

NATIONAL WILDLIFE DATA BASE

A Microcomputer based National Wildlife Data Base has been set up at the Wildlife Institute of India, Dehradun under the FAO Technical Assistance Programme. The database has been designed to integrate information on the conservation status of species, habitat types, biogeographical regions, administrative units and specific protected areas. The software has been written in dbase III programming language which is an adapted and modified version of Mass-2 (Mackumon-Ali Software system).

The basis of the database is to classify biogeographical units by habitat types, monitor the fate of those habitats (how much remains, how much is protected) and link in species distribution data, protected area data and species by locality data collected in the field.

The system is thus programmed to accept data on the distribution of species and habitat types used by species, the overall distribution and rate of loss of different vegetation types, location and management details of all the protected areas, qualitative species lists for any location and detailed quantified census records wherever actual counts of animal numbers have been made. The database system is designed to bring together the most up-to-date vegetation classification system of the sub-continent which combines the three existing classifications now in use namely the forest type classification of Champion and Seth,

the vegetation series classification of Meyer-Homji and the forest cover classification of the Forest Survey of India. A simple 3 digit code has been devised to classify any vegetation according to all 3 of these separate classification systems.

The system contains 3 main programmes called respectively INGEST, DIGEST and EGEST. INGEST controls the inputting of new data into the system. EGEST provides direct output from the system and DIGEST consists of internal computation and re-adjustments of a variety of related field values.

Three additional auxiliary programmes are LIBHUNT which allows the user to locate references using authors, dates, publications, keywords or bibliographic codes as guides, LIBTIDY which tides up reference entries after new additions have been made to the bibliographic database and TRANSFER which converts census databases into standard data format files for analysis under the SPSS statistical programme.

The system allows for data to be entered ~~into the system~~ *in* databases in variety of different formats controlled by user friendly menus. In addition to this several security features have been incorporated to minimise the entry of incorrect data such as spelling mistakes, impossible sightings or unwarranted abundance estimates.

Mapping facilities through means of Plotter and Digitizer together with appropriate software (autocad and GIS systems) are being added to enable the database to

store a lot of information in a map form as coordinate files. This will enhance the type of output generated by the database and species print out could then be accompanied by a map showing the overall distribution of the species, the location from which it is confirmed and the distribution of protected areas in which the system is protected.

At present the database contains information on over 500 protected areas in the country including the proposed ones alongwith the distribution and habitat data for all mammal species, 3 selected families of butterflies (Nyamphalidae, Danaidae and Papillionidae), most reptile species and most resident families of birds, each class occupying a separate database. The database system allows for holding of 99 separate databases on the same system so that there is a potential to open databases on many other groups of wildlife - fish, beetles, orchids and other plant groups of conservation interests.

Two faculty members, Shri V.B.Mathur and Dr.G.S.Rawat have worked as Indian Counterparts to FAO Expert Dr. J.Macknonon and have been trained in various aspects of the computerized database system.

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Appendix 1

Structure and completed example of SPECHAB file.

Structure for database: C:\spechab1.dbf

Number of data records: 293

Date of last update : 04/24/87

Field	Field Name	Type	Width	Dec	Record No.	25
1	NAME	Character	25		NAME	Melursus ursinus
2	ENGLISH	Character	22		ENGLISH	Sloth Bear
3	FAMILY	Character	20		FAMILY	Ursidae
4	CLASS	Character	12		CLASS	Mammalia
5	SPECNUMBER	Numeric	4		SPECNUMBER	25
6	BIOUNIT	Character	100		BIOUNIT	,03b,14-,13-,11-,08a
7	HABITAT	Character	100		HABITAT	,TMD,TTF,TDD,
8	UPPERALT	Numeric	4		UPPERALT	0
9	LOWERALT	Numeric	4		LOWERALT	0
10	RESERVES	Character	200		RESERVES	, 1, 10, 20, 12, 16
11	STATE	Character	200		STATE	,KAR,KER, ,ASS,UPP
12	ENDEMIC	Character	3		ENDEMIC	
13	END	Character	1		END	
14	RDBSTATUS	Character	1		RDBSTATUS	I
15	COMPSTATUS	Character	1		COMPSTATUS	
16	PROTECTED	Character	1	2	PROTECTED	
17	PROTCOUNTR	Character	20	2	PROTCOUNTR	
18	SCHEDULE	Character	1		SCHEDULE	2
19	CITESHED	Character	1		CITESHED	
20	RESSTATUS	Character	1		RESSTATUS	R
21	ABUNDANCE	Numeric	1		ABUNDANCE	4
22	MEANAB	Numeric	4		MEANAB	4.00
23	DENSITY	Numeric	6		DENSITY	0.20
24	PROTPOP	Numeric	8		PROTPOP	3519
25	OUTPOP	Numeric	8		OUTPOP	4981
26	POPEXPECT	Numeric	8		POPEXPECT	8500
27	TROPHIC	Character	1		TROPHIC	
28	SIZE	Character	1		SIZE	
29	BIBLIO	Character	50		BIBLIO	
30	PROB	Numeric	1		PROB	0
31	THREATS	Character	20		THREATS	,P,H,
** Total **			830			

