

Dil and Natural Gas Corporation Limited Eastern Offshore Asset 2nd Floor, Subhadra Aroade, Bherugudi Junction, Kakinada- 533 003

Telefax: (0884)-2374104

NIL ONOG/EGA/03-DWN-08-21

27th Cetagon, 2021

To District Forest Officer, Kekinede Division, Kakinede

Sub: Proposal for laying of 20" pipeline of stood 31 km length from the offshore platform through mouth of the Southern River to DNSC Drishore Cas Terminal at Mallavaram village, Tallarevu Mandal, E.G. District, Andhro Prodesh – Compilance Report Forest Clearance Stage 1 – 3:26 ha

- Beff. 1. Gol. IRO MOEFOC, Vijoyawada F. No. 4-AP8124/2021-VIJ/68 dt.57.09.2023. communicated in GM No. 982/Section.II/2021/[1420018] dt. 20.09.2023
 - 2. DFO, Kakinada Division, Rakinatia Rr. No. 2432/2019-DE, dt. 29.59-2021.

A Copy of communication vide 4-APB124/2021 VII/68 dated 17* September 2021, conveying the Contral Government's approval (Stage I) for diversion of 3.26 ha of forest land in Mathippa flavorus forest of Kasinada Division for bying of 20° gas pipeline from offshore platform through mouth of the Goutham: River to GNGC Onshore Cas Terminal at Makeveram village, Taflarevu Manda, 5-G. Bistrict in fivour of CNGC Onshore Cas Terminal at Makeveram village, Taflarevu Manda, 5-G. Bistrict in fivour of CNGC Onshore Cas Terminal at Makeveram village.

The refered communication associar compliance of the conditions prescribed in the "in principal approver" along with the payment of Net Present Value and other statutory payments.

Please find anchored the Compliance report for Kind gerasal, and initiation of necessary actions for accord of Stage II Cleanance.

Regards.

Yours faithfully

[AML CHAUDHIN)

GISTO (C) -- PINE NG DAVIN 98/2

DOM: ONGO



Dilland Returni Gas Corporation Limited Bastom Offshore Asset 3rd Floor, Suishedra Arcade. Bhanegurii Junction, Kakinada- 533 063 Telefac: (9884)-2374164

Compliance Report for the approval of develops of \$.25 for lorest land moved tree fillion 4-APB224/2021-VU/68 Dt. 17.05.3002

3. No.	Condition	Action to be taken
±	Publish the entire forest coverages granted in verbattin along with the conditions and safeguards imposed by the Dentiral Government in two widely producted daily newspapers, one in vernacular language and another in English language so as to make people aware of the permission granted to the project proposem for use of forest land for non-forestry purposes.	copies of published advortisements enclosed.
7	The papers of the Forest Charance should also be submitted to the heads of local bodies. Panchayats and Municipal Bodies by the Project proponents in addition to the relevant offices of the government who in turn have to display the same for 30 days.	Coates sero through speed post. (copy of receipts attached)
m.	Legal status of the diswriet igned and shall remain unchanged	Motest: Legal Status of the Land will not be dranged.
90	The decompation of the proposed forest area except in the water body shall be carried out at an appropriate intersal at the cost of User-Agency	Pilliers erected. (Photographs attached)
0.0	No trees felling shall be carried out in the diverted forest area	Noted. No trees falling shall be carried out.
(iv)	The State Forest Separtment shall carry our compensators afforestation over an extent of 2.84 ha identified in Compt No A49, Musan RF, Eskinsda Range, at the cost of the User Agency	Amount of Rs. 71,73,800/- paid time/sh 87GS method (copy of Challan attached for total amount of Rs. 1,85,71,988 (owards MPV + GA)
(4)	Identified degraded forest area for CA purpose and CA scheme shall not be changed without prior approval Central Government.	Noted: CA ourgons and CA scheme shall not be changed.
ivit	The State Government shall charge the Net Present Value of the diverted forest land measuring 3.26 to from the Over Agency at per the orders of the Bion/ble Supreme Court dated 28.03.2008 and 09.05.2008 in IA Nov. 826 in 566 with retined IV's to Whit Protion (Civil) Nov. 202/1005.	Amount of Rs. 34,00,180/- paid through 8,765 curthod (copy of Challes arterhed for total amount of Rs. 1,05,71,960 towards MPV + CA)





Oil and Hatural Gas Corporation Limited
Eastern Offshore Asset
3rd Floor, Subhadra Arcade,
Shartegadi Junction, Kakinada- 533 983
Telefex: (0884)-2374194

	Ti San	Condition	Action to be taken
ţ,	0	Additional amount of the Net fresont Value (NPV) of the diverted forest land if any, becoming due after nevision of the same by the Monthie Supreme Sourt of India is future, shall be charged by the State Government from User Agency. User Agency shall benish an underturking to this effect.	Additional amount of Net Present Value (NetV) of the diseased forest land if any, becoming due after revision of the same by the monthle Supreme Local of trans in future, shall be paid. Undertaking enclosed.
Çvi	(8)	All the funds received from the User Agency under the project shall be transferred/ deposited to CAMPA/fund only through e-portal (https://pen-esstunic.in/)	All funds have been deposited to CANPA fund only through e-portal (https://penyest.nkm/) Undertaking engaged.
fin	à	The Muck generated in the worth cutting it any, will be disposed off at draignated dumping sites and in no case the muck/ debris will be disposed off in the forest areas	The muck generated, it any, shall be disposed off at designated dumping sites and no muck will be disposed off in forest areas.
(ii)		The tiser Agency shall display agency/ Caution bounds at appropriate places for safety and assisteness	Undertaking enclosed Signage will be displayed along the province of approadate places for safety and awareness after completion of laying of place ine.
le:	0	The User Agency shall monitor the pipeline at regular intervals to ensure safety and to avoid any accident. The User agency shall submit such monitoring reports to the DED concerned.	Undertaking encloses. Moreturing of the pipel ne shall be corried out and reports will be submitted to DFO concerned. Undertaking encloses.
(a)	Ð	While mitigation plan especially for Fighing Cata and others and financial nut by of such mitigation plan shall not be excribitant and such mitigation plan shall be submitted along with the compliance report.	Povised Wildlife Mittgation plan is enclosed.
Ģá	n	The State Covernment/ User Agency shall comply with all conditions dispulated in the CRZ descence.	Conditions of DRZ degranor shall be consided with. Undertaking endused.
ly	wi	The firest land proposed for diversion shall under no procurationes be transferred or subject to any other agency, department or person.	The processed forest land for atversion shall not be bransferred at subjet to any other agency, department or paragon





Oli and Natural Sas Corporation Limited Eastern Offshore Asset 3rd Floor, Subhadra Arcade, Sharugudi Juriction, Kakinada: 533 003 Teletax: (8884)-2374104

1	ettrout union approval of the Central Sovernment	without prior approver of the Central Government. Undertaking encloses: Notest and conformed.
	The layout plan of the proposal shall not be	Layout plan of the proposal shall not be
APR 4 A 1111 2	thoughd without the prior paproval of the	manged without the good approval of
	Central State runerit	the Cestra Government
	Property Annual Control of the Contr	Undertaking enclosed.
	HARRICHANIS SUNA	Noted and confirmed.
	Minimal disturbance should be ensured by	E stuff be ensured that there is wining
	reading labour cambs but also the harest area as	obturbance by creating about camps
Acres 1	for as positive and it will be the responsibility of	puture the torest area as far as
CONTRACT CO.	he UA to ensure that the labourers & staff	pany big and that the labourers & staff.
	ingaged in execution of work do not destruct nearby flora & facini	angaged in exerction of work do not destruct nearby flora & four a.
		Undertaking enclosed:
		Notes and confirmed.
(e)(i)	The torus forest area to be us bed for the project shall not exceed 3.25 ha and the forest area diverties shall not be used for any purpose other than those shown in the diversion proposal.	The total forest area utilized shall not exceed 3,25 ha and the forest area alverted shall not be used for any purpose other than those shown in the diversion proposal.
		Undertaking enclosed.
	Jeer agency and state Soverment shall ensure considering to provisions of the ell Arts, Rules,	Rose E and confirmed.
	Regulations and Guidelmes, for the time being in turns, as applicable to the project	Hodertaking-enclosed.
		Noted and confirmed
	Very other conditions that the Central Schemmans or Regional Officer IRO,	Shall comply with any other conditions
Section 1	A system of the interest from time to time in the	that the Central Government or
PROPERTY.	sterest of attornation, conservation and	Regional Diffeet, IRC, Vigoreside may
	management of flors and fours in the area, shall be complied by the user agency	impose from time to time.
1	sectorifican of the man effects.	Underhalding engliqued.





Oil and Natural Bas Corporation Limited Bastern Offshore Assot 3rd Floor, Subhadra Avoade, Bitanuguri Junction, Kalenada-533 063 Tolotax: (9884)-2374164

% 46	Condition	Action to be taken
bel	Compliance report on the above conditions shall be processed and submitted through e-portal (https://particesh.mic.in/)	Noted and confirmed. Undertaking ordered.
(2m)	In the exect of failure to comply with any of the above conditions the user agency is kubic for penal action as provisions of rures/ guidelines made under ECA, 1990.	Noted and confirmed. Undertaking enclosed.

ANIL CHAUDHRY GOM



Oil and Natural Sas Corporation Limited Eastern Offshore Asset and Place, Subhadra Arcade, Shanogadi Zenction, Kakinada-533 903 Telako: (9384)-2374104

Compliance Report for the approval of distrator of 3.25 ha forest land leased wide F. No. 4-AP3424/2021-VII/68 On 17:09:2021

5. No.	Concilion	Action to be taken
Ļ	Publish the entire forest decreaces granted in serbatim, along with the conditions and salegueds imposed by the Central Government in two widely circulated dely reasonagers, one in semecular language and another in English language as as to make people aware of the permission granted to the project preparent for use of ferest land for non-forestry purposes.	copies of published advertisements enclosed
2	The copies of the Forest Clearance should also be submitted to the heads of local booles, Panchayatt and Municipal Booles by the Project proponents to addition to the relevant offices of the government who in turn have to display the same for 20 days.	Copies sero through speed post. (capy of receipts attached)
ŧi.	begat status of the atwested forest land shall semain unchanged	Roted, Legal Status of the Land will not be changed.
(0)	The demarcation of the proposed forest area except in the water body shall be carried out at an appropriate interval at the cost of Oser Agency.	Pilars erected. (Photographs attached)
illi)	No trees felling shall be carried out in the diserted forest area	Roted. No trees felling shallow carried out.
(99)	The Stone Forest department shall carry out compensatory afforestation over an extent of 2.64 handensfield in Compt No 440, Murari M, Karamada Range, at the cost of the User Agency	Amount of Rs. 71,71,800/- paid through 8163 method (copy of Challer ottached for total amount of Rs. 1,05,71,980 towards NPM+ CA)
(4)	Identified degraded forest area for CA purpose and CA scheme shall not be changed without prior approval Central Government	Noted, CA purpose and CA scheme shall not be changed.
660	The State Government shall charge the Net Present Value of the diverted forest land measuring 3.26 ha from the User Agency as per the orders of the Horrbie Supreme Court dated 28.03.2008 and 09.05.2008 in IA Not. 826 to 556 with related IA's in Writt Petition (CWI) No. 202/1955	Amount of Rs. 34,00,180/- peld through RTGS method (copy of Challen attached for total amount of Rs. 1,05,71,380 towards NEV + CA)



Cili and Natural Bas Corporation Limited Eastern Offshore Asset 3rd Floor, Subhadra Arcade, Blamogudi Junction, Katerada, 533 003

Telefac: (0834)-2174104

S. No.	Condition	Action to be taken
(M2	Additional amount of the Net Present Value (MPV) of the obserted forest bind it any, becoming due after revision of the same by the Hon'ble Supreme Court of India in future, shall be charged by the State Government from Uner Agency. User Agency shall furnish as undertaking to this effect.	Additional amount of Bet Present Value (NPA) of the diverted forest land; if any, becoming due after revision of the same by the Horible Supreme Doort of include nature, shall be paid. Undertaking enclosed.
wat	All the funds received from the tiser Agency under the project shall be transferred/deposited to CAMPA fund only through a portal (https://perivesh.nic.in/)	All funds have been deposited to CANPA fund only through e-portal [https://per.kmh.nkt.m/] Undertaking enclosed.
(od	The Muck generated in the earth outting if any, will be disposed off at designates dumping sites and in no case the muck/ debris will be disposed off in the forest areas.	The mack garteraced, if any, shall be disposed aff at designated dumping sites and no mack will be disposed aff in forest cross. Undertaking enclosed
\$0	The User Agency shall display Agrage/ Caution boards of appropriate places for safety and awareness	Signage will be displayed along the placetime route at appropriate places for safety and awareness after completion of laying of pipeline.
(4)	The User Agency shall monitor tile gippline at regulor intervals to ensure safety and to avoid any addition. The User agency shall submit such monitoring reports to the DEO concerned.	Undertaking enclosed. Monitoring of the pipeline shall be carried but and reports will be submitted to DFO concerned. Undertaking enclosed.
(d)	Wildlife mitigation plan especially for Fishing Cars and others and financial out toy of such mitigation plan shall not be excribitant and such mitigation plan shall be submitted along with the compliance report	Revised Wildlife Mitigation plan is enclosed.
600	The State Government/ User Agency shalf comply with oil conditions stipulated in the CR2 clearance	Conditions of CR2 destunce shall be complied with. Undertak as analowed.
òha	The forest land proposed for diversion shall under no discumitances by transferred or subset to any other agency, department or person	The proposed forest land for diversion shall not be transferred or sublet to are other agency, department or person.



Oil and Natural Sas Corporation Limited Exstern Offshore Asset and Floor, Subhadra Arcade, Eterografi Junction, Kehinado-533 983 Telefax: (0884)-2374184

S. Mo.	Condition	Action to be taken
	without orior approval of the Central Government	without prior approved of the Central Government. Undertaking englased
(av)	The layout plan of the proposal shall not be changed without the prior approval of the Central Geogramsen)	Noted and confirmed. Layout plan of the proposal shall not be changed without the orior approval of the Dennial Government. Undertaking enclosed.
-		listed and continued
(surl)	Minimal disturbance should be ensured by creating indoor camps outside the furest even as for as possible and it will be the responsibility of the UA to ensure that the labourers & staff engaged in exerction of work do not destruct rearby flore & fauna.	Exhall be ensured that there is minimal disturbance by creating labour camps eutside the forest area as for as possible and that the labourers & staff or gaged in execution of work do not destruct nearby flora & faura. Undertaking enclosed.
		Robes and confirmed.
(evil)	The total forest eres to be utilized for the project shall not exceed 3.25 he and the forest area diverted shall not be used for any purpose other than those shown in the discussion proposal	The total forest area utilized shall not exceed 3.26 ha and the forest area diverted shall not be used for any purpose other than those shown in the diversion proposal
	***************************************	Undertaking enclosed.
(oxti)	User agency and state Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.	Noted and confirmed. Undertaking enclosed.
(4×)	Any other conditions than the Central, Speciment or Regional Officer, 1903, Vijoyawada may impose from time to time in the interest of afforestation, conservation and management of flora and fauna in the arms, shall be complied by the user agency.	Moted and confirmed Shall comply with any other conditions that the Central Cocomment or Regional Officer, 160, Wayawada may impose from time to time. Undertaking weakness.



Citized Natural Gas Corporation Limited Eastern Offshore Asset 3rd Floor, Subhadra Arcade, Bhanugudi Janotion Kakinada-633 003 Telefec: (0884)-2174104

S. No.	Constition	Action to be taken
(44)	Compliance report on the above conditions shall be processed and submitted through e-portal (https://partvesh.nic.in/)	Noted and confirmed. Undertaking undes ed.
(5a1)	In the event of failure to comply with any of the above conditions the user agency is liable for	Noted and continued,
	penal action as provisions of releaf guidelines made under PCA, 1980	Undertaking and esect.



Oil and Material Gas Corporation Ulmited Eartern Offsbass Asset Ad Floor, Subhadis Accests, Sharegadi Janction, Kakinada- 533 803 Totolage, 10884-239 4104

Undertaking to Consistion no. \$5 to comply with the following consistions.

"Legal Status of the diverted fores; bind should remain unchanged."

We, the Dilland Batural Gas Corporation Braited, undertake to comply with the condition of not changing the logal Status of the diversed forest land as scipulated in condition (1) of vice # As. 4-APS224/2023 VU/SS: 0: 17-69-2021

(For Oil and Notural Bas Corporation Limited)

ANIL CHAUDHRY GOM

Trejert Manuer AG Dann-187

EGA, CNGC, KANIMADA



Oil and Material Gas Corporation Limited Existery Offshore Asset and Floor, Subhedre Arceste. Bronogest Junction, Kakinston 531 801 Tulefax, 10884 2374104

Undertaking to Condition no. [8]) to comply with the following condition:

"No trops follows shall be carried out in the discreted forest area"

We, the CE and Beturn Gos Corporation Limited, undertake to correly with the condition of No trace falling shall be carried out in the diverted forest area as allowated in condition (3) of side # No. 4-AVB114/2021-9 s/cs; De.17-09-2031

[For Oil and Natural Gas Corporation Limited]

ANIL CHAUDHRY, GOM PICAL MANDEL DO-CAN SEC. COA, ONGC, BANINADA



Oll and Natural Gas Corporation Linebad Eastern Ottahore Assaul 2nd Floor, Subhadra Arcade, Shanagadi Arachen, Kakmada-523 003 Telebar, (8984-2274164

Undertaking to Condition no. (A) to comply with the following condition:

"Identified degraded forest area for CV purpose and CV scheme shall not be changed without interpropriatoroval Central Covernment".

We, the Oil and Natural Bas Corporation Limited, undertake to corogiv with the condition of identified degraded forest area for 6.6 jumpses and 6.8 scherce shall not be charged without prince approval Central Government as straulated in condition (5) of vide FAIO: 4-AP\$1.24/2021-VII/68. On 17-08-2021.

(For Oil and Natural Gas Corporation United)

ANIL CHAUDHRY.GGW



Oil and Natural Bas Corporation Limited Eastern Offshore Asset Snil Floor, Subhacro Arcede.

Sharuguti Avetice, Kakiruta-533 003

Telefax: (8884)-2374104

Undertaking to Conditioning. (All) to conside with the following condition:

"Additional amount of the feet Fresent Value (NFV) of the directed forest land, if any, becoming due effor revision of the same by the Hamble Supreme Court or India in future, shall be charged by the State Government from the State Agency. But agency shall furnish an undertaking to this effort."

We, the Dill and Natural Gas Corporation Limited, undertake to comply with the possition of Playing of Additional amount of the Net Possent Value (NPV) of the observed forest land, if any, becoming due after resource of the same by the Bon*ble Supreme Court of India in future, which that the charged by the Date Government as adjustated in condition (7) of wide F24c. 4-APSC24(7):01-4(1):66: ULLI ADS-2001.

Hor Offerd Natural Gos Constration Limited

ANIE CHAUDHRY, GOM



Oil und Metanal Gas Corporation Limited Eastern Offshore Asset 3rd Floor, Subhadra Arcade, Sharragurii Janetion, Kadikada, 633 863

Telefac: 108841-2374104

Undertaking to Condition on (AII) to comply with the following condition:

"All the funds received from the User Agency under the project that be travide real/department to CAMPA hand only through e-portal (https://parlwednisk.in/)"

We, the Oil and Natural Gas Corporation simplest, undertake to comply with the condition that All the fundament and from the User Agency under the project shall be transferred? deposited to CAMPA fund only through a portal lifting //pertant-rickny) as attpulated in condition (fig. of value F.No. 4 AP\$124/2021 VIII/88: 04.17-05-2021.

(For Oil and Natural Gas Combration United):

ANIL CHAUDHRY GEA Frenct Manner AC CONTROL EDA, ONGC, KAKHILERA



Off and Vatural Gas Corporation Limited Essiern Offstein Asset and Ricer, Subfastia Arcade, Shanagard Junction, Kakinsets-533 903 Teletac: 10684-2384-104

trindertolicity to floodition on: [in] to comply settlethe tellescopposed tion:

"The Mark generated in the worth nutting if any, will be disposed all at designated during a sites and in the case the marks' define will be disposed all in the forest areas."

We, the Dilland Natural Gas Corporation Limited, undertake to correct with the condition that the lifetic parents of in the south outling if any, will be disposed off an designated dumping. Most and in the case the mucky debrie will be obsposed off in the forest areas as as pubmed in condition (86 of mile 1986; 4 AP\$124/2021 VIJ/88; Dt 17-09-2021).

Her Oil and Notural Gas Congression Employ

ANII. CHAUDARY, 65M India: Mesign, 63-76% 881 EDA, DNGC, KANMARA



Oli and Natural Gas Cosporation Limited Eastern Ottohore Assot 2rd Floor, Sushadra Arcada

Bharagadi Joreston: Kakmaria - 533 063

Telefax: 01994/-2324104

Undertaking to Condition so, (x) to comply with the influency condition:

"The User Agency shall display a grage/ Court on beares at appropriate places for selety and assertance."

Who, the Oil and Natural Gue Corporation Directed, and etuke to correly with the condition that the User Agency shall display sepages' Caution boards at appropriate classis for sofety and awareness as attracted in condition (10) of vide Fig. 4-APB124/2021-WU68, OI 17-09-2025.

(For Oil and Natural Gas Carporation United)

ANIL CHAUDHRY, GOM Proper Manager, 85-764-8035 EDA, ORGC, KANINAGA



Oil and Natural Sax Corporation Limited Eastern Offshore Asset

Srd Floor, Sathadre Arcade, Rhavogadi Ametine, Kakinada, 500 003

Telefax: 788844-2374104

Unitertaking to Condition no. (xf) to comply with the following condition:

This User Agency shall menitor the plactime at regular intervals to ensure safety and to avaid any accident. The User agency one I submit such monitoring reports to the 0FO concerned "

We, the CH and Natural Gas Corporation Unities, undertake to comply with the condition that we shall monitor the appearant regular intervals to ensure helpty and to excit any accident and shall submit such manifering reports to the BHO concerned as situated in condition [11] of yide Fig. 4. APR 124/2021 VIVIS DC 17-05-2121.

(For Oil and hatural Gas Corporation Limited)

ANIL CHAUDHRY, GGM



Gil and Natural Gas Corporation Limited Eastern O'Ishore Asset 3rd Floor, Subhacra Arcade, Bhanuguei Junction, Kaldnade, 533 083 Telefaz: 1906/6-2374188

the services the detections are fully to comply with the following condition:

"The State Government/ liker Signey shall comply with its conditions at pulsted in the CR2 disprance".

New, the Dilland Natural Cas Corporation Limited, undertake to comply with the condition that GNGC shall comply with all conditions sligatered in the CRC desirance as stipulated in condition citin of side f. No. 4 APRICA/2021 Villate 01.17 On 2021.

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AMERICAN PROPERTY.

(For Oil and Natural Cas Corporation Limited)

AND CHAUDHRY, GGM PROJECT MARROW, OF DWG-1967. POA. OHGC, MASHADA



Oil and Noteral Ces Corporation Limited Society Offshore Asset and Ploor, Sobilistic Arcado, Shoregas' Junation, Karl and p. 533 663 Intelact. (0884)-2074154

. Undertaking to Condition no. (sky) to comply with the following condition :

"The formal land proposed for share on that under no discurrentances be transferred arounded at any other agency, department or person without prior approval of the Central Government."

We, the Gd and Notor of this Corporation United, undertains to correct with the condition by not transferring or sub-leading the proposed for strikening the approximation person without prior approximation for the central government as stipulated in condition (bill of side F.So. 4-VPDL24/2001-VU/SS, bt 17-09-2001.)

(For Oil and Natural See Corporation Limited)

ANTE CHAUDHRY, SAM BIGGS MERGE, SCOWNING BOA, ONSC, KARIHADA



Direct Note of Cas Corporation Limited Eastern Offshore Asset and Floor, Subhadia Arcade, Bruseguel Junction, Kardnada 533 873 Telefon, 88849 2374104

Undertaking to Good tion so. (set) to comply with the following condition:

The light plan of the proposal shall not be changed without the prior seasons of the Contral Convenient."

