

Feb '77



Oct '77



Nov '77



Dec '77



May '78

Mar '76

2 Feb 77

Date - 2 Feb 1977

Sexing of 12 C. palustris at NZP, Hyderabad AP.

Method - Cloacal probing - Time 11 AM

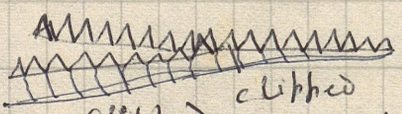
Sl no of Muggers	Head length Snout tip to base of mandible	Snout to Vent	Vent to Tail	Total Length	Wt	Sex
1	18	56	52	108	5 kg	♀
2	25	73	65	138	12 kg	♀
3	22	65	56	121	9 kg	♀
4	20	57	51	108	6 kg	♀
5	19	57	52	109	6 kg	♀
6 died	19 died	57 died	53 died	110	6 kg	♀
7	20	57	54	111	6 kg	♂
8	17	50	48	98	5 kg	♂
9	21	60	53	113	6.5	♂
10	17	50	50	100	4.5	♂
11	19	63	54	117	7.5	♀
12	14	39	42	81	2.5	♀

All males clipped last dC scute 

Selected for Etipothala Falls release no's 1, 5, 7 & 11
♀ ♀ ♂ ♀

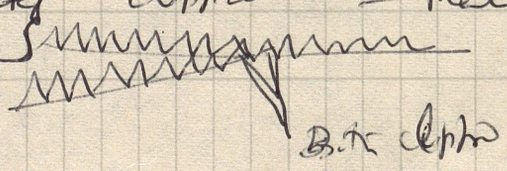
to be Released on 8 Feb 1977 Evening 5.30 PM in Etipothala Falls of Chandrasekhar & Nakala vagu 22 km East of Nagarjuna Sagar dam.

Clipping Codes

Etipothala release Code 

First SC Single Caudal Scute clipped - All four (male & female)

last double caudal scute clipped - Male only)

& first single caudal scute 

13.2.77

First Captive reared Mugger (Crocodylus palustris) Release in Etipothala Falls of Andhra Pradesh

Date of Release - 8 Feb 1977

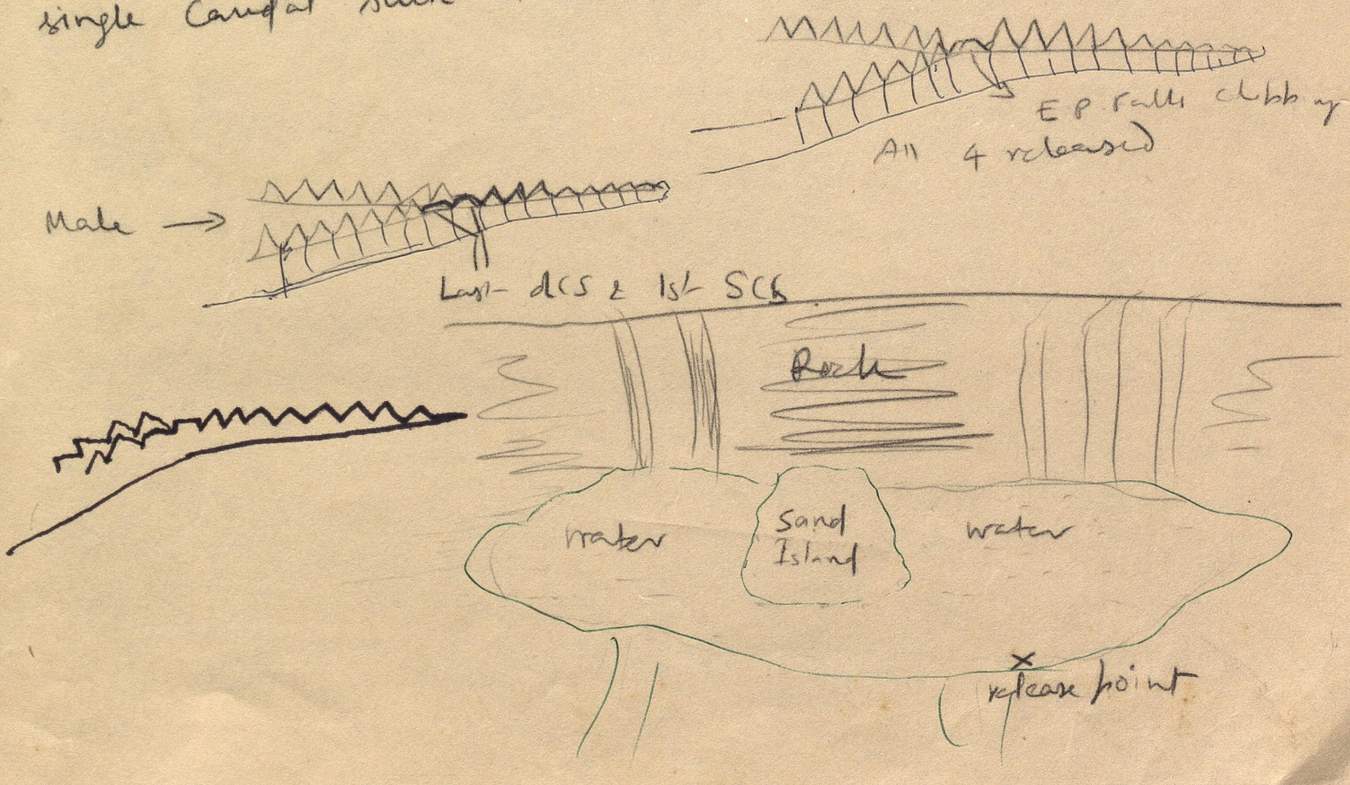
Time of release - 5.30 PM

Place of release and details - Etipothala falls (70ft) on the Chandranka and Nakala Vagu 22KM east of Nagarjuna-Sagar. Below the falls two deep pools of about 2½ acre dimension once inhabited by 3 pairs of Muggers offered a good release point. No fishing here makes it more ideal. Excess water of the deep pool flows down and joins the river KRISHNA about 2KM downstream where there are reports of a single mugger is recorded during the survey (Dec 1976).

AGE, SIZE & SEX OF RELEASED MUGGERS.

	Age	Size (Length)	Weight	Sex	Clipping Codes
1	20 months (Approx)	108 cm	5 kg	♀	1st Single Caudal Scute
2	"	109 cm	6 kg	♀	Do
3	"	111 cm	6 kg	♂	Last double caudal scute and 1st single caudal scute
4	"	117 cm	7.5 kg	♀	1st single caudal scute

All the four muggers releases had been clipped of the 1st single caudal scute to denote the release point (E.P. Falls)



Observation on 9.2.77 (9.00 AM to 12.30 PM).

16 hours after the release, during 3½ hours of observation one female mugger could be located on the Eastern side of release point near the sand island. Since the sunlight does not fall on the sand island (the sun being more towards the southern horizon) the other three might have choosen a basking area in the sunlight which could be observed from the top of the waterfall.

