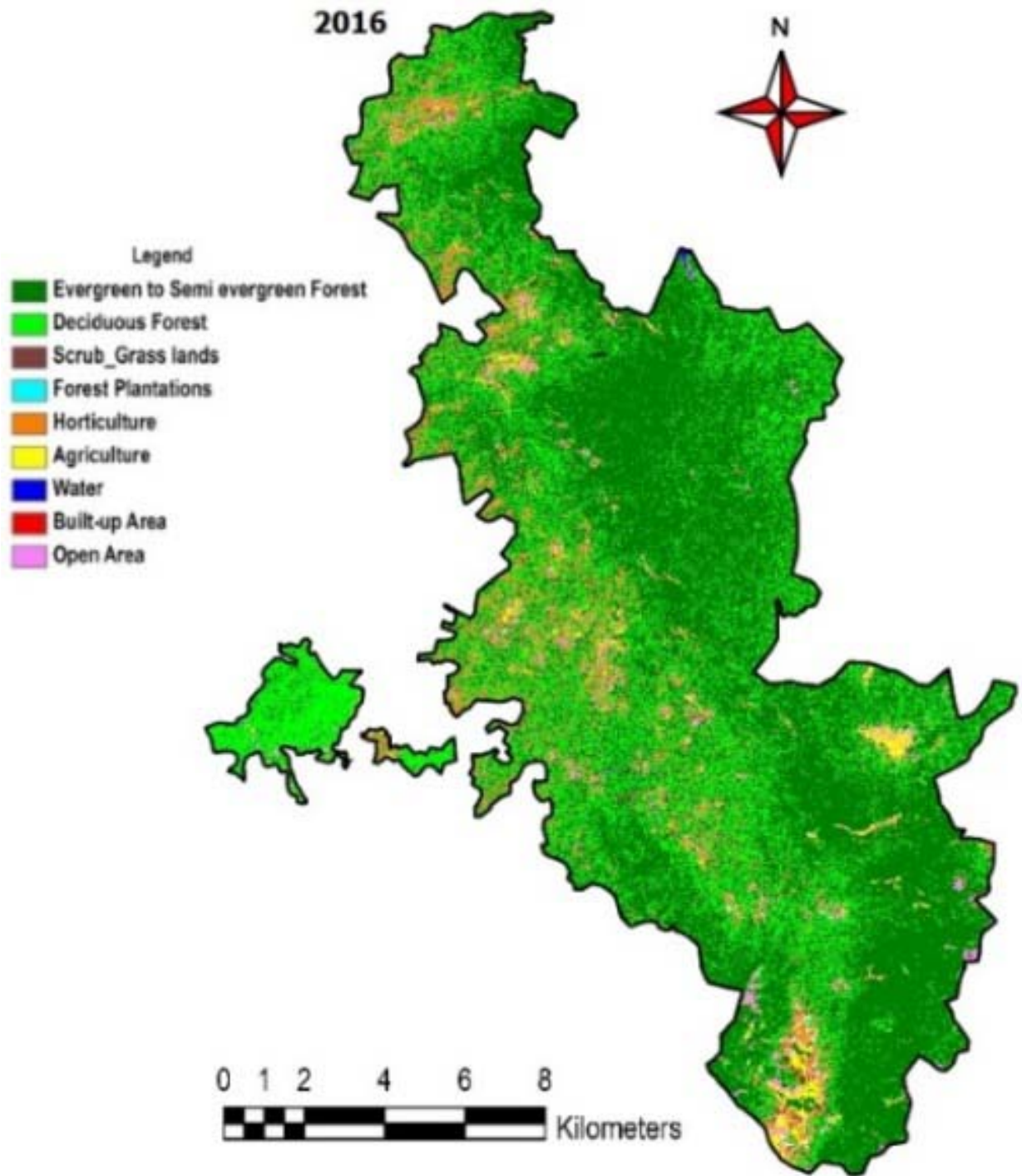
Someshwara Wildlife Sanctuary



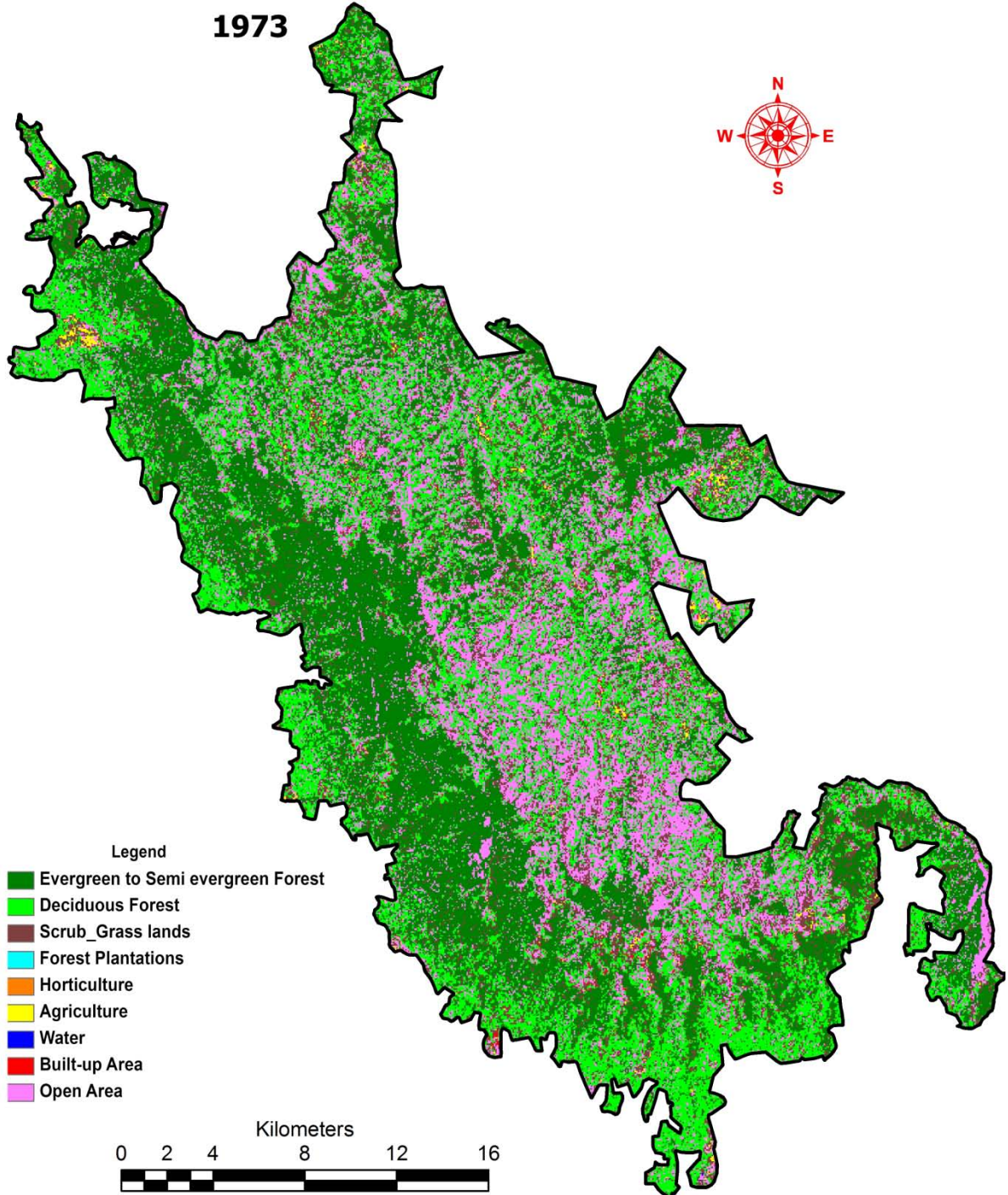
Someshwara Wildlife Sanctuary



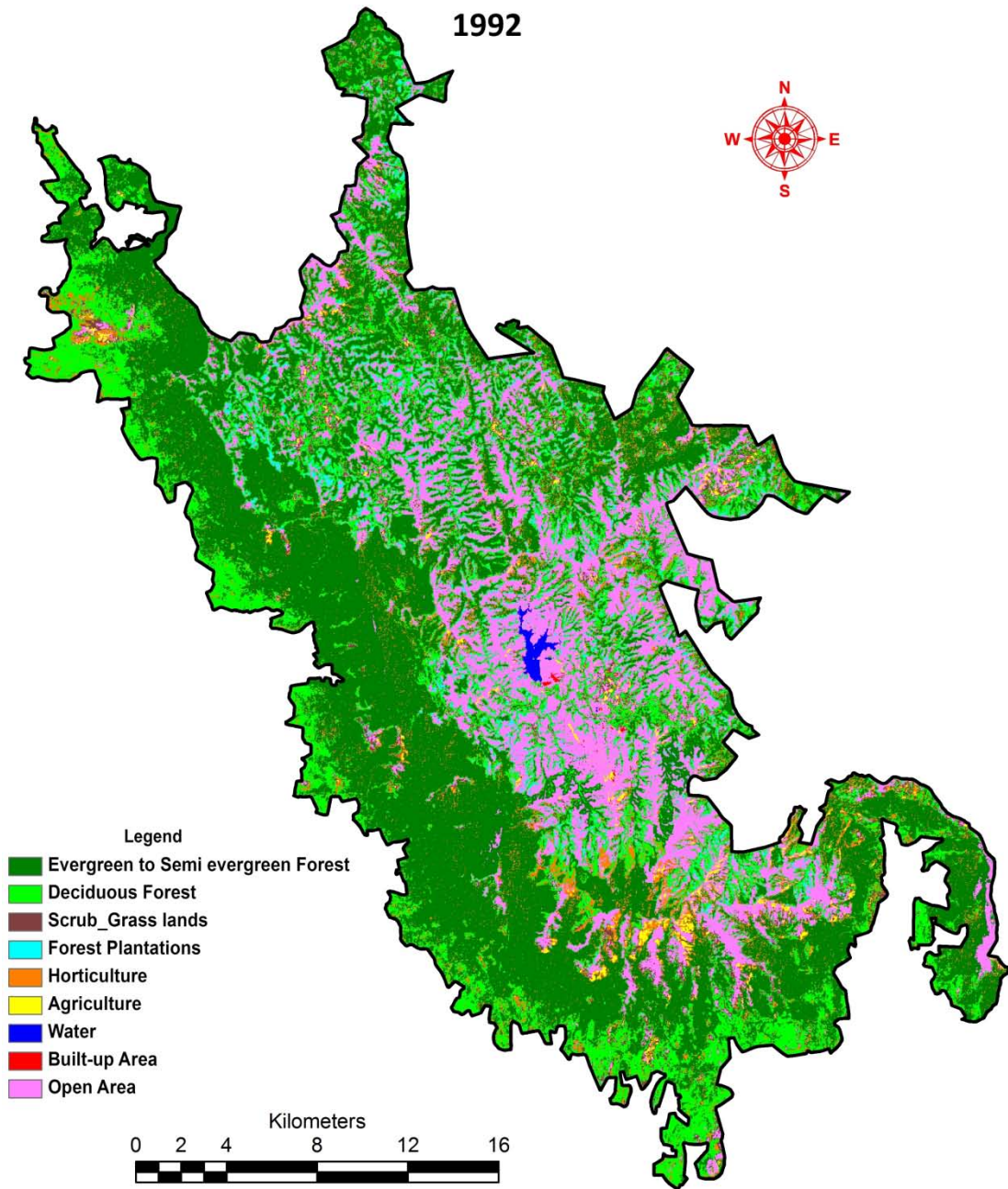
Someshwara Wildlife Sanctuary



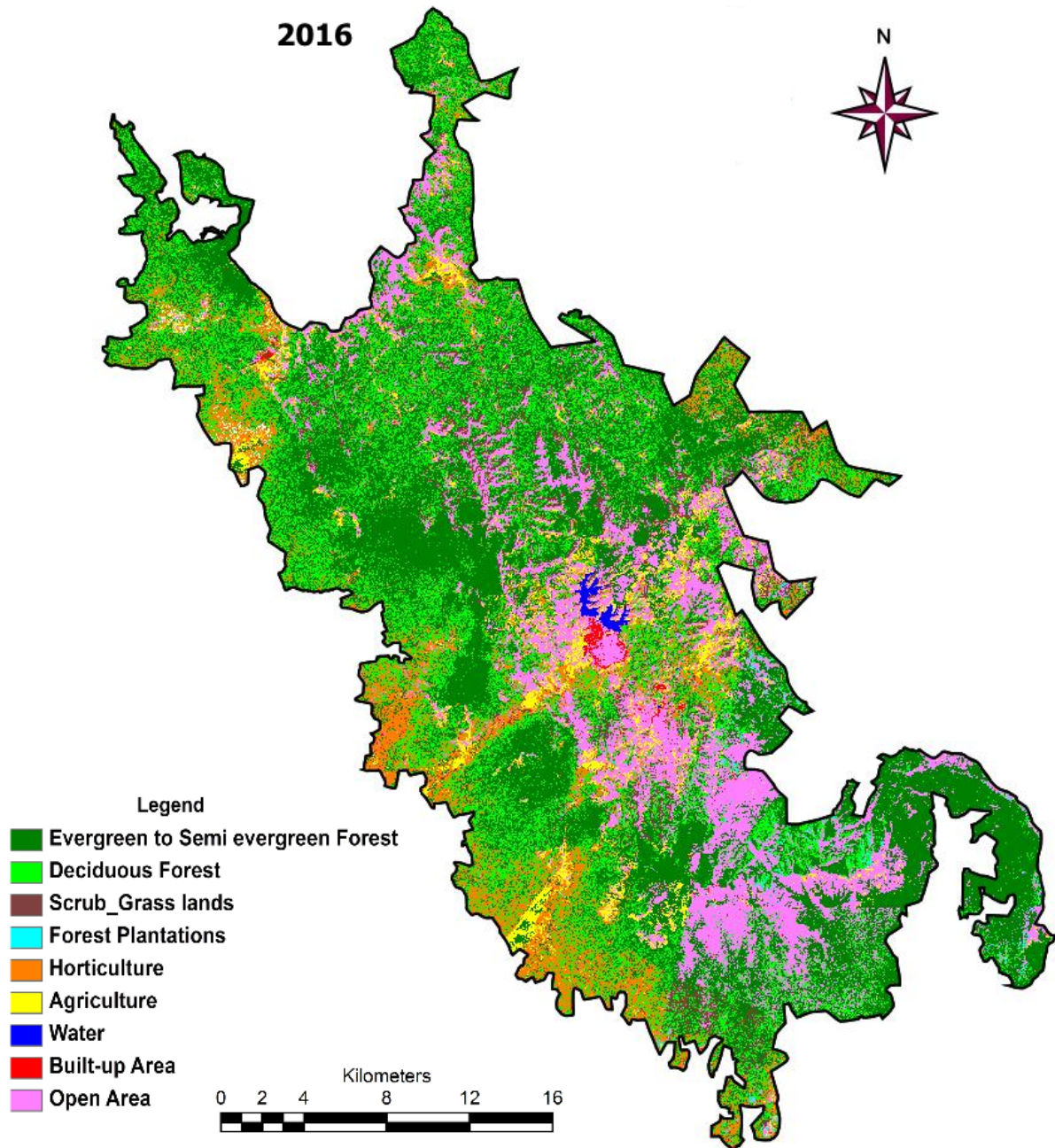
. Kudremukh National Park



Kudremukh National Park

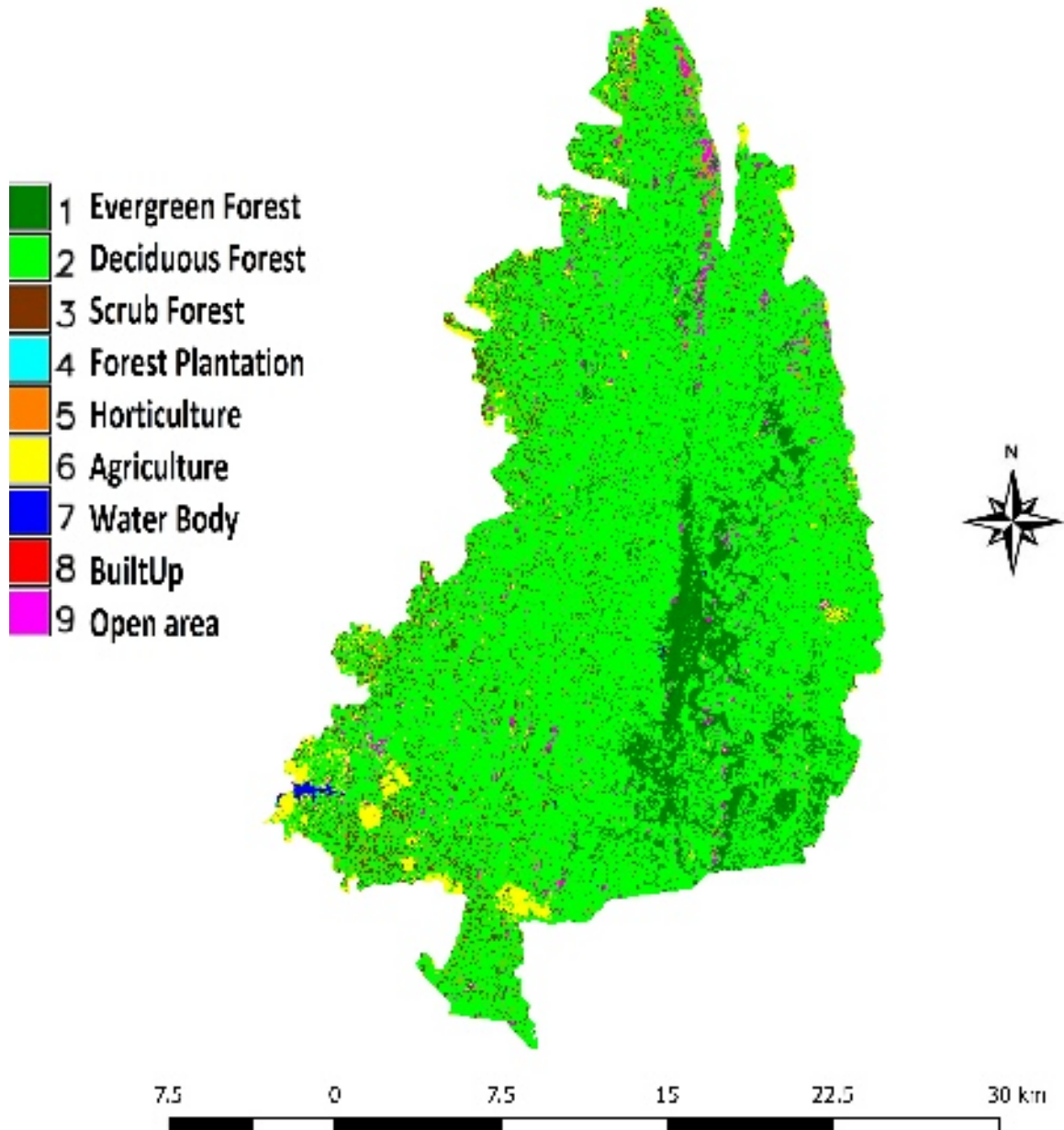


Kudremukh National Park

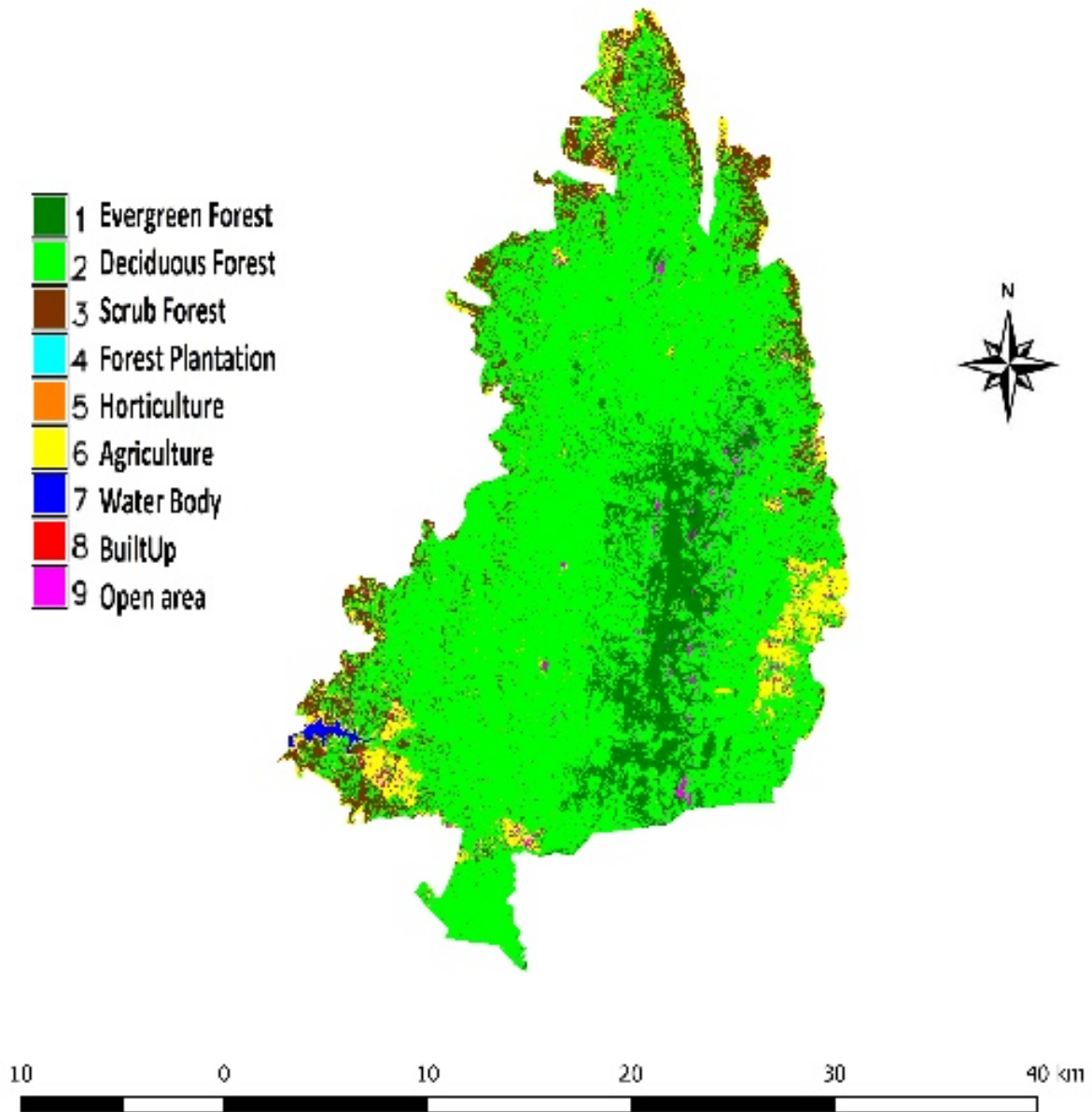


6. BRT Tiger Reserve

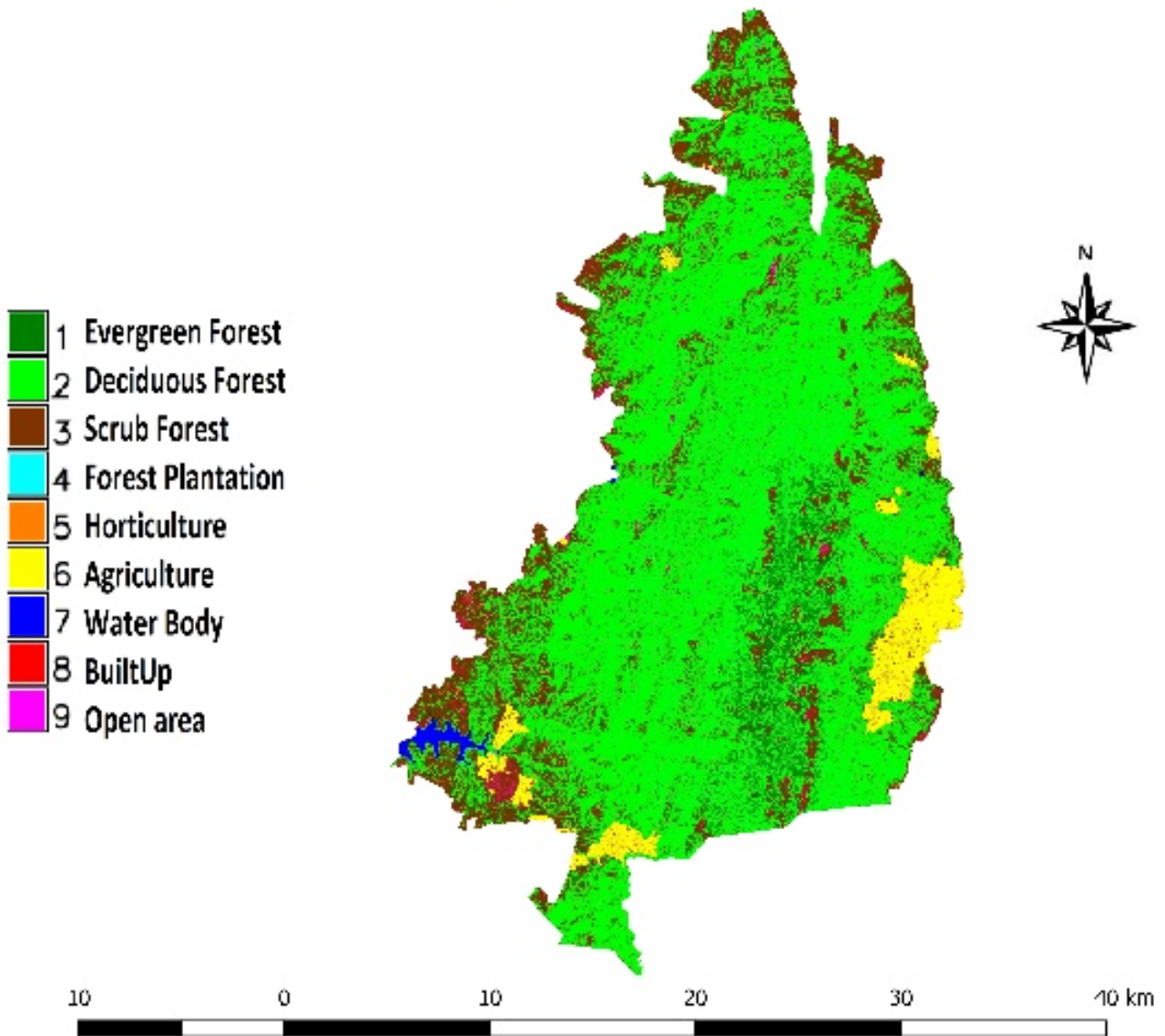
BRT Tiger Reserve - 1973



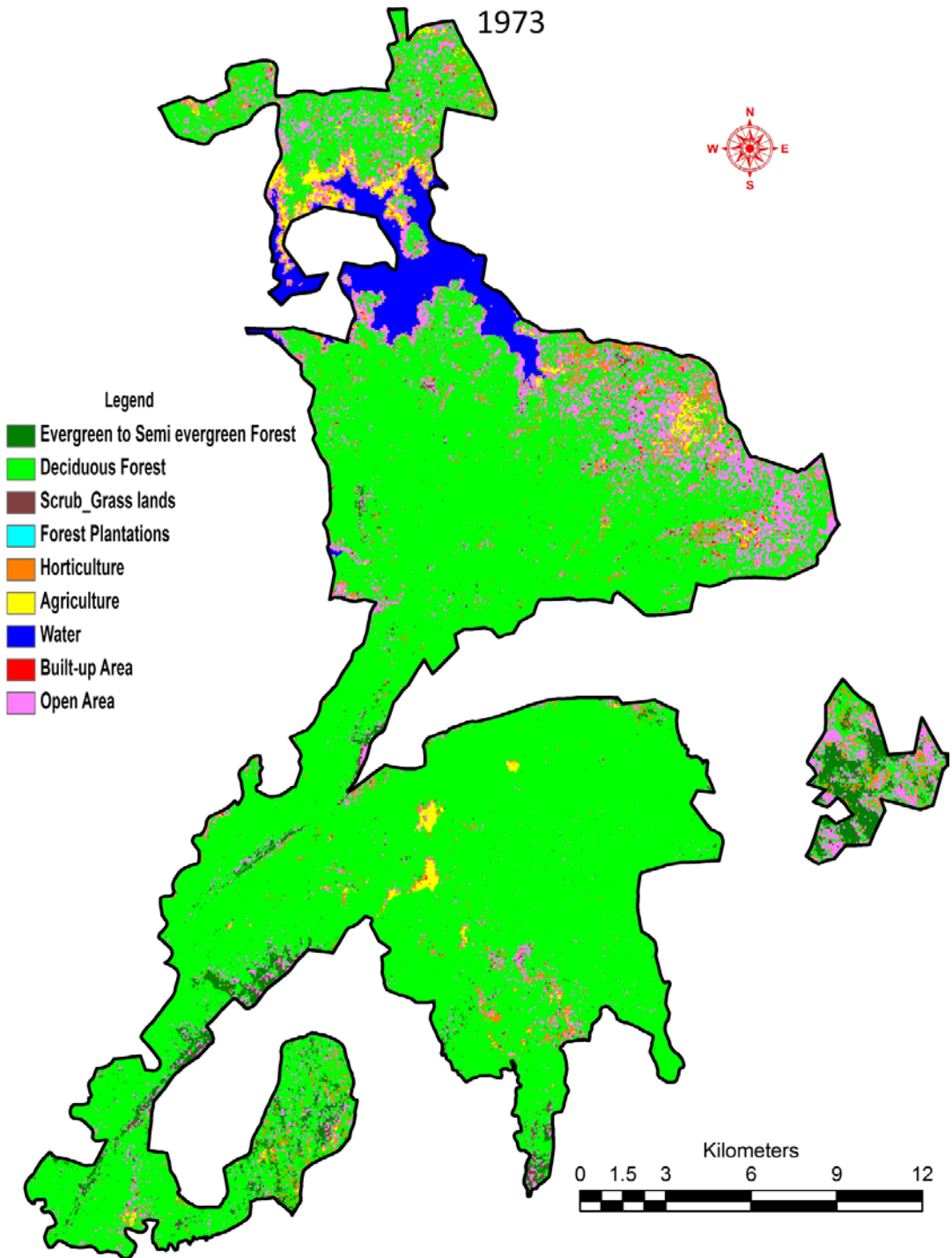
BRT Tiger Reserve - 1991



