

**BEFORE THE HON'BLE NATIONAL GREEN TBUNAL  
PRINCIPAL BENCH, NEW DLEHI  
O.A.NO. 203/2023**

**IN THE MATTER OF:**

**TUSHAR GOSWAMI**

**...APPLICANT**

**VERSUS**

**UNION OF INDIA & ORS.**

**...RESPONDENTS**

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**Filed By: -**



Bhanwar Pal Singh Jadon  
Standing Counsel, State of U.P.  
National Green Tribunal  
New Delhi

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
O.A.NO. \_203/2023**

**IN THE MATTER OF:**

**TUSHAR GOSWAMI**

**...APPLICANT**

**VERSUS**

**UNION OF INDIA & ORS.**

**...RESPONDENTS**

**MOST RESPECTFULLY SHOWETH: -**

- 1) That the present matter is pending before this Hon'ble Tribunal, which was listed on 29.05.2023. The Hon'ble Tribunal directed the respondent State of U.P. to submit a copy of the Interlocutory Application (IA) currently under consideration before the Hon'ble Supreme Court concerning the de-notification of the Turtle Sanctuary. The operative part of the Order is as follows: -

*“Counsel for the State is directed to place on record a copy of the pending IA before Hon'ble the Supreme Court wherein the issue of de notification of Turtle Sanctuary is involved.”*

- 2) That in light of the aforementioned order, the respondent state of U.P. has respectfully submitted that the copies of the IA No.117425/2019 for Intervention and 117429/2019 for direction which are pending before the Hon'ble Supreme Court of India are annexed herein **as ANNEXURE - R1**)
- 3) That the Hon'ble Supreme Court on 28.01.2020 issued notice in the I.A.'s which are pending before the Hon'ble Supreme Court of India. Which are annexed herein as **ANNEXURE - R2**
- 4) That the order of the Hon'ble Tribunal has been complied.

Filed By: -



Bhanwar Pal Singh Jadon  
Standing counsel, State of U.P.  
National Green Tribunal

IN THE SUPREME COURT OF INDIA

WRIT JURISDICTION

I.A. No: 117425 /2019

IN

WRIT PETITION NO: 337 OF 1995

MR. JUSTICE  
SUNIL KANT

**IN THE MATTER OF:**

CENTRE FOR ENVIRONMENTAL LAW, WWF ...PETITIONER

VERSUS

UNION OF INDIA & ORS. ...RESPONDENT(S)

**AND IN THE MATTER OF:**

VIKRANT TONGAD ...INTERVENOR/APPLICANT

**APPLICATION FOR INTERVENTION**

PAPER - BOOK

(FOR INDEX PLEASE SEE INSIDE)

ADVOCATE FOR APPLICANT: SRISUTHI AGNIHOTRI

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**IN THE SUPREME COURT OF INDIA****WRIT JURISDICTION**

I.A. No: 117425 /2019

IN

WRIT PETITION NO: 337 OF 1995

**IN THE MATTER OF:**

CENTRE FOR ENVIRONMENTAL LAW, WWF ...PETITIONER

VERSUS

UNION OF INDIA &amp; ORS. ...RESPONDENT(S)

**AND IN THE MATTER OF:****VIKRANT TONGAD**

S/o Shri Balhjeet Singh,

Aged about 28 years,

R/o Senior Citizen Home Complex,

Sector Pi-1, Near Yatharth Hospital,

Greater Noida – 201301,

Uttar Pradesh

...INTERVENOR/APPLICANT

**APPLICATION FOR INTERVENTION**

To,

The Hon'ble Chief Justice of India and His Companion Justices of the  
Supreme Court of IndiaThe humble Application of the  
Petitioner above named

**MOST RESPECTFULLY SHOWETH:**

1. That the 'Kachhua' or Turtle Wildlife Sanctuary is the world's only protected area dedicated to freshwater turtles, and is spread across a 7km stretch of the River Ganga between Rajghat (Malviya Rail Road Bridge) and Ramnagar Fort in Varanasi District, State of Uttar Pradesh. The Kachhua Wildlife Sanctuary was notified as a Sanctuary with intention to protect wildlife, and specifically turtle species, under the provisions of the Wildlife (Protection) Act, 1972 by the Notification dated 21.12.1989 by the Uttar Pradesh State Government. Through a breeding programme between 1987 and 1990, the Kashi Forest Division released more than 33,000 turtles into this stretch of the River Ganga.
2. That the Applicant herein is a public spirited person working in the field of environmental protection for the past several years and has raised various issues before different authorities with respect to protection of forest and environment. The Applicant has approached the National Green Tribunal and this Hon'ble Court raising several issues with regard to air pollution, protection of water bodies, wetlands, etc.
3. That the Applicant herein is approaching this Hon'ble Court seeking permission to intervene in the above titled Writ Petition to bring on record the alarming issue of the proposal of the State of Uttar Pradesh to denotify the Kacchua Wildlife Sanctuary without any scientific basis which has put in jeopardy not only the existence of several threatened turtle species, but also the stability of the entire river ecosystem of the region. The project has already been recommended by the Uttar Pradesh State Board for Wild Life ("SBWL") and the Standing Committee of the National Board for Wild

Life ("SC of NBWL") without any consideration or scientific scrutiny of the critical environmental issues surrounding such denotification.

4. The Applicants have filed a separate Application seeking appropriate directions from this Hon'ble Court for the prevention of the denotification of the Kachhua Wildlife Sanctuary as the same would have a devastating impact on several endangered and threatened species that depend on the sanctuary for their survival, and also disturb the ecological balance of the river as a whole. The contents of the said Application for directions may be read as part and parcel of the present Application and the same are not being repeated herein, for the sake of brevity.

5. That the Applicants would like to bring on record the following critical issues:

**(i) This Hon'ble Court has stated in this present Writ Petition No. 337 of 1995 that no wildlife sanctuaries, national parks or reserved forests are to be denotified**

It is submitted that by an Order dated 13.11.2000 in the present writ petition, this Hon'ble Court has stated that no wildlife sanctuaries, national parks or reserved forests are to be denotified. No further orders have been passed permitting denotification. The proposal for denotification of the Kachhua Sanctuary was recommended in a single meeting of the Standing Committee of the National Board for Wild Life dated 07.09.2018, where the consideration of the proposal was wholly inadequate. Therefore the Applicant has moved the present Application to intervene in the present Writ Petition before this Hon'ble Court to quash the proposal for the denotification of the Kachhua Wildlife Sanctuary.

**(ii) The Wildlife (Protection) Act, 1972 does not permit the denotification of an existing Wildlife Sanctuary**

Wildlife Sanctuaries have been classified as 'Protected Areas' under the Wildlife (Protection) Act, 1972. It is clear from a plain reading of the Wildlife (Protection) Act, 1972 that there is no provision that permits the denotification of an existing wildlife sanctuary, or any other existing protected area.

**(iii) Neither the NBWL, nor the SBWL have the power to denotify an existing sanctuary under the Wildlife (Protection) Act, 1972**

It is submitted that it is clear from the powers and functions that have been conferred upon the National Board for Wildlife under the Wildlife (Protection) Act, 1972 that the Act has not envisaged granting the NBWL, or the SBWL the power to recommend the denotification of an existing sanctuary, and arriving at a construction that would permit the same would be in contradiction to the very object and purpose with which the Wildlife (Protection) Act, 1972 was enacted and would therefore be untenable in law.

**(iv) No actual consideration of the proposal for denotification has been done by the State Board for Wild Life**

Without prejudice to the submissions made above, it is submitted that the proposal for denotification of the Kachhua Wild Life Sanctuary was recommended by the SBWL in a single meeting dated 30.08.2018, and it is clear from a perusal of the Minutes of the Meeting that an actual consideration of the proposal on merits was not carried out by the SBWL. The SBWL has merely selectively quoted a report dated July, 2018

published by the WildLife Institute of India to arrive at misleading conclusions, whereas the report itself has nowhere recommended or even contemplated the denotification of the Kachhua Wildlife Sanctuary.

**(v) The Standing Committee of the NBWL has blindly accepted the submissions of the State Government & the SBWL without any application of mind**

It is submitted that the Standing Committee of the NBWL has made no actual consideration of the proposal for denotification on merits and has just blindly accepted the submissions of the State Government and the recommendations of the SBWL without any application of mind regarding the veracity of the same. The SC of NBWL has failed to give any valid justification for the denotification of the sanctuary and has also failed to appreciate that the notification of another area as a wildlife sanctuary would not counterbalance the impact of the denotification of the Kachhua Wildlife Sanctuary.

**(vi) High anthropogenic pressure is observed uniformly across the stretch of the River Ganga which was studied in the WII report**

It is submitted that in both the meetings of the SBWL and the SC of NBWL, references have been made to the high anthropogenic pressure that is observed in the stretch of the River Ganga falling within the Kachhua Sanctuary, and that this is a reason for the denotification of the sanctuary. However, this is an entirely misleading submission being made by the State Government as it is clear from the WII report that high anthropogenic pressure was uniformly observed across the entire stretch of the River

under study, including the area that the State Government plans to notify as a new sanctuary in lieu of the Kachhua Sanctuary.

**(vii) The Uttar Pradesh State Government has concealed the real purpose for which it has sought to denotify the Kachhua Wildlife Sanctuary**

It is submitted that the real purpose for which the State Government has sought to denotify the Kachhua Wildlife Sanctuary is for the construction of a waterway from Varanasi to Haldia, and the terminals required for the same, under the 'Jal Marg Vikas Project'. However, the same has been concealed by the State of Uttar Pradesh and finds no mention in the minutes of the meetings of the SBWL or the Standing Committee of NBWL, in which the proposal for denotification was considered.

6. That the above mentioned issues have been described in greater detail in the accompanying application for directions and the same are not being repeated for the sake of brevity.
7. That therefore, the Applicants may be permitted to intervene and participate in the proceedings in the above titled Writ Petition before this Hon'ble Court to bring on record the above mentioned facts and legal issues so that appropriate directions may be passed by this Hon'ble Court regarding the preservation of the Kachhua Sanctuary and the endangered and threatened species dependant on the same.

**PRAYER**

In the circumstances, it is prayed that this Hon'ble Court may be pleased to:

- i. Permit Applicants herein to intervene in the proceedings of the above titled matter.

- ii. Pass such order or orders as this Hon'ble Court may deem fit in the facts and circumstances of the case.

**DRAWN BY:**

**Ritwick Dutta, Rahul Choudhary & Sharan Balakrishna**

Advocates

**FILED BY:**

**SRISHTI AGNIHOTRI**

**ADVOCATE FOR APPLICANT**

**Place:** New Delhi

**Drawn on:**

**Filed on:**

IN THE SUPREME COURT OF INDIA  
CIVIL ORIGINAL JURISDICTION

I.A. No. 117425/2019

IN

WRIT PETITION (CIVIL) No.337 OF 1995

**IN THE MATTER OF:**

Centre for Environment Law, WWF-I

....Petitioner

Versus

Union of India & Ors.

...Respondents

**AND IN THE MATTER OF:**

Vikrant Tongad

...Applicant

Versus

Union of India and Ors.

...Respondents

**AFFIDAVIT**

I, Vikrant Tongad, S/o Shri Baljeet Singh, aged about 28 years, R/o T-16, Senior Citizen Complex, Sector Pi-1, Near Yatharth Hospital, near Greater Noida, Uttar Pradesh- 201301, do hereby solemnly affirm and state as follows:-

1. I am the Intervenor Applicant, and I am competent and authorized to swear the present affidavit.
2. That the contents in the accompanying Application for Intervention, and all I.As therein, are true and correct, and based on the records of the case and nothing material has been concealed therefrom and the same may be read therein as part and parcel of this affidavit and the same are not being repeated herein for the sake of brevity.
3. The annexures are true copies of their respective originals.

DEPONENT

**VERIFICATION:**

Verified at New Delhi on this \_\_\_ day of July, 2019 that the contents of paras 1 to 3 of the affidavit are true and correct to my knowledge and no part of it is false or incorrect and nothing material has been concealed therefrom.

ATTESTED

NOTARY PUBLIC  
(INDIA)

1 AUG 2019.



DEPONENT

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IN THE SUPREME COURT OF INDIA  
[CIVIL/CRIMINAL ORIGINAL/APPELLATE JURISDICTION]

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S.L.P./W.P./T.P./Review Petition (Civil/Crl.) No.(s) ...../2019

..... Petitioner(s)/  
Appellant(s)

VERSUS

..... Respondent(s)

**VAKALATNAMA**

I/We.....Appellant(s)/  
Petitioner(s)/Respondent(s) Opposite party in the above Suit/Appeal/Petition/Reference do hereby  
appoint and retain \_\_\_\_\_, Advocate of the Supreme Court of India to act and  
appeal for me/us in the above Suit/Appeal/Petition/Reference and on my/our behalf to conduct and  
prosecute (or defend) the same and all proceedings that may be taken in respect of any application  
connected with the same or any decree or order passed therein, including proceedings in taxation  
and applications for Review, to file and obtain return of documents and to deposit and receive money  
on my/our behalf in the said Suit/Appeal/Petition/Reference and in application of Review, and to  
represent me/us and take all necessary steps on my/our behalf in the above matter. I/We agree to  
ratify all acts done by the aforesaid Advocate in pursuance of this authority.

Dated this the .....day of.....2019

Accepted :

[  
Advocate, Supreme Court ]



APPELLANT(S)/PETITIONER(S)/RESPONDENT(S)

**MEMO OF APPEARANCE**

To  
The Registrar  
Supreme Court of India,  
New Delhi

Sir,

Please enter my appearance on behalf of the Petitioner(s)/Appellant(s)/ Respondent(s)  
Opposite Parties/Intervener No.....in the matter above.

Yours faithfully,

NEW DELHI:  
FILED ON:

( )  
[CODE No - ]  
Advocate for Petitioner/Respondent  
102, New Lawyers Chamber  
Opp. Supreme Court of India,  
M.C.Setalvad Block, New Delhi-110001

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Hon'ble  
THE CHIEF JUSTICE OF INDIA

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**IN THE SUPREME COURT OF INDIA  
WRIT JURISDICTION**

I.A. No: 11742<sup>9</sup> /2019  
IN  
WRIT PETITION NO: 337 OF 1995

HON'BLE MR. JUSTICE  
SURYA KANT

**IN THE MATTER OF:**

CENTRE FOR ENVIRONMENTAL LAW, WWF ...PETITIONER

VERSUS

UNION OF INDIA & ORS.

RESPONDENT(S)

**AND IN THE MATTER OF:**

VIKRANT TONGAD

...INTERVENOR/APPLICANT

**APPLICATION FOR DIRECTIONS**

PAPER - BOOK

(FOR INDEX PLEASE SEE INSIDE)

**ADVOCATE FOR APPLICANT: SRISHTI AGNIHOTRI**

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**IN THE SUPREME COURT OF INDIA  
WRIT JURISDICTION**

I.A. No: 117429 /2019  
IN  
WRIT PETITION NO: 337 OF 1995

**IN THE MATTER OF:**

CENTRE FOR ENVIRONMENTAL LAW, WWF ...PETITIONER

VERSUS

UNION OF INDIA & ORS. ...RESPONDENT(S)

**AND IN THE MATTER OF:**

**VIKRANT TONGAD**

S/o Shri Balhjeet Singh,  
Aged about 28 years,  
R/o Senior Citizen Home Complex,  
Sector Pi-1, Near Yatharth Hospital,  
Greater Noida – 201301,  
Uttar Pradesh

...INTERVENOR/APPLICANT

**APPLICATION FOR DIRECTIONS**

To,

The Hon'ble Chief Justice of India and His Companion Justices of the  
Supreme Court of India

The humble Application of the  
Petitioner above named

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**MOST RESPECTFULLY SHOWETH:**

1. That the present Application is being filed before this Hon'ble Court against the recommendation of the National Board of Wildlife ("NBWL") to denotify the Kacchua Wildlife Sanctuary or on the stretch of river Ganga in District Varanasi, Uttar Pradesh. The recommendation of the NBWL is based on the recommendation by the State Board for Wildlife ("SBWL").
2. That the Kachhua Wildlife Sanctuary at Varanasi was notified as a Sanctuary with intention to protect wildlife, and specifically turtle species, under the provisions of the Wildlife (Protection) Act, 1972 by the Notification dated 21.12.1989 by the Uttar Pradesh State Government. The Sanctuary is comprised of a 7km stretch of the River Ganga, with the Malviya Rail Road Bridge at Rajghat forming a boundary at one end and the Ramnagar Fort forming the other boundary.
3. The Applicant herein is a public spirited person who has been working in the field of environment conservation. He is a resident of Greater Noida in Uttar Pradesh and has been raising issues regarding the protection of environment and wildlife before forums such as the National Green Tribunal and this Hon'ble Court.
4. The 'Kacchua' or Turtle Wildlife Sanctuary is a protected area dedicated to freshwater turtles. The turtles play a crucial role in maintaining the ecological balance of the Ganga River and therefore specific focus was directed to conserving the turtle species in the region. Through a breeding programme between 1987 and 1990, the

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Kashi Forest Division released more than 33,000 turtles into this stretch of the River Ganga. In total, over 41,000 turtles have been released into the Sanctuary and therefore the Sanctuary is an essential habitat and hotspot for 13 species of turtles, some of which are endangered or threatened.

5. It is submitted that the State of Uttar Pradesh has now proposed to denotify the Kacchua Wildlife Sanctuary. The proposal was deliberated upon by the Uttar Pradesh State Board for Wild Life ("SBWL") in a meeting dated 30.08.2018 and recommended, based on selective use of a report published by the Wildlife Institute of India dated July, 2018, which itself has in no way recommended the denotification of the Kacchua Wildlife Sanctuary. No actual consideration of the merits of the proposal was carried out by the SBWL. It is pertinent to note that this Hon'ble Court has stated in its Order dated 13.11.2000 in the above titled writ petition that –

*"Pending further orders, no dereservation of forests/ sanctuaries/ national parks shall be effected."*

But the State Government of Uttar Pradesh has proposed to denotify the Kacchua Wildlife Sanctuary despite it being prohibited by this Hon'ble Court.

A copy of the Order dated 13.11.2000 has been annexed herewith and marked as Annexure A-1(Pages 32 to 35). A copy of the Wildlife Institute of India Report titled '*Assessment of the Wildlife Values of the Ganga River from Bijnor to Ballia including Turtle Wildlife Sanctuary, Uttar Pradesh*' dated July, 2018 is enclosed herewith and

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marked as Annexure A-2(Pages 96 to 98) . A copy of the Minutes of the Meeting of the SBWL dated 30.08.2018 is enclosed herewith and marked as Annexure A-3 (Pages 99 to 106).

6. Following this recommendation of the State Board for Wild Life, the Chief Conservator of Forest (Wild Life), Kanpur, directed the Divisional Forest Officer ("DFO"), Kashi Wildlife Division vide a letter dated 05.09.2018 to submit a proposal to the National Board for Wild Life for denotification of the Kachhua Wild Life Sanctuary. The Standing Committee of the National Board for Wild Life ("SC of NBWL") considered the proposal in its 50<sup>th</sup> Meeting dated 07.09.2018 and recommended the denotification of the Kachhua Wildlife Sanctuary without any legal authority, contrary to the orders passed by this Hon'ble Court. No examination of the merits of the proposal or the facts put forward by the State Government was carried out by the Standing Committee of the NBWL, and the NBWL has blindly accepted all of these submissions. It is clear to see that the NBWL has merely rubber stamped the proposal, as the true purpose for the proposal is for the construction of a water way on this stretch of the River as a part of the Jal Marg Vikas Project that is attempting to develop a waterway from Varanasi to Haldia in the State of West Bengal.

A Press Information Bureau release providing details of the Jal Marg Vikas Project is enclosed herewith and marked as Annexure A-4(Pages 137 to 141) . A newspaper report highlighting the intention of the State Government to denotify the Sanctuary for the development

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of the Jal Marg Vikas Project is enclosed herewith and marked as Annexure A-5(Pages 142 to 150). A copy of the Minutes of the 50<sup>th</sup> Meeting of the Standing Committee of the NBWL dated 26.07.2019 is enclosed herewith and marked as Annexure A-6(Pages 171 to 176).

7. That the State of Uttar Pradesh has proposed to denotify the Kachhua Wildlife Sanctuary without any scientific basis, which has put in jeopardy not only the existence of several threatened turtle species, but also the stability of the entire river ecosystem of the region. The Applicant, through this present Application, wishes to point out the inadequacy in consideration of the denotification proposal and the issues concerning the same, both before the SBWL and the Standing Committee of the NBWL. The primary concerns regarding the procedure for denotification of the Kachhua Wildlife Sanctuary by the State of UP have been highlighted below.

**I. THIS HON'BLE COURT HAS PROHIBITED THE DENOTIFICATION OF EXISTING WILDLIFE SANCTUARIES**

8. In the above titled Writ Petition, this Hon'ble Court has issued several directions to facilitate the setting up, management and protection of national parks and sanctuaries across the country, and the flora and fauna within. It is submitted that in the Order of this Hon'ble Court in the present Writ Petition dated 13.11.2000 reported in 2000 SCALE PIL 325, the Court held that –

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*"Pending further orders, no dereservation of forests/ sanctuaries/ national parks shall be effected."*

Therefore it is clear that this Hon'ble Court has prohibited the dereservation of national parks or wildlife sanctuaries. No subsequent order has been passed overriding the Order dated 13.11.2000.

9. However, in the present case, the National Board for Wild Life has considered the project in a single meeting dated 07.09.2018 and recommended the denotification of the Kachhua Wildlife Sanctuary. No actions putting in motion the denotification of the Kachhua Sanctuary can be taken as per the order of this Hon'ble Court dated 13.11.2000. Therefore the Applicant has moved the present Application before this Hon'ble Court to quash the proposal for denotification of the Kachhua Wildlife Sanctuary and for directions to ensure the preservation of the Kachhua Sanctuary and the several threatened and endangered species that are dependent on the Sanctuary for survival.

**II. THE WILDLIFE (PROTECTION) ACT, 1972 DOES NOT PERMIT THE DENOTIFICATION OF AN EXISTING WILDLIFE SANCTUARY**

10. It is submitted that wildlife sanctuaries have been classified as 'Protected Areas' under the Wildlife (Protection) Act, 1972. 'Protected Areas' have been defined under Section 2 (24A) as –

*"(24A) "protected area" means a National Park, a sanctuary, a conservation reserve or a community reserve notified under sections 18, 35, 36A and 36C of the Act."*

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It can be observed in the Wildlife (Protection) Act, 1972 that there is no provision that provides for the denotification of any of the areas that fall within the definition of a protected area. Therefore there is no legal sanction to denotify a wildlife sanctuary notified under the Wildlife (Protection) Act, 1972.

**III. NEITHER THE NBWL NOR THE SBWL HAVE THE POWER TO RECOMMEND THE DENOTIFICATION OF A WILDLIFE SANCTUARY**

11. The Wildlife (Protection) Act, 1972 provides for the constitution of the National Board for Wild Life to promote conservation and development of wildlife and forests. Further, the National Board can constitute a Standing Committee of the National Board to perform such activities which are delegated to the Committee. The Act of 1972 also provides for the constitution of the State Board for Wild Life to advise the State Governments in formulation of policies for the protection and conservation of wildlife and specific plants. It is submitted that both the NBWL and the SBWL do not have the power to recommend the denotification of an existing wildlife sanctuary. Such a recommendation would be in contravention of the powers and duties conferred upon the NBWL and the SBWL under the provisions of the Wildlife (Protection) Act, 1972, and the same has been elaborated upon by the Applicant below.

**A. POWERS OF THE NBWL**

12. A recommendation from the NBWL to denotify an already existing wildlife sanctuary would be in contravention of the Wildlife

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(Protection) Act, 1972. The functions of the NBWL have been stated under Section 5-C of the Wildlife (Protection) Act, 1972 –

*“5C. Functions of the National Board.—(1) It shall be the duty of the National Board to promote the conservation and development of wild life and forests by such measures as it thinks fit.*

*(2) Without prejudice to the generality of the foregoing provision, the measures referred to therein may provide for—*

*(a) framing policies and advising the Central Government and the State Governments on the ways and means of promoting wild life conservation and effectively controlling poaching and illegal trade of wild life and its products;*

*(b) making recommendations on the setting up of and management of national parks, sanctuaries and other protected areas and on matters relating to restriction of activities in those areas;*

*(c) carrying out or causing to be carried out impact assessment of various projects and activities on wild life or its habitat;*

*(d) reviewing from time to time, the progress in the field of wild life conservation in the country and suggesting measures for improvement thereto; and*

*(e) preparing and publishing a status report at least once in two years on wild life in the country.]”*

Nowhere in the Wildlife (Protection) Act, 1972 has it been stated that the NBWL has the power to recommend the denotification of an existing wildlife sanctuary. As per sub-section (2) of Section 5-C of the Act, the main function of the NBWL is to promote conservation and protection of wildlife and forests. It also advises the Central Government and State Governments on promoting wildlife conservation and effectively controlling poaching and illegal trade of wildlife. The National Board can make recommendations regarding the setting up and management of national parks and sanctuaries as one of the measures for conservation and protection of wildlife. It is important to note that the measures that the NBWL is duty bound to

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take under sub-section (2) are subject to sub-section (1), which clearly indicates that these measures are necessarily only for the promotion of the conservation and development of wild life and forests and for no other purpose.

This Hon'ble Court in the matter of *Centre for Environmental Law, World Wide Fund-India v. Union of India*, (2013) 8 SCC 234 has stated as follows regarding the duties of the NBWL –

*“NBWL has a duty to promote conservation and development of wildlife and frame policies and advise the Central Government and the State Governments on the ways and importance of promoting wildlife conservation.*

.....  
*Statutorily, therefore, it is the duty of NBWL to promote conservation and development of wildlife with a view to ensuring ecological and environmental security in the country.”*

13. Therefore as per the provisions of the Wildlife (Protection) Act, 1972 and the law laid down by this Hon'ble Court, the measures that are to be taken by the NBWL are to be necessarily only towards the end of promoting the conservation of wildlife and forests and the denotification of an existing wildlife sanctuary would in no way achieve the same, and would rather have a detrimental effect on conservation. Hence, the NBWL does not have the power to recommend the denotification of an already existing sanctuary. The Standing Committee of NBWL taking up the matter of denotification of the Kachhua Wildlife Sanctuary and recommending the same in its 50<sup>th</sup> meeting dated 07.09.2018 is illegal and beyond the scope of its powers and thus the said recommendation is liable to be quashed.

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## B. POWERS OF THE SBWL

14. With regard to the SBWL, it can be seen that the mandate of the SBWL according to the Wildlife (Protection) Act, 1972 is limited to render advice to the State Government regarding matters of wildlife protection. Section 8 of the Act reads as follows –

*“8. Duties of [State Board for Wild Life].—It shall be the duty of 1 [State Board for Wild Life] to advise the State Government,—*

*[(a) in the selection and management of areas to be declared as protected areas;]*

*[(b) in formulation of the policy for protection and conservation of the wild life and specified plants;]*

*(c) in any matter relating to the amendment of any Schedule;*

*[(cc) in relation to the measures to be taken for harmonising the needs of the tribals and other dwellers of the forest with the protection and conservation of wild life; and]*

*(d) in any other matter connected with the protection of wild life, which may be referred to it by the State Government.”*

The SBWL can advise the State Government in selection and management of the areas to be declared as a protected area, and formulation of policy for protection and conservation of wildlife and specified plants. Further, as per Section 8(d), it can advise the State Government on any matter connected with protection of wildlife. The powers of the SBWL are far more limited, as compared to the NBWL, as it is confined to render advice to the State Government. It can be seen that, similar to the NBWL as elaborated upon by the Applicant above, a plain reading of Section 8 shows the SBWL has no power to advise the State Government to denotify an existing wildlife sanctuary, and such an action would be beyond its mandate as per the Wildlife (Protection) Act, 1972.

**IV. NO ACTUAL CONSIDERATION OF THE PROPOSAL FOR  
DENOTIFICATION ON MERITS HAS BEEN CARRIED OUT  
BY THE STATE BOARD FOR WILDLIFE**

15. Without prejudice to the previous submissions made above, it is submitted that the Uttar Pradesh State Board for Wildlife has made no actual consideration of the proposal for denotification of the Kachhua Wildlife Sanctuary. The Uttar Pradesh State Board for Wild Life ("SBWL") discussed the Kachhua Wildlife Sanctuary and the WII Report on the stretch of the river Ganga flowing through the Sanctuary, in its meeting dated 30.08.2018. Following this meeting of the SBWL, the Chief Conservator of Forest (Wild Life), Kanpur, on 05.09.2018, directed the DFO, Kashi Wildlife Division to submit a proposal to the National Board for Wild Life ("NBWL") for denotification of the Sanctuary. It can be observed from the Minutes of the Meeting dated 30.08.2018 of the SBWL, that no actual consideration of denotification of the Kachhhua Wildlife Sanctuary, or any discussion of the environmental impact of such denotification, or adherence of such denotification to the principle of sustainable development has been carried out by the SBWL.

16. The Minutes show that the State Board for Wildlife has made reference to the report titled Assessment of the "*Wildlife Values of The Ganga River from Bijnor to Ballia including Turtle Wildlife Sanctuary, Uttar Pradesh*" published by the Wildlife Institute of India in July, 2018 ("WII Report"). However it is important to note that the SBWL has only selectively quoted the said report to arrive at

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misleading conclusions, whereas the report itself has nowhere recommended or even contemplated the denotification of the Kachhua Wildlife Sanctuary. The extracts from the WII Report that can be found quoted by the SBWL in their minutes are produced below --

*"3. During the survey at Kacchua Wildlife Sanctuary, only 5 of total 13 species were seen." [At pg. 3 of the Minutes of the SBWL]*

*"As evident from the assessment, the creation of protected areas does help in species conservation, along the Ganga River. However; the area should be large, covering diverse habitat types and minimal threats."*

[At pg. 4]

*"Based on the combined score the stretch from downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area. It is suggested that this area may be brought under the purview of Wild Life (Protection) Act, 1972 by declaring it as a wildlife sanctuary for the conservation of aquatic biodiversity of the Ganga River in Uttar Pradesh. Since the ecological characteristics and wildlife values vary along this 140 km stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Forest Department."*

[At pg. 5]

Other than the two paragraphs quoted above, there has been no consideration or discussion regarding the need to denotify the Kachhua Wildlife Sanctuary and no reasons have been put forth for the said proposal. There was also no consideration of the impact of denotification of the Sanctuary on the several endangered and threatened species whose survival greatly depend on the protections that are accorded to a Wildlife Sanctuary under the Wildlife (Protection) Act, 1972. No measures regarding the mitigation of the abovementioned impact or movement of these endangered and

threatened species that will be affected by the denotification of the Sanctuary have been stated by the SBWL.

17. Further, it is important to note that WII Report that has been referred to by the SBWL has highlighted the crucial role the Kachhua Wildlife Sanctuary plays in the conservation of the several threatened and endangered species within the Sanctuary and also specifically the importance of the protections accorded to the area by virtue of it being a designated Sanctuary under the Wildlife (Protection) Act, 1972. Parts of the WII Report that highlight the same have been reproduced below –

*“The Sanctuary is providing a refuge to the biodiversity of this riverscape especially to the scavenging turtle species. These turtles help to reduce the organic load of the river in the form of unburnt/partially burnt bodies.”*

*“Sand bars situated on eastern banks are crucial for the survival of the birds and reptiles in terms of their nesting and basking requirements. The sediment dynamics of the Sanctuary is one of the most important factor that governs the distribution of aquatic biodiversity. Any change in the river channel and sand bar may drastically affect the existence of ancient ghats along the western banks as well as the biodiversity of this region...” [p. 5]*

.....  
*“Freshwater turtles are considered as keystone species from which other animals and plants benefit (Noureen et al., 2007) and as indicator species which get seriously affected by any modification in habitat.”*  
 [p. 9]

.....  
*“Higher CPUE of 1.36/hr in the TWS indicates the sanctuary is effective in maintaining a diverse population of fish and this might be due to the effects of the fishing ban inside the Sanctuary limits.” [p. 20]*

.....  
*“The sand bar in the right bank of the Sanctuary, though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure.” [p. 20]*

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Therefore it is clear that the SBWL has not made an adequate or thorough consideration of the proposal for denotification of the Kachhua Wildlife Sanctuary, and has not considered or given any reasons for the need to denotify the Sanctuary. The SBWL has merely cherry-picked select paragraphs from the WII Report to give the illusion that the WII Report has recommended the denotification of the Sanctuary, whereas it is clear from a perusal of the Report and the extracts reproduced above that the WII Report has not even once mentioned the denotification of the Sanctuary, and has also not made any kind of implied suggestion that the denotification of the Sanctuary would be beneficial. On the contrary, the WII Report has highlighted the important role that the Sanctuary plays in the conservation of the endangered and threatened species of turtles and several other species that are found in the Sanctuary.

**V. THE STANDING COMMITTEE OF THE NBWL HAS BLINDLY ACCEPTED THE SUBMISSIONS OF THE STATE GOVERNMENT & SBWL WITHOUT ANY APPLICATION OF MIND**

18. As has already been submitted by the Applicant, the NBWL does not have the power to recommend the denotification of an already existing sanctuary. However, without prejudice to the abovementioned submission, the Applicant also submits that the consideration of the denotification of the Kachhua Wildlife Sanctuary by the Standing Committee of the NBWL in its 50<sup>th</sup> Meeting dated 07.09.2018 was wholly inadequate, as the Standing Committee of the NBWL has not

made even a cursory examination of the submissions that were made by the State Government and the SBWL, and has blindly accepted the same without any application of mind.