PROBLEMS & SUGGESTIONS

1. Watchers to prevent visitors to the pool:- Appointment of local Lambadi people is good but visitors tend to ignore them. The priest of the local temple may be asked to help on all working days and on Sunday (rush day of visitors) a forest guard be deputed to the Etipothala falls to help.

2. Small huts/sheds for Lambadi watchers may be necessary

3. The priest (literate) if provided with some remuneration may also help in recording the movements of the released muggers.

4. A bathing ghat be developed in consultation with the temple priest to prevent people going in to the pools below the falls.

13/2/77

FOOD & AGRICULTURE ORGANIZATION OF THE UNITED NATIONS 55 LODI ESTATE NEW DELHI-110003
TELEPHONE : 70410

Nehru Zoological Park,
Hyderabad. 500 002

17th February 1977

Mr Pushp Kumar,
Director,
Nehru Zoological Park,
Hyderabad. 500 002

Dear Pushp,

I have received a report from Mr Binod C.Choudhury and in which he makes several useful suggestions and conclusions. I am quoting the verbatim.

PROBLEMS & SUGGESTIONS

1. Watchers to prevent visitors to the pool: Appointment of local lambadi people is good but visitors tend to ignore them. The priest of the local temple may be asked to help on all working days and on Sundays (rush day of visitors) a forest guard be deputed to Ethipothalla falls to help.

2. Small hutments for lambadi watchers may be necessary.

3. The priest (literate) if provided with some remuneration may also help in recording the movements of the released muggars.

4. A bathing ghat be developed in consultation with the temple priest to prevent people going into the pools before the falls.

I rather like the idea of involving the priest if itis practicable for you.

I feel the development of bathing ghat as per item 4 is an excellent idea. In spite of what I said to the press I feel there may be good valid reasons for people to use the pool below the falls. Development of a bathing ghat would obviate this.

With kind regards,

Yours sincerely,
SD/-
(Dr H.R.Bustard)

Mr
c.c./Binod C.Choudhury

25-3-77

MARCH-77

MUGGER CROCODILE RELEASE AT ETHIPOTHOLA FALLS
+++ OBSERVATION REPORT +++

DATE OF RELEASE : 8 Feb 1977.

DATE OF OBSER-VATION : 25 March 1977. (1½ months)

TIME OF OBSERVATION: 9am to 12.30 pm.

RESULT:

Watchers on the spot reported the basking time of the released muggers as from 9am to 5pm with occasional submerging in water. They also reported that with in one week of release two of the released muggers came down the main pool below the falls and the third one also followed a week after. The fourth one however never came down but preffered to be in the main pool closeby to the sandbank between the two falls.

At 9.30am , on the date of observation one of the two muggers downstream (100 mts from the main pool) was seen basking on the rock just below a patch of reeds and soon the second one was also observed floating nearby.

Below the falls the third one was observed floating and soon it surfaced and basked on a rock shaded partly by the over hanging reeds. The fourth one was not observed till 11am. Going down looking for it one of the first two observed muggers was seen diving into water and surfaced again soon and it was observed to be the male one(last double caudal and first single caudal clipped).

At 12.30 from the top we could see both the ones on down stream basking side by side on the rocks the ventral half of the body in water. The third one (big ♀) was still on the rock and the fourth one was seen floating closeby. On the sandbanks the spoormarks could be seen clearly.

Watchers report that the big female stays in the main pool. A pair (male and female) remain downstream most of the time and the fourth one moves from the main pool to down stream & back. They also report that one of the two muggers (of the pair) chases the single female whenever it comes closeby. However these muggers have not been reported to have gone downstream near to the temple ghats.

DISCUSSION:

From the spoormarks and faecal droppings observed allaround it is assumed that all the four muggers released are exploring their new habitat during the night .All of them look very healthy . They have not gone more than 150mts below the main pool and on later observations it is to be seen how far down they go in their exploratory period.

30/3/77

Binod C.Choudhury

C/o Nehru Zoological Park,
Hyderabad. 500 002.

April 12, 1977

Conservator of Forests,
Wildlife Management,
Nehru Zoological Park,
Hyderabad. 500 002
Andhra Pradesh

Dear Sir,

Sub: Permission for publication of article

Please find enclosed with this letter two (2) copies of a brief note about Ethipothala falls Crocodile release and A.P. Crocodile Project. I intend to send this note to the Madras Snake Park Trust and Conservation Centre Newsletter, dedicated for conservation.

I, therefore, request you to permit me sending this article to the above mentioned magazine after your scrutiny of the article.

Thank you.

Yours faithfully,

(Binod C.Choudhury)

Encl:
cs/

c.c. Dr H.R.Bustard
FAO Expert

MUGGER CROCODILE RELEASE AT ETHIPOTHALA FALLS (ANDHRA PRADESH)

ANDHRA PRADESH became the first state in the Country to release captive reared crocodiles in selected wild habitats, when the State Forest Department sponsored Government of India/UNDP/FAO aided Crocodile Project released four Mugger Crocodiles (Crocodylus palustris) in the Ethipothala water falls on February 8th 1977. This is also reported to be the first of its kind in Asia. Muggers are in the scheduled I of the wildlife protection Act 1972.

Ethipothala falls (20 km below Nagarjuna Sagar dam) on the Chandravanka tributary to Krishna river was a mugger habitat a decade back. This is now included in a 100 sq.km sanctuary being set up by the Andhra Pradesh Forest Department.

In confirmity with its policy of rearing, breeding and returning endangered wild animals back to the wild Nehru Zoological Park (NZP) Hyderabad readily helped in this important crocodile conservation project. For the last two years NZP had accumulated its Mugger Crocodile stock collecting them from Krishna and Godavari rivers where and whenever possible. The released four Muggers (1.20 mtrs. in length and about 5/6 kg in weight) were selected from a group of twelve being reared at the Nehru Zoological Park.

Andhra Pradesh Crocodile scheme plans to have Mugger Crocodile Conservation Centres at i) Lanja Hodgu Crocodile Sanctuary on the Godavari river 150 miles north-east of Hyderabad ii) Nagarjuna Sagar Ethipothala on the Krishna river basin and iii) Pakhal lake in the Pakhal Wildlife Sanctuary. Nehru Zoological Park, Hyderabad with a hatchery, rearing pool and breeding pool complex will act as the Central Station from where reared crocodiles would be released in the selected habitats. The A.P. scheme also has proposals to extend similar conservation measures for the Estuarine Crocodile (Crocodylus porosus) in the Godavari and Krishna river estuaries.