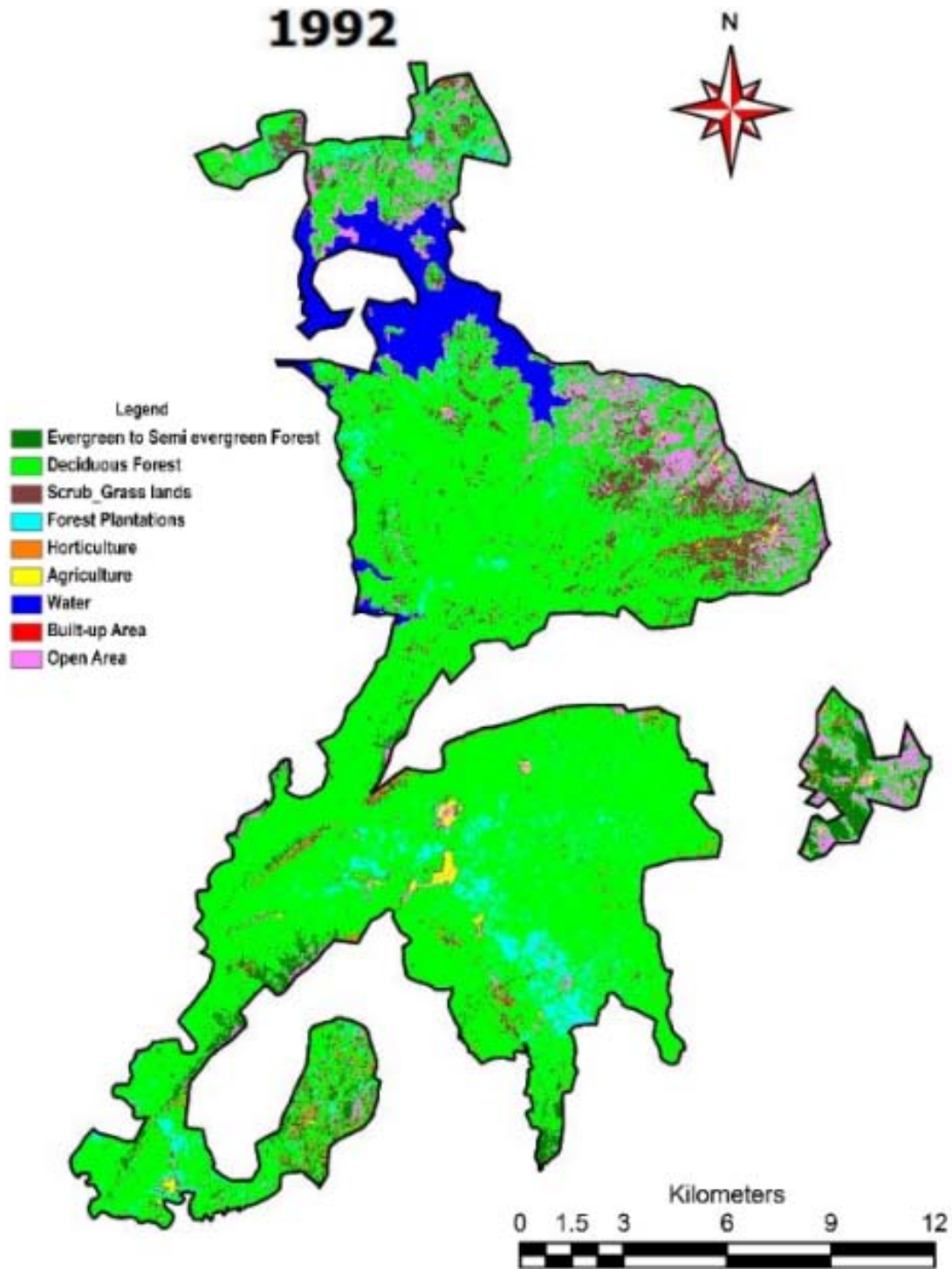
BRT Tiger Reserve - 2016



7. Bhadra Wildlife Sanctuary

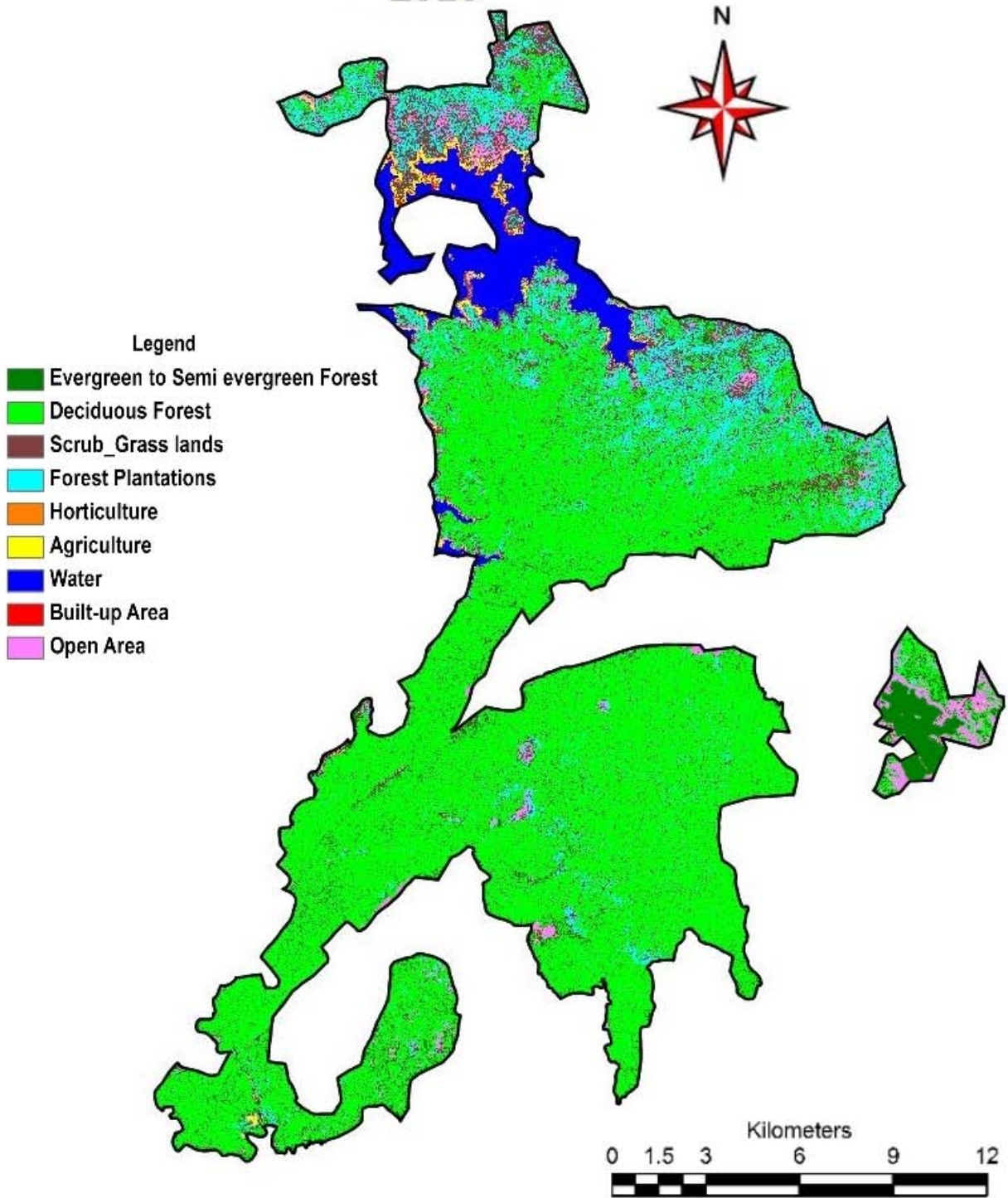


Bhadra Wildlife Sanctuary

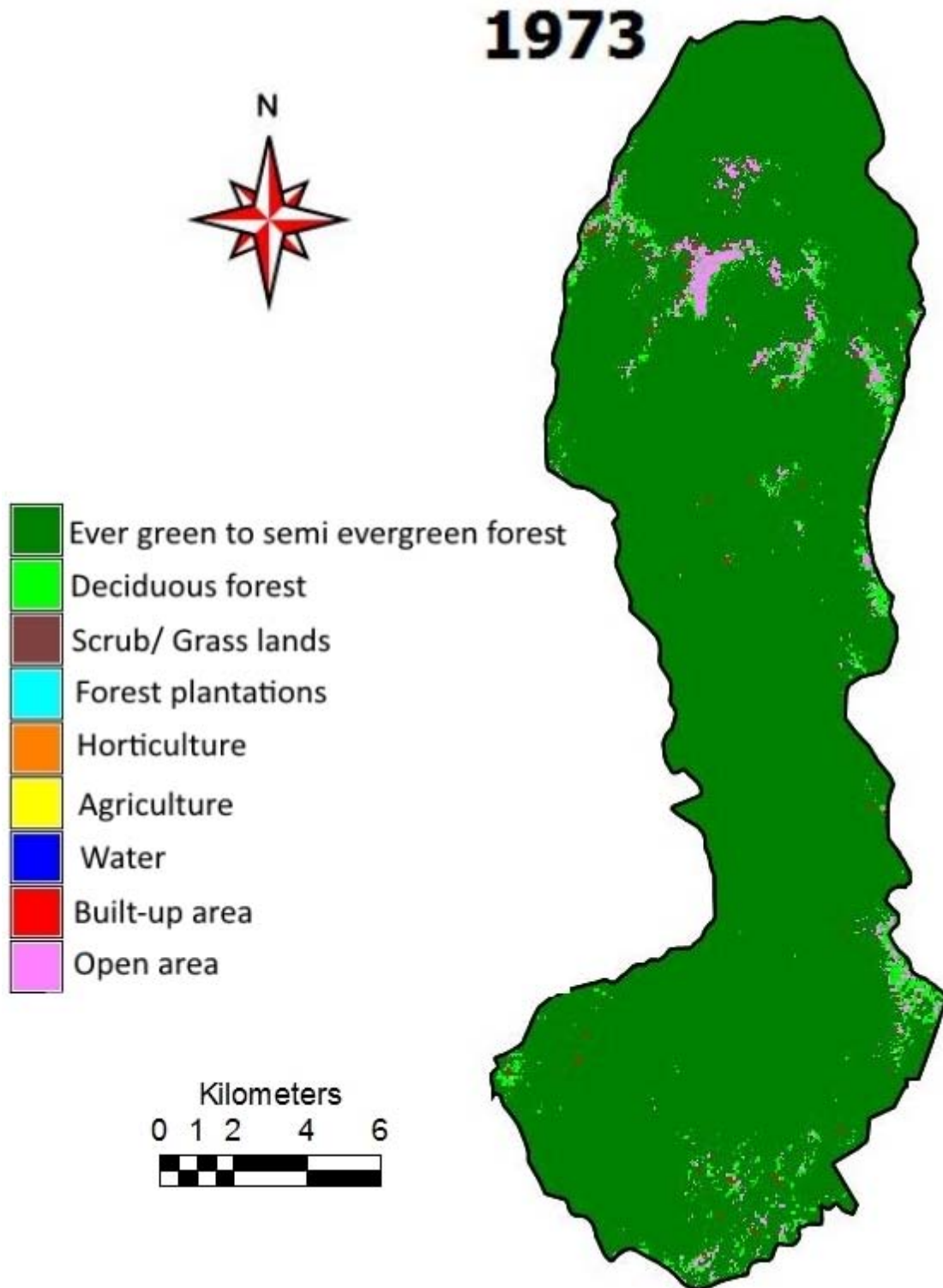


Bhadra Wildlife Sanctuary

2016

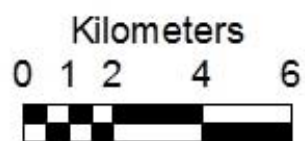


8. Pushpagiri Wildlife Sanctuary



Pushpagiri Wildlife Sanctuary

1992



Pushpagiri Wildlife Sanctuary

2016

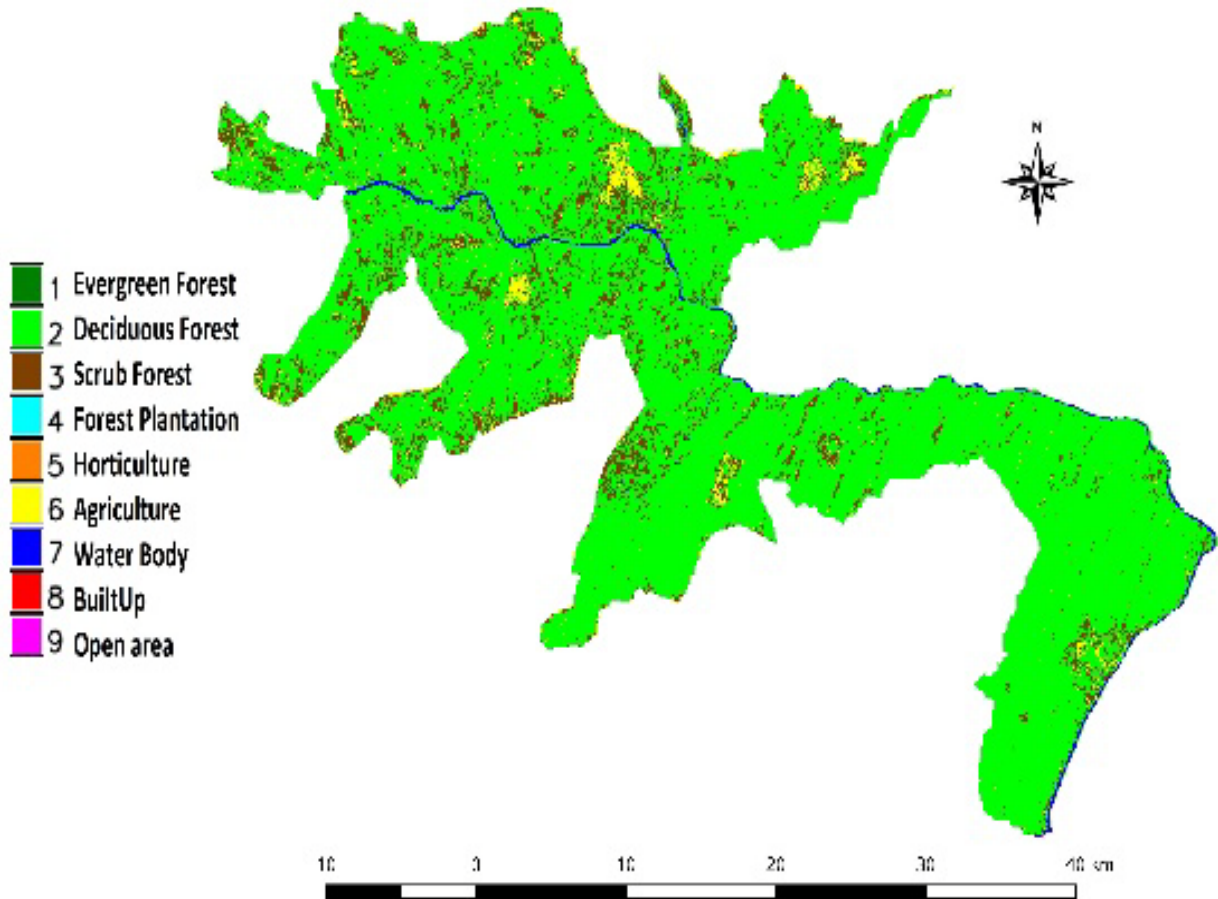


-  Ever green to semi evergreen forest
-  Deciduous forest
-  Scrub/ Grass lands
-  Forest plantations
-  Horticulture
-  Agriculture
-  Water
-  Built-up area
-  Open area