19. With regard to the functions and duties of the NBWL, this Hon'ble Court in *Centre for Environmental Law, World Wide Fund-India v. Union of India*, (2013) 8 SCC 234 has stated as follows –

*“NBWL is, therefore, the top most scientific body established to frame policies and advise the Central and State Governments on the ways and means of promoting wildlife conservation and to review the progress in the field of wildlife conservation in the country and suggesting measures for improvement thereto.”*

Therefore, being the topmost scientific body in the country for the promotion of wildlife conservation, it is a duty incumbent upon the NBWL to delve into every proposal before it to the utmost depth to discern whether the proposal would have a beneficial impact on the conservation of wildlife in the country. However in the present case, the Standing Committee of the NBWL has breached this duty by blindly accepting the submissions of the State Government without delving into the veracity of the claims before it. It is clear to see from even a cursory examination that the proposal for the denotification of the Kachhua Wildlife Sanctuary would in no way be beneficial to the conservation of wildlife in the region, but in fact be vastly detrimental to the wildlife within the sanctuary. The Applicant submits that the Standing Committee of the NBWL has not applied its mind to the following glaring inadequacies in the submissions made by the State Government.

**(i) No justifiable reasons for the denotification of the Kachhua Wildlife Sanctuary have been provided by the State Government**

20. The proposal for denotification of the Kachhua Wildlife Sanctuary was taken up for consideration by the Standing Committee of the NBWL in its 50<sup>th</sup> Meeting dated 07.09.2018. However a perusal of the Minutes of the said Meeting of the Standing Committee of the National Board for Wild Life ("SC of NBWL") shows that no real consideration of the merits of the proposal, or any examination into the submissions made by the State Government of Uttar Pradesh was carried out by the Standing Committee of the NBWL. The Standing Committee of the NBWL has just blindly accepted the submissions of the SBWL, which as pointed out above, were in itself wholly inadequate and misleading.

21. In the Minutes of the Meeting, the reasons given by the State Government for the denotification of the Kachhua Sanctuary have been recorded as follows –

*"While submitting the justification for the proposal for denotification of the existing Kachua Wildlife Sanctuary the state government highlights the following findings of the WII study:*

*Only five freshwater turtle species were encountered in TWS out of the 13 species reported from the Ganga river. Capture rates for turtle species were low in the TWS, indicating low abundance of turtles during the sampling period and high anthropogenic disturbance within TWS."*  
*The State Government also highlights the following conclusion of the study about efficacy of Kacchua wildlife Sanctuary*

*"3.1.5 very low encounter rate of turtles in TWS indicate high human disturbance leading to habitat alteration within a very small Protected Area. Sites along the TWS in left bank are seen to have least suitable habitat for turtles with high anthropogenic presence such as cemented ghats,*

*intense ferry and boat activity, pollution and human presence along the river. The sand bar in the right bank of the sanctuary though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure. Higher diversity and catch of fish species from the TWS is indicative of restriction on fishing in the sanctuary"*

*While pointing to the findings of the study where Kacchua Wildlife Sanctuary receives the score of 1(one) in overall aquatic habitat quality the State Government concludes that "it is clear from the above that 7 km stretch was observed to have high anthropogenic disturbance throughout the day and night due to motor boat and tourist activities in certain areas of the sanctuary and is ranked as 'No habitat-1'. This shows that Kacchua Wildlife Sanctuary has been classified into no habitat class. Hence, due to high human disturbance leading to habitat alterations within a very small protected area, Kacchua Wildlife Sanctuary is found to have least suitable habitat for turtles with high anthropogenic disturbance and aforesaid area is no longer is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment" [Emphasis Supplied]*

22. As visible above, it has been recorded that only 5 of the 13 reported species of Turtles were sighted or captured, indicating a low abundance of turtles during the sampling period. While at first glance this may seem to indicate a low abundance of turtle species in the Kachhua Sanctuary, an examination of the sampling procedure used by WII in their report shows that this is due to the fact that the sampling was carried out during the summer season when the sightings of turtle species are generally low and therefore in no way indicates the actual conclusive number of turtles species that may be found in the Kachhua Sanctuary. The relevant portion of the sampling procedure in the WII Report is produced below –

**"3.1.2.1 In-stream sampling procedure**

*Survey methodology for turtles is highly variable and visual surveys is one of the easiest, efficient and cost effective methods of documenting presence of turtles in an area. They can be conducted via boat or walking along the river bank; scanning for presence of turtles through binoculars. Turtles can alternatively be caught using a wide variety of trapping methods each suitable for a specific habitat or species. Gill mesh nets, Hoop traps, Basking traps are commonly used for many turtle ecological studies across the world. To increase the likelihood of species detection, multiple trapping methods are deployed in a variety of depths (Glorioso et al., 2010) and to reduce bias towards certain species or size classes. When working with assemblages of species that differ in behaviour, a suite of capture techniques may be required (Liner, 2006). Extensive literature survey and questionnaire based surveys were conducted to know the kind of species occurring in the area. Boat surveys were carried out to record dolphin, birds and turtles. However due to summer season the sightings of turtles were very low."*

Furthermore, it can be seen in the portion of the WII report that has been quoted in the Minutes of the Meeting itself that though the anthropogenic pressure on the area is high, the sand bar on the right bank of the sanctuary continues to be an excellent habitat for turtles and breeding birds. Therefore it is plain to see that on even the most basic examination of the WII Report which has been relied on by the State Government, the assertions of the State Government as to why the Kachhua Sanctuary has been proposed to be denotified, fail to hold up.

23. This Hon'ble Court has in several judgments highlighted the importance of wildlife and biodiversity, and the need to protect the same. In *Centre for Environmental Law, World Wide Fund-India v. Union of India*, (2013) 8 SCC 234, this Hon'ble Court has stated that

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*"It was noticed with the mounting agricultural, industrial and demographic pressures, wilderness areas, which are the richest repositories of wildlife and biodiversity have either shrunk or disappeared and their continued existence is crucial for the long-term survival of the biodiversity and the ecosystems supporting them. NWAP, inter alia, highlighted the necessity to protect the long-term ecological security of India and to identify and protect natural ecosystems from over-exploitation, contamination and degradation. NWAP has also urged the necessity to give primacy to in situ conservation which is a sheet anchor of wildlife conservation."*

In the same case, this Hon'ble Court has also stated that in matters of wildlife conservation, an eco-centric approach and not an anthropocentric approach should be followed. This Hon'ble Court has further stated that a "*species best interest standard*" must be applied whilst approaching matters of wildlife conservation –

*"Our approach should not be human-centric or family-centric but ecocentric. "Scientific reasoning" for its re-location has to supersede the family bond or pride of the people and we have to look at the species best interest especially in a situation where the species is found to be a critically endangered one and the necessity of a second home has been keenly felt."*

But in the present case, the State Government is proposing to denotify a wildlife sanctuary which plays a crucial role in species conservation. Such a move would not be ecocentric and on the contrary, would undoubtedly be against the best interests of the animal species within the sanctuary, and the State Government has failed to give any justifiable reasons for the proposal.

Despite all of these glaring inadequacies in the proposal that was submitted, the Standing Committee of the NBWL has blindly accepted

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the assertions of the State Government and recommended the proposal without any application of mind.

**(ii) Notification of another area as a Sanctuary would not counterbalance the impact of the Denotification of the Kachhua Wildlife Sanctuary**

24. It is submitted that the notification of another upstream stretch of the River Ganga as a wildlife sanctuary under the Wildlife (Protection) Act, 1972 would in no way counterbalance the huge devastating impact that the denotification of the Kachhua Wildlife Sanctuary would have on the several endangered and threatened species that depend on the protection accorded to the area under the Wildlife (Protection) Act, 1972 for their survival. Furthermore, the very purpose of the Wildlife (Protection) Act, 1972 is to provide for protection of wild animals, birds and plants. The long title of the Act reads as follows –

*“An Act to provide for the protection of wild animals, birds and plants and for matters connected therewith or ancillary or incidental thereto with a view to ensuring the ecological and environmental security of the country.”*

The Statement of Objects and Reasons of the Wildlife (Protection) Act, 1972 read as follows –

*“The rapid decline of India's wild animals and birds, one of the richest and most varied in the world has been a cause of great concern. Some wild animals and birds have already become extinct in this country and the others are in the danger of being so. Areas which were once teeming with wild life have become devoid of it and even the Sanctuaries and National Parks the protection afforded to wild life needs to be improved.”*

Section 18 of the Wildlife (Protection) Act, 1972 which relates to the declaration of wildlife sanctuaries speaks as follows –

*“18. Declaration of sanctuary.—2 [(1) The State Government may, by notification, declare its intention to constitute any area other than an area comprised within any reserve forest or the territorial waters as a sanctuary if it considers that such area is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wild life or its environment.]”*

Therefore it is clear that the intention of the legislature was that areas of adequate ecological significance are to be declared as wildlife sanctuaries, by virtue of their own ecological significance, rather than as a compensatory measure for the denotification of another existing wildlife sanctuary, which itself is of great ecological significance.

25. This Hon'ble Court in the matter of *Sansar Chand v. State of Rajasthan*, (2010) 10 SCC 604 has stated the following with regard to the maintenance of ecological balance in nature –

*“9. Preservation of wildlife is important for maintaining the ecological balance in the environment and sustaining the ecological chain. It must be understood that there is interlinking in nature. To give an example, snakes eat frogs, frogs eat insects and insects eat other insects and vegetation. If we kill all the snakes, the result will be that the number of frogs will increase and this will result in the frogs eating more of the insects and when more insects are eaten, then the insects which are the prey of other insects will increase in number to a disproportionate extent, or the vegetation will increase to a disproportionate extent. This will upset the delicate ecological balance in nature. If we kill the frogs the insects will increase and this will require more insecticides. Use of much insecticide may create health problems. To give another example, destruction of dholes (wild dogs) in Bhutan was intended to protect livestock, but this led to a greater number of wild boar and to resultant crop devastation causing several cases of abandonment by humans of agricultural fields. Destruction*

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*of carnivorous animals will result in increase of herbivorous animals, and this can result in serious loss of agricultural crops and other vegetation*

*10. It must be realised that our scientific understanding of nature, and in particular of the ecological chain and the linkages therein is still very primitive, incomplete and fragmentary. Hence, it is all the more important today that we preserve the ecological balance because disturbing it may cause serious repercussions of which we may have no idea today."*

26. Therefore as highlighted by this Hon'ble Court, the maintenance of ecological balance is a very delicate issue, of which the human scientific understanding is still very primitive. Destruction of even a few species may have a profound and unimaginable impact on the entire ecosystem of a region and may even lead to irreversible consequences, and therefore it is of even more importance to maintain whatever ecological balance exists as of today.

27. However it is clear from the Minutes of the Meeting of the Standing Committee of the NBWL that the State Government has moved an additional proposal to notify an upstream stretch of 30 km (from 940 km to 970 km) stretch of river Ganga near Newada as a seemingly compensatory measure for the denotification of the Kachhua Wildlife Sanctuary, which has nowhere been envisaged in the enacting of the Wildlife (Protection) Act, 1972, as is rather contrary to the very purpose for which the Act was enacted. The relevant portion of the Minutes has been produced below –

*"While justifying their intention for notification of upstream stretch of 30 km (from 940 km to 970 km) stretch of river Ganga near Newada in lieu of existing Kacchua Wildlife Sanctuary the state government refers to following conclusion of the WII report regarding habitat suitability*

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*for the purpose of finalizing conservation priority areas in river Ganga."*

The Standing Committee of the NBWL has then made reference to the following paragraph of the WII Report –

*"10. Based on combined score the stretch from downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area and notified as wildlife sanctuary under provision of Wildlife (Protection) Act, 1972. Since the ecological characteristics and wildlife values vary along the 140 km stretch on account of anthropogenic pressure, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural religious uses may be required and to be done by the Uttar Pradesh Forest Department."*

28. The WII Report has in no way, explicitly or impliedly, stated that the abovementioned upstream stretch (940 km to 970 km) may be notified as a compensatory measure for the denotification of the Kachhua Wildlife Sanctuary. The WII Report has merely highlighted the ecological significance of the said area and therefore recommended the notification of the area as a wildlife sanctuary under the Wildlife (Protection) Act, 1972 in addition to the Kachhua Wildlife Sanctuary to ensure a greater protected area for the survival of the endangered and threatened species that can be found in the area.

29. It is clear to see that the State Government has completely ignored the provisions of the Wildlife (Protection) Act, 1972 and the dictum of this Hon'ble Court and contorted the findings of the WII Report. It has suggested the completely baseless and unscientific measure of notifying another area upstream near Newada as a wildlife sanctuary

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in lieu of denotification of the already existing Kachhua Wildlife Sanctuary, which would in no way counterbalance the devastating effect that the denotification of the Kachhua Sanctuary would have: What is even more appalling is that this measure has been accepted, and thus the denotification of the Kachhua Sanctuary has been recommended by the NBWL, which is supposed to be the topmost scientific body for the promotion of conservation of wildlife in the country. Therefore this recommendation to denotify the Kachhua Wildlife Sanctuary is completely unscientific, untenable and liable to be quashed.

**VI. HIGH ANTHROPOGENIC PRESSURE IS OBSERVED UNIFORMLY ACROSS THE STRETCH OF THE RIVER GANGA WHICH WAS STUDIED IN THE WII REPORT**

30. The Applicant has observed that in both the Minutes of the Meetings of the SBWL and the Standing Committee of the NBWL, several references have been made to the parts of the WII Report indicating a high anthropogenic pressure exerted upon the area covered under the Kachhua Wildlife Sanctuary. The State Government has also specifically stated that the proposal for denotification of the Kachhua Sanctuary is due to high anthropogenic pressure in the region, before the Standing Committee of the NBWL. The relevant part of the Minutes of the 50<sup>th</sup> Meeting of the Standing Committee of the NBWL reads as follows –

*“Hence, due to high human disturbance leading to habitat alterations within a very small protected area, Kacchua Wildlife Sanctuary is found to have least suitable habitat*

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*for turtles with high anthropogenic disturbance and aforesaid area is no longer is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment”*

31. Therefore the State Government is attempting to create the illusion that the Kachhua Wildlife Sanctuary has been sought to be denotified because of high anthropogenic pressure in the area covered under the Sanctuary. This is an entirely misleading submission made by the State Government as a perusal of the WII Report shows that high anthropogenic pressure is observed uniformly across the entire stretch of the River Ganga that was under study in the WII Report. Produced below is the table which shows the overall habitat scores of stretches of the River Ganga studied in the WII Report, which can be found at Appendix – IV of the WII Report. The same has also been produced in the Minutes of the Meeting of the SBWL. Column 5 of the Table shows the anthropogenic scores of different stretches of the River Ganga. Serial Numbers 94 to 97 in the table correspond to the upstream stretch of 30 km (from 940 km to 970 km) stretch of river Ganga near Newada which the State Government seeks to notify as a wildlife sanctuary in lieu of the denotification of the Kachhua Wildlife Sanctuary. Serial Numbers 94 to 107 correspond to a “high priority” conservation stretch, as has been stated by the SBWL in their meeting dated 30.08.2018.

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Sl. No.	Stretch (from Bijnor Barrage)	Biolog ical Score (Out of 5)	Habitat Score (out of 3)	Anthro pogenic Score (Out of 2)	Final Score (Out of 10)
94	930-940	0.10	0.75	1.15	2.00
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05
98	970-980	0.00	1.13	1.40	2.53
99	980-990	0.10	1.25	1.25	2.60
100	990-1000	0.10	0.75	1.35	2.20
101	1000- 1010	0.88	1.00	1.35	3.23
102	1010- 1020	0.05	0.50	1.20	1.75
103	1020- 1030	0.10	0.63	1.50	2.23
104	1030- 1040	0.60	2.25	1.35	4.20
105	1040- 1050	0.05	0.88	1.35	2.28

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106	1050- 1060	0.00	0.75	1.40	2.15
107	1060- 1070	0.40	1.50	1.40	3.30

In comparison to this "high priority" conservation stretch that correspond to Serial numbers 94 to 107, the stretch of the River which is part of the Kachhua Wildlife Sanctuary which corresponds to Serial Numbers 112 and 113 is produced below –

Sl. No.	Stretch (from Bijnor Barrage )	Biologic al Score (Out of 5)	Habitat Score (out of 3)	Anthro pogenic Score (Out of 2)	Final Score (Out of 10)
112	1110- 1120	0.00	1.25	1.30	2.55
113	1120- 1130	0.05	0.75	1.30	2.10

Therefore it is clear that the anthropogenic pressure is uniformly high across the entire stretch of the River Ganga studied by the WII Report and that the anthropogenic pressure in the Kachhua Wildlife Sanctuary, and the 30 km (from 940 km to 970 km) stretch of river Ganga near Newada which the State Government has proposed to notify as a wildlife sanctuary in lieu of the denotification of the

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Kachhua Sanctuary, are also similar. Hence it is clear that the State Government has made a false and misleading submission that the Kachhua Wildlife Sanctuary is being proposed to be denotified due to high anthropogenic pressure in the region when there is clearly a similar high anthropogenic pressure in the area that they have proposed to notify as a new wildlife sanctuary near Newada.

32. Thus it is submitted by the Applicant that the high anthropogenic pressure that is felt across the abovementioned stretches of the River Ganga is placing a great stress on the species that inhabit the region, especially the ones that are threatened or endangered. This is a very alarming issue, and one that needs to be considered with utmost caution and diligence. Therefore this places a higher responsibility on the State Government to ensure that a higher degree of protection is afforded to the threatened and endangered species that inhabit the stretch, rather than attempting to denotify the wildlife sanctuary, which would have a devastating effect on the area and the river as a whole.

**VII. THE UTTAR PRADESH STATE GOVERNMENT HAS CONCEALED THE REAL PURPOSE FOR WHICH IT HAS SOUGHT TO DENOTIFY THE KACHHUA WILDLIFE SANCTUARY**

33. There has been no indication anywhere in the minutes of the meeting of the SBWL, or of the Standing Committee of the NBWL, of the reasons for the proposal to denotify the Kachhua Wildlife Sanctuary. As highlighted above, the WII Report has clearly shown that the

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Kachhua Sanctuary plays a crucial role in the preservation of the endangered and threatened species in the area, and hence there is clearly no ecocentric reason for the denotification of the Sanctuary. However it is patently visible from releases of the Press Information Bureau and several newspaper reports that the Sanctuary is sought to be denotified so that the area of the sanctuary can be used for development work as a part of the Jal Marg Vikas Project which seeks to construct a waterway along the River Ganga from Varanasi, where the Sanctuary is located, to Haldia in West Bengal. Hence it is clear to see that the SBWL has merely rubber-stamped the proposal for denotification without any real consideration of the issues involved or the adverse impact on the wildlife in the Sanctuary, so that the land area of the Kachhua Sanctuary can be used to develop the Jal Marg Vikas Project. Such construction on the site of the Kachhua Wildlife Sanctuary would cause a devastating impact on the several threatened and endangered species located in the Sanctuary, and thus the State Government has concealed this material fact before the Standing Committee of the NBWL.

34. Hence in light of the facts and circumstances that have been placed before this Hon'ble Court, it is submitted that the proposal of the State Government to denotify the Kachhua Wildlife Sanctuary and the recommendations of the SBWL and the NBWL for the same are illegal. Hence the Applicant is filing the present Application for Directions before this Hon'ble Court.

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**PRAAYER**

In view of the above facts and circumstances it is respectfully prayed that this Hon'ble Court be pleased to:

- (i) Set aside the recommendation made by the Standing Committee of the National Board for Wild Life to proceed with the denotification of the Kachhua Wildlife Sanctuary, and declare the same to be illegal and contrary to the provisions of the Wildlife (Protection) Act, 1972.
- (ii) Declare that a proposal to denotify an existing wildlife sanctuary is not permissible under the Wildlife (Protection) Act, 1972.
- (iii) Direct that status quo will be maintained regarding the Kacchua Wildlife Sanctuary, and thus no action will be taken in furtherance of the denotification of the sanctuary until the disposal of this present Application.
- (iv) Pass such order or orders as this Hon'ble Court may deem fit in the facts and circumstances of the case.

**DRAWN BY:**

**Ritwick Dutta, Rahul Choudhary & Sharan Balakrishna**  
Advocates

**FILED BY:**

**SRISHTI AGNIHOTRI**  
ADVOCATE FOR APPLICANT

**Place:** New Delhi

**Drawn on:**

**Filed on:**

WRIT PETITION (CIVIL) No.337 OF 1995

**IN THE MATTER OF:**

Centre for Environment Law, WWF-I .....Petitioner

Versus

Union of India & Ors. ...Respondents

**AND IN THE MATTER OF:**

Vikrant Tongad ...Applicant

Versus

Union of India and Ors ...Respondents

**AFFIDAVIT**

I, Vikrant Tongad, S/o Shri Baljeet Singh, aged about 28 years, R/o T-16, Senior Citizen Complex, Sector Pi-1, Near Yatharth Hospital, near Greater Noida, Uttar Pradesh- 201301, do hereby solemnly affirm and state as follows:-

1. I am the Intervenor Applicant, and I am competent and authorized to swear the present affidavit.
2. That the contents in the accompanying Application for Directions, and all I.As therein, are true and correct, and based on the records of the case and nothing material has been concealed therefrom and the same may be read therein as part and parcel of this affidavit and the same are not being repeated herein for the sake of brevity.
3. The annexures are true copies of their respective originals.

  
DEPONENT

**VERIFICATION:**

Verified at New Delhi on this 1 day of July, 2019 that the contents of paras 1 to 3 of the affidavit are true and correct to my knowledge and no part of it is false or incorrect and nothing material has been concealed therefrom.



  
ATTESTED  
DEPONENT  
  
NOTARY PUBLIC  
(INDIA)

1 AUG 2019



- 2 -
7. The Union Territory of Chandigarh,  
through Lt. Governor,  
Govt. of Chandigarh,  
Chandigarh.
  8. The Union Territory of Daman & Diu,  
through Lt. Governor,  
Govt. of Daman & Diu,  
Daman & Diu.
  9. The National Capital Territory of Delhi,  
Through Lt. Governor,  
Govt. of Delhi,  
Delhi.
  10. The State of Goa,  
through Chief Secretary,  
Govt. of Goa,  
Goa.
  11. The State of Gujarat,  
through Chief Secretary,  
Govt. of Gujarat,  
Gujarat.
  12. The State of Haryana,  
through Chief Secretary,  
Govt. of Haryana,  
Haryana.
  13. The State of Himachal Pradesh,  
Through Chief Secretary,  
Govt. of Himachal Pradesh,  
Himachal Pradesh.
  14. The State of Jammu & Kashmir,  
through Chief Secretary,  
Govt. of Jammu & Kashmir,  
Jammu & Kashmir.
  15. The State of Karnataka,  
through Chief Secretary,  
Govt. of Karnataka,  
Karnataka.
  16. The State of Kerala,  
through Chief Secretary,  
Govt. of Kerala,  
Kerala.

- For State of Orissa (R.No. 23) : Mr. Jana Kalyan Das, Advocate
- For State of Meghalaya (R.No. 20) : Mr. Ranjan Mukherjee, Advocate
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The Application for direction in Writ Petition above-mentioned being called on for hearing before this Court on the 13th day of November, 2000, UPON perusing the said Writ Petition, Application and the accompanying documents AND UPON hearing counsel for the appearing parties above-mentioned, THIS COURT while directing to list the above application after five weeks DOTH ORDER THAT pending further orders no derecognition of Forests/Sanctuaries/National Parks shall be affected.

AND THIS COURT DOTH FURTHER ORDER THAT this order be punctually observed and carried into execution by all concerned.

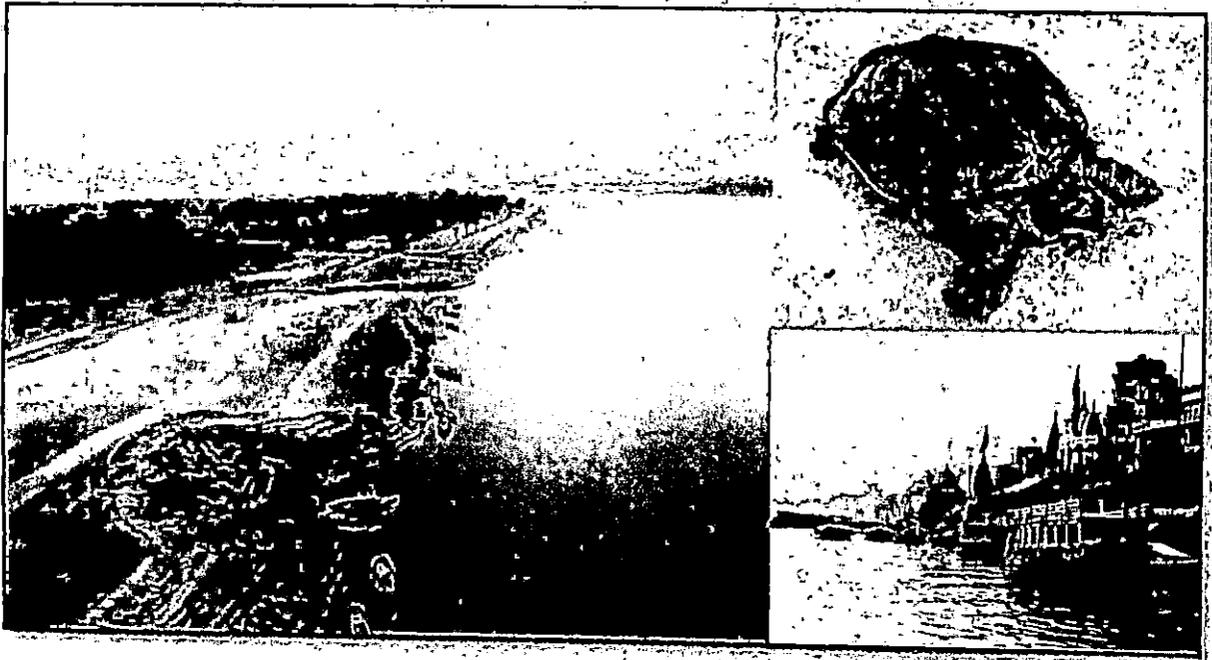
WITNESS the Hon'ble Dr. Adarsh Sethi, Chief Justice of India at the Supreme Court, New Delhi dated this the 13th day of November, 2000.

(Sd/-)  
CV. K. SABHATWAL  
JOINT REGISTRAR

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**ASSESSMENT OF THE WILDLIFE VALUES  
OF THE GANGA RIVER FROM BIJNOR TO BALLIA INCLUDING  
TURTLE WILDLIFE SANCTUARY, UTTAR PRADESH**

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 भारतीय वन्यजीव संस्थान  
Wildlife Institute of India

July 2018

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**भारतीय वन्यजीव संस्थान  
Wildlife Institute of India**

July 2018

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### Executive summary

Freshwater ecosystems, especially riverine systems, give rise to unique habitat mosaics, which support distinctive biodiversity and provide substantial ecosystem services, creating a strong imperative for their protection and restoration. They are being impacted globally by divergent but frequently concurrent processes including water pollution, over-fishing, alteration of natural flow regime, invasive species, climate change and human-induced habitat loss. These dynamic systems are often poorly protected, and require conservation measures through systematic planning. Systematic Conservation Planning (SCP) is widely considered as the most influential paradigm to identify and bring areas under protection through effective planning and spatial prioritization. The SCP requires an evaluation of sites for their biodiversity values, habitat heterogeneity, habitat dynamics, and existing human-induced habitat alteration factors. The Ganga River is the lifeline to more than 500 million people as it flows through five riparian states. It also harbours a unique assemblage of biodiversity due to its passage through three distinct biogeographic zones and unique habitat mosaics. Apart from nurturing umbrella species like the Gangetic river dolphin, otters, gharial and mugger, the Ganga River basin is recognized as a Global Turtle Priority Area and a Turtle Biodiversity Hotspot. With the aim of protecting and conserving the diverse array of biota and their habitats, a 7 km stretch of the Ganga River between Rajghat (Malviya Bridge) to Ramnagar Fort in Varanasi District, Uttar Pradesh was declared as the Kachhua Vanyajiv Abhayanaya (Turtle Wildlife Sanctuary - TWS). Although declared a protected area, increase in riverbank agriculture, river traffic, water pollution through sewage and solid wastes are posing a threat to the biodiversity of TWS and the river-riparian habitats. High human disturbance in the form of cultural-religious activities are influencing the biological values of TWS.

Considering the above, a rapid assessment study (March- July, 2018) was conducted in the TWS to evaluate its efficacy as a protected area, and to identify areas for effective biodiversity conservation. Stretch of the Ganga River between Bijnor to Ballia in Uttar Pradesh was evaluated following Systematic Conservation Planning approach. The objectives of this study were (1) Assessment of habitat structure of TWS and to detect changes over time; (2) Evaluation of efficacy of TWS and adjoining riverscape as a refugia for species of conservation concern; and (3) Prioritization of the Ganga River stretches with mosaics of riverine habitats for conservation planning.

A spatial assessment using remote sensing data for the period 1974 to 2016 revealed no significant changes in river channel and sand deposition in the TWS. However, ~28% increase in the vegetation cover was observed which could be attributed to the protection accorded to the riparian areas by the Forest Department compared with an expansion of agricultural areas on the landward side.

Out of 13 species of turtle reported from Ganga River, only 5 species were encountered during the field sampling with the combined efforts of visual encounter surveys and in-stream sampling using gill nets and box traps within the TWS and upstream and downstream of the Sanctuary limit. Very low encounter rate of turtles in TWS indicates high human disturbance leading to habitat alterations within a very small Protected Area. Sites along the TWS in the left bank are seen to have the least suitable habitat for turtles with high anthropogenic disturbances such as cemented ghats, intense ferry and boat activity, pollution, and human presence along the river. The sand bar in the right bank of the TWS, though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure.

Out of 64 species of fish reported from the Middle Ganga stretch, a total of 45 species belonging to 38 genera, 16 family and five orders were recorded during the sampling period. The fish catch was higher inside TWS as compared to upstream and downstream of the sanctuary and this could be attributed to prohibition of fishing within the Sanctuary limits.

A total of 28 species of birds were observed, of which four species were of threatened categories as per the IUCN Red List. Nests of breeding birds were not observed from the TWS due to high biotic disturbance. A nesting site of the Indian Skimmer was identified at approximately 6 km upstream of the Sanctuary. Five pairs of Indian Skimmer and 14 pairs of Little tern, 4 pairs of River Lapwing a Near Threatened Species were observed from the vicinity.

A rapid assessment of wildlife values was conducted in the entire stretch of the Ganga River falling within Uttar Pradesh and priority areas were identified through a scoring matrix. Kruskal's Multidimensional Scale analysis described the habitat parameters that influence species distribution. These parameters were sand mining, channel depth, fishing activities, presence of village/town and riverbed agriculture. Channel depth is the only factor which is positively influencing species distribution. Based on the scoring matrix, the highest biological value was attributed to a river stretch within the Hastinapur Wildlife Sanctuary, followed by the stretch from Brijghat to Narora, which is a notified Ramsar Site. In addition to these, moderate biological value was assigned to the stretch downstream of Newada till Ballia. Habitat characteristic score (channel depth, meanders and river islands) was high in the downstream of Allahabad, till Ballia as this stretch persistently maintains high depth classes, meanders and river islands representing a complex mosaic of habitats.

The anthropogenic influence scores was almost similar in the entire stretch from Bijnor barrage to Ballia as the river bed agriculture was prominent in the upper stretch, whereas fishing, sand mining, and human settlements were prevalent in the lower stretch of the river. The stretch between Hastinapur Wildlife Sanctuary and Narora already enjoys the protected area status. In spite of the protected status, TWS scored low due to its small size and high human disturbance. Based on the combined scores, a 140 km stretch downstream Newada in Allahabad district to Adalpur in Mirzapur district has been considered as the priority stretch for conservation. It is suggested that this area may be brought under the purview of Wild Life (Protection) Act, 1972 by declaring it as a wildlife sanctuary for the conservation of aquatic biodiversity of the Ganga River in Uttar Pradesh. Since the ecological characteristics and wildlife values vary along this 140 km stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Forest Department.

## CHAPTER I

### 1.1 Background

Recognizing the ecological, social, natural and cultural significance of a 7 km stretch of Ganga River between Rajghat (Malviya Bridge) to Ramnagar Fort, for the conservation, propagation and development of wildlife and their environment was declared as the *Kachhua Vanyajiv Abhyaranya* (Turtle Wildlife Sanctuary) vide Government of Uttar Pradesh notification No. 4170/04-3-62/89 dated 21-12-1989 (Annexure X) under the provisions of the Section 18 of the Indian Wild Life (Protection) Act, 1972. The main objectives for the creation of this sanctuary were to:

- Conserve and promote of representative ecosystem and biodiversity of Gangetic plains.
- Develop and nurture the biodiversity as (in the form of) live museums or Gene banks.
- Conservation of wildlife and their natural habitats.
- Create favorable conditions especially to conserve natural ecosystem.
- Provide an opportunity for the common masses to study the aquatic flora and fauna of the region.
- Create conservation awareness among villagers, administration and political leaders.
- Conservation of protected areas with the participation of the people residing in and around the area.
- Promote environmentally conscious tourism and develop the protected areas as a natural ecological tourism destination.
- Promote ecological and environmental research studies in and around the protected areas.

One of the objectives of declaring this area as a Turtle Wildlife Sanctuary (TWS) was to conserve the Gangetic softshell turtle *Nilssonia gangetica*, a carnivorous turtle abundant in this region which helps in scavenging half burnt corpses dumped in this section of the river eventually aid in cleaning the Ganga River and improve water quality. As part of the management measures the Kashi Forest Division started rearing *N. gangetica* at the Sarnath Turtle Centre and releasing them in the Sanctuary from 1987. The Centre also acted as a rescue and rehabilitation facility for confiscated turtles from illegal trade and released them in the Sanctuary enhancing the source population genetic diversity. Over 41,000 turtles have been released till date in the Sanctuary by the Kashi Forest Department (estimated from Kashi Wildlife Division log books). However, the effectiveness of these released population in establishing the base population of turtles in the Sanctuary and outside the Sanctuary boundary has not been assessed. There are few surveys conducted primarily based on 'visual encounters'. This method is not considered as an accurate representation of all the turtle species present or their abundance and is biased towards basking species and certain size classes. The Sanctuary area is also highly disturbed due to religious rituals, boat traffic, holy ablutions, cremation and puja offerings as this section of the Ganga River is known to be one of the highest cultural-religious significance.