We, the OS and Natural Gra Corporation Heaters, undertake to comply with the contribution by two changing the layout plan of the propertie without the prior approved of the central government as appointed in condition (15) of wide P. No. 3-ASS134/2021-VII/OS; Dt. 17-C9-3021.

Pur Oil and Natural Con Corporation Uniford

ANIL CHAUDHRY, 6GM Project Manager, 15-1868-1821 ECA, ONGS, KASIHADA



Olt and Natural Gas Corporation Limited Eastern Offshore Asset. 3rd Floor, Subhadra Arcade. Bhanagadi Arcetion, Kokinada, 533 003 Telebor (8834)-2274104.

Hadintaking to Confision no. (avi) to comply with the following revelopes:

"Windows disturbance should be ensured by erroring lobour career extends the farest area to far as possible and it will be the responsibility of the List to ensure that the labourers & staff ensured is ensured an execution of work to not permit search flow & faunce."

We, the Oil and Natural Gas Corporation Limited, undertake to comply with the bondition time. Makenal-distantian should be unaward by creating labour corresponds the forest ones as far at possibility and it will be the new peralbility of the GNGC to ensure that the labourers & gott suggest in expension of each tip not destruct nearby flore & trunc as stips labed in assists on [16] of oids First & AMM 14/2001 AMM 16: the truncation of our stips to the truncation.

(For Oil and Matural Cas Corporation United

ANIL CHAUDHRY, GOW PROJECT MANUFACTOR SET EQA, ORGC, KANIHADA



Oli and Natural Gas Corporation Limited Esstern Offshore Asset: 3rd Floor, Subhedra Arosole, Brancipad Janetine Nationals, 533 833 Telefac: 98844-2574184

Undertaking to Condition no. (soil) to comply with the following condition:

The solal forest area to be will and for the project shall not exceed \$.25 have a fire forest area discrete shall not be used for any purpose other therethere, thrown in the discretion proposal."

We, the fill and Natural Can Corporation Landed, undertake to comply with the contillion by ensuring that the total forest area utilization is hosted to E.25 ha and the forest area directed shall not be used foresty other purpose other the others shown in diversion proposal as attached to execution (22) of vida F.No. 4.0099 say/min wil/83; in 17-64-2021.

(Recipil and Batteral Gas Compression United)

ANTI, CHALIDMAY, SGM.

Freed Manager, 50-0AH MAT

EGA, GREC, SARIMADA



Oli and Matural Gen Corporation Limited Eastern Offshore Asset 3rd Floor, Subbadra Arcade, Shoregadi Junction, Kakinada 535 005 Telebac (6154)-2274104

Biodestaking to Condition no. (cold) to comply with the following condition:

"USEF actings and state (sovernment shall stream compliance to providenc of the all arts, loaks). Regulations and Suidelines, for the artis being interesting as explicable to the project".

We, the Gill and Natural Ray Properties Tiested, undertake to comply with the condition that CNGC shall ensure compliance to previous of the all Ada. Natural Regulations and Calculance, for the time being in force, as applicable to the project as supplicable recondition (18) of cide F.Ma. 4-A48124/2021-VUSS; 0c.17-09-3004.

(Fire Oil and Mahanal Gas Corporation Umited)

ANIL CHALIDHRY, GOW FORM MANAGE AND STREET FOR, ONGC, KANNADA



Oil and Natural Gas Corporation Limited Explant Oil share Accels and Floor, Subhacks Arcado, Sharegard Junction, Makmada-533 000 Tarafas, (1994)-2774104

Undertaking to Consistion on (about comply with the fallowing condition:

"Any other conditions that the Correct Commenced or Regional Officer, ISD. Versionals 1999 impose from time to time in the interest of ellipsectation, conservation and management of florough from an the area, shall be corrected by the conservation."

We, the Officed Natural Cas Corporation Leaster, undertake to comply with Arty other conditions that the Central Covernment or Regional Officer, IRO, Viberasca may impose from time to time in the interest of afforestables, you workship and management of flors and forms in the area, draft by complete by the user agency to thou sted in specifion (35) of take * No. 3 in Ph. 24/2021-14/2021-14/2021-14/2021-15-2021.

Hor Oil and Kunnal Gas Corporation Umbed

ANSE CHAUDHRY, 65M FIGER MINISTER, 05 OWN-BUT TOA, DINGS, KARIHADA



Oil and Natural Gas Corporation Liveling Existent Different Asset 3nd Floor, Submadra Arcado, Sharogud, Janetton, Kalimada-533 003 Telefast (8884)-2174184

Undertaking to Condition so, (soil to comply with the following condition:

Compliance report on the above conditions shall be arrespend and admitted through e-partial decays/degreesbacks in (n).

We, the Oil and flatural Gos Corporation Electron, undertake to process and automit compliance instruction all the conditions through a partial (heters//periods) and (a)) as separated in condition (20) of water No. 4 APSE24/2001-V1/200 0c.17-09-2003.

(For Oil and Natural Bas Commission (Instinct)

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Oil and Natural San Corporation Limited Eastern Offshore Asset 3rd Place, Subhadra Arcade, Sharegedi Janction, Kakinada-533 903 Teletar: (0884)-2374104

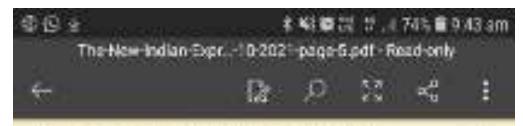
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EASTERN OFFSHORE ASSET, KAKINADA (A.P)

This is to inform the public that the Diversion of 3.36 ha of protected forest land(2.67 ha of limest land in Maturippa RF and 0.59 ha Mangrove Forest land(a) Kakmada Division for beying at 26° pipeline (stock 3.1 kms) from ottobure plantoms through mouth of the Goutsen River to ONOC anshore plant Mallavaram at East Godayan District has been accorded Stage I permission by the Ministry of Environment, Forest 3. Ginners Change, Government of India (IR.O. VIJAVAVARDA, vide P.No. 4 AP(5):24/2621 VIJES DT. 17.09.2021 and vide G.M. No.963/ Section II/2621/ (14006-16) dated 20.06.2021 by Environment, Forests, Science & Technology Department, Government of Andrea Pradicts The baptics of permission are available with Andrea Pradicts Forest Department and sets site of MotFCC at http://www.envior.mic.in.

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The R.D.D., R.D.O. office NTR Marg, Near Red Bridge Amalapuram, East Godavari A.P.533201

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10/4/21, 11:55 AM NEFT RTGS CHALLAN



NEFT / RTGS CHALLAN for CAMPA Funds

Date: 04-10-2021

Agency Name.	ONGC
Application No.	7242672959
MoEF/SG File No.	4-APB124/2021-VIJ
Location.	ANDHRA PRADESH
Address.	Corporate HSE, 8th Floor Core IV, SCOPE Minar, Delhi 10092East
Amount(in Rs)	10571980/-

Amount in Words :One Crore Five Lakh Seventy-One Thousand Nine Hundred and Eighty Rupees Only

NEFT/RTGS to be made as per following details;

<u></u>	
Beneficiary Name:	ANDHRA PRADESH CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150597242672959 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

 This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only



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After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note: After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com



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ECOLOGY AND BIODIVERSITY STUDY REPORT & WILDLIFE CONSERVATION PLAN

For

The Proposed Laying 20" Pipeline of about 31 km length from Offshore Platform, through Mouth of the Goutami River to ONGC Onshore Plant at Mallavaram Village, Thallarevu Mandai, East Godavari District, Andhra Pradesh.

Charles Accept Chicago

Submitted by



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Oil & Natural Gas Corporation Limited (ONGC)
Kakinada, Andhra Procesh.

October 2021



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LD INTRODUCTION

Oil & Natural Gas Corporation Limited (ONGC) is a Materialia company. Public Sector Undertaking (PSU) of the Government of India, under the administrative control of the Ministry of National and Natural Gas. It is India's largest oil and gas exploration and production company. It produces around 20% of India's crude oil (equivalent to around 30% of the country's total demand) and around 62% of its natural gas. With a market capitalization of over IMR 2 trition, it is the India's fast largest publicly-traded companies. It is the largest crude oil and natural gas company in India, commissions around 7C per cert to Indian domestic groduction, Crude oil is the raw material used by downstream companies like 10C, BPCL and HPCL to produce petroleum products like Petrol, Diesal, Keressene, Naphtha and Epoking Gas-LPC.

ONCE is the Top Energy Company in India, ranked 11" globally as per Platts Top 250 Global Energy Kanlangs, 2017. It is the only public sector Indian company to feature in Fortune's 'Most Admired Energy Companies' list. CMSC ranks 18" in 'Oil and Gas operations' and 180" overall in Forbes Global 2000. Acclaimed for its Comparate 19 recommend practices, transparency international has ranked DNGC 26" among the biggest publicly braded global glants. It is most valued and largest ESP Company in the world, and one of the highest profit-making and dividend-powing enterprise.

ONGC Videsh is a wholly owned subsidiary of 84 and Natural Gas Corporation Limited (ONGC), the National Oil Company of India, and is broke's largest international oil and gas Company. ONGC Videsh has participation in 41 projects in 20 countries namely Assertation, Samphdesh, Bracil, Colombia, Insq. Bracil, Iran, Kasakhstan, Libya, Mazambique, Myanmar, Nambra, Russia, South Sudan, Sudan, Syria, United Arab Emirates, Venezuela, Vietnam and New Zealand, ONEC Videsh maintains a balanced portfolio of 15 productor, 4 discovered/under development, 18 exploratory and 4 pipeline projects. The Company currently operates/ jointly operates 21 projects, ONEC Videsh had total oil 8 gas reserves (3P) of about 211 Nillion Metric Ton of Oil Equivalent (NIMTOE) as on April 1st, 2018.

Now, ONGC proposes to key 20° ofpetine (about 31 km length) to transport gas, from Offshore Platform, through Nouth of the Goutami River to ORGC onshore plant at Mailevarem Wilage, Thailerexu Mandal, East Godavan District, Andhra Prodesh.

1.1 Background and Importance of the Project

The Indian hydrocarbon industry is sumently passing through a challenging phase with the share of natural gas, the third largest contributor to the national energy basiset, projected to increase at a rate faster than any other energy source. In order to meet the exer-increasing national energy requirements and to reduce the burden of hydro carbon imports on the national exchequer, bit & Natural Gas Corporation Limited (DNGC) is currently involved with the exploration in several deep sea fields off the east coast of India.



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1.2 Objective of the Study

- +Printary Survey of Coology and Biodiversity of the core area extending up to 500m on either side of the proposed pipeline route and the buffer zone extending up to 10km in order to gather baseline data relating to flore and fauna with special reference to RET and Schodule I species.
- To assess the impacts of project activities on fauna, flora and wirdlife in the study
 enseduring different phases of the project.
- To prepare inapagement and conservation plan in consultation with the State Forest and Wildlife Department in habitat improvement, resource augmentation and reduction of potential threats using modern technologies.

2.0 SALJENT FEATURES OF THE PROJECT

2.1 Hame and Address of the Proponent

M/s. Oil & Natural Gas Corporation Limited (ONGC), Easter of Share Asset, 2rd Floor, Subhadra Arcade, Bhanugudi Junction, Kakinada, Anthre Predesh-533 000. Toldas: (0884)-2374194

2.2 Project Location & Nature of the Project

The proposed 20° pipeline route of total 51 km to length from offshore Central Process Platform (CPP) location to onshore Gas Terminal (CCT) at Malavaram comprises of following segments:

- CPP to River Nauth: offshore laying (about 9 km) at (epth of 1-2 m by post lay transming method.
- River Houth to Landlati Point (LFP): Tayong along the Gowthams over (about 11 km) at cepth 7 m (below the scour depth) by diedano method.
- UP to OST, MAlawaram: onshore laying (about 11 km) buried at depth 2 is below surface by trendtion method.

It has major filter prossings by Horizontal Directional Drilling (HDD) at two different locations, crossing of Mangroves area and cond (at OCT) by HDD with 15 or dipth. The environmental setting of the proposed pipeline project is given in Table-1.



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TABLE-1
ENVIRONMENTAL SETTING OF THE PROPOSED PIPELINE PROJECT

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3.0 ECOLOGY & BIODIVERSITY STUDY

The core area is defined as the stretch of 1900 m wide (500m or each side of the proposed pipeline) 31 Km lengproposed laying20° pipeline from the offshore platform, through the mouth of the Gautam River to ONGC or shore plant at Mailacarem Village, Tallaceva Mandai, East Godavari District, Andhra Pradesh.

The total length is about 30 km but the prishors length is only 10km and hence the terrestrial area including the marshy areas and asusculture goods. The length of the pipeline that passing through Masan bipga reserve forest. Rebikalya section boundary of miserved forest is 1.17 km over portion and the forest area involved is about 2.45he (10 m buffer either side of 1.37 km pipeline. For the purpose of EIA, a buffer zone of 10 km radius around the procline by considered as the study. area. The study area is not in expansion diversity. It ranges from marine to echiatine and fresh water ecosystems passing through large mainty areas, manorove forests, mod flats, aquaculture bonds, sand clones, salt para, croplands, plantations and builtup press. As such there is a few amount of biodiversity, mainly because of the rich definit sails, availability of water and counts) climate. The forests in the study area represented by the Hangroyes of Godayon Estuary. The East Godayon River Estuaring Engaystem (CCREC) is famous for the Corings Wilclife Sanctuary (CWLS). The nearest distance between the boundary of the CWLS and the pipeline is 2.32 km. In view of the location of the CMI Switten a distance of 10km from the pipeline, pipeline fells. In occ-sensitivepore, as ESZ of CWLS has not been declared and hence 10 km ix. the default ES2. In view of the National importance of the populae and the justifiable need to for the eas pipeline, the ONGC after a careful investigation of three elternatives chosen the one under consideration based on the medit.

3.1 Methodology

Extensive survey of literature on Flora, Fauna, Ecology and biodiversity of the Godsvari River Estuarbe Ecosystem (EGREE) in general and Coring Wildlife Sanctoury in particular was carried out during April and May 2019. There is abunded of valuable and ratiative scientific information in the form of records, reports and scientific documents. Based on the knowledge and information garned through desk-top studies, primary survey of flora and fours of the project ato including the buffer zone was undertaken during Hay 2019 by Prof.K.S.Reddy, Retired Professor of Reology and Environmental Sciences and QCI-NABET Accordites. Functional Area Expert in Ecology, Bridtversity and Soil conservation (Category A). The report was prepared bound on what was seen during the filed survey and what was an record and in consultation with forest & wildlife officials.



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3.2 Field Surveys & Ecological Assessment

Vegetation and Flora of the Core Area (500m on either side of the Pipeline)

The alpeline takes off from the offshore Sentral Processing Ratform (CPP)in Bay. of Bengal, passes through the Gautami Godewari River, aquequiture ponds, marshy areas, must flate and a free outsides of decreated forests where the manaroves are mostly replaced by Prospers AdPara. Since the project impacts either in the sea or in the Gautami Godavari River are temporary and limited to construction (laying of pigetine) and as no tree or vegetation is going to be lost, the area a not considered for detailed survey of Sindiversity. The postore vegetation comprises of saline mud flats, marshy areas, Hangrove forests and curtivated alants and commercial plantations, especially Coconst. Among the Manaroves, both Avicennia alba and Avicennia officinally are most abundant dominant. Proposity addition has invested those areas where care event constant aither on account of the fall of Awarente trees or felling of the same. Beyond the influence of estuarine and marine water, all common cultivated fluit trees, arcental trees and commercial plantations Coronal were very common and widespread. It may be stated that the rearly threatened (IUCR) mangrove services (Cervices decays/via) which is found in the Coringa Wildfle Sanctuary (CWLS) has not been reported it was absent in the core area. A common list of Plangroves and Nangrove Associates found in the core areas (1000m wide band slong the pigs line) as well as in the buffer space of 10 km is given in the Table 2. since most separes except Cartaba decardy are common to core area and the buffer zone: But the impact of the pipeline shall be limited to a maximum of 10m. width. A map of the study area indicating the route of the proposed pipeline, CIVLS, Reserve forests and water bodies in the 5 km, 10 km and 15 km buffer ason is one on Figure-1.

Vegetation and Flora of the Suffer Zone

As already stated earlier, the buffer zone is not in historial / Ecosystem diversity. In the Coringa WildFe Sonctiony (CWLS) there is one nearly threatened (SUCN) mangrove species (Certapo decardra) and there are three rare species (Soncreatis alos, Scynhiphora hydrophylarces and Sylocarpus motocoeres) which are not reported in core areas. This is probably the only place (CWLS) in Endle where three operates of Associate, Associate officially, Associate manner, and Associate place are found together in mixed forests.

A brief description of the vegetation and flora of the different blocks shall follow. Needless to say, that the Corings Wildlife Sanctuary (CWLS) is rich in Biodiversity and the area newwood fairly good amount of scientific attention. A list of examinat forests along with type of vegetation-presents the buffer zone along with there extent is given in Table-2. Scalings & Biotherselp Scale Property, Whitelet Conservation that for the Property Coding 16.7 Physican of Johnson III has being the force Officially the Mount, Managh Mount of the Conservation in CASC Despite Plant of Statements Killings, Ton Boson, Manage, Part Statement (Missing, Analysis Products)

TABLE-2 LIST OF RESERVE FORESTS PRESENT IN THE BUFFER ZONE AND THEIR EXTENT IN HA

Ruserved Forests	Type of vegetation	Area in ha within the CWLS	Area in he autiside the CWLS
Caringa Extension RF	Mangrove swamp	19441.70	2000
Contigue 82º	Mingrowi swifts	3150.54	-
Basinswepsion Af	Mangrover swarzp	922.05	100
Kondikograpi NF	Casa artina prontation	-	3484
Kottapasen RF	Perry aguacators Ponds	34	66
Husentitippe RF			1090
83A.S.(00038 RF	Mendrove swemp		476
Nasion/Sppa RF	Managrates swamp	7.4	546
Rabidelova RE	Mengrove swemp	2.4	2043
M31200018		Terris Erasson	448
	Sub Total	23,570.29	8,335
	Total		31,725,39

Source: Attac of Recognisive Wellback: of trade: And J. Andrew Mischester, 1. Americans and attack: M. S. Severninothan Resource Florestation. Character, Proces. Mand. 2004



Scalings is all all the second country inspects whilelest commercial than for the Proposed Landing 19° Physician of second 33 for Aright from Ottology Physician, Manage Route of the Greatest Street in Ottol. Despite a Maril of Bullimouses. (Phys., The Bureau Manage, Paul Code second Middle). Another Products

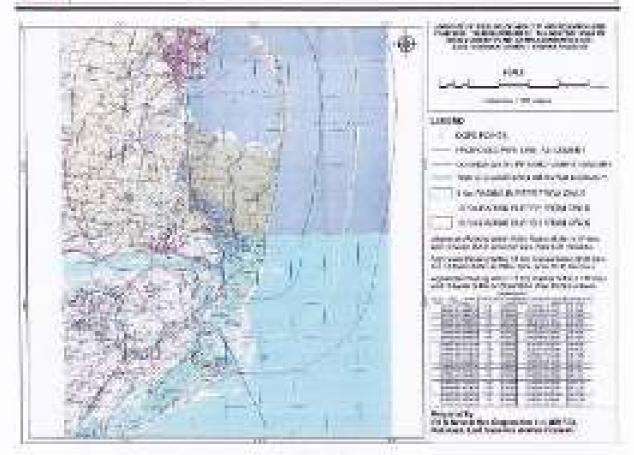


FIGURE-1 STUDY AREA MAP OF THE PROPOSED PIPELINE ROUTE, CWLS, RESERVE FORESTS AND WATER BODIES IN THE 5 KM, 10 KM AND 15 KM BUFFER ZONE

A common list of Mangroves and Mangrove Associates found in the core areas (1000 m wide band stong the pipe line) as well as in the buffer zone of 10 km is given in the Table-3. However, only part of CWLS talls in the 10km buffer zone and the shortest distance between the opening and the CWLS is 2.35km.

The vogetation and flore of sifferent areas is slightly different depending on topography, salinity and land use as revealed by the following details:

Occasionally inundated eness support species like Exception against and Limitationa nicernose and generally they are of short stature. Susceed manager, Support supported common in this area.

Casuarina Plantations: The Casuarina plantations raised by the Forest Department along the coast are seen in the Hope Island, along the above near Masantippe and in Kandikuppe R.F. near Secrements lightheaver.



Burkley & Mindreschip Stady Reprints transfer Continues that for the Avenuese Laying St. Historics of about 22 km languis from Oliviana Martinos, remigh Month of the Galactic March of the Galactic M

Invasion by Promopte fulfillors: Invasion of Acasquis fulflors, an early species with wide acategoral amplitude was quite common in the high tidal mud flats where immediation is some. Invasion could also be seen even near the river mouth and degraded forests.

Corlinga Reserve Format (RF): The Mangrove vegetation in this R.F. is dease. The total area as per the forest department is about 4,342 ha, out of which 2,951 ha is with dease mangroves, Avicann's means and Excessions against a see the deminant species. Amenines Artifolius and Mynastechya wightlene are found in thick patches slong the creaks of Coringa River near Partiann'species and Nationalem creeks. Associated species him Programs papatient, Missous phaceus and Chrodistation means are present. Suggest meritims and Suseds recorders are common in the degreeded and partially degraded areas, in the discussion arrange where the sail is highly within Suffernia backhista is seen. Shrubs namely Acoustines Archives and Delbergio spinase and climbers like Johnses note, Sercolobus carbatus, Caesalpinia crista, and Derbe Infolate are also recorded. Laterations associates, Exceeded agained a subjection and arrange are sound in the up-land areas. The soil of this R.F. is claves.

The mangrove streak in near Corings river mouth and Matiapalam tanal and distinct. Associated afte is seen as pure stands near Kakinada Bay side (Corings River and Patiapalam tanal mouths). The next some towards landward side is with pure stands of Somework apetals. After this the virgetation is mixed with pure stands of Excourants apatiants, Compilers receives, Agricanas commitaistics and Anisomala marks. The other mangrove species Rhipophora apiculate, Kylocarpus moleculate, Bruganes rythethers, Brugaless generalized and Canonis decandoners almost obsert.

Coringa Extension R.P. The Coringa extension R.F. as per the records of Forest department is 19,467 ha, As Raionach dary telle under this R.F. more than 50% of the error is under water hodies. The vegetation along the Natispalem creek and Gaderu crook are thick. Exceeding applicate is the dominant species and Awicensia moving it sub dominant. The average height of the vegetation is about 4.5m. In the easiern side of Eadaru River, species namely Brogueria are immediate, Bruguiera colindrica, Rhapphus applicable, Rhapphore mucronate and Xylocarpus mollucioness are recorded. These species are either rare or absent in the Matispalem cares area, fleer the Sederu river mouth Someontic alba is recorded. According distribute, Mydographya wighters, Fembrishylis Armaphore are recorded. In the degraded areas Suseds motivities, Schools maritims and Sedepmia brochists are recorded. Session partners from this R.F. slong with Brooklers cylindrica near Gaderu side. The sed of this R.F. is clayer in the Gaderu riverage and sandy play near the Bay side.

Bhairavapalem R.F. It is named after the village theiravapalem that is situated near the Godavan River mouth and occupies an area of 971 hs. In Shairavapalem R.F. almost all the species are recorded except Saydisphore hydrophythese. In this R.F. Exception against Antonnia marino, Antonnia allicanda and Angelonias connectations are element. Antonnia apecala, Rhiguera gyrinomials and drugulera cylindrica are seen along the create. Stareds app. Is noticed in the degraded areas. The other species namely Davis tribulate. Secondaria ranhatics, Cloredizabute merce and Balberge spinosa are also recorded. The set of this R.F. is clayer along the Gudere River and it sends day towards the search.



Ecology & Modernalty Stady Respects tolked to Components of the fact the Proposed Earling 20' Psychologist at Almei 10 And Impel from Officians Plantings, through Manch of the Gastand River to 1982's Deschool Planting Materials (Malaconsis Unique, Phalacons Respect Section Particles).