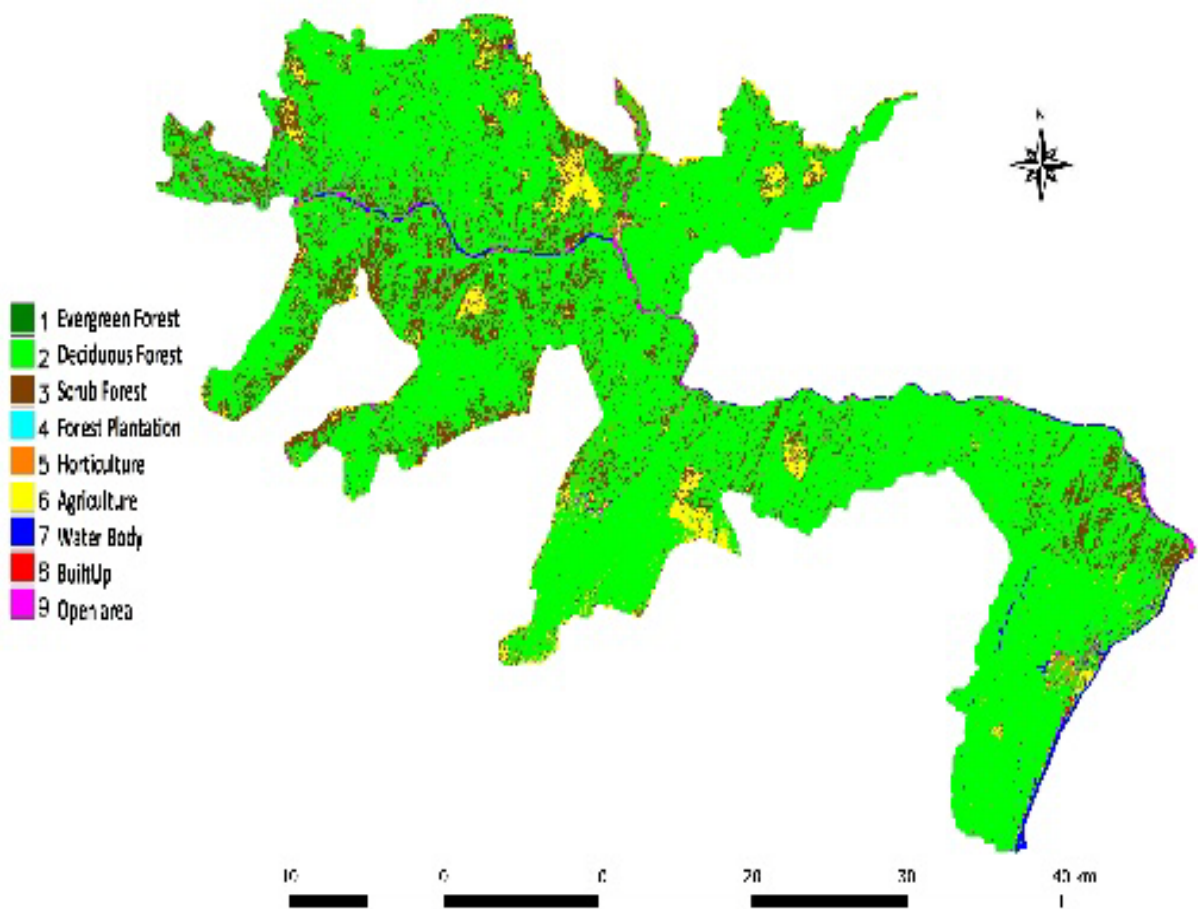


9. Cauvery Wildlife Sanctuary

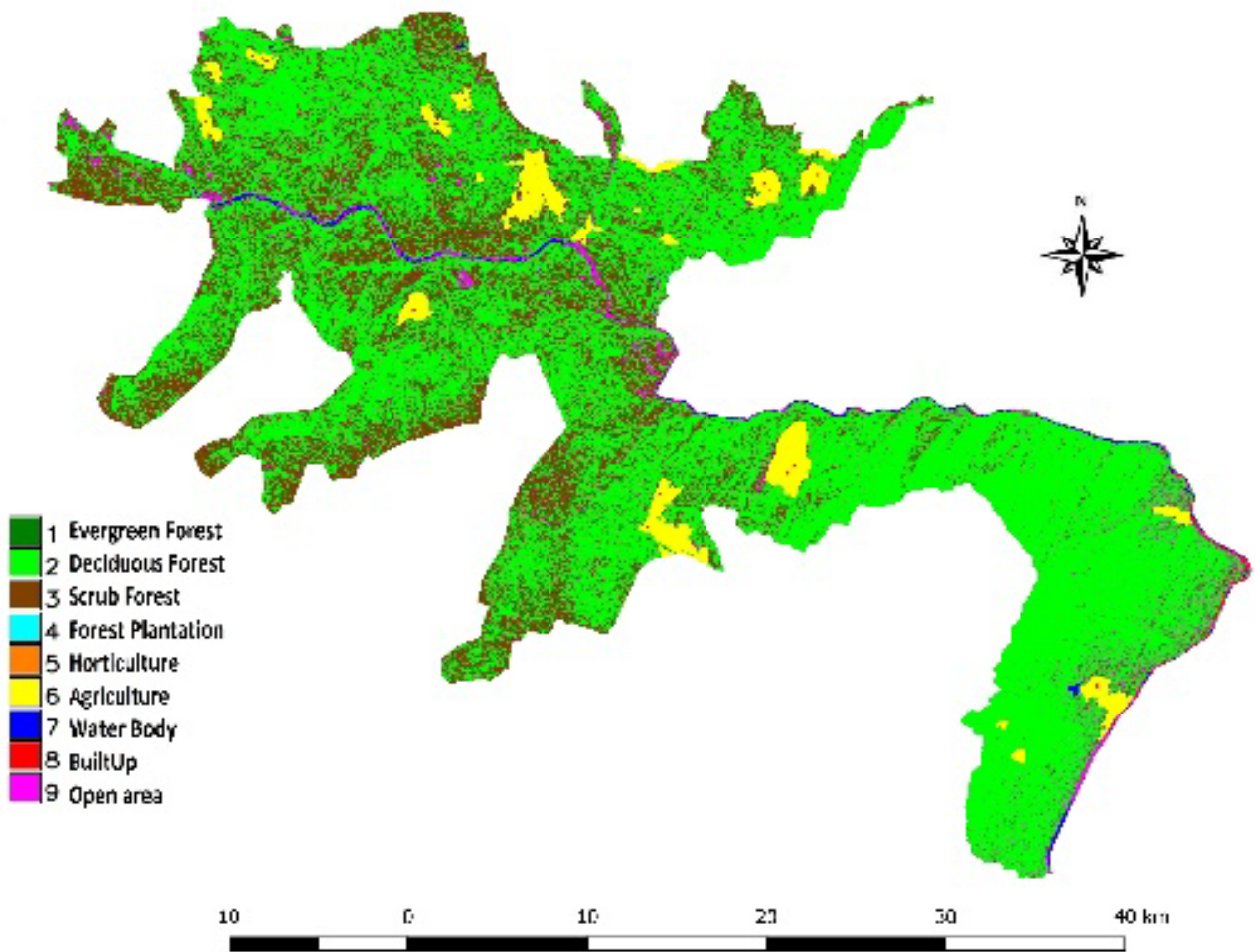
Cauvery Wildlife Sanctuary - 1973



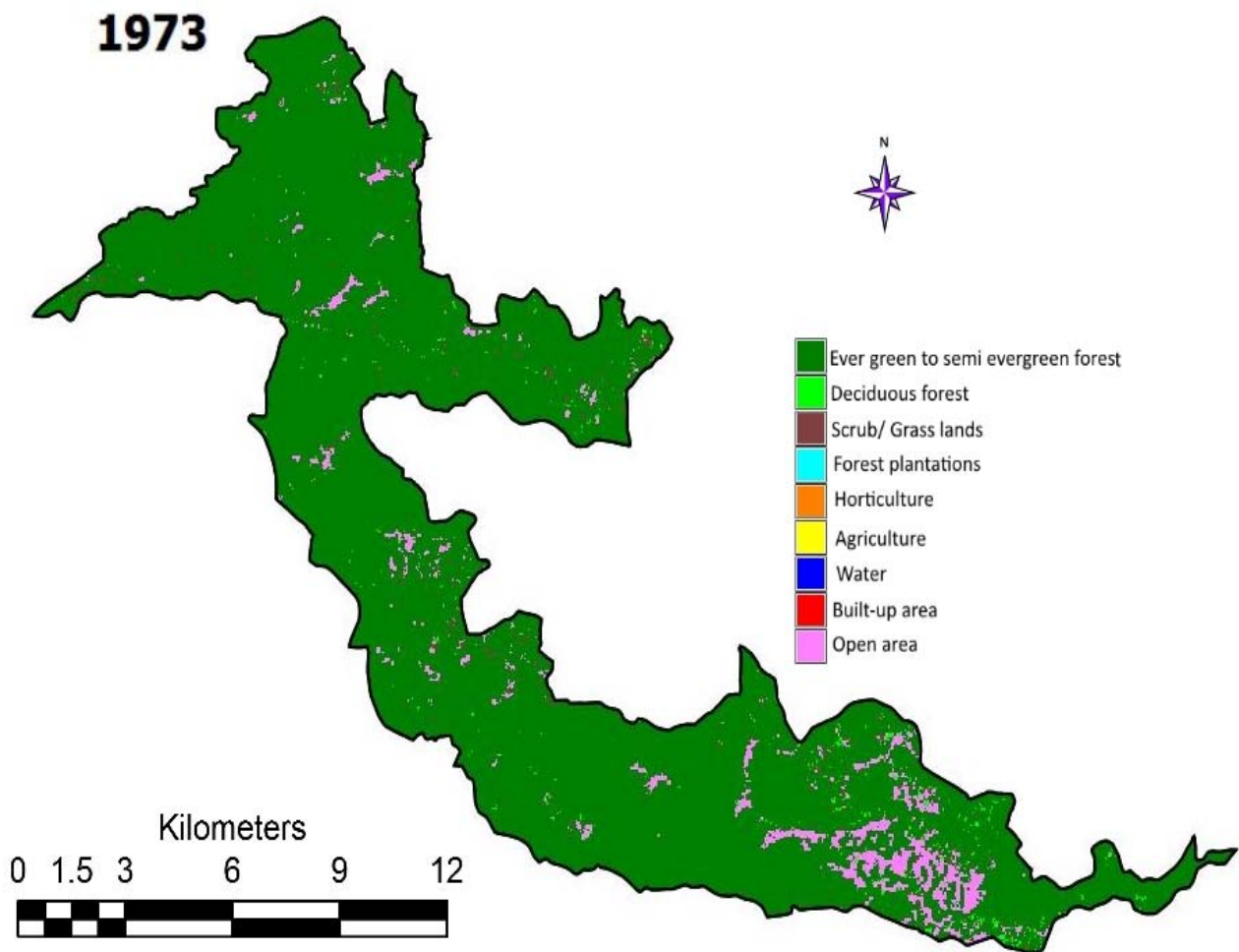
Cauvery Wildlife Sanctuary - 1991



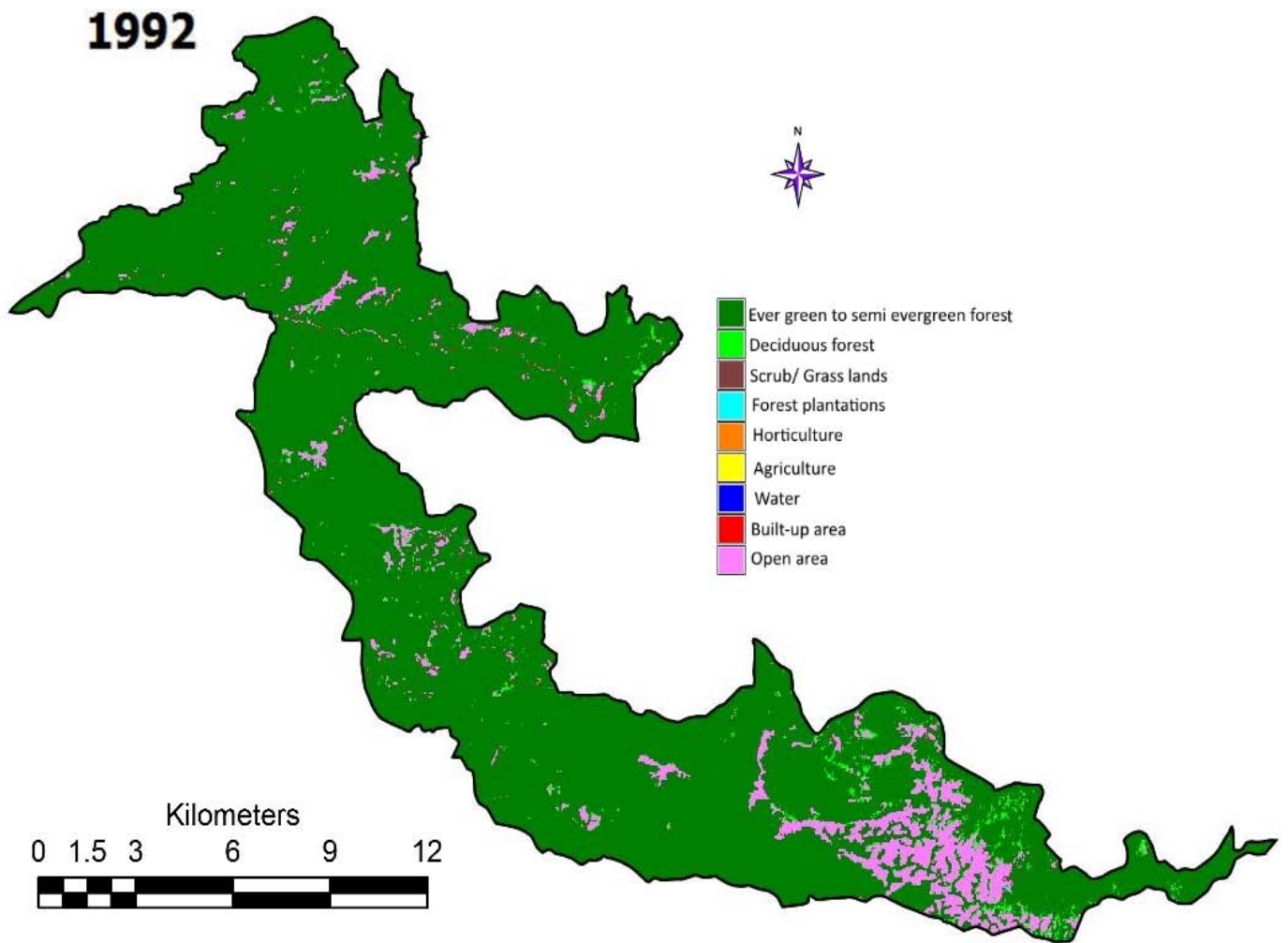
Cauvery Wildlife Sanctuary - 2016



10. Brahmagiri Wildlife Sanctuary

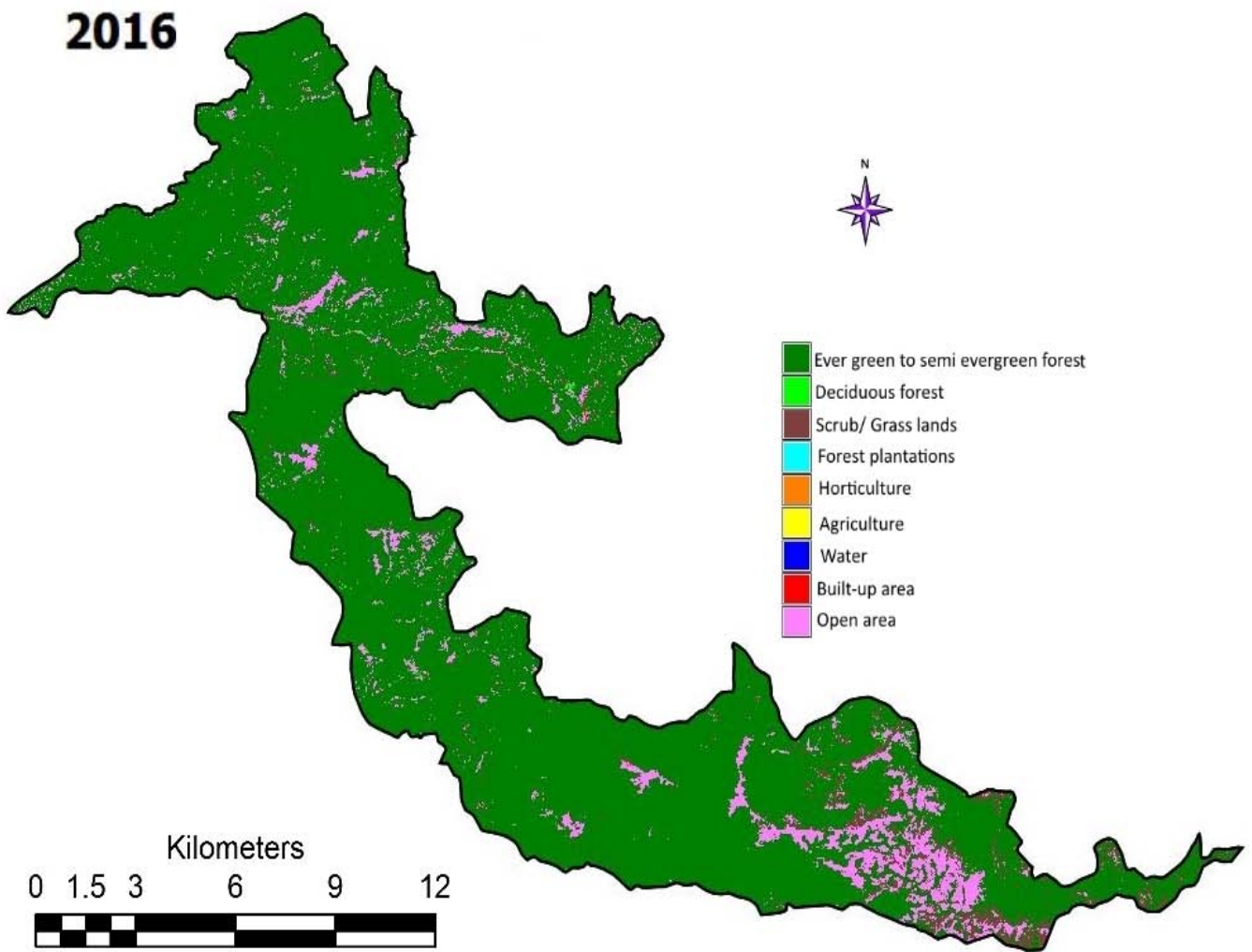


Brahmagiri Wildlife Sanctuary

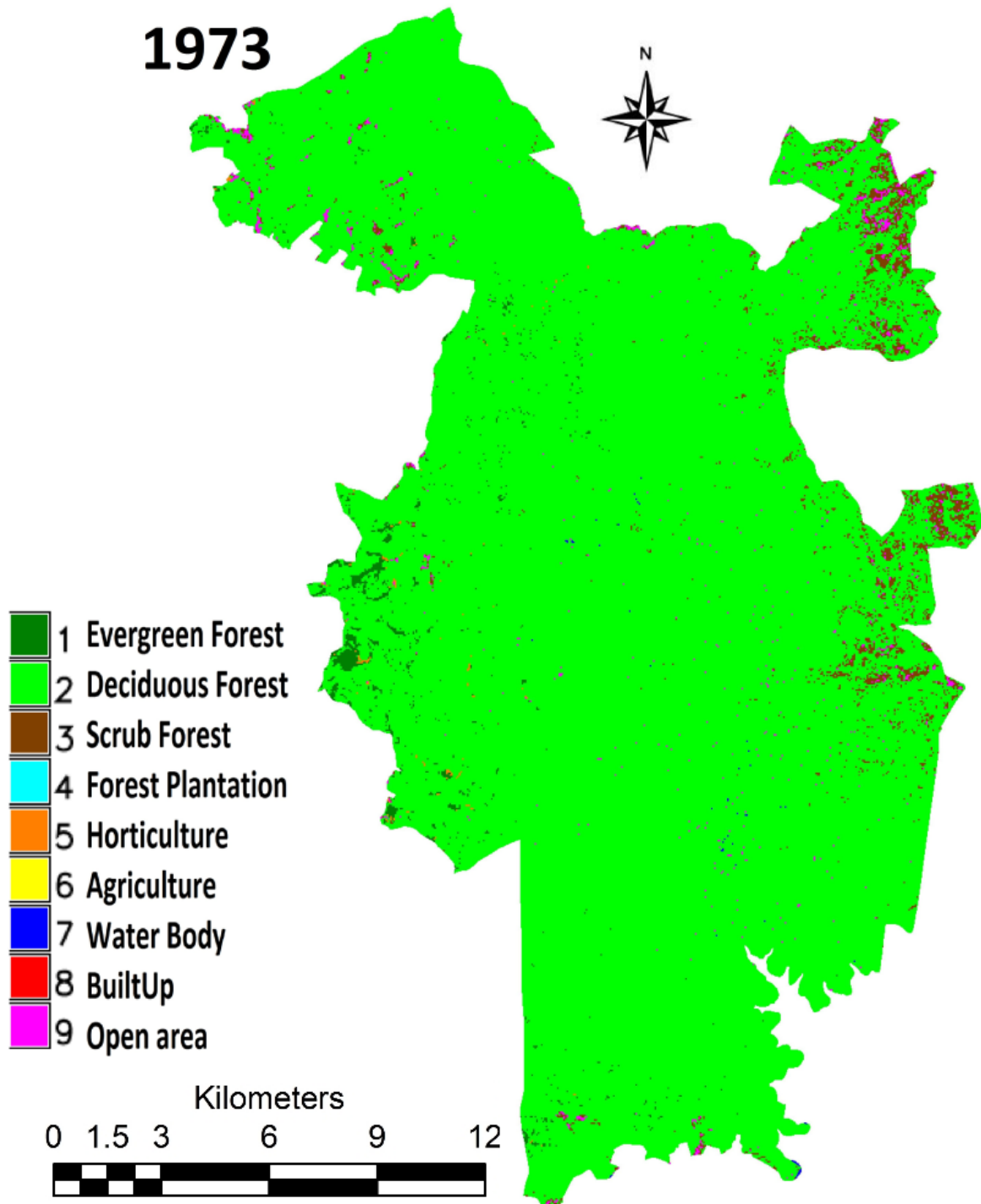


Brahmagiri Wildlife Sanctuary

2016

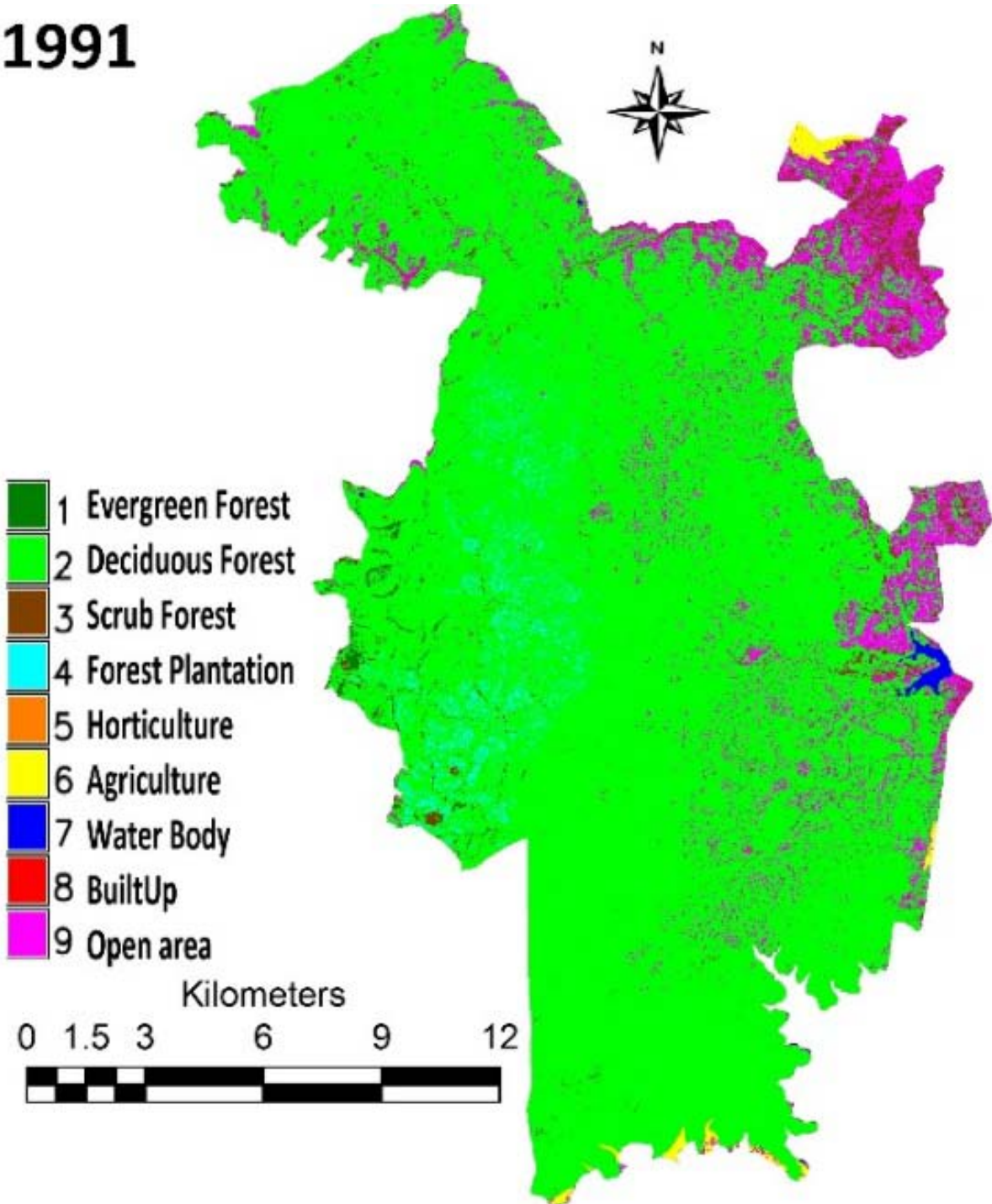


11. Nagarahole Tiger Reserve



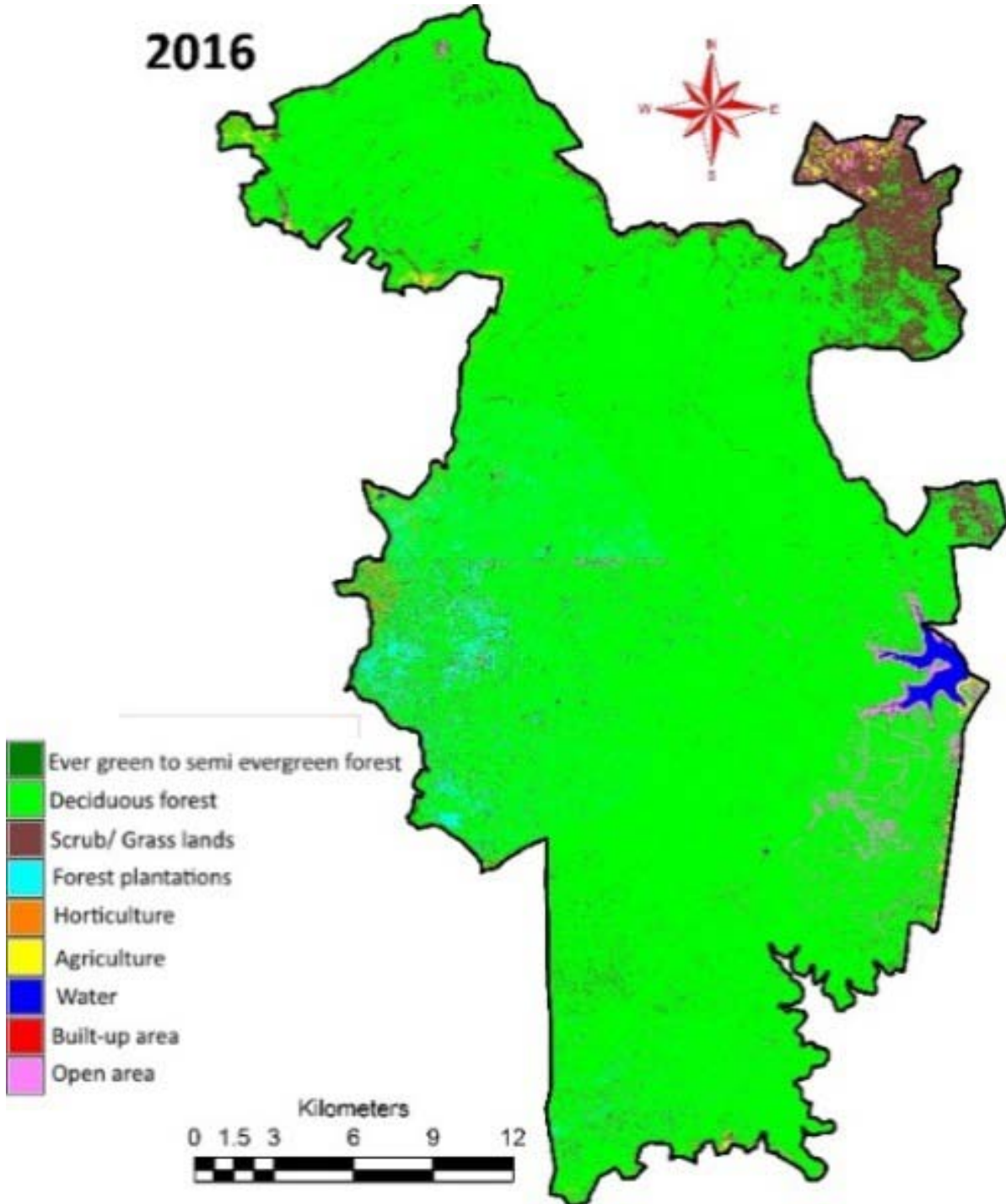
Nagarahole Tiger Reserve

1991



Nagarahole Tiger Reserve

2016



Appendix 2

(Reference: Paragraph 3.1.2, Page 16)

Land Use Land Cover changes between 1973 and 2016 in and around the Protected Areas

Category	Bhadra WLS			Pushpagiri WLS			Cauvery WLS		
	1973	1992	2016	1973	1992	2016	1973	1991	2016
Ever green to semi evergreen	28,712.33	25,761.00	23,319.88	80,159.29	75,552.49	63,841.17	0.00	0.00	0.00
Deciduous forest	110,052.20	96,652.24	82,236.05	10,110.33	11,245.49	13,697.26	268,925.76	238,540.83	197,619.42
Scrub/Grass land	4,168.20	11,952.15	19,921.96	693.65	1,726.27	5,417.84	42,724.80	47,337.38	69,789.38
Forest Plantations	220.22	6,078.06	13,702.54	87.50	464.76	524.12	0.00	0.00	0.00
Horticulture	21,517.56	22,037.61	32,050.55	4,089.87	4,511.79	6,551.82	0.00	14,361.51	7,102.26
Agriculture	18,150.57	16,626.24	10,570.89	613.05	1,242.99	2,857.55	86,332.68	86,657.19	95,303.98
Water	5,645.34	9,922.95	9,955.07	20.00	106.57	320.75	4,768.56	6,470.47	3,266.79
Built-up area	1,005.76	1,278.64	1,430.90	37.79	101.35	133.88	0.00	3,178.81	3,959.89
Open area	30,239.96	29,403.25	26,524.30	3,485.43	4,345.20	5,952.51	3,160.80	9,372.80	28,872.60

Category	Sharavathi WLS			Kudremukh WLS			BRT TR		
	1973	1992	2016	1973	1992	2016	1973	1991	2016
Ever green to semi evergreen	59724.77	55813.81	49578.93	97339.48	84737.33	79188.98	12180.24	11525.58	3895.65
Deciduous forest	57157.66	60015.33	61303.15	68498.74	70095.50	72181.26	116337.24	101572.74	87191.41
Scrub/Grass land	21429.86	17310.41	11356.91	9887.47	17812.70	18747.29	17566.56	28073.34	50613.39
Forest Plantations	5321.46	9280.24	9229.62	0.00	2771.10	2027.64	0.00	0.00	2562.68
Horticulture	17606.25	17552.89	25238.75	60489.62	63461.74	73517.56	2989.44	6685.65	13340.21
Agriculture	20395.77	20852.57	20118.75	18671.58	14351.93	10130.68	61964.28	68722.83	48939.48
Water	13055.49	16190.81	15076.67	1.98	218.16	337.25	1383.12	1178.28	3069.41
Built-up area	4631.88	5121.73	6008.60	1884.69	1939.27	2447.58	0.00	1277.82	5255.93
Open area	17484.96	14670.33	18897.31	34172.68	35558.51	32368.00	10968.12	4356.27	8526.84

Category	Nagarahole NP			Mookambika WLS			Someshwara WLS			Talacauvery WLS	
	1973	1991	2016	1973	1992	2016	1973	1992	2016	1991	2016
Ever green to semi evergreen	4462.74	3553.11	8957.49	57122.22	52055.06	50061.12	71166.22	65496.40	57720.42	41892.48	42113.00
Deciduous forest	127345.05	110151.99	103300.43	47114.94	60336.98	60124.25	45534.88	46000.61	51310.10	12555.90	7305.58
Scrub/Grass land	14091.30	15257.34	17796.61	22562.60	13020.99	11721.44	1569.97	3040.63	3529.16	425.70	1670.29
Forest Plantations	0.00	1244.07	2402.62	2603.84	3956.52	1832.32	0.00	1356.75	174.67	0.00	0.00
Horticulture	37662.12	31224.60	25904.67	28943.25	37433.59	41861.83	34272.36	35186.98	39411.14	23822.37	36796.23
Agriculture	54261.27	54565.47	69447.31	41158.59	27666.27	27375.47	15415.74	13384.44	13563.64	5671.80	2201.86
Water	878.49	5327.28	4861.29	4489.78	9491.01	10667.88	0.72	3281.94	4760.64	0.00	0.00
Built-up area	910.26	2447.10	1770.43	5011.21	7863.62	8904.04	607.50	601.33	938.26	75.06	636.83
Open area	1940.04	17778.06	7109.76	19106.03	16288.42	15564.11	15096.33	15314.64	12255.69	10318.50	4890.98

Category	MM hills			ADTR			Bandipur TR			Brahmagiri WLS		
	1973	1991	2016	1973	1992	2016	1973	1991	2016	1973	1992	2016
Ever green to semi evergreen	2158.92	2541.96	3384.40	260327.70	199410.48	155749.89	2208.24	7163.28	3262.71	71473.14	60861.87	58487.81
Deciduous forest	237871.44	209341.35	202713.27	26189.41	41428.37	49942.13	225672.84	173847.51	173062.99	12747.27	11867.94	9692.00
Scrub/Grass land	12285.36	38673.27	34725.69	5909.50	5990.53	10827.89	25139.16	42196.77	93593.87	5120.55	7058.43	8115.36
Forest Plantations	0.00	0.00	0.00	8105.16	26261.34	42998.74	0.00	0.00	478.36	1407.51	1402.43	1497.71
Horticulture	24.48	17.64	3114.37	0.00	1098.89	3174.08	15908.04	12372.30	10607.78	33894.45	40720.05	39811.75
Agriculture	50473.08	52176.06	54838.09	5469.26	10871.72	14354.82	92278.08	120952.53	65011.30	11261.97	17345.74	21366.30
Water	1295.28	1876.68	1026.68	591.12	10482.68	17247.87	1567.80	4887.72	4992.39	44.79	27.27	320.39
Built-up area	18.00	598.95	1623.19	574.65	3138.52	3710.29	0.00	2842.83	3942.05	555.21	782.91	1302.60
Open area	2394.36	1294.56	5097.91	1167.57	9651.85	10328.67	3029.04	1538.82	10956.82	12722.58	9160.83	8633.55

Appendix 3

(Reference: Paragraph 5.1.1, Page 34)

Letter addressed by CCF, Project Elephant highlighting the increase in Human Elephant Conflicts due to Mini Hydel Projects