The PCCF (Wildlife), Uttar Pradesh requested the Director, Wildlife Institute of India vide Letter No. 3032/dated-08-03-2018, seeking suggestions and recommendations on an ongoing Public Interest Litigation No. 34434 of 2017 between Bharat Jhunjhunwala vs Union of India and 3 others regarding stopping the plying of vessels in the Sanctuary. The PCCF (Wildlife), Uttar Pradesh vide Letter No. 44/23-2-12/Lucknow/dated: 16-3-2018 also requested Wildlife Institute of India to review the management effectiveness of TWS. In response to the above, the Wildlife Institute of India conducted a rapid ecological assessment of freshwater turtles and associated species in the designated stretch of River Ganga in Uttar Pradesh including the TWS from March to July, 2018.

## 1.2 Introduction

Freshwater ecosystems, especially riverine systems, are impacted globally by quite a few divergent but frequently concurrent processes including water pollution, over-fishing, alteration of natural flow regime, invasive species, climate change and human-induced habitat loss (Richter et al., 1997; Abell, Allan & Lehner, 2007). These dynamic systems give rise to unique habitat mosaics which support distinctive biodiversity and provide substantial ecosystem services (Schroter et al., 2005), creating a strong imperative for their protection and restoration. However, these ecosystems are globally poorly protected, and continuing declines in their condition demonstrate an urgent need for conservation measures through systematic planning (Abell, 2002; Rodrigues et al., 2004; Kingsford & Neville, 2005; Revenga et al., 2005; Dudgeon et al., 2006). Scientific literature about freshwater protected areas and their designating criteria is scant.

Systematic Conservation Planning (SCP) is widely considered as the most influential paradigm to identify and bring areas under protection priority for conservation (Márgules & Pressey, 2000; Knight et al., 2010; Sarkar & Iloldi-Rangel, 2010). SCP, on representation in freshwater protected areas is focused largely on representing biodiversity, such as species and ecosystem types (Kirkpatrick, 1983). However, consideration of connectivity of freshwater ecosystems with upstream, downstream or upland areas is crucial in planning. It concerns the evaluation of sites for their biodiversity value, habitat heterogeneity, habitat dynamics, and existing human-induced habitat alteration factors. The holistic paradigm would ensure participatory planning and collaborative implementation of strategies, decisions and actions that secure the long-term survival and favourable conservation status of biodiversity in general.

The Ganga River is the largest river in India and flows through five states. The River is the lifeline of over 500 million people from 11 basin states and provide habitat for numerous flora and fauna. The Ganga River harbours a unique assemblage of biodiversity due to its passage through three distinct biogeographic zones, namely Himalaya (West Himalaya - 2B), Gangetic Plain (Upper Gangetic Plain - 7A and Lower Gangetic Plain - 7B) and Coasts (East Coast - 8B). A smaller stretch of the Ganga River, in Jharkhand state, also borders the Deccan Peninsula (Chhota Nagpur - 6B) (Rodgers & Panwar, 1988). The habitat mosaic of the River nurture more than 140 aquatic species including a wide variety of primitive phytoplanktons to highly developed vertebrates like the Gangetic river dolphin (*Platanista gangetica*), Smooth-coated otter (*Lutrogale perspicillata*), Gharial (*Gavialis gangeticus*), Gangetic softshell turtle

(*Nilssonia gangetica*) and several species of endemic freshwater crabs (Bashir *et al.* 2010). Other obligate aquatic species like waterbirds and island nesting birds are also important components of this riverscape. The Ganga River is also known to support more than 143 species of fish that belong to 11 orders, 72 genera and 32 families (Sarkar *et al.* 2012), which accounts for 20% of the total freshwater fishes reported in India. The Ganga River basin is recognized as a Global Turtle Priority Area (Buhlmann *et al.* 2009) and a Turtle Biodiversity Hotspot (Mittermeier *et al.* 2015). The Ganges River is known to support up to 13 species of freshwater turtles, classified into nine genera. Of these, nine species are under threatened categories such as Red-crowned roofed turtle *Batagur kachuga* (CR), Three-striped roofed turtle *Batagur dhongoka* (EN), Indian narrow-headed softshell turtle *Chitra indica* (EN) and Gangetic softshell turtle *Nilssonia gangetica* (VU).

The Turtle Wildlife Sanctuary (TWS) is a 7 km section of the middle stretch of the Ganga River near Varanasi, Uttar Pradesh between Ramnagar Fort to Rajghat (Malviya Bridge). The Middle Ganga stretch is characterized by large fertile floodplains that are extensively used for agriculture. Bank feature alteration due to agriculture, construction and sand mining has disrupted the lateral connectivity of the River. The aquatic and riparian habitat of the TWS has also been disrupted by similar threats. Being a holy place of tremendous religious and cultural importance, the region is also experiencing considerable tourist pressure. Although declared a protected area, increase in river bank and river-bed agriculture, increase in river traffic, and water pollution through sewage and solid waste are posing threats to the biodiversity of this section of the River.

Adopting the Systematic Conservation Planning, a select stretch from Bijnor to Ballia in Uttar Pradesh including the TWS was evaluated with the following objectives:

1. Spatial assessment of habitat structure of TWS, Varanasi.
2. Assess the efficacy of the TWS and adjoining riverscape as a refugia for species of conservation concern.
3. Prioritize the Ganga River stretches with mosaic of riverine habitats for conservation planning in Uttar Pradesh.

### 1.3 Study Area

A phase-wise study was carried out from Bijnor to Ballia in Uttar Pradesh (Figure 1.1) including intensive assessment of the TWS and adjoining area at Varanasi.

The Varanasi city is situated in eastern part of Uttar Pradesh along the northern bank of the Ganga River and is known as one of the oldest surviving cities in the world. It is an important pilgrimage site for both Buddhist and Hindus with the main tourist attraction being the Holy Ganga and over 100 *Ghats* along the River (Das, 2009). The stretch of Ganga River passing through Varanasi is a part of the middle Ganga that extend from the Haridwar to Farakka with typical geomorphic and biotic characteristics.

In 1989, a stretch of 7 km from Ramnagar fort to Malviya Bridge was declared as the Turtle Wildlife Sanctuary under the Wild-Life (Protection) Act, 1972 as part of the Ganga Action Plan-Phase I. As a part of the Sanctuary, a turtle rearing facility was developed in Sarnath with the objectives of rearing carnivorous turtles so as to release them in the Turtle Sanctuary. It was believed that these turtles could devour the dead bodies in the Ganga River thus would assist in cleaning the river system. However, the main aim of creating this Sanctuary was to conserve and propagate the aquatic wildlife and their environment in Gangetic plains.

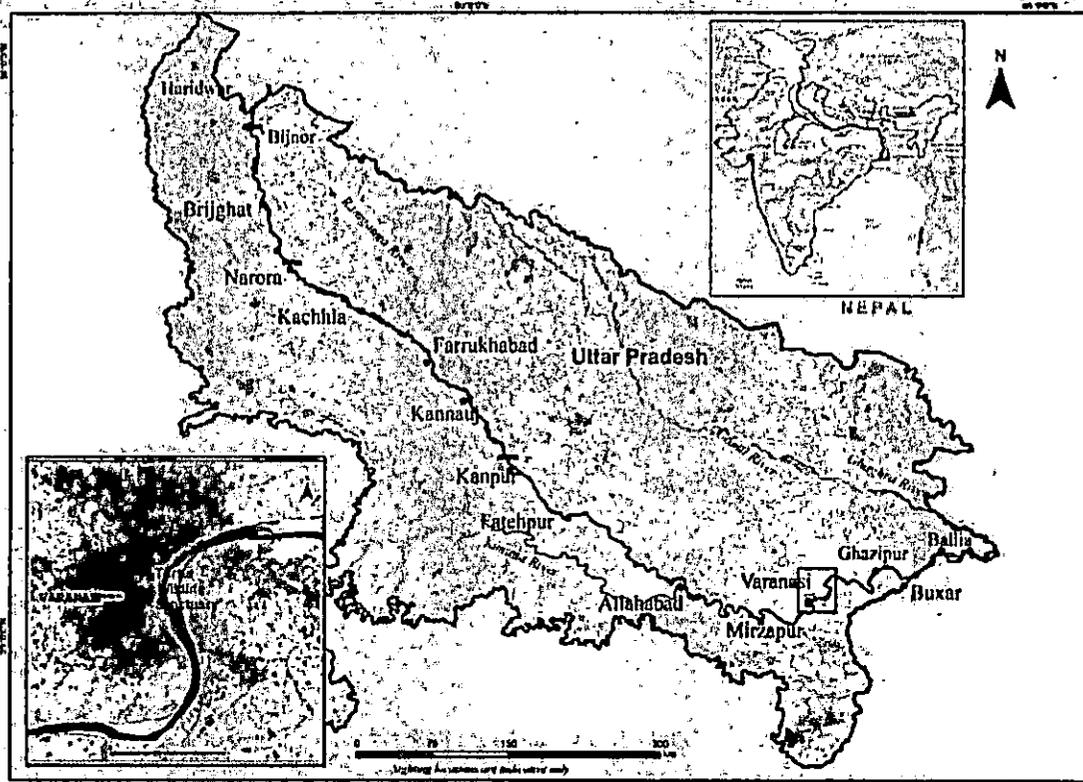


Figure 1.1 Study area and intensive study location in TWS

## CHAPTER II

### 2.1 Spatial assessment of habitat dynamics of TWS

#### 2.1.1 Introduction

The turtle wildlife sanctuary is a 7 km river stretch starting from upstream Ramnagar fort to Malviya Bridge. The Varanasi city lies on the western bank of the sanctuary. The bank is almost concretized with more than 80 Ghats witnessing thousands of pilgrims every day. This stretch is forming a large meander with huge sand bar on the eastern side (Figure 2.1).

The Sanctuary is providing a refuge to the biodiversity of this riverscape especially to the scavenging turtle species. These turtles help to reduce the organic load of the river in the form of unburnt/partially burnt bodies.

Sand bars situated on eastern banks are crucial for the survival of the birds and reptiles in terms of their nesting and basking requirements. The sediment dynamics of the Sanctuary is one of the most important factor that governs the distribution of aquatic biodiversity. Any change in the river channel and sand bar may drastically affect the existence of ancient ghats along the western banks as well as the biodiversity of this region, and therefore the Land use/Land cover (LULC) was assessed in the Sanctuary boundary.

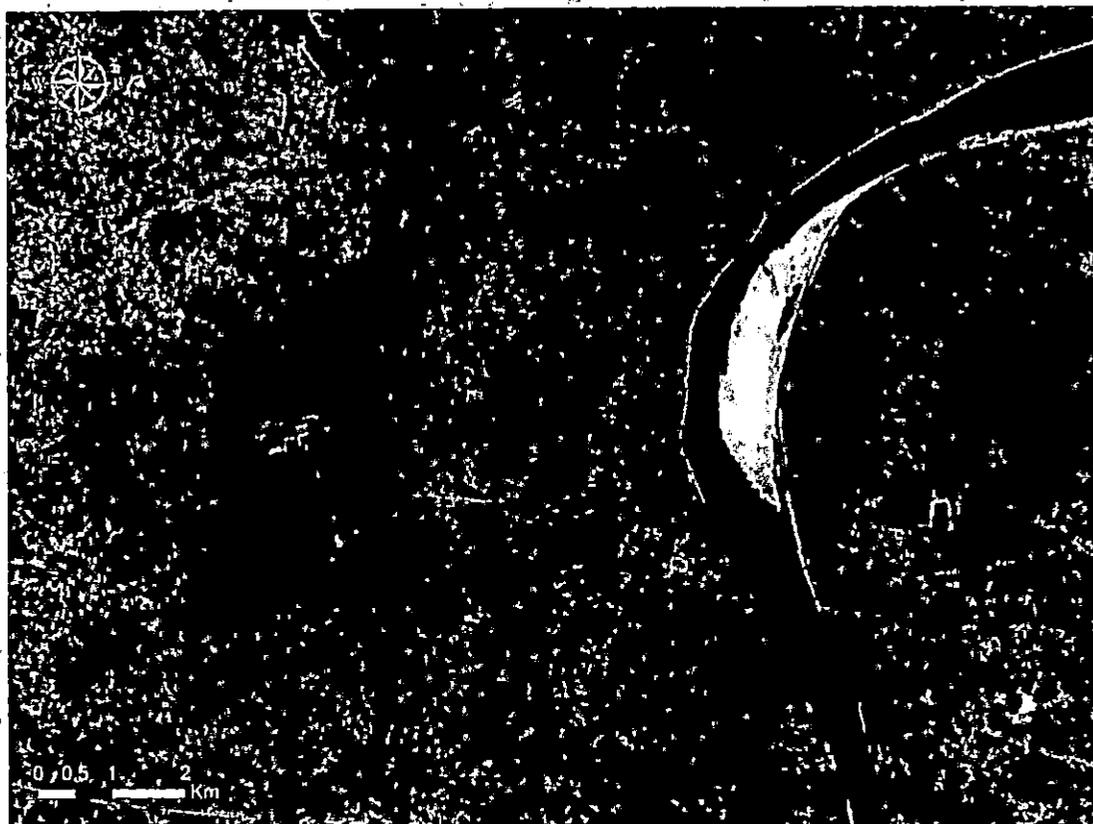


Figure 2.1. Outline of Turtle Sanctuary. (Source: ArcGIS 10.2 Base map Imagery)

### 2.1.2 Methodology

Remote sensing images of the Sanctuary area were obtained for the period of 1974 to 2016. The images were classified using ERDAS IMAGINE 2015 (Debnath et al 2017). The data used in the classification included *Landsat* satellite images of the year 1974, 1988, 1994, 1998, 2000, 2003, 2008, 2011, 2013 and 2016. The water and the land area were calculated using change detection.

The area is very dynamic as landscape pattern keeps on changing throughout the year. Hence the images were classified into three categories i.e. Water, Sand and Vegetation (Mishra et al., 2017). Land transformation from one LULC class to another is one of the most important aspects of LULC dynamics. The proportional changes in the sand bar and river width are calculated to know the dynamics of the river channel and sand deposition in the Sanctuary.

### 2.1.3 Findings

Analyses of change in LULC from 1974 to 2016 revealed that there is no regular trend and significant change in the Sanctuary in terms of sand bar dynamics and water area. All the minor changes in the area of sand bar (-3.29 to +3.93) were due the dynamic nature of river depending upon the seasonal fluctuations and variations in annual rain fall. The vegetation cover showed increasing trend from 1988 to 2003 with more than 10 times increase in the vegetation area. Increase in the vegetation cover (28.38%) may be due to the agricultural expansions and the plantation in the area. After a sudden decrease during 2008, the area under vegetation cover was observed to be stable till 2016. Table 2.1, 2.2 and Figure 2.2 highlight the area under different LULC classes.

### 2.1.4 Conclusions

The spatial assessment using remote sensing data for the period 1974 to 2016 revealed no significant changes in river channel and sand deposition in the TWS. However, ~28% increase in the vegetation cover was observed which could be attributed to the protection accorded to the riparian areas by the Forest Department and expansion of agricultural areas on the landward side as the boundary of the Sanctuary is not clear. The irregular trend in water and sand area are product of in-stream seasonal patterns of channel flow. However, the hydro-dynamics and the bar formation in the Sanctuary area is stable over the years and could provide suitable nesting and basking habitat for turtles, crocodiles and nesting riverine birds, if adequate protection is provided.

Table 2.1 Area under different Land use/Land cover classes between 1974 and 2016 in the Turtle Wildlife Sanctuary, Uttar Pradesh

Year	Area under different categories (ha)						Total Area (ha)
	Water	%	Sand	%	Vegetation	%	
1974	309.24	43.21	379.08	52.97	27.36	3.82	715.68
1988	319.41	45.91	373.59	53.70	2.70	0.39	695.70
1994	354.87	51.01	302.13	43.43	38.70	5.56	695.70
2000	274.21	40.03	366.91	53.56	43.92	6.41	685.03
2003	323.98	47.29	300.08	43.80	61.02	8.91	685.08
2008	240.39	34.55	445.95	64.10	9.36	1.35	695.70
2011	265.14	38.11	393.48	56.56	37.08	5.33	695.70
2013	274.34	40.05	358.49	52.33	52.25	7.63	685.08
2016	272.43	39.16	379.53	54.55	43.74	6.29	695.70

Table 2.2. Change (%) in different Land use/Land cover classes between 1974 and 2016 in the Varanasi Turtle Sanctuary, Uttar Pradesh

Year	Change (%) in different land use classes		
	Water	Sand	Vegetation
1974	0.00	0.00	0.00
1988	3.29	-1.45	-90.13
1994	14.76	-20.30	41.45
2000	-11.33	-3.21	60.53
2003	4.77	-20.84	123.03
2008	-22.26	17.64	-65.79
2011	-14.26	3.80	35.53
2013	-11.29	-5.43	90.95
2016	-11.90	0.12	59.87
Mean	5.36 (+3.88)	-3.29 (+3.93)	28.38 (+23.22)

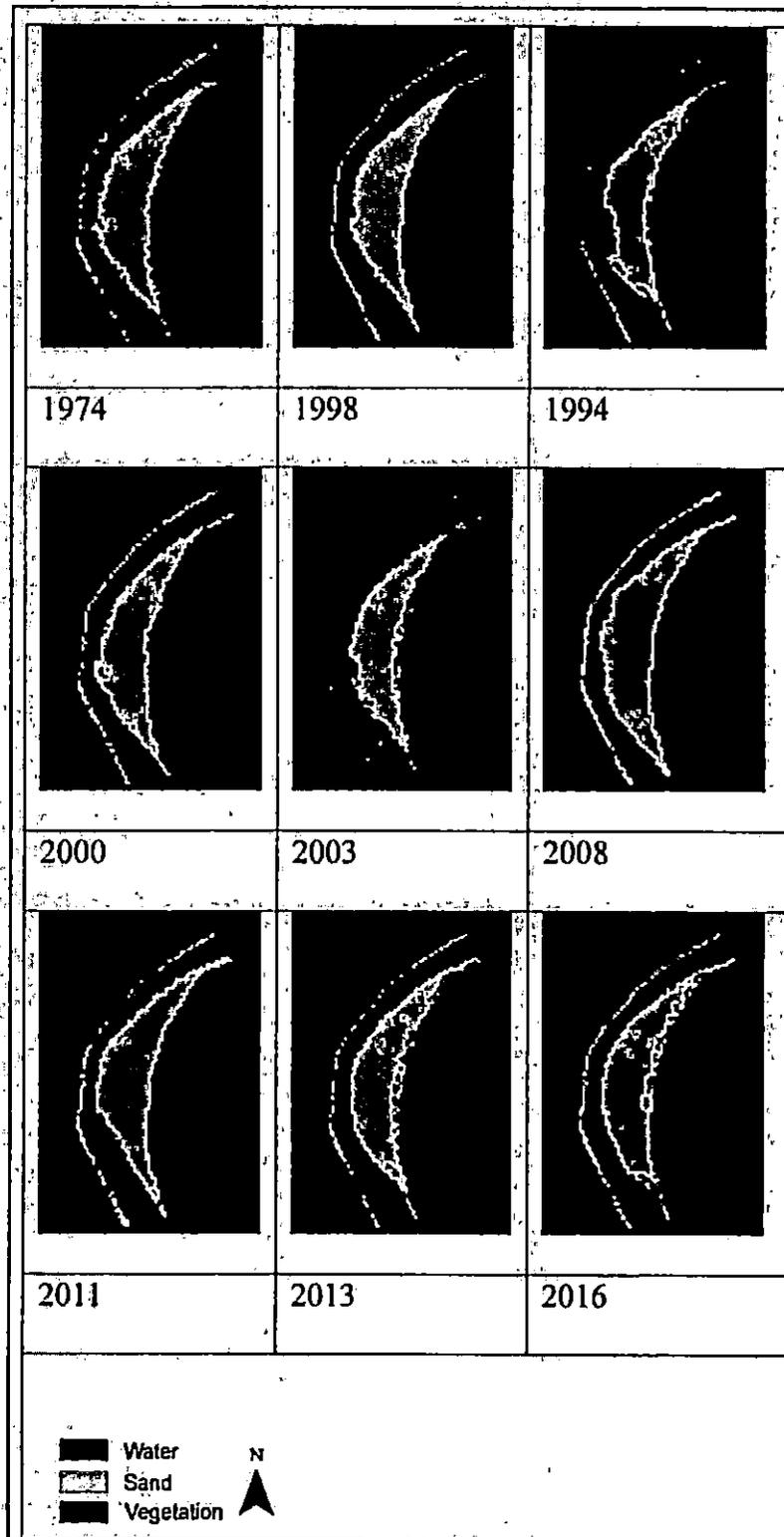


Figure 2.2 Map showing Land use / Land cover change between 1974 to 2016 at the Turtle Wildlife Sanctuary, Uttar Pradesh

## CHAPTER III

### 3.1 Assessment of the efficacy of the TWS and adjoining riverscape as a refugia for species of conservation concern

#### 3.1.1 Introduction

Freshwater turtles are considered as keystone species from which other animals and plants benefit (Noureen et al., 2007) and as indicator species which get seriously affected by any modification in habitat. They are the first to disappear from a destroyed habitat (Bour, 2008). Despite the unique turtle diversity, no qualitative or quantitative base-line information exists on the species wise occurrence or abundance in different habitats, in the State of Uttar Pradesh (Singh et al. 2009). There have been few scientific surveys in the upper Ganga, Gomti and Yamuna rivers (Basu 1993; Basu, 1996; Rao, 1998). Six of the 11 species (Table 3.1) found in the lower stretches of river Ganga comprising the Turtle Wildlife Sanctuary, Varanasi are Schedule I species and designated the highest level of protection as per the Wildlife (Protection) Act, 1972.

Given that freshwater turtles depend critically on natural river flow dynamics, sand and silt deposition, submerged aquatic vegetation and emergent island habitats for feeding, basking and breeding (Lenhart et al., 2013), the increasing anthropogenic pressures on the river channel and banks can lead to regional extirpation of turtles.

Table 3.1 Checklist of turtle species known to occur in and around the Turtle Wildlife Sanctuary (TWS), their status as per IUCN Red List and Wild Life (Protection) Act, 1972.

#	Scientific name	Common name	IUCN status	WPA Schedule
1	<i>Batagur kachuga</i>	Red-crowned roofed turtle	Critically Endangered	Schedule I
2	<i>Batagur dhongoka</i>	Three striped roofed turtle	Endangered	Not listed
3	<i>Geoclemys hamiltonii</i>	Spotted pond turtle	Vulnerable	Schedule I
4	<i>Pangshura tecta</i>	Indian roofed turtle	Least concern	Schedule I
5	<i>Pangshura smithii</i>	Brown roofed turtle	Near threatened	Not listed
6	<i>Pangshura tentoria</i>	Indian tent turtle	Least concern	Not listed
7	<i>Hardella thurjii</i>	Crowned river turtle	Vulnerable	Not listed
8	<i>Melanochelys trijuga</i>	Indian black turtle	Near threatened	Not listed
9	<i>Nilssonia gangetica</i>	Indian/Ganges softshell turtle	Vulnerable	Schedule I
10	<i>Nilssonia hurum</i>	Indian Peacock softshell turtle	Vulnerable	Schedule I
11	<i>Lissemys punctata</i>	Indian flapshell turtle	Least concern	Schedule I

The declining population of freshwater turtles in the middle and lower Ganga stretches, including the Turtle Wildlife Sanctuary necessitates baseline data collection for the abundance and distribution of the freshwater turtles.

### 3.1.2 Methodology

A reconnaissance survey had been carried out earlier inside the Turtle Wildlife Sanctuary, Varanasi in the first week of October 2017 for freshwater turtles using Visual Encounter Surveys and semi-structured questionnaire surveys. The respondents were fishermen who demonstrated ecological knowledge of turtles, their seasonal activity and nesting patterns. Information was also collected on perception of locals towards turtles, areas with turtle presence, fishing intensity, nest predation and poaching for trade.

The depth profile of the 25 km Ganga river stretch was assessed through bathymetry surveys conducted by motor boat using a hand held depth sounder (Hondex PS-7), along the stretch in and around the Turtle Wildlife Sanctuary. A data point was created at every 50 m interval on transects along the entire cross section of the river as well as on transects diagonally between two cross sections of the river. The distance between two cross sections was maintained at approximately 1 km. A bathymetric map was then generated in a GIS system from the geo-coordinates and data on the depth profile of the sanctuary.

A rapid ecological assessment for freshwater turtles and associated aquatic species in the same stretch was conducted from April to May 2018. Since the TWS is longitudinally connected in which turtles might be moving in and out of the sanctuary this study was conducted in the TWS as well as 5 km buffer areas upstream and downstream of the sanctuary. The river stretch from Sehwar till Mirzapur was divided into twenty segments of 1 km length, which were intensively monitored for the presence of turtle species and other aquatic wildlife such as fish and riverine birds. Sampling locations within each stretch were chosen on the basis of accessibility, suitability to deploy nets and probability of encountering turtles based on habitat quality and least anthropogenic disturbances.

#### 3.1.2.1 In-stream sampling procedure

Survey methodology for turtles is highly variable and visual surveys is one of the easiest, efficient and cost effective methods of documenting presence of turtles in an area. They can be conducted via boat or walking along the river bank; scanning for presence of turtles through binoculars. Turtles can alternatively be caught using a wide variety of trapping methods each suitable for a specific habitat or species. Gill mesh nets, Hoop traps, Basking traps are commonly used for many turtle ecological studies across the world. To increase the likelihood of species detection, multiple trapping methods are deployed in a variety of depths (Glorioso et al., 2010) and to reduce bias towards certain species or size classes. When working with assemblages of species that differ in behaviour, a suite of capture techniques may be required (Liner, 2006). Extensive literature survey and questionnaire based surveys were conducted to know the kind of species occurring in the area. Boat surveys were carried out to record dolphin, birds and turtles. However due to summer season the sightings of turtles were very low. Hence

the observations were supplemented with turtle trapping (Figure 3.1). In general three sampling methods were used targeting different species:

- i. **Visual Encounters Surveys (VES)** - Visual surveys were conducted by a single observer using Nikon binoculars (8x40) in a wooden row boat travelling at an approximate speed of 2-3 km/hr. The boat would travel at a distance of 6-10 m from the river bank and was conducted between 9 - 11 a.m. for a duration of half an hour to record any sightings of freshwater turtles in a 1 km river stretch.
- ii. **Gill nets (Mesh sizes (3", 4", 6" and 8"))** - Four nylon monofilament gill nets of different mesh sizes with dimensions 50 m length and 3 m height were deployed in all the segments for 4 hours in the day and 6 hours in the night.
- iii. **Box traps** - Two box traps with wooden frames and dimensions 1 x 1 x 0.5 m were deployed in strategic locations in the site with sufficient water depth and low disturbance in all the segments for 4 and 6 hour periods in the day and night respectively. They were baited with chicken intestines hanging from the top tied with rope to the frame.

Morphometric data such as Straight Carapace Lengths, Width; Plastron Length, Width; and weight were measured for each turtle captured. Age class and sex was also recorded following Das (1995).

Trapping methods were repeated twice across the river segments during the survey period. All traps were deployed by a research team on site and checked at every two hour intervals to record captures and prevent any accidental mortality. Box traps were deployed by experienced assistants under supervision of researchers and checked regularly. Trapping methods such as hook lines were not utilized as they are an invasive method and result in turtle mortalities. Hoop nets and basking traps methods are not suitable due to extremely low capture rates and low efficiency in fast-flowing rivers with strong current like the Ganga, with high disturbance factors.

To estimate fish diversity and abundance, two additional gill nets of mesh size 1" and 2" were deployed in all segments for 4 hours in the day and night from April to May 2018. This was conducted in co-ordination with the sampling for freshwater turtles. Upon capture, each unique species was measured and photographed as a voucher specimen. Catch per unit effort (CPUE) was combined for all gill nets and was calculated as the number of fish catch per total sampling effort.

The river banks which could serve as basking and nesting habitat for turtles were assessed for characteristics such as riverbank slope, sand bank extent, % cover of riparian vegetation. This was recorded through visual surveys by walking along the river bank edge. Land-cover types of the floodplains (agriculture, scrub, bare sand, etc.) was also recorded and a habitat matrix was prepared. Anthropogenic pressures were mainly quantified during the study period for number of motor boats operational and threats at sites in categories such as Construction

activity, pollution, fishing activity, agriculture and sand mining were quantified into a score from 1 to 5 (1- no habitat, 5- very good habitat) for overall aquatic habitat quality.



a. Deploying Gill net in the TWS



b. Deploying Box traps in the TWS



c. Morphometric measurement of Turtles

Figure 3.1 Sampling methods during the study in and around TWS from April to May 2018 (a to c).

### 3.1.3 Findings

During the study period from April to May 2018, sampling was conducted for 32 days with a combined effort of 1648 hours including all sampling methods.

#### 3.1.3.1 Depth profile

A bathymetric map was visualised in a GIS system from the bathymetric sampling conducted for a 25 km stretch from Chunar to downstream of the TWS, in the month of March 2018 (Figure 3.2). The middle part of the Sanctuary show very few shallow areas of 0-5 feet depth. The depth increase towards both the Sanctuary boundaries and overall depth remain more than 10 feet in the surveyed section of the river.

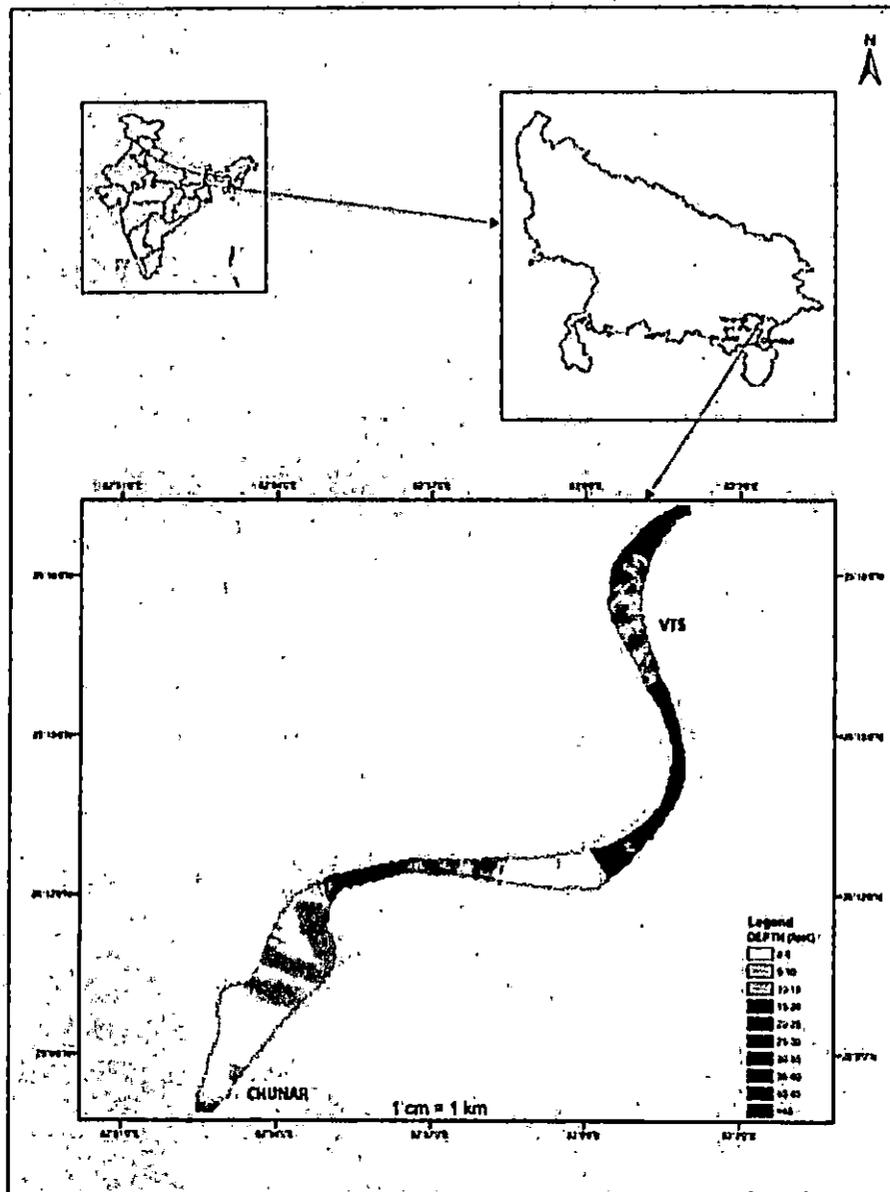


Figure 3.2 Bathymetric map of river Ganga from Chunar till the TWS in March 2018

### 3.1.3.2 Encounter of Turtles

Questionnaire survey (n=12) conducted with fishermen across the study area revealed that a majority of them identified up to four species of freshwater turtles from pictures provided and all fishermen confirmed the presence of the Ganges softshell turtle *Nilssonina gangetica* in the TWS. Most fishermen reported seeing large-sized individuals of the Ganges softshell turtles which they refer to as "katava" in their local Hindi language, at sites close to Assi and Manikarnika Ghat in the TWS as well as at sites near the mouth of rivers Varuna and Assi Nala. Fishermen also reported occasional nesting of turtle species in sand banks upstream of the sanctuary. Many fishermen reported the inability to capture large-sized Ganges Softshell turtles as they often break their fishing nets and escape, if captured in the nets. The threats to turtles were identified as occasional accidental captures in nets followed by intentional hook line captures for consumption.