Ratifications R.P. The total area under this R.F. is 2,043 ha of which 805 ha is with dense mangroves. As per the GIS data, the water spread area (Godavan River) accounts for 724 ha. Degraded enti-partially degraded changroves account for 214 ha. Rhapphora opicalata, Rhizophora mucronota, Xivicovous mallucososis, Brugusera gyronomicza, Arcosonia markes, Arcennia officinals and flagoscaria agailache occur in this R.F. Trees of Shitrophora, Brugusera are seen along the creeks reaching a height of about 4 to 5 in. Large trees of Arcosonia officinals and Condension officinals are found in this R.F. along with Thespesia populatea, Hibisous placeus and Clarodendrum instrum. Species of Susecia and Salcomia opour in the degraded areas. Stratted Excuscaria agaillochs, cumultiness recember are also found in the degraded areas. Prosops invasion along the Salery canal is optical which are cut and sold by the villagers for babacou curing during December and January every year. In spite of this areatice, this species is fast making invasids into mangrove areas posing a severe threat to mangroves. The spit is dayery.

Masanitippa R.F. It is named after the village Masanitippa. This R.F. extends to an area of 1,089.5 Ha. Out of this, 814 ha is covered with decise mangraves. The species composition and the vegetation pattern in this R.F. are similar to Bathikalina R.F. Mikrophera apocalita and Mavograva macronate of about firm height are seen along the creeks. Ancestria woring and Encoccuria agailloche are the dominant species in this R.F. Somerable apetria. Bragaiera gymnovrhiza, Cempa. cleanora, Turnothera recettores and Bragaiera cylindrica are also recorded in these R.F. Large areas of mangroves are occurring cutside the R.F. towards the Bay of Bengal, which is under severe crasion due to oceanic currents and tides. Proscols thickets are also noticed in this area. The soil of this R.F. is clayer.

Matiatippa R.Fr It is fairly dense mangrave vegetation is found on the eastern side. The western side is elevated and also there are no creeks to facilitate tidal flaw. According to Forest department the mangraves are spread in 445 ha of which 210 tile is with registation. The remaining areas are with degreded mangraves and water bodies. Grazing by catale and gout are observed in this R.F. Species like Sonneratia operate. Animals applicate, Animals and providers gymnomists. Animals manina. Astronom officionals, Animals are recorded in this R.F. Climbers like Denris tribitation. Berostobus, aminatus, grasses like Portexesia operateta, Mynostachya wightiana and strubs like Delbergia spinosa and Acaretus Notionus are recorded. The soil of this R.F. is claver.

Baleautippe RP. It is named after the village Salusutippe. The extent of mangroves under this R.F. is about 475 Hz of which 427 ha is under mangrove vegetation. Large trees of Automote officinals, Automote market, Rhizophora applicates, Rhizophora automotes, Brugolana gymnomics, Kylobosepus molecosts and Cartopa alexandra are recorded in this R.F. Large area of mangroves are seen outside this RF, along the Governant Godevan River, Soil of this R.F. is developed.

Kothapalem RF. This is also named after the village Kothapalem. Through the mangrove extent in this R.F. is only 58.8 Ha. The species diversity is rich and the vegetation is fairly dense. A rare and andemic species namely Scyphotora by drophylatona (Rubiaccoe) is recorded near the Secremento lighthouse. They are about 2 m in height. Alone the entire East coast this species occurs only in this



Bridgey & Bindhermity Straig Property Wilheld's Consumption Name for the Engineeral Laplace 26.1 Property of about 31 Am langes train Ottobers Platform, language Reset of the Contrast Street to OVEC Occasion starts at Hadis about Minger, tradescent Mineral, past and your Bastics, Alexand Francisco.

R.F. Other plants numely Exceptor's agalische, (unmitzers regresse, Rhisophicoepiculate, Rhisophice mucromete, Nylocarpus molecoares, Brugulers gymnonthize, Amoenne manne and Amoenne offichalis are recorded. Trees of these species are about 4-5 m in height, Climbers namely, Benris trifofats and Sancalabus carriedus are recorded. Shruiss like Balbergia spinose, Gerodendhum Insylve and the halophytic fracts such as Sanada and Salverana are also recorded. The nearby agus ponds and habitation are constant sources of threat to the mangrove ecosystem in this area. The soil is clavey.

Kandikuppa. RF. This R.F is about 3,502 his of which healthy mangroves occur in 425 Hz. Large cross of Cascarina plantations along the shore, is also a part of this R.F. Vegetation in this R.F. is relatively healthy and also non-in-diversity. Species namely Shicophora apiculata, Bruguiera gymnomica, Ceriops declarate and Sylocarptic molecular are found in the RF. Exceptive apalicitis, Assemble manina, Antonnia officials and Laminosera incomes are also recorded in this R.F. The vegetation in this RF is disturbed due to the human pressure from the nearby villages namely Molletimogga, Kothapalam, Pandi and Pora. The soil is clavers in the land ward side and R is sandy day near the season side.

The mangroves of Godavari are dense when compared to Krishna mangroves. The species composition is also high. Excoecaria agaillacts and Avisensia markin contribute to about 90% of ones of mangroves of the Godavari estuarine complex.

A comprehensive listor all Mangroves and Mangrove associates found in the study since is given in Table-3. The Seauthery in the educity of River Sedavari has rich mangrove vegetation. There are 35 species of plants belonging to twenty four families as shown in Table-3. The plant species that are commonly found are:

Avicannia officinata, Assonnia marine, Avicensia alta, Especiada agallocria, Biscaphora musiconata, Compas decembre, Bruguena gyremoriusa, Lurintzena racerrosa, Somicyania apetala, Rhisopharia conjugata, Asgicerea comicinatum, Therpesia populaeoldes and Midiscus tiliapeus. Apart from the tree species, some of the identical found in the sanctumy are Dalbergia spinosa, Demis trifolieta. Herbs like Seaucium portufacastrum, Sweeda mantima, Sweeda monoica and Salicornia brachiota and grassas like Aleuropus lagopoides, Porteresia coerctata and Nimitestachus wiektūras are found in the sanctuary.



Frances & All-Periods Stante Property Miletic Communication Man for the Property Laples 26". Planting of About 23 for tempth Joseph Periods Platinos, Manage Manch of the Constraint Stante of CAVIC -Posterio Stant at Harmanian Property Indiana, Manage, Stantage Van Antonia, Andrea Fordesh

TABLE-3
LIST OF MANGROVES AND MANGROVE ASSOCIATES FOUND IN THE
STUDY AREA

Scientific name	Partity	Vernacular name	Hab N	130407
Mangraves				
Acastein Spinne	Acceptaces	ABO	57500	160
Appropriation construction	Mars necies	Skipp lem	Tree	1.0
Assessment with	Avecanni a case	RENETTACE	Tree	130
AUROSONIA (TRACERIA	Avicenniaceae	Tetamase	7700	160
Alventra offerials	Avectoring count	Mellerteda	Tree	1.0
Stragartene cylintotice	Rhizopacososae	Dradu	Tren	140
Scaparera gyrenorratea	Elvisophoracoara	Security	TYGG	UC
Carigos decendra *	Bh eachcreasan.	Togena	Tree	MT
Economics againstic	Eshart nesse.	Trans.	Tree	UC
Lorsinizzora, race/nosa	Commissionale	Tranduce	Tree	1.0
PAloschow actorists	Rit apphorages a	Porns	Tree	LC
RAInactions resources	Rh apphoraceae	Pons	Tree	CC
Scyonal tiere nythodrywacou	Dublecase	Narathanduge	Trees	6.0
Sourcesta alba	Schneretiscese	Peode Kakaga	Tree	LE
Scoterena aperala	Sourcestages.	- Ralings tree:	Tree	CC
AWARCHICAN (NOIS) CORNSIS	Metocpes	Surage Tree	Truss	LC
Harigrova Associates				
vieturojaus tigojs tirdes	Poscoze	Vocasu gadd)	0.566	CC
Carniship had carnier	Carped pit flatterer	Renatike Virus	Climber	L.C
Christiananan Averne	Verberingese	Pleange	Smot tree	1.0
Anhergia splaces	Patraceae	Charge	Shrub	LC
Derra missau	Publication	Nellothenega	Within .	LC
Simbelity to foreigness	Cuperaceas	Tungs	56006	0.0
Whisous Misseas	No vecese	Actidiopher e	Small tree	Lic.
(pompes per-ceptos	Convolvulacese	Morning glony	Vine.	UC
Apomosa tuba	Convolvulations	Tel proces	30000	100
Aprophicaya wigopara	P050000	Of sober greater	Green	1,00
Aprilares/a cowcrate	Pososse	Yesing acid	Green.	1.0
Self-tourie brechorge	Chenogodiaceae:	Royalto	Herb.	60
SATCORDES CALVANDS	Asidop etiotosis	Balaborokahisega	With	1.0
Services provide setting	Abragase	Vangaredi kura	Herb	1.0
Superior monitors	Chemical discussion	Esters.	Harb.	100
Sumon run Yora	Cheryppodiacese	Diskurs	Liferb:	120
Zamenic prougal)	Tarranaceae	Poliveta	7/65	3.0
Triespesia dastrica	Welvecase	Gargaray):	Chee	50
Yorkganile becare?	Hydrodiantecese	Ocean and Greek	Herb	3.67
National a system	Hydrochantecess	Closers Fert Grass	Plants	1.00

[&]quot; denotes that the anecles is restricted to Coringa Wildlife Sanctuary (CVISS) only

A lot of photo-found in areas beyond the influence of sea are given to Table-4. A noteworthy feature is the presence of all the times species of Amona (Ansona squamosa, Amona rediculata and Ansona menicula) is the buffer some. It may be noted that two excite trees, namely Terminally manually and Conscargus Ancitrative are now widely prove as avenue trees. List of plant species found in the samply areas and on the burds of the fish pends is given in Table-5. It may



Firelegy & Blockworth Shally Beautify Mildelle Conservation Blan for the Processed Laying 2011 Popular of About 31 has regist from Ottobiers Pictures, Unreagn Starts of the Society Process October Octobers Plant of Mildelleges (Wings, Contempo House), dast traderess Blocket, Angles Produce.

be noted that most of them are mot forming or profusely branching prostrate or erect herbs and eadges.

TABLE-4
LIST OF TREES, SHRUBS AND PERENNLAL CLIMBERS FOUND IN THE
BUFFER ZONE WHICH IS BEYOND THE INFLUENCE OF SEA AND
ESTUARINE SYSTEM

Scientific name	Common / Local name	Earnity
Altrois projection (vit	Garanda	Fit becase
Acticly suppose	Na lating nina -	Mirrocs assesse:
August Assistation	Velage	Rustacese
Albena eshtrenk	Sins	Primosacese
Afgior via schooling	Yezleskolapanti	Acrocymissaea.
Anacondustr copinglish tata	Content to the	Anacorda com
A scone reunicate	Lakshamanachatara	distract access:
Alicona reticulara	Ramagraturi	Arte priespails
Ambria squarriosa	Seebaphalant	Antiproposer
Fathcogolysius kellen	Kadamaa	Ratiocese:
Artowayses Autrestyles	Jock Fall	Promission
Anad restrict Andrea	Wasa	Nethoras
Ancres in respected	Kandianari	Caesate niacezo
EVENUE FORESESS.	As reicherou	Carbolic respectate
Doressus Repeil/er	Testi	Arecacese
Cression in processing	PV0 (20000U	Cassatemaceae
Considerer sagere	Gatrie	Castella me seve
California printer	Social brush tree	Mystaceae
Calobrosis greenidas	To to rated u	Aschalada popul
Catalydae provens	(flexity	Anderstad speaker
Getsir Struit	Rela	Chesalpin acar
Cossia servica	Score: Tangara:	Countries across
Contanto aquisitioniy	Servi	Chaustroscese.
Commotivess observes	Siamm weed	Asterbooks
Catalogord and months	English Private	Verbanaces
Come real face.	Sobbert	Approximate
Consciences assorbable	Conocarous	Combretaceau
Deformale sasco	50400	fabacasa
Defanov elete	Surfamula	Caesagus aceac
Defonor regue	**im@3a7kase/3	Cossis ber server
Consultance formers into teles	Services	Promises
Siners authenness	Oil Polin	Accepte
Societypitas ciones	CHES MANUS	Phytocaca
Encoventus trebrid	Fucal-point	Myrtaceae
Anus becominensis	Banya'i tree	Morocses
Moos benjamons	Wesping Do	Horacene
Figur Astroids	Herv fig.	Moracese
Proces / decornose	Cleaner the	Managage.
Flour resident	Rance	Moracopp
iponses chriss	Buttor vice	Carredvolacece
Acres a analytic	Marring glary	Conscional acres
Personal sources	Incarrando	B gnomiaceae
Attroors oursewing	Acaycomudamu	Dugtorbisces
Jetropris doseva Va Na Sa	ACTA MOSTAL CONTAIN	Excharbiacese:
LATERAL COTTACE	Lancaga	Verbonacción



ecology is alsochrocally Study Reports Miscolin Colocordation than for the Proposed Cayling 30° Physician of about 31 km length from Officions Martings, through Month of the Spitace Piver to Omici Occident Plant of Malacorne Wilaye, The Service Reports! East Colocord District, Seeling Process?

Scientific name	Common / Lect name	Family
Lantesians vertaxini	Kalesa	Aschbedgeses.
Leurovora l'evocopenhale	Subabut	Mirrosacese
Managera (solica)	Mango / Waarred	Anactirolaceae
Marchare Zapota	Sapota	Supotagasa
Monetis champage	Chettusiam penga	Magnoliaceae
Morrisgo pilengospomio	Ponaga	Mortinggroom
Martingal cetabore	Jernalica Cherry	Municipal programmes:
Mater paradical ta	74(80)	Musaceae
Mariore odorore	Capture	Approximation a
Farstenius descipatorio	Mogali	Penetimacaiasi
Sestigationary previous rouse	Cooper god:	Coesalpi niaceae
Fernalishi (Dentile)	Collapateaga.	esc aplada quae
Ahounts ayristatink	Detha	Anecapese
Attalentius recoulatus	Porografia	Euphortracese
A Third and other students	Seame charge	Phytosocians
Aniyarima pandhar	Ashoka	Associacias
Anngariig Sovieta	Capridge	Papaceer
Rivideam guerra	Jaena	Mysacare.
Proceeding professe	English thumma	M mosacene
Servance server	Rain free	N respectation
Spetrodia compensately	Plens of the forest	Bigraniacese
System rumin!	Neroda	Mycacine
Tamamatis mater	China	Cassalphrapsac
Tectoria grianolti	Test	Yorkerseinen
Tention's arrival	Te lamadd	Combretaceae
Term has to cological	Seacon	Combretzones
Terrotinally example:	Nedegescar almond	Combretacess
Treoproma cadas	Cocoa orant	Maryeceae
Triespears paperstes	Genge nasvi	Kalvacesa
Louisia pientifolie	Vector	Birchideosae

TABLE-5 LIST OF PLANT SPECIES FOUND IN THE SANDY AREAS AND ON THE BUNDS OF THE FISH PONDS

Scientific name	Common / local name	Earnity
rehvopus Naggasides	Mangrove grass	4000602
Alimanai a seMana	Geragatioone	Anuaran Hukusaa
currante becombere	Silvering American	Aymracese -
Zerowakia Arabaka	South Supp	5906000
Certained's maritime	Resch Sest	Fablaciene.
Conchonis dispression	Chare grass	Phacese
DOSSOVA SUMA	Station Auditor pool	Fabacese
Choopillante Sepount Holly	Wild Sat James	Facacese
Chorastavia in emicrophia	KNIBO MOCO	Februarie
Crodelarse xigrae	Titry remis pad	Cabacrese
Crotelane verricosa	Blue Astitle Pod	Fatacete
Cingranics arrangements	Watautter	Cypercercions:
Cypnocus premi ricularius	Bearty Scor.	Capesacone
Coparus statoreforus	Paperes secon	Dyperacese:
Department painting and a	Wattow And Stampatism	Pabapasa
Schota promines	Gategora	Astronocase
Swood president of the section of the	Trefegolistett	Cestalnaceae



Endings, & Bindonna's Study Bisperik Wick's Commission Star for the American Locking 201 Papeline of accord 31 has begin from Official Portions, University Month or the Edinbury Ryes to 1990. Outhors Mart of Make strain Vidage, Philosophy March, Sant Vidages District, Andrew March.

Scientific name	Common / Josef seems	Family
A promotive rosen	Avay Source	Eagliciplacus
Tracell Medical	PONCE TRUE	Explanational
Personal and and an artist of the second of	Gont the Erster	Caparinasse
SUBVISIONS SEVERAL CO.	Marriage grass	Constituese
Director properties consider	Said Neropole	Gassiancese
Selecter displays before the	Jens:	Mobilal cedente
Prove Syspenial Courses a Inches	AMODIOPISM	Bontovacere
New Seriole Networous	Merchaniche	Fahaciere
las godern aspairmondes	STOCKET .	Fabaceure
harponera constitota	Assary4Nety	Fadacone
Inalgorere umNore	Cons No war Indigo	Fahacase
locasee aquatica	Severap Marriag garay	Convervations
Locational place Captured	Porters alony	Derwote a Second
Гострона управота	Printing glory	Converse administra
Paudaea carrivenosa	Reach Average	detectioner
Martines commune	Carpot resort	MANAGER
Richard distins	Corvert weekd	Mod/ver/success
Cornorn renovement	70,000	Lamiscope
Dappoints peyletice	Darage AN	Melastorratisceci
PRESENTED WASHINGTO	Selections inspired and	Postense
Perotis widest	Jookan Contendance	P000585
Phospalus inflator	Pih pauere	Februare
Provincione retroductivos	Metacograp	Accountbacese
Potocarpage constitutions	CAD MAIN'S CAD	Chrysoft/foxese
Postpardy arrays Woka	Gody changing	American
Asthly Indica	Monta Ausa	February
Seawort partskrustrum	Amball Michi	Alexander
Surmacoco articulado	Jakon Matata seed	Astrocera
Stermhooce social	Shrupdy rights dutter weed	Astrocese
Exprobous khahitasi	Safe popula prosis	Folkers:
Talvarrature carefrons	Wedge Jest become are	Fabaccasa
A35/559 5041950	Multa veropty	/abacese
Tephron's strigons	Snathy Tephnosia	Fabricage:
Zonowe muricate	Saw grates	Pancere -
Average mayetia	Morse surstane .	Applicate
Vigna (stack)	Harry Roal Contribute	Enhancement
Synt Indica	Metalia invest grants	lyndsome
Zoma objects	Grass Nos Zornis	Fatacese
Zovski maticka	Water order	Pascocc

3.3 Fauna of the Study Area

Corange Wildlife Sanctoury (CWLS) is a part of the Bast Godavan Abor Estuarms Scasystem (ESGREE). Cominge Wildlife Sanctuary and Godavan estuary is an IBA according to IBA Criteria & is given the final code No.IN215.

3.3.1 Site Description

Comage Wildlife Senctuary is located 20 km south of the part by Kasinada, on the Kakinada-Yanam state highway, nestling on the deltaic branches of Gouthami and Godavar invers at Kakinada Bay. It has extensive markles and mangroves. During nationary, the modificial get submerged under 5 m of eather. These large modificial, which are subjected to cyclic influe and effect of tips water, play a vital.



Reviews & Mindiferrate Starts Reports Middle Consumeration Rise for the Programs Laying SIT Aprillar of closel 23 for Design from Oblitane Righters, Herough Month of the Contain River to ONEC Contain River to National River to ONEC Contain River to National River to ONEC Contain River to National Ri

rate in attracting a large number of waders to this region. About 50% of the area is the backwaters which include a sand bar of about 20 km, running north-south (Rad et al. 1996). Two nears, namely the Cortage and Gadera, and their debard branches intersect the entire region, along with other water channels draining into them or directly into the sea. This forms about 33,570 ha of marsh vegetation. The Sanctuary is part of the estuary of River Gadevari, and supports a rich growth of mangrove vegetation with halophytes such as Evicoscana againable, investigate macronata. Accoming afficients, Exemplicate resemble, Ceriops decardin, Sangeratia specials and Aegiperes communicates. According to Raja Sekhar et al. (2002), 24 species are representative of the vegetation structure of Gaderan distance.

3.3.2 Key Biodiversity

AMERICANA: Red et et. (1996) have identified 236 species of birds from this Sanctuary. However, they have reported species that are not likely to be present, such as Yellow-throated bulbu. Protonotus xantholiserius, Wood Snipe Gelinago nemoripote and Sariable Lepving Vanethe gregorius. Nevertheless, Compa is an extremely interesting area for waders and mangrove birds, and should be designated as an IBA (Asshershiffitte pers. comm. 2001). More than 20,000 waders use this area in a year. The area needs detailed investigation on its bird life Oriental White-backed Yulture Gyps bengalens's and Long-billed Yulture Greaters had been reported in past in that region bid presently these are not found in the DWLS. Among the near threatened species, Pointed Stork (Mycteria Augscophala), Oriental White this (Whiteshard's codescophala), and Ferruginous Pichard (Aythya nyrota) are found in Coriega Red et al. (1996) have reported 17 species of dacks, and 37 species of waders of Femily Charachidae. Even though some species reset to be continued, the site still holds a way high diversity of water birds.

Other Key Feuna: A fair population of Rahing Cat (Prioradorus viverifius or faits wivering). Golden Jackel (Cano access). Other Ricley Sea Turtle (Lepydockelys of/vocas). This ISA has a large breaking population of others. In fact, the entire estuarine mangrove forest of Godavari ever is a stignishold of others, mainly Smooth Indian Otter Latra persphiliata (Nagula et al. 1991, 1999). The sightless of others in this IBA is very common, and the group size ranges from 2 to 12, indiagons healthy breaking populations (S. A. Hussam in hit, 2001).

Thus, the sanctuary possesses a wide variety of birds, because of the feed westable in the hackwarters of the mangrove forest. During law fide, some of the areas are exposed (elevated must flats) having small fishes, shrimps and motiuses. These attract avillation for hadding. The painted stock, Chiental white bis, ferruginous potential found in the sanctuary are near threatened species, and spot-billed pelican is a vulnerable species. Significant populations of waders and mangrove birds are also present. Altogether, 236 species of birds have been reported by Rao et al. (1996) during the winter season. About 130 species of birds have been reported from the somounding areas are they are also common to the CWLS. Among them some of the commonly found birds in the sanctuary are: little egret, cattle egret, pied kinglisher, small blue kinglisher, black capaed kinglisher, pend heron, neef heron, grey heron, right heron, little stim, sendpleer, redshank, and wattled legions, and little commonst.



Foreign & Bindingstop Strate Engerth Millette Consumption Has for the Engerth Leping 2011. Providence stand 23 for thingth John Citation Platform, Navingh Roach of the Continue Street to CIVIC Despite Poult of Providence Street, a Science Street on CIVIC Despite Poult of Providence Street, a Science Street on Civic Despite Poult of Providence Street Street

A comprehensive list of all birds reported / recorded in CWLS during the whole year is given in Table-6.

Namenals of the Coringa Wildlife Sanctuary (CWLS)

Apert from the avian fiscus, the sanchusry has a fair population of fishing cat, golden jackal and a healthy breeding population of smooth-coared other. CWLS is femous for two mammatian species, namely the Senecth Indian Other Lukes perspect/ara) and the (whing cat (/hionavarus inventors). Both are in Schedule I of the Wildlife (Protection) Act and they are in the Vu (valnerable) category of the IUCN Red List. Other than these two, nest of the mammatis are fairly common and widespread. Prominent among them is the Golden Tackal (Civils Juneaus). Rodents and Bats are quite common.