Appendix 2

Structure and completed example of UNITHAB file

Structure for database: C:\unithab1.dbf

Number of data records: 111

Date of last update : 04/24/87

Field	Field Name	Type	Width	Dec
1	VEGETATION	Character	3	
2	COUNTRY	Character	2	
3	BIOUNIT	Character	3	
4	ORIGAREA	Numeric	7	
5	REMAREA	Numeric	7	
6	REMPERCENT	Numeric	3	
7	PROTAREA	Numeric	6	
8	PROTPERCNT	Numeric	4	1
9	PROPAREA	Numeric	6	
10	PROPPERCNT	Numeric	4	1
11	HABNO	Numeric	3	
12	STATE	Character	3	
13	THREATCAT	Character	1	
** Total **			53	

. edit 40

Record No.	40
VEGETATION	SDE
COUNTRY	IN
BIOUNIT	-Ha
ORIGAREA	1600
REMAREA	500
REMPERCENT	31
PROTAREA	300
PROTPERCNT	18.8
PROPAREA	0
PROPPERCNT	0.0
HABNO	0
STATE	
THREATCAT	E

Appendix 3

Structure and completed example of RESHAB file.

Structure for database: C:\reshab3.dbf

Number of data records: 38

Date of last update : 04/25/87

Field	Field Name	Type	Width	Dec	Record No.	2
1	NAME	Character	20		NAME	Bandipur NP
2	RESNUMBER	Numeric	3		RESNUMBER	1
3	LOCNUMBER	Character	4		LOCNUMBER	L001
4	BIUNIT	Character	3		BIUNIT	01-
5	COUNTRY	Character	12		COUNTRY	INDIA
6	STATE	Character	15		STATE	Karnataka
7	STATCAT	Character	15		STATCAT	NATIONAL PARK
8	NATCODE	Character	10		NATCODE	KAR/NP/BAN
9	DATE	Date	8		DATE	06/05/74
10	LOWALT	Numeric	4		LOWALT	780
11	UPPERALT	Numeric	4		UPPERALT	1450
12	ALT	Character	12		ALT	780-1450
13	CATEGORY	Character	1		CATEGORY	2
14	MAB	Character	1		MAB	
15	WHSITE	Character	1		WHSITE	
16	GAZETTED	Character	2		GAZETTED	T
17	BIBLIO	Character	30		BIBLIO	96200, 11310, 11222, 11
18	TOTAREA	Numeric	8	1	TOTAREA	874.0
19	HABITAT1	Character	3		HABITAT1	TMD
20	AREA1	Numeric	8	1	AREA1	674.0
21	HABITAT2	Character	3		HABITAT2	TSE
22	AREA2	Numeric	8	1	AREA2	50.0
23	HABITAT3	Character	3		HABITAT3	
24	AREA3	Numeric	8	1	AREA3	0.0
25	HABITAT4	Character	3		HABITAT4	
26	AREA4	Numeric	8	1	AREA4	0.0
27	HABITAT5	Character	3		HABITAT5	
28	AREA5	Numeric	8	1	AREA5	0.0
29	HABITAT6	Character	3		HABITAT6	
30	AREA6	Numeric	8	1	AREA6	0.0
31	SURVEYED	Character	1		SURVEYED	Y
32	MANEFF	Character	1		MANEFF	1
33	MANPLAN	Character	1		MANPLAN	Y
34	STAFF	Numeric	3		STAFF	45
35	BUDGET	Numeric	7		BUDGET	250000
36	CCODE	Character	2		CCODE	IN
37	SCODE	Character	3		SCODE	KAR
38	VEHICLES	Character	2		VEHICLES	6
39	BUILDINGS	Character	2		BUILDINGS	20
40	ACCOMODAT	Numeric	4		ACCOMODAT	13
41	VISITORS	Numeric	5		VISITORS	57865
42	TIGER_RES	Character	1		TIGER_RES	Y
43	ZONED	Character	1		ZONED	Y
44	ZONES	Character	30		ZONES	BUFF, CORE, VIS,
45	GRIDS	Character	20		GRIDS	,7612,
46	LONGIT	Numeric	5	2	LONGIT	76.30
47	LATIT	Numeric	5	2	LATIT	12.30
48	COORDINATS	Character	250		COORDINATS	
49	LASTUPDATE	Date	8			
** Total **			571			

LASTUPDATE 06/04/87

Appendix 5

Structure and completed examples of SPECLOC and CENSUS files.

Structure for database: C:specloc1.dbf

Number of data records: 298

Date of last update : 04/24/87

Field	Field Name	Type	Width	Dec	Record No.	22
1	SPECIES	Character	30		SPECIES	Cuon alpinus
2	L001	Numeric	1		L001	4
3	L002	Numeric	1		L002	8
4	L003	Numeric	1		L003	4
5	L004	Numeric	1		L004	4
6	L005	Numeric	1		L005	1
7	L006	Numeric	1		L006	1
8	L007	Numeric	1		L007	1
9	L008	Numeric	1		L008	4
10	L009	Numeric	1		L009	1
11	L010	Numeric	1		L010	4
12	L011	Numeric	1		L011	
13	L012	Numeric	1		L012	1
14	L013	Numeric	1		L013	1
15	L014	Numeric	1		L014	4
16	L015	Numeric	1		L015	1
17	L016	Numeric	1		L016	1
18	L017	Numeric	1		L017	
19	L018	Numeric	1		L018	
20	L019	Numeric	1		L019	1
21	L020	Numeric	1		L020	4
22	L021	Numeric	1			
23	L022	Numeric	1			
24	L023	Numeric	1			
25	L024	Numeric	1			
26	L025	Numeric	1			
27	L026	Numeric	1			