Government of Karnataka
Forest Department

No: B1/BUD/CR-9/2011-12

Office of the
Chief Conservator of Forests
& Field Director
Project Elephant, Aranya Bhavana,
Ashokapuram, Mysore
Date: 26-09-2011.

To
The Principal Chief Conservator of Forests
(Wildlife), Aranya Bhavan,
18th Cross, Malleshwaram
BANGALORE-3

ಅಪರ ಪ್ರಧಾನ ಮುಖ್ಯ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾಧಿಕಾರಿ
(ಭೂ ದಾಖಲೆಗಳು)
ಅರಣ್ಯಭವನ, ಮಲ್ಲೇಶ್ವರಂ,
18ನೇ ಅಡ್ಡರಸ್ತೆ, ಬೆಂಗಳೂರು-03

Sir,

Sub : Escalation in HEC in the Malavally Range of Mandya division.

Ref : Deputy Conservator of Forests, Mandya letter No. ಉಅಸಂ./ಮವಿಮ//2011-12 ದಿನಾಂಕ: 02/07/2011(Copy enclosed).

In the recent years the intensity of human elephant conflict has increased many fold in the Malavally Range of Mandya division. As already been brought to your kind notice by the Conservator of Forests, Mysore Circle and Deputy Conservator of Forests, Mandya division, the increase in the conflict level in the Range is mainly due to the accumulated disturbances in last 10-12 years in Dhangur Reserved forest due to several mini hydro electric projects and Doddamakali eco tourism camp of JLR. Severe disturbances caused due to the sound, vehicle movements and several other activities of these projects and camp is driving the elephant herds out of forest areas. This has resulted in the frequent straying out of elephants even upto 20-25 kms from the forest boundary. In one of the such incident when a herd of elephant reached to Bannur on the border of Mandya and Mysore district and subsequently though driven back by the forest officials, two sub adult males got separated. These two elephants reached to Mysore City on 08-06-2011.

Recently, again a herd of five elephants moved up to Markal-Aladhally, about 20-25 kms from forests, towards the Bannur after crossing the highways. Though department has taken quick action to drive them back, after the darkness monitoring of their movements became very difficult due to the sugarcane and tree crops in the agriculture fields. In the midnight, elephants reached to the Malavally town. The alien staff took immediate action in driving them back to the forests. It is informed that there are

about 17 elephants in the Dhangur & Basavenbetta R.F's. Due to the disturbance in the elephants home range areas, in and around these reserved forests, the elephants are straying out in small groups of 5 to 7 for crop raiding and some time in their attempt to disperse out, reach upto 20-25 kms. The area on the other side of Cauvery river, the Satyagal Jagir also has disturbance due to the hydel power project, eco-tourism activities at Gagan Chukki/Barchukki falls and encroachments. In fact the core area of elephant home range along the Shimsha river and from Cauvery water falls to down stream, upto Sangam has now lot of disturbance. The list of hydel projects and eco-tourism camp in the area (on the either side of rivers) is given here below.

- 1) Limbavali Mini hydel project (Mandya Division)
- 2) Atrea mini hydel project (Mandya Division)
- 3) M.S. mini hydel project (Mandya Division)
- 4) Doddamakali JLR camp (Mandya Division)
- 5) Pioneer mini hydel project (Satyagal, Kollegal division)

The letter of Deputy Conservator of Forests, Mandya and sketch showing the locations of various mini hydel projects in Mandya and Kollegal divisions are enclosed in Annexure-I.

For mitigation of HEC in the Malvally Range it is necessary that:

1. The work of creation and maintenance of barriers on the fringes of the home range areas should be taken up on top priority. The existing anti depredation camps should be strengthened to effectively check the elephants from straying out.
2. Immediate action should be taken to make the home range area, free from disturbance.
3. Non forest government lands and some of the private lands, around the reserved forest, which are the part of elephant home range, may be transferred to forest department/acquired by the government.
4. Discouraging the crops like banana, sugarcane, maize etc. in the fringe areas of elephant home range.
5. Prompt payment of ex-gratia for the crop damage
6. Posts of Deputy Conservator of Forests, Mandya and Range Forest Officer, Malavally, which are vacant, should be filled up immediately with good officers.

The Copies are kept under R.O. A

(TS)
Funds for excavation 7.00 Kms EPT and 13.00 Kms Solar fencing may be provided to Mandya division for creation of barriers (during 2011-12), as requested by him during the presentation, made before the Hon'ble Forest Minister on 23/09/2011. (Copy of the note given by him during the Hon'ble Forest Minister visit is enclosed here with in Annexure II).

Yours faithfully,

[Signature]
Chief Conservator of Forests
& Field Director

26/9
Project Elephant, Mysore.

Copy to Conservator of Forests, Mysore Circle, Mysore and Chamrajnagar Circle, Chamrajnagar for information.

Copy to Deputy Conservator of Forests, Mandya Division, Mandya and Kollegal Division, Kollegal for information.