TABLE-6
LIST OF BIRDS REPORTED / RECORDED FROM THE CORINGA WELDLIFE
SANCTUARY

Scientific name	Common name	Facility	JUCK/ WPA
Acquiter backur	Shikra	Accipitation	10/1
Accepter news measonstoc	Sparross-retained	Accept/Adae	TCTT.
Acceletiteres ging/menus	Sent Home	Statione	10050V
Application for the period of	Corresponding as	Statione	1079v
Aurosep. NAME of consideration	Stythris Read Workfer	Photograph in	142 (7%)
Accomplished absoluterate	Indian Great Reed Wartner	Muchapless	10774
acolthina natie	Central Indian lora	Campeghagian	110 (2)
Alderia gargoda	In Sion Sinsail Skylank	Aleucidos	LC /TV
Alcedo atribis	Small Blue Kingflater	Alcedinides	1 LC /2V
Aropoveus K ahoo!	Brown Cieke	Railday.	1.0.77%
Amarchis phospics a	Tricken White-presented Websteen	Re idea	LC/IV
Anda acyta	Pintali	Anatidae	16/32
Anda chronist	Shovetier	A ratiolog	107.79
Artes credita	Correnon Test	Anatidae	\$47.5 TX
Ands panelsse	Wideon	Anabdae	100738
Anan possible tyriche	Special Duck	Anatidos	DC 7.3V
Asses guerry entire	Garganey	Anatidee	157.19
Asso alterent	Codwol	Aretidae	12737
Americanus escalares	Opening Stock	Cicord Sett.	1407.78
Asser Indiquis	Barbeaced Grose	Arabbase	1071V
Artonio ninitia	Paddy field Plots	Motes Sees	LC XIV
ARCOUNT TOWARDS	Tree Pigit	Moteo Sche	LC (TV
Acos artists	House Swift	Apodese	15.719
Appula representational	Tay to Capie	Accid tridge	LE749
Arden arts	Jarge Egree	Wdease	1007 W
Arcsed consent	Sirey Pieron	Anderson	142719
Action parparen	Purple Heron	Acdo little	1.07.07
Artigois (1900):	Dittle Sirece Heroit	Aidelese	LC / O/
Arcadic great	Pord Harar	Ardidation	1.07.09
Artamos fusciai	Ashy Swellow-Sarker	Actamidae	10.7%
Attione arema	Spotted Cwter.	Streethy	LC CIV
Autoacta (as otrores	Disclo-created Depa	Accipanises.	1.07(2)



prology & triceleventy Study Reports tricelle conservation that for the Proposes Laying 20' Penders of about 31 has length from Offstrore Platform, through Mentils of the Conservitions to 2000 October Plant of Mahanaran Village, The Larence Manual, Sant Contenue Tourist, January President

Scientific name	Common name	Family	BUCH/ WPA
Aytotya Anna	Common Pochani	Anaticise	LLC A DV
AVERTURE TRADELINE	Turbed buck	Anatidae	100726
ayeaya Ayreca	Ferrugene as Cluck	A160056 -	LIMITY DWI:
Saaro Auto	District Great, Insmed Cert	Strip tice	LC /TV
Radio pervionansis	Brown Fish Ove	Ship see	122 /10
Salata to /bo	Cettin fignal	Archeldige	LC 7-76
Calendoste cinerae	Short-Tord Lark	Madicae	C/IV
Carons arby	Sascestine	Cheradelities	C.000
California altresa	Dunin	Chanadoktas	DC /IV
California carrieta	West	Charactelistae	12/10
Canada Avenda	Cicco Stars	Charadridge	UC /IV
Californi terromonioni	Temminack Stat	Charadridge	LC RV
California base postfor	Eastern Knot	Convenience	10.00
Calcoro tescoces	Curlent-Sando per	Churadrodae	LC /IV
Capalina lour Podigue	Indian Jungle Nightier	Can makedee	10.00
Lentropus sinenses	100-125550E	Cacabase	IC IIV
Cicrylla castis	Jacob Med Atrohim	Alcordin close	LC 0.9
Cower he dubin	Little Ringer Flower	Charactristae	LC (tv
Cowadres Alebana	Ringed Moves	Charachisae -	10,09
District Special Co.	Large Send Ployer	Charactridae	LIG.GV:
Districture mangolisis	Letter Sand Player	Charadridae	LCJTV.
Characteus stactous	Long billed Runged Ployer	C13/300/1536	1.0.739
Children's Aydette	White kerse Tern	Lerates	1.C (2)
Cinonia apiecopos	White-nedked Stors	C100110088	116719
Chicag personnessas	Mersil Henrier	Accepto de a	4 CC / IV
Chosh megrounds	Pale Harrier	Actipitation	1070
Cincyc /pelanoleucas	Field Harrier	Accipionate -	LC 2 19
CUCTOM AUTOURS	Streamed harrier Warther	Nesconodor	LC7W
Сосильных ресоблик	Pied Creshed Cubion	Cuntilidae	10.770
Coconemis passerins	Indiar Flakting Outside	Copylidate	1.076
Calandar Skir	Blue Rock Planter	Cokentides	LC (IV)
Capercian switness	Maggin-Rottin	Muscicanidas	1.0 (IV
Cararina sociationardiae	Large CachoorStrike	Composition the	LC7IV
Carves assertionsystems	Jurially Craw	Corythiae	LC (D)
Carver instructions	Hipung Cross	Colvidae	10.74
Catorna coromendenca	Ham Guer	Phase sides	JC7 IV
Cathring Controls	Grey Cust	Fhaciation	10/19
The second secon	- LOUIS AND SECURIOR	La Carte Control	
CATEGORE CONSTRUMENDIE	Indian Course	SRYGORDED	-8.00
Opportunis paretis	Patri Swit	Apodices	50,719
Depthootts vagatutete	Southeastern Treeples	Constant	10,705
Designation at our	Jarge Whistery Test	400000	CON
Dentifoxygue Manetice	Denier Whisting Test	American	LC / IV
Gicanori zole	Thirstif to Flowerpedia:	Dicarectae	10,00
Cicación espainantes	Travel's Foregreeker	Diction of the	TCAIA
Cicronic accordes	Mack Bronco	Digraridae	180,000
pioninus cherurescens	maite-belied Drongo	Dichundas	1,0,707
Disopium biengalamen	Libber Galberi-backett Woodpecker	Picities	TC 335
Cromas avaeda	Crab Player	Drome didae	13C/29
Constitutive programme	Little bond	Ardeidee	10719
Spratta potente	Indian Reef Heron	Arteidae	16700
Soretia retermedy	Smerke Eurot	Arthrodox	LC 7.07
Saray convers	Briddewinged (Ote:	Accipate one	1071
Former constraints	Anto-crowned Frest-Lasts	Abjection	1.0779



prology is prodiversity Study Reports Welche conservation that for the Proposed Laying 30". Postform of about 30 km length from Offstrom Hardons, through Month of the Secretari Alverts ONSC Confere Plant of Malantram Village, The Corner Mandel, East Conferent District, Andrew Prairies.

Scientific name	Common name	Equivily	BUCM/ WPA
ELECTRONICS SECRETARIES	Rose	Coculden	LC /D/
Fallot disvisional ar	European Cestral	Faltonidae	6.7.76
Handstries por ricerarus.	Circly Patridge	91350311030	120,3.76
fulfica abid	Cour.	Robinson	DC/DV
Gel/Yotex ciceree	Wetercodc	Satistise	LCHY
outrega media	Creat 5 tipu	Cherodyndau -	LC /IV:
Geldnigs nemoricals	Wood Scipe	Charyedrikine	LC JTV
Geldrings softraria	Solitary Spice	Cheradiadae	LCJW.
Cultinogal steriora	Phylod Sinbu	Charathidae	LC /TV
Gulffraga gadi terger	Common Shipe	Ownstrikter	100 (10)
GetVende et l'origins	Indian Moorage	Relidae	LOCKY
Collegerate Associate	Patried Secritory	They andoo	LOCK
Get/operally speedless	Red Spurfavel	Phasianidae	LCTIV
Gercinie fatori natocica	Out-0 sec Yers	Large	66729
Giarresta vacnea	Small Indian Protescola	Cilcreol dan	LE GV
Giorne de metabornion	Oriental Prostropie	Giarredictee	UC 724
Garesta pratrocata	Cotared Wat york	Eléreot das	LC /29
Gyora Depresa/exists	Indian White-backed Vulture	Accipitridae	CR /1
Gross to picus	Jedien Long-taked Victore	Accordance	CR (II
Helcron dileata	Slackcacoup functioner	Attechniciae	LC /W
haleyon attivitionale	Write-brooked Kinothiner	Alcodickies -	10.7%
Referential anacogueter	Statebelled Sea Fable.	Accipitation	10,510
MYSSECONE, PRESIDENCE	Blackwins on Str C	Recurrence	LC/N
Ribgous trice Points	Booted Warter	Numerican Idaa	LC (IV
effryste conceior	Dusky Crap Wartin	2-171/25 to 62-0	100 7 PK
POWER GRANES	Indian Striated Swillow	Historian sale	LUCZIV.
(Prundle matter)	Symilor	Lichagor dee	LC /IV
WYWATO STRAIN	Wire-tailed Swallow	Herynein Stee	UC MY
Mydrop Assents of Marious	Photograph based Security	Jacaridae	GC 7DC
Wednerings of the	Caspias Tero	Landse	C 20V
Kineets ratevess	Black Bagie	Acceptonibut	CIN
Drahrysyka propertywene	Chestrari Sitisara	Arrieddae	10/3/
Jonisson in Geography	Back Attern	Acceptant	13/14
Indeputos sentists	Yellow Bittern	Antiddas	127 W
Tooltychus mikustus	Little Sitters	Accelded	127.19
Janks svo tyler	Indian Grey Styles	Lavidae	12217
Lennis schieft	Rufous-seriond Strikes	Landidae	LE TU
Larries with the	Indian Raybedoed Shrike	Lanidae	LC/IV
Little propositions	Herrica Sull	191090	10.70
Larray Dyanticatoral as	Brownleaded Gull	La Scient	16.70
Larrys Giscovs	Lesser Recuterised (vid.)	Labore	1000
Linta rotot vaditas	dreat Blackheachal Gell	Levelor	TIE/W
Limpler (Appropriate	Ser-twied Godine	Ownstriklar	10.09
Empos árocca	Nacional Codes	Charadridae	10.59
Longiture materialist	Wittelpraced None	Procession	10.00
Longhers material	Mackbooked Music	Processes.	LC/IV
		Proceedad	
Considere parecipante	Spotted Hunts		LIC /DV
		Placeidae	100 / Nr
Megalanta bantagopatala	Compon-pressed aurocc	Capiton dae	UC73v
Programma exists	Small Green Serter,	Captore dan	FC UA
Magazinina zaylanina	Large Green Rarbot	Capiton for	1.0.70v
Managas projeta ha	Shell Gram Bac cata	Pearson thing	UC/IX
Marajas pri Papirasis	Disetalist December	Merce des	1.0 /Te
Alektropidase királose	- Induzesinged Bosins	Interedal	14.6.73%



Findings & Electromity Study Reports Whitely Conservative Disk for the Proposed Caylog 20° Plantes of Apolic 31 Am ringes from Ottohore Philosop, through Neural of the Goodbac River to Ottoho Departure Plant of Made Street Philops, 10 oftohorus Missing State Code and Statesia, Apolic Products

Scientific name	Comment name	Family	DUCK! WPA
Minus regeners	Parish Kite	Accomise	(C / DV
Weather construction	Nedros Bost lierk	Abanklaz	CC VIV.
Mostle erydroplete	Brid-Wingert Bush-Late	Aintelities	LC VIV
More par socials	Fock Thosal	Mass keep sleet	CC/W
ACDONO AND	Tacker White Weglad	Nepachidae	LC //0/
Mobino Ne camp for	Grey Westell	Motaci idae	LC /IV
Assessing occurre	Yellow-nearled Wagse	Networkson	18,707
Mctac'Ve Neve	Yellow Wegled	Motabilides	UC /IV
Mobacilla maderaspatansis	Large Pied Wagtei	Noted lides	LC JIV
Musicipa paria	Rederessed Hypatoner	Miccocapyses.	16.019
Miscoapa chalesana	Versiter Physician	Musickpides	DC /107
M. rocka sa it stor. Vair	Tickel's flace Flycatcher	Muscicapidan	SCHW.
Mycrona lescocoponala	Painted Stock	Organidae	WE HV
Nictivinia wilatica	Purities Sandrice	Mecberlot sleer	sc/w
Medita Visia zeydon/ca	Purprenamped Surport	Sectionin one	IC BY
Acoptinal perchasters	Sayatar Aldare	Acceptation	LC / IV
Settor vicus	Red-created Pochard	Aretidae	40000
hercapus coromandekans	Cottor Teal	Anstidae	UC / IV
Numerous engades	Curken	Charadhildas	DC (TV
Author/se prosequie	Whintel	Charadridae	LC /TV
NUCTORIAL AUCTORIAN	Chight Heron	G/00/100	163.1V
Cincrios prioles	Golden Oriote	Untoficials	LEGIN
Cartelogue europae	Tailorgizal	Puschapidae	1079
Paradion partients	Osorey	Accipitation	10.719
Senar demandad	House Sparrow	Photo blass	LC 779
Payo cryanius	Indian Preford	Phos shides	16.64
Parchase polythia	Janoic Sash Occil	Placs areday	EC / 19
Paragrifica (appointment	Paraprine Palcon	Felocaldise	LC / IV
Revices clanarioneus	Small Minket	Campegnagicae	10.786
nome obvariancias	Crested Honey Buggard	Acarobides.	LC / TV
Popular recorner Exacted Alle.	Inches Stee	Philagrocoracidae	10/19
Postacrocorsy state:	Little Comporant	Phalacrocoracidae	007.82
Pri/original popular	Bull and Basine	Charactri dea	LC /IV
Acousticarus prograficarus	Redutert	Huse lead idea	12.716
ACHTES DODGES CONTROLLS	Ceffcfell	Musc cac load	DC 716
Annih econor presents	Officeason Usef Werbler	Muschapides	LC/IC
Anythorograph troothy before	Bright Green Leaf Wortsler	Massicanidae	10.702
AZI PRICHANI	Indiac #sta	PRISON	LC VIV
Fishery hospirotia	Spoor bill	Threedore thidee	LC 207
Plagitatis Patrimettas	Glossy dois	Thiesdorr thesse	LC /IV
Macazi stratornia	Bara Wester	Phoedas	LC / DC
Plants the indulation	Golden Planer	Chargoin inte	TO HE
Payetsammer who	Eastern Galden Mover	Cheroth dos	20,702
Perphysic perphysic	Pundle Moorben	Galleton	12.70
Paragraphic page 17	Suitriy Grahe	Reference	LCOV
Parishing planne	Utilia Oraku	Positives	LC/IV
Prints discharged	Rufou shorted Wrest-Westeler	Maddapidas	LC /IV
Nou seculo	Adiry West Marcher	Musicipates:	LCAV
Portia subflows	Rate Wine-Warder		
A 4 10 TO THE REST OF THE REST		Vius dicapidate	16/0/
Prints dylusoica	Tuscie Wren-Warbler	MASSCR04116	16/19
Plausible papelous	540cx 30 s	Threak omethiclare	LUVIV
Primicals Arameni	Rose-ringed Parakest	Protections	16/07
Personana calar	Redvented Bulbui	Pyeronotidae	LCZIV
Pychonicitus xerecho livelinos	Parkovstreamed Subtrat	Fyerorotides	10707



Restage is Briefmanning Study Angestis Problem Communication Prior for the Programs' Laying 20" Agents of about 20 km length from Offishero Montours, terraligh Mouth of the Season of River in Office Stations Point of Mallomores School, The Communication Control Control Andrew Presents

Scientific name	Consoren name	Paintly	TUCN/ WIV
Pychodonie Jacobus	Red whirearec failbul	Pyenorotides	LC /IV
rakus epitholaes	Wote Rail	Ratiotae	16-21V
Proceedings of Possible	Angor	Successive should	LC/IV
Айдисти почета	Wate lowest Fertiel Byostoter		DC (IV)
Republytop kylawostys	Small Greens lod Markete	Cocolicae	TC/IV
Readmetate prorpertorate	Paretact Scripe	Reidretulidae	LC GV
Scordinaries explanates:	Melde	Anscide	1007.10
Saveoto capitate	thee Bush that	Muscleopiepe	LC CV
Scalopera ruestrole	Woodcock	Characterista.	145,579
Stevens accuracy late	Mackbelled Tem	Lacidae	1.0 /04
Solvino artiferens	UIDO Tem	Landae	LC CN
Special warantie	Inches River Term	Larkholi	10 /34
stevila funkcio	Common tem	Landae	LC YW
Simple parter a groupe female	Little Brown Glove	Columbidae	LC 776
Simplification of internal	Soothed Oove	Cohembidee	EE/236
Savins come	Pied Nysa	Sturndas	LCTN
Shorton pagoolerum	Bouncery Marie	Sterridae	ACZIV.
Terriphopous corpositio	Little Gretat	Padingsinidae	16704
Toponar Asirairya est	Buddy Sheldedo	Application	10789
Trephroderne pendiomianus	Wood Shrike	Companiateldas	NC7N
Terpophore paradisi	Poradise Flycatcher	Muscicapidas	10000
PROGRESORS	Colorida Minos Ibes / Minos	The package of the second	ATT 72V
mouniscopholis	headed tos		
Topog Montrie	Grey Hombill	Supplied listage	LC /IV
Everal erytorops	Spotted Redictors	Charadoldae	CHY
Transa plansale	Wood Sandplow	Opered idea	LC XIV
Trings comber	Spotted Green Shank	Charadoldas	10.70
Zunaz myzałcycas	Commes Sencorper	Charact reduce	12.70
Transar madalenia	Greet Stenk	Chinedrates	LC VIV
Tripas octropius	Green Sandhiber	Operadrates	10,710
Jones stageon's	Marsh Sandpiaer	Oscativis.	16.719
Trirtae Sayak	Terek Sectloteer	Overadrédae	10.00
Tringa Satara	Common Seek heats	Coxpatridae	10.797
Tangacha (1996)	Mindofesiatori Ratiologi	Missingerrae	IC /IV
Tundoches caudetus	Donropo Betraler	Macketice	10/07
fundaments measure."	Large Grey Babbler	Muscicapidae	LC/IV
Turnit sopulator	(righert Comerd-Guel)	Turno des	LC (TV
Caton epops	Indian : propos	Upopulas	LC //W
VOICE STORES	Sociative Lapvers	Utarismicae .	LC AV
Verefus moleus	Rednastled Lagrana	Charechidee	LC 779
Victorius regionaucus	Yellow-weitled Lapsing	Characteres	6079v
Zudytou telephone	Indian Wistoney	Zestaropean	60 77V

(36) of Birck reported a recorded from the Contigo Wildfill Sunction's detect Alic, V. C., Arganycki, M., Angule, Y., Schowski, F. and Salverorepool, D. (1998) Waterfree sketch of Declar Middle Salvitans. Anches Protect. Reviol 34 (1 8.2): 75-85. Sinds which are not found contribution DMLS are indicated by 7.

A fet of Nammals found in the DWLS area is given in Table-7. A let of reptiles reported / recorded from the buffer zone, mainly from the DWLS is given in Table-8.

Proportion is of Aricos (1986), in Judio (2016), PRATS Control on Walding & Production Aricos.

http://www.vis.com/continue/164 3467.accc 2: List of the emerican wide WA site codes. (Impurited Rivol Arces in India - Accil in Products https://doi.org/sec.com/codeses/2617/12/13-156-168.Accil in Products



Reinings & Bushiverskip Stirtly Expecté Hilliate Conservation Fine for the Proposed Laping 25" Ripoline of about 21 in seepth from attations starters, phrough Hours of the opening start to United Stations About at Histories in Titles a, Taudanese Medias, date Godernes Abstrict, Andres Produch

TABLE-7 LIST OF MAMMALS REPORTED / RECORDED FROM THE CORINGA WILDLIFE SANCTUARY

Scientific Mernet	Common Name	EUCN / WPA
Pandonia cengalectic	Send coot Rat	127.0
Cars areas	Signour Spekal	LC75
Favoritoria premierry	Squirrel	6077
Hergerstes editended	Strains Grey Mongonee	1.0.7.74
Latra gerspictaria	Smooth Indian Otto:	9070
Riscosca replicita	Monkey	CC/31
MUS Acortiga	Todan Reid Moase	1629
PROBLEMS UNCOTAINED	Pishing Call	A0.40
Rectale reticus	Dodd Ret	6079
Mousecous resonantaires	Indian rulyous must bat	0.79
Sust score/a	Witself	CC /III
Viu/per bacgatensis	Indian Fox	0073

List of Reptiles reported / recorded from the Coringe Wildlife Sanctuary and its surroundings is given in Table-8.

TABLE-B LIST OF REPTILES REPORTED / RECORDED FROM THE CORINGA WILDLIFE SANCTUARY

Scientific name	Common stema	ELICN / WPW
Americal America	Tree srake	LC/II
Arr processor stout to 're	Striped keetbeck	LG/III
Athenium schliddeum	Olive Repibeck / Water Snake	LO(0)
Burgaros carrotes	Bridge kraft	E328
Burgarun fesciatus	Carcat kind.	1,070
Calabes invisionalism	Garden Leart	LC (%
Date of new years	Resset's viper	LC/H
Dayydrine schistose	Fibral: noved use strake	LC (%
Ponydris enhydre	Emporth water crake / Muo shake	1.070
Purropi's caranata	Sunc	LC./IV
Googyagatis contous	Common Sandtob	LC01
Hestolecty his Associates	House georg / Wall ligate	130,719
Laptoscrins yar physician	Olive Rid by sea turtle	2000
Lessemer conclute	Flepshell turtic	0.000
Lytologia askino	Well snake	LQTI
Major major	Cabra	1000
Pearls platies	Yellow sea protein	CC 20V
Physic Mackets	Rationalist / Domes	14C/TD
Citoria ponotociane	Far-throoted i mrd	26,719
Concromorphus dussi meri	Sname skills	10 /00
Version bangalanes	Planita i izera	LC/C



Enabling B. Bendinson by Blady Beginnell, White Commission Plan for the Argentin Laying 20. Populars of about 20 has length from Districts Postsons, released Mouth of the Guitani River in DNSC Orations Plant in Bullionerum Vallage, Walterman Pounds), past Godinson Matrice, Anches Present

3.4 Fishes / Fisherins and Fishing in the study area.

Fishing activity is carried out at large scale due to presence of Gautami-Godavan. Fixer by non-motorized, enotorized and mechanized staffs in this sector. Mangraves play an important role in coastal feheres production. They support threating and feeding of a variety of fishes, presented crate, thereby enhance the gotential of adjacent coastal waters.

The present used and juverals resources of the Godewit mangrove ecosystem profoundly influence the artisanal fishery around CWLS. But indiscriminate prevented collection in recent years has depicted fishery resources, leading to a bay or prevented collection and fishing ourbs during the breeding season.

National Bureau of Fish Caretric Resources (MSFGR), tackness compiled a fat of Threatened Fieshwater Fishes of India in 2010. As many as 120 freshwater fish species are included under the EN and VU categories by the DJCN but none of them is endemic or limited to EEGREE. Just a dozen of Tishes is included in Scheduler I part 2(A) of Widther (Protection) Act, 1972 and none of them is reported from the study area. Similarly, only 6 Indian Freshwater Fishes are included in the IUCN Red Ust and none of them is reported from the study area. Though there is great concern about the growing demand and over exploitation of Hissa Fish (Torosofosa Visha) from the ECREE, the species is neither endemic nor restricted to India. It is not in the LC category of the EUCN.

Krishnan and Mishra (2001) summarized our knowledge of the startitution of 312 species of freshwater to mentre elements of trates belonging to 189 general accommodated in 88 formities. It is based on approximately 1400 samples collected from different localities of Godavari estuarine system by various survey parties from 1942 to 1995 and incorporation of information available in literature (Day, 1875-78 (1888); Koumans, 1941, 1953; Munro, 1955; de Beaufort and Binggs, 1962; Babu Rao 1962, 1973, 1976; Rao, 1971, 1972, 1974, 1976; Fricher and Whitehead, 1974; Fisher and Bianchi, 1984; Talwar and Kadker, 1984; Smith and Heematra) 996; Whitehead et al., 1988; Venkabeswartu, 1995; Talwar and Diogram, 1991; Samman, 1993, Makapatra and Venkabeswartu, 1995 and Talwar) 9951.

New locality records of occurrence in Godavari estuarine system has been affected for 24 species, thus enhancing information available in literature from 240 species to 314 species.

Reproduction of the entire list may not be relevant to the project under consideration mainly because the threat to fishes to due to overfishing, perdictives, pollution and introduction of feet-growing, highly competitive exotic species. A short list of fishes recorded by many workers is given in Table-9, wakings extu is the only RET (NT category of the IUCN) species recorded.