Structure for database: C:census1.dbf

Number of data records: 423

Date of last update : 04/24/87

Field	Field Name	Type	Width	Dec	Record No.	2
1	RESERVE	Character	20		RESERVE	Bandipur
2	STATE	Character	3		STATE	KAR
3	YEAR	Numeric	2		YEAR	80
4	MONTH	Numeric	2		MONTH	0
5	SPECIES	Character	30		SPECIES	Elephas maximus
6	ENGLISH	Character	30		ENGLISH	Elephant
7	SAMPLEAREA	Numeric	8	2	SAMPLEAREA	690.00
8	HABTYPE	Character	5		HABTYPE	TDD
9	ESTIMATE	Numeric	8		ESTIMATE	1195
10	DENSITY	Numeric	6	2	DENSITY	1.73
11	METHOD	Character	10		METHOD	TOTAL
12	AUTHORITY	Character	20		AUTHORITY	PARK
13	RAINFALL	Numeric	4		RAINFALL	600
14	LONGITUDE	Numeric	4		LONGITUDE	76
15	LATITUDE	Numeric	4		LATITUDE	12
16	ALTITUDE	Numeric	5		ALTITUDE	800
17	UNITWT	Numeric	4		UNITWT	1810
18	BIOMASS	Numeric	5		BIOMASS	3131

** Total **

171

Appendix 6

Example Species print out.

STATUS SUMMARY FOR *Presbytis johni* Nilgiri Langur

DISTRIBUTED IN BIDUNITS :- ,01-,

OCCUPIES HABITATS :- ,TWE,TSE,

EVALUATION OF HABITAT STATUS (areas given in square kms.)

Unit	Coun-try	State	Vegtn. type	Origin. area	Remain. area	Rem.%	Protect. area	Prot.%	Propos. area	Prop.%
01-	IN		TWE	28000	14011	50	1196	4.3	185	0.7
01-	IN		TSE	22000	18298	83	943	4.3	400	1.8
TOTALS				50000	32309	65	2139	4.3	585	1.2

% original habitat lost = 35.4
 % original habitat protected = 4.3
 % original habitat proposed = 1.2
 % remaining habitat protected = 6.6
 Expected protected population = 1151
 Expected total population = 9270
 %age population protected = 12
 Red Data Book Status = V
 Computer assigned status =
 Species listed on Indian schedule 2

Nilgiri Langur IS EXPECTED/CONFIRMED IN THE FOLLOWING AREAS

Name	Country	State	Total Area	Confirmed	Status
Bhagwan Mahavir	IN	GOA	107.0		5
Brahmagiri WS	IN	KAR	181.0		5
Idukki	IN	KER	70.0		5
Kalakad	IN	TNA	223.0		5
Mudumalai WS	IN	TNA	321.0		5
Mukambika	IN		247.0		5
Mundanthurai	IN	TNA	567.0	*	4
Nagarhole	IN	KAR	571.0		5
Neyyar	IN	KER	128.0		5
Parambikulam	IN	KER	270.0		5
Parambikulam FR	IN	KER	500.0		5
Peppara	IN	KER	53.0		5
Periyar	IN	KER	777.0	*	5
Shettially	IN	KAR	396.0		5
Silent Valley	IN	KER	90.0	*	4
Someshwara	IN	KAR	88.0		5
Chimony			0.0		5
Shendurang WS	IN	KER	0.0		5
Thattekkadu			0.0		5

BIBLIOGRAPHY

Appendix 7

Example print out for a Protected Area.

SUMMARY FOR PROTECTION AREA Silent Valley

BIUNIT :- 01-
 STATE :- KER Kerala
 NATIONAL CODE :- KER/NP/SIL
 STATE CATEGORY :- NATIONAL PARK
 IUCN CATEGORY :- 2
 DATE ESTABLISHED :- / /
 TOTAL AREA :- 90.0 square kms.
 ALTITUDINAL RANGE :- 1000-3015 m.a.s.l.

THE RESERVE CONTAINS THE FOLLOWING VEGETATION TYPES :-

Vegetation Code	Area	Vegetation Status
TWE	85.0	V
TMD	5.0	

Scientific Name	English Name	Poss	Prob	Conf	End	Thr	Abund
Loris tardigradus	Slender Loris	*					5
Macaca radiata	Bonnet Macaque	*					4
Macaca silenus	Lion-tailed Macaque		*		*	E	4
Presbytis entellus	Grey Langur	*					5
Presbytis johni	Nilgiri Langur			*	*	V	4
Canis aureus	Jackal	*					4
Vulpes bengalensis	Indian Fox	*					3
Cuon alpinus	Dhole/Wild Dog			*		V	4
Melursus ursinus	Sloth Bear			*		I	4
Lutra perspicillata	Smooth Indian Otter	*					4
Viverricula indica	Small Indian Civet	*					5
Viverra megaspila	Malabar Civet	*			*	V	4
Paradoxurus hermaphroditus	Common Palm Civet	*					4
Paradoxurus jerdoni	Brown Palm Civet	*					4
Herpestes edwardsi	Common Mongoose			*			5
Herpestes fuscus	Brown Mongoose	*					4
Herpestes smithi	Ruddy Mongoose			*			5
Herpestes vitticollis	Striped-necked Mongoos	*					4
Felis viverrina	Fishing Cat	*					4
Panthera tigris	Tiger		*				4
Panthera pardus	Leopard		*				4
Elephas maximus	Asian Elephant			*		E	4
Sus scrofa	Wild boar			*			5
Tragulus meminna	Spotted Chevrotain			*			4
Muntiacus muntjak	Barking Deer			*			4
Cervus axis	Chital	*					5
Cervus unicolor	Sambar			*			5
Bos gaurus	Gaur			*		V	4
Hemitragus hylocrius	Nilgiri Tahr			*	*	E	4
Manis crassicaudata	Indian Pangolin			*		V	4
Paraechinus micropus	Indian Hedgehog	*					5
Suncus dayi		*					7

Appendix 8

Example print out for a State.