BINOD C.CHOUDHURY
Research Scholar
C/o Nehru Zoological Park
Hyderabad. 500 002 (A.P.)

cs/

ORGANISATION DES NATIONS UNIES POUR
L'ALIMENTATION ET L'AGRICULTURE

ORGANISATION DE LAS NACIONES UNIDAS
PARA LA AGRICULTURA Y LA ALIMENTACION

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Please quote
Reference

55 LODI ESTATE
NEW DELHI-110003

TELEX : UNDP-ND - 2611
CABLES : UNDEVPRO - NEW DELHI
TELEPHONE : 70410

Nehru Zoological Park,
Hyderabad. 500 002

21st April 1977

Mr Binod C.Choudhury,
Research Scholar,
C/o Nehru Zoological Park,
Hyderabad. 500 002

Dear Binod,

I refer to your letter dated 12th April 1977 to the Conservator of Forests, Wildlife Management attaching copy of your note on Muggar Crocodile release at Ethipothala falls. I wish to suggest the following changes :-

1. Para 1, line 6 delete 'the scheduled', insert "Schedule".
2. Para 3, line 2 is unsatisfactory. It imply that the NZP has merely taken stock from the Wild. What Mr Pushp Kumar has done is to accumulate Fragile Hatchlings and rear them for ~~in the~~ subsequent release. The animals required were normally accidentaly captured by fishermen.
3. Para 4, line 6, delete 'from', and ' and after "where", insert hatchling crocodiles will be reared from initially ~~as~~ wild - laid, later captive - laid, eggs for subsequent release in selected habitats.
4. Delete reminder of sentence in line 7,8 delete 'also has proposal to extend' and insert " is also extending ".
5. Add at the end "The first group of hatchlings are currently being reared at Nehru Zoological Park".

Incidently, a note on this should also be sent to Cheetal and BNHS.

With kind regards,

Yours sincerely,

(Dr H.R.Bustard)

c.c. Mr Pushp Kumar
Conservator of Forests

~~APRIL 77~~

MUGGER CROCODILE RELEASE AT ETIPOTHIOLA FALLS OBSERVATION REPORT 22 APRIL 77

DATE OF RELEASE - 8 Feb 1977

Date of observation - 22 April 1977

Time of observation - 5.00PM to 7.00PM.

OBSERVATION -

Two of the released muggers were spotted below the ~~main~~ waterfall in the main pool within half an hour. The third one was spotted about 100mts downstream near a shallow pool ~~but~~ with a good reed cover around.

The fourth mugger could not be seen during the time of observation.

DISCUSSION - The pool water is clean and there had been no rain. Lot of spoor mark in and around the pool covering about 500mts area and faecal droppings observed around the main pool.

It is reported by the watchmen at site that all the four crocodiles are seen moving downstream from the main pool about 100mts downstream and basking on rocks sometimes singly and sometime in twos.

MUGGER CROCODILE RELEASE AT ETHIPOTHALA FALLS (ANDHRA PRADESH)

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Ethipothala falls (20 km below Nagarjuna Sagar dam) on the Chandravanka tributary to Krishna river was a mugger habitat a decade back. This is now included in a 100 sq.km sanctuary being set up by the Andhra Pradesh Forest Department.

In confirmity with its policy of rearing, breeding and returning endangered wild animals back to the wild Nehru Zoological Park (NZP) Hyderabad readily helped in this important crocodile conservation project. For the last two years NZP had accumulated its Mugger Crocodile stock collecting them from Krishna and Godavari rivers where and whenever possible. The released four Muggers (1.20 mtrs. in length and about 5/6 kg in weight) were selected from a group of twelve being reared at the Nehru Zoological Park.

Andhra Pradesh Crocodile scheme plans to have Mugger Crocodile Conservation Centres at i) Lanja Modgu Crocodile Sanctuary on the Godavari river 150 miles north-east of Hyderabad ii) Nagarjuna Sagar Ethipothala on the Krishna river basin and iii) Pakhal lake in the Pakhal Wildlife Sanctuary. Nehru Zoological Park, Hyderabad with a hatchery, rearing pool and breeding pool complex will act as the Central Station from where reared crocodiles would be released in the selected habitats. The A.P. scheme also has proposals to extend similar conservation measures for the Estuarine Crocodile (Crocodylus porosus) in the Godavari and Krishna river estuaries.

BINOD C.CHOUDHURY
Research Scholar
C/o Nehru Zoological Park
Hyderabad. 500 002 (A.P.)

cs/

MUGGER CROCODILE RELEASE AT ETHIPOTHALA FALLS (ANDHRA PRADESH)

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Ethipothala falls (20 km below Nagarjuna Sagar dam) on the Chandravanka tributary to Krishna river was a mugger habitat a decade back. This is now included in a 100 sq.km sanctuary being set up by the Andhra Pradesh Forest Department.

In confirmity with its policy ~~of rearing, breeding~~ and returning endangered wild animals back to the wild, Nehru Zoological Park (NZP) Hyderabad ~~readily helped~~ initiated ~~in~~ this important step of the crocodile conservation project. For the last two years NZP had ~~accumulated its~~ reared ~~these~~ a group of these accidentally caught Mugger Crocodiles ~~stock~~ in the nets of fishermen in ~~collecting them from~~ Krishna and Godavari rivers. ~~where and whenever possible.~~ The released four Muggers (1.20 mtrs. in length and about 5/6 kg in weight) were selected from a group of twelve being reared at the Nehru Zoological Park.

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BINOD C.CHOUDHURY
Research Scholar
C/o Nehru Zoological Park
Hyderabad. 500 002 (A.P.)

cs/

Tomorrow – with Asst CICA
at his office at 2.30

If he comes to 200 as he can well
it would be better if he would meet before

MUGGER CROCODILE RELEASE AT ETIPOTHACA FALLS

OBSERVATION REPORT 17 MAY 1977

DATE OF RELEASE - 8 Feb 77

DATE OF OBSERVATION -

TIME OF OBSERVATION -- from ---- to ---- -

OBSERVATION -

REPORT OF THE WATCHMEN -

Observer - Mr M. Shyamsundar

~~8.6.77~~

~~OBSERVATION REPORT Wednesday~~

~~ON Etipothala Falls MUGGER Crocodiles Released on 8 Feb 77~~

~~Date - 8 JUNE 77 WEDNESDAY~~

~~Time 10.00 AM to 2.00 PM~~

8 JUNE 77

OBSERVATION REPORT ON ~~ETIPOTHALA FALLS~~ RELEASED MUGGER CROCODILES

~~RELEASED ON 8 FEB 1977~~

AT ETIPOTHALA FALLS

1 + 2 Copies

DATE OF RELEASE - 8 FEB 1977.

DATE OF OBSERVATION - 8 JUNE 1977 (4 months)

TIME OF OBSERVATION - 10.00 AM to 2.00 PM

RESULT: from 10.00 AM to 2.00 PM on 8 Feb 1977 only one ~~single~~ released mugger was observed below the falls in the main pool. This was out of water and was bushing on a rock the ventral surface ~~half~~ of its body submerged in water. The other three could not not be observed.

It was reported by the watchmen on the spot that two other mugger which have settled in a pool about 50 mts below the falls were observed in the morning hours from 7.00 AM to 9.00 AM and they used to bask up to 11.00 AM but they submerged in the water when ~~the~~ groups

of pilgrims came in and started taking bath in the stream. At 2.00 PM the pilgrims (Lambadis) were still there and the muggers could not be observed.