Foreign & Analysisky Study Expents Middle Consequence Fine for the Engineer Laying Off Applican of Shoul 22 his neight rice Offeren Permiss, mough Hours of the Guessian River to UNIX Control Permis to Neitherness White, 1806/2000 Headel, East Goodele District, Andrew Perfects

TABLE-S LIST OF FISHES EITHER CAUGHT OR REPORTED / RECORDED FROM THE STUDY AREA

Scientific savire	Common / Local name	Family
Alacta indicas	Indian Threadfol	Carreing bokes
Arebaseic gyrospensonatus	Bald planty	Ambassicae
Anthesis weavaper	Long-spired glast field	A 100302-630
Another cookyflux	Gargetic Kd	Anithentides
Another circonysts	Cambing Sees	Anabactivise
Are des Jesaurveus	Cambing Porci	A vastar tidae
Baparius baparius	Dwyli Cathyr	Sacross
Bronzootskie Alexans	Danky friligatry	Gobildae
Books bucks	Ducktel steeper	C4C1006126
Data's metavasagana	Clacksoot Sleeper	Dectridose
Carlonythus frameritosid	Biotostin pragnet	CaliforAmidae
Callonyrital segritir	Arrané sinégéries	Call promotedos
Care agreeau oblongue	Commonly trevely	Carer gidee
Conditions reprotects	Glant trevally	Caronarase
Cable carbs	Cattle	Cypythiciau
Clothiaus circlissus	Militari Corp.	Caprintation
Carrieres are gala.	Mikada	Cyprinidae.
Cirriotas riskii	Ratio carp	Cyprinities
Clarities betrecking	Circibing perch	Christian
CIAW (0) SECURED!	Gerdsgetted grandfler anchevy	Encreutiment
Careptorace (Ide	Torque fab	Oyreagi pastdass
Cyreoperates deputs	Long gongue sole	Cynoglossidae
CHYCONOSUS DUNCHOUS	Torique fish	Dynoorbesidae
Den's alevado	Gient cents	Dyori nidae
Episkie macoahis	Banded dear sure.	Octobe
Eyopho agestures	Description	Och idea
Glassopoteus paris	Bar-eyed gody	Gobides
Glesspoothis Newhos.	Flat readed gally	Cotodae
Hotographysales Rooks	Straing califish	Pedaroprasari da
Hillies Aprillan	Ke ter short	Oupeidae
KIND OF WINDS	profess tumo feet	Karacae
Laber book	Done labec	Cuprinidas:
Laber cribatu	Ca bes	Cychindae
Labor Minorwick	Frings lipped carp	Cyprovides
Laber notice	Renu	Cypnoples
CLOSTICS (RESPONSES	Bio-seved tumper / Futuros	Lactaraday
Latini patradite	Partiagappe	Contributoridas
Prograssias fractions:	Sabela / Tellarrage	Leiognathichse
Day madrocals	Solowor, Huntet	Physikeles.
Zore pands	Kette chega	Syphical
Lieux Stide	Kette chaoa	Number -
Liena eleneste	Dichrocks	Print percention
Massecembelia ayrantus	Fire track Spiny eet	Mayacembelgar
Modalisas cordita	Hardia Locad	Caronadas
Medialogic constructed	Fattuchape	Cararipidae
Mager contracts	Falurucame	Medical doc
Mugal parties	Kowanga	Manfinker
Mysherast	Sugrieta / Yamejola	Ragnidae
Margon Canban	Tengora	Basicion .



Frenings & Abelicansky Study Registed Middle Conservation flow for the Engineer Leging SE Agenties of about 22 for linguis from Children Politicis, virgingly House of the World in River to DAST Cashard Pilet at Mathematic Orlago, Teachers Mandal, Suit Goldman Dathic, Andrew Macash

Scientific name	Common / Local name	Fact by
Hyerus gallo	Kanasaga:	Raginatals
Mortus dangunus	343	Bagestee
Myston vitoma	Supreta	Regricien
Mandos Fandos	Hottlet nandus	Rangidae
Monapherus ecoppienas	Brosco featherbook	Retoptariose
Omograpichus ferov	Gossamer blenny	Consider
Omooranania punistetus:	Muzzied bien ty	C-Enadae
Omeonaschus zebre	Zeiore olerny	Cichidae
Cimpak padda	Paloda Figh / Leggran	Sharane
Compak budeastras	Phys / 1400	18 Jun 02 0
Ophicosphelos pertion	Cover's Stration I peach Plain	Channedge
Cahocephelis manufac	Bullseye snapenead.	Capacidae
Calhoceptiens purchase	2 saked (see	Chaseidae
Cathocopheise streets	Stripped southeboard	Chapridge
Particula atwices is	Chandywa	Superential
Physics an policy san	Panicas Counch	POWERED
Perforable fruit argentificantus	Mad skipper	Gobildae
Please orbitalisms	Kahisradaya	Fi813.00355
Potentinas Indicas	Tacses	7-dynamicos
Polymermus periodiseus:	Sarades threadily	Palymernicae
PAYOUS DOTO	Two-spectage	Cypninger.
Raconna masehara	Russelfs Smooth-back Herring	Chuseicee
Sardfreile Cribriata	Fringer cale cardinality	Chuseicae
Scorebero-des assi	Muphi d	Cavarigradio
Silonia collecti	Vinergis.	Schilbs dee
Statemacus Indians	Meta	Engraulidicar
To teal peut (IOTe)	Hisa fish	Departure
Tebracian (Controll)	Green puffer lish	Tetreclontidae
Wedego arry	Shart Capish (Art)	SAMMORE

The area under consideration is furnous for cultured Provinc. A list of Powers cultivated / captured is given in Table-10.

TABLE-10
LIST OF PRAWING GROWN IN THE AQUACULTURE FARMS AND CAPTURED FROM THE ESTUARY

Scientific name	Common / Local name	Electrify	
Acieties (moltifier	Cryyw Pottu	Pennelities	
Metaparacys offices	Kayabanga / Bayya	Pondeidae	
Metapanesias pravipartiis	Tellar arent / popular	Pencettos	
Medapenseus Modson	Chemickovya	Penaeidae	
Massy draws improcesses	Bonga Hoyye/ Kalandari	Personal last	
Расавителя белтурах	Biogist Rosyye	Pateerronidee	
Parapanaeopsis narovica.	The state of the s	Pensadae	
Parispensionality scales is	Malla Royce	Paraudd ex	
Parage sundonly styll two	Military Commence	Penaeta se	
Nessess victors	Yet Rayyo / Te Shayyo	Percentive	
Foreigns margutorists	Barriana Prawa	Personid se	
Aesaeus monodos	Tiger # tawn	Penagidan	
Assentac consequents	FIGREEN Tiger Prayer	Personal	
Sourceon inches	Yerrikayyy	Postadicate	



Accept to Biodiserate Study Aspects Military Consuments Plan for the Arigonal Asping 201 Applies of about 32 has beiggle from Officians Biodises, through Books of the Contact & Biotis to Offic Contact Philips of Mathematic Volume, Thatbirds Mandat, Disc Contact District, Andrew Products

4.0 ENVIRONHENTAL IMPACTS

Most likely environmental impacts of the project expetit of influending the Biodiversity of the study area.

Predicted impacts of the Project on the Ecology, Biodiversity and Wildlife of the study area:

The study area comprises of the pipeline route with a distance of 500 m on either aide (was taken as the core area) and an area of 10 Km radius from the pipeline was taken as the buffer zone. Detailed primary survey of Bora and burns of the study areas was corried out a highly competent NABET Accredited team keeping to view of the standards benns of reference. Beselve date collected indicates the following:

- Presence of the Correge solutive senctuary (CWS), an two sensitive protected solution hapital and a Nangrove forest at a distance of 2.35 km away from the pipeline meanest point. The same had been verified by the efficiels of the Forest and Wildlife department, Government of Angline Prodesh during 2019.
- CWS is rich in Mangrove, Estuarme and Manne Bigdiversity which is welldocumented and all species are recorded and reported.
- A list of Schedule 1 species reported from CWS and their BUCN status is shown in Table-11.

TABLE-11 LIST OF RARE OR ENDANGERED OR THREATENED (RET) AND SCHEDULE I SPECIES REPORTED FROM THE CWS & ITS SURROUNDING AREA

Scientific name	Common name	Status	Schedule
Lutra perspecifica	Smooth Indian Otter	VU	
Promaterus intervirus	Fishing Cat	WU	- 1
Acapiter badius	Strara	LC	1
Accipitar ribina	Europian Spaniser Hank	LC	- Jan
Apolyne opvision	Ferrugerous Duck	400	497
Clarus carryleus	Sparrow Hawk	LC	1
Gyrai Derrigaelerado	Indian White-tracked vulture	CR	1
Gytok children	Indian Long-seled Vulture	CR	1
Mycteria leucaceptinia	Painted Stork	HT	TV.
Parva constante	Indian Pealtee	1,00	100
Phileskilomis mekinomystickus	Octental White Ibis / Black- hoosted Ibis	NT	79
Fretronchelps (milinicate)	Pienukstiil see Turtte	CR	1 1
Lephdochelys allineces	Other Ridley see furtie	VD.	1
Marianus Aerogalerists	Norther Heard	1.0	1
Rhincodon typus	Whale Shark	EN	

CR=Critically Endangered; LC= Lenst Concern; NT=Near Threatenes; VL = Vulnerable



Ecology & Birdheselity Study Reports. Wilhild Consequention State for the Proposed Layley 201 Pipedian of Joseph 31 Jan Inngile Trian Ottohice Platform, Manage Master of the Goulden Princip to Ottohic Ocasions Plant of Maliavanna Village, Wellerius Manage, State Godeworl Statesch, Apalica Produce

Principles of Impact Assessment and Impacts:

Prior to establishment of the project additional ampact on the existing environment and habitat need to be examined and analysed. If the environment and habitat have the capacity to assimilate or absorb additional impacts due to the project and or if the owner adverse effect of modes can be neutralized with suitable remediation plan / technology, the project can be established in the proposed site. With respect to biodiversity, according to International Association for Impact Assessment (IAIA), the project can be established if there is no net loss of biodiversity. The following are the results of the study of the impacts of the ampact on the existing environment and habitat:

- The main threat to wildlife is shrinkage or fragmentation of habitat or both, but this pipeline project is not going to either reduce or modify or break the habitat by fragmentation.
- It is a gas tateport pipeline. There are no manufacturing facilities hence, no cischarge of atthorns and as theree is there is no stack there is no stack collution.
- The adverse impacts during laying of the pipeline, if any, are very minor, short-liked and easily reversible once the disturbances related to laying of pipeline is over.
- 4. The fishing activities may get affected during the period of laying of pipeline. But the impacts are negligible when compared with evertishing and natural calamities like Cyclones.
- The fishermen will be compensated as per the directives of Detrict Collector, East Godavan District.
- The Boy of Bengal and the Gauthami & Godavari River through which the pipeline passes have the capacity to absorb and assimilate the envisaged impacts.
- 7. The negrest distance between the pipeline and the CWS is 2.35 km. In case of worst-case scenario such as an unlikely pipeline burst or explosion and fire, which as per Qunabitative Risk Analysis conducted is low, the impact shall not be felt beyond 250m from the point of fire or explosion. Hence it is not going to move any threat to the whitely of CWS even under the worst circumstances.
- No forest or Mangroves are going to be lost on account of the pipeline, as the pipeline will be laid as Horizontal Directional Drilling (HDC) Technology in the Mangrove area.
- There are similar pipelines and offenore gas storage and distribution facilities to the area.
- 10. There are no reports or records of any pipeline burst or explosion in any part of these gas piges that are now extending from the East Coest to the West. Coest of Ingle.
- The adverse impacts associated with the traditional practices of excavation, transfering, drilling, dredging associated with the laying of the grading, are eliminated by using HDO pechnology at River-Nais and Mangrove Areas.
- 12. During the construction of pipeline and operations, some Mohasks, Crabs and other small mud dwelling fauna are filledy to get buries and it can't be totally avoided. According to the research findings (Ref: Faune of Godevan Estuary-Andhra Pradesh, Estuarine Ecosystem Series 4, published by the 2SI in 2001, there are no invertebrate species of great conservation value).
- There are rare, endangered and threatened (RET) species of Birds, Reptiles. Nacrirodis as shown in Table 11 and also one Mangrové (Certops decarated) in



bouleas & Riedberreit Soudy Resorts Mildlife Conservation film for the Property Laulea 28° Equality of state 31 for Jungth India Offsberr Platform, through Bourt of the Goutean Dury in GMIC Destate Flant at Bullevanion Pilippe, Timberreit Houses, Past Salasant States, Apolice Profess

the buffer zone of the proposed project but the project is incapable of posing, even a slightest additional risk to them.

- 14. The overall terpart of the proposed project at any point of time is not going to pose any additional threat to the Schedule I species other directly or indirectly since they are not found within a distance of 1 km on other side of the pipeling.
- 13. Some of the Schedule 1 species (like Olive Riddley Turtis) reported here are coming from the sear to enter the area near CWLS. Conservation plan of these species is also suggested in this plan.
- 15. The adverse impacts if any are limited to the construction period only.

Beyond these trinor and purely temporary adverse impacts, there shall be no direct or indirect adverse impacts. Under any directmentations there shall be no flet than of Biodiversity. The proposed activity is tidy compatible with the National and International objectives of widthe conservation. The fist of Plants observed within 10 m wide stretch of Proposed piscine reste [Orshare] are given in Table-Table-12. The impacts are listed at Table-13.

TABLE-12
LIST OF PLANTS THAT WERE FOUND WITHIN THE 10 H WIDE STRETCH
OF PIPELINE ON THE SHORE

Scientific name	Pointly	Yemanılar Name	Histoir	EURON
Mangrossas				1000
Acanthus Anthony	A Carrier 18 0686	MICH.	5410.D	100
Ancentia albe	Avacantilicasa	Claresmede	Tree	3.5
Avioental musice:	Aktosoniacese	Tellamaca	Tree	1.0
ANODORE STATUS	Proceediaceae	Salle reads	Tree	350
Brugalism gyrteromhus	Rhistophone-besse	Kanorige	Treat	1.0
For becer's age to one	Buhorbia base	Thi ta	Tree.	10
Mangrove Associates			3.0	0.55 =
Anoropia upasalan	Forceur	Vappu geddi	Cours	40
Calescipina criste	Czesalpinischae	Rath's one	Climber	40
Cierodesaram nesme	Verbonecese	Philips	Smart tree	3.0
Delbargle salooss	Facecome	Childholt.	Shrub	1,0
Cerns on's lare	F8082036	74067017-00-00	1706	16
Ayrolatisticks Someganes	Cyperatises	Tunge	Sector	140
Іролюна рес-саргия	Convolvidacese	Neining glars	1/000	16
Aponiona coda	Convervotaceae	Titrlatorage	WWW.	1.0
Mycfortechus ingrittana	Francisco	Ottaba gatidi	Seaso	LE
Acctives a conversity	Postsan	Yelogaddi.	9'83	1.00
Saltonia trechese	Ohanogashasaan	Royalu	Herb	1.5
Stroplocus partners.	Ascieptadacese	Selected streets	VIDE:	12.
Ses indum portulatestmino	A(20000000	vasgarecukura	34000	100
Sweets mentions	Cheriopostaceae	Dakara	Hight.	LC
Suppose recommons	Chenapodiagese	Enloye	Herb	TIE
Lipasive species		Christian and	Binal Soci	E LORD
Prosper suffice	Minosecran	English thumbus	Thomy bush	27000730

Residues & Bladfrestein South Experts Millelite Companyation flow for the Projected Laples 18** Republic of Alexa 23 for long in Jones Officially Platform, through Black of the Continue Even to CAMIC Continue Black at Rodfrestons Million, Thatforms Manual, that track via Castrice, Lodden Profession

TABLE-13 DETAILS OF PROJECT IMPACT STATEMENT

St.Me.	Environmental Impact	Yes / No
200	Strokage of tebbat	No
(2)	Fragmentation of habitat	Mo
- 3	Decradation or decradation of habitat	90
4	Politica d' vister bodies	No
5	Air political	Rd
- 6	Long lasting severe obverse imposts	760
7	Adversely impecting the managements plants under implementation	Ha
- 8	Sustaining the Ecology and blod versity of the elea-	Yes
- 9	Posing an additional threat to any RET species	Ke

Thus, the project is not going to be a threat other to the CWLS or the RET flora or found of the study area either directly or indirectly.

5.0 CONSERVATION OF BIODIVERSITY

5.1 Conservation of Godavari River Estuaring Ecosystem

According to a detailed survey carried out by Mr. T Repasekhar (2019) and others, among the RET animals that are most likely to be present within the 1000m wide. buffer zone along the pipeline are the Olive Rudley turtles (Lep/goche/vs physicea). There are reports of sponsdic nesting / breading activity during the winter season. from October to January on the sand dunes / sand bars on either side of the Godavan and Gautam: Kivers, But there are no mass resting grounds in the East. Codpy-in River Estuarine Ecosystem (ECREE). The major (50% of tatal) threat to the hatching of Olive Ridley eggs in the area is due to inundation on account of high tides and cyclones. Red is due to positing, predation of eggs by locals, dags and binds. As the proposed pipeline is passing through the River, it is not going to disturb or unsettle the Olive Folloy Turtle nesting grounds (which are always located in sandy breaches). However, the protect proponent is doing to take care to ensure that no pipeline activity is carried out during the breeding season (October to Jamesry) within a distance of 1 Km from the needing areas. No liabrane or flumination shall be used during the preading season. The project progenent will join hands with the Andhra Pracksh Forest Department (APFD) for protection of Olive Ridley Turtie Nests under the Olive Ridley Sea Turtie Conservation Programme

In the worst case, some Molluscs are blody to get buried under courts during the time of pipe laying. Beyond these miner and purely temporary adverse impacts and the especiation is endowed with the capacity to return to normal conditions once the disturbances was oner on account of homeostatic (self-control) regulatory mechanisms. These shall be no long taxing or recurring threat or indirect adverse impacts. Under any ordinastances there shall be no tiet Loss of Biodiversity. The proposed activity is fully compatible with the National and International objectives of wildlife conservation.

As revealed by the baseline data, the area to not in Ecosystem and species diversity. It is a home for some of the circ, codangered or threatened (RET)



Remirgs & Biothermany Service Septemble MCMMs Commerceases Man for the Incommed Laplace 347 Fig. 1996 of Films 23 For recipil Floor Cifebone Biotherm, Message Blanck of the Sentime Kines to CMBC Delibert Plant of McGertanic Kings, Turbureau Manage, 2017 Sections Objects, Anathon Rescues

species at shown in Figure-2. The Mangrove Forests and the Coringa Widdle Sanctuary have immerse protective and productive functions. Hence, their conservation is given due consideration and importance both by the National and International organizations including voluntary agencies. The M.S. Swamingthan Research Foundation (MSSRF), and supported by the Ministry of Environment, Forests and Climate Change, Government of India (GoS), Government of Anchos Protects (GoAP), UNDP GEF (Global Environment Facility), EGREE Foundation and Nature Protects if Size is Protected, Organization have joined hands tagether for Mainstreaming Coastal and Nation Blad versity, Conservation into Proposition Sectors in East Godevari River Estuarine Engagetern Region (Ref: Figure-3).



Yellow Mangrove (Cerlops decendre), found in Knodikuppa R.F besides the CWLS



Fishing Cat (Prionaltural vivernious)



Smooth Indian Otter (Lutra perspectives):



Strikes (Acceptor beative)



Problegy, & Blendmen'Ny Stady Begande Wildfill Conservation Flore for the Employed Saying SC Papellari Mandalet St. No. Gregoti from Officiale Photograp, Uninegli Models of the Bushami Nover to DMSC Unabore Plant of Makesianas Voltago, Photograp Wallett, April Godeway Dastrick, Andrew Process

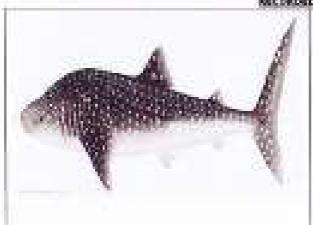


Furosean Sparrow Hawk (Accipiter Hisss)

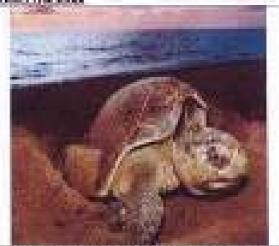


Black winged like or Sparrow Haws (Elanus operaleus)

FIGURES OF THE BARE (ENCANORESE / THREATERED (SET) PLOSE AND WORK EXPORTED / SECURES OF THE SALE



Whale Shark (Rhincodon typus)



Olive Ridley see turtle (Lepidochelys oliveces)

FIGURE-2(B) PICTURES OF THE RARE / ENDANGERED / THREATENED (RET) PLORA AND FAUNA REPORTED / RECORDED FROM THE CWLS AND ITS SURROUNDINGS



Freelings: A. Electrometry Stanis Reports Milleletic Communication Blant for the Proposed Earling 20° Pipeline of Aparil 21 for Anglis from Difference Platform, Unrough Names of the Quarture Reserve to 04000 Unables Plant at Wildle states Victory, Continuous Physics, Sant Colleges Research, Aparil Proposed.



PHOTO SHOWING THE TITLE OF THE PROJECT AND THE AGENCIES INVOLVED IN THE OVERALL DEVELOPMENT OF THE FORESTS, WILDLIFE AND GENETIC DIVERSITY AND THE WELFARE OF THE PEOPLE DEPENDENT ON THEM

The objectives of the multi-agency project are not just preservation of the widate but to beneate the ecological broeffs implicated and economic benefits by instructioning Countries and Marine Brodwersity Conservation into Production Sectors. Sustainable production of fish and fisheries, the manistry of the in the area; integration of widdle conservation with healtst exprevement; enhancement of floristic civersity by introducing the Hangroves from the other regions of India; protection of genetic civersity.

5.2 Role of the Project Proponent

All the RET species listed (Figure-2) with the exception of Olive Ricley Sea Terties and Shark Catholi are namely limited to the CVAS. Their conservation is given due consideration and importance by the National/ International organizations including voluntary agencies.

Project proportion is prepared for protection of flore and fecus of CWLS and around it in the project area. For protecting the spondic dest grounds within a distance of 500 m on either side of the pigetine on either side of the mount of the Sauthami Godavari River, the project proportion is prepared to provide dest quants (similar to tree quants) for protection of the Ridey Turtle Nests and fund the forest Department for activities like deploying watchmen and edgaging the services of voluntary organizations for protection of nests, eggs and hashings till they find their way in to the Bay of Bengal, All these activities shall be undertaken in association with the Andhra Prodesh Forest Department (APFD) as a part of the Civa Ridey Sea Turtle Conservation Programme.



Brokery is Modiversity Stady Reports Indicate parasonation view for the Proposed Laying 30° Psychologist About 37 km length from Officials Statistics, Horself Mouth of the Golden State 18 0005° Challen Physics III Mallanarian Village, The Service Standal, See Continue Desiral, Amelian Brasinsh

In view of the ongoing scientific efforts under the direct supervision of MSSRF with the support of the State and Central Governments; international organizations like the UNDP and CET, the project proponent, ONGC, at ready to support the efforts made by State and Central Governments for the ecological conservation of Corings Wild Life Sanctruary and around it.

6.0 WILDLIFE CONSERVATION PLAN

6.1 Coringa Wildlife Sanctuary (CWLS)

The Corings Wildlife Sectuary is being manage under approved management plan for the period from 2013-14 to 2022-23

The Covinga Widlife Sanctuary' is situated in the East Godavan bistnet of Andria Predesh. India. Characterized by tidal/Mangrove forests of the Godavan estuary, having specific biological and peological characteristics, it is the second - largest mangrove formation in India. Flora and Fauna of this sanctuary along with the habital constitute a unique ecosystem, besides being highly sensitive and fragile zone, this sanctuary also acts as a prolific zone for shrimp, shell, fin-fish etc. Flora and Fauna occurring in the mangrove forests have the special ability to tolerate various degrees of salinity. During foverable and suitable conditions, the mangroves form an extensive productive eco-system of dense forests in the coast and function as reservoirs for several species of plants and animals associated with each other.

Carringo Wildrife Sanctuary is confined to the tidal forest erec in the estuarine areas of Godoveri and Bay of Bengal. Comings sanctuary comprises of Reserve Forests of Corings, Corings extension and Rhiravapalem, extending over an brea of 23,570 for. It has get a unique ecosystem, characteristic of Tidal Forests that east at the estuarine area, along with the special hebitat that hosts various Found and multiferious organisms. The area was declared as Coringa Wildlife Sanctuary under section 26A of the Wildlife Protection Act, 1972 (Central Act No. 53 of 1972) value (Co.Ma.No.A5 EFS & Technology (For.III) 13th April 1998.