[Signature]
ರವಾನೀತಿಲಾಗಿದೆ
ದಿನಾಂಕ: 26/9/11

The Copies are Issued on
RTI Act 2

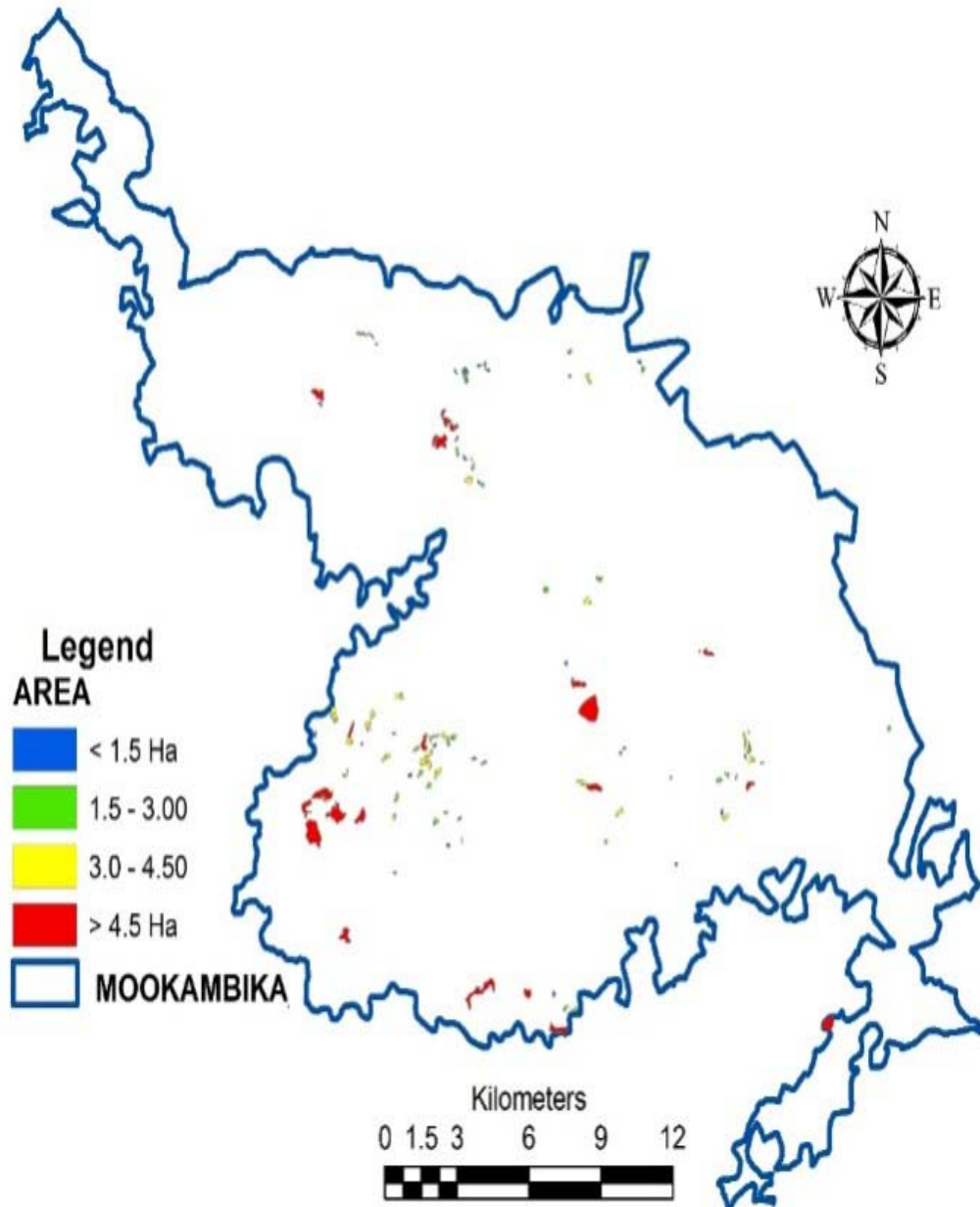
[Signature]
ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪರಿಸರ ಮತ್ತು ಅರಣ್ಯ ಇಲಾಖೆ

Appendix 4

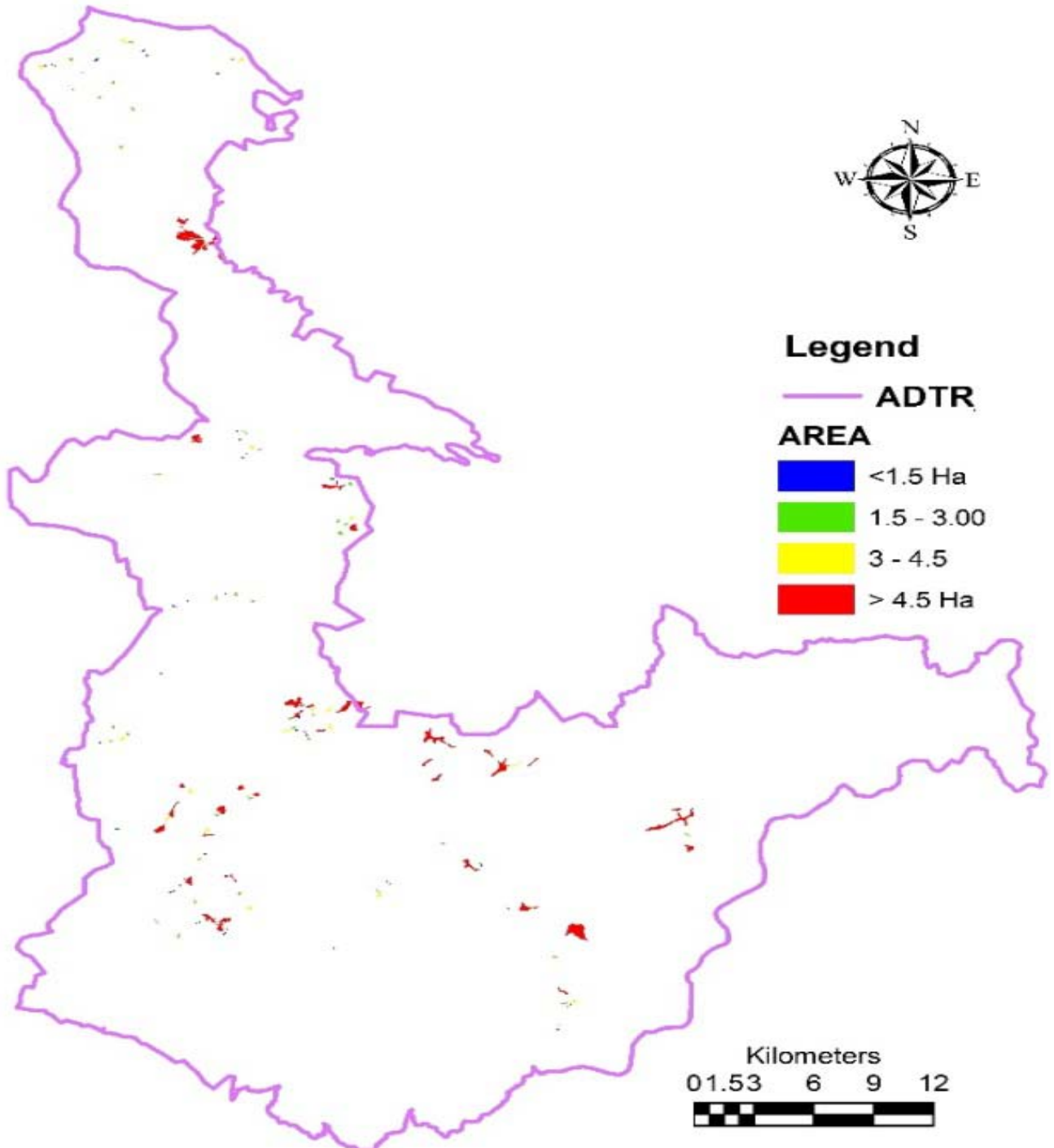
(Reference: Paragraph 6.1.2, Page 48)