It was also reported by the watchmen that in the flash flood a fortnight back and three days before all the muggers had gone downstream but have returned back immediately after. However one of the few which usually remained isolated has not returned back and is said to have settled about 350 mts below the main pool below the falls. The pools a few hundred meters below the falls are much more deeper and wider in size.

DISCUSSION: From this it appears that at least three muggers have established their home range and this can be confirmed after the monsoon and with that the high floods are over. The fourth one may return back or may settle downstream which by no means are less favourable to the main pool.

[signature]

9/6/77

3 JULY 77

~~3 JULY 77~~

MUGGER CROCODILE RELEASE AT ETIPOTHOLA FALLS

OBSERVATION REPORT - JULY 77

DATE OF RELEASE - 8 Feb 1977

DATE OF OBSERVATION - 3 July 77 (5 months) (SUNDAY)

Time of Observation - 7 AM to 10 AM & 2.00 PM to 5.00 PM

OBSERVATION :

In the morning hours of observation i.e. from 7 AM to 10 AM only one mugger was observed below the falls basking on a rock. Upto 10 AM no other mugger could be traced.

Between 2 PM to 5.00 PM two muggers were observed below the falls and one 100 mts downstream in the shallow pool with lot of reed covering around. The fourth one was not observed even 200 mts downstream pool where it is reported to be present.

DISCUSSION : The watchman at the site reported of no substantial rain over there and there is virtually no change in the water of the water fall pool. It is however slightly murky as it was during June.

As per the watchmen one (the fourth) mugger is shifted about 200 mts downstream of the main pool since June rain and it does not come back to the main pool. This was observed during the evening hours 3.00 PM to 4.00 PM

- AUGUST -

AUG 8. '77 (MONDAY)

- OBSERVATION AT ETIPOTHALA FALLS -

Date - 8.8.1977

Time - 10.00 AM to 2.30 PM

OBSERVATION: Two of the released mugils were observed bathing just below the main fall. One bathing directly on a rock without any shade slipped back into water at 11.00 AM. The other one was seen bathing on a rock with overhanging branches providing some shade. This one bathed up to 1.00 PM.

The third one was reported bathing up to 9.00 AM about 100 mts below the falls.

The fourth one which had gone down (about 5 mts) has returned there after coming back to the main pool for a few days during the two periods of rain and floods in the rivers.

This was reported to have come up to the main stream during both the floods and had returned back only on 7th August evening.

Bhandhuraj
8/8/77

OBSERVATION ON THE RELEASED MUGGERS AT ETIPOTHALA FALLS. 9 OCT 1977.

DATE — 9.10.1977

Time — 12.30 to 1.30 pm & 2.30 to 4 pm

Observation :- Within this brief period of stay at Etipothala falls no mugger was observed. The waterfall now spreads the whole area and the quantity of water has increased considerably.

Reports — The appointed guards reported the presence of all the four muggers within 100 mts of below the waterfall. Two just below the falls and one each 50 mts below.. The basking time is from 6.30/7.00 AM to about 12 noon and again from 4.30 to 5.30 pm. On crowded days like sunday (now the visitors has increased in number) the released muggers have a very short basking time mostly up to 10.30 AM and again by 3.30 to 4.30 pm. All the four are reported to be in quite good condition, one below the falls have become quite fat and have added a considerable bulk to its size.

The water flow in the falls is due to the release of water and surplus flow from the left right canal of Nagarjuna Sagar dam.

9/10/77.

(PTO)

$.20 to 4.30 Observations.

1. Two mugger's seen below the fall rt side

2. Two within 100 mts of main pool.

Total Mugger's seen	Main pool	mts mugr
Jan	2	2

23/11/77

~~WEEKLY~~/~~FORTNIGHTLY~~/MONTHLY MONITORING REPORT OF RELEASED CROCODILE

Mugger (C. palustris) AT Ethothela falls

FROM DATE 9 OCT TO 23 Nov 77 (1 month & 15 days)

---

1. Date of Rlease: 8 Feb 77

2. Total Number released: four
   Sex details: 1 male & three female

3. Individual Marking code if any. Male last left dorsal caudal scute and 1st single caudal scute clipped and females only 1st single caudal scute clipped.

4. Date of Observation by investigator: 23 Nov 1977

5. Water level of the habitat - ~~low~~/moderate/~~full~~

6. Rainfall during the last ~~Week/Fortnight~~/Month. - moderate

7. Air Temperature b) Water Temperature

8. Any Crocodile observed and details (Number/location etc.) -

None observed between 8 AM to 1 PM

9. Average basking time of Crocodiles for the day observed:

1 hr in the morning between 8 AM to 9 AM and 2 PM to 4 PM as per the watchmen at site.

10. Information about the Crocodile movements during last ~~Week~~/~~fortnight~~/month from local Watchmen/~~people~~.

Three muggers inhabit below the chandravanka stream fall (USKEREVU MODGU) and one has gone down stream (500 mts) from the release point in to a deep madugu since last two months. It has been observed by the watchmen.

11. Comments/suggestions if any:

Weekly or fortnightly or monthly proforma sheets for recording the movement of released crocodiles may be kept.

Signature of Investigator [signature] 23/XI

Designation and Address Spl Crocodile Surveyor
National Zoological Park, Sri Lanka

Date: 23/XI/77

None	—	—

23. XI. 77

E. P. Falls

USKEREVU MODSV Aleev
Gadisela - 1/2 KM

200 mt X 50 mts - deep pool

1 core -

Rest ? - with in 100 mts of the pool

has gone downstream

10 days before the sulphur

Cond water release

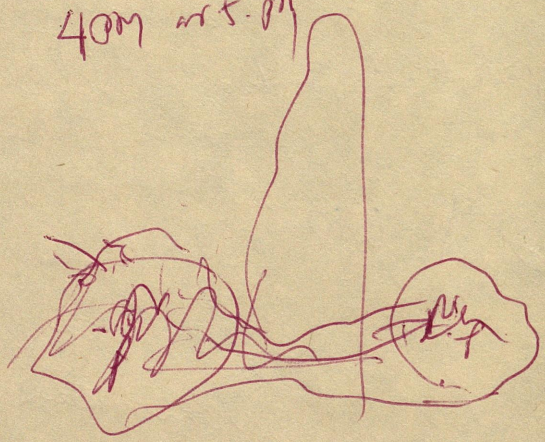
moderate flow in the w falls.

bushing time on the CV right side

foot is 2PM

8AM to 9AM same the ass to 10PM

2PM 4PM or 5PM



SRI DATTRISWAMY
MADHUMATI DEVI

Yetiswar Maharsi used this place for penance

due to its sylvan settings and being Varsuram constructed this temple.