The mangrave forests contain a highly specialised community of prent species and associated flours, not capable of flourishing under any other situations. These forests are the abode of species like Fishing cats. Otters, Brahmini kins and varieties of King Rishers and waders. Mangrave forests therefore present a unique occasional which needs to be protected and preserved.

The sanctuary is located in the enturative furnet area of countst region of the Bay of Bengal (in the East Godevan District of Andhra Fradesh). Here, Godevan Rumin (Coringa) joins the back-waters of Bay of Bengal. Between this area and the sea, Boya Island blocks the direct connection between the sea and Godevan waters. As a result about 40% area of this sancturery is only sea back-waters. Rest of the erea is riddled with creaks and gets inundates with tidal waters. The peculiar nature of the soil and saline water allows only "MADA" (Avicennia) type of vegetation to come up in the area.

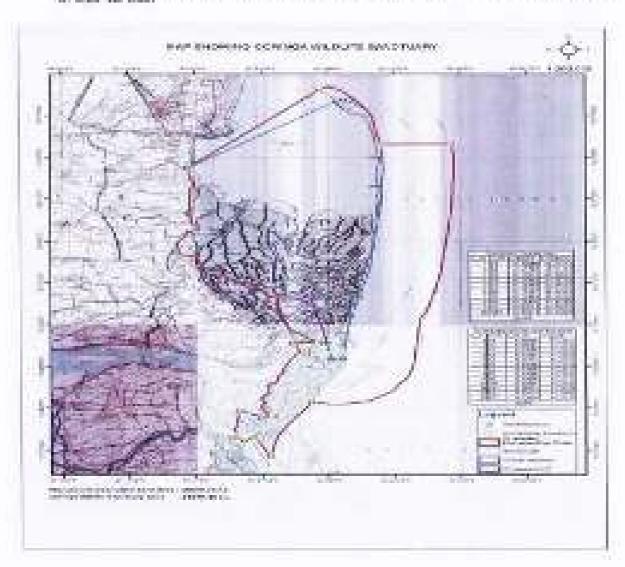
Fungatives are a highly productive ecosystem which cycle it's own vegetation and also transports the mid-tents received from the land to the sea which are important for the near share fish population which is commercially highly valuable. Mangroves play an important role in building up and unbusion of coastel soils through accumulation of sediments and protecting the shores. This



Freday, A. Bischowsky, Blady Beyanth Middle Communities flow are the Arapanet Laying 30' replane of about 21 Act league from Ottober Periods, Unaugh House of the second Miles in Origin Cashore Manual Research Miles in Origin.

vegetation ects as a very good natural coastal beit protecting the area behind it from cyclones etc.

The campy of trees and the ecosystem anyides a habital system congenial for special fixes, Namma's and Insects. The See coast of the sanctuary is the home of Sea-turiles.





Politings & Black-vertilly Bruthy Emports. Histories Commissable Politics for the Proposed Laying 28" Absolute of about 34 kin length from Offshore Histories, phrough House of the wouten when to United Declares March at McCommiss Million. The Parish Marchet, Busin Godernal Wester, Anders Bracketh.

"Coringa Wildlife Sanctuary" is declared under sec. 18 of the Wildlife Protection Act 1972 (Central Act No. LIII of 1972) in 1978 through G. G. Ma. No. 484 Porests and Rural Development (Per.III) Department duted 5-7-1978 and was notified in the East Godewari District Gazette No. 8 Deted 22 8-1978 and under section 26 A of wildlife protection Act, 1972 (Central Act No. 53 of 1972) in 1998 through C.O.Ma.Ro.45, Environment, Porests, Science and Technology Department (For.III) dated 13-4-1998 and was notified in the Andhra Franko's state Gazette vide notification No. 199 dated 24-64-1998 (Announce-1A). The sanctuary comes under TUCN category V.

6.2 Constitution and the Extent of area

The block wise forest area of Godewari Delta and the Sanctuary is presented in Table-14.

TABLE-14
BLOCK WISE FOREST AREA OF GODAVARI DELTA AND THE SANCTUARY

Sc. No.	Name of R.F	Area (ha)	Area of CWLS
and the	Connga R.F.	4242.00	3156.54
2	Coringa Extension	19474.12	19941.70
- 3	Rhyravapalem	972.05	972.05
4	Masan tippa	1089.00	
5	Kandikuapa R.F.	3484.00	
- 6	Mattatiopa	445.00	
. 7	Retikalva	2040.00	
- 8	Balusutippa	476.00	100,000,000
	Total	32222.17	23570.29

G.S. dane.

Mongrove forests of Godavani delta extend over 32222.17 ha (322.21 Sq. km.). Out of this, 235.70 Sq.Km. of reserve Forest of Tellaretus and I.Polavaram mandals has been declared as a sanctuary under the Management control of Wildlife Management Division, Rajahmundry. The block-wise departs are furnished in Roble 1. All the above Reserve honests are political under section 16 of Medicas Forest Act and Sec.15 of 6.9. Forest Act 1967 and their position is intact. The entire sanctuary is covered by Coringa Reserve Forests, Coringa Extension Reserve Porests and Bhyrovapaliem Reserve Forests. Out of the total area of the sanctuary, segetation cover occupies 11718-20 ha (49.71%) and water body is 11851.30 ha (50.28%) IQS Lab A.P.F.O Statistics 2007 (IRS LISS III).





Exchange in the chemical probability Registric Mandrick Commission of the Policy Proposed Copyling 30° registric of shoots at less temper from Orbits are reservoirs, through Montric of the Governor Private to Orbits Considered Phone at Mahamatan Millago, Finalismore Mandric Books of Shortes, Amelica Problems

- I. Caringa Reserve Forest: handled as Reserve Forest in G.C.Ha. No. 302. Revenue Dept. Dated 12-5-1888 to take effect from 15-6-1888.
- Caringa Extensive Reserve Forest: Notified as Reserve Forest Vide Fort Saint George Gazette No.36, Dated 5-2-1921. Notification copy of Coringa Extension.
- It <u>Bhyravapatem Reservic Forest</u>: Metified as Reserve Forest III G. D. Ms. No. 103 Forest and Rural Development (For III), Dated 24-4-1974. Metification copy of Discrevapatem Reserve Forest.

6.4 Approach and Access:

The same of Conngs Wildlife Sanctuary is drawn from Conngs Village which is accessible by road from Kakinada town. Kakinada town is connected by train with major other like Hyderabed. Chemist, Kolkata, Visekhapatham, Viljagovinda etc. Samelkot junction is the majoral rationy junction to South Control rationy. The Kakinada town is also approachable by sea, as it is a major port. One can also reach Rajabathandry by air and then reach Kakinada by road or train (Distance 70 km.) The Sanctuary can be reached by Road up to Ramanagasian village. But the sanctuary can be seen only through post or launch as the sanctuary is a wetland, connected with streams and process originated from the river Godavani and the tidal waves of Bay of Bengal.

5.5 Statement of Significance

Corrigit Wildlife Sanctuary is an important webland as it covers the major postion of mangrave forests in the deta of the Godavari river. The coastal and marine environment of this region plays a vital role in numan welfare by its immense biological and mineral resources and the life-supporting systems it provides. The area is a major habitat and breeding ground for several species of fish, praying and holds one of the sizeable populations of fishing cass in India. The mangrave forests are the first line of defense against the tropical cyclones which frequent the area. Hope Island, which is a part of the Contral Wildlife Sanctuary plays an important role in preventing the sea waves maching the Kaltinada Port and the city protects the port area. Corrigin Wildlife Sanctuary and its adjoining landscape in Andhra Pradesh plays a crucial role in regional, economic and breithout development besides providing various coasystem services, essential as life-supportingsystemfortheCastGodavari region.

6.6 Geomorphology Physical Features

Corings does not show any major topographical features, except for the Kakinada coast, salidch is largely a low-lying area. The lower part of the delta is made of a series of sand ridges interpreted to be ancheot beach ridge forms, due to the high-waves and petricis. Geomorphology of Coringa matter brought by the river Gostami-Godavari from its drainage basin. Fractures have controlled the drainage and truncated some of the river courses. Geomorphology of this area is classified as muddlet, mangrove swamp, eacity hearth and Sandy Island.





SCALIGN B. Excellentally Manie Research Mildlife Consequentian Plan for the projected causing on Psychological States of Participant Consequentials of Platforms, Managin Manifest of the Constant Plant to Control Declared Plant of Malasterman Williams Technology Manager, Take States and Declared Declared Printers.

River dominated allochthonous type

Characteristic of coast at low bital range secting: In this case, headwater discharged by Gudavart Siver and seglment leads to the rapid deposition of terriperious sample, after and day to form "pro-defea" sediments. The detta permetry consists of multiple branching dentifications leading to form elongate, finger-like protrusions. The result is the formation of highly consisted positions with shallow beys and legions.

Tide dominated geomorphologic setting

Observed near Coringe switchery, along Nettapalem and Ramennapalem creeks. These tides are responsible for the dispersion of the sediments brought to the coast by the Godavari River, forming alongsts and bastes. Wave power is often tulte law because of frictional attenuation over broad inter-tidal shorts. They also provide seaward along the promontories, which separate the tidal channels.

Composite river and tide dominated geomorphologic setting

Observed man Bhairwapalem, represented this combination of high wave many and high near decharge. Send debauched by the river is rapidly redistributed by waves along the share to form extension and sheets. Much send deposited on the liner continental shelf during lower and level is recorded landward during marine transpression and subsequent sea-level still stands. The result is a covertal plain deminated by send beach ridges, nerrow discontinuous laggons with an elluvial plain to landward.

Soil

The entire area in the mainland is plain as a table too but hidded with a notwork of atreams and creeks. However, the Hope Island which is also known as "Godavan Sandspik" is a rice sandy seashure. The ockaic region mostly contains black cotton soil with deep extensions in sub-surfaces. The soils are moderately drained. The texture of the voil is wit day; with 50-65%. of clay. The comment clay mineral is stertite. These sells are low in organic. carbon, which ranges from 0.3-0.5% indicating racid mineralization. The sediments are of sit day in nature, where sit levels increased in the direction of Gustami-Godeveri Estuary and day characterized. The Godern/Seaward channels with a strong neritic incursion had higher adintity (>20%) compared to Coringa and/or the estuary. Most of the sediments in mangroyes are characterized by muc Clay of mud and sandy mud. Sand content in Mangrove. sediments is generally less than 10%, will be predominant in mangraye areas. and those are as which costain salt content more than 10% are characterized. by dense Mangrove vegetation. Through the clas content rances from 15 to 90%, yet the majority of the sediments contain 30 to 50% day only. Intel-Channels and creeks of the Mangroves are characterised by Sandy mud, and sandy sectiments. However, in some places dayey sandy sitt and sandy day secliments are found in which sand content is more end narges between 3 to 89%, 3 to 90% and 10 to 76% whereas silt content ranges from 1 to \$2% and clay content ranges from 4 to 84%.



Findings in Fundamently Stonip Respects Wildelto Consequentian Stan for the Protogod Laying for Popular of addition 33 for length from Officians Porthogo, Homely March of the Sustain Street in Contra Orandom Philips of Publisher Millings, Protogody Plancis, Said Material Deland, Jandiso Products

Solis in the mangrown belt are characterized by high salt and water content. Scherally, these solis are highly study muddy and very sticky with less oxygen component and are clayer with abundant Hydrogen Sulphale. They are dramed valls, often semi-fluid and poorly consolidated, and in parts with abundant number which is called mangrove peat, a fibrous soil composed largely of remains of roots and other woody structures and all brought in, from the see by the bidal action, which contains shells and other debris. The alterium deposited, helps in building large quantities of sigar, which form major food resource for the fauna of the mangroves. These muddlets and soil in mangroves, which have formed through several biological processes, forth workers richer for different organisms to thrive, thus malong the mangroves a unique economism.

Lagoon

Lagous sediments are mainly muddy said and saidy in nature. The average content of said is about 33.9% and content varies between 6 to 82%. The sit content varies between 10 to 32% and the everage content of sit is about 21.3%. The clay varies between 5 to 82% and the average content of clay is 44.6%.

Terrain

Corriga mangroves are burdened on the nurthern side of Kelchada Say and on the western side mainland formed of deltars and flood plains. The countel strip nurth of Kelchada consists of windblown send and sand dunes which success tunesand by literature, sandstorms and khondalites. The southeastern part has marshy islands known as Hose Island.

Shoroline Changes - Sandspit Formation

A sandapit has formed near Kakinada Bay over a period of 100 years. Easer on Schuth Admiratry charts, Hydrographic Survey of India charts and field investigations, (Raddy and Present, 1982) have presented the possible reasons for the sand spit formation and growth (Map).

Godewari River was discharging Into Coringo Bay (present Kakinada Bay), During 1846-1851, the major confluence of Godavan River shifted its course limit Contract Bay to about 5 miles wouth east. Dam construction at Dowlessvaram (1.946-1952) and deforestation in Codewan basin during this period could have reduced the flushing capabity of the river and increased sediment transport, which ultimately resulted to altitud up of Coringe creeks. Silting up of Coringe creeks. caused the opening of the major branch of Godsveri River in the open sea year Hook Island. The increased sellment input resulted to the formetion of a shool in 1851 (Secremento shoel). Listoral currents (flowing neetin) bare to depred the littoral crift material, while tidal currents (percendicular to shore) tend to ramove. the deposited contental. Since tidal currents were week (due to large area or bay. mouth), litteral currents dominated the deposition of litteral drift materials and the shoot developed into a saind spit and started presting northward along the direction of the litteral current. With an increased country rate of condustnurthward, the bay entrance (between Sandson and mainland) became reduced. during 1893-1970. Reduced hav entrance caused strong tidal numeros that Circled littorial drift materials into the boy and the soft deflected in North-West. direction. The strong gbb currents from heav removed materials and caused deepening of the bay and thus the sand spit has attained a quied-equilibrium tripolity.



Souliegy & Studiesralty Stock response includets conservation than for the Proposes Laying 20". Physician of secure 3.1 has laught from Officiary Partitions, through Reads of the Goutani joint to sense. Distinct Plant of Build at Partition Planters Village, Turkers or Housing, Fact Surfaces States, James Produces

As an estimate 9.2 km length of Andrea Praciesh toast is affected by crosion. Excision of constinue is ractical along the flay of Bengal at Uppada, Vishakhapatham. Bhecmumpatham and on the northern aide of the Godewin River, i.e., from the Godewan River mouth to the tip of Hope Island. Elongation and enlargement of Hope Island in the north and northwest directions are remarkably studie from the increase in the length of sand soil in the last crotury.

5.7 Water Sources

Drainage Directions

The river Godavan after preventing a distance of 1,400 km divides time two branches - the Sautami (major branch) and the Vassata (minor transm) at the bownship of Divilencem about 60 km from the mouth of the sea. The senguary area can be described as a part of the Godsvari Estivatine De ta Compley. The Godavari river channels in the estuary zone are furnel-shaped and are avapped by numerous tidal creeks. These creeks are separated by extensive tidal-flat. surfaces. Small charmels/preeks are detected in the dense manarove longst using satellies. Modifata with manarova foreith are more extensive along the estuarine part of Cautami river. The Cautami branch of Gadavan flows South-floor and opens into the Bay of Bengal at two places, namely Bhyrayasaran and Kottaculem villages. The Gautami Godavari is connected to Kaldnaca Bay by two major atmams namely, the Coringa River at Yanam and the GadeoiRiver at Bhyravagalem. There are many other major streams and creeks such as Cholished creek. Medigoslem canal and many other creeks which utiminate toir either the Kastnerte Bay In its Southern part within the sonctuary or toin the beamain rivers i.e. Corings and Gadery, which cut across the entire sanctuary and Ultimately form the sea, the total effect is felt up to 45 km in the metric branch and about 40 km in the minor branch with mean tidal differences between the high and low tide being 134 and 53 cm respectively. In between these two esteamer escuribs, a swampy hardwater area exists, covering an area of 15,000 ha. Further, major branch the Contamits connected by a multitude of tidal creeks interspersing the mangrove swamps on its pastern and and some of these connect to the shallow coast of Bay of Beneal near the township of Kalanada.

The Major Rivers in the Sanctuary:

Coringe River:

This is a small river starting on the Western side of Yanam town patting across the four easterly delta regions line to the west of the sanctuary and unture the sanctuary area near Corings village in the eastern side of the sanctuary and travel towards the easterly direction and joins the Kalinada Bay.

(ii) Gardery River:

This river arises about 5 lest, down to Yanam town near Bhyervapolem village, it enters the sanctuary area at the southern up near thyre vapalem, and divides the sanctuary area into two parts, travelling towards Martin and ultimately joining the Kakingda Bay.



CONSTRUCTION OF AN ARCHITECTURE STATES AND ARCHITECTURE CONTRACTOR PROCESS AND ARCHITECTURE STATES AND ARCHITECTURE ARCHIT

6.8 Biodiversity

The Coringa WLS is rich in big-diversity, principal components being phytoplaniston, cooplankton, magraphytes and equatic avidance. The big-diversity of this Wettanii competes of Phytoplaniston (137 species; Zooplankton; S1 species; 138 fish species, 34 species of crabs, 110 species of mallusce, 12 Prawn species, 269 bird species (including water/ternstriat/migratory/ local migratory/local residents etc.). The major plant invasive alien species includes Prospects Authors.

Mammals

Nine species of mammals have been recorded, Of which the endangered species. like the Fishing Cet - Priorally/us www.fises, Indian Smooth coated Otters --Letropale perspicitists were sighted puriog the field visits.

Wheel's.

There were around 257 species of tends identified from the Corings Wildlie Searthery. About 170 species of resident and migratery birds (Egests, Cornorants, etc.) depend on this area for breeding and cesting. Corings WLS is an extremely essential area for wildow and mangrave birds and has been designated as an IBA. This area is reported to have been used by about 20,000 wilders in a year. Among the near threatened species, Pointed stork Mysteria Associationals, Oriental White Ities (Threatened species, Pointed stork Mysteria Pochard (Aythyd Jyroca) were also reported from Corings Wildlife.

Reptilies

There are about 25 reptiles have been identified in and around Coringa Whittie Sanctuary. Sea Turbles (5), Snokes (16), and Lizards (4) est., are the reptiles found in the sanctuary. Ofter Ridley Sea Turbles Leptocchelys of recease which is listed under "schedule 1" of EMPA 1972, and "Vulnerable" as per the BUCN Red List.

Phone

Mangrove vagotation in the Godoven instancy is tropical inter-tidal forest composed of halo-tolerant plant species. They are often located in muridy, another salls, lagoons and river deltas where their complex of serial roots provides support and gas exchange. Hangroves are viviparous and propagate by their oblity to quickly establish under the perental tree or float away and opignize a new area. Mangrove vegetation complets of Economics perefects.

Ecosystem Services

- Supports by thoods for the funitio community.
- Provides essential products and services such as coypen, food, water and medicinal to humans.
- Requisition of water regimes and stream flows.
- Ground water recharge.
- Nutrient recycling.
- Buffer communities against fleads and cyclones.
- Support a variety of life forms through extensive land were.



ECOLOGY IS INICIPATELY STUDY RegionS. PRINTING Conference in Plan for the Engineer's Laying SIT Reminis of about 13 km longer from offer one restricts, corough Mouth is not to usual Reserve Chief-Conference Plant of Makameran Williams, Therefore Mandal, took Contends Copyrigh, Andrew Angeles.

- Habitat to diverse flora and fauna, including neident and mignitury species.
- Plabitet for migratory species such as worse birds and flain.
- Provide recreational Capartunities.
- Enhance landscape auctiveren.
- Stabilize local diritate.
- Sink for sediments.
- Cultural and religious values.
- Medicinal Pants

Sociaeronomics and Livelihoods

Fishing is normally the primary livelihood of local communities residing along the coast. However, seasonality plays a major role in determining the evaluability of fish coach.

Emportance of Mangroves

Ecosystem Service Provided by Mangroves of East Gedavari Coastal Region

Provisioning services:

- Food) Mangroves here are permanent or temporary habitans for many aquatic animals such as fin fish, shell fish, crustoceans and are hotching and nursery grounds for many marine fish. It is estimated that up to 80 percent of regions: fish catchus are directly or indirectly dependent on manuroves.
- ii) Timber and fuel wood: The villagers of this region mostly use the timber of Yangrove flunt to build believe and make furniture, rafters, fences, bridges, poles, boots and as fuel wood.
- III) Medicines: There were a few traditional uses for mangroves and associates. Not Cassificial bonduc (i...) Roots, Clevoperation hierarc, Guitargu special Roots. Demis tribulate trust, and inhibitory theorem. The bank of Cerlops decarding is used traditionally to enhance the durability of the Tehing nets. The banks of many species produce gums and tenning, which are still used for runing limither and strengthening fishness.
- (v) Other non-timber forest products (NTFPs): The preathing roots of Senterst's species are used to make corks and tish finals. Nangrove plants are sources of softurn, and the ask of some species, such as Avisentia, is used as susp.
- v) Enrichment of Coastal Sea: The coastal vegetation the Algae, seaweets and mangroves play a significant role in conting the coastal sea. They transport the devoted organic matter, nutrients etc., bestes serving as a nursery area for the larvee and juverile makine animals and thus support the bernian constation of the saw.



Scology is distributely Study Reports Studies Conservation Plan for the Angeles Laying 33' Markins of about 34 km langua from Offices Martins, comagn Month or the treatment tools to Office Challenge Plants of Martins and Martins of Challenge Plants of Contract Con

Vi) Fawning ground for commercially valued fish, craise etc.: These torests are the home ground for a variety of commercially important fish, prayon, states and other species in their early stages, thus providing a big economic source to the country in general and state in particular.

Relating services:

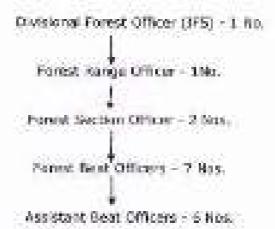
- i) Protecting the shoreline: Hangroves in this region acting as physical builders indicate the elements and the shore and can absorb 20–90 percent of the chergy of the mixes, depending on their ecological condition. The mangroves of Contiga serves as a big trainer, valoquarding the idealneds lower. The opportunity cost of saving a life by retaining mangroves and it was essessed to be Ro. 11.7 million per life caved.
- (ii) Carbon sequestration: Mangroves are important carbon sinks. They sequester about millions of tonings of carbon per year. A 20 year old plantation of mangroves has a carbon build rate of 580 grams per square meter per year.
- If Promotting accretion: Mangroves function much like a living grove to build up testiment, stabilizing the ground and fixing mud banks. It is estimated that there is an annual sedimentation rate ranging between 1 and 8 millimeters in mangrove areas that are expanding in lend area. Therefore, they prevent employ.
- (v) Flood attenuation: Mangrove habitats function as higantic spanges to trap and slowly release surface water. A one-acre wetland can typically store about three acre-feet of water.
- Trapping pollutants: Mengrove roots that help trap sediments also function as filters to sit out pollutants reaching the any from inland waters.
- vi) Support for fauna: The cartogy of mangrave trees provides an essential furnishmal habital for burns which prefer arborest life. Mangrave sets are soft; much mixed with sand and contains having which is not found in sandy and rocky shores. These forests are the abode of species like fixing tabs. Others, Wohres, and Rhesus Mankeys etc., Apart from these residential species a number of hirds are attached to these forests and they provide food for their in the form of flats, crabs, interp organisms, much slippers etc.

8.9 Administrative Setup

Coringo WHATE Sanctuary is under the administrative control of Anders Predesh. Forest department and comes under the functional of Wildlife Namagement Division, Rejetmentry.

brokley & Blockwistly Stody Periods Mithille Commercials Max for the Proposed Captry 201 Physics of secure 33 his length fresh Utlinova Patitions, through Resid of the conduct store to disect Conduct Flant of Mallacenses Wilson, Timilarnias Manage, path Sectional Microsc, Auditor Frances

The Forest department organization structure to in place.



All present 1 Divisional Execut Officer, 1 Forest Range officer, 2 Forest Section Officers are present. Out of 7 Nos sandsoned posts of #.B.Os, 2 posts are vacant and Out of 6 Nos canctioned posts of A.B.Os, all are vacant. So human resource needs to be supplemented.