Assessment of encroachments in Protected Areas with satellite imageries

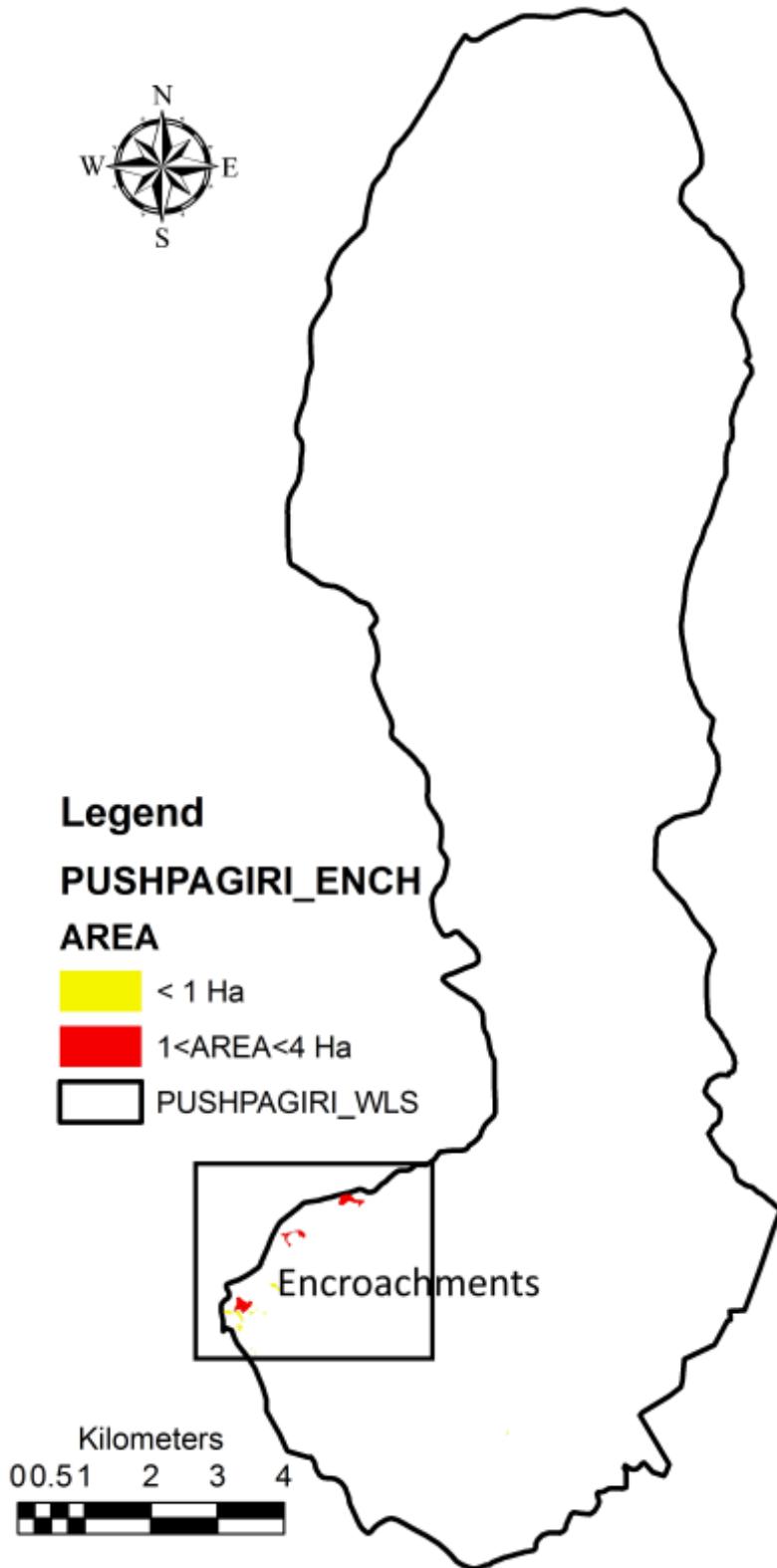
1. Mookambika Wildlife Sanctuary



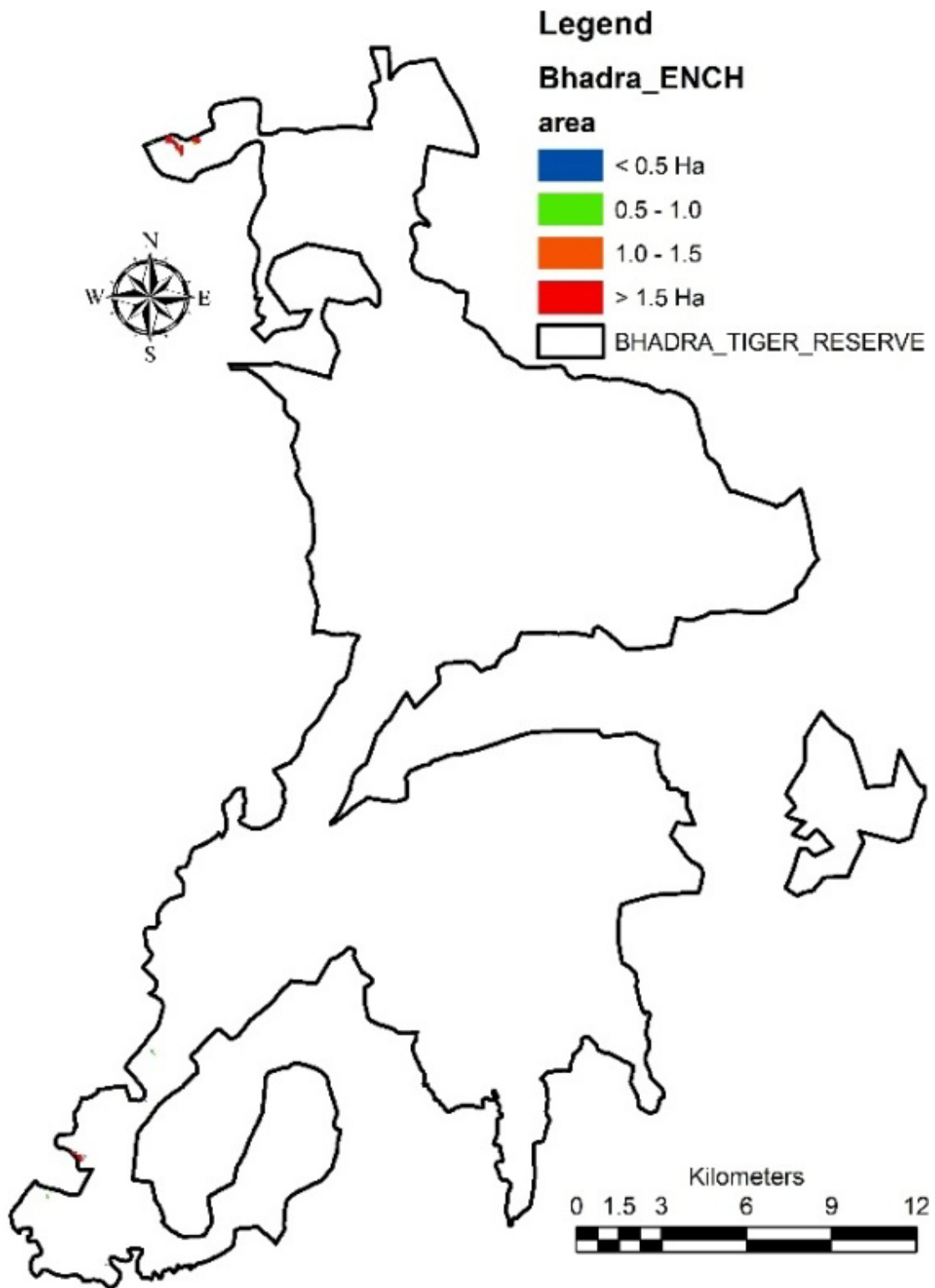
2. Dandeli-Anshi Tiger Reserve



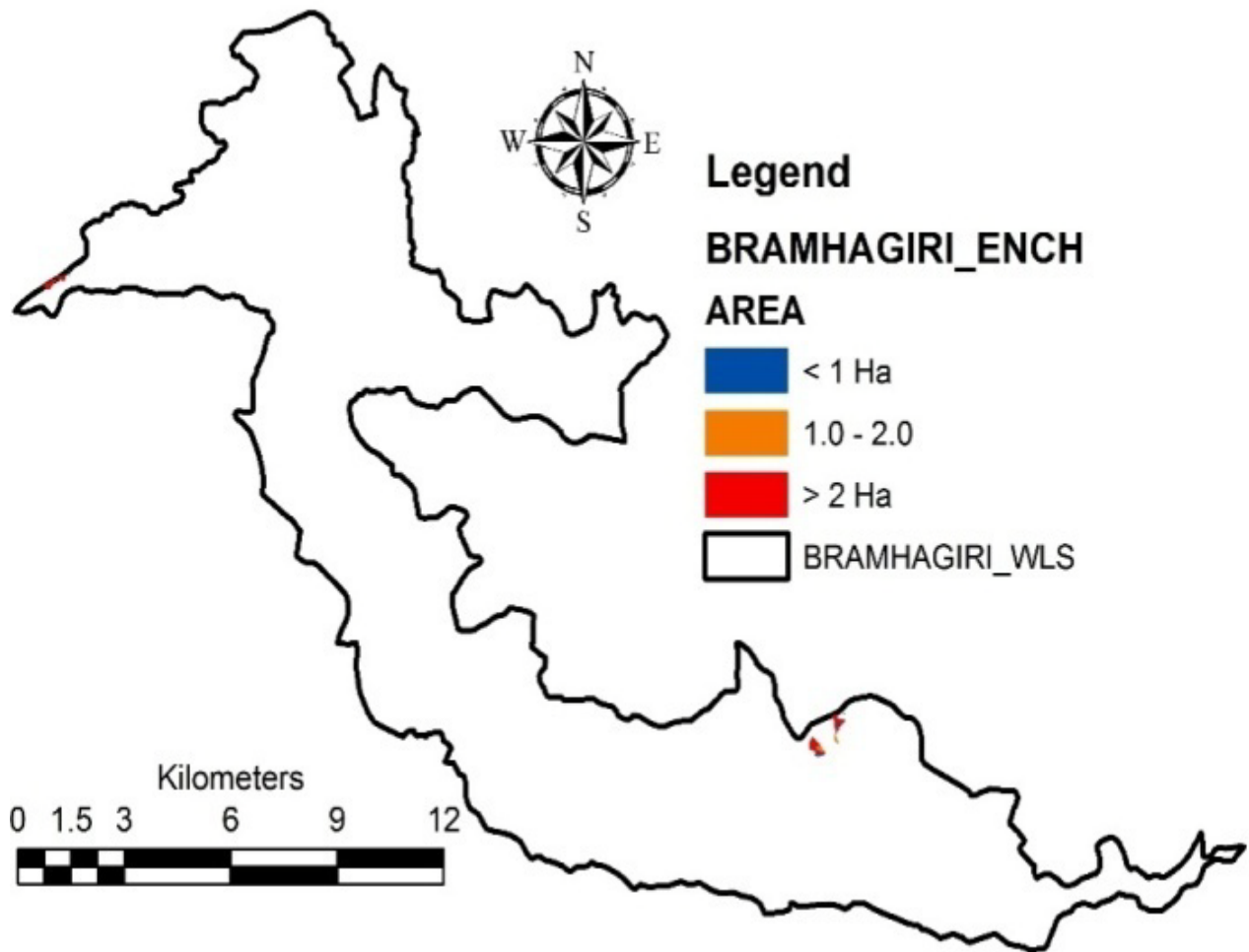
3. Pushpagiri Wildlife Sanctuary



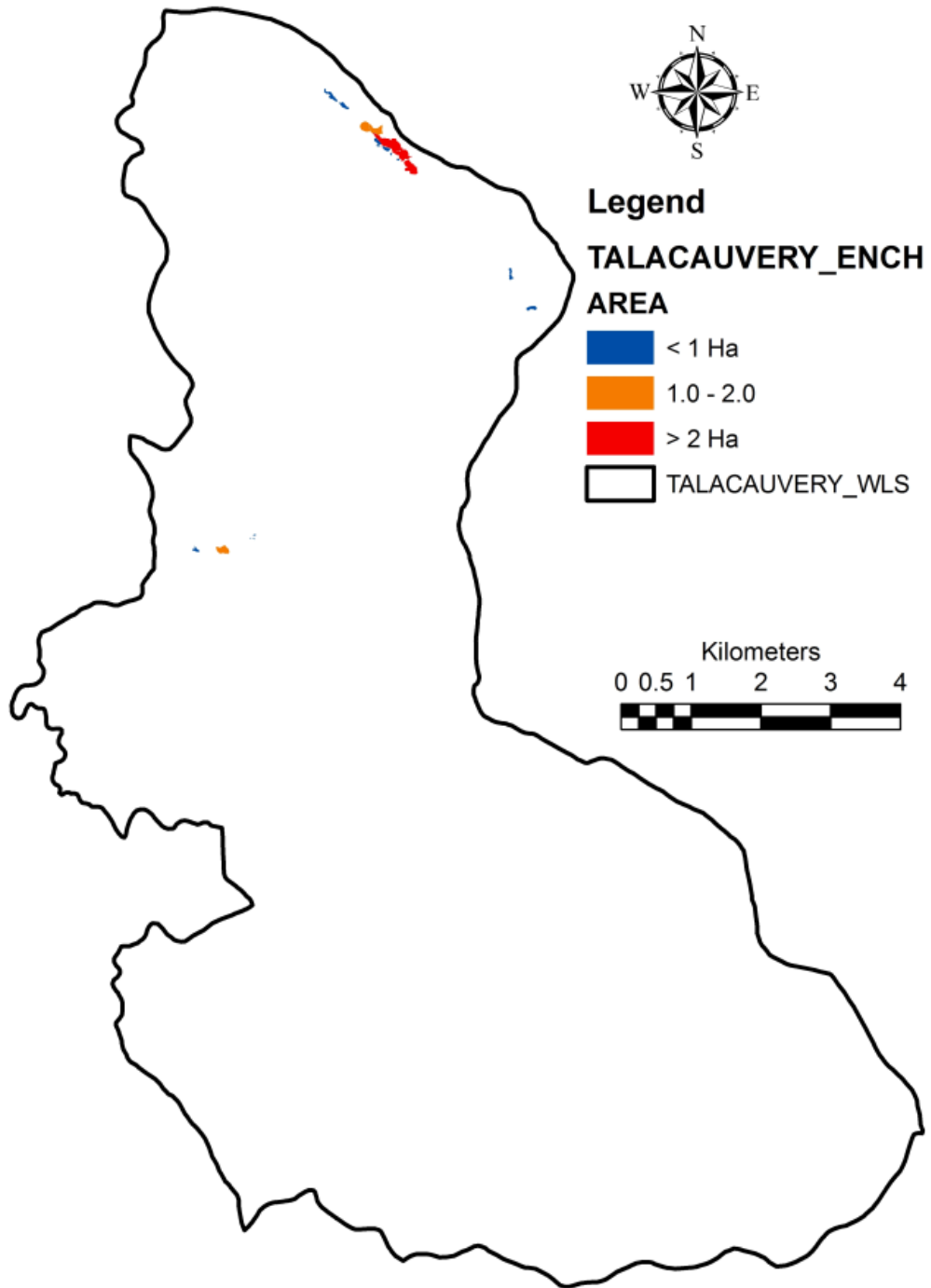