Festivals

JAN
FEB
MAR
APRI
MAY
JUNE – TULI EKADASI
JULY
[illegible]
SEPT
OCT – NAVARATRI
NOV
DEC – DATTRI JAYANTI
MAGHI – SIVARATRI

~~FALGUNA~~
CHAITRA
VAISAKHA
JYESTAM
ASHADH

LAMBADI FESTIVAL
Ranganayakswamy
Kalapalam
mostly marriage

DATE 14.12.77

Released water from NJ Sagar left canal still flows into the fall & the water spread is more.

Report of the watchmen:

Two muggers are on the right side fall (Chandravanka stream side) and two has gone down. One below in the Uskarevu mudgu about 500 mts downstream. This has gone very fast. and the other about 100mts downstream from the main waterfall.

Bashing time varies. mostly between 8 to 10 & again between 2 to 4 pm only.

Remarks: NJ Sagar is 3' less than the FRL and the water release in the canal is full thus the surplus rebounds that makes the w fall big or small has made the w fall large & the flow of water in the E.P area high. One of the three resident muggers below the fall has gone downstream. Sandy area between the two pools flooded providing no bashing spot.

[signature]
14/12/77

(PTO)

Mausstrassen	Mein-pol	mts away
Two	Oil	100 mts away 500 mts away

MONTHLY MONITERING REPORT OF RELEASED CROCODILES
MUGGER (C.palustris) AT ETHIPOTHALA FALLS.

28 DEC '77

1. Date of release ; 8th Feb 1977.

2. Total No. released: Four.

3. Sex Details ; One Male and Three Female.

4. Individual Marking Code if any : Male : Last left Double Caudal Scute and First si-ngle caudal scute clipped.

5 Female: Only first of the single caudal crest clipped.

5. Date of observation by the Investigator: 28 DECEMBER 1977.

6. Water level of the habitat : moderate.

7. Rainfall during the last month : Scanty.

8. Air Temperature: —

9. Water Temperature : - -

10. Any Crocodiles observed and details ;(Number and locations etc.)
None observed between 2 P.M to 4Pm the period of Observation.

11. Average Basking Time of released Crocodiles : 8 a.m to 9 a.m & 2 p.m to 4 p.m. daily

12. Information about the Crocodiles from local watchmen/ people etc. Regarding their Moments etc. ;

One Mugger in the Yeragadi Modugu.
One " " " Erukugundi Modugu.
One " " " Esuka Ravu Modugu.
One " " " Chandra vanka stream fall modugu.
as reported by the local watchmen.

13. Comments /Suggestions: + +

Signature of the Investigator.
M.Venkateshan- 28.12.77.
Forestor. Crocodile Scheme-
Nagarjuna Sagar.

True Copy /

28/Jan/78

one + one Mugger 500 mt downstream

one + one Mugger below the Chamfravanka water fall.

Flow of water - Moderate - due to release of water of N J Sagar Rt Bank canal.

[signature]
29/1/78
(B. C. Chaudhury)
(Investigator)

- Tadnopsch	Mei-fool	into array
Two	two	—

8/Feb/78

1yr of release

1. Two muggers 500mts/Approx below the release pt

2. Two mugger just below the waterfall on the right side waterfall.

water level in the river - fairly good due to surplus flow in the chandravanka of the Rt Bank Canal water release:

Bhandary

(B.I. Chandra) 8/2/78
(INVESTIGATOR)

Mugger seen	Main pool	mts away one
4	3	100mts away

30 MARCH 1978

E.P. Falls

water flow in the stream - low.
(no surplus water release from NSSR canal)

Position of Muggers

(2) two below the falls were seen
(1) one 500 mts downstream
(1) one about 1 km down stream (biggest one)

Investigator - B.C. Chandhury
with
Mr K. Ramadevan (Dy C.F) WRI

Bhandhury
20/3/78

Muggers seen	main pool	mb area
Two	Two	—

28 April 78

1. Two crocodiles observed below the E.P. gundam, below the Chandravanka stream fall & Nakalavagu stream
2. Third one reported to be present at the same place but could not be observed till evening 4.30. Observed for a while at 5.00pm
3. Fourth one is reported to be about 700mts downstream but have not been observed by the watchers for the last one week.
4. water flow - no surplus water from the canal - almost minimal flow.

Total mugger seen	Merin prol	Mbawaut merin prol
Three	Three	—

28.5.'78

1. Two crocodile observed below the falls between 4.30 to 6 pm.
2. Third one observed close by for a few minutes only.
3. Fourth one reported to be present 500 mts below the falls. Have been seen by the watchers.

Muggers seen.

Total number	Main food	Mts away
Three	three	—

6 Sept '78

Water flow in the stream - low since there is no surplus water release from the NSEB at bank canal.

The sand bank between the two waterfall is heavily marked with crocodile slide marks indicating basking by crocodiles.

Observations.

9.30 AM to 12.00.

One crocodile seen below the Wakal waterfall basking on the sand.

One seen floating closely. Third one reported about 50 mts downstream was also seen closely.

The fourth one is reported to be about - 500 mts downstream.

3.30 PM to 5.30 PM.

One crocodile seen basking on a rock facing the western sun.

Others could not be seen.

Total number seen -

	Main pool	Mile away from
Three	Three	—

Date - 23.12.1978

Time of observation - 9.00AM to 1PM and
4.30PM to 5PM.

Observations -

Waterflow - low.

Observation (1st phase) two mugger seen in the main pool below the falls. (one basking, one floating).
- fresh track marks of ~~the~~ one mugger seen about 800 mts down stream from the main pool..

(2nd phase) None observed.

Total mugger seen	Main pool	23/12/78 mts away
Two	two	about 800 mts away a fresh track was seen.

13.3.79

ETHIPOTHALA FALLS

OBSERVATION TIME - 7.30AM to 11.30AM

Water flow - minimum.

Total number of Crocodiles seen :- Five

Main pool - four (Two 79 release)
(Below the fall) (Two 77 release)

50mts below - one (77 release)

Basking time - 8.30 to 11.00AM

Present - Dr H.R. Bustard
Miss Rosalyn Beeddels. FAO. Bangkok

[signature]
13/3/79

Total seen	Main pool	Mts away from pool
5	four	1 (50mts)

3rd April 07

OBSERVATION TIME : 9 to 11 AM

water flow - minimum.

Total number of crocodiles seen - Three

All in the main pool. - 10 mts below the falls

Bathing Time reported - 8.00 AM to 10.30/11 AM

Remarks - One crocodile reported to have injured a boy on the crocodiles on 23rd March

17/11/79

Ethipothalg Falls

Observation Times

10.30 Am to . . .

Water Temp at 10.45 — 25.5

Air Temp ——— 31°C

1. Crocodiles observed one basking 50mts downstream

since . . . . observed at 10.30 Am

2. one floating below the falls at 11.10 Am.

water Temp at 12.30 - 27.5°C

11.20 – goes down in to water
submerged in water partially
Photograph – R

11.30 – goes still further down
photo – 19

11.40 – Tourist group
disturbance
starts but no effect
on bathing [illegible]

12.00 noon – still half submerged
in water

(Watcher records staying like this
up to 2 PM and then going
down in to water)

12.15 –

Temp sunlight direct

10.30 AM – 30°C

11 AM – 31°C

11.30 AM – 32°C

11.40 noon – cloudy &
direct sunlight
temp drops to 29°C

11.45 – Sun – 32.5

12.00 noon – Sun 32.5°C

12.15 – 33°C

21.2.1980

Etipothala Falls

Period of Observation - 4 PM to 6 PM.