Visiona

"By 2023, Biodiversity of Coringa Wildlife Swictuary (CWLS) and its surroundings is valued, conserved, restored and wisely used, ricardaining a healthy mangrove, estuaring and Bay accession services and sustaining benefits essential for scople thing in the region.".

Sont

Take effective and expent action through "Concernation and restoration of ecological integrity and to ensure that by 2023 the Gottavan Riverine, Estuarine, Coastal, Planne and Mangrove ecosystems of Coninga Wildlife Sanctoury are resilient and continue to provide essential services, thereby securing the variety of life in the region, and contributing to human well-being and poverty practication".

To ensure this, pressures on hindiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of garatic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are emanced, tooliversty issues and values mainstreamed, appropriate policies are effectively implemented and distributions which besed on sound science and the precautionary approach.

Strategic Goals and Objectives

To reach the above broad goal the following strategic goals and objectives are defined.



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Strategic Goals

StrategioSealA: Address the underlying causes of brodisersity leasily

mainstreaming Biodiversity

StretegicGoald: Reduce the direct pressures on block-excity and emerges

sustainable use.

StrategicGoal C: Improve the status of bioSiversity bysafequarding

appayablems, species and Genetic diversity.

StrategicGoalD: Enhance the benefits to all from diversity andecosystem.

services.

StrategicGoalE: Enhance imprementation through participatory participatory

knowledge management and capacity building.

Principles: The most important principles are that human beings are

at the centre of sustainable development concerns. The other relevant principles on which the objectives are premised include: nort to development precautionary economic . officiency: consequently. doll Hen. "incomparable" value: equity: public trust doctrine: determinisation, integration, preventive actions; and environmental offsetting. These principles, which have an established penealogy, provide the rigoessary overallguicance for implementation of objectives which are broad based and relate to current perpettions of keythreats and constraints to blochers by conservation. These may accordingly evalve over time. The objectives are tobe realized through various strategic interventure by different public authorities at central, state and localgavernment levels. They are also to form the basis of

diverse eartnerships.

Objectives:

- Protecting or tical hebitets of Coringa senctuary both on the land-want and the sec word sales including the flav and benthic hebitets.
- To improve natural resource base and to orderse harmony, synangy and inkaces between conservation and management of biological diversity by empowering local communities, suproving inveltionds by adopting sustainable inactions that increase long term food security and reduce severty while ensuring equity, storisponency and accountability through society and community.
- Enhance the capacities of communities and sector institutions for effective implementation of blod worstly-friendly sector plans.



somings in aladicarsky Study Asposts tribble Conservation Her for the President Laying 20° Aprilland about 33 for laugh from Otheres Madrers, through House of the Contest Mourt to 2002 Contest Rout of Melinoman Wileys, Toularnes Mondal, East Contests District, Astino Provisit

Problems in Achieving Objectives:

Inadequacy in addressing the biodiversity related issues from a tandacape/seascape level serioective.

SWOT ANALYSIS:

Strengther

- Mangrove area of Godswart region is rich in flore and fauna divendty that generates significant ecological and economic benefits such as shoreline protection, sustaining twellbooks and carbon sink services.
- Diverse physiographical and ecological features constituting the desired hubited conditions for various species to exist.

Weaknessi

 Acting of anthropogenic pressures of highest degree on the Bey and Mandrove areas from adjoining villages.

Opportunities:

- Availability of excellent scane and suitable sites for various bootourism activities.
- Strong political will for development of the communities through various Rural Development Schemes.
- A structured national and international support programme (URDP/GEF/Sol/GoAP) in ongoing programmes with well established institutional arrangements.

Threats:

Natural threats:

- Cyclones, gales and occasional transmis are the natural threats to the mangrove ecosystem.
- Accretion of large amount of sand due to tidal wave actions and growth of sand split towards the port.
- Invasive ation species, weeds such as Presopts Juliflora, which
 often occupy deforested mangrove areas and restrict the regrowth of manageves

Human threats:

- Hebital degradation/conversion by degrange of mangrove forests for development protects, land reclamation for shring faming and aquamiture and observiors of triand forestwaters.
- Over exploitation, destructive fishing practices and consumption of coastal and manne resources.



Bradegy & Wordwardty Stady Manarck Indicates Components of the fee the property Cayley on Psychological Alexand II has braged from Officially Psychological Manager of the Constant Physics to Stable CANNOT Phys. of Manarck Village, Physics Wheelst, Seel Statement Elected, Analog Psychological

- Chemical contamination by agua faces, Litture and Industrial official discharges to be managine forest are as.
- Oil pollution from all lesses, bit and natural gas explorations by attent / motor boots.

Other Challenges

Coastal and offshore developments

- Oredaing & Disposal
- Power plant cooling water intake and outfall
- Despination plants Brine disposal.
- Deep was mining and all prospecting.
- P. Deep sea Drilling Projects
- Danotrauma" Impact of Human generated make on manne life.
- Oxygen Minimum Zones (CMZ).

Overexploitation of coastal & marine resources

- Environmental degradation
- Love havels of knowlment in afternative coastal (self-hood programs)
- Marioutture.
- Tourism:

Coastal Governance

- Linck of institutional coordination.
- Lack of Worldoring, Control and Surveillance (MCS) of
- Fighing operations
- Diegal, unrequiated and unreporced (IUU) carries.

Challenges faced from maritime traffic:

- * Notes
- Abcasion from grounding
- Scarring from anchoring and propeller turbulence.

Challenges from the Aquaculture

- Introduction of non-nettive species, and Leading of toids antifoulants, told constal vectors.
- Dooring water quarty.
- Release of dead and diseased fish.
- Losses of sortmos and other onistaceans.
- Plumes health issues.

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Challenges - Oil & Gas sector:

- Oil and gas exploration and production.
- Noise & Wilestion
- Physical dustraction.
- Operational discharges and emissions.
- Ortil outtings and Drill Ruids;
- Water discharges
- Air emissions.
- Solid waste discharge.
- a Direction
- Impact on Fishery/ Fohery related livelihoods
- Eight pollution near right-services timest to meeting behavior and insching survival.
- P. Highten needle
- Social pressures and other secondary impacts

Challenges - Fisheries

- Destruction of mangrove, wettersts, and other senditive equatic habitat by aqueculture projects.
- * Convenden of agricultural land toponds.
- Weter poliution resulting from gondeffluents.
- Excessive use of drugs, antibiotics, and other chemicals for aquatic animal disease control.
- Inefficient obligation of fish meal and other natural macarons for fish and strings production.
- Satisfaction of land and water by offluents, seepage, and andiment from brackish water pands.
- Excessive use of ground water and other freshwater supplies for filling conds.
- Spread of aquatic aremat diseases from culture of organisms;
 to native possiletions.
- > begative effects on biodiversity consent by escape of non-native species introduced for aquaculture, destruction of times and other predators.
- Conflicts with other resource users and daruption of nearby communities.



scology is proghesenty tracky Requires tractate transvention vital rick the Proposes Laying 20° Planting of Alman St. has languis from Officions Montain House Interest in Contain Private to Sense; Contain Planting Plant

5.10 Eco-Development Committees

This aim of the eco development activities is to provide a package of site specific coologically friendly measures to enhance alternative accome generaling activities and judicious use of tio-mass resources by the local people there by help relieve pressure on the resources of protected areas. This component aims at 3 distinct potentia.

- Eco development through protection, regeneration and increase productivity of Parest resources through solet forest management.
- Improvement and diversification of Non-forest related activities like: Approximate, Horticulture.
 - Activities corrected with other line Departments like the stock improvement use of alternate energy sources.

Due to implementation of the above activities the success achieved in oringing a sharige in the attitude of the people towards mangroves and their active portribution in the conservation of mangrove is only a beginning of an are and this is to be nurtured and sustained in future. The success would not have been achieved but for the cooperation and coordination of H.S.Swammathan Research Foundation, Kakinada (NGC) which motivated the people and acted as an interface between people and Forest Department. All the true development Committees have started which is and it is the first step in the direction of a committee partnership between the Government and local community.

5.11 Community based Eco-Tourism(CBET)

More than 75% of the state population are fixing in rural areas, where in the absence of worthwhile income generation opportunities, pagine have to largery live on subsistence agriculture, fishing sale proceeds of NTFP collected from the forests and occasional labour provided by various government departments. This concept of 'Community Based Box tourism would go a long way in providing better income generation options to the rural people. This would also mean less dependence upon the natural resources in as far as it amounts to removal of produce from these areas. There would be, moreover, greater incentive in conservation of local traditions, culture, hertage and environs, as these would be seen as define in local economy rather than an impediment test:

Community Based Eco-tourism (CBET) by a responsible tourism that, besides being ecologically and culturally securities, being the limit communities in realizing the social and economic benefits. Basically, it is an involvement of local communities in the eco-tourism that would support their liveshood needs and consequently create their direct stake in conservation of local culture, ecology and environment.



Follogy: B. Biddyestelly Study Beyonds: WARMs Communicate Pills for the Program's Laying 25". Abrillian of about 33 kill reaght from diffations Patriagn, chrough Hough of the Vents of Biddy to UNIVE Sealant Biddy at Reflections Williams, The Darkey Manday, East Godden's Obstrict, Andrew Provinch

6.12 Meed for Community-based Ecotourism

One of the major and viable options to address the above issue is to adopt "Community Based two-Loursm" (C.B.E.F) model, as a others the following benefits both to the community, natural resources and the protected areas. There will be benefits for an incivioual or family: Accommodation based in local homes (Homesteads) will channel revenue directly to the families and will also acquire management state.

5.13 Benefits to the Local Community

C.S.C.T. will generate direct revenue for community members, in addition to uppredime housing standards while avoiding hupe public infrastructure expenses.

Community-based Ecotourism projects are increasingly seen as providing an incentive for people to manage the wild lands and wildlife in a susteinable way, since the economic benefits distributed to communities depend on this was management. Nany nature tourism projects assume that nature tourism can be a powerful force for conservation by providing benefits to local people. But, meeting such conservation objectives requires careful project sesion so that benefits are appropriately targeted and, in fact, act as an incentive.

6.14 Criteria for Sustainable Community-Based Eco-tourism

A.P. Porest Department innured the islowing for sustainable Community Based Eco-Tourism to support economic development of local seminunities:

- 1. Local participation
- ii. Empowerment of local people
- Participation in the project cycle.
- 9. Creating stakeholders
- V. Linking benefits to conservation
- Distribution benefits.
- MI. Involvino continunty leaders.
- viii. Using charge agents
- Understanding site-specific conditions.
- Monitoring and evaluating groupss.

6.15 Proposed Activities

Manurove Restoration

Nearly an area of 1694.85 he has already been regenerated within the concurary area from 1987 to 2020. The standard method of Platbone channelling shell be adopted for regeneration. It has been observed in all the planted areas senter, many of the natural fish nursery bonds have disappeared as they have not been given due importance at the time of designing itself. Simulation or restoration of managrave ecology shall be hased on nature's design. It is recommended to apport possibilities to restore all natural breaking points of the fish the ceased to past and other inventionates. Care about he taken while representing the access.



Scalings & Blodfestelry Scooly Postoria selection concernation than for the Proposed Laging 25° Printless of which All has longify from Oblideous Physicism, through Rough of the Greature State or State Destinct Plant at Malketones Pillings, Tarifornia Manufal, Paul Sudeport Statelo, Andrea Products

such that all-natural equatic pends are protected and the courses of water inflows into them shall be maintained.

The areas outside the sanctuary adjacent to the western border wherever possible should also be taken up for plantation to maintain the cush oning effect for the senduary.

The standard method of Fishbore channelling shall be adopted for regenerator. It has been observed in all the planted areas earlier, many of the natural fish nursery ponds have disappeared as they have not been given due importance at the time of designing itself. Semination or restoration of mangrove ecology shall be based on naturals design, it is recommended to explore possibilities of restorate all disappeared natural breading ponds of the fish and other invertebrates. Care should be taken while regenerating the areas such that allnebural equation ponds are protected and the courses of water inflows into them shall be maintained.

Methodology and Techniques

Restoration of the mangroves shall be done only when the salarity of the depreded area is brought down. In order to requee the splinity, fishbone type canals are to be dup and tidal flushing and drawing of stagnant water is facilitated. This results in Emiring the salimity levels to 60 per in summer to treatwater level during mansoon seasons. After a buffer period of three manets, the numery shall be raised, managive captings are planted along the trapezoid straped canals in the degraded areas. Canals are designed like fishbode in order to facilitate easy inflow and outflow of odel water. The main density shall be due. at an angle of 45° to the natural creek, within the side canals are due at an angle of 30° to the main canal. This needs a preplanning of marking canals using Peas. and chalk powder. The carral dimensions shall be determined as per the contour levels and the tidal amplitude of the degraded area chosen for restoration; the canals are to be due in a trapezoidal shape in order to plant the septings at the mid level of the canal. This is to ensure that the plants receive ties, water, but at the summer time they are not submerced. Geomorphology and hydrology in mangrove restoration based on the contour survey and hydrology study, the canal depths and dimensions shall be fixed, corresponding to the opportunity and tical amplitude of the selected restoration site. The topography study remains whether the areas lying close to the burn's of piecks //ivers or clayated (levec) compared to the areas inside. The levess are formed due to the deposition of sit. during fleeds. Secondly, the soil subsided in the clear-felted area due to changes. in bulk density, making the topography saucer shaped. As a mault, tidal water entering during the highest of the high tides stagnates in the saucer shaped area. due to the elevation of the edges. The temperature and the salinity of the stagment water increases and shoots up to 114 ppt during summer. This offeromenon prevents natural regeneration of the mangroves and thus enhances. the process of degradation. The area gets flooded only during the management period and pydones and storms.

The dimensions of the canals were determined based on the contour levels and tidal amplitude. The top width of the main canal can be between 3.0 m and 2 m and the respective bottom width could be between 1.0m and 0.4m depth. The dimensions of the side ranets shall be 1.2 m top width, 0.3 m bottom winto and 0.40m depth. The distance between the two side canals at the maximum 12.5m.



Ecology & Blockberrein: South Presents Miletin Conservation than for the Property Leping 50° Planting of almost 22 day long to Court Diffusions Planting, through though at the Conservat Story to CARC Destines Florical Microsophics Ellings, TouTanna Mandas, East Guidens J. Soldens, Amilian Profession

during the first year of plantation. The planting of mangrove seplings shall be done. 2 m apart along the carais at about 20 cm down the slope. In the subsequent years, distance between side canals will be reduced up to 5 m in order to ensure dense canapy, an case the canals are dug clearly the dimension of the side canals shall be reduced accordingly to 1,25m top width, 6,2m bottom width and 0.4 m deen.

Hangroves namely Aegiceras combutatum, Brugulera gymnorrhita, Rhizophora apiculata, Rhizophora macronate and Xylocarpus moluccensis shall also photosis to ensure genetic disentity. Eight-month-old menorare suplines raised in the oursery may be used for planting. The mangrove suplings shall be planted along the slopes (30-25cm from the top) of the canals with an escapement of 2 m.

Desiltings

The bunds ferried by the deposition of the escavaled voli during carel cloging will all the carels during the monsoon seasons. The alted censis have to be desilted before the onset of summer, because during summer the tidal amplitude is generally low. Tidal flushing is very important during summer because the soil solinity will shoot up due to high temperature and cause carriage to the roots of the seedlings. Such seedlings will be represented in the following monsoon summer. The survival percentage was steed and after 2 to 3 years the seedling growth rate was laster. The ratural regimenation of the seedlings also occurs simultaneously. After four years, the planted soplings start bearing fruits, which will regemenate, and the density of the area will increase.



The trenches are silted with the flow of water during high tides resulting in decrease of the depth of the channels. Hence, if the channels are not de-silted, the flow of the water will be reduced and consequently with tack of fresh water the young seedings may bend to stanage. So the dealting the channels is necessary in the interest of the plantations. Hence, it is proposed to take up dealting of channels in the old channels with 0.15cm depth restricting to 40% area of the total areas.



ECONOGE II MINDERNATE STUDY REQUEST. WILLIAM COMMUNICATE PLAN FOR the Programm Laying SC MANTEN OF About 28 for Franch From Officially Indicates, cleaning Month of the George of Minor of Description of Science About Afficial Programmer Vision of Theorem Programmer Vision of Communication Communication (Communication Communication) (Communication Communication) (Communication Communication) (Communication) (Comm

Removal of Exotic Species like Preson's Joliffors and Other Thorny Species:

Exotic species like Prosobs Arctions are coming up sourcely along the creeks as the Sanctuary. It's occurrence and increase are an unhealthy for the regeneration of mangroves. Hence, it is proposed for removal of the species is proposed during plan period.

Enrichment planting in Hangroves:

Still small pockets of unplanted aceas are available for regeneration and they may be taken during planting season in the plan period. Certain arises damaged and needs for re-channelling, Herice, it is proposed to take up Ennotween planting in the cap areas during the plan period.

Conservation of Sea Turtles (Olive Ridles)

Protection of Turtle newte:

The lifespan of sea burtles has been speculated at 80 years. It takes decades for sea burtles to reach secural maturity. After making at sea, adult female sea burtles return to laid to task at right. Generally, herealth neturn to the same deach where they were hatched. This can take place every two to four years in maturity.

The mature heating female hould herself onto the beach and finds suitable stand on which to create a next. Using her hind flippers, she digwe chauter hole 40 to 50 centimetres (16 to 20 in) deep. After the hole is dug, the female than starts filling the next with a clutch of soft-shelled eggs one by one until she has deposited around 50 to 200 eggs, depending on the species. Some species have been reported to by 250 eggs, such as the hawkshill. After laying, she re-fills the next with sand, re-sculpting and smoothing the surface until it is relatively undetectable already. The whole process takes there to staty minutes. She then returns to the ocean, leaving the eggs untended.

The hatchling's cender depends on the sand temperature, Lighter sands maintain higher temperatures, which decreases incutation time and results in more female hatchlings. Incutation takes about two months. The eggs in one nest hatch together over a very short senod of time, When nearly, hatchlings tear their shells opart with their shout and dig through the sand. Once they reach the surface, they instructively need towards the sea. Only a very small proportion of each hetch bosonic 0.01% succeeds.

Every year Olive notey see turtles wast the constal districts and tay eggs puring the month of December to March and proceeds up to June of succeeding year. Young turtles come out of the hatched eggs and join the sea. The main produces are lackate, Forces, Wild boars which feed on eggs. Monitoring the hatching of sea turtles was taken up in and around the Control Wildlife Sanctuary during the plan period.



Crotopy is differently Study Reports. White Communication Plan for the Proposed Laying SCI Plantiles of About 34 feet importants Officially Published Resident Resident Office acutions store to break Continue Plant of Makesystem Village, Phalliers of Mandal, fact Codespot Stories, Amplico products





Conservation of Major Bird Congregation sites:

Around 257 species of birds identified from the Coringe Middle Senctuary. About 120 species of resident and migratory birds (Egnets, Cormonats, etc.) depend on this area for breeding and nesting. Coringa WLS is an extremely essential area for waters and managerous birds, and has been designated as an IBA. This area is reported to have been used by about 20,000 waters in a year and species such as Oriental White-backed Vulture Gyps bangulasses and Long billed Vulture G. Archard had been reported in past but presently these are not found in the CWLS. Survey dan be conducted to identify the present organization and the stan can be revised to include the conservation measures for these species, if found in the CWLS. Among the near threatened species, Vanted stark Nychera Incorporate, Oriental White Talk (Threshlam's measures) and Serraginous feedland (Aydiyo Ayroca) were also reported from Corings Wildlife Sanctuary. Honce, there is proposal for Cormervation of Riegor Bird Congregation after Inside and particularly during the plan period.

Research and Monitoring:

Research and monitoring are very significant in strong-banding widdle management. Qualitative and quantitative inventory of floral and found diversity studies on their habital requirements, ecological aspects, dynamics of change etc., are associated for better management of the Protected Areas (PAs) as well as non-PAs. The management of Connega widdlife Sanctuary firmly believes that scientific research, monitoring and training are key tools for successful widdle management. At the most fundamental level, scientific research helps generous baseline data on key floral and faunal elements and this in turn feeds into a language data base.

Research approach shall generate necessary information perteining to the following research priorities of the F-A

A) P.A. Management:

- Zonation and PA boundary with reference to the types and extent of various eco-systems, and animal ranges.
- Impacts of PA management.
- Impacts and control of forest fire.
- Fraggie eco-systems; or hebitats.
- Key species requiring attention.



Exchange in Exchanged Exchange Property Whitelete Commenceation Plans for the Property Exchange 2001 expedient of advances has longer from Oromone Participal, Develope Reside of the described insure to offseld Onlinear Plans of Wallestoners Williams, Philipping Property, part Coddress blances, popular residence

- vi. Connectivity with surrounting errors
- vii. Population retecation intoatives
- vill. Community based eco-bourism

B) PA-People Interactions:

- 5mpacts of legal or oustomery human uses such as grazing and NWFP collection.
- ii. Illegal framen activities: encroechment, pseching
- Injuries or death to human, I westerk and trop dependation by wildlife:

Village Eco-development)

- Structure and dynamics of total communities; cultural heritage and institutions; traditional knowledge systems.
- Socio economic: tenore rights, participatory processes in traditional omanizations, access to, use and management of resources
- III. Income generation opportunities: subsistence employment cogniturities.

D) Need for data collection:

- Data that provide a baseline for imprituring conservation action.
- Data on the wichil and economic values of biodiversity and protected areas.
- Deta supporting golicy and conservation programmer.
- Data on genetic resources, including medicinal plants and wild anomhers of domesticated species
- Data on species that could serve as indicators of ecosystem health.
- Data on 'Keystone' and 'Hanship' acesses and habitate.
- Data on alien or exotic species, potential threats to indipension blockweight.
- Data on bindiversity impain to be threatened.
- Date on threats to blodiversity.
- Data on potential rates of biodiversity know.
- Rata on species and habitat distribution.
- Data on bled versity function and ecosystem spenes provides.
- Data as landscape infrastructure and pattern.

Monitoring of Mammals in Mangroves:

Consurvation and monitoring of Otters

Indian Smooth-Coated Otter (Latrogale perspicillata)

Smooth observator named for their shorter, amounter coats, as compared the similar sized sympatric Astrogale up. Sources reveal that this species occur in variety of habitats from Mangroves of freelywater wetlands. Among all Asian others this is the one, occurs to be most common shough most of its randes.

Logal Status:

Indian Smorth-Coated Otters are the semi-equatic members of the family Mustufidae and is the most common of Asian otters. These otters are the indicators of healthy aquatic dinvironments, united Smooth-Coated Corers are included in Schedule II (Part II) of the Indian Wildlife (Pyatection) Act of 1972 and covered under Part-A of Schedule II of the Export (Trade) Corerol Order, 1988.



Carriogy & Whethership Study Reports Whichito Carsterbarian Plan for the proposed caping out Papeline of about 12 has bright from Officiary Philippe, through blanch of the Gaussia Nove to Chica Unition Phili II. Malainting Whige, Traderova Manufa), Bart Sudamer District, Andrew Produce.



Research needs

- Geographical range, present distribution and population densities.
- b. Beheater, employe, lood and hebitat requirements.
- c. Habitat and resource requirement.
- The size and configuration of suitable habitats recessary to maintain viable population.
- Direct and indirect influences of otters as predators in aquatic ecosystems, including the interactions of otters with federics and appropriate.
- Fish populations and their limitations, effects on otters, interaction with human fisheries.
- p. Habilet use and regularments (incl. mangrave Samp; other coastal, dams), habitet
- change 8,2mp; effects on populations.
- h. Rolle in eppsychemic.

Conservation and monitoring of Pishing cat

About twice the size of a typical bouse cat, the listing cat (Prionallurus/warrinus) is a feline with a powerful build and stocky legs. The size of an adult ranges from 57-75cm and weights between 5-15 kg. The fishing cat is an adical swimmer and entenseater frequently to pray on 8sh as its name suggests. It is known to even dive to captifish. Westands are the favourity habitats of the fishing cat. In India, fishing cats are mainlyfound in the mangrove forcats of the Suncurbans (W.C). Enterkanika (Orlass), Corings (A.P.), on the foothells of the Himbliggs along the Genge and Besternontrariver velleys and is the Western Chats.

The fishing cat is listed as Engangered in the S.K.N Red List, which means that alleres in high threat of extinction in the wild. The Convention on International Trade intendangered Species (CITES) lists the fishing cat on Appendix II part of Article IV or LITES, which governs international trade in this species. In India, the fishing cat isincluded in Schedule I of the Indian Wichtle (Protection) Act, 1972 and thereby protected from hunting.