A total of five species of freshwater turtles (n=9) were encountered during the study period as shown in Figure 3.3, with the combined efforts of Visual Encounter Surveys and In water sampling of using Gill nets and Box traps.

*Visual Encounter Surveys:* VES were conducted in all 20 intensive sampling sites during the day and three turtle species (n=7) were encountered in four sites from the initial reconnaissance survey and intensive survey. The total Encounter Rate was 0.27 turtles per km during the entire study area (Table 3.2).

Table 3.2 VES data for freshwater turtles from reconnaissance and intensive surveys during the study period

Date	Site	Species encountered	No. of Individuals	Total Effort (hrs)	Encounter Rate
30/09/2017	V1	<i>Nilssonina gangetica</i>	3		
02/10/2017	V1	<i>Nilssonina gangetica</i>	1		
17/05/2018	V2	<i>Pangshura smithii</i>	1	12.5	0.27 per km
21/05/2018	V12	<i>Nilssonina gangetica</i>	1		
30/5/2018	V1	<i>Pangshura tecta</i>	1		

*Gillnet and Box trap sampling:* During the study period, in a total of 32 days of sampling- Two individuals of two species Indian Tent Turtle *Pangshura tentoria* and Indian Flapshell Turtle *Lissemys punctata* (Schedule I) were captured (Table 3.3). Morphometric data such as Curved and Straight Carapace Lengths and Width; Plastron Length and Width were measured for each turtle. Age class, sex was also recorded (Appendix I). Despite sufficient intensive efforts low CPUE can be attributed due to the low abundance of turtles in the study area.

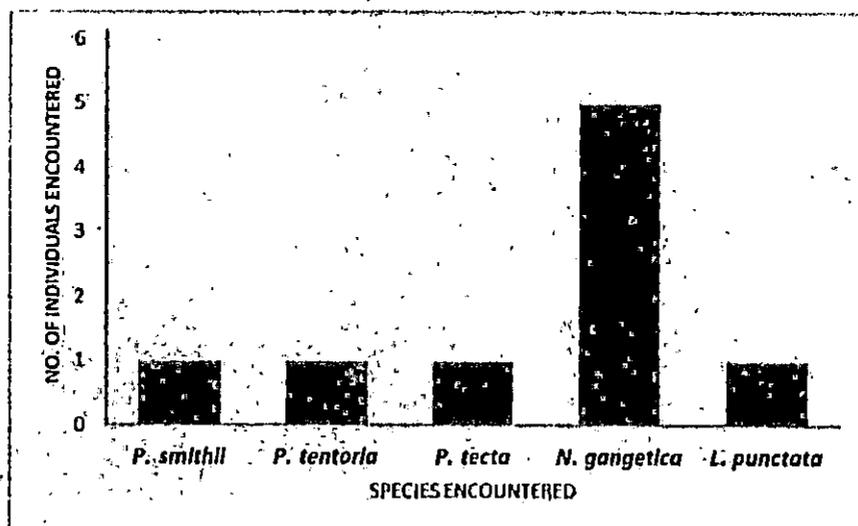


Figure 3.3 Species encountered using combined efforts of VES, Gill nets and box traps during the sampling for ecological status assessment in and around the Varanasi Turtle Wildlife Sanctuary

Table 3.3 Catch Per Unit Effort (CPUE) of different sampling gear for freshwater turtles during intensive surveys during the study period.

Trapping method	Total Effort (hrs)	Species encountered	CPUE
3" gill net	330	-	0
4" gill net	330	<i>Lissemys punctata</i>	0.003
6" gill net	330	-	0
8" gill net	330	-	0
Box traps X 2	400	<i>Pangshura tentoria</i>	0.0025

A map was visualized in QGIS software and prepared showing the 20 sampling locations during the study as well as the capture or sighting locations of all turtle species encountered during the study as shown in Figure 3.4.

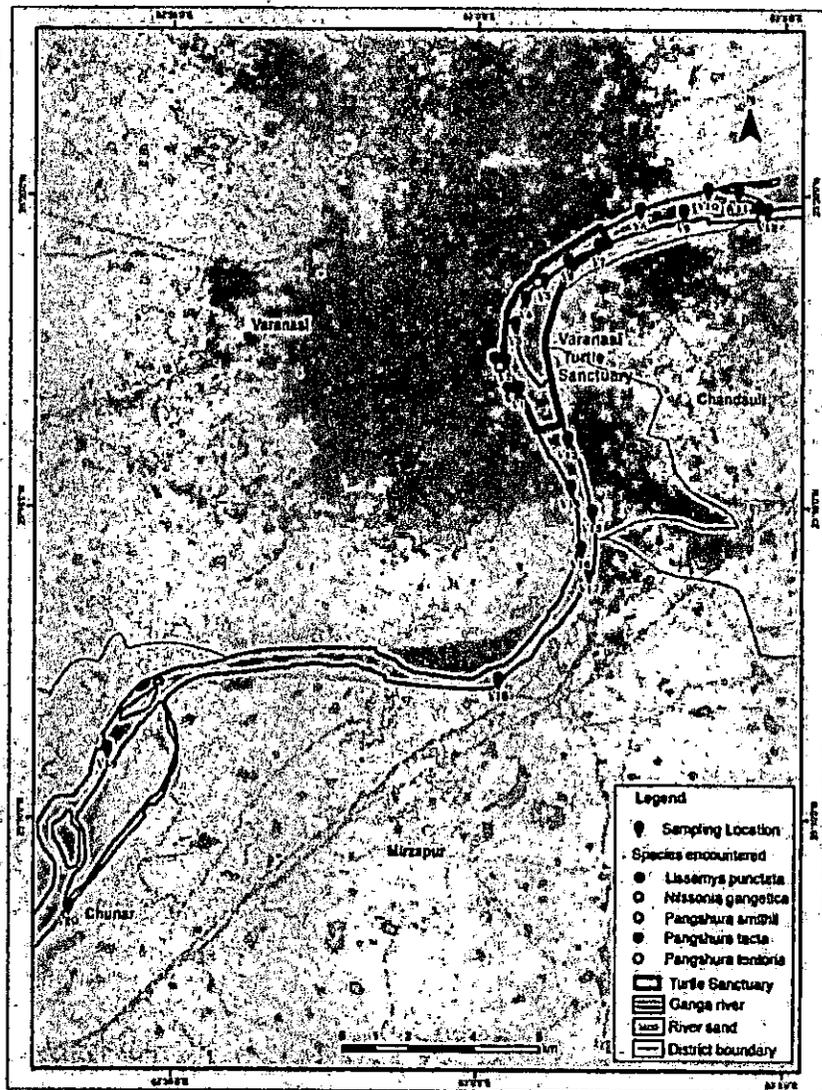
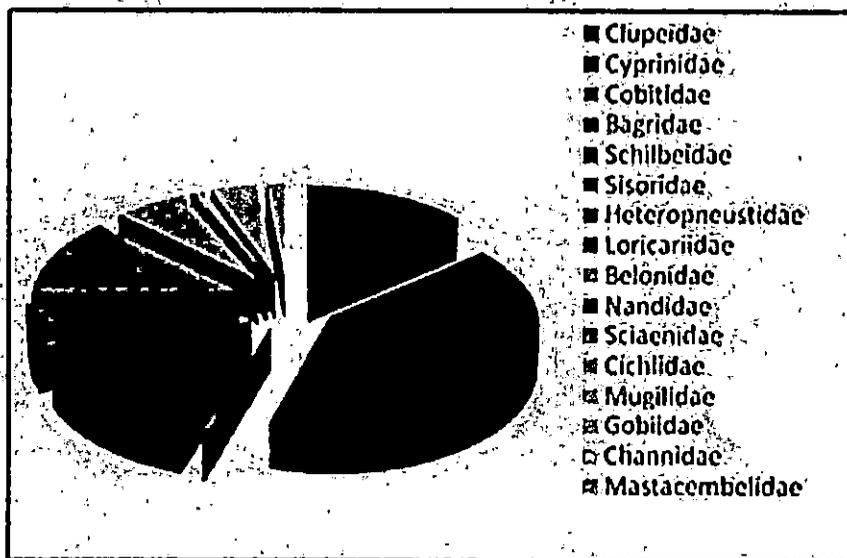


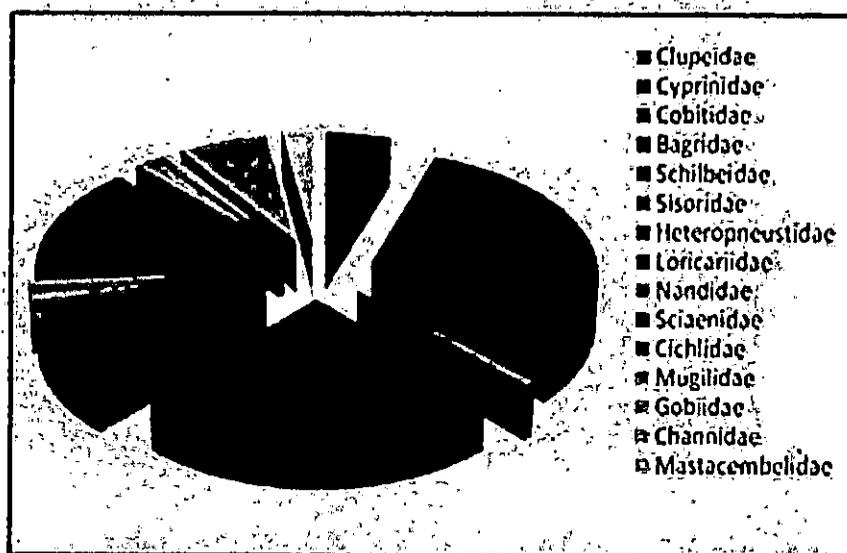
Figure 3.4 Map of Sites sampled during ecological assessment of freshwater turtles in and around TWS and species encountered during the study period April to May 2018

### 3.1.3.3 Fish

A total of 45 fish species belonging to 38 genera, 16 family and five orders were recorded during the study (Appendix II). Maximum species were reported from the Cyprinidae and Bagridae families (Figure 5). The fish species *G. chapra*, *P. chola*, *C. carpio*, *S. seenghala*, *J. coiter* and *M. armatus* were the most common species at every site. *P. sophore* and *G. giuris* were only recorded up and down stream of TWS, respectively. Fish species such as *E. vacha*, *C. garua*, *S. silondia*, *C. gachua* and *C. striata* were not recorded in upstream but in the TWS and downstream of it.



a. Families of fish diversity in the entire study stretch (25 km)



b. Families of fish diversity in TWS.

Figure 3.5 Representation of families of fish diversity captured in River Ganga during ecological assessment in and around TWS for the study period April to May 2018 (a & b)

CPUE for fish captured during the study period is given in Table 3.4. CPUE was higher inside the Turtle Wildlife Sanctuary as compared to upstream and downstream of the sanctuary. Specifically sites V4 and V5 which are in close proximity to the Burning Ghats of Varanasi had the maximum CPUE for fish with CPUE of 1.72 and 1.75 respectively.

Table 3.4 CPUE of fish captured during ecological assessment in and around TWS for 20 sampling sites during the study period April to May 2018

Sites	Fish abundance	Total Effort (hrs) (E)	No. of nets (n)	E*n	CPUE (fish/hr)
TWS	382	56	35	280	1.36
Downstream of TWS	207	40	25	200	1.04
Upstream of TWS	329	64	40	320	1.03

### 3.1.3.4 Riverine birds

A checklist of all riverine birds observed during the motor boat surveys during the study period April to May 2018 was prepared (Appendix III). A total of 28 species were observed of which four species are in Threat Categories. A nesting site of the Indian Skimmer (*Rynchops albicollis*) was identified at site V18 (25.203380°N, 83.005940°E) approximately 6 km upstream of the TWS along the River Ganga. Five pairs of Indian Skimmer and 14 pairs of Little tern (*Sternula albifrons*) and their nests were found to be breeding at the same site on a single sand island at a distance of 250 m from the right river bank. A breeding and nesting site of four pairs of River Lapwing (*Vanellus divaucelii*) a Near Threatened Species was found at site V16 (25.238538°N, 83.028424°E).

### 3.1.3.5 Aquatic mammals

During the study, presence of the Gangetic river dolphin (*Platanista gangetica*) which is an Endangered and Schedule I species protected under The Wild Life (Protection) Act, 1972, was observed in stretches V13 to V18 upstream of the TWS. Groups comprising of 2-4 individuals were encountered on two occasions during motor boat surveys and were observed to be surfacing for 5-10 minutes. The sites where the Ganges river Dolphin were encountered had low fishing activity and less anthropogenic disturbances.

### 3.1.3.6 Habitat assessment

A habitat matrix (Table 3.5) was prepared for all the 20 sites sampled for the parameters riverbank slope, river width, percentage cover of riparian vegetation, land-cover types of river bank. The sites were graded from 1 to 5 based on their nesting habitat quality and overall aquatic habitat quality taking into account various anthropogenic disturbances at each site as well. Sites V18 Narayanpur, V19 Adalpur and V20 Chunar were recorded to have the best nesting and aquatic habitat quality as a combination of suitable aquatic habitat parameters, nesting habitat availability and least disturbance and anthropogenic threats. The banks of the TWS was observed to have high anthropogenic disturbances throughout the day and night due to motor boat and tourist activities as well as farming on the right bank in certain areas of the sanctuary.

Table 3.5 Habitat characteristics at 20 sampling sites during ecological assessment in and around TWS during study period April to May-2018.

	Site	River width (m)	River bank slope (°)	% river bank vegetation	No. of sand islands	Landcover type (agriculture, scrub, grassland, sand)	Nesting habitat quality (1-5)	Overall aquatic habitat quality (1-5)
Turtle Wildlife Sanctuary	V1	403	5	5	0	Sand	1	1
	V2	340	5	5	0	Sand	1	1
	V3	268	10	5	0	Sand	1	1
	V4	300	15	5	0	Sand	2	1
	V5	347	15	10	0	Sand	1	1
	V6	370	5	5	0	Sand	2	1
	V7	442	20	20	0	Sand	2	1
Downstream of TWS	V8	560	10	40	0	Scrub	2	2
	V9	678	35	60	0	Scrub	3	3
	V10	315	30	90	1	Grassland+scrub	3	3
	V11	542	25	5	1	Sand	3	3
	V12	354	5	10	2	Sand	3	3
Upstream of TWS	V13	662	15	80	0	Grassland	1	1
	V14	423	15	90	0	Grassland+scrub	1	1
	V15	400	15	90	0	Grassland	3	2
	V16	420	10	70	1	Sand	3	2
	V17	442	15	10	3	Sand	4	3
	V18	210	25	5	2	Sand	5	4
	V19	384	15	5	4	Sand	5	4
	V20	400	40	10	2	Sand	4	4

Score for nesting, habitat assessment: 5 – very good, 4 – good, 3 – moderate, 2 – poor, 1 – No habitat

### 3.1.4 Discussion

During this study period despite robust sampling in the summer season using a variety of survey methods, capture rates for turtle species was low, indicating a low abundance of turtles in the TWS as seen from the total CPUE <0.005. This study recorded only five out of 11 species of freshwater turtles and three species encountered within the TWS *P. tecta*, *N. gangetica* and *L. punctata* are Schedule I species. VES indicate that there are a few adult sized Ganges Softshell

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*N. gangetica* species that are often seen in sites inside the TWS. Low encounters rate of 0.27 turtles/km is attributed to poor aquatic habitat quality and high anthropogenic disturbances within the TWS. There were no captures of the head started species which have been released into the sanctuary such as *B. dhongoka* and *B. kachuga* over the years.

Sites upstream of the sanctuary have ideal sand island habitats for the nesting of freshwater turtles as well as riverine birds such as Indian Skimmer, Little Tern, River Lapwings, in areas of low human disturbance. 28 species of riverine birds was observed from the study area, with nesting of five species including that of threatened birds such as Indian Skimmer and River Lapwings. Presence of the endangered Gangetic river dolphin is also reported from the same sites upstream of the sanctuary, in areas of low anthropogenic disturbances.

A total of 45 fish species belonging to 38 genera, 16 family were recorded within the study area. Moreover, new distribution of three fish species *Sisor rhabdophorus*, *Silonia silondia* and *Badis badis* were recorded which were not previously reported in this stretch. Earlier studies by Sarkar et al. (2012) had reported a total of 64 species belonging to 13 families from middle stretch of river Ganga Allahabad to Varanasi (140 km, approx.). Higher CPUE of 1.36/hr in the TWS indicates the sanctuary is effective in maintaining a diverse population of fish and this might be due to the effects of the fishing ban inside the Sanctuary limits.

The bathymetric map of the study area suggests low water depths upstream of the TWS during summer months, but sufficient water depths downstream, which can be due to the large stable sand bank on the right bank of the TWS which maintains the hydrology and the channel width of the river with slight fluctuations in water depth throughout the year. The poor aquatic habitat quality in the TWS can be attributed to the large footfall of tourists visiting Varanasi especially for the tourist attraction of Ganga Aarti. The 7 km stretch of TWS on the left bank has high levels of human interventions and modification, with approximately 80 Ghats causing high anthropogenic disturbances. The right bank of the TWS has intensive cucurbitaceous crop cultivation. Livelihood of people living in villages along the banks of the TWS depends on fishing and there is intensive fishing in the study area with large gill nets and drag nets of various mesh sizes.

### 3.1.5 Conclusions

Very low encounter rate of turtles in TWS indicates high human disturbance leading to habitat alterations within a very small Protected Area. Sites along the TWS in the left bank are seen to have the least suitable habitat for turtles with high anthropogenic disturbances such as cemented ghats, intense ferry and boat activity, pollution, and human presence along the river. The sand bar in the right bank of the Sanctuary, though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure. Higher diversity and catch of fish species from the TWS is indicative of restriction on fishing in the sanctuary.

## CHAPTER IV

### 4.1 Prioritize the river stretches for conservation planning

#### 4.1.1 Introduction

Rivers harbour a rich diversity of species, complex mosaic of habitats and substantial ecosystem services (Schroter et al., 2005), creating a strong imperative for their protection and restoration. Woefully escalating human demands has led to overexploitation; water pollution; flow modification; degradation of habitat of these vital ecosystems and continuing declines in their condition demonstrate an urgent need for increased conservation measures (Abell, 2002; Rodrigues et al., 2004; Kingsford & Neville, 2005; Revenga et al., 2005). River conservation and management is integral to the interests of all humans, nations and governments (Dudgeon et al., 2006). The Ganga River, due to its varied geo-morphological features (mosaic of habitats) and fluvial processes supports various life forms, and acting as a repository of substantial ecosystem services. However, the Ganga River is subject to severe competition among multiple stakeholders leading to disruption of its physical habitat and biodiversity. Recognizing the fact, it is imperative to adopt a new paradigm for protection of its biodiversity and habitat that may be successfully achieved through prioritization of conservation areas through systematic conservation planning (Moilanen et al., 2008).

Riverine landscape are heterogenous in space and time (complex mosaic of habitat types), that is widely believed to sustain various faunal assemblages and influence species richness (Rahbek & Graves, 2001; Robinson & Ward, 2002). To evaluate the conservation value of such dynamic and heterogenous systems, site-scoring approaches currently dominate the methodology (Boon, 2000; Dunn, 2003). The present study in the dynamic Ganga River ecosystem addressing conservation prioritization of stretches, adopted a similar approach based on individual site (sampling blocks) scores. Stretches or sampling blocks are evaluated independently from each other using multiple criteria such as biological parameters, habitat composition and biotic parameters with scores then combined into an index (score) of the conservation value of each segment or blocks of the Ganga River. Stretches with top conservation values are then taken into consideration for prioritization.

The study was carried out with the following objectives (a) To prepare a biodiversity profile the Ganga River between Bijnor and Ballia, (b) Generate a score matrix for these stretches through multiple scaling of biological, habitat and anthropogenic parameters, and (c) prioritize the stretches between Bijnor and Ballia for the conservation of aquatic wildlife of Ganga River.

#### 4.1.2 Methodology

##### 4.1.2.1 Rapid ecological assessment

The Wildlife Institute of India under its NMCG sponsored project "Biodiversity Conservation and Ganga Rejuvenation" is carrying out the rapid ecological assessment of the Ganga River for its biodiversity value. The assessment covers five Ganga River States. Under this project,

the data generated for the State of Uttar Pradesh was used to derive the sites for conservation based on the occurrence of species of conservation concern.

In Uttar Pradesh State, boat surveys were carried out during the month of May to June 2018 from Bijnor to Ballia using an inflatable rubber boat driven by 40 HP Outboard Engine, travelling downstream at a constant speed of 8-10 km/hr. 26 districts of Uttar Pradesh covering approximately 1390 km stretch of Ganga River was covered in this survey (Figure 4.1). During the survey, to characterize the river stretches data on habitat parameters such as water depth, channel width, presence of sand banks and sand bars and water quality was collected. Simultaneously, data on sighting of aquatic wildlife such as river dolphins, crocodiles, turtles, resident breeding birds and their numbers were carried out through visual encounter method (Bibby et al., 1992; Smith & Reeves, 2000b). The locations of aquatic wildlife were recorded using a GPS (Garmin eTrex 30). Anthropogenic disturbances, which may affect the occurrence of species such as sand mining, fishing activities in terms of number of nets deployed, fishing boats, riverbed agriculture, point source water pollution and number of township along the Ganga River were collected.

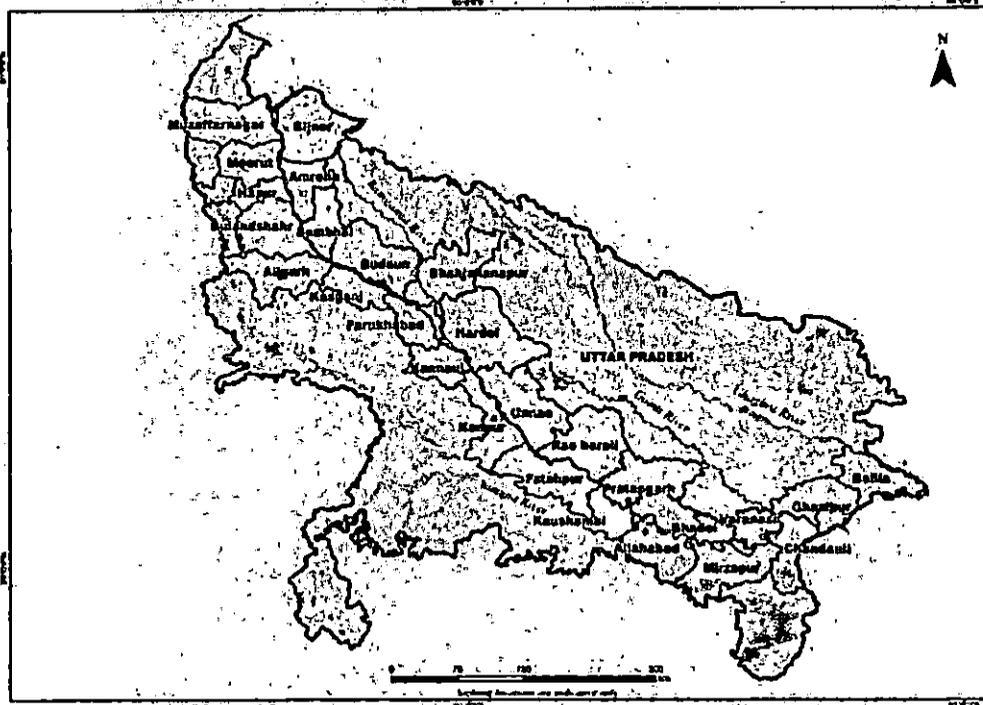


Figure 4.1: The study stretch and the Districts of Uttar Pradesh along the Ganga River

The data were transferred to a Land use/Land cover (LULC) map prepared by National Remote Sensing Centre, Hyderabad to derive the distribution of species of conservation concern along River and threats to their long-term survival. Based on the distribution of sighting locations of species, habitat heterogeneity of the stretch and threat parameters a score matrix was developed. On the basis of scores obtained by each identified stretches the priority stretches were identified.

Three different sampling units such as 1 km (for TWS), 5 km and 10 km linear blocks were initially selected for assessment of biological values of the Ganga River between Bijnor and Ballia. All 3 units were thoroughly evaluated taking into consideration species diversity, habitat heterogeneity and conservation importance to decide the minimum viable units that will be effective in conservation of major aquatic taxa of the Ganga River. Linear blocks of 1 km and 5 km were spatially very short to represent complex habitat mosaics and diverse faunal assemblages of the river. Considering this, the entire survey stretch was divided into 10 km linear blocks and each block was considered as a sampling unit for aquatic habitat characterization. Three parameters i.e., (a) Biological, (b) Habitat characteristics and (c) Anthropogenic parameters were selected and sampled within each sampling units to assess the efficacy score of the blocks. A fix scale was allocated to each parameter and was given scores on the basis of its physical and ecological attributes.

All three parameters were scored from a total score of 10. Biological parameter was assigned a highest score of 5 (50% weightage) as high biodiversity define good habitat quality. It was followed by habitat characteristics which were assigned a score of 3 (30% weightage). Least score of 2 (20% weightage) was assigned to anthropogenic parameters.

#### 4.1.2.2 Assessing influential habitat drivers

Kruskal's Multidimensional Scale analysis was carried out to predict the pattern of proximities (i.e., similarities or distance) among set of objects such as presence of dolphin, gharial, mugger, turtles and nesting birds with habitat parameters such as channel depth, river bed agriculture, sand mining, presence of towns/ villages, boat and fishing net to assess concurrently influencing habitat drivers.

#### 4.1.2.3 Score matrix

##### *Biological indicators*

Five parameters were shortlisted within biological indicators such as (a) dolphin individual count, (b) Nests count of breeding birds (c) Gharial individual count (d) Mugger individual count and (e) turtle species count along with individual count. Further, these parameters were ranked based on their ecological roles and conservation importance and weighed against a total score of 50 (in multiplication of 10 to avoid decimal value).

The highest score was assigned to dolphin count (16) as it is the umbrella species and indicator of the aquatic system health of the Ganga River. Individual counts of dolphin was divided into five categories (1-5; 6-10; 11-15; 16-35 and >36) and scoring was given according to congregation. Second highest weightage was given to gharial presence (13 out of 50) as their presence indicates habitat quality of the Ganga River. The ranking was based on three group sizes (4 individuals; 2 individuals and single individual). The resident breeding birds of the Ganga River indicates a wide array of habitats therefore nest and chicks count of breeding birds was assigned a third highest rank (11 out of 50) in score matrix. Total Nest (Nest +Chicks) was classified into 11 classes (0-15; 16-30; 31-45; 46-60; 61-75; 76-90; 91-105; 106-120; 121-135;

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136-150 and >150) and ranking was given accordingly. Mugger and turtle presence was assigned a lowest score (5 out of 50) for both the groups in ranking as they are generalist species and adds more to diversity of Ganga River. The best scores of three biological parameters were pooled and standardized into a single score ranging from 1-5 scale.

#### *Habitat characteristics*

The parameter included the crucial hydrology factors such as water depth, meanders and mid-channel islands as they influence species abundance and distribution of the Ganga River. The factors (water depth, meanders and river islands) were ranked and their weightage was calculated from a total score of 30. Water depth was assigned a highest score of 20 (out of 30) as it is an essential requirement for the survival of aquatic species. Further, water depth was categorized into 9 depth classes (0-1 m, 1.1-2 m, 2.1-3 m, 3.1-4 m, 4.1-5 m, 5.1-6 m, 6.1-7 m, 7.1-8 m and 8.1-9 m) and percentage of each depth classes were calculated. Meanders and river islands are typical geo-morphological features of Ganga River and provide suitable habitats to diverse array of aquatic species. Therefore, both the factors were assigned a score of 5 each out of 30.

#### *Anthropogenic influences*

Four human-induced factors were identified such as (a) presence of river bed agriculture (b) the number of fishing nets and boats, (c) riverside villages and ghats and (d) presence of mining sites and ranked based on their impacts on biodiversity of Ganga River. All factors were inversely scored and least weightage was given to fishing activity (fishing nets and fishing boats) as they are most degradative and pose direct threat to the survival of aquatic species. Fishing nets and fishing boats count was categorized into six classes i.e., (0- no fishing and boating, <50, 51-100, 101-150, 151-200 and 201-250) and was calculated from a total score of 6. Similarly, riverside villages and ghats were divided into 6 classes (0 -No town/village and ghats; 1-3, 3-5, 5-7 and >7). The other factors such as presence of riverbed agriculture and mining pose similar threats to nesting turtles and breeding birds and given similar scores in the matrix. The presence of riverbed agriculture and mining sites was classified into four classes (0-No agriculture; 1-Moderate; 2-High disturbance) and (0- no mining; 1-2; 3-4 and >5) respectively.

For the final score, Biological indicator score, Habitat characteristics score and Anthropogenic influence scores were added to get a total score out of 100. The sites were then ranked and plotted based on its final score. A conservation score graph was also generated based on adjacency matrix.

### **4.1.3 Findings**

#### **4.1.3.1 Biodiversity profile of the study stretch**

Gangetic river dolphins were encountered in considerable numbers between Hastinapur Wildlife Sanctuary and the following Ramsar site from Brijghat to Narora. Due the lack of connectivity to the lower stretch caused by the Narora Barrage, the dolphin populations remain

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isolated from the downstream river. The numbers remain low after Kacchla owing to the reduced water levels. The habitat quality degrades further near Kannauj and Kanpur due to the pollution caused by these major cities. A surge in the dolphin sightings is observed after Allahabad *sangam* as a result of increase in the water volume and river depth.

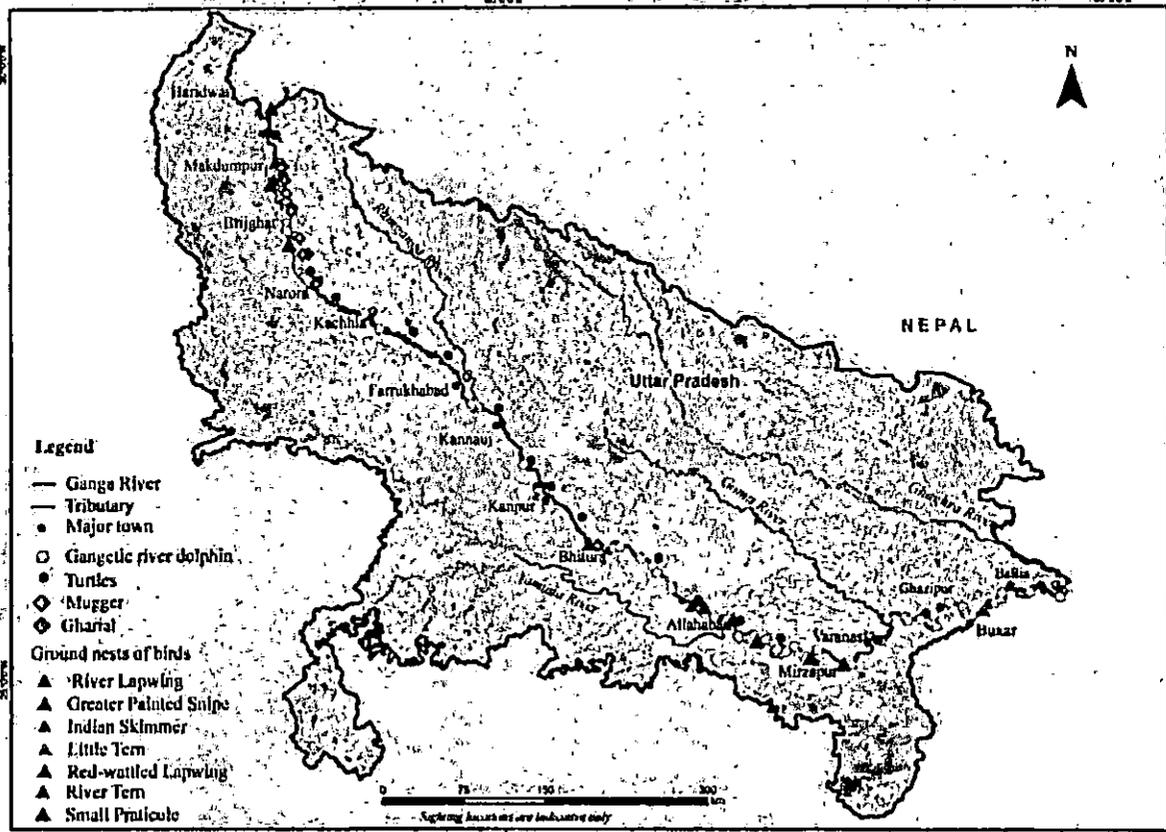


Figure 4.2 Distribution of Gangetic river dolphin, gharial, nesting riverine birds, mugger and turtles based of rapid ecological assessment from Bijnor to Ballia

Though there were few encounters of turtles, they were uniformly sighted along the entire stretch. The sightings of Mugger and Gharial occurred only within the Ramsar site, maximum sightings being from the Hastinapur Wildlife Sanctuary. Nests and chicks of ground nesting birds were found in few sites in the Hastinapur Wildlife Sanctuary and also in the Ramsar site region. The next stretch with ground nesting birds was sighted in the river islands before Allahabad and Mirzapur and Chunar (Figure 4.2).

#### 4.1.3.2 Influential habitat drivers

The habitat parameters that influence species distribution in the studied stretch are sand mining, channel depth, fishing activities, presence of village/town and riverbed agriculture. Only channel depth positively influences the species distribution. The influencing habitat drivers determining species distribution and presence are sand mining, depth, fishing net and boat, presence of town/village, and presence of river-bed agriculture. The analysis (Kruskal's stress (1) = 0.183) revealed that dolphin presence was directly influenced by channel depth.

irrespective of sand mining and fishing and boating. Again dolphin presence was affected by riverbed agriculture and presence of villages and town at the close proximity of the river. Presence of gharial, mugger, turtle species and birds nest was negatively influenced by presence of boats and fishing nets and there was no positive impacts of channel depth on turtle presence (Figure 4.3).