PROTECTION SUMMARY FOR STATE GUJ Gujarat

Biounit	Vegtn.	Origin. area	Remain. area	Rem.%	Protect. area	Prot.%	Propos. area	Prop.%
15b	MNV	2800	306	11	120	4.3	0	0.0
15b	SMV	3900	0	0	621	15.9	0	0.0
15b	SSM	19500	0	0	4200	21.5	0	0.0
08d	TDD	4000	1455	36	700	17.5	0	0.0
08d	TTF	19000	1072	6	700	3.7	0	0.0
15b	TTF	6320	2480	39	1707	27.0	0	0.0
15d	MNV	1000	250	25	0	0.0	0	0.0
15d	TDD	3000	600	20	206	6.9	0	0.0
TOTALS		59520	6163	10	8254	13.9	0	0.0

% original habitat lost = 89.6
 % original habitat protected = 13.9
 % original habitat proposed = 0.0
 % remaining forest protected = ****

PROTECTED AREAS OF STATE GUJ Gujarat

Name	Country	State	Category	Gazetted	Total Area (sq.kms.)
Barda WS	IN	GUJ	4	T	192.0
Dhrangadhra S	IN	GUJ	4	T	4840.0
Jessore Sloth Bear	IN	GUJ	4	T	180.0
Narayan Sarovar	IN	GUJ	4	T	307.0
Gir NP	IN	GUJ	2	T	359.0
Gir S.	IN	GUJ	4	T	1053.0

STATE GUJ CONTAINS THE FOLLOWING ENDANGERED SPECIES

Scientific Name	English Name	Red Data Book Status
<i>Panthera leo</i>	Asiatic Lion	E

STATE GUJ CONTAINS THE FOLLOWING PROTECTED SPECIES:-

Scientific Name	English Name	Protected Countries
<i>Panthera leo</i>	Asiatic Lion	, IN,
<i>Panthera pardus</i>	Leopard	, IN,
<i>Equus hemionus</i>	Wild Ass	, IN, PK,
<i>Tetracerus quadricornis</i>	Four-horned Antelope	, IN,
<i>Antilope cervicapra</i>	Blackbuck	, IN,
<i>Gazella dorcas</i>	Chinkara	, IN,

BIBLIOGRAPHY

Berwick, S. & Jordon, P.A. 1971. First Report of the Yale-Bombay Natural History Society Studies of Wild Ungulates at the Gir Forest, Gujarat. . .
 Bomb.Nat.Hist.Soc. 68 : 412-23 .

Suncus etruscus	Pygmy W-t. Shrew	*	6
Suncus murinus	House Shrew	*	7
Suncus stoliczkanus		*	6
Rousettus leschenaulti	Fulvous Fruit Bat	*	7
Pteropus giganteus	Indian Flying Fox	*	5
Cynopterus sphinx	Short-nosed Fruit Bat	*	7
Latidens salimali	Salim Ali's Fruit Bat	*	5
Taphozous longimanus	Long-winged Tomb Bat	*	5
Taphozous melanopogon	Black-bearded Tomb Bat	*	6
Taphozous theobaldi	Theobald's Tomb Bat	*	4
Taphozous saccolaimus		*	5
Rhinolophus rouxi		*	5
Hipposideros armiger	Himal. Leaf-nosed Bat	*	7
Hipposideros bicolor	Bicolored Leaf-nosed B	*	6
Hipposideros galeritus	Cantor's Leaf-nosed B.	*	6
Hipposideros jonesi	Jones's Leaf-nosed Bat	*	6
Myotis montivagus	Burmese Whiskered Bat	*	5
Myotis peshwa		*	6
Pipistrellus mordax		*	5
Scotophilus heathi	Gt. Yellow Housebat	*	6
Kerivoula hardwickei	Hardwicke's Forest Bat	*	6
Kerivoula picta	Fainted Bat	*	6
Tadarida plicata	Wrinkle-lipped Bat	*	5
Otomops wroughtoni	Wroughton's Bat	*	5
Funambulus layardi	Dusky Striped Squirrel	*	6
Funambulus sublineatus	Dusky Striped Squirrel	*	6
Funambulus tristriabus		*	6
Ratufa indica	Indian Giant Squirrel	*	6
Ratufa macroura	Griz. Giant Squirrel	*	6
Petaurista petaurista	Red Giant Fly.Squirrel	*	5
Hylometes fuscocapillus	Travan. Fly. Squirrel	*	5
Platacanthomys lasiurus	Malabar Spiny Dormouse	*	5
Rattus norvegicus	Brown Rat	*	7
Rattus rattus	House Rat	*	7
Mus famulus		*	6
Mus musculus	House Mouse	*	7
Bandicota bengalensis	Indian Mole-Rat	*	6
Bandicota indica	Greater Bandicoot Rat	*	7
Vandeleuria oleracea	Palm Mouse	*	6
Lepus nigricollis	Black-naped Hare	*	5

Confirmed Total Species =	13
% Endemism in Confirmed Species =	15.4
Total Confirmed Species Threatened =	7
Probable Total Species =	16
% Endemism in probable Species =	18.8
Total Probable Species Threatened =	8

Management Plan not Completed
Current Staff = 0
Current Annual Budget = Rp. 0
Number of Reserve Buildings =
Total Accomodation = 0 Rooms
Annual Visitor Level = 0
Number of Reserve Vehicles =

BIBLIOGRAPHY

Appendix 9

Example print out for a Biounit.