Total number of released muggers seen - 3

(Three) All females

All down below the main stream -

Water flow in the stream - low.

Others present - Mr P.C. Conservatory Forest (WLM).
Mr D.R. Dy.C.P. (WLI).
Mr Damodar Reddy DFO Nalgonda.
Mr Venkat Narayan DFO Guntur.

[signature]
21/2/1980

Water level/Flow - low.

Dear Choudhary Saab,

Namaste.

Please pick me up at my house tomorrow morning. I will be ready by 7 AM. Please don't forget.

15/3/80.

17/9/1980

E.P. Falls

Time of observation 10 AM to 11.30 AM

waterflow - - moderate

① Observations - one crocodile released on 16/9/80 (190 cm) was seen at 10.15 AM (200 m downstream) from release point - feeding on a fish at 10.25 AM. Basking camouflaged between the grass clumps.

② Below the chantravarlesfull one more crocodile observed at 10.35 AM. Basking on a rock.

③ Fish observed about 1 m in size so also terrapines.

Weather - Sunny.

[signature]

17/9/1980

9/11/1980
Sunday

E. P. Falls

Time of observation - 11AM to 1.30PM.

waterfall - low

Observation - one below the fall (11.30AM)
swimming

one 100m downstream
Bathing half submerged
in water

Disturbance by public more.

one 800m below the fall
at 12.15PM.

with the HPPZ members

9/11/1980

INDIA

REFER TO THIS MAP AS :- 1:50,000
SHEET 56 P/6 FIRST EDITION

RESTRICTED

FIRST EDITION

ANDHRA PRADESH

GUNTŪR AND NALGONDA DISTRICTS.

Surveyed 1967-68.

Magnetic Variation from True North about 2′ West in 1965.
(Increasing by about 2′ annually).

NO. 56 P/6



Reg. No. 2295 HD'70 (D. C. 54-1:33,333)-3621'75.

Roads, metalled: according to importance; distance stone ... 20
" unmetalled; do. do : bridge ...
Cart-track. Pack-track and pass. Foot-path with bridge ...
Bridges: with piers; without. Causeway. Ford or Ferry ...
Streams: with track in bed; undefined. Canal ...
Dams: masonry or rock-filled; earthwork. Weir ...
River banks: shelving; steep. 3 to 6 metres; over 6 metres ... 4r 7r 16r
" dry with water channel; with island & rocks. Tidal river ...
Submerged rocks. Shoal. Swamp. Reeds ...
Wells: lined; unlined. Tube-well. Spring. Tanks: perennial; dry ...
Embankments: road or rail; tank. Broken ground ... 3r 4r
Railways, broad gauge: double; single with station; under constrn ... 3r
" other gauges: do. : do. with distance stone; do ... 20 RS
Light railway or tramway. Telegraph line. Cutting with tunnel ...
Contours with sub-features. Rocky slopes. Cliffs ...
Sand features (1)flat/2) sand-hills and dunes (surveyed) (3) shifting dunes ...

1st Edition 1970.
(Previous Editions on 1-inch scale as a part of sheet No. 56 P/6 & P/2: 1st 1922; 2nd 1958).

Index to Sheets

56 P/1	56 P/5	56 P/9
56 P/2	56 P/6	56 P/10
56 P/3	56 P/7	56 P/11

REFER TO THIS MAP AS :- 1:50.000
SHEET 56 P/6 FIRST EDITION

INDIA

Published under the direction of Brigadier J.A.F. Dalal, B.A. (Hons), p.s.c., M.I.S., M.I.E., *Officiating Surveyor General of India.*
1970.

1:50,000

500 m to 1 cm
Metres 1000 500 0 1 2 3 4 5 6 7 Kilometres
2 cm to 1 km

HEIGHTS & CONTOURS IN METRES

CONTOUR INTERVAL 20 METRES

Water features are shown in blue where they generally contain water.

Cultivated areas are coloured yellow.

The exterior boundaries of areas of Reserved or Protected Forests are shown by green ribands.

Contours are approximate.

A relative height, *.6r*, represents the approximate height, in metres, between the top and bottom of a steep slope.

Wooded areas are coloured green. Scattered trees and other vegetation are in green, but prominent surveyed trees are in black.

The triangulated heights and contours in this sheet have not been adjusted to the heights of the spirit-levelled bench-marks and may not be strictly in accordance with them.

Unmetalled roads shown along all main and branch canals are motorable. Permission to use these roads is required from the Irrigation authorities.

The kilometre stone numbers along roads, railway and canals are shown in slant type, e.g., *'5'* whereas milestone numbers are shown in upright type, e.g., '5'.

A relative height, e.g., *.6r*, marked along a canal, indicates the height of the top of the canal embankment above the adjacent country.

A relative height, e.g., *10r*, against a well, in blue, indicates its total depth in metres.

Ferries on the Krishna River take pedestrian traffic only.

The railway line from Mācherla to Vijayapuri South is owned by the Nāgārjunasāgar Project authorities and is not open to general public.

Forest boundaries in squares C/1 and C/2 have been obtained from records maintained by State Forest Department.

Administrative Index

Towns or Villages: inhabited; deserted. Fort ...
Huts: permanent; temporary. Tower. Antiquities ...
Temple. Chhatri. Church. Mosque. Idgah. Tomb. Graves ...
Lighthouse. Lightship. Buoys: lighted, unlighted. Anchorage ...
Mine. Vine on trellis. Grass. Scrub ...
Palms: palmyra; other. Plantain. Conifer. Bamboo. Other trees ...
Boundary, international ...
" state: demarcated; undemarcated ...
" district, subdivn., tahsil or taluk; forest ...
Boundary pillars: surveyed; unlocated: village trijunction ...
Heights triangulated: station, point; approximate ... △ 200 .200 .200
Bench-mark: geodetic; tertiary; canal ... .BM 63·3 .BM 63·3 .63
Post office. Telegraph office. Combined office. Police station ... PO TO PTO PS
Bungalows: dāk or travellers; inspection. Rest-house ... DB IB (Canal) RH (Forest)
Circuit house. Camping ground. Forest: reserved; protected ... CH CG RF PF
Spaced names: administrative; locality or tribal ... KIKRI NĀGA

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Price: Five Rupees.