Review & Blockerskin South Francisk Helicitic communication than for the Proposed Liquid III² Provinced strain III for hough hours all district flushers, through Books all the Contract Block to 07000 Contract Block of McDeversor Militage, Turkhoreus Maresia, East Godevay Online, Asilbes Respect

Research Needs:

- Distribution and conservation states involving the compliance of all current and historical data on fishing cat occurrence throughout the legion.
- Detailed ecological study of liabling cats in their natural habitat.
- Live capture to acreen arrivals for the presence of several emerging zoonetic diseases. Again influence, SARS, and other diseases and new algotiment health concerns for wirding.
- Education and outreach. Using presentations, posters, and other tools to rates expresses of welfand dependency by fishing cats to encourage more sustainable use of welfand landscapes upon world they depend.
- 5. Survey for presence through scat collection and analysis.

Survey of Fishes, Invertebrates and Amphibians for Providing Supplements to the Otters/Fishing Cats:

It is proposed to conduct a survey of invertebrates and amphibians and fish vorigites in the sanctuary area. This survey will be useful to know about the availability food to the existing Otters and Fishian cats in the sanctuary.

Conservation of whale shark all along the East Godsvari Sea coast;

Introduction:

Whale sharks are the largest shark, and indeed largest of any fishes alive today. They matriy land on princition and travel large districtes to find enough food to sustain their fuge size, and to reproduce. The distribution of whale sharks indicates the presence of plantiton and the evoluti health of our occans. Whate sharks are highly valued in international markets, bemand for their mast, has and of remains a threat in the species, particularly by unregulated fisheries. They are victims of bycarch, the accidental capture of non-target species in 6-shing gear. Owing to the vulnerability of the species, whale sharks have been listed in Appendix II of CITES [Convention on International Trade in Endangered Species) and also listed under Schedule-I of Indian Wildlife Protection Act, 1972.

Threats:

Targeted fishing for whale sharks stopped globally since 1990–2000s, However, incidental catch of whale sharks is still occurring worldwide and while shark products are still available in international markets. Serious injury and inferred mortality because of vessel strike and fishing activities are threats to whole shark aggregations globally. In the absorber of a proper conservation action, population cedimes are likely to continue into the future.

Whate Shark: EGREE region

As per the available Densture, the total number of Whale Sharks killed through by catch was 20 along the Archira Pradiath coast between 1869 and 1998 (116 vears). But, as per the surveys conducted by the EGREE Foundation between June, 2013 to September 2014, totally 50 Whizle Sharks have been laifed. The nice halfwhales killed between 25th June and 24th July, 2014; and 22 individuals between 13th and 20th September, 2014 him created wordsome among the scientists and the Forest Department, Covernment of Andhra Pradesh, Fishery experts. Researchers and local fishermen points that lift late 2007, it was a reverse



Scalings: S. Sindingstein: Scale Passerti. Hilliffile: Commercation: Flan for the Programd Leping 28°. Physician of a local 23 for Passert Hannes Distance Platform, through Plants of the Boulean State to CARC Destinate Plants of Resembles Editor. Andrew Platform. Machine Platform Commercial Plants of Carc. Andrew Platform.

visitor to the coastal zone of East Godavart. The number is increasing in recent years and aggregation also happens sometimes along the Crast.

As part of study conducted by WTI a total of 650 interviews were conducted (including fishers and representatives of scientific and professional organization). Among the respondents interviewed along the AP coset, 46% reported to have sighted the whole shark in the Bay of Bengal during fishing. It can be interved from the interviews, that the probability of whole shark sighting is highest in the offshore waters of East Godavani, Krishna and Guntur. Whole sharks are largely plantitionic feeders and their seasonal heating appreciations are largely associated with productive areas.

In all the eight costal districts surveyed, whole shark was observed by the respondents during winter months (September to March) after the monsoon and upto early summer. Fishers however reported seeing whele sharks during summer months as well, with less frequency. Overall, gill nets contributed to 80%, trawl nets contributed to 15% and shore seines contributed to 5% of Indicental whale shark catches along the AP coast. During the survey, 11% of fishers responded that they have seen whele shark pape ranging from 80-150 cm while fishers and have landed as well.

Specific recommendations of the study for immediate action:

- Awareness campaign targeted at the fisher-folks about the whate sharks and its ecological importance.
- In depth scientific research, such as Satellite tagging can gow information
 -about their imprements, growth, size at first maturity and langevity.
- Coastal cleanup program may also be required to conduct at along the coastiline to minimize the levels of body pollutarity.

Objectives

- To take up massive awareness campaign in all important fish landing centres and fighermen villages.
- Telencourage fishermen to release whole shark if accidentally caught and compensate adequately for demage of fishing nets.
- To conduct general survey in all fish landing centres and create database for future research.
- To carry out regular chastal clean up programme by involving all stakeholders.

Vulture Conservation

Vultures are large birds of arey that usually feed on carrior (dead or dying animals and rocks). Vultures use their large wings to soon in the sir for many miles without having to flag. New World wultures are related to storks and use their sense of smell to flad their food.



Fundage & Madhamake Shade Bajanda WASSIS Conservation that for the Proposed Laving NIP. Popular of about 21 has larger from Orbitana Phatform, through Mould of the Guidani River to DRICE Uniform Plant of Melanorum Strage. Plantages Manche; Best Softman District, August Proposed

The presence and population data related to the different species of vulture with respect to East Godavan district currently not available and research has to be carried out in this aspect. As per the information from forest department One One-recus Vulture (Aegyptics monachus) resoled by the Forest Range Officer, Wildlife Handgement, Kakmada and their shift on 30.11.2018 to Nedupath village in Aingvell Mandal in East Godavan District and the same was handed over to India Gandhi Zgological Park, Visakhepatham.

The Comage WLS and surrounding eres is reported to have treet used by about 20,000 waters in a year and species such as Chental White-backed Vulture Gyps bengalensis and Long-billed Vulture G. Aufloss had been reported in past but presently these are not found in the CWLS and its surroundings within the project area. In any case this project is not poing to have any negative impact on vulture species. A proper survey can be conducted to identity the present vulture species and its population and the plan can be revised to include the conservation measures for these species as prescribed in the Action plan for Vulture Conservation in Endis 2020–2025 formulated by MoSFREC, Gol, I found in the CWLS and its surroundings.

Vulture surveys:

Voltar's surveys will be carried out to locate the remnant population of voltares in the proposed safe zone, to evaluate the population size as well as the location. Dived read transacts will be laid and periodic surveys will be carried out. Local help from NGOs and local population can be initially used before performing the vulture surveys. Dide the vulture populations are located and their size are located, monitoring will be carried out to determine if there is any change in the size of the population. The change in population during the follow upsurveys could be indicative of the impact of the vulture conservation efforts.

Development of Eco-tourism infrastructure at Coringa Wildlife Sanctuary:

The following activities are proposed under this component.

- Development and Waintenance of Infrastructure in Eco tourism some
- Development of Interpretation centre of International Standard at Cornigal Wildfile Sanctionry.
- Providing trainings to local communities on hospitality, eco tourism transportunit
- > Producement of boots and maintenance of existing boots
- Engaging a fivelihood cope t to assist in Livelihood generation activities.
- Development of Fish Numeries and Seed Banks.

Development of Interpretation Centre of International Standard at Coringa

Because of development of Eco-Tourism in Coringa Senctuary a greater number of visitors are carning to visit the senctuary. For creating awareness among the visitors, school children and college students on the conservation of flore and fauna, more particularly on the Mangreye Foresti EcC publing was constructed at



stockey is stillebraicity study. Reports thaties currenteers that for the Proposed Laying SC Positive of about 14 his longer from Officials Physics, careign thousand of the Goussial Interes Origin. Careign Monte of the Goussial Interes Origin. Challenge Physics (Careign Control of Mahamatan Village, Physics of Manda), Super Control of Mahamatan Village, Physics of Maha

Coriogo. It is proposed to develop this interpretation centre with international standard during the plan period.

Establishment of Figating Jetty and Other Victors Amenities

Chollangi is located in Coringa Wildlife Sanctuary which is very near to Kalamada. Almady infrastructure is developed i.e., board walk, hosting, sitting places, etc., it is observed that a large number of victors mainly students are visiting this place to have an understanding about mangrove exp-system, flore and facua of mangrove lovest and also wedland bird species. In the interest of creating better facilities for the visitors, it is proposed to establish floating jetty and other amenities like construct Pagades, senting benches etc., during the plan period.

Alternate livelihood Generation activities in villages around CWLS

The following activities are proposed under this component.

- Training for Paimyreb products making and providing handholding.
- Other fivelified activities like providing tish drying kilns, ampke bliss, making products from radicinat etc.
- Providing dollar lights
- Extractations RD munts.
- Conducting trainings, workships, exposure visits for noise.
- Supply of TEDS and improvement of listing nets.
- > Promoting appointing activities.

Office support

The tribaving activities are proposed under this component.

- Eaparity building training programs to staff.
- Improvements to staff quarters, Forest Rest House and Cottages at Corners
- Maintanance of Interpretation Centre and IEC.
- Engaging Data entry operators, clancal assistances for maintenance of office records.

During 2012 URDP-GEF scheme was established in Coringa Wilelife Sanctuary for a period of S years. The UNDP-GEF intervention state to mainstream blockversity conservation into the production sectors of EUREE through (1) Cross-sectoral planning in the East Godavari River Estuarine Boosystem (BCRSE) that mainstreams blockversity conservation considerations, 2) Enhanced capacity of sector institutions for implementing blockversity-friendly sector plans 3) Improved community (welfaced) and sustainable natural resource use.

The following developmental activities are taken up during 2005 in Coringa Wildlife Sanctuary under UNDP Scheme.



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Sr. Mo.	Item of work
1	Estimate for I regains to calloring machines at Connga and Madapatem during 2015.
2	Conducting World Webland Day celebration at 2.P.PHigh School Coringa on 02-02-2015
- 3	Protection and Development of Sea furties at Yellayvapets during 2015
-4	Dealbing work in Corings Wildlife Sangtuary during 2015
-35	Protection and Development of Sea furties at Hode Estand during 2015
6	Training, evereness programme to 1.4.5 Officers and their supporting staff on 0s-04-2015
9	Protection and Development of See furties at Kanthikuppa during 2015
- 8	Facilitating Impaction of Mildern evaluation beam of UNDP on 20-02-2015
.0	Providing Uniform to Boat beignes atChollangi CBET during 2015
10	Repairs and replacement of Goutham boat at Corings WLS
13	Reputes and painting to Wooden bridge at Chollandi CBET during 2015
1,2	Repairs & replacements of 40 HP Mariner Engine at Coringa WLS during 201.
13	Pwinting to Wooden bridge at 3ld light House during 2015
24	Construction of New Wooden bridge at the right's de of (316 mc/s) part 1 challengioner during 2015
3.5	Construction of New Wooden bridge at the right side of (316 mile) part 7 cholony CBET curing 2015
1.6	Construction of New Wooden Unage at the right area of (285 mtrs) gent 3 challengicBET during 2015
23	Facilitating inspection of Midterns evaluation team of UNDP on 20-02-2015 8 21-2-2015
18	Providing Uniform to Rase camp workers in Coringa Wildlife Sanctuary during 2015
29	Improvement works to Porest Guest house at Coringa during 2015
20	Improvement works to Shapping complex at Kabbanichettugica
.21	Distributing Fishing nets to EOC members at Madagalem
32	Distributing Fishing nets to EDC members at Ketthery
23	Distributing Fishing nees to EDC members at Bityrayapatem

7.8 WILDLIFE CONSERVATION PLAN- SCHEME PROPOSAL

The project has minimal effect on the scology/environment in the befor zone or 10 km. It is not going to pase any threat other to the CWLS or the AET have or burne of the study area either directly or indirectly.

Project proportion is prepared for probettion of flore and feure in CNUS and around the project area. ONGC, is ready to support the attents made by Shate and Central Soverments for the ecological conservation of Coringa wild Life Sanctuary and around it.

A Wildlife Conservation Plan of Rs.500 lakes for the Coringe Wild Life Sanctuary and its surroundings has been prepared in consultation with Divisional Porest Officer, Wildlife Management, Rajamahendrayaram and District Forest Officer, Rajamahendrayaram and the lands shall be commercial in the budgets.

Fundage B. Blackwardly Study Beyards Widdle Components that for the Academic Laring 20' Papeline of about 32 has beight from Offician Matters, through Month of the Eustan Store to DMSC OATHOM PARTIE Metanomic Vellago, This were district. Last Contemp District, Anches Avanta.

The plan emposed is for a duration of ten years and the amount indicated is suggestive. The items can be modified based on the peads recording to time. After approval of the proposed plan Forest authorities may constitute a committee with suitable members along with ONGC representatives as one of the members for review of the proposal, annual plans, periodic nextern of implementation, modification or neview of the plans and timely release of funds.

Financial Outlays

A detailed financial outlay has been proposed in annexure where a total of Rs. 800 lakes (Rs. Fight Crore only) spread over ten years have been allocated for various activities. A detailed year wise expenditure plan is also included as follows:

Coringe Wittife Sanctuary (WUN Division, Rajahmunday) - 650 takts

Outside Coringa Wildlife Sanctuary (Kalonada Division) 150 tintis

Tima: - BCO lakha

Fund Providers:

The Project proporteds or Dil and Natural Gas Corporation limited (DNGC), Kalanada would be responsible for providing all funds towards the implementation, monitoring, evaluation and review of this Wildlife Conservation Plan.

Plecement of Funds:

Funds estimated to be spent in the plan period of 10 years shall be placed with Pri.CCF (WL) & Chief Wildlife Worden, AP and designated as "Wildlife Conservation Plan. Coringa WLS & Outside CWLS. OMCC Funds" en.CCF (WL) & Chief Wildlife Worden would flow release if to DFD(WL), Rejembendmentary and DFD, Kestnada according to the expenditure plan. It shall be ensured that "Wildlife Conservation Plan. Coringa WLS & Outside EWLS. ORDC Faries" are not utilised for any purposes other than those mentioned in this Wildlife Conservation Plan under any dimensiones whatsoever. In case there is any particular work which can be conveniently handled by the user agency, the funds for the same can be left with the project authorities with the consent of CF/CCF, Batterneletinionserum.

Monitoring Committee:

A committee shall be formed under Chairmanship of DFO/DCF (WL) Rajamahendravaram. Other members of committee would be DFO, Kakunada and FRO, WLM Kakunada, FRO(T) kakinada and one representatives of Liver Agency.



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Main responsibilities of Monitoring Committee would be as follows:

This committee shall monitor the implementation of this Wildlife. Commitmation Plan and the disbursement of the lunds.

- The committee will look after proper documentation of outcomes of this plan terplementation.
- The committee would also review the progress of the recommended measures.
 to local tiette every year and take action to correct the course, if required.
- The committee would also need to send an annual regort to the Char Wildely.
 Warden, Andhra Pradesh.

Reviewing Authority:

Principal Chief Conservator of Forests (WL) & Chief Wild Life Warden of Andhra Pradesh State would be the Reviseing Authority. The Munitoring Committee would present its annual report to Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden through Conservator of Forests/Chief Conservator of Forests, Rajahmundey circle, Rajahmahendrayaram.

Outcome Documentation:

Proper documentation of wilding conservation plan implementation shall be done by forest dopartment and that document need to be shared with project authorities.



Busings S. Blockweiter Study Demonth Mildfills Controversion than for the proposed Laplay verlignifier of a book 23 for Panglis From Offichers Phathers, through Massis of the Goston Study to Obtail Controver Pilett at Businesson Kulling, Teachtrees Marsin, Said Study and Shakes, Audies Resident

TABLE-15

Proposed Wildlife Conservation Man funded by CNGC for development of Coringa Wildlife Sanctaury of Wildlife Hanagement Division, Rajamahendravaram and Outside Coringa Wildlife Sanctuary of Kakinada Division for a period of 10 years for a period of 10 years to., from 2021-22 to 2030-31

	10.000000000000000000000000000000000000	Proposi	HS (Rs. in Laid	tal)
SI. No.	item of work	Tanica CWLS (DFO, WLM, R/Y)	Cutside CWLS (DFO, KKD)	Total
1	2	3	-4	5
1	Habitat improvement			
1	Weed removal in Mangrovies	9.60	0.00	9.60
2	Enrichment planting in Mangroves	25.61	23.16	46.77
II	Conservation activities			
3	Marine turtle conservation programme at both inside and outside CWLS.	40.00	0.00	40.00
4	Protection & improvement of Sird congregation sites both inside and outside CWLS and its malmenance.	10.00	0.00	10.00
5	Whale shark conservation Programme along the Kakinada coast.	29.00	0.00	20.00
ø	Values conservation Programme	10.00	0.06	10.00
112	Research activities			
7	Production of Comers trace/ DSLR Camers/ Binoculars/ GPS/ Compass/ Laptop/ Drone etc., and its maintenance for monitoring of wildlife.	25.00	10.00	35.00
8	Service charges to Research Scientist for inventory on Flora and Fauna and data collection through carreins trapping exercise, producing research columents and report etc., for 12 months for a period of 8 years.	54.54	0.00	54.84
IV.	Habitat protection activities			
9	Procurement of vehicles for impertion purpose of DFO's and Forest Range Officers for inspection purpose.	40.00	40,00	80,00
10	Maintenance of Govt, vehicles of DPD's and Forest Range Officers for inspection purpose.	:5.00	13,50	28.5
11	Procurement of boats for gatrolling and inspection purpose.	25.00	0.00	25.0
12	Melaterance of boats for patrolling and inspection purpose.	24.00	16.00	34.0



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13	Construction of boundary pillars	6.00	0.00	6.00
v	Wildlife rescue operations			
14	Procurement of Resour Year, Derting equipment, trap cages etc., and the maintenance	40.00	8,00	45.00
VI	Development of Eco-tourism Infrastructure at Coringa WL Sanctuary			
15	Establishment of medem intropretation centre at Challengi CRET area of Corings Wildlife Senctuary and its meintenance.	40,00	0.00	40.00
16	Improvement works to esisting Interpretation of the at Conings	10.00	0.00	10.00
1.7	Establishment of floating jetty and its maintenance	22/00	9.00	22.00
18	Construction/Nantenance of board week	27.43	0.00	27.43
19	Improve visitor's facilities at CBET, Chollangs.	25.00	0.00	25.00
TI.	Publicity and Awareness creation			
20	Conducting swareness camps for school, college students etc.,	11.00	10.00	21,00
21	Conducting workshops /Training to Staff members	15.00	5.00	21.00
22	Publicity material like hordings, sign boards, brochure, posters and other sourcer mens like caps, keycholos, etc.,	16,00	5.50	21.50
23	breation of display boards in prominent locations and along the boardwark at Chollangi.	15.00	tron	15.00
24	Conducting Sind featively Fishing cat day/ Otter Eay/ World wet Land day/ World forest Day/Mongrove Day/ Wetland Day/Wildfile week celebration etc	29.00	5.00	25.00
viii	Sco-Development/Livelihood Seneration activities.			
25	Distribution of TGDs to the fisherman community for conservation sea further.	5.00	3.00	8.00
26	Alternate Livelihood Generation training activities in Villages around Corings WLS	10.00	9.00	19.00
DK	Office support			
27	Service charges to Unit- A clericle assistance (or Applating in Accounts (1, or for 12 months)	26.20	0.00	26.80



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28	Service charges to Computer operator (1 no for 32 months)	43.65	0.00	43.65
29	Administrative expenditure like stationary, Inevesting allowance to officers and staff, Chi- audit fee and other Misc. home.	18,07	9,84	27.91
	Total:	650.00	150.00	800.00

Note: Detailed break-up of above plan both in Coringa Wildife Sanctuary and Outside Coringa Wildlife Sanctuary is attached in Annexures-A & &

For the budget mentioned in Si.no.9 (Rs. 80 Lakhs): Two (2 Mos) Toyota Innovacrysta vehicles for DFO WL Rajahmundry and DFO, Kakinada & Two(2Nos) Mahindra Bolero vehicles for FRD WLM Kakinada and FRO Kakinada can be procured by the user agency and hand it over to forest department for inspection & monitoring purpose.

Chief General Manager(M) Head HSE BOA, ONGC KAKINADA

Divisional Forest Officer Wildlife Management Rajamaltendravaram

District Pérest Öfficer, Kakinada Division, Kakinada.



Exclose is Modiversite Stady Repairie Middle Conservation Max for the proposed Laying 10° Planker of about 32 has length from Office on Platforn, through Month of the Governal North to Office Challenge Plant of Makendras (Mage, Thelianery Manda), End Bedrewe Davids, Analysis Product.

LIST OF REFERENCES AND SOURCES OF SECONDARY DATA:

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Proposed Wildfile Conservation Plan funded by ONGC for development of Coringe Wildfile Sentterury of Wildfile Management Division, Rejected and experimentation for a period of 10 years for a period of 10 years in, from 2021-22 to 2030-81

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Proposed Wildlife Conservation Plan funded by ONGC for development of Outside Coringa Wildlife Sanctaury through Divisional Forest Officer, Kakinada Division, Kakinada for a period of 10 years is,, from 2021-22 to 2030-31

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Unit cost for Conservation of San Turtles at Hope Island

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÷.	Wages to unskilled lebour for protection to surfee 5 months	5 nos, a 150 days	0.00	009	277500
24	Hospitally charges for protection halpers.	Snos x 300 days.	202	Dog	06250
62	Construction of halchacy.	200	Actuals		20000
7	Communication and supervision changes.	10 cango	2500	Comp	26000
m	Preparation of INSITU halchary.	300 000	100	upen.	30000
0	Miso, expenditure such as Torch lights, Dry Calla, Kemsins lamps, cycles arc.		Actuals		41250
	Total:				500000

Abstract for 2021-22 1 Hope slend

Total

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Data Sheet

Calculation of Wage rates

7.2	Emil.	Name of the least	TA./ Poed	(61.5) (3.13)	15 (SE)	Service Charge (5%)	(18%)	Remuna retion as par for title year 1020-21	Records
100	Data Entry Opeabor (Rs. 738 p.6 x 26 das)	10500	1	1950	103	220	2000		15600 As per 538.
	Research Scientist	10000	833	1950		000	5036	П	05 per 586
23.53	Unit-to Class dende souitante Ilfa, 950 p.d. x 25 dens)	11960		1555	380	652	2867		
	Unit: B Class watch and ward (for 370 o.d x 25 days)	9636	0	1381	27.5	682	2006	13837	DRA Collector amos rate

Divisional/Tenan; Officer, Wildfile Management, Rapmahanthavaran.



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DATA SHEET FOR ENRICHMENT MANOROVE PLANTATING IN CORRIGO WILDLIFE SANCTUARY OF WILDLIFE HAMMOGNENT DIVISION, RAJAMANENDRAVARAM DURING THE YEAR 2021-22

vi 2	Nerte of the work	FSR Man Mo	â	Rate de per PSR 2325-32	ž	Total Amount per ha.
1		'n	7	w	0	-
	Chanalleg					
4	Athorses appropriate:					
-	Dagging of field observate Eartheon Encounter in olegay cade in sed and integers continue on 144.00 care perfect.	Aspe RSSR	1	199.50	uro.	28736.14
00	Transport of Usbair and labour amenibes.	13.17	4	19,13		SH1.42
	Paring					
6	Pareing Bog Plants for mengrove plantations	23.5	Ğ	223.34	300,000	1017.00
7	frunte, colorate of many start plants profite tarry to Bosing, point upto 2 term consport of manuages Basepants 16 x 12 to an Associate Selection.	345	ž	18730	726 005	1000.56
0	Transportation of mangrows plantations (National In Booking point 1,500 2 km) principles of mangrows Bloop plants 10 x 57.5 cm sizes upon 5 km)	215	9	14 50	300 300	550.29
	Transportation of mangrove seedings by topic beyond 5 to 10 km for each time (4.7452-20.50).	244	8	25.55	100708	188.40
	Contragancias				7	54.681
H	770					ALCOHOL:

Quantity of Earthwork encavation per Ha.

TI DIRECTORIS PROPOSED

Fadi chartele

Batu Arr 2021-21





Hours Mount

2.00 - D.40 vd.15 x-000Part

選が手