CONSERVATION SUMMARY FOR BIOUNIT 01-

HABITAT EVALUATION

Country	State	Vegtn. area	Origin. area	Remain. area	Rem.%	Protect. area	Prot.%	Propos. area	Prop.%
IN	TWE	28000	14011	50	1196	4.3	185	0.7	
IN	MWT	4000	1148	29	50	1.3	0	0.0	
IN	SBH	4000	1378	34	191	4.8	0	0.0	
IN	TSE	22000	18298	83	943	4.3	400	1.8	
IN	TMD	128000	28404	22	8208	6.4	5	0.0	
TOTALS		186000	63239	34	10588	5.7	590	0.3	

% original habitat lost = 66.0
 % original habitat protected = 5.7
 % original habitat proposed = 0.3
 % remaining forest protected = 16.7

PROTECTED AREAS OF BIOUNIT 01-

Name	Country	State	Category	Gazetted	Total Area
Anamailai	IN	TNA	4	T	955.0
Bandipur NP	IN	KAR	2	T	874.0
Bhadra	IN	KAR	4	T	506.0
Bhagwan Mahavir	IN	GOA	4	T	107.0
Borivali NP	IN	MAH	2	T	68.0
Brahmagiri WS	IN	KAR	4	T	181.0
Cotigoa WS	IN	GOA	4	T	105.0
Dandeli	IN	KAR	4	T	5729.0
Eravikulam NP	IN	KER	2	T	97.0
Idukki	IN	KER	4	T	70.0
Kalakad	IN	TNA	4	T	223.0
Mudumalai WS	IN	TNA	4	T	321.0
Mukambika	IN		4	T	247.0
Mundanthurai	IN	TNA	4	T	567.0
Nagarhole	IN	KAR	4	T	571.0
Neyyar	IN	KER	4	T	128.0
Nilgiri Tahr	IN	TNA	4	T	78.0
Parambikulam	IN	KER	4	T	270.0
Parambikulam FR	IN	KER	6	T	500.0
Peppara	IN	KER	4	T	53.0
Periyar	IN	KER	2	T	777.0
Peechi Vazhani	IN	KER	4	T	125.0
Sanjay Gandhi	IN	MAH	2	T	95.0
Shettially	IN	KAR	4	T	396.0
Sharavathi Vallley	IN	KAR	4	T	431.0
Silent Valley	IN	KER	2	T	90.0
Someshwara	IN	KAR	4	T	88.0
Tansa	IN	MAH	4	T	216.0
Wynard	IN	KER	4	T	344.0
Aralan					0.0
Chimony					0.0
Chinner WS					0.0
Shendurang WS	IN	KER			0.0
Thattekkadu					0.0

Scientific Name	English Name	RDB Status
<i>Macaca silenus</i>	Lion-tailed Macaque	E
<i>Presbytis johni</i>	Nilgiri Langur	V
<i>Cuon alpinus</i>	Dhole/Wild Dog	V
<i>Melursus ursinus</i>	Sloth Bear	I
<i>Viverra megaspila</i>	Malabar Civet	V
<i>Elephas maximus</i>	Asian Elephant	E
<i>Bos gaurus</i>	Gaur	V
<i>Hemitragus hylocrius</i>	Nilgiri Tahr	E
<i>Manis crassicaudata</i>	Indian Pangolin	V

BIOUNIT 01- IS USED BY THE FOLLOWING PROTECTED SPECIES :-

Scientific Name	English Name	Protected Countries
<i>Loris tardigradus</i>	Slender Loris	, IN, SL,
<i>Macaca silenus</i>	Lion-tailed Macaque	, IN,
<i>Vulpes bengalensis</i>	Indian Fox	, IN,
<i>Viverra megaspila</i>	Malabar Civet	, IN,
<i>Felis viverrina</i>	Fishing Cat	, IN,
<i>Panthera tigris</i>	Tiger	, IN,
<i>Panthera pardus</i>	Leopard	, IN,
<i>Elephas maximus</i>	Asian Elephant	, IN,
<i>Tragulus meminna</i>	Spotted Chevrotain	, IN,
<i>Tetracerus quadricornis</i>	Four-horned Antelope	, IN,
<i>Hemitragus hylocrius</i>	Nilgiri Tahr	, IN,
<i>Manis crassicaudata</i>	Indian Pangolin	, IN,
<i>Petaurista petaurista</i>	Red Giant Fly.Squirrel	, IN,
<i>Hylopetes fuscicapillus</i>	Travan. Fly. Squirrel	, IN,

Appendix 10

Example print out for a Habitat Type.

HABITAT SUMMARY FOR HABITAT TWE (areas in square kms.)