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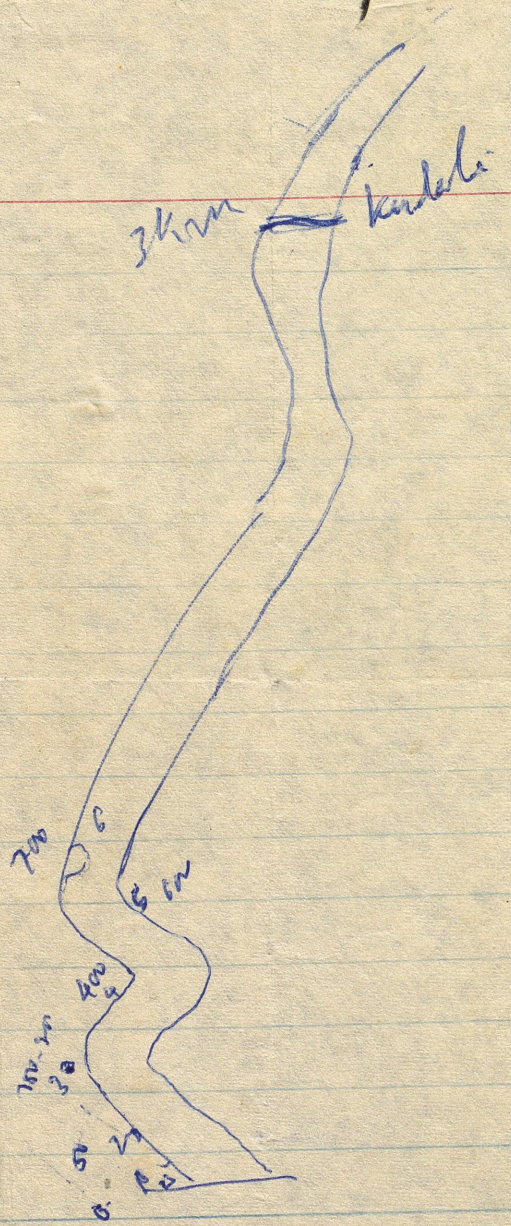

3 km
kondeli

E. A. Rolls Nesting Record 1982 Season

1/6/82 – Eskarevu mudgu (hatched out nest)

8/5/82 – Errajada mudgu (nest hatched out)

12/13/6/82 – washed out flooded nest collected

E.P. Pallis Nesting Record 1983 Season

1/6/83 - Eskarenu morgn Ghatchi 11 spoiled ?

16/6/83 - one nest located - 4 spoiled eggs.

Nesting Record E.P. Falls 1985 Season

1st nest - 6th Pool Encapsula nodosa

2nd nest - 4th Pool

3rd nest - Eskarevu

4th nest - L. Reddy morlsu

All located after hatching.

E. P. Falls 1984 Meeting Records

12/6/84	5th Pol	Emergency
19/6/84	4th Pol	Lutched art - [illegible]
	Lorentzian	



CHANDAMPET
NIDGUL RF
DINDI
MANNEVARU PALLI
Chitrial
Gandhinagar
Teldavarpalli
AMARABAD R.F.
Padra
Chennampalli
Peddakonda
Chittarakunta
Narsingabari
Madhvanpalli
Lakshmapur
Tirmalapur
Upnotla
Koilkondagutta
Nallavagu
TATIGUNDAL
Sarala palli
Spring
Kurvikurva
Kuntalapadupenta
Peddagangavaram penta
Nekkanti penta
SRISAILAM
MARKAPUR R.F.
Chinnarutlapenta
Jangammiddelupenta
Durgappakonda
Ganjavari palle
RANGE OFFICE
Utla palli
PEDDAGATTU TANDA
RAMARAM
NAGARJUNA SAGAR
NAGARJUNA KONDA
FORT (in ruins)
NIDGUL RF
Kambalpalli
Rellavaram
Bandachelabodu
Pogulla
Aklavaram
Spring
AMRABAD R.F.
Madgu
Ippalapalli
Naddimadgu
Eppalapalli
Gangulapenta
Janikanda
Armachema
KRISHNA R.
Guni konda
Alatam 20 huts
Gullala chenupenta
North Adgulapenta 5 huts
Garni penta
Nanpedda vagu
1
2
3
4
5

Nagarjunasagar release in AP

First Release

2nd April 1981 | 2 Male | 126 Female | 1972/1978 origin

12 March 1982 | 18 male | nil | 3R/1L | 1979 origin individually Coded

Total | 20 Male | 126 Female

1 : 6.3

Proposed Release in 1985 | 1 : 5.3

1 : 2

28 150

8 : 2

144/75 × 504
28
150
50
56
28
1.4

1985

CROCODILE BREEDING BIOLOGY PROFORMA

SPECIES:

COMMON ENGLISH NAME:

VERNACULAR NAME:

NAME AND LOCATION OF THE HABITAT: Ethiopshalle falls, Emerald mudgee

DETAILS OF THE HABITAT: (River/~~Tank/Reservoir/Creek/Breeding Pool~~/ Other)

NEST:

Nest Number (Serial number if more than one nest is located in the habitat) one ~~Two~~

Date of nest location: 10 April 1985

Name and address of locator: Chinne Kesavalu

Trial nests (if any) and details: (depth, shape and distance from original nest and water etc.) Two 20x22x18 mouth

Date of egg laying: not known - 1st week of April

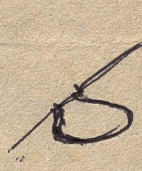
Conditions of the nest: (Disturbance by natural or human agencies etc.) nil

Position of nest in relation to permanant water:

Distance of nest: 4m

Height of nest: 1.5m

Nest profile: ——————————



Surface temperature of Nest: 31.5°c

First layer of eggs at depth: 30cm

Nest mouth (Dimensions): 25 x 18cm

Nest temperature:

Top Layer: 33°C at 7.15AM Middle: ~~33°C at 7.15AM~~ ~~Wide~~ Bottom:

Nest Dimensions:

Shape: ~~[illegible]~~ Pitcher Middle: Wide Bottom:

EGGS:

Clutch size:

No. of cracked eggs (of layer):

No. of eggs damaged otherwise:

No. of rotten eggs:

Abnormal eggs (if any) and details:

Band description on eggs: on 23/5/85 Band complete

No. of eggs collected:

Date and time of collection:

Collection method:

Mode of transfer:

Hatchery type and location:

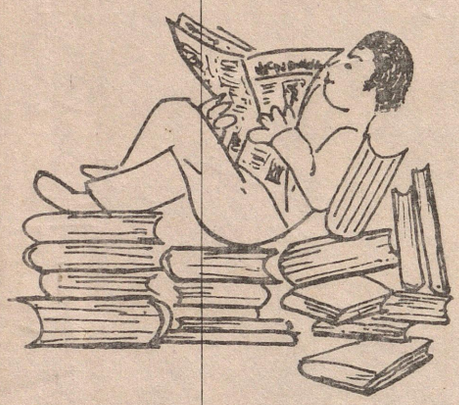
Collected and Supervised by:

(Egg size and weight: On reverse side)

Signature: [signature]

23/5/85

READER'S CORNER



Elephants and Rhinos in Africa — Summary Report —

International concern about the status and future of elephants and rhinos was aroused in the early 1970s when heavy poaching became apparent in some areas, particularly East Africa. IUCN, WWF, and the New York Zoological Society (NYZS) launched surveys to establish the facts and to make recommendations for the management of the species to ensure their conservation as part of a healthy and productive natural environment for humans.