4. Bhadra Tiger Reserve



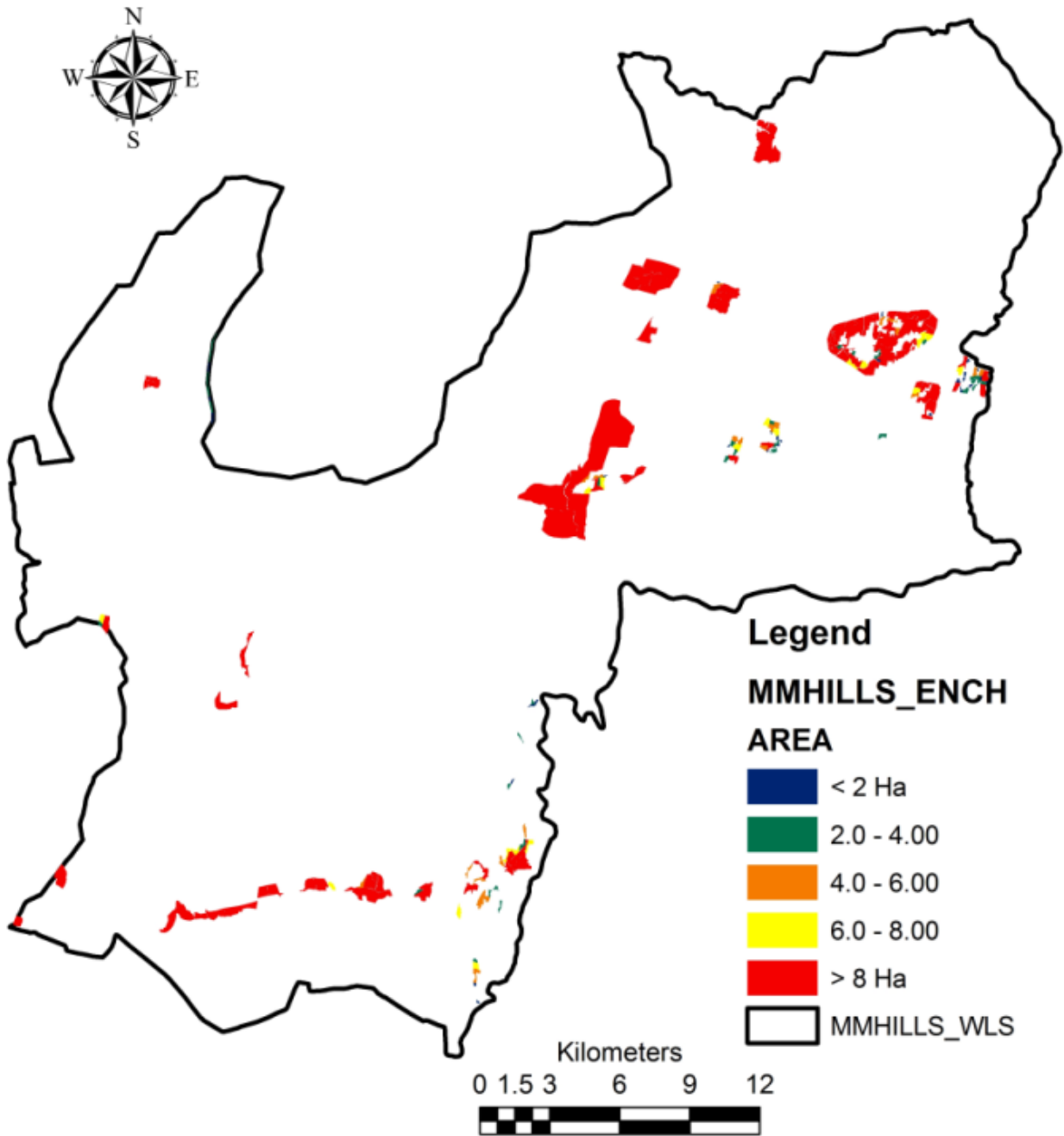
5. Brahmagiri Wildlife Sanctuary



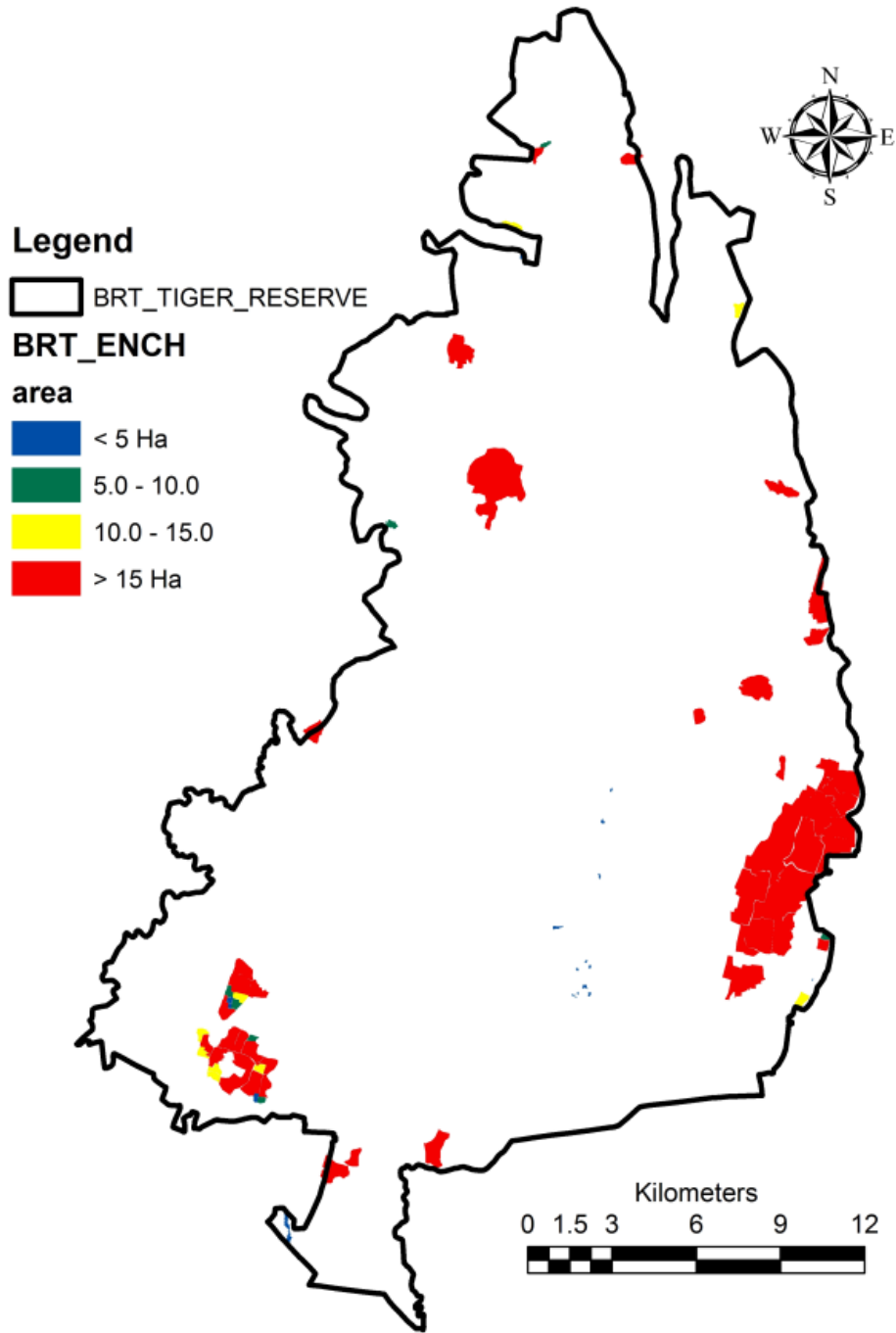
6. Talacauvery Wildlife Sanctuary



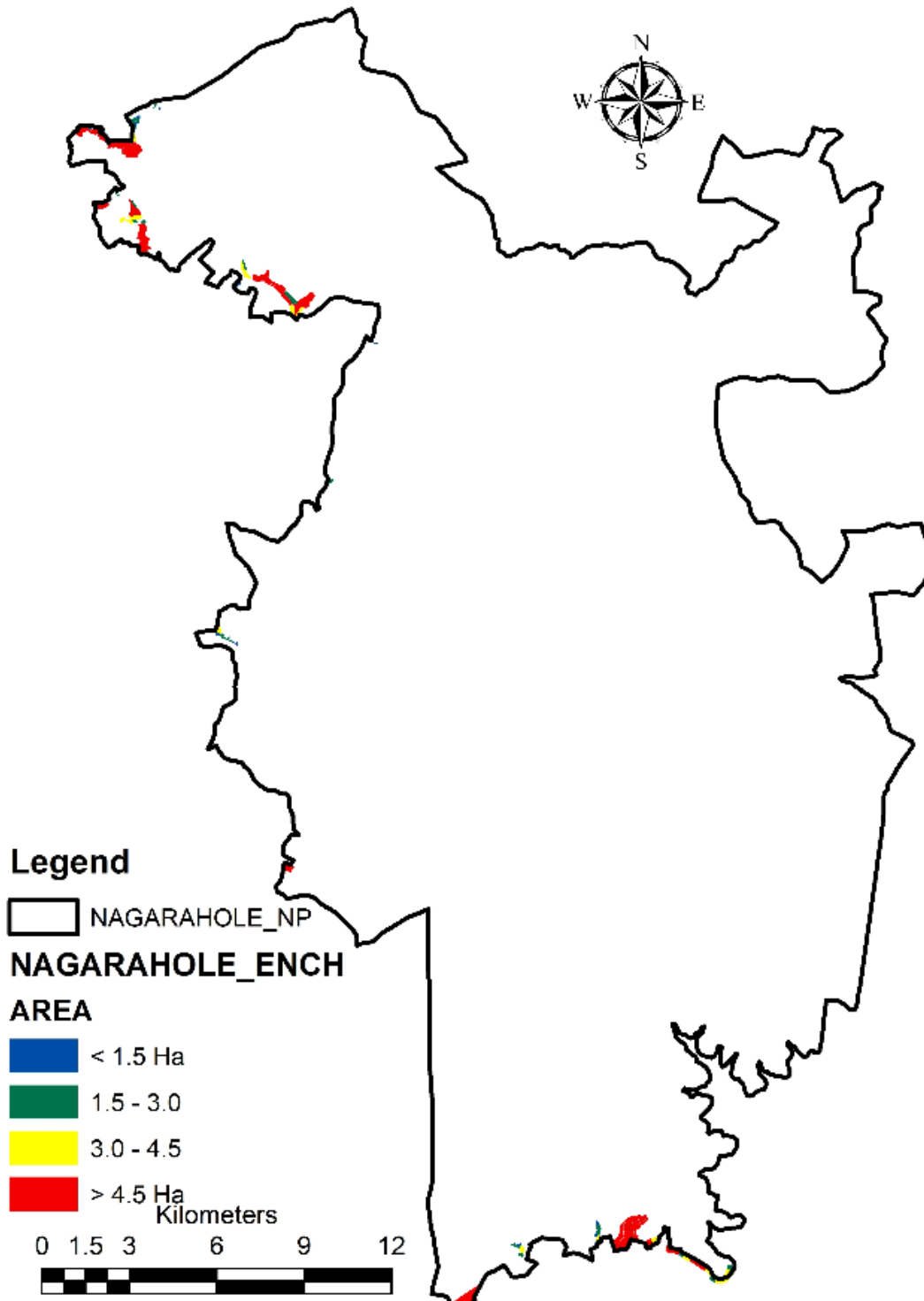
7. Malai Mahadeswara Wildlife Sanctuary



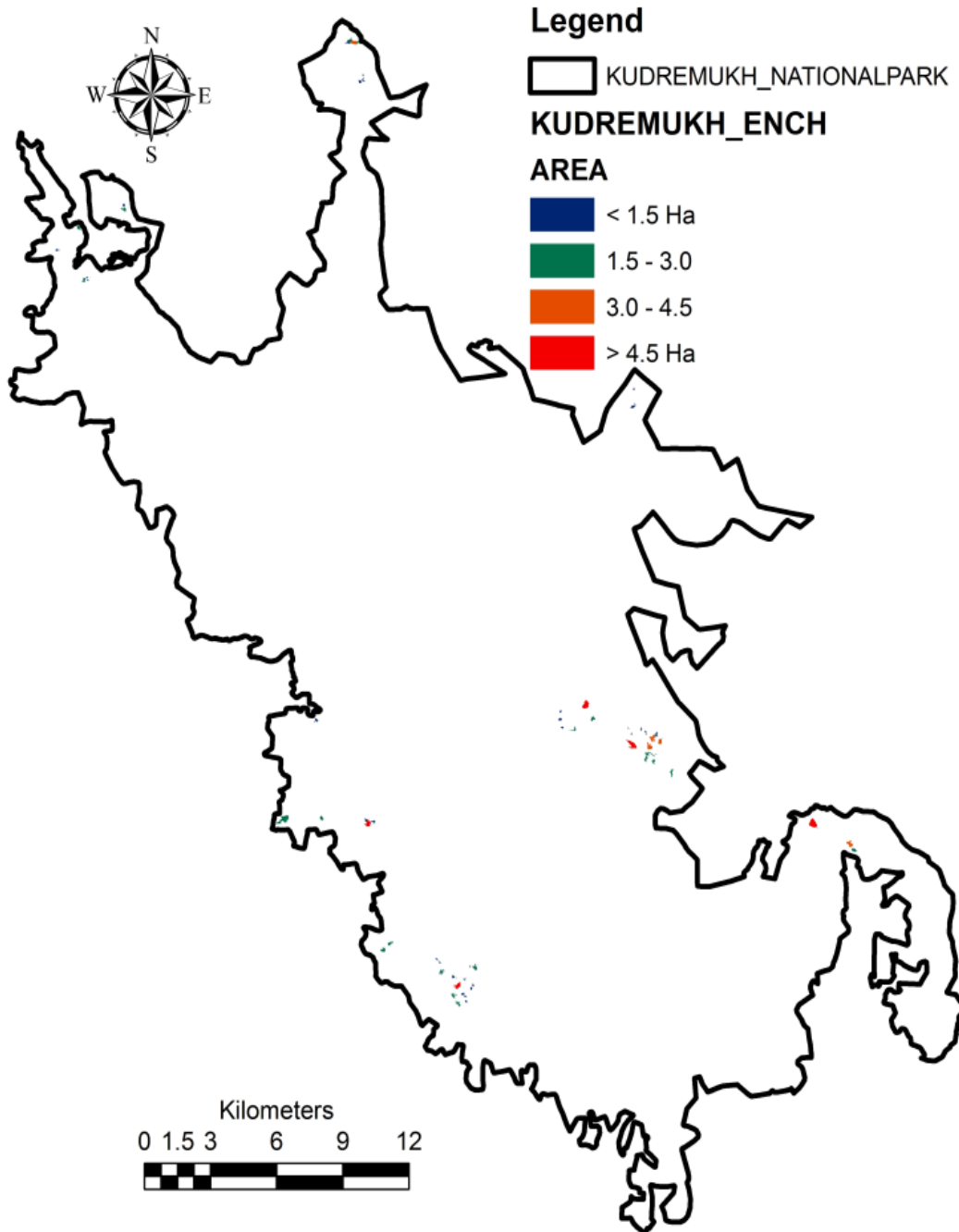
8. Biligiri Ranganathaswamy Temple Tiger Reserve