Unit	Country	State	Origin. area	Remain. area	Rem.%	Protect. area	Prot.%	Propos. area	Prop.%
03b	BA		1000	200	20	0	0.0	0	0.0
03c	BA		1000	100	10	0	0.0	100	10.0
03c	BU		6000	1000	17	0	0.0	0	0.0
01-	IN		28000	14011	50	1196	4.3	185	0.7
03b	IN		17000	12356	73	170	1.0	0	0.0
03c	IN		25000	8804	35	750	3.0	0	0.0
02-	SL		14500	50	0	200	1.4	50	0.3
TOTALS			92500	36521	39	2316	2.5	335	0.4

% original habitat lost = 60.5
 % original habitat protected = 2.5
 % original habitat proposed = 0.4

HABITAT TWE IS PROTECTED IN THE FOLLOWING RESERVES:-

Name	Country	State	Category	Gazetted	Habitat Area	Total Area
Bhagwan Mahavir	IN	GOA	4	T	57.0	107.0
Brahmagiri WS	IN	KAR	4	T	90.0	181.0
Kalakad	IN	TNA	4	T	31.0	223.0
Mukambika	IN		4	T	50.0	247.0
Mundanthurai	IN	TNA	4	T	540.0	567.0
Nagarhole	IN	KAR	4	T	51.0	571.0
Neyyar	IN	KER	4	T	60.0	128.0
Parambikulam	IN	KER	4	T	40.0	270.0
Parambikulam FR	IN	KER	6	T	100.0	500.0
Periyar	IN	KER	2	T	150.0	777.0
Silent Valley	IN	KER	2	T	85.0	90.0
Someshwara	IN	KAR	4	T	22.0	88.0
Sinharaja	SL		8	T	50.0	200.0
Crocodile S.	IN	A&N	4	T	20.0	102.0
Middle Butten	IN	A&N	4	T	24.0	44.0
Mount HarrietNP	IN		4	T	30.0	46.0
North Butten NP	IN	A&N	4	T	24.0	44.0
Saddle Peak	IN	A&N	2	T	10.0	33.0
Kaziranga	IN	ASS	2	T	80.0	430.0
Pakhui WS	IN	ARU	4	T	40.0	86.0
Poha WS	IN		4	T	50.0	50.0
Teknaf	BA		8	T	100.0	116.0
Dampa WS	IN		4	T	700.0	973.0
Itangki WS	IN	NAG	4	T	50.0	202.0
Chimony					0.0	0.0
Shendurang WS	IN	KER			0.0	0.0
Thattekkadu					0.0	0.0
Keibul Lamjao	IN	MAN	2	Y	10.0	40.0

HABITAT TWE IS USED BY THE FOLLOWING ENDANGERED SPECIES:-

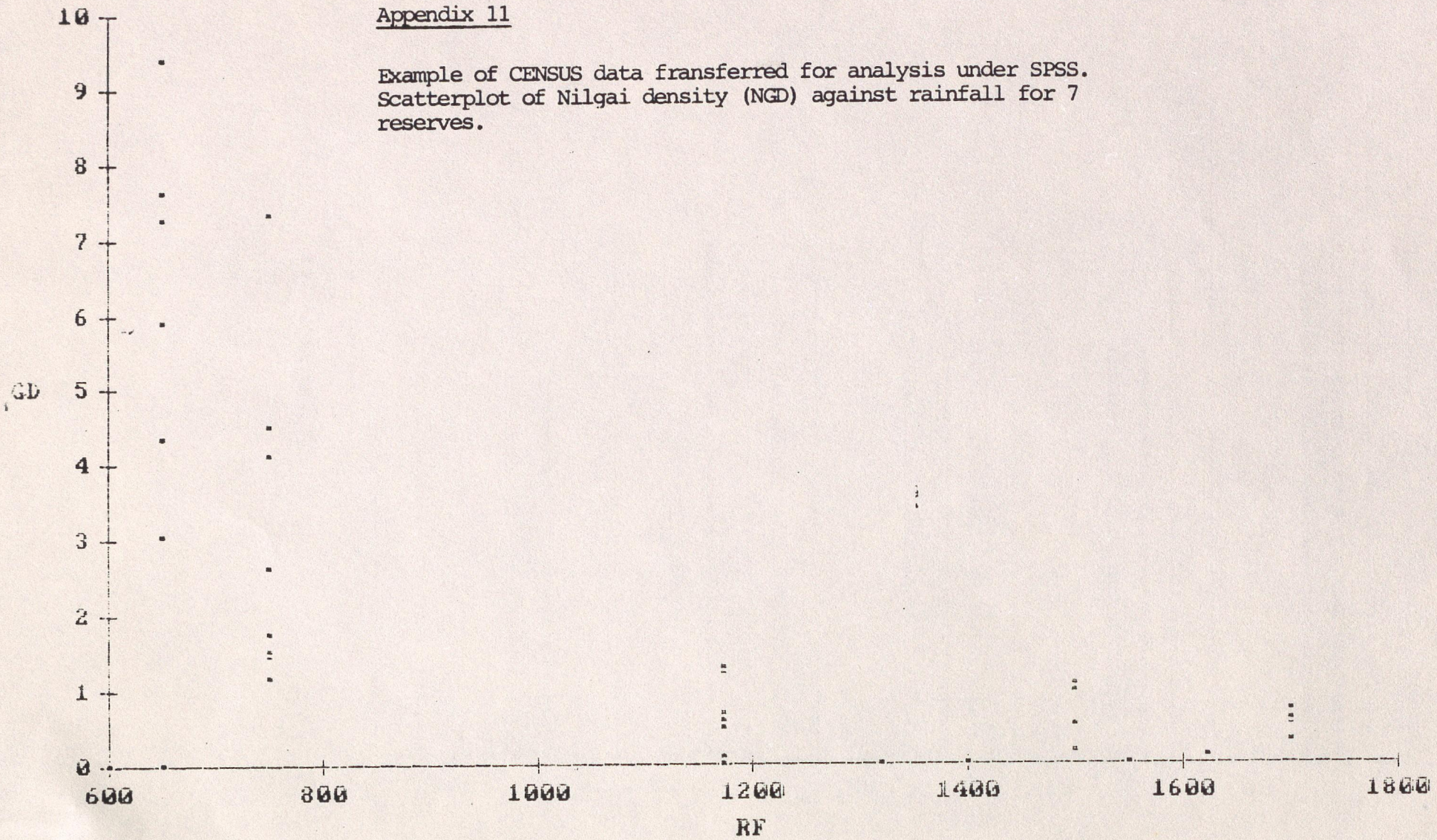
Scientific Name	English Name	Red Data Book Status
<i>Macaca silenus</i>	Lion-tailed Macaque	E
<i>Presbytis geei</i>	Golden Langur	V
<i>Presbytis johni</i>	Nilgiri Langur	V
<i>Presbytis phayrei</i>	Phayre's Langur	I
<i>Cuon alpinus</i>	Dhole/Wild Dog	V
<i>Elephas maximus</i>	Asian Elephant	E
<i>Bos gaurus</i>	Gaur	V
<i>Hemitragus hylocrius</i>	Nilgiri Tahr	E
<i>Manis crassicaudata</i>	Indian Pangolin	V