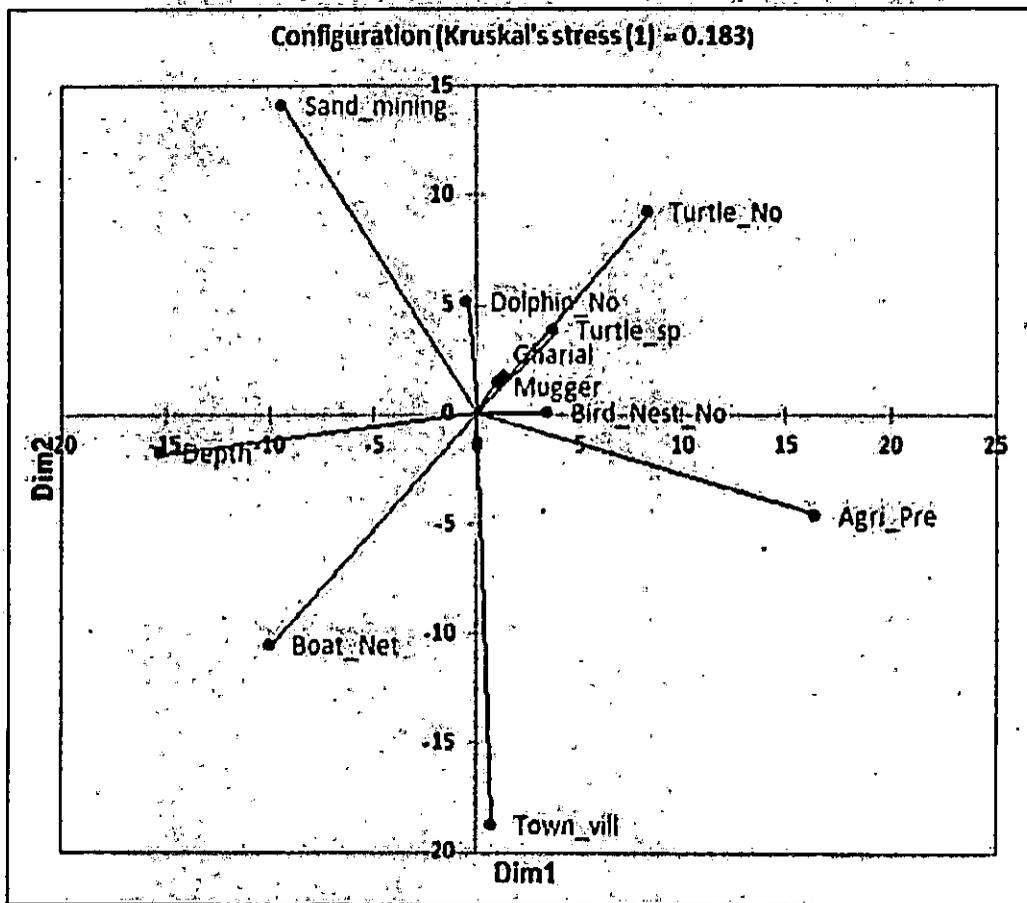


Figure 4.3 Two dimensional plots showing representation of similarities between set of objects (dependent & independent).

#### 4.1.3.3 Biological indicator score

About 97% of the stretch obtained a biological score of less than 1. This was because the abundance of species was less than ideal, owing to various restraints in terms of the habitat parameters of water and steady anthropogenic pressure (Table 4.1).

Only 2.8% of the stretch secured a score between 1 and 2 owing to the presence of dolphins, bird nestings and turtles, gharial, muggers and other riverine species in high numbers. None of the stretches obtained the highest score of 2. This could be explained due to the fact that no ideal stretches were found to exist on ground with abundant richness of all species (Figure 4.4).

#### **4.1.3.4 Habitat characteristic score**

The scoring assessment revealed that 74% of the stretch (103 sampling blocks) fall within the scale of 1. This could be attributed to the fact that, these stretches were devoid of high water depth classes, meanders and river islands. 23.74% (33 sampling blocks) of the stretch lie within the scale of 2 and only 2.16% stretch (3 sampling blocks) hold biological value above 2 attributing to high water depth classes, presence of meanders and island and low anthropogenic pressure (Table 4.1, Figure 4.5).

#### **4.1.3.5 Anthropogenic influence score**

All the sites scored more than 1 in terms of anthropogenic pressures as no site was found on field without any disturbance. Hence all the sampling blocks fell in the range of 1 – 2 (Table 4.1, Figure 4.6).

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Table 4.1 The proportion of the linear stretches of the entire Ganga River in Uttar Pradesh according to matrix score

Score	Sampling blocks			Length (km)			Proportion of total stretch in (%)		
	Biological	Habitat	Anthropogenic	Biological	Habitat	Anthropogenic	Biological	Habitat	Anthropogenic
> 2	0	3	0	0	30	0	0	2.16	0
1-2	4	33	139	40	330	1390	2.88	23.74	100
> 1	135	103	0	1350	1030	0	97.12	74.10	0

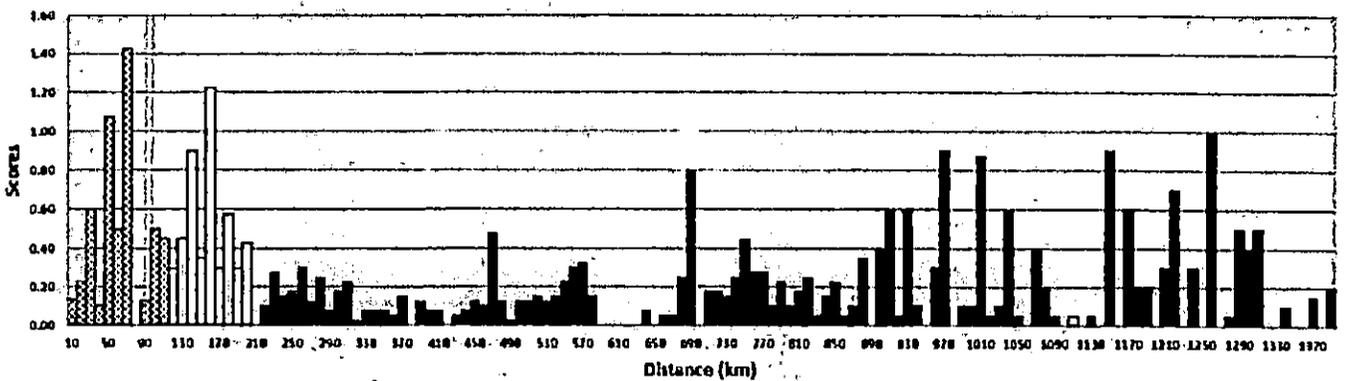


Figure 4.4 Score of biological indicators of Ganga River between Bijnor & Ballia, Uttar Pradesh

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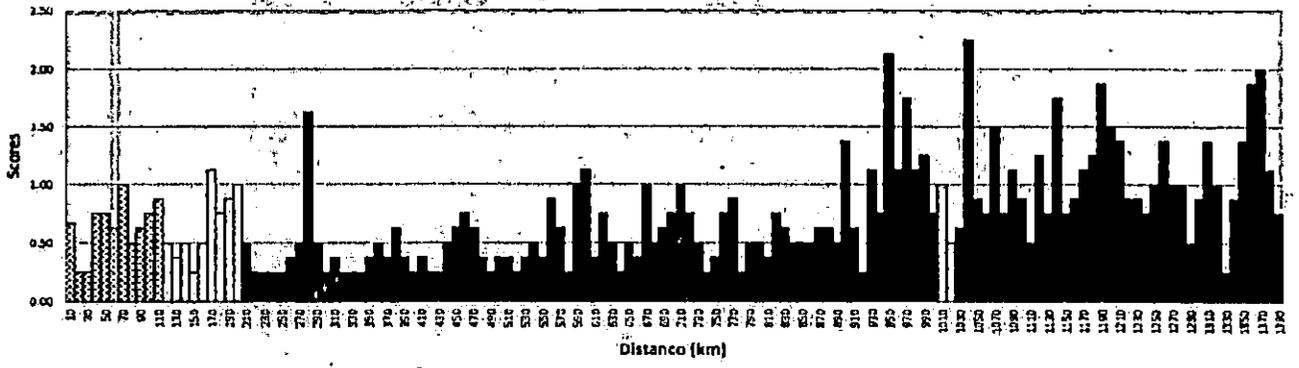


Figure 4.5 Score for habitat characteristics of Ganga River between Bijnor & Ballia, Uttar Pradesh

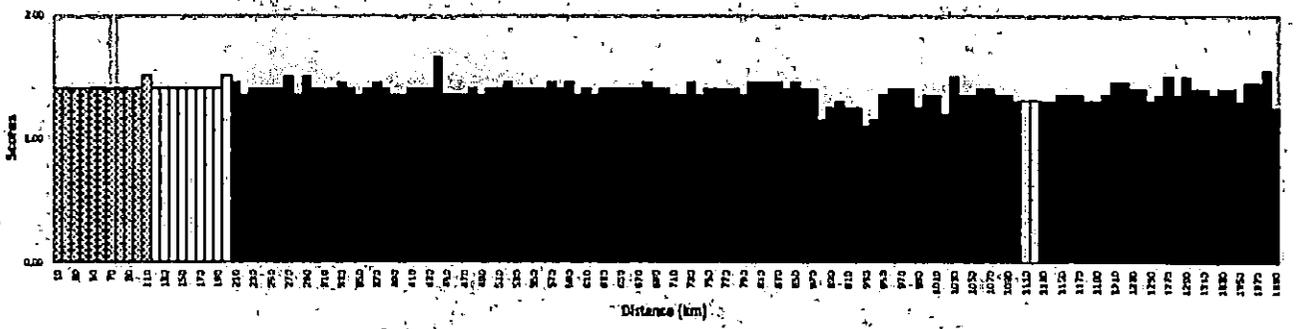


Figure 4.6 Score for anthropogenic influence on Ganga River between Bijnor & Ballia, Uttar Pradesh

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Our analyses revealed that the overall prioritization score of sampling units fall within the range of 1.55 to 4.20 (Table 4.4). The score of 4 or >4 was represented by only two sampling units followed by 18 units within the range of 3-4, 80 units within the range of 2-3 and 39 units lie within the range of 1-2 score (Figure 4.7 to 4.10). The reason behind getting score of 4.20 (less than 45%) could be attributed to presence of anthropogenic pressures, absence of suitable habitat parameters and minimum representation of all taxa in each sampling units.

Table 4.4 Combined matrix score

Scores	Sampling blocks	Length (km)	Proportion of total stretch in UP (%)
> 4	2	20	1.44
3-4	18	180	12.95
2-3	80	800	57.55
< 2	39	390	28.06



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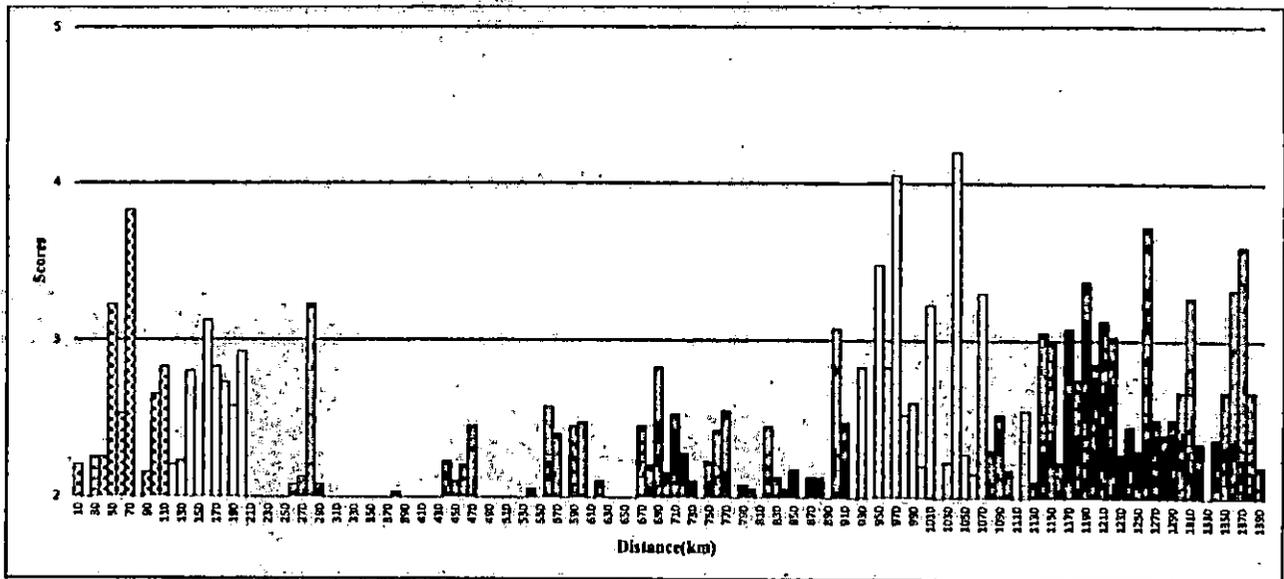


Figure 4.8 Prioritization score (combined score of Biological, Habitat & Anthropogenic parameters) of >2 of Ganga River between Bijnor & Ballia, Uttar Pradesh

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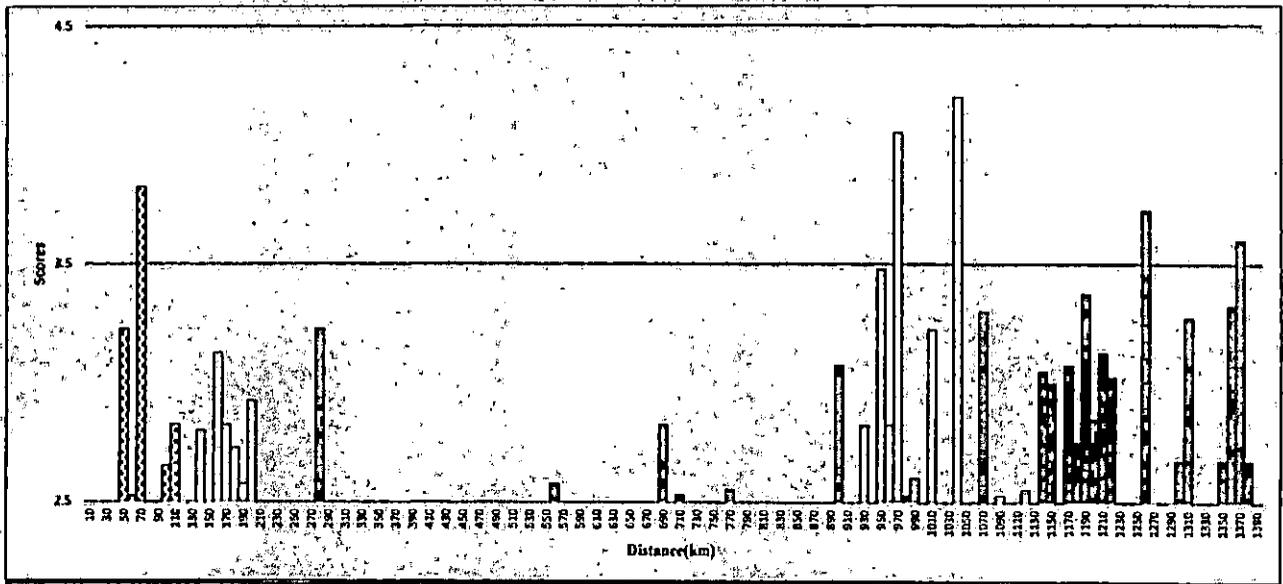


Figure 4.9 Prioritization score (combined score of Biological, Habitat & Anthropogenic parameters) of >2.5 of Ganga River between Bijnor & Ballia, Uttar Pradesh

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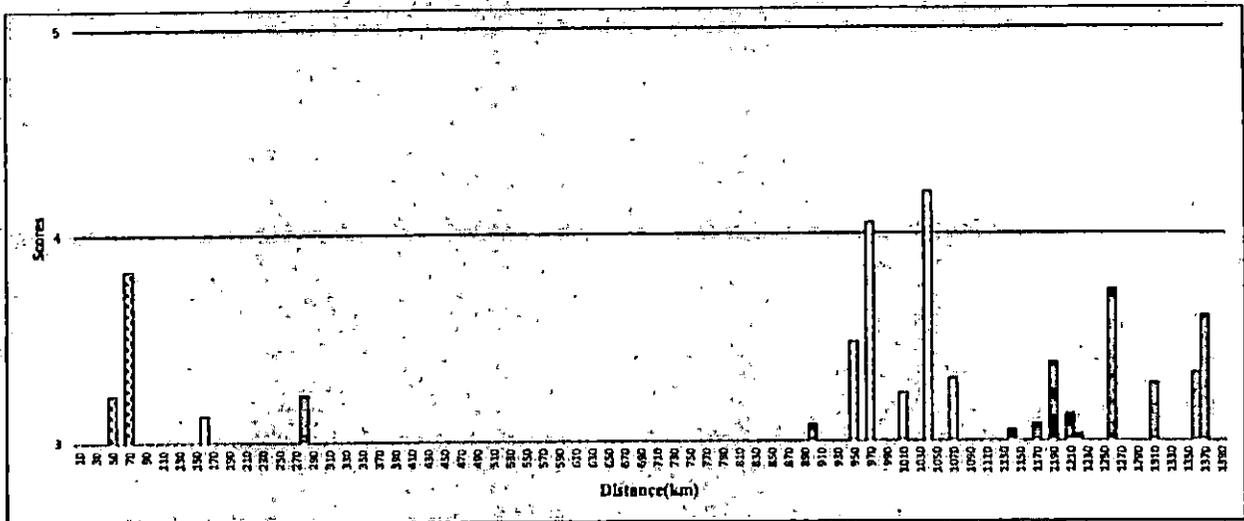


Figure 4.10 Prioritization score (combined score of Biological, Habitat & Anthropogenic parameters) of sampling units above score of 3 of Ganga River between Bijnor & Ballia, Uttar Pradesh

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#### 4.1.4 Conclusions

It is evident from the results that each stretch has its unique set of habitats characteristics, species composition and threat levels. In a broader prospective, the study reinforces the idea that the synergies between species richness, habitat heterogeneity and biotic pressure plays central role in prioritizing conservation value of select stretches of Ganga River. As evident from the assessment, the creation of protected areas does help in species conservation, along the Ganga River. However, the area should be large, covering diverse habitat types and minimal threats. Based on the combined score the stretch from downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area. It is suggested that this area may be brought under the purview of Wild Life (Protection) Act, 1972 by declaring it as a wildlife sanctuary for the conservation of aquatic biodiversity of the Ganga River in Uttar Pradesh. Since the ecological characteristics and wildlife values vary along this 140 km stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Forest Department.

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## CHAPTER V

### 5.1 Summary of findings

1. The spatial assessment using remote sensing data for the period 1974 to 2016 revealed no significant changes in river channel and the extent of sand deposition in the TWS. However, ~28% increase in the vegetation cover was observed which could be attributed to the protection accorded to the riparian areas by the Forest Department and expansion of agricultural areas on the landward side.
2. Only five freshwater turtle species were encountered in TWS out of the 13 species reported from the Ganga River. Capture rates for turtle species were low in the TWS, indicating low abundance of turtles during the sampling period and high anthropogenic disturbance within TWS.
3. A total of 45 fish species belonging to 38 genera, 16 family were recorded from the TWS and adjacent stretches. New record of three fish species *Sisor rhabdophorus*, *Silonia silondia* and *Badis badis* were made in this stretch. Higher CPUE of 1.36/hr in the TWS indicates the sanctuary is effective in maintaining a diverse population of fish and this might be due to the effects of the fishing ban inside the Sanctuary limits.
4. Presence of the endangered Gangetic river dolphin was confirmed from the same site upstream of the Sanctuary, in areas of low anthropogenic disturbances. Sites upstream of the sanctuary have ideal sand island habitats for the nesting of freshwater turtles as well as riverine birds such as Indian Skimmer, Little Tern, River Lapwings, in areas of low human disturbance. 28 species of riverine birds was observed from the study area, with nesting of five species including that of threatened birds such as Indian Skimmer and River Lapwings.
5. The bathymetric map of the study area suggests low water depths upstream of the TWS during summer months, but adequate water depths towards downstream.
6. The habitat parameters that influence species occurrence and distribution in the studied stretch are sand mining, channel depth, fishing activities, presence of village/town and riverbed agriculture. Only channel depth positively influences the species occurrence and distribution..
7. Based on the scoring matrix, the highest biological score was recorded at Hastinapur Sanctuary following Ramsar site from Brijghat to Narora, due to its protected status accorded under Wild Life (Protection) Act, 1972 and Environment (Protection) Act, 1986 (Ramsar Site).
8. Habitat characteristic score (channel depth, meanders and river islands) was high downstream of Allahabad till Ballia as the stretch persistently maintain high depth classes due to water availability, meanders and river islands representing complex mosaic of habitats.

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9. The anthropogenic parameter scores were almost similar in the entire stretch from Bijnor barrage to Ballia as river bed agriculture was prominent in the upper stretch whereas fishing, sand mining and villages & towns were prevalent in the lower part of the stretch.
10. Based on the combined score the stretch from downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area and notified as a Wildlife Sanctuary under the provision of Wild Life (Protection) Act, 1972. Since the ecological characteristics and wildlife values vary along this 140 km stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Forest Department.

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## APPENDIX I

Morphometric data of freshwater turtles encountered by sampling through VES, gill nets and box traps during ecological assessment in and around TWS from April to Amy 2018.

Capture Date	Site	Species	Age Class (A/SA/Juv)	Sex	SCL (cm)	SCW (cm)	PL (cm)	PW (cm)	SH (cm)	TL (cm)
11/05/2018	V5	<i>Pangshura tentoria</i>	SA	M	77.93	59.79	78.81	37.93	40.97	-
17/05/2018	V2	<i>Pangshura smithii</i>	SA (Dead)	M	65.50	51.54	58.80	29.10	27.98	6.17
21/05/2018	V12	<i>Lissemys punctata</i>	SA	M	94.30	77.47	94.86	-	32.10	-

A- Adult, SA- Sub-Adult, Juv- Juvenile,  
 SCL- Straight Carapace Length, SCW- Straight Carapace Width, PL- Plastron Length,  
 PW- Plastron Width, SH- Shell Height, TL- Tail Length

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## APPENDIX II

Fish diversity in and around TWS during ecological assessment from April to May 2018

1	Clupeidae	<i>Gudusia chapra</i>	9	30	62
2		<i>Gonialosa mannina</i>	8	8	7
3		<i>Setipinna phasa</i>	2	1	2
4	Cyprinidae	<i>Labeo rohita</i>	0	0	1
5		<i>Labeo calbasu</i>	0	0	2
6		<i>Labeo bata</i>	3	0	3
7		<i>Bangana dero</i>	1	0	0
8		<i>Cirrhinus reba</i>	2	1	0
9		<i>Chagunius chagunio</i>	3	6	0
10		<i>Cyprinus caprio</i>	67	18	46
11		<i>Crossocheilus latius</i>	1	2	0
12		<i>Systomus sarana</i>	2	0	0
13		<i>Puntius sophore</i>	0	0	24
14		<i>Puntius chola</i>	23	7	57
15		<i>Pethia conchonius</i>	3	2	9
16		<i>Puntius genus unidentified</i>	0	0	3
17		<i>Osteobrama cotia</i>	0	0	4
18		<i>Salmophasia bacaila</i>	7	3	0
19		<i>Amblypharyngodon mola</i>	0	0	2
20		<i>Aspidoparia genus UID</i>	6	0	0
21		<i>Aspidoparia morar</i>	2	1	20
22	Cobitidae	<i>Botia dario</i>	3	0	0
23	Bagridae	<i>Sperata aor</i>	1	1	0
24		<i>Sperata seenghala</i>	85	33	7
25		<i>Mystus cavasius</i>	3	2	0
26		<i>Rita rita</i>	0	0	2
27		<i>Rita genus UID</i>	0	0	1
28	Schilbeidae	<i>Eutropichthys vacha</i>	29	10	0
29		<i>Clupisomfa garua</i>	6	2	0
30		<i>Silonia silondia</i>	1	0	0
31	Sisoridae	<i>Bagarius bagarius</i>	0	0	1
32		<i>Sisor rhabdophorus</i>	4	0	0
33	Heteropneustidae	<i>Heteropneustes fossilis</i>	1	1	0
34	Loricariidae	<i>Pterygoplichthys disjunctivus</i>	1	0	0
35	Belonidae	<i>Xenentodon cancila</i>	0	2	1
36	Nandidae	<i>Badis badis</i>	3	1	0
37	Sciaenidae	<i>Johnius coiter</i>	51	7	63
38	Cichlidae	<i>Oreochromis niloticus</i>	6	55	0
39	Mugilidae	<i>Rhinomugli corsula</i>	1	0	0
40	Gobiidae	<i>Glossogobius giuris</i>	3	0	6
41	Channidae	<i>Channa gachua</i>	34	13	0
42		<i>Channa striata</i>	2	0	0
43	Mastacembelidae	<i>Mastacembelus armatus</i>	5	1	6
44		<i>Macrognathus aral</i>	1	0	0
45		<i>Macrognathus pancalus</i>	3	0	0
Total Abundance			382	207	329

## APPENDIX III

Check list of riverine birds observed during motor boat surveys from March to May 2018.

S.No.	Common name	Scientific name	Conservation Status (BLI 2018)
1	Bar-headed Geese	<i>Anser indicus</i>	LC
2	Ruddy Shekduck	<i>Tadorna ferruginea</i>	LC
3	Little Grebe	<i>Tachybaptus ruficollis</i>	LC
4	Painted Stork	<i>Mycteria leucocephala</i>	NT
5	Asian Openbill	<i>Anastomus oscitans</i>	LC
6	Indian Pond Heron	<i>Ardeola grayii</i>	LC
7	Grey Heron	<i>Ardea cinerea</i>	LC
8	Cattle Egret	<i>Bubulcus ibis</i>	LC
9	Little Egret	<i>Egretta garzetta</i>	LC
10	Indian Black Ibis	<i>Pseudibis papillosa</i>	LC
11	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	LC
12	Little Ringed Plover	<i>Charadrius dubius</i>	LC
13	Lesser Sand Plover	<i>Charadrius mongolus</i>	LC
14	Red-Wattled Lapwing	<i>Vanellus indicus</i>	LC
15	River Lapwing	<i>Vanellus divaucelii</i>	NT
16	Common Sandpiper	<i>Actitis hypoleucos</i>	LC
17	Common Greenshank	<i>Tringa nebularia</i>	LC
18	Spotted Redshank	<i>Tringa erythropus</i>	LC
19	Small Pratincole	<i>Glareola lactea</i>	LC
20	Indian Skimmer	<i>Rynchops albicollis</i>	VU
21	Brown-headed Gull	<i>Chroicocephalus brunnicephalus</i>	LC
22	River Tern	<i>Sterna aurantia</i>	NT
23	Little Tern	<i>Sternula albifrons</i>	LC
24	Osprey	<i>Pandion haliaetus</i>	LC
25	Egyptian vulture	<i>Neophron percnopterus</i>	EN
26	Black kite	<i>Milvus migrans</i>	LC
27	Pied Kingfisher	<i>Ceryle rudis</i>	LC
28	White-Breasted Kingfisher	<i>Halcyon smyrnensis</i>	LC

## APPENDIX IV

Scores for all parameters from Bijnor barrage to Sitab Diara in Uttar Pradesh

Sl. No.	Stretch (from Bijnor Barrage)	Biological Score (Out of 5)	Habitat Score (out of 3)	Anthropogenic Score (Out of 2)	Final Score (Out of 10)
1	0-10	0.13	0.67	1.40	2.20
2	10-20	0.23	0.25	1.40	1.88
3	20-30	0.60	0.25	1.40	2.25
4	30-40	0.10	0.75	1.40	2.25
5	40-50	1.08	0.75	1.40	3.23
6	50-60	0.50	0.63	1.40	2.53
7	60-70	1.43	1.00	1.40	3.83
8	70-80	0.00	0.50	1.40	1.90
9	80-90	0.13	0.63	1.40	2.15
10	90-100	0.50	0.75	1.40	2.65
11	100-110	0.45	0.88	1.50	2.83
12	110-120	0.30	0.50	1.40	2.20
13	120-130	0.45	0.38	1.40	2.23
14	130-140	0.90	0.50	1.40	2.80
15	140-150	0.35	0.25	1.40	2.00
16	150-160	1.23	0.50	1.40	3.13
17	160-170	0.30	1.13	1.40	2.83
18	170-180	0.58	0.75	1.40	2.73
19	180-190	0.30	0.88	1.40	2.58
20	190-200	0.43	1.00	1.50	2.93
21	200-210	0.00	0.50	1.45	1.95
22	210-220	0.10	0.25	1.35	1.70
23	220-230	0.28	0.25	1.40	1.93
24	230-240	0.15	0.25	1.40	1.80
25	240-250	0.18	0.25	1.40	1.83
26	250-260	0.30	0.38	1.40	2.08
27	260-270	0.13	0.50	1.50	2.13
28	270-280	0.25	1.63	1.35	3.23
29	280-290	0.08	0.50	1.50	2.08
30	290-300	0.18	0.25	1.40	1.83
31	300-310	0.23	0.38	1.40	2.00
32	310-320	0.03	0.25	1.40	1.68
33	320-330	0.08	0.25	1.45	1.78
34	330-340	0.08	0.25	1.40	1.73
35	340-350	0.08	0.38	1.35	1.80
36	350-360	0.05	0.50	1.40	1.95
37	360-370	0.15	0.38	1.45	1.98
38	370-380	0.00	0.63	1.40	2.03
39	380-390	0.13	0.38	1.35	1.85

Sl. No.	Stretch (from Bijnor Barrage)	Biological Score (Out of 5)	Habitat Score (out of 3)	Anthropogenic Score (Out of 2)	Final Score (Out of 10)
40	390-400	0.08	0.25	1.35	1.68
41	400-410	0.08	0.38	1.40	1.85
42	410-420	0.00	0.25	1.40	1.65
43	420-430	0.05	0.25	1.40	1.70
44	430-440	0.08	0.50	1.65	2.23
45	440-450	0.13	0.63	1.35	2.10
46	450-460	0.10	0.75	1.35	2.20
47	460-470	0.48	0.63	1.35	2.45
48	470-480	0.13	0.38	1.40	1.90
49	480-490	0.03	0.25	1.35	1.63
50	490-500	0.13	0.38	1.40	1.90
51	500-510	0.13	0.38	1.40	1.90
52	510-520	0.15	0.25	1.45	1.85
53	520-530	0.13	0.38	1.40	1.90
54	530-540	0.15	0.50	1.40	2.05
55	540-550	0.23	0.38	1.40	2.00
56	550-560	0.30	0.88	1.40	2.58
57	560-570	0.33	0.63	1.45	2.40
58	570-580	0.15	0.25	1.40	1.80
59	580-590	0.00	1.00	1.45	2.45
60	590-600	0.00	1.13	1.35	2.48
61	600-610	0.00	0.38	1.40	1.78
62	610-620	0.00	0.75	1.35	2.10
63	620-630	0.00	0.50	1.40	1.90
64	630-640	0.08	0.25	1.40	1.73
65	640-650	0.00	0.50	1.40	1.90
66	650-660	0.05	0.38	1.40	1.83
67	660-670	0.05	1.00	1.40	2.45
68	670-680	0.25	0.50	1.45	2.20
69	680-690	0.80	0.63	1.40	2.83
70	690-700	0.00	0.75	1.40	2.15
71	700-710	0.18	1.00	1.35	2.53
72	710-720	0.18	0.75	1.35	2.28
73	720-730	0.15	0.50	1.45	2.10
74	730-740	0.25	0.25	1.35	1.85
75	740-750	0.45	0.38	1.40	2.23
76	750-760	0.28	0.75	1.40	2.43
77	760-770	0.28	0.88	1.40	2.55
78	770-780	0.10	0.25	1.40	1.75
79	780-790	0.23	0.50	1.35	2.08
80	790-800	0.10	0.50	1.45	2.05
81	800-810	0.18	0.38	1.45	2.00

Sl. No.	Stretch (from Bijnor Barrage)	Biological Score (Out of 5)	Habitat Score (out of 3)	Anthropogenic Score (Out of 2)	Final Score (Out of 10)
82	810-820	0.25	0.75	1.45	2.45
83	820-830	0.05	0.63	1.45	2.13
84	830-840	0.15	0.50	1.40	2.05
85	840-850	0.23	0.50	1.45	2.18
86	850-860	0.05	0.50	1.40	1.95
87	860-870	0.10	0.63	1.40	2.13
88	870-880	0.35	0.63	1.15	2.13
89	880-890	0.00	0.50	1.25	1.75
90	890-900	0.40	1.38	1.30	3.08
91	900-910	0.60	0.63	1.25	2.48
92	910-920	0.05	0.25	1.25	1.55
93	920-930	0.60	1.13	1.10	2.83
94	930-940	0.10	0.75	1.15	2.00
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05
98	970-980	0.00	1.13	1.40	2.53
99	980-990	0.10	1.25	1.25	2.60
100	990-1000	0.10	0.75	1.35	2.20
101	1000-1010	0.88	1.00	1.35	3.23
102	1010-1020	0.05	0.50	1.20	1.75
103	1020-1030	0.10	0.63	1.50	2.23
104	1030-1040	0.60	2.25	1.35	4.20
105	1040-1050	0.05	0.88	1.35	2.28
106	1050-1060	0.00	0.75	1.40	2.15
107	1060-1070	0.40	1.50	1.40	3.30
108	1070-1080	0.20	0.75	1.35	2.30
109	1080-1090	0.05	1.13	1.35	2.53
110	1090-1100	0.00	0.88	1.30	2.18
111	1100-1110	0.05	0.50	1.30	1.85
112	1110-1120	0.00	1.25	1.30	2.55
113	1120-1130	0.05	0.75	1.30	2.10
114	1130-1140	0.00	1.75	1.30	3.05
115	1140-1150	0.90	0.75	1.35	3.00
116	1150-1160	0.00	0.88	1.35	2.23
117	1160-1170	0.60	1.13	1.35	3.08
118	1170-1180	0.20	1.25	1.30	2.75
119	1180-1190	0.20	1.88	1.30	3.38
120	1190-1200	0.00	1.50	1.35	2.85
121	1200-1210	0.30	1.38	1.45	3.13
122	1210-1220	0.70	0.88	1.45	3.03
123	1220-1230	0.00	0.88	1.40	2.28