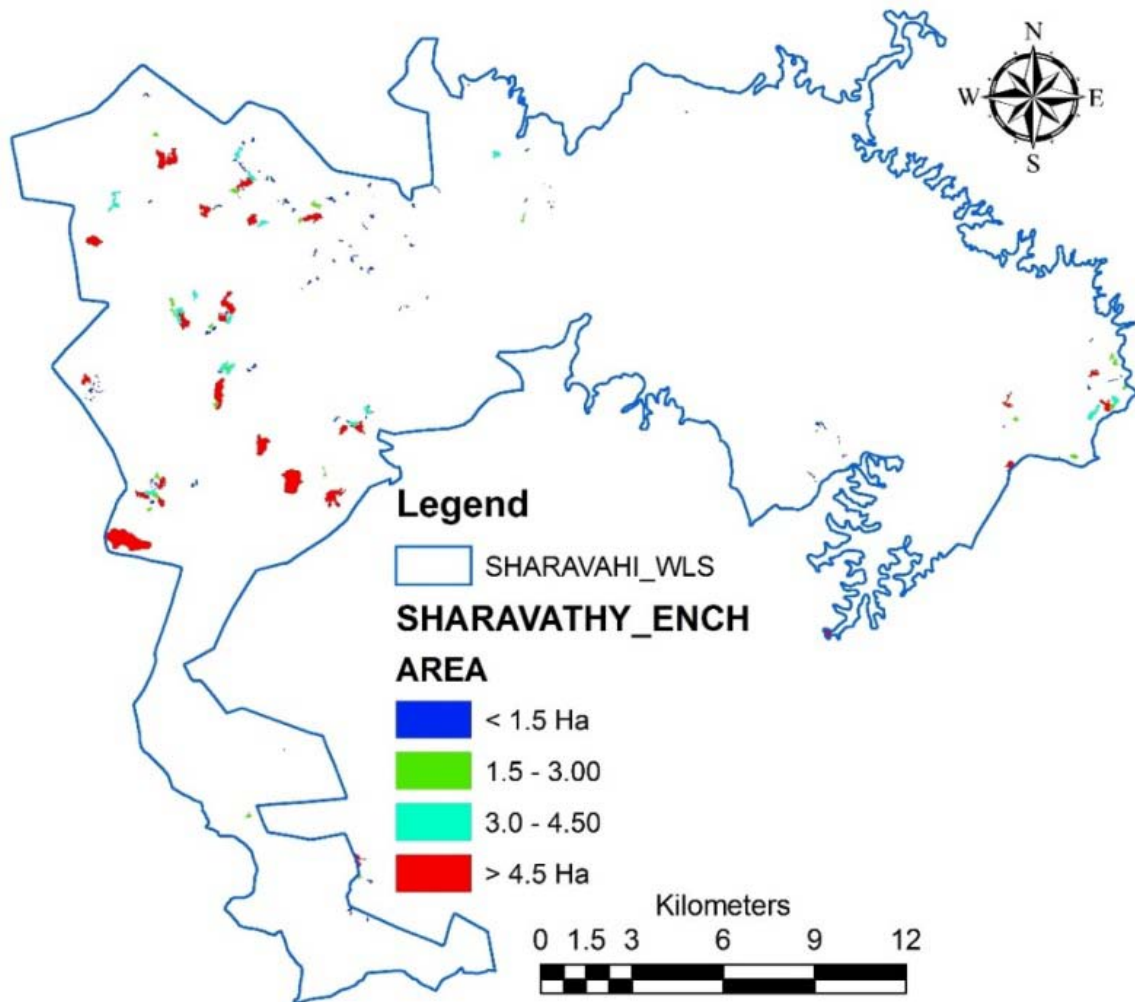
9. Nagarahole Tiger Reserve



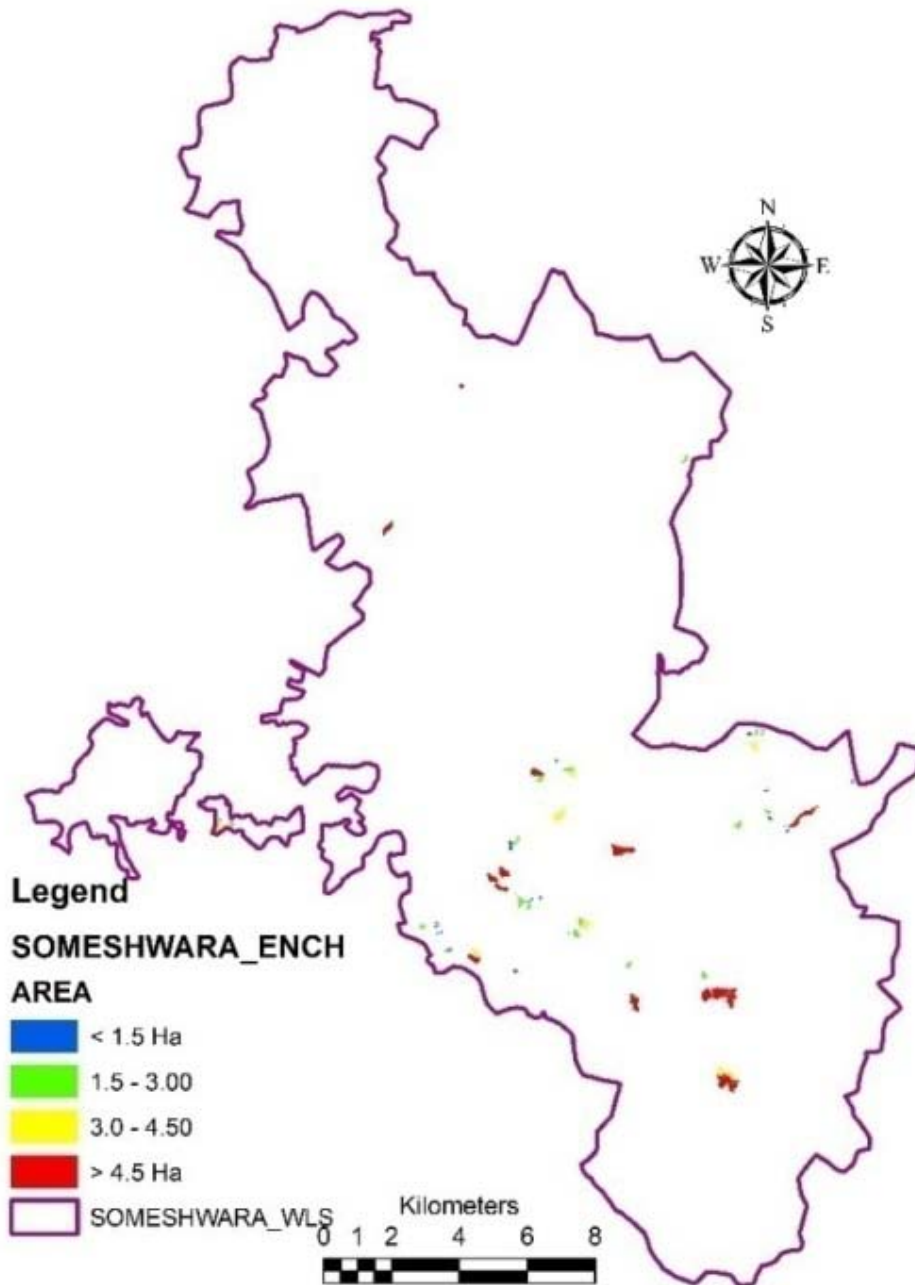
10. Kudremukh National Park



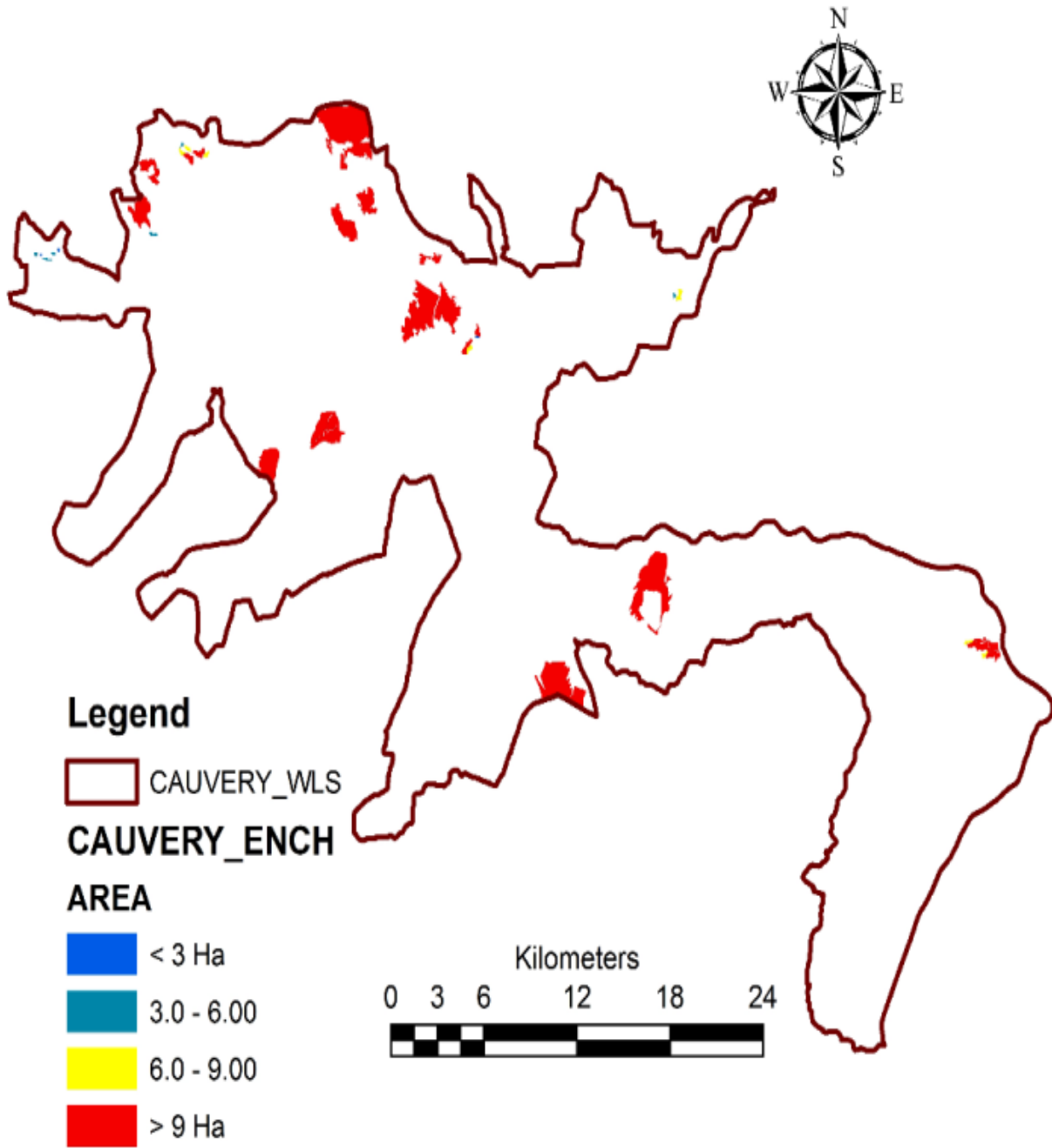
11. Sharavathi Wildlife Sanctuary



12. Someshwara Wildlife Sanctuary



13. Cauvery Wildlife Sanctuary



Appendix 5
(Reference: Paragraph 7.1, Page 54)

Details of poaching cases booked in the Protected Areas during the period 2011-12 to 2015-16

PA	2011-12	2012-13	2013-14	2014-15	2015-16	Total
Nagarahole	Wild boar-1 Deer -1	Deer -5 Gaur -1 Leopard-1 Wild boar-1	Deer-2 Barking deer-1	Leopard- 1 Sambar-1	Deer-2 Wild boar-1	Leopard-2 Wild boar-3 Deer-10 Sambar-1 Gaur-1 Barking deer-1
MM WLS	Elephant 1 Deer - 3 Wild boar-2 Sambar- 2 Not specified-1 Barking deer- 1 Gaur- 1	Sambar-5 Deer – 6 Barking deer-1 Wild boar-3 Not specified- 1 Mongoose-1	Deer- 6 Elephant-1 Not specified – 3 Sambar- 4 Rabbit- 1 Wild boar-1 Gaur-1	Deer-1 Wild boar -1	Elephants-2 Wild boar-1	Elephant-4 Deer-16 Wild boar-8 Sambar -11 Not specified-5 Barking deer-2 Gaur-2 Mongoose 1 Rabbit- 1
Brahmagiri	Gaur – 1	-	Sambar-1	Monitor lizard- 1	-	Gaur- 1 Sambar -1 Monitor lizard -1
Bhadra	Sambar- 1	-	-	-	-	Sambar- 1
Dandeli	Monitor lizard- 1 Pangolin- 1	Black panther-1 Gaur-1 Wild boar-1 Pangolin-1 Malabar giant squirrel- 1	Malabar giant squirrel -2 (1 case)	Wild boar-2 Tortoise-1 Monitor lizard-3 (1 case) Muntjac-1 Sambar-1	Wild boar-1	Black panther-1 Monitor lizard-4 Wild boar-4 Malabar giant squirrel-3 Pangolin-2 Gaur- 1 Tortoise -1 Muntjac-1 Sambar-1
Kudremukh Wildlife Division	-	Sambar-1	Mouse deer-1 Flying squirrel-1 Barking deer-2	-	Sambar-1	Sambar- 2 Barking deer-2 Mouse deer-1 Flying squirrel-1
Bandipur	-	Elephant- 2	Elephant 1 Deer-1	-	Tiger-1	Tiger-1 Elephant-2 Deer- 1
BRT	-	-	Elephant- 1	-	-	Elephant 1
Grand Total	Tiger -1, Leopard-2, Elephant-8, Gaur- 5, Black panther-1, Deer- 27, Sambar-17, Wild Boar-15, Barking deer-5, Malabar giant squirrel-3, Monitor lizard-5, Muntjac-1, Tortoise- 1, Flying squirrel-1, Mouse deer-1, Rabbit-1, Pangolin-2, Mongoose-1, Not specified-5 =102					

Appendix-6
(Para No: 8.2, Page: 68)

Details of Protected Areas, weeds assessed as threats and plan of action proposed in Management Plan/Tiger Conservation Plan

Sl No	Protected Area	Plan and period	Major Weeds as per MP/TCP	Proposed plan of action to address the weeds
1	Biligiri Ranganathaswamy Temple Tiger Reserve (BRT Wildlife Sanctuary)	TCP 2014-24	<i>Lantana camara</i> , <i>Eupatorium</i> , <i>Parthenium</i> , <i>Chromolaena odorata</i> , <i>Cipadessa fruticosa</i>	Lantana eradication needs to be done by involving Soligas (tribals) who have the natural skills in this regard. Government of India schemes like MNREGA etc, may be utilized since large and long term investment is needed for this work.
2	Bandipur Tiger Reserve (Bandipur National Park)	TCP 2014-24	<i>Lantana camara</i> , <i>Eupatorium</i> and <i>Parthenium</i>	Only field studies were proposed to be conducted based on which further management would be decided.
3	Bhadra Tiger Reserve (Bhadra Wildlife Sanctuary)	TCP 2014-24	<i>Parthenium</i> , <i>Lantana</i> , <i>Eupatorium</i> and <i>Cassia spectabilis</i> .	The theme plan proposed scientific investigation to identify, record and prepare distribution map for the weed species creating most damage, establish weed management objectives and goals, prioritise the weeds/patches, formulate Integrated Weed Management, implement it.
4	Kudremukh National Park	MP 2013-23	<i>Pteridium</i> , <i>Glycopteris</i> and <i>Eupatorium</i>	To assess the extent of weed infestation by reki survey, devise strategies to control major weeds.
5	Dandeli Anshi Tiger Reserve	TCP 2014-24	<i>Chromolaena odorata</i> and <i>Lantana camara</i>	Lantana is to be eradicated before its fruiting seasons in the month of September. Ideally, this operation should be carried out during the month of July and August after first shower of monsoon when wet soil facilitates its uprooting. The method of uprooting lantana, standardised in Corbett Tiger Reserve shall be employed in DATR (C R Babu – cut rootstock method).
6	Nagarahole Tiger Reserve	TCP (2014-24)	<i>Lantana camara</i> , <i>Parthenium</i> <i>hysterophorus</i> , and <i>Chromolaena odorata</i> / <i>Eupatorium odoratum</i>	Identify the problematic weed species and assess the extent of its spread in the TR. Lantana clearance should be done on first year followed by year round monitoring, recording, and removal of fresh growth in second and third year. However no specific plan for other weeds was stated.