HABITAT TWE IS USED BY THE FOLLOWING PROTECTED SPECIES:-

Scientific Name	English Name	Protected Countries
<i>Loris tardigradus</i>	Slender Loris	, IN, SL,
<i>Nycticebus coucang</i>	Slow Loris	, IN,
<i>Macaca silenus</i>	Lion-tailed Macaque	, IN,
<i>Presbytis geei</i>	Golden Langur	, IN, BH,
<i>Presbytis phayrei</i>	Phayre's Langur	, IN,
<i>Presbytis pileata</i>	Pileated Langur	, IN,
<i>Presbytis vetulus</i>	Purple-faced Langur	, SL,
<i>Hylobates hoolock</i>	Hoolock Gibbon	, IN,
<i>Helarctos malayanus</i>	Malay Sunbear	, IN,
<i>Arctonyx collaris</i>	Hog-Badger	, IN,
<i>Prionodon pardicolor</i>	Spotted Linsang	, IN,
<i>Arctitis binturong</i>	Binturong	, IN,
<i>Felis bengalensis</i>	Leopard Cat	, IN,
<i>Felis temmincki</i>	Golden Cat	, IN,
<i>Felis viverrina</i>	Fishing Cat	, IN,
<i>Panthera tigris</i>	Tiger	, IN,
<i>Panthera pardus</i>	Leopard	, IN,
<i>Neofelis nebulosa</i>	Clouded Leopard	, IN,
<i>Felis marmorata</i>	Marbled Cat	, IN,
<i>Elephas maximus</i>	Asian Elephant	, IN,
<i>Tragulus meminna</i>	Spotted Chevrotain	, IN,
<i>Bos javanicus</i>	Banteng	, BU, IN,
<i>Capricornis sumatraensis</i>	Serow	, IN,
<i>Hemitragus hylocrius</i>	Nilgiri Tahr	, IN,
<i>Manis crassicaudata</i>	Indian Pangolin	, IN,
<i>Petaurista elegans</i>	Spotted Fly.Squirrel	, IN,
<i>Petaurista petaurista</i>	Red Giant Fly.Squirrel	, IN,
<i>Hylopetes fuscocapillus</i>	Travan. Fly. Squirrel	, IN,
<i>Hystrix hodgsoni</i>	Hodgson's Porcupine	, IN,