Sl. No.	Stretch (from Bijnor Barrage)	Biological Score (Out of 5)	Habitat Score (out of 3)	Anthropogenic Score (Out of 2)	Final Score (Out of 10)
124	1230-1240	0.30	0.75	1.40	2.45
125	1240-1250	0.00	1.00	1.30	2.30
126	1250-1260	1.00	1.38	1.35	3.73
127	1260-1270	0.00	1.00	1.50	2.50
128	1270-1280	0.05	1.00	1.35	2.40
129	1280-1290	0.50	0.50	1.50	2.50
130	1290-1300	0.40	0.88	1.40	2.68
131	1300-1310	0.50	1.38	1.40	3.28
132	1310-1320	0.00	1.00	1.35	2.35
133	1320-1330	0.00	0.25	1.40	1.65
134	1330-1340	0.10	0.88	1.40	2.38
135	1340-1350	0.00	1.38	1.30	2.68
136	1350-1360	0.00	1.88	1.45	3.33
137	1360-1370	0.15	2.00	1.45	3.60
138	1370-1380	0.00	1.13	1.55	2.68
139	1380-1390	0.20	0.75	1.25	2.20



## PHOTO PLATE 1

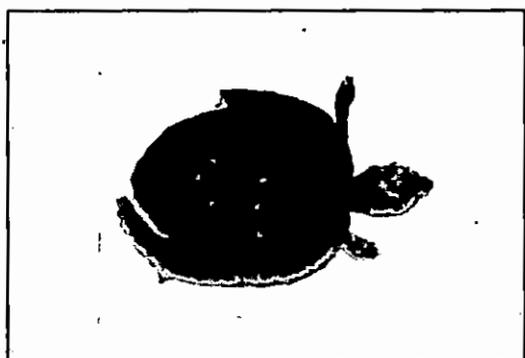
Freshwater Turtles encountered during the study



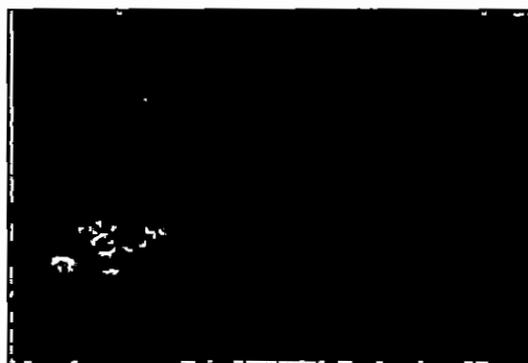
Indian Tent Turtle *Pangshura tentoria*  
captured in TWS



Flapshell Turtle *Lissemys punctata*  
captured in TWS



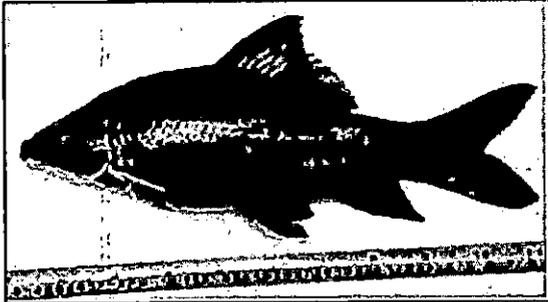
Brown Roofed Turtle *Pangshura smithii*  
(Dead) encountered during VES



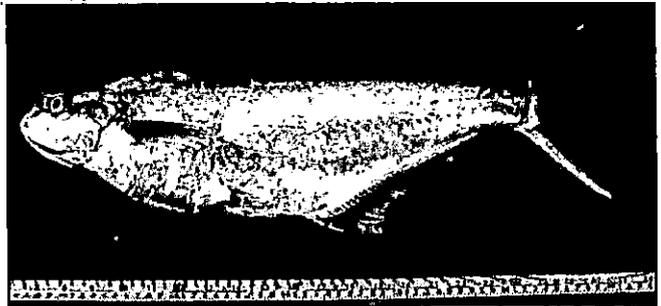
Ganges Softshell Turtle *Nilssonina gangetica*  
encountered during VES

PHOTO PLATE 2

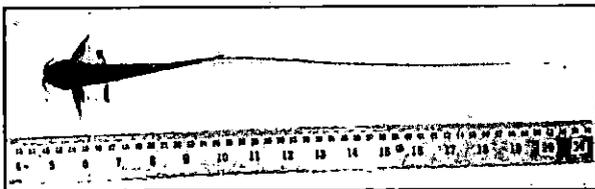
Significant Fish species captured during the study



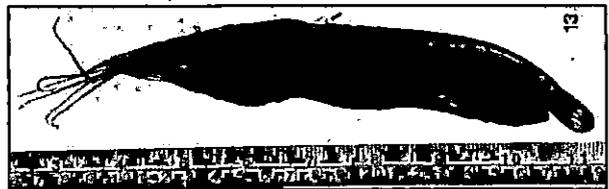
*Labeo calbasu*



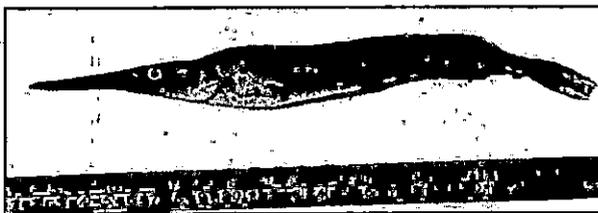
*Sionia sionia*



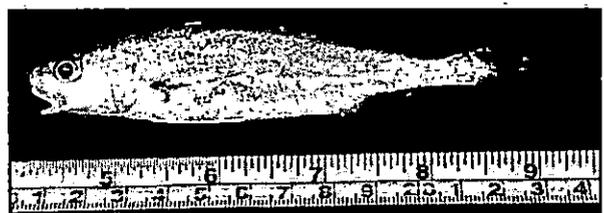
*Sisor rhabdophorus*



*Heteropneustes fossilis*



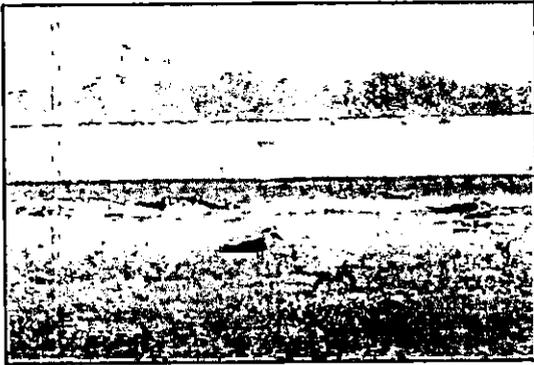
*Xenentodon cancila*



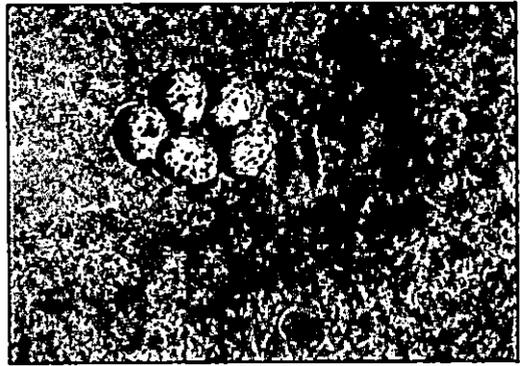
*Johnius coiter*

PHOTO PLATE 3

Significant Riverine bird species and their nesting recorded during the study



Four pairs of Indian Skimmer nesting



Nest of Indian Skimmer



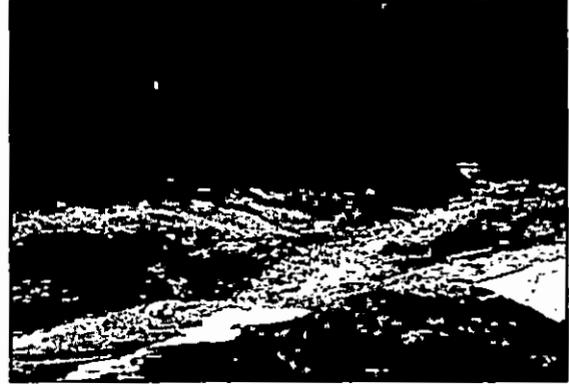
River Lapwing chick

PHOTO PLATE 4

Anthropogenic pressures observed during the study area from April to May 2018:



Assi nala (drain) inside the TWS



An open drain near Ramnagar



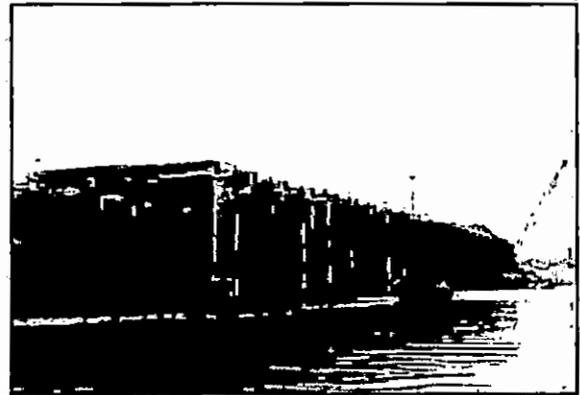
View of Ghats inside the TWS



Fishing boats near Suzabad



Pilgrims bathing inside the TWS



Construction of Jetty near Ramnagar

Notification for declaration of Turtle Wildlife Sanctuary, Varanasi, Uttar Pradesh

उत्तर प्रदेश सरकार  
 जन प्रकाश-3  
 संख्या: 4170/14-3-62/09  
 मंगल: दिनांक 21 दिसम्बर, 1989

1198

प्रतिज्ञा

चूंकि राज्य सरकार की राय है कि यह क्षेत्र जिसका बंधोरा तीरे की मधी अनुसूची में दिया गया है, वन्य जीव और उनके पर्यावरण का संरक्षण, संवर्धन और शिक्षा करने के प्रयोजन के लिए सुसंरक्षित पारिस्थितिक, प्राकृतिक, प्राकृतिक और प्राकृतिक संरक्षण का है,

अतः, अब, वन्य जीव (संरक्षण) अधिनियम, 1972 अधिनियम संख्या 53 सन् 1972 की धारा 10 की उपधारा 1(1) के अधीन संरक्षण का प्रयोजन करने, राज्यपाल धारा 10 के अधीन गंगा नदी की गण्डप धारा के किनारे के लगभग 7 किलोमीटर पर फैले उक्त क्षेत्र को कछुआ वन्य जीव धिहोर, धारागती घोषित करने हैं।

सीमा

जिला	नदी का नाम	पुस्तकित वन्य जीव धिहोर का क्षेत्र
धारागती	गंगा	उत्तरी सीमा: गंगा नदी के गण्डप धारा के किनारे की लगभग सात किलोमीटर क्षेत्र
सीमाएँ:-	उत्तरी सीमा:- दक्षिणी सीमा:-	धारागती जिला। प्राकृतिक रेल एवं सड़क पुल।

आज्ञा से,

जीत मोहन  
 सचिव

संख्या: 4170/14-3-62/09 तदनुसंधित।

प्रतिज्ञा अधिनियम के अधीन अनुसूची की प्रसिद्धि तदनुसंधित अधिनियम, मुद्रण एवं लेखन तदनुसंधित एकात्म, सड़क को सत आतंय से घोषित कि वे धारा अधिनियम को शिक्षाधी पारिस्थितिक भाग-4 संख्या 0 में आधारेण गजट के दिनांक 23. 12. 1989 के अंक में प्रकाशित कर हैं तथा उनकी 50 प्रतिशत भाग को मिलने का कस्ट करें।

आज्ञा से,

सचिव

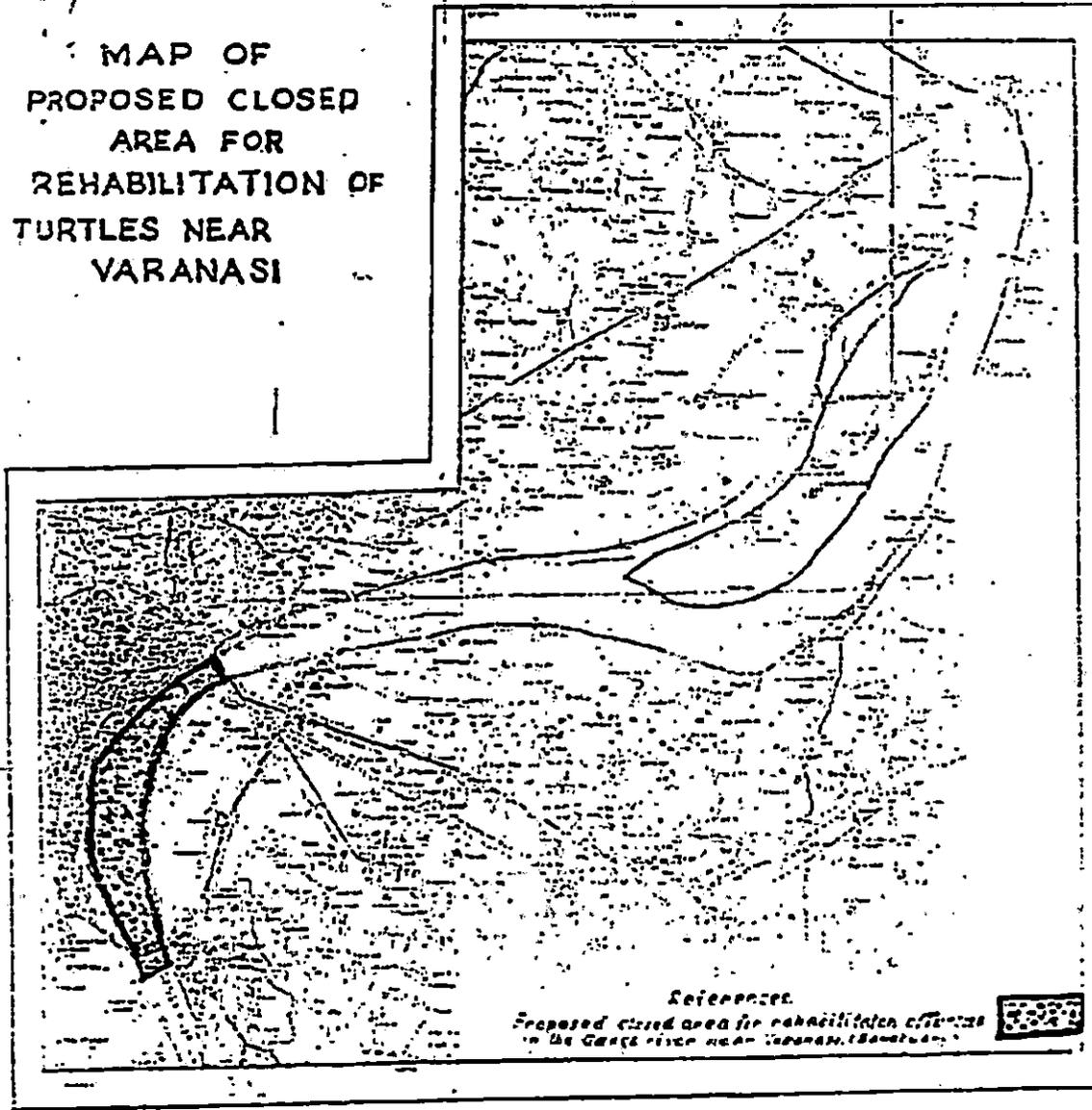
1 मिनट 10 मिनिट्स 1

1 मिनट 10 मिनिट्स

..... 2/-----



MAP OF  
PROPOSED CLOSED  
AREA FOR  
REHABILITATION OF  
TURTLES NEAR  
VARANASI



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मा० मुख्य मंत्री जी, उत्तर प्रदेश की अध्यक्षता में दिनांक 30.08.2018 को  
उत्तर प्रदेश राज्य वन्यजीव बोर्ड की आठवीं बैठक का कार्यवृत्त

1. बैठक में उपस्थित सदस्यगणों/अधिकारियों की सूची संलग्न है।
2. उत्तर प्रदेश राज्य वन्यजीव बोर्ड की आठवीं बैठक सभा कक्ष, एनेक्सी भवन, पंचम तल, उत्तर प्रदेश सचिवालय में सम्पन्न हुई। बैठक में प्रस्तुत एजेण्डा/प्रस्ताव पर मा० बोर्ड द्वारा व्यापक विचार विमर्श किया गया तथा निम्न निर्णय लिये गए—

एजेण्डा बिन्दु संख्या 1 : उत्तर प्रदेश राज्य वन्यजीव बोर्ड की बैठक दिनांक  
17.08.2016 के कार्यवृत्त की पुष्टि—

मा० बोर्ड को अवगत कराया गया कि उत्तर प्रदेश राज्य वन्यजीव बोर्ड की सातवीं बैठक दिनांक 17.08.2016 के कार्यवृत्त बोर्ड के मा० सदस्यों को पूर्व में परिचालित किया गया था, जिस पर सदस्यों द्वारा कोई टिप्पणी नहीं की गयी है।

मा० बोर्ड द्वारा कार्यवृत्त की पुष्टि की गयी।

एजेण्डा बिन्दु संख्या 2 : दिनांक 17.08.2016 को मा० वन मंत्री जी, वन एवं वन्य जीव विभाग, उ०प्र० सरकार की अध्यक्षता में उत्तर प्रदेश राज्य वन्य जीव बोर्ड की सम्पन्न बैठक में लिए गये निर्णय पर बिन्दुवार अनुपालन आख्या:—

उत्तर प्रदेश राज्य वन्यजीव बोर्ड की सातवीं बैठक दिनांक 17.08.2016 में लिये गए निर्णय/निर्देशों के क्रम में कृत कार्यवाही से मा० बोर्ड संज्ञानित हुआ। मा० बोर्ड ने कृत कार्यवाही का अनुमोदन किया तथा एक प्रकरण में निम्न निर्देश दिये:—

- जनपद मुजफ्फर नगर में श्री शुकदेव आश्रम सेवा ट्रस्ट को वर्ष 1970 में 5 एकड़ वन भूमि की लीज स्वीकृत की गयी थी, जो हस्तिनापुर सेन्चुरी के सृजन के पूर्व की थी। इस ट्रस्ट द्वारा शिक्षा एवं वन्यजीव संरक्षण के सम्बन्ध में उल्लेखनीय कार्य किया जा रहा है।
- राज्य वन्यजीव बोर्ड की छठी बैठक दिनांक 26.05.2015 में इस प्रकरण में निहित शर्तों का अनुपालन कराते हुए भारत सरकार को भेजे जाने की संस्तुति की गयी थी। राज्य सरकार द्वारा प्रस्तुत प्रकरण में मा० मंत्रि-परिषद का अनुमोदन प्राप्त किये जाने का निर्णय लिया था।
- मा० बोर्ड ने निर्देश दिया कि मा० मंत्रि-परिषद का अनुमोदन प्राप्त कर प्रकरण राष्ट्रीय वन्यजीव बोर्ड के विचारार्थ भारत सरकार को शीघ्र प्रेषित किया जाए।

एजेण्डा बिन्दु संख्या 3 : कछुआ वन्य जीव विहार के सम्बन्ध में भारतीय वन्य जीव संस्थान, देहरादून द्वारा प्रस्तुत रिपोर्ट पर विचार-विमर्श कर राष्ट्रीय वन्य जीव बोर्ड के स्थायी समिति को प्रस्ताव भेजा जाना:-

भारतीय वन्यजीव संस्थान, देहरादून द्वारा प्रस्तुत रिपोर्ट को विस्तृत रूप से मा0 बोर्ड के समक्ष प्रस्तुत किया गया। विस्तृत रिपोर्ट में से प्रमुख उद्धरण निम्नवत् हैं -

भारतीय वन्य जीव संस्थान द्वारा सर्वेक्षण कर गंगा नदी के प्रदेश में पूर्ण विस्तार (बिजनौर और बलिया तक) में प्रत्येक 10 किमी० रेखिक लंबाई को एक इकाई के रूप में मान कर जलीय जीवों के प्राकृतवास की गुणवत्ता का निम्न 03 संकेतकों के आधार पर मूल्यांकन किया गया-

जैविक संकेतक (Biological indicators)	प्राकृत वास विशेषताएं संकेतक (Habitat characteristics indicators)	मानवजनित दबाव संकेतक (Anthropogenic indicators)
डाल्फिन प्रगणना (Dolphin individual count)	जल की गहराई (Water depth)	नदी तल कृषि की उपस्थिति (Presence of river bed agriculture)
प्रजनन पक्षियों के घोंसलों की प्रगणना (Nests count of breeding birds)	नदी के घुमाव (Meanders)	मछली पकड़ने के जाल व नौकाओं की संख्या (Number of fishing nets and boats)
घड़ियाल प्रगणना (Gharial individual count)	मध्य चैनल दीप समूह क्योंकि वे प्रजातियों की बहुतायत और वितरण को प्रभावित करते हैं (Mid & channel islands as they influence species abundance and distribution of the Ganga River)	नदी के किनारे गांव एवं घाटों की संख्या (Number of Riverside Villages and Ghats)
मगरमच्छ प्रगणना (Mugger individual count)		गंगा नदी में खनन स्थलों की उपस्थिति और उनका जैव विविधता पर पड़ने वाले प्रभाव के अनुसार श्रेणीकरण (Presence of mining sites and ranked based on their impacts on biodiversity of Ganga River)
कछुआ प्रगणना / प्रजातियों की प्रगणना (Turtle species & individuals count)		

(क) उक्त संकेतकों के आधार पर वर्तमान कछुआ वन्य जीव विहार क्षेत्र (1115-1122 किमी०) का कुल प्राप्तांक निम्नवत् हैं -

क्र.सं.	गंगा नदी विस्तार (बिजनौर बैराज से)	जैविक मानकों के आधार पर प्राप्तांक (अधिकतम 5)	प्राकृतवास मानकों के आधार पर प्राप्तांक (अधिकतम 3)	मानव जनित दबाव मानकों के आधार पर प्राप्तांक (अधिकतम 2)	कुल प्राप्तांक (अधिकतम 10)
112	1110-1120	0.00	1.25	1.30	2.55
113	1120-1130	0.05	0.75	1.30	2.10

विभिन्न संकेतकों के आधार पर भारतीय वन्यजीव संस्थान ने जो निष्कर्ष निकाला है उसका सारांश निम्नवत् है -

- I- वर्ष 1974-2016 के सुदूर संवेदन डेटा के आधार पर कछुआ वन्य जीव विहार क्षेत्र में नदी की धारा व रेत टीलों के विस्तार में कोई उल्लेखनीय परिवर्तन नहीं हुआ है।
- II- यद्यपि नदीतट क्षेत्र में हरीतिमा में लगभग 28% वृद्धि प्रदर्शित होती है जो कि वन विभाग द्वारा किए गए सुरक्षा उपायों व कृषि क्षेत्र में विस्तार के कारण हैं।
- III- कछुआ वन्य जीव विहार क्षेत्र में सर्वेक्षण के दौरान कछुओं की कुल 13 प्रजातियों में से मात्र 5 प्रजातियां ही देखी गयी।

कछुआ वन्य जीव विहार क्षेत्र में मानव जनित दबाव अधिक होने के कारण प्राकृतवास में आए बदलाव से कछुओं की संख्या में अत्यधिक कमी आई है।

कछुआ वन्य जीव विहार के बाएं किनारे पर सीमेंटेड घाट, नौकाओं की गतिविधियों, प्रदूषण व मानव उपस्थिति के कारण अत्यधिक कम गुणवत्ता के प्राकृतवास हैं। यद्यपि दाएं किनारे पर रेत टीलों के रूप में आदर्श प्राकृतवास उपलब्ध हैं परन्तु वह अत्यधिक मानव दबाव से प्रभावित हैं।

कछुआ वन्यजीव विहार की Overall Aquatic Habitat Quality का विवरण निम्नानुसार है:-

	Site	River width (m)	River bank slope (%)	% river bank vegetation	No. of sand islands	Land cover type (agriculture, scrub, grassland, sand)	Nesting habitat quality (1-5)	Overall aquatic habitat quality (1-5)
Turtle Wildlife Sanctuary (1118-1125)	V1	403	5	5	0	Sand	1	1
	V2	340	5	5	0	Sand	1	1
	V3	268	10	5	0	Sand	1	1
	V4	300	15	5	0	Sand	2	1
	V5	347	15	10	0	Sand	1	1
	V6	370	5	5	0	Sand	2	1
	V7	442	20	20	0	Sand	2	1

Score for nesting & habitat assessment: 5 – very good, 4 – good, 3 – moderate, 2 – poor, 1 – No habitat

Source: WII report dated 06-07-2018 page No. 19.

- उपरोक्त भारतीय वन्यजीव संस्थान, देहरादून द्वारा किये गए अध्ययन में उक्त बिन्दुओं के दृष्टिगत वर्तमान कछुआ वन्यजीव विहार कछुओं के हैबिटाट के लिये अनुपयुक्त (no habitat) पाया गया है।

(ख) मा0 बोर्ड ने यह जानना चाहा कि कछुआ संरक्षण के लिये अन्य क्या उपाय किये जा सकते हैं ?

इस सम्बन्ध में मा0 बोर्ड को अवगत कराया गया कि भारतीय वन्यजीव संस्थान द्वारा किये गए अध्ययन में निम्न तथ्य प्रकाश में आया:-

- 1- “..... as evident from the assessment, the creation of protected areas does help in species conservation, along the Ganga River. However, the area should be large, covering diverse habitat types and minimal threats.”
- 2- कछुआ वन्यजीव विहार के upstream में नवादा (इलाहाबाद) से अदलपुर (मिर्जापुर) तक संकेतकों के कुल प्राप्तांकों के आधार पर वन्यजीव विहार बनाया जाना सर्वथा उपयुक्त प्रतीत होता है।

इस सम्बन्ध में निम्न सारणी दृष्टव्य है—

इलाहाबाद जिला के नवादा से मिर्जापुर जिले के अदलपुर तक(930-1070 कि.मी.)					
क्र.सं.	गंगा नदी विस्तार (विजनौर बैराज से)	जैविक मानकों के आधार पर प्राप्तांक (अधिकतम 5)	प्राकृतवास मानकों के आधार पर प्राप्तांक (अधिकतम 3)	मानव जनित दबाव मानकों के आधार पर प्राप्तांक (अधिकतम 2)	कुल प्राप्तांक (अधिकतम 10)
94	930-940	0.10	0.75	1.15	2.00
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05
98	970-980	0.00	1.13	1.40	2.53
99	980-990	0.10	1.25	1.25	2.60
100	990-1000	0.10	0.75	1.35	2.20
101	1000-1010	0.88	1.00	1.35	3.23
102	1010-1020	0.05	0.50	1.20	1.75
103	1020-1030	0.10	0.63	1.50	2.23
104	1030-1040	0.60	2.25	1.35	4.20
105	1040-1050	0.05	0.88	1.35	2.28
106	1050-1060	0.00	0.75	1.40	2.15
107	1060-1070	0.40	1.50	1.40	3.30

- भारतीय वन्यजीव संस्थान, देहरादून की रिपोर्ट में कछुआ सेन्चुरी के upstream में नवादा (इलाहाबाद) से अदलपुर (मिर्जापुर) तक उपरोक्तानुसार विभिन्न कुल प्राप्तांकों की चर्चा करते हुए यह सुझाव दिया है कि Based on the combined scores, 140 km stretch downstream Newada in Allahabad district to Adalpur in Mirzapur district has been considered as the priority stretch for conservation. It is suggested that this area may be brought under the purview of Wild Life (Protection) Act, 1972 by declaring it as a wildlife sanctuary for the conservation of aquatic biodiversity of the Ganga River in Uttar Pradesh. Since the ecological characteristics and wildlife values vary along this 140 km stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic

pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Forest Department.

- इस सुझाव पर गहन चर्चा हुई तथा मा0 बोर्ड ने उपरोक्त प्राप्तांकों पर विस्तृत विचार-विमर्श किया तथा यह सहमति बनी कि निम्नानुसार 30 किमी0 को वन्य जीव विहार के रूप में घोषित किया जाना उपयुक्त होगा, क्योंकि इस क्षेत्र का जैविक मानक, प्राकृतवास मानक एवं मानवजनित दबाव मानकों के दृष्टिगत कुल प्राप्तांक अधिक की श्रेणी में है।

#### सारिणी-1

क्र.सं.	गंगा नदी विस्तार (बिजनौर बैराज से)	जैविक मानकों के आधार पर प्राप्तांक (अधिकतम 5)	प्राकृतवास मानकों के आधार पर प्राप्तांक (अधिकतम 3)	मानव जनित दबाव मानकों के आधार पर प्राप्तांक (अधिकतम 2)	कुल प्राप्तांक (अधिकतम 10)
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05

यहाँ यह उल्लेखनीय है कि भारतीय वन्य जीव संस्थान, देहरादून ने अपने रिपोर्ट में क्रम सं०-104 (1030-1040 किमी0) के सापेक्ष कुल प्राप्तांक 4.20 इंगित किया है। उक्त के अपस्ट्रीम के प्राप्तांक की सारिणी निम्नवत् है:-

#### सारिणी-2

क्र.सं.	गंगा नदी विस्तार (बिजनौर बैराज से)	जैविक मानकों के आधार पर प्राप्तांक (अधिकतम 5)	प्राकृतवास मानकों के आधार पर प्राप्तांक (अधिकतम 3)	मानव जनित दबाव मानकों के आधार पर प्राप्तांक (अधिकतम 2)	कुल प्राप्तांक (अधिकतम 10)
102	1010-1020	0.05	0.50	1.20	1.75
103	1020-1030	0.10	0.63	1.50	2.23
104	1030-1040	0.60	2.25	1.35	4.20

इन सारिणी के विश्लेषण से यह स्पष्ट होता है कि सारिणी-2 में अंकित क्रम सं० 102, 103 एवं 104 (1010-1020, 1020-1030, 1030-1040 किमी0) का योग 8.28 आता है जबकि सारिणी-1 अंकित क्रम सं० 95, 96 एवं 97 (940-950, 950-960 एवं 960-970 किमी0) का योग 10.36 आता है। अतः सारिणी-1 वर्णित कुल प्राप्तांकों का

याम अधिक होने के कारण इन क्षेत्र को वन्यजीव विहार बनाने में सहमति व्यक्त की गयी। वहीं यह भी उल्लेखनीय है कि यह प्रस्तावित 30 किमी० कछुआ वन्य जीव विहार का क्षेत्र डिनोटिफिकेशन के लिए प्रस्तावित वाराणसी विस्तृत कछुआ वन्य जीव विहार (वाराणसी लम्बाई 7 किमी है) के लम्बाई के 4 गुना से अधिक विस्तारित श्रेणी में आता है।

इस प्रकार गहन विचार-विमर्श के उपरान्त मा० बोर्ड ने निम्न निर्णय लिया-

- (1) "कछुआ वन्य जीव विहार, वाराणसी को विभिन्न मानकों के आधार पर उपयुक्तता श्रेणी में काफी नीचे पाया गया अतः इसे डिनोटिफाई करने का प्रस्ताव राष्ट्रीय वन्यजीव बोर्ड के स्थायी समिति के अनुमोदनार्थ भारत सरकार को भेजा जाए" तथा निर्देश दिया कि विद्यमान विधिक व्यवस्था के अन्तर्गत सेन्ट्रल इन्वार्ड कमेटी (C.E.C.)/माननीय उच्चतम न्यायालय से अनुमति प्राप्त की जाए।
- (2) "नवादा (इलाहाबाद) के निकट 30 किमी० (940 से 970) को कछुआ वन्य जीव विहार घोषित किये जाने का प्रस्ताव राष्ट्रीय वन्यजीव बोर्ड के स्थायी समिति के अनुमोदनार्थ भारत सरकार को भेजा जाए" तथा साथ ही साथ निम्न कार्यवाही भी की जाए-
  1. प्रस्तावित कछुआ वन्यजीव विहार के क्षेत्र में Social Impact Assessment करा लिया जाए तथा इस हेतु mitigation measures का भी उपाय सुनिश्चित किया जाए।
  2. मुख्य नौ जलराशि सर्वेक्षक (Chief Naval Hydrographer) से भी अभिमत प्राप्त किया जाए।

—एजेण्डा बिन्दु संख्या 4 : रानीपुर वन्यजीव विहार को टाइगर रिजर्व घोषित करने के सम्बन्ध में—

मा० बोर्ड ने रानीपुर वन्यजीव विहार को राष्ट्रीय पार्क घोषित किये जाने के स्थान पर राष्ट्रीय व्याघ्र संरक्षण प्राधिकरण (NICA) के सुझावानुसार टाइगर रिजर्व घोषित किये जाने के प्रस्ताव का अनुमोदन किया गया। इससे यह क्षेत्र टाइगर संरक्षण हेतु पूर्णरूप से विकसित हो सकेगा।

एजेण्डा बिन्दु संख्या 5 : वन्यजीव संरक्षित क्षेत्र/संरक्षित क्षेत्र से बाहर विभिन्न परियोजनाओं हेतु वन्यजीव क्लीयरेन्स के सम्बन्ध में प्रस्ताव -

मा0 बोर्ड ने प्रस्तुत प्रस्तावों पर व्यापक विचार विमर्श किया तथा वन्यजीव संरक्षित क्षेत्र में/संरक्षित क्षेत्र के बाहर विभिन्न परियोजनाओं हेतु भूमि हस्तान्तरण/वन्यजीव क्लियरेन्स के सम्बन्ध में प्रस्तावों पर निम्नानुसार निर्णय लिये गये:-