Elephant and rhino specialists and wildlife managers from African and other countries reviewed the surveys and recommendations at a meeting convened in August 1981 by IUCN/WWF and the Government of Zimbabwe. It was concluded that the African elephant is not at present endangered as a species, but it is declining in numbers over large areas of its range because of poaching and loss of habitats, and some local populations are threatened.

The status of African rhinos was considered a matter of grave concern because of the devastatingly high level of poaching for horn. Only the southern white rhino is considered safe at present.

Studies of the trade in elephant and rhino products show the dramatic increase in prices and the flow of ivory and horn out of Africa in the last decade.

Africa faces great challenges because of the increase and spread of human population and the necessity to improve living standards. African governments will be urged to take political decisions now on conservation of elephants and rhinos in the light of the prevailing socio-economic situation and future development plans before their options are closed. A special communication to Heads of State and other decision makers in Africa is being prepared by IUCN. It will be supported by a summary report of about 35 pages, illustrated with maps, graphics and photographs.

The report will be available for purchase from IUCN Publications Services, Avenue du Mont Blanc, 1196 Gland, Switzerland in the summer of 1982. □

NEW IUCN PUBLICATIONS

World's Threatened Mammals: New Data

The Conservation Monitoring Centre performs one of the principal functions of IUCN, which is to monitor the status of threatened species and ecosystems throughout the world so that appropriate conservation action can be planned and implemented. The Centre, as well as maintaining the Red Data Books, is establishing a data base incorporating animal and plant status, wildlife trade and protected area data. Close collaboration is also to be maintained with IUCN's Environmental Law Centre in Bonn, Germany, and with the Global Environmental Monitoring System (GEMS) of the United Nations Environment Programme (UNEP). Information from such a data base will also be available to, for instance, technical assistance agencies, development banks, regional threatened species programmes and conventions such as CITES so that the problems and needs of conservation can be incorporated into land-use planning at an early stage.

A new edition of the **IUCN Mammal Red Data Book** (RDB) has just been published. This book is the first major output of the recently established IUCN Conservation Monitoring Centre based at Cambridge and Kew in the United Kingdom.

The 560-page new Mammal RDB reviews the status of mammals found in North and South America and the Australasian zoogeographic region (covering Australia, New Zealand and the island of New Guinea). 145 threatened taxa are listed, including representatives of all thirteen orders of mammals which inhabit these three major regions. Whales and dolphins (cetacea) are excluded. Further volumes of the RDB now being prepared will cover threatened mammals in Africa and Eurasia.

The new Mammal RDB outlines in much greater detail than in previous editions the current status of threatened taxa, the threats facing them, the conservation measures so far enacted and further measures required to conserve them.

The **IUCN Mammal Red Data Book** is available in English for US$ 20 plus postage from IUCN Publications Services, Avenue du Mont Blanc, 1196 Gland, Switzerland. □

NEWS ROUNDUP

Thailand's Forests Shrink

Thailand's forest cover has shrunk by almost 50% in the last twenty years. In 1961, 53% of the nation was shown as forest by government statistics. The figure stood at only 28% in 1981.

In a recent report on the problem in South Asia, Southeast Asia and the Pacific islands, United Nations investigators concluded that forests in the region were disappearing at the rate of 12,500 acres (5060 hectares) a day, or 4.5 million acres a year. If this trend continues to the year 2000, about 90 million acres of closed forest area will have been converted to non-forestry use, according to a joint study by the UN Food and Agriculture Organization and the United Nations Environment Programme. The report said that Indonesia, the world's largest producer of tropical hardwood, loses more than 1.2 million acres of wooded land a year. The problem may be worse yet in Thailand where more than 800,000 acres of forest are cut every year in a country that is one-quarter Indonesia's size.

Whaling Ban Stalls

The 36-nation International Whaling Commission abandoned efforts to agree on a ban on all commercial killing of sperm whales on March 25th. All action was deferred until the next session in July. At its regular annual meeting last July, the Commission outlawed killing of sperm whales in the Southern Hemisphere and North Atlantic. Japan, the last nation to carry on large-scale commercial whaling, rejected an immediate ban on killing sperm whales in areas of the western Pacific 200 miles (320 kilometres) off its coast. The latest deadlock means there will be no change in the annual killing quota in the area, (set at the July meeting) of 890 sperm whales.

Reserve for Vancouver

Canada has a new ecological reserve to protect sea otters. The [34,650 hectare (83,160 acre)] reserve is located in the Province of British Columbia at Checleset Bay, 10 kilometres northwest of Kyuquot and south of the Brooks Peninsula.

Crocodile Breeding Success

Reintroduced mugger crocodiles **(Crocodylus palustris)** have successfully bred in the wild for the first time in Nagarjunasagar-Srisailam (Krishna) sanctuary at Ethipothala Falls in Andhra Pradesh, India. □

Published every three months by International Union for Conservation of Nature and Natural Resources, 1196 Gland, Switzerland, with the financial assistance of UNEP, UNESCO and the World Wildlife Fund. Annual subscription is US$30.
Opinions expressed in the Bulletin are editorial opinions and should not be taken as the official view of IUCN.
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Printed by Imprimerie Beck, av. Dapples 34a, 1006 Lausanne, Switzerland.

ETIPOTHALA FALL MUGGER RELEASE.

	8 Feb 1977	–	Date of Release
	25 March 1977	–	1st monitoring visit
	22 April 1977	–	2nd " "
	17 May 1977	–	3rd " "
	8 June 1977	–	4th " "
	3 July 1977	–	5th " "
	8 Aug 1977	–	6th " "
	9 OCT 1977	–	7th " "
	23 Nov 1977	–	8th " "
	14 Dec 1977	–	9th " "
	28 Jan 1978		10th " "
1yr	8 Feb 1978		11th " "
	30 MARCH 1978		12th " "
	28 April 1978		13 " "
	28 May 1978		14 " " clipping code - 2nd set
	6 Sept 1978		15 " "
	23 Dec 1978		16 " " 1.52 x 1.63 Two more females released
	29 Dec 1978		17 " " → one male taken for release but brought back because dam water fall.
2yr	13 March 1979		18 " "
	3 April 1979		19 " "
	11 August 1979		20 " "
	17 November 1979		21 " "
	13 January 1980		22nd " "
3yr	21 February 1980		23rd " "
	3 May 1980		24th " "
	15 June 1980		26th " "
	16/17 Sept 1980		25th 27th " " → Two male muggers 1.90/1.63 m released into E.P Falls
	9th Nov 1980		26th " " One male, 1 female
	27 Jan 1981		27th " " Two male, 1 female
	27 Feb 1981		28th " " Three male
	2 April 1981		
	16 June 1981		

KRISHNA & CHANDRAVANKA JUNCTION NAMED AS PANDAL MODGU

ETHIPOTHALA FALLS MONITORI...

- SELF -