Appendix 11

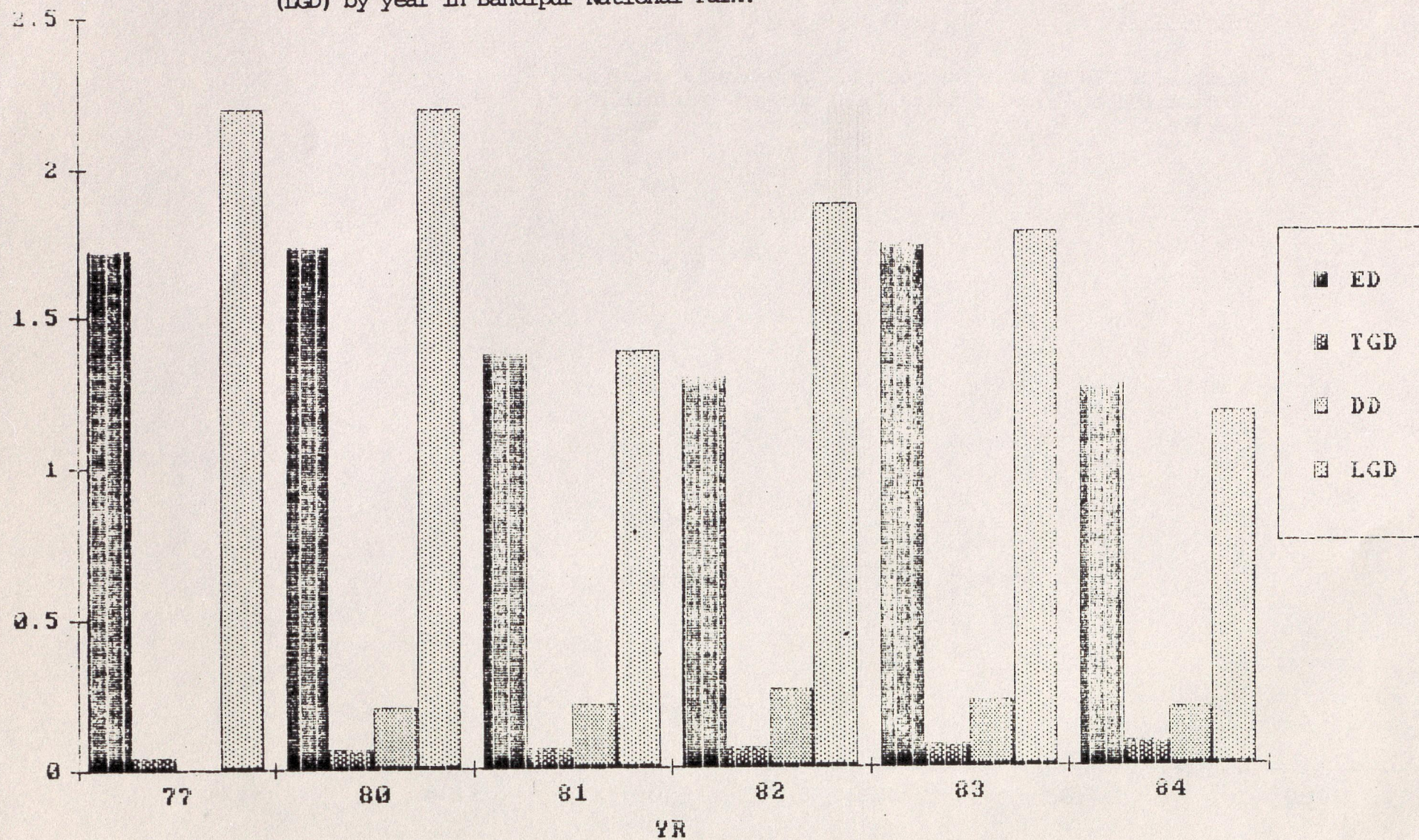
Example of CENSUS data transferred for analysis under SPSS.
Scatterplot of Nilgai density (NGD) against rainfall for 7
reserves.



Appendix 12

Example of CENSUS data transferred to SPSS for analysis and display.

Plot Densities of elephants (ED), tigers (TGD), Dhole (DD) and Langur (LGD) by year in Bandipur National Park.



DATABASE FILES

①

RESHAB SPECHAB SPECLOC UNITHAB CENSUS

DATABASE PROGRAMMES

②

INGEST

DIGEST

EGEST

INGEST PROG:

"DO YOU WANT TO INITIALIZE A NEW DATABASE" Y/N

"PLEASE ENTER THE NUMBER OF DATABASE TO USE" 2

"DATABASE 2 ALREADY EXISTS. SORRY UNABLE TO
USE THIS NUMBER. PLEASE TRY AGAIN"

"DO YOU WISH TO SEE LIST OF DATABASES" Y/N

NAME	NUMBER
INDIAN MAMMALIA	1
INDIAN AVES	2
INDIAN AMPHIBIA	3
INDIAN REPTILIA	4
INDIAN LEPIDOPTERA	5

3

INGEST MENU

DO YOU WANT TO:-

1. INPUT RESERVE/HABITAT DATA?
2. INPUT BIUNIT/HABITAT DATA?
3. INPUT SPECIES DISTRIBUTION/STATUS DATA?
4. INPUT LOCALITY/SPECIES DATA?
5. INPUT SPECIES CENSUS DATA?
6. EXIT FROM INGEST?

ENTER YOUR CHOICE (1-6) FROM ABOVE

4

INPUT LOCALITY/SPECIES DATA

ENTER LOCALITY NAME: SILENT VALLEY

HOW MANY SPECIES DO YOU WANT TO ENTER: 5

ENTER SPECIES NAME: *Macaca assamensis*

ENTER ABUNDANCE CODE: 5

SPECIES NOT EXPECTED HERE. REVISE SPECIES
DISTRIBUTION DATA. OTHERWISE REJECT RECORD.

EGEST PROG:

PLEASE ENTER NUMBER OF DATABASE IN USE.

DO YOU WANT OUTPUT TO PRINTER? Y/N

EGEST MENU:

DO YOU WISH TO

1. OUTPUT SPECIES SUMMARY
2. OUTPUT RESERVE SUMMARY
3. OUTPUT HABITAT SUMMARY
4. OUTPUT BIOUNIT SUMMARY
5. OUTPUT STATE SUMMARY
6. RUN BIBLIOGRAPHY SEARCH
7. LIST SPECIES BY BIOUNIT/HABITAT

ENTER YOUR CHOICE (1-8) FROM ABOVE