क्र० सं०	परियोजना/प्रस्ताव	प्रस्तावक विभाग	सम्बन्धित प्रभाग/जन पद	सम्बन्धित संरक्षित क्षेत्र	परियोजना हेतु अपेक्षित वन भूमि	संरक्षित क्षेत्र की सीमा से परियोजना की दूरी
1	2	3	4	5	6	7
1	जनपद मेरठ में पर्यटन के विकास की दृष्टि से विभिन्न धार्मिक स्थलों का विद्युतीकरण हेतु हस्तिनापुर वन्य जीव विहार क्षेत्र के अन्तर्गत विद्युत निर्माण खण्ड, मेरठ, (अन्तर्गत यू०पी०पी०सी०एल०) द्वारा प्रस्तावित 11 के०वी० ट्रान्समिशन लाइन का निर्माण।	अधिशाली अभियन्ता, विद्युत निर्माण खण्ड, उ०प्र० पावर कार्पोरेशन लि०, मेरठ।	प्रभागीय निदेशक, सा०वा० प्रभाग, मेरठ।	हस्तिनापुर वन्य जीव विहार	वन भूमि- 0.0575 हे० गैर वन भूमि- 0.60325 हे० (पी०डब्लू०डी०)	परियोजना संरक्षित क्षेत्र के अन्तर्गत प्रस्तावित है।
<p>मा० बोर्ड द्वारा निम्न निर्णय लिया गया:- मुख्य वन्यजीव प्रतिपालक द्वारा प्रस्ताव के पार्ट-IV में लगाए गए/सुझाए गए शर्तों का समावेश किया जाए। उक्त समावेश के साथ स्वीकृति हेतु इसे राष्ट्रीय वन्यजीव बोर्ड की स्थायी समिति के अनुमोदन के लिये भारत सरकार को भेजा जाए।</p>						
2	जनपद इटावा में इटावा-भिण्ड ओ०एफ०सी० रूट हेतु कि०मी० 74.560 (ऊदी मोड़) से कि०मी० 78.00 (चम्बल ब्रिज) तक बाँयी पटरी पर 3.44 कि०मी० में राष्ट्रीय चम्बल वन्य जीव विहार क्षेत्र के अन्तर्गत भारत संचार निगम लि०, आगरा द्वारा प्रस्तावित भूमिगत ओ०एफ०सी० बिछाने हेतु निर्माण कार्य।	मण्डल अभियन्ता, भारत संचार निगम लि०, कार्यालय उप महाप्रबन्धक दूरसंचार परियोजना, चतुर्थ तल टैक्स भवन, आगरा।	उप वन संरक्षक, राष्ट्रीय चम्बल सँचुरी प्रोजेक्ट, आगरा।	राष्ट्रीय चम्बल वन्य जीव विहार	वन भूमि- 0.1548 हे०	परियोजना संरक्षित क्षेत्र के अन्तर्गत प्रस्तावित है।

मा0 बोर्ड द्वारा उक्त प्रस्ताव का अनुमोदन मुख्य वन्यजीव प्रतिपालक द्वारा प्रस्ताव के पार्ट-IV में लगाए गए/सुझाए गए शर्तों के साथ किया गया।

3	जनपद मेरठ में तहसील-मवाना, रामराज-हस्तिनापुर मार्ग (नयागांव-मकदूमपुर मार्ग) पर कि०मी०-6 (चैनेज 6.680) की बांयी पटरी के किनारे ग्राम रतौड़ा खुर्द के खसरा नं० 188/3 पर प्रस्तावित किसान सेवा केन्द्र/रिटेल आउटलेट (पेट्रोल/डीजल पम्प) की स्थापना हेतु प्रस्ताव।	मैसर्स ऑयल लि० (विपणन प्रभाग) गौतमबुद्धनगर।	इण्डियन कार्पोरेशन (विपणन नोएडा, गौतमबुद्धनगर।	प्रभागीय निदेशक, सा०वा० प्रभाग, मेरठ।	हस्तिनापुर वन्य जीव विहार।	0.1225 हे० (प्राइवेट भूमि) 0.05405 (अन्य सरकारी भूमि पी०डब्लू०डी०)	परियोजना संरक्षित क्षेत्र के अन्तर्गत प्रस्तावित है।
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मा० बोर्ड द्वारा निम्न निर्णय लिया गया:-

मुख्य वन्यजीव प्रतिपालक द्वारा प्रस्ताव के पार्ट-IV में लगाए गए/सुझाए गए शर्तों का समावेश किया जाए।

उक्त समावेश के साथ स्वीकृति हेतु इसे राष्ट्रीय वन्यजीव बोर्ड की स्थायी समिति के अनुमोदन के लिये भारत सरकार को भेजा जाए।

(II)

4	जनपद अमरोहा में कस्बा बछरायूं, तहसील धनौरा, कुण्डा फीडर रोड पर खसरा संख्या 1464, 1465, 1468, 1467, 1471 एवं 1472 (प्राइवेट भूमि) पर मैसर्स ए०क्यू० फ्रोजन फूड्स प्रा०लि० द्वारा स्थापित स्लाटर हाउस/मीट प्रोसेसिंग ईकाई के संचालन हेतु ex-post facto अनुमोदन प्रदान किये जाने के सम्बन्ध में।	मैसर्स ए०क्यू० फ्रोजन फूड्स प्रा०लि०, कस्बा बछरायूं, तहसील धनौरा, जनपद अमरोहा।	प्रभागीय वनाधिकारी अमरोहा वन प्रभाग, अमरोहा।	हस्तिनापुर वन्य जीव विहार।	3.504849 हे० (प्राइवेट भूमि)	परियोजना संरक्षित क्षेत्र के अन्तर्गत है।
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मा० बोर्ड ने इस प्रस्ताव को राष्ट्रीय वन्यजीव बोर्ड को प्रेषण हेतु अनुमोदित नहीं किया तथा यह निर्देश दिये कि प्रकरण में मा० न्यायालय में प्रभावी पैरवी की जाए।

(III)

5	जनपद- पीलीभीत, लखीमपुर-खीरी, बहराइच, श्रावस्ती, बलरामपुर तथा महाराजगंज में इण्डो नेपाल बार्डर मार्ग परियोजना के अन्तर्गत संरक्षित क्षेत्र (पीलीभीत टाइगर रिजर्व, दुधवा टाइगर रिजर्व, कतर्नियाघाट वन्य जीव प्रभाग, सोहेलवा वन्य जीव प्रभाग तथा सोहागीबरवा वन्य जीव प्रभाग) की 287.43 हे० वन भूमि पर प्रस्तावित मार्ग का निर्माण।	मुख्य अभियन्ता, इण्डो नेपाल बार्डर रोड (लोक निर्माण विभाग), उ०प्र०, लखनऊ	प्रभागीय वनाधिकारी/उप निदेशक 1-पीलीभीत टाइगर रिजर्व प्रभाग, पीलीभीत। 2-दुधवा टाइगर रिजर्व प्रभाग, पलिया-खीरी। 3-कतर्नियाघाट वन्य जीव प्रभाग, बहराइच। 4-सोहेलवा वन्य जीव प्रभाग, बलरामपुर। 5-सोहागीबरवा वन्य जीव प्रभाग, महाराजगंज।	1-पीलीभीत टाइगर रिजर्व। 2-दुधवा राष्ट्रीय पार्क। 3-कतर्नियाघाट वन्य जीव, विहार। 4-सोहेलवा वन्य जीव विहार। 5-सोहागीबरवा वन्य जीव विहार।	287.43 हे० (वन भूमि)	परियोजना संरक्षित क्षेत्र के अन्तर्गत प्रस्तावित है।
मा० बोर्ड द्वारा निर्देश दिये गए कि -						
<ol style="list-style-type: none"> <li>15 दिन के अन्तर्गत वन विभाग के मुख्य वन संरक्षक/वन संरक्षक के स्तर के अधिकारी, सीमा सुरक्षा बल के अधिकारी तथा लोक निर्माण विभाग के अधिकारियों की टीम संयुक्त रूप से उन मार्गों का निरीक्षण कर लें, जो भारत-नेपाल की सीमा पर पूर्व से विद्यमान है।</li> <li>इस निरीक्षण के पश्चात संरक्षण में वांछित परिवर्तन कर पूर्व में विद्यमान मार्गों का सुदृढ़ीकरण किया जाय जिससे कि चिन्हित 55,000 वृक्षों, जिनमें कई वृक्ष जो 200 वर्ष पुराने हैं, में से कम से कम वृक्षों का पातन हो एवं वन्यजीवों पर न्यूनतम कुप्रभाव पड़े और वन एवं वन्य जीव के संरक्षण के लिए वृक्षों का पातन एवं वन क्षेत्र का विभाजन (Fragmentation) सम्बन्धी कठिनाई का निवारण हो सके।</li> </ol>						

एजेण्डा बिन्दु संख्या 6 : मा० अध्यक्ष महोदय की अनुमति से

अतिरिक्त बिन्दु मद संख्या 1 : हस्तिनापुर वन्यजीव विहार के सम्बन्ध में

1. हस्तिनापुर वन्यजीव विहार के सम्बन्ध में अन्तिम अधिसूचना जारी करने में आने वाली कठिनाईयों से मा० बोर्ड को अवगत कराया गया। मा० बोर्ड के समक्ष समस्याओं के निराकरण के लिये विचार विमर्श के दौरान निम्न तथ्य प्रस्तुत किये गये:-

- (1) उ०प्र० सरकार, वन अनुभाग-3 के शासनादेश संख्या-3782/14-3-57-84 दिनांक 30.07.1986 द्वारा वन्य जीव (संरक्षण) अधिनियम, 1972 (अधिनियम, संख्या-53 सन् 1972) की धारा-18 की उपधारा(1) के अधीन 2073 वर्ग किमी० पर 5 जनपदों में फैले क्षेत्र को हस्तिनापुर अभ्यारण्य के रूप में अधिसूचित किया गया था।
- (2) उ०प्र० शासन के शासनादेश संख्या-4301/14-4-97-852/97 दिनांक 13.11.1997 द्वारा हस्तिनापुर वन्य जीव विहार के विकास हेतु भूमि का अधिग्रहण के सम्बन्ध में यह निर्देश जारी हुए कि उक्त वन्य जीव विहार के विकास के लिए वर्तमान में केवल जलमग्न भूमि तथा आस-पास गांव सभा/सरकारी भूमि के अतिरिक्त किसी भी निजी कास्तकारों की भूमि न ली जाए।
- (3) उक्त शासकीय पत्र दिनांक 22.02.2018 के क्रम में प्रधान मुख्य वन संरक्षक और विभागाध्यक्ष, उ०प्र० लखनऊ के पत्र संख्या-4183/23-7-1 दिनांक 27.06.2018 द्वारा वन्य जीव (संरक्षण) अधिनियम की धारा-26ए के अन्तर्गत हस्तिनापुर वन्य जीव विहार की अन्तिम अधिसूचना जारी करने के सम्बन्ध में शासन को आख्या प्रेषित की गयी, जिसमें वन भूमि, अन्य राजकीय भूमि एवं ग्राम समाज की 403.5227 हे० क्षेत्र, जो कि कई टुकड़ों में फैले हुए हैं, को सम्मिलित करते हुए हस्तिनापुर वन्य जीव विहार की अन्तिम अधिसूचना जारी करने का प्रस्ताव प्रेषित किया गया।

उपरोक्त के कारण हस्तिनापुर वन्य जीव विहार का क्षेत्र विघटित (fragmented) होने के सम्बन्ध में परीक्षण कर लिया जाय ताकि वन्य जीव विहार का क्षेत्र वन्य जीवों के विचरण हेतु व्यवहारिक रहे तथा वन्य जीव प्रबन्धन के दृष्टिकोण से भी उक्त बन्दोबस्त औचित्यपूर्ण रहे।

2. वन्यजीव विहार का क्षेत्रफल 2073 वर्ग कि०मी० से घटाकर 403 वर्ग कि०मी० कर दिया गया है। “ .....pending further orders, no dereservation of forests/sanctuaries/National Parks shall be effected”  
(Supreme Court Order dated 13-11-2002 I.A. No. 2-Writ Petition No. 337/1995)

This order was reiterated by the Hon'ble Supreme Court on 09-02-2004 I.A. No. 16.

अतः विभिन्न विधिक पहलुओं तथा वन्य प्रबन्धन की दृष्टि से वन एवं वन्यजीव के उचित संरक्षण हेतु मा० बोर्ड ने निम्न निर्णय लिया गया:-

- (i) बारासिंघा (swamp deer) जो कि उ०प्र० का राज्य पशु भी है, की संख्या एवं उनके माइग्रेशन (migration) पैटर्न तथा उनके वास स्थल के क्षेत्र को चिन्हित कर कॉरिडोर को समावेशित करते हुए वन बन्दोबस्त की कार्यवाही पुनः प्रारम्भ करने पर विचार किया जाए। इस कार्य को वैज्ञानिक ढंग से सम्पन्न कराने हेतु भारतीय वन्यजीव संस्थान, (Wildlife Institute of India) देहरादून का सहयोग लिया जाए।
- (ii) इस क्षेत्र में बन्दोबस्ती की प्रक्रिया एक बार सम्पन्न हो चुकी है। अतः, इस प्रक्रिया को पुनः प्रारम्भ करने के मत स्थिर होने पर मा० राष्ट्रीय हरित अधिकरण (NGT) में उचित आवेदन पत्र दाखिल कर नये सिरे से पुनः बन्दोबस्त किये जाने का आदेश प्राप्त किया जाय तथा इसे एक समयबद्ध तरीके से सम्पन्न किया जाय। उपरोक्त पुनः बन्दोबस्त से उक्त वन्य जीव विहार की सीमा का रेशनलाईजेशन (rationalization) एवं प्रभावी प्रबन्धन की दृष्टि से किया जाय।

#### अतिरिक्त बिन्दु मद संख्या 2 : उत्तर प्रदेश में ईकोपर्यटन 2018-19

ईको टूरिज्म के क्रियाकलापों के सम्बन्ध में मा० बोर्ड को उ०प्र० वन निगम के प्रस्तुतिकरण से अवगत कराया गया।

उपरोक्त से मा० बोर्ड संज्ञानित हुआ एवं निम्न निर्णय लिया गया:-

1. One District One Tourism Spot की अवधारणा को पर्यटन विभाग के समन्वय से लागू किया जाए।
2. पर्यटकों को ठहरने हेतु वन एवं वन्यजीव क्षेत्रों के बाहर सुविधाएं विकसित की जाएं।
3. वन एवं वन्यजीव क्षेत्रों के भीतर की सुविधाओं को सुदृढीकृत किया जाय जिससे एक रांतुलित रूप से इको टूरिज्म विकसित किया जा सके।
4. दुधवा टाइगर रिजर्व एवं पीलीभीत टाइगर रिजर्व के समीप होम-स्टे के विकास के सम्बन्ध में आवश्यक कार्यवाही की जाए।
5. इको पर्यटन हेतु बजट की आवश्यकता का कन्वर्जन्स (convergence) पर्यटन विभाग द्वारा किया जायेगा।

बैठक धन्यवाद के साथ समाप्त हुई।



16.	Raman Kant, Manager, NEER FOUNDATION	9411676951	Lea
17.	Dr. P.K. Singh, Deptt. of Zoology, Scheduled Life Sci., Dr. B.R. Ambedkar Univ. - Allahabad	9837021832	Prish
18.	श्री. क. क. सिंह, जय-संज्ञा विश्वविद्यालय, अजमेर	7376322537	अजमेर विश्व
19.	Prof. Manju Aggarwal (Retd) Deptt. of Maths & Astronomy Lucknow University, LKO	9451723146 mangalak@yahoo.com	Aggarwal
20.	K. Eshwarani Old CBN	9454400209	K
21.	Dr. Rajni Chaturvedi CSIR - IITR LUCKNOW	9450418445	Chaturvedi
22.	Dr. D. P. Singh - B.B.A. Univ. Lucknow	9415575735	Dr. Singh
23.	बीरेश कुमार उपनिदेशक पर्यटन विभाग	9411027610	3
24.	श्री. क. क. सिंह	9454798732	S. Singh
25.	श्री. क. क. सिंह	7839349761	CS
26.	Dr. Anoop Kumar Singh	9415126765	Anoop
27.	श्री. वी. सिंह सचिव समाज कल्याण	94151146	CS
28.	Dr. Sumit K. Mishra, Sr. Scientist CSIR - NPL, New Delhi	9911920469	SKM
29.	A.K. Dwivedi MD, UPFC	9415124922	Dwivedi
30.	Eva Sharma, GM, UPFC	9415010818	ES
31.	Pawan Kumar, PCEF(W)	9450502072	P
32.			
33.			

**MINUTES OF MEETING OF EIGHTH MEETING OF  
UTTAR PRADESH STATE WILDLIFE BOARD UNDER  
THE CHAIRMANSHIP OF HON'BLE CHIEF MINISTER,  
UTTAR PRADESH ON DATED 30.08.2018.**

1. List of the members/officers present in the meeting is enclosed.
2. Eighth meeting of the Uttar Pradesh State Wildlife Board concluded in the Assembly Room, Annexe Building, Fifth Floor, Uttar Pradesh Secretariat. Details discussion made by Hon'ble Board on the Agenda/Proposal submitted in the meeting.

**Agenda Point No.1: Confirmation of minutes of meeting of the meeting of Uttar Pradesh State Wildlife Board dated 17.08.2016.**

It was informed to the Hon'ble board that the minutes of meeting of seventh meeting of Uttar Pradesh State Wildlife Board dated 17.08.2016 was earlier circulated to the Hon'ble Members, on which no comments have been made by the Members.

Minutes of Meeting confirmed by the Hon'ble Board.

**Agenda Point No.2: Pointwise Compliance report on the decision taken under the Chairmanship of**

**Hon'ble Forest Minister, Forest and Wildlife Department, Govt. of Uttar Pradesh in the meeting of Uttar Pradesh State Wildlife Board concluded on dated 17.08.2016,**

Hon'ble Board got cognizant from the action taken in sequence of the decision/instructions taken in the seventh meeting of Uttar Pradesh State Wildlife Board. Hon'ble Board recommended the action taken and gave following instructions in the matter.

- In the year 1970 Lease of 5 Acre Forest land was approved to Sh. Shukdev Ashram Seva Trust in District Muzaffar Nagar. Remarkable work is being done by this trust in regard to Education and Wildlife Protection.
- While making compliance of the terms vested in this matter approval was made in the Sixth Meeting of State Wildlife Board dated 26.05.2015 to send this matter to Govt. of India. Decision was taken by the State Govt. for taking approval of the Hon'ble Council of Ministers in the present matter.

- Hon'ble Board Instructed that after obtaining the approval of the Hon'ble Council of Ministers the matter should be promptly forwarded to the Govt. of India for the consideration of National Wildlife Board.

**Agenda Point No.3:- Send the proposal to the Standing Committee of the National Wildlife Board after discussing on the report submitted by the Wildlife Institute of India, Dehradun in respect of the Turtle Wildlife Sanctuary:-**

Report submitted by the Wildlife Institute of India, Dehradun was submitted before the Hon'ble Board in detail. Major quotes in the details report is as follows-

After making survey by the Wildlife Institute of India, the quality of authenticity of aquatic organisms assessed on the basis of the following 03 indicators by assuming each 10 kilometer linear length as a unit in full extension in the state of Ganga River (Upto Bijnor and Baliya).

Biological Indicators	Habitat Characteristics Indicators	Anthropogenic Indicators
--------------------------	--	-----------------------------

Dolphin Individual Count	Water Depth	Presence of River bed agriculture
Nests Count of breeding birds	Meanders	Number of finishing nets and boats
Gharial Individual Count	Mid & Channel island as they influence species abundance and distribution of the Ganga River	Number of Riverside Villages and Ghats
Mugger Individual Count		Presence Of mining sites and ranked based on their impacts on biodiversity of Ganga River
Turtle species & individuals count		

(a) On the basis of above indicators total score of present Turtle Wildlife Sanctuary (1115-1122 k.m.) are as follows:-

S.No.	Ganga River Extension (from Bijnor Barrage)	Score based on biological standards (Max. 5)	Score based on Habitat Standards (Max. 3)	Score based on Human generated pressure standards	Total Score (Max.10)

				(Max.2)	
112	1110-1120	0.00	1.25	1.30	2.55
113	1120-1130	0.05	0.75	1.30	2.10

The summary of the conclusions taken by the Wildlife Institute of India on the basis of various indicators is as follows:-

- I. On the basis of Remote Sensing Data year 1974-2016, no significant changes have occurred in the expansion of river stream and sand dunes.
- II. Although there is an increase of about 28% in vegetation in the river basin, which is due to the safety measures done by the forest department and the expansion of agriculture.
- III. During survey in the Turtle Wildlife Sanctuary only amongst total 13 species 5 species of the turtles seen.

Due to high human-caused pressure in the turtle wildlife sanctuary, the change in nature has resulted in a significant reduction in the number of turtles.

Due to Cemented wharf, activities of the boats, pollution and human presence on the left edge Turtle Wildlife Sanctuary there are habitat of very low quality. Although the ideal habitat is available in the form of sand dunes on the right edge but it is highly affected by human pressure.

Details of Overall Aquatic Habitat Quality of Turtle Wildlife Sanctuary are as follows:-

	Site	River Width (m)	River bank slope (%)	% river bank vegetation	No. of sand islands	Land cover type (agriculture scrub, grassland, sand)	Nesting Habitat quality (1-5)	Overall Aquatic Habitat Quality (1-5)
Turtle Wildlife Sanctuary (1118-1125)	V1	403	5	5	0	Sand	1	1
	V2	340	5	5	0	Sand	1	1
	V3	268	10	5	0	Sand	1	1
	V4	300	15	5	0	Sand	2	1
	V5	347	15	10	0	Sand	1	1
	V6	370	5	5	0	Sand	2	1
	V7	442	20	20	0	Sand	2	1

Score for nesting & habitat assessment: 5-very good, 4-good, 3-moderate, 2-poor, 1-No habitat

Source WII report dated 06.07.2018 Page no.19

- In the study done by above Wildlife Institute of India, Dehradun present Turtle Wildlife Sanctuary has been found No habitat for turtles in view of the above points.

(b) Hon'ble Board wanted to know what other measures can be taken for protection of turtle?

In this regard Hon'ble Board informed that in the study done by Wildlife Institute of India following fact came to light:-

1. "..... as evidence from the assessment, the creation of protected areas does help in species conservation, along the Ganga River. However, the area should be large, covering diverse habitat types and minimal threats."
2. On the basis of the total scores of indicates in the Upstream of Turtle Wildlife Santuary from Newada (Allahabad) to Adalpur (Mirzapur) making wildlife sanctuary seems to be most appropriate.

In this regard following table is visible:-

S.No.	Ganga River	Score based	Score	Score based on	Total
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	Extension (from Bijnor Barrage)	on biological standards (Max. 5)	based on Habitat Standards (Max. 3)	Human generated pressure standards (Max.2)	Score (Max.10)
94	930-940	0.10	0.75	1.15	2.00
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05
98	970-980	0.00	1.13	1.40	2.53
99	980-990	0.10	1.25	1.25	2.60
100	990-1000	0.10	0.75	1.35	2.20
101	1000-1010	0.88	1.00	1.35	3.23
102	1010-1020	0.05	0.50	1.20	1.75
103	1020-1030	0.10	0.63	1.50	2.23
104	1030-1040	0.60	2.25	1.35	4.20
105	1040-1050	0.05	0.88	1.35	2.28
106	1050-1060	0.00	0.75	1.40	2.15
107	1060-1070	0.40	1.50	1.40	3.30

- This suggestion has given in the report of the Indian Wildlife Institute, Dehradun while discussing on the various scores as above in the upstream of Turtle Sanctuary from Newada (Allahabad) to Adalpur (Mirzapur) that Based on the combined scores, 140 km stretch downstream Newada in Allahabad District to Adalpur in Mirzapur district has been

considered as the priority stretch for conservation. It is suggested that this area may be brought under the purview of Wild Life (Protection) Act, 1972 by declaring it as a wildlife Sanctuary for the conservation of aquatic biodiversity of the Ganga River in Uttar Pradesh. Since the ecological characteristics and wildlife values vary along this 140 km. stretch on account of anthropogenic pressures, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural-religious uses may be required, and to be done by the Uttar Pradesh Department.

- There was a thorough discussion on this suggestion and Hon'ble Board done detailed discussion on the above scores and it was agreed that it will be appropriate to declare 30 k.m. as Wildlife Sanctuary as follows, because in view of the biological standard, habitat standard and anthropogenic pressures standards the total scores are in the category of more.

**Table-1**

S.No.	Ganga River	Score based	Score	Score based on	Total
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	Extension (from Bijnor Barrage)	on biological standards (Max. 5)	based on Habitat Standards (Max. 3)	Human generated pressure standards (Max.2)	Score (Max.10)
95	940-950	0.00	2.13	1.35	3.48
96	950-960	0.30	1.13	1.40	2.83
97	960-970	0.90	1.75	1.40	4.05

It is relevant to mention here that Wildlife Institute of India, Dehradun in its report has indicated the total Score 4.20 in proportionate to Sl.No.104(1030-1040). The table of Scores of above upstream is as follows:-

**Table - 2**

S.No.	Ganga River Extension (from Bijnor Barrage)	Score based on biological standards (Max. 5)	Score based on Habitat Standards (Max. 3)	Score based on Human generated pressure standards (Max.2)	Total Score (Max.10)
102	1010-1020	0.05	0.50	1.20	1.75
103	1020-1030	0.10	0.63	1.50	2.23
104	1030-1040	0.60	2.25	1.35	4.20

It becomes clear from the analysis of these table that the sum of Sl.No.102, 103 and 104 (1010-1020, 1020-1030, 1030-1040 k.m. mentioned in Table-2 comes to 8.28,

whereas the sum of Sl.No.95, 96 and 97 (940-950, 950-960 and 960-970 k.m. mentioned in Table-1 comes to 10.36. Since the sum of total scores mentioned in Table-1 is greater, this area was approved to be declared as a Wildlife Sanctuary. It is also relevant to mention here that the area of newly proposed 30 kms Turtle Wildlife Sanctuary (length of which is 7 km) more than 4 times of the length of Turtle Wildlife Sanctuary proposed for denotify situated at Varanasi comes under extended category.

In this after intensive discussion, Hon'ble Board took following decision-

- (1) On the basis of various standards "Turtle Wildlife Sanctuary" found very below in the category of suitability hence proposal to denotify be sent to the Govt. of India for the approval of the Standing Committee of National Wildlife Board" and instructed that under the exist legal arrangement permission be obtained from the Central Empowered Committee(CEC)/Hon'ble Supreme Court.

(2) Proposal to declare 30 k.m. area near "NAVADA (Allahabad) as Turtle Wildlife Sanctuary be sent to Govt. of India for the approval of the Standing Committee of National Wildlife Board" and as well as following action be also taken:-

1. Social Impact Assessment be conducted in the area of Proposed Turtle Wildlife Sanctuary and measures of mitigation measures should also be ensured for this.
2. Opinion be also obtained from the Chief Naval Hydrographer.

**Agenda Point No.4:- In respect of declaring national wildlife sanctuary as Tiger Reserve:-**

According to the suggestion to declare Ranipur Wildlife Sanctuary as National Tiger Reserve in place of National Park, Hon'ble Board recommended the proposal to declare it as Tiger Reserve, from which this area would be fully developed for Tiger Conservation.

**Agenda Point No.5:- Proposals in respect of Wildlife clearance for various projects outside the Wildlife Protected Area/Protected Area-**

Hon'ble Board made comprehensive discussion on the submitted proposals and decisions on the proposals in respect of the land transfer/wildlife clearance for various projects outside the Wildlife Protected Area/Protected Area, taken as follows:-

S. No.	Project/ Proposal	Proposer Department	Concerned Division/District	Concerned protected area	Required forest land for project	Distance of project from the boundary of protected area
1	Construction of 11 K.V. transmission line proposed by Electrical Construction Block, Meerut (Under U.P.P.C.L.) of Hastinapur Wildlife Sanctuary for electrification of various religious places from the point of view of	Executive Engineer, Electrical Construction Block, U.P. Power Corporation Ltd., Meerut	Divisional Director, S.V. Division, Meerut	Hastinapur Wildlife Sanctuary	Forest land- 0.0575 hectare Non-Forest Land- 0.60325 Hec. (PWD)	Project is proposed under protected area

development of tourism in Dist. Meerut					
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Following decision taken by the Hon'ble Board:-

Include the terms imposed/suggested by the Chief Wildlife Conservator in Part-IV of the proposal.

Alongwith above inclusion, it will be sent for the acceptance to Govt. of India for the approval of Standing Committee of National Wildlife Board.

2	Construction work for laying underground O.F.C. proposed by Bharat Sanchar Nigam under National Chambal Wildlife Sanctuary Area in 3.44 k.m. on left track from 74.560 k.m. (Udi turn) to 78.00 k.m. (Chambal Bridge) for Itawah-Bhind O.F.C. in Dist Itawah	Divisional Engineer, Bharat Sanchar Nigam Ltd. Office of Dy. General Manager, Tele Communication Project, Fourth Floor, Tax Building, Agra	Dy. Forest Conservator, National Chambal Sanctuary Project, Agra	National Chambal Wildlife Sanctuary	Forest Land- 0.1548 hectare	Project is proposed under protected area
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Approval of the above proposal made by the Hon'ble Board alongwith the terms imposed/suggested by the Chief Wildlife Conservator in Part-IV of the proposal.

3	Proposal for establishment of proposal Kisaan Seva Kendra/Retail outlet (Petrol/Diesel Pump) on Khasra No.188/3 of Village Rathora Khurd on the edge of left track of 6 k.m. (Chainej 6.680) on Tehsil-Mawana, Ramraj-Hastinapur Road (Nayagaon-Makdoompur Road) in Dist. Meerut	M/s Indian Oil Co. Ltd. ( Marketing Division) Noida, Gautambudh Nagar	Divisional Director, S.V. Meerut Division	Hastinapur Wildlife Sanctuary	0.1225 Hectare (Private Land) 0.05405 (Other Govt. land PWD)	Project is proposed under protected area
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Following decision taken by the Hon'ble Board:-

Include the terms imposed/suggested by the Chief Wildlife Conservator in Part-IV of the proposal.

Alongwith above inclusion, it will be sent for the acceptance to Govt. of India for the approval of Standing Committee of National Wildlife Board.

4	In respect of granting ex-post factor approval for the operation of Slaughter House/Meat Processing Unit established by M/s A.Q. Frozen Foods Pvt. Ltd. on Khasra No.1464, 1465, 1466, 1467, 1471 & 1472 (Private land) on Town Bachraun, Tehsil Ghanora, Kunda Feeder Road in Dist. Amroha	M/s A.Q. Frozen Foods Pvt. Ltd, Town Bachraun, Tehsil Dhanora, Dist. Amroha	Divisional Forest Officer, Amroha, Forest Division, Amroha	Hastinapur Wildlife Sanctuary	3.504849 hectare (Private Land)	Project is proposed under protected area
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Hon'ble Board did not approve this proposal for sending to National Wildlife Board and gave this instruction to do effective arguments before the Hon'ble Court in the matter.

5	Construction of proposed road on 287.43 hectare forest land of protected area (Pilibhit Tiger Reserve, Dudhva Tiger Reserve, Katniryaghat	Chief Engineer, Indo Nepal Boarder Road (Public Works Department) U.P., Lucknow	Divisional Forest Officer/Dy. Director 1. Pilibhit Tiger Reserve Division, Pilibhit 2. Dudhva Tiger Reserve Division, Paliya-Khiri	1.Pilibhit Tiger Reserve, 2.Dudhva Tiger Reserve, 3.Katniryaghat Wildlife Division, 4. Sohelava Wild Life Division	287.43 hectare (Forest Land)	Project is proposed under protected area
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Wildlife Division, Sohelava Wildlife Division and Sohagibarva Wildlife Division) under Indo-Nepal Boarder Road Project in District-Pilibhit, Lakhimpuri-Khiri, Bahraich, Shravasti, Balrampur and Maharajganj		3. Katniryaghat Wildlife Division: Bahraich 4. Sohelava Wildlife Division, Balrampur 5. Sohagibarva Wildlife Division Maharajganj	5.Sohagibarva Wildlife Division.		
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Instructions given by Hon'ble Board that-

1. Within 15 days the team of Chief Forest Conservator of Forest Department/Officers of Forest Conservator, Officers of Border Security Force and Public Works Department, jointly inspect those route, which are already existed on India-Nepal Boundary.
2. After this inspection, strengthening of pre-existed routes be done by making required changes in the alignment, so that less fall of trees happen amongst marked 55000 trees, amongst which many trees are 200 years old and minimum impact on wildlife and so to resolve the difficulties related to the fall of

trees and fragmentation of forest area for the protection of forest and wildlife.

**Additional Point No.1: In respect of Hastinapur Wildlife Sanctuary:-**

1. Hon'ble Board informed about the difficulties in issuing final notification in respect of Hastinapur Wildlife Sanctuary. To solve problems following facts submitted before the Hon'ble Board during discussion:-
  - (1) Vide Govt. Order No.3782/14-3-57-84 dated 30.07.1986 of Govt. of U.P. Forest Division-3, the area spread over 5 District in 2073 sq.mtr. was declared as Hastinapur Sanctuary under Section 18 Sub-Section-1 of Wildlife (Protection) Act, 1972 (Act No.53 of 1972).
  - (2) Vide Govt. order of U.P. Govt. bearing No.4301/14-4-97-852/97 dated 13.11.1997 following instructions issued in respect of acquiring the land for the development of Hastinapur Wildlife Sanctuary that for the development of above wildlife sanctuary land will not be taken from any of the

private farmers apart from the submerged land and nearby Gram Sabha/Govt. land only.

- (3) In sequence of above Govt. Letter dated 22.02.2018 report U/s 26A of Wild Life (Protection) Act sent by Principal Forest Conservator and Head of the Department, U.P. Lucknow vide letter No.4183/23-7-1 dated 27.06.2018 to the Govt. in respect of issuing final notification of Hastinapur Wildlife Sanctuary, in which while including the forest land, other Govt. land and 403.5227 hectare of Gram Samaj, which are spread in many pieces, proposal was passed to issue final notification of Hastinapur Wildlife Sanctuary.

Due to above, the area should be examined in relation that the area of Hastinapur Wildlife Sanctuary is fragmented area so that the area of wildlife habitat is practiced for the variance of wildlife and the said arrangement remains reasonable from the point of view of wildlife management.

2. The area of wildlife Sanctuary as has been reduced from 2073 square kilometers to 403 square kilometers. "..... pending further orders, no

dereservation of forests/sanctuaries/National Parks shall be effected".

(Supreme Court order dated 13.11.2002 I.A. no.2-Writ Petition No.3371/1995)

This order was reiterated by the Hon'ble Supreme Court on 09-02-2014 I.A. No.16.

So, in view of the various legal aspects and forest management, Hon'ble Board took following decision for the proper protection of Wildlife:-

- (i) By incorporating the number of Swamp deer, who is also State Animal of Uttar Pradesh and by incorporating their migration pattern and by marking their habitat, consideration should be made to resume the proceeding of forest arrangement. Assistant of Wildlife Institute of India, Dehradun should be taken to get this done scientifically.
- (ii) Process of endowment in the area has been completed once. Therefore, if the vote to resume this process is frozen, then a fresh order for re-settlement be obtained by filing a proper application

before the Hon'ble National Tribunal and this should be completed with a time bound manner. From the above re-settlement, rationalization of the boundary of above Wildlife Sanctuary should be done with the point of view of effective management.

**Additional Point No.2:- Ecotourism 2018-19 in Uttar Pradesh.**

Hon'ble Board made aware about the presentation of U.P. Forest Corporation in respect of the activities of Eco Tourism.

Hon'ble Board got cognizant from above and following decision was taken:-

1. Concept of One District One Tourism Spot should be implemented with the coordination of tourism department.
2. To facilitate tourists, outside facilities of forest and wildlife areas should be developed.
3. The facilities of forest and wildlife areas should be strengthened so that eco-tourism can be developed in a balanced way.

4. Necessary action should be taken in respect of the development of Home-stay near Dudhwa Tiger Reserve and Pilibhit Tiger Reserve.
5. Convergence of budget requirement for Eco-Tourism will be done by the Tourism Department.

**Meeting ends with thanks.**

**List of the members/officers present in the meeting of State Wildlife Board, from 10.30 AM, in the Assembly Room, Annexe Building, Fifth Floor of U.P. Secretariat under the Chairmanship of Hon'ble Chief Minister.**

S.No.	Name & Post	Mobile No.	Signature
1			
2	Dara Singh Chauhan	94550673877	Sd/-
3	Anil Parashar, MLA	941227511	Sd/-
4	Dr. Arun Kumar, MLA	8765954823	Sd/-
5	Raghvendra Pratap Singh-MLA	8887151106	Sd/-
6	S.K. Upadhyay,	9415016617	Sd/-
7	Dr. Anoop Kumar Singh	9415126765 dr.anoopsinghdev@gmail.com	Sd/
8	Dr. Devanshu Gupta, Scientist-C	9415288413 divanshugupta364102@gmail.com	Sd/
9	Beeresh Kumar Dy. Director Tourism, Deptt.	9411027610 dgeep1@gmail.com	Sd/
10	Prem Chandra Pandey, Project Head	9452448855 brem@wti.org.in	Sd/
11	Dr. G.P. Sinha, Scientist E & Head	9956250352 drgpsinha@gmail.com	Sd/
12	Sunil Kumar Singh, Director Fishery	9450063183 sksinghjd@gmail.com	Sd/
13	Khudana Ram, Retired Forest Officer Village Ramdaspur, Post Bhimapat,	7839349761	Sd/
14	Dr. V.K. Singh, Asst. Director, Animal Husbandary Department	98385470309	Sd/
15	Sanjay Kashyap, Secretary, Aruna Rainforest ECONGO	981105024	Sd/

16	Raman Kant, Manager MEER Foundation	941676951	Sd/
17	Dr. P.K. Singh, Deptt. Of Zoology, --- Life Science Dr. Bhimrao Ambedkar Univ. Agra	9837021832	Sd/
18	Aarti Rana, Village Gubrail, Post Charan Chori, Lakhimpur Khiri	7376322537	Sd/
19	Prof. Manju Agarwal (Retd.) Dept. of Maths & Astronomy, Lucknow University (HIG-79 Sector-E, Aliganj)	9451723146. manjuah@yahoo.com	Sd/
20	K.E.____ DIG CBCD	9454400399	Sd/
21	Dr. Rajnish Chaturvedi, CSJR-IITR, Lucknow	9450418445	Sd/
22	Dr. D.P. Singh, BBA University, Lucknow	9415575735	Sd/
23	Biresh Kumar, Dy. Director, Tourism Department	9411027610	Sd/
24	Shravan Kumar Singh	9454798732	Sd/
25	Sudama Ram	7839349761	Sd/
26	Dr. Anoop Kumar Singh	9415126765	Sd/
27	C.P. Singh, Secretary, Social Welfare	9457101468	Sd/
28	Dr. Sumit K.Mishra, Sr. Scientist (SIR-NPL, New Delhi	991920419	Sd/
29	A.K. Dwivedi, MD, UPFC	9415124922	Sd/
30	Eva Sharma, GM, UPFC	9415010818	Sd/
31	Pawan Kumar, PCEF(W)	9450502027	Sd/

Press Information Bureau  
Government of India  
Ministry of Shipping

03-January-2018 02:31IST

**Cabinet approves Jal Marg Vikas Project for enhanced navigation on the Haldia-Varanasi stretch of National Waterway-1**

The Cabinet Committee on Economic Affairs, chaired by the Prime Minister Shri Narendra Modi has given its approval for implementation of the Jal Marg Vikas Project (JMVP) for capacity augmentation of navigation on National Waterway-1 (NW-1) at a cost of Rs 5369.18 crore with the technical assistance and investment support of the World Bank. The Project is expected to be completed by March, 2023.

**Major Impact:**

- Alternative mode of transport that will be environment friendly and cost effective. The project will contribute in bringing down the logistics cost in the country.
- Mammoth Infrastructure development like multi-modal and inter-modal terminals, Roll on - Roll off (Ro-Ro) facilities, ferry services, navigation aids.
- Socio-economic impetus; huge employment generation.

**No. of beneficiaries:**

- NW-1 development & operations will lead to direct employment generation to the tune of 46,000 and indirect employment of 84,000 will be generated by vessel construction industry.

**States/districts covered**

- States: Uttar Pradesh, Bihar, Jharkhand, West Bengal
- Major Districts: Varanasi, Ghazipur, Ballia, Buxar, Chhapra, Vaishali, Patna, Begusarai, Khagaria, Munger, Bhagalpur, Sahibganj, Musrhidabad, Pakur, Hoogly, Kolkata.

**Project details:**

- **Funding pattern:**
  - IBRD loan component: Rs. 2, 512 crore (US\$ 375 million).
  - Government of India counterpart funds: Rs. 2,556 crore (US\$ 380 million), to be sourced from budgetary allocation and proceeds from bond issue.
  - Private sector participation under PPP mode: Rs. 301 crore (US\$45 million).
- **Major Components:**

i.	Fairway Development

ii.	Construction of the multi-modal terminal at Varanasi.
iii.	Construction of the multi-modal terminal at Sahibganj.
iv.	Construction of the multi-modal terminal at Haldia.
v.	Construction of an inter-modal terminal at Kalughat .
vi.	Construction of an inter-modal terminal at Ghazipur.
vii.	Construction of a new navigation lock at Farakka.
viii.	Provision of navigational aids.
ix.	Construction of five pairs of Roll on-Roll off (Ro-Ro) terminals.
x.	Construction of Integrated Ship Repair and Maintenance Complexes.
xi.	Provision of River Information System (RIS) and Vessel Traffic Management System (VTMS)
xii.	Bank Protection works

**Background:**

- One of the major problems for a commercially viable and safe navigation on NW-1 is low depth upstream of Farakka due to low discharges from tributaries and difficult hydro morphological characteristics of river Ganga.
- A pilot study on the Allahabad-Ghazipur stretch was commissioned by Inland Waterways Authority of India (IWAI) to find solutions to this problem.
- Based on the findings of this study, a proposal for development of NW-1 at an estimated cost of Rs. 4,200 crore (US\$ 700 million) was taken up for seeking technical assistance and investment support from the World Bank to the tune of US\$ 350 million in three Phases.
- Finance Minister announced JMVP in Budget Speech in July 2014, to enable commercial navigation of at least 1500 tonnes vessels in Ganga.

**BACKGROUNDER NOTE**

**Implementation strategy/ and targets:**

- Fairway development through performance based contract for least assured depth of 2.2 metres to 3 metres and bottom channel width of 45 metres, bank protection works, and provisions of navigation aids.

**Funding Pattern:**

- IBRD loan component: Rs. 2, 512 crore (US\$ 375 million).
- Government of India counterpart funds: Rs. 2, 556 crore (US\$ 380 million), to be sourced from budgetary allocation and proceeds from bond issue.
- Private sector participation under PPP mode: Rs. 301 crore (US\$45 million).

**Major interventions and their completion timeline:**

S.No	Major milestones	Time Frame for completion/ Target date
1.	Fairway Development	March, 2023
2.	Construction of Phase-I of multi-modal terminal at Varanasi.	November, 2018
3.	Construction of Phase-I of the multi-modal terminal at Sahibganj.	March, 2019
4.	Construction of multi-modal terminal at Haldia.	March, 2019
5.	Construction of inter-modal terminal at Kalughat.	March, 2020
6.	Construction of inter-modal terminal at Ghazipur.	March, 2020
7.	Construction of intermodal terminal at Tribeni/Kalyani	March, 2020
8.	Construction of new navigational lock at Farakka.	March, 2019.
9.	Integrated Vessel Repair & Maintenance Complexes	March, 2020
10.	Construction of Ro-Ro jetties	March, 2020
11.	Vessel Procurement	March, 2019

12.	Land Acquisition and R&R/RAP	March, 2019
13.	Provision of River Information System (RIS) and Vessel Traffic Management System (VTMS).	March, 2020
14.	Bank protection works.	December, 2019

**Details and progress of scheme already running:**

**a. Construction of multi-modal terminal at Varanasi:**

Contract for construction of Phase-I (A) of the terminal at an estimated cost of Rs. 169.59 crore awarded in May, 2016. Physical progress of work: 25%.

**b. Construction of multi-modal terminal at Haldia:**

Contract awarded for constructing a Rs 517.36 crore state-of-the-art multi-modal terminal at Haldia, West Bengal. Work initiated.

**c. Construction of multi-modal terminal at Sahibganj:**

Contract for construction of phase-I (A) of the terminal at an estimated cost of Rs. 280.90 crore awarded in October, 2016. Physical progress of work: 25.62%

**d. Construction of a new navigation lock at Farakka Barrage:**

Contract for construction of a new navigation lock at an estimated cost of Rs 359.19 crore awarded in November, 2016. Physical progress: 22.30%

**e. Least Assured Depth (LAD):**

Tender process for fairway development through Performance Based Maintenance Dredging Contract for Provision of Least Assured Depth and quantity based dredging to provide a depth of 2.2 m to 3 metres between Farakka and Varanasi is being completed for awarding.

**f. Development of Kolkata and Patna terminals under PPP mode:**

In order to scale up private investment in the IWT sector, IWAI has identified Kolkata terminal (GR Jetty-I, GR Jetty-II and BISN) and Patna terminal (Gaighat and Kalughat) for their development and operation under the Public-Private-Partnership (PPP) mode.

**g. Construction of Ro-Ro terminals:** Locations: Rajmahal and Manikchak; Samdaghat and Manihari; Kahalgaon and Tintanga; Hasnapur and Bakhtiyarpur; and Buxar and Saraikota.

**h. Ferry terminals in six cities :**

Contract awarded to a joint venture of Thompson Design Group (TDG), Boston (USA) and Infrastructure Architecture Lab of Massachusetts Institute of Technology (MIT) (USA) in December 2016 for identifying suitable locations for construction of ferry terminals in six cities - Varanasi, Patna, Bhagalpur, Munger, Kolkata and Haldia on NW-1.

**i. Design of inland vessels:**

IWAI in August, 2016 signed a contract with M/s DST, Germany to design vessels, especially suited to navigate on NW-1. Consultancy completed with submission of stipulated 13 designs. Designs accepted by the Vetting Committee. Vessel testing is going on.

**j. River Information Services (RIS) on National Waterway -1:**

IWAI has taken up a technologically challenging project of setting up of River Information Service. System on NW-1 for the first time in India. River Information System (RIS) are equipment, hardware and software information technology (IT) related services designed to optimize traffic and transport processes in inland navigation.

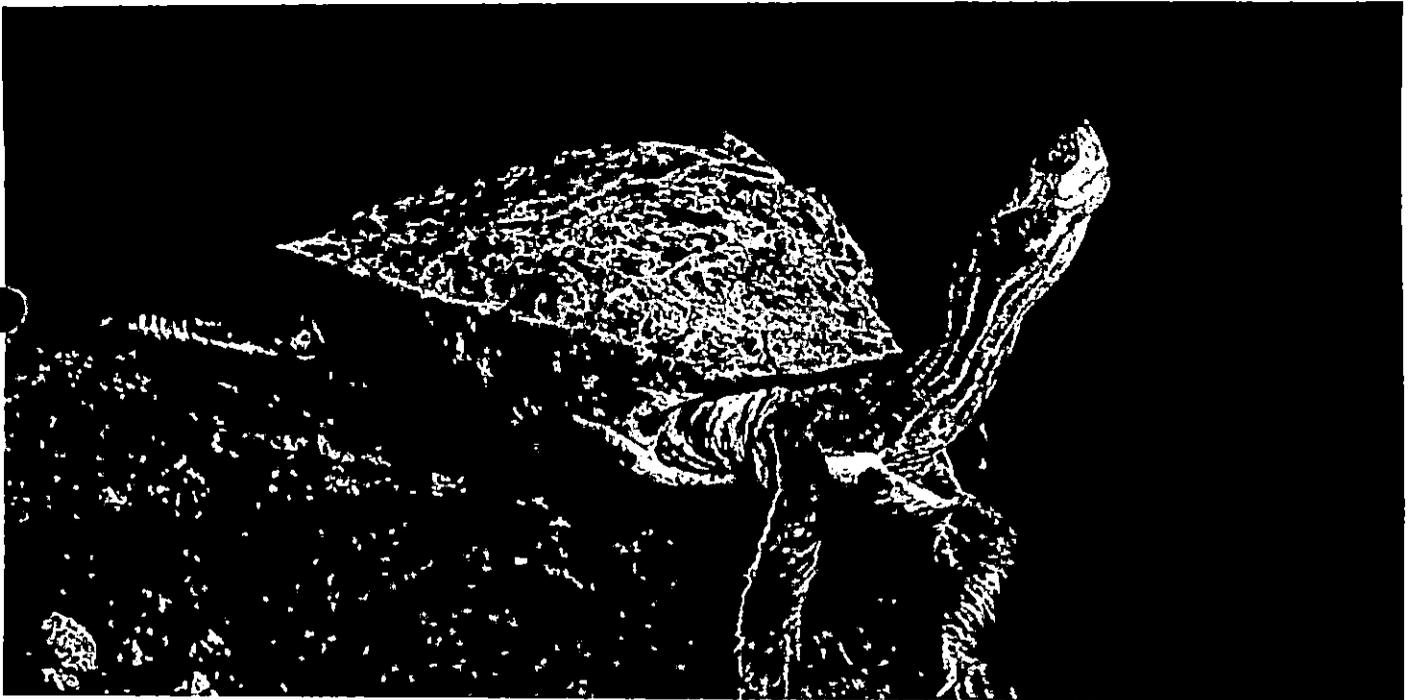
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AKT/VBA/SH

ENVIRONMENT

# In Modi's Constituency, a Wildlife Sanctuary is Quietly Being Erased

If the Centre approves the proposal to denotify the Kachhua Sanctuary in Varanasi, this will be the first protected area to be completely wiped off the map of India since the introduction of the Wildlife Protection Act, 1972.



File photo of the Indian tent turtle (*Pangshura tentoria tentoria*), of the kind found in the Ganga and at the Kachhua Sanctionary at Varnasi. Credit: Charles J. Sharp/CC BY-SA 4.0



Bahar Dutt



ENVIRONMENT 24/SEP/2018

**New Delhi:** Freshwater turtles may be small, but they are proving to be a big stumbling block for the government's plans to dredge the Ganga for a multi-crore inland waterways project that will pass through Varanasi, Prime Minister Narendra Modi's constituency, and end in Haldia in West Bengal.

The 'Kachhua' or Turtle Wildlife Sanctuary (TWS), the world's only protected area dedicated to freshwater turtles, is now set to be wiped off the conservation map of India. The state government has submitted a proposal to the Government of India asking for the Kachhua sanctuary in Varanasi to be 'denotified' following a meeting of the State Board of Wildlife of Uttar Pradesh on August 30, 2018.

Documents available with *The Wire* reveal how grounds are being prepared by Yogi Adityanath's government to denotify the 210-hectare area of the sanctuary. The reason stated by the DFO Kashi wildlife division in a written submission to the National Board for Wildlife states that "sence (*sic*) the sanctuary is not fulfilling its purpose hence it being denotified". Another letter, by chief conservator of forests S.K. Awasthi on September 5, 2018, asks the DFO Kashi wildlife division to submit a proposal for denotification of the 'Kachhua Wildlife Sanctuary' since the State Board of Wildlife has cleared this in a meeting held on August 30, 2018.

## Authorization Letter

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Mr. Manoj Khare, DFO, Kashi Wildlife Division is hereby authorized to submit proposal regarding denotification of Kachhua Wildlife Sanctuary, in view of the decision taken in the 8<sup>th</sup> meeting of SBWL UP dated 30.08.2018 after due consideration and diligence exercised in the matter.

(S.K. Awasthi)

Chief Conservator of Forest,  
Wildlife (Western) Kanpur,

Office of the Chief Conservator of the Forest Wildlife (Western), Kanpur  
Letter No: 506/26-11 dated 05.09.2018 Kanpur

Copy to following for information and necessary action:

- 1- Principal Chief Conservator of Forest Wildlife, UP.
- 2- DFO, Kashi Wild Life Division, Varanasi.

(S.K. Awasthi)

Chief Conservator of Forest,  
Wildlife (Western) Kanpur,

Letter from chief conservator of forests to subordinate officer asking that a proposal for denotifying the Turtle Wildlife Sanctuary be summited. The letter is dated September 5, 2018.

While there has been much media speculation about the turtle sanctuary proving to be a stumbling block for the NDA government's plan for big infrastructure projects on this stretch of the Ganga, papers available with *The Wire* are the first documentary evidence that conveys the government's intent to actually destroy the wildlife sanctuary.

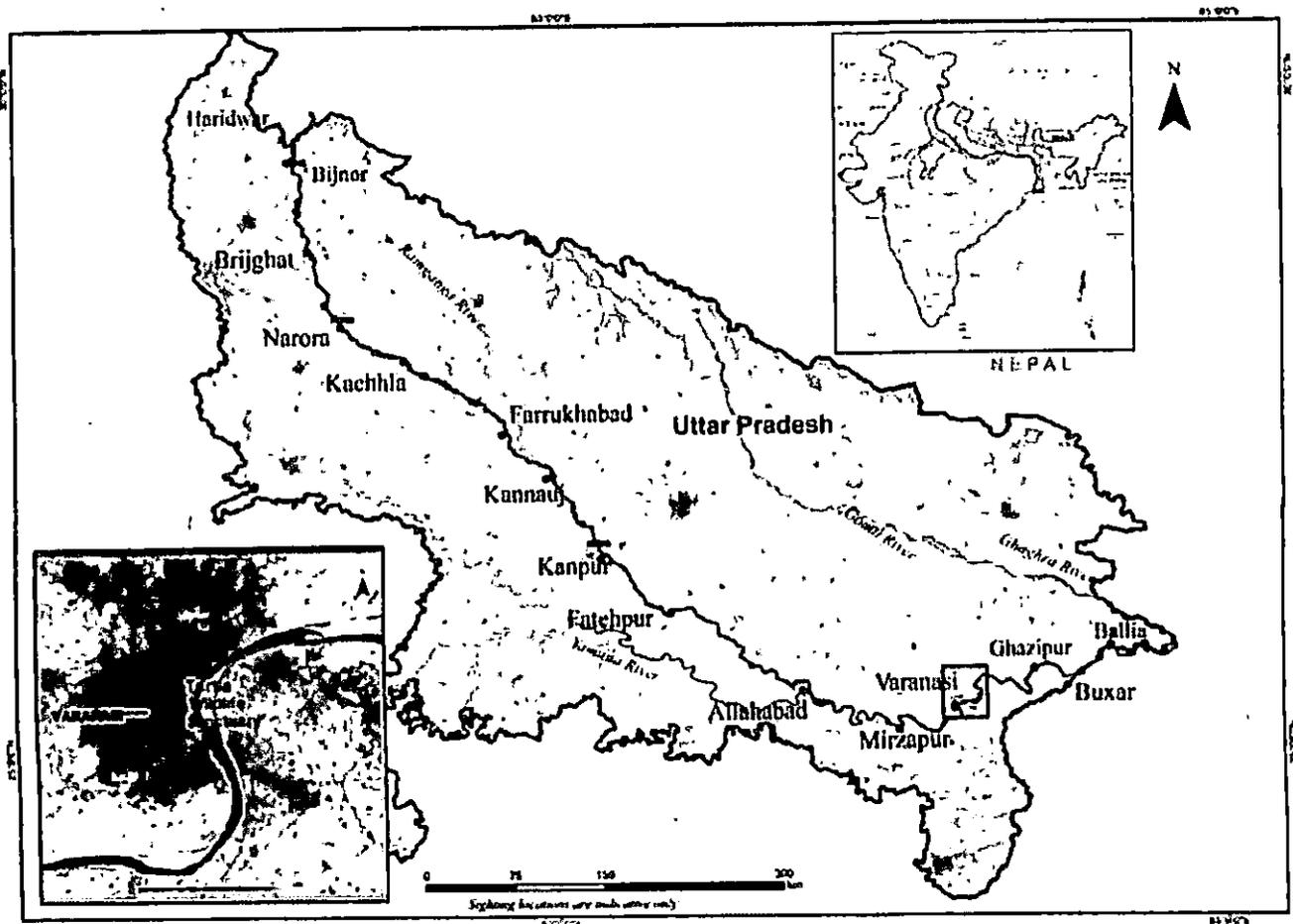
If the Centre approves the proposal to denotify the Kachhua Sanctuary, this will be the first protected area to be completely wiped off the map of India since the introduction of the Wildlife Protection Act, 1972.

A similar attempt was also made under the UPA government when the then chief minister of Haryana, Bhupinder Singh Hooda, had tried to denotify the Saraswati wildlife sanctuary. However, due to a public outcry it was only down-listed as a conservation reserve. Requests have been made from time to time by various state governments to reduce the size of wildlife sanctuaries but this is definitely a first.

### Selective use of scientific report

The supporting document to justify the destruction of the wildlife sanctuary is a scientific report prepared by the country's apex wildlife body, the Wildlife

The July 2018 report titled 'Assessment of the Wildlife Values of the Ganga River from Bijnor to Ballia including Turtle Wildlife Sanctuary (TWS), Uttar Pradesh', states that in a field survey conducted in the sanctuary "only five of the 13 species of turtles found in the Ganga were observed". This observation about the presence of fewer species of turtles has been used to justify the action by the state government to denotify the wildlife sanctuary.



Location of the Turtle Wildlife Sanctuary, Varanasi. Credit: WII

The Turtle Wildlife Sanctuary is a 7 km river stretch starting from upstream Ramnagar fort to Malviya bridge in the state of Uttar Pradesh. The city of Varanasi lies on the western bank of the sanctuary. The bank is almost totally concretised, with more than 80 ghats drawing tens of thousands of pilgrims every day.

The WII report has been used to justify the state government's order for denotification even though the report clearly states, "Sand bars situated on eastern banks are crucial for the survival of the birds and reptiles in terms of their nesting and basking requirements. The sediment dynamics of the sanctuary is one of the most important factors that govern the distribution of aquatic biodiversity. Any change in the river channel and sand bar may drastically affect the existence of ancient ghats along the western banks as well as the biodiversity of this region".

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It further goes on to observe that during the field survey conducted, "a total of 45 fish species belonging to 38 genera, 16 family were recorded from the TWS and adjacent stretches". It notes: "The sand bar in the right bank of the Sanctuary, though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure", but then adds, "Higher diversity and catch of fish species from the TWS is indicative of restriction on fishing in the sanctuary," thus implying that the sanctuary in fact has helped protect biodiversity, thereby contradicting the claim of the state government.

Oddly, the Wildlife Institute report then goes on to recommend that the stretch from "downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area and notified as a Wildlife Sanctuary under the provision of Wild Life (Protection) Act".

So the creation of a new sanctuary close to Allahabad is being used as a justification for destruction of the existing sanctuary at Varanasi, which the WII report notes is "an excellent habitat for turtles".

If a sanctuary faces anthropogenic pressure, as the TWS is, then the logic surely must be to secure it and not denotify it. The Kachhua sanctuary was declared in 1989 to save the biodiversity of the river Ganga. In order to check pollution in the Ganga and restore its biodiversity, a unique turtle-breeding project with its breeding centre at Sarnath was started with the objective of releasing the then bred turtles in the Ganga. The idea was that this would help remove bio-pollutants like partly cremated and dead bodies directly thrown in the river while at the same time bringing back species that were once part of the river ecosystem.



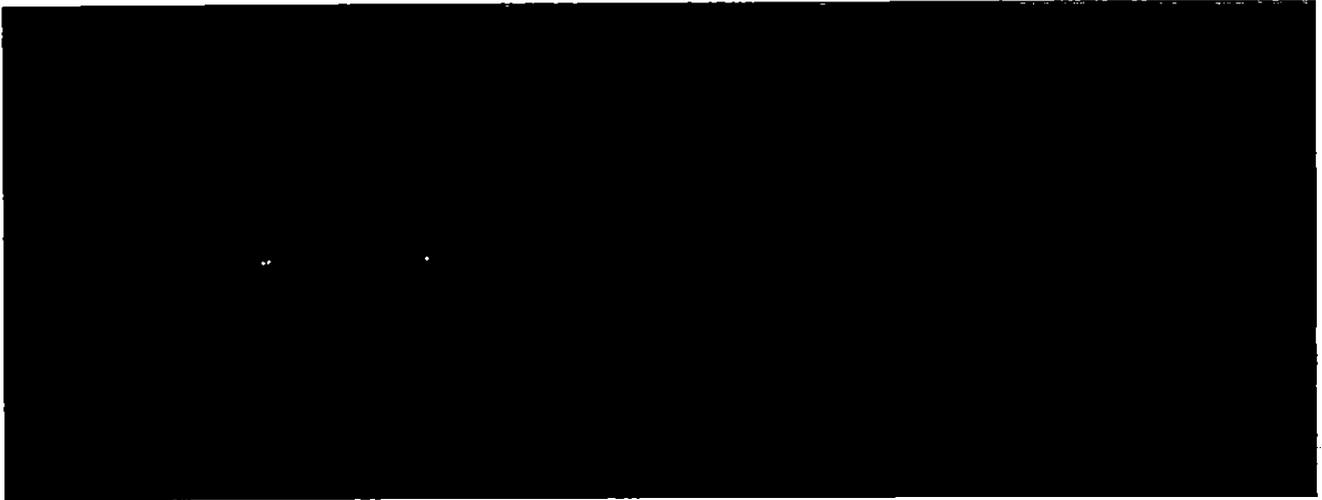
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In spite of these findings, the Yogi Adityanath government has sent a proposal to the Standing Committee of the National Board For Wildlife at the Centre asking for 'denotification' of the entire wildlife sanctuary.

### **Turtles in the way of Modi's mega-plans**

So why should a turtle sanctuary cause any harm to a government that has as its key election promise a commitment to saving the Ganga?



A panoramic view of Varanasi and the Ganges. Credit: Jack Zalium/Flickr CC BY-NC.2.0

The NDA government has grand plans for this section of the river, and this tiny sanctuary was proving to be a big thorn in the way of those plans. Nitin Gadkari's shipping and water resources ministries want to turn this section of the river into a part of a 1,620-km long national waterways project being funded by the Centre and World Bank at an estimated cost of Rs. 5369.18 crore. The project proposes to build multi-modal terminals at Varanasi, Uttar Pradesh, Sahibganj, Bihar and Haldia in West Bengal. It will also involve roll-on roll-off (Ro-Ro) ferry passenger services. A series of thermal power plants are also being planned in Uttar Pradesh along the river that could be the main beneficiaries of the Ganga waterways programme.

### **Ecological impact of dredging**

In order for the big plans to be operational, dredging of the Ganga would be required.

Many environmentalists and ecologists have raised objections to the inland waterways project that is being developed and the impact the proposed dredging will have on the fragile ecology of a river already under enormous stress.

In an interview to this writer, Himanshu Thakkar of the South Asia Network for Dams Rivers and People (SANDRP) further states that "this waterways project hasn't gone through a credible environment appraisal followed by the necessary monitoring and compliance process. The decisions being taken as a result are not

1039  
scientifically informed, nor are they being taken democratically. The whole attempt seems to be to push a commercial venture without looking at how this will affect the Ganga rejuvenation process".

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### Wild Life Report

Form for seeking recommendation of Standing Committee of NBWL/SBWL.

#### **PART - I & II** (To be filled up by User Agency)

##### A. General Details

###### A-1. Project Details

(i). Forest Clearance Required?: No

(ii). Proposal No. : FP/UP/Others/2691/2018

(iii). Name of Project: Denotification of Kachua Wildlife Sanctuary, Varanasi

(iv). Short narrative of the Project : The Kachua Wildlife Sactuary was notified is 2009. Sence it is not fulfilling the purpose hence it needs denotification

(v). State : Uttar Pradesh

The DFO, Kashi's submission to denotify the Turtle Wildlife Sanctuary

That the state and the Centre want to ensure there are no green hurdles for this mega project was obvious when the National Board for Wildlife gave permission in June 2017 for ships to pass through the Turtle Wildlife Sanctuary. The NBWL did, however, impose severe restrictions that not more than one ship per day would be allowed and that the dredging activity should not disturb any wildlife. But clearly this was not enough.

A retired professor from IIM Bengaluru, Bharat Jhunjunwala, filed a PIL in the National Green Tribunal arguing that the Ganga Waterways project had not taken into consideration its impact on the river's biodiversity that included the freshwater turtles, the Gangetic dolphins and fish species. "The impact of the sound, the wave wash and the direct hits from the ships that will ply on these waters, has just not been considered," he told this writer.

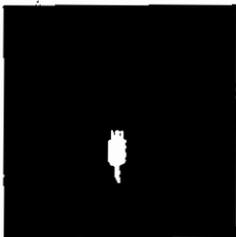
The simple solution the BJP-led governments at the Centre and the state has discovered is to just remove the entire sanctuary from the list of protected areas.

The ball is now in the court of the NBWL. The state government has instructed its forest officers to remove the sanctuary from its list of protected areas and

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with mounting pressure from the Ministry of Road Transport and Highways (which include inland waterways), the decks are being cleared for India's only turtle sanctuary to make way for shipping vessels on the Ganga

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*Bahar Dutt is an award winning environment journalist and the author of Green Wars: Dispatches from a Vanishing World.*



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Total Comments (4)

## ALSO READ

3 HOURS AGO

**How Can You Tell When a Glacier Is Dead?**



Government of India  
Ministry of Environment, Forest and Climate Change  
(Wildlife Division)

6<sup>th</sup> Floor, Vayu Wing  
Indira Paryavaran Bhawan  
Jor Bagh Road, Aliganj  
New Delhi 110 003  
Date: 26<sup>th</sup> September 2018

F.No.6-111/2018 WL

To  
All Members  
Standing Committee of NBWL

**Sub:** Minutes of 50<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife- reg.

Sir / Madam,

Kindly find enclosed copy of the Minutes of 50<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife held on 7<sup>th</sup> September 2018 through Video Conference under the chairmanship of Hon'ble Union Minister of Environment, Forest and Climate Change.

Yours faithfully,

(Dr. Pasupala Ravi)  
Scientist C

E-mail: [ddwlmef@gmail.com](mailto:ddwlmef@gmail.com)

**Encl:** As above

**Distribution**

- (1) Secretary, MoEF&CC
- (2) DGF&SS, MoEF&CC
- (3) Member Secretary, NTCA
- (4) ADGF(FC), MoEF&CC
- (5) ADGF(WL), MoEF&CC
- (6) Director, WII, Dehradun
- (7) Director, GEER Foundation, Gandhinagar, Gujarat
- (8) Prof. R. Sukumar, Member, NBWL
- (9) Dr. H.S. Singh, Member, NBWL
- (10) Pr. Secretary (Dept. of Envi., Forest, Science & Tech.), Govt. of Andhra Pradesh

**Copy to**

- (1) PS to Hon'ble MoEF&CC
- (2) PPS to DGF&SS, MoEF&CC
- (3) PPS to Addl.DGF(WL), PPS to IGF(WL)

**MINUTES OF 50<sup>th</sup> MEETING OF THE STANDING COMMITTEE OF NATIONAL BOARD  
FOR WILDLIFE WAS HELD OF 7<sup>th</sup> SEPTEMBER 2018**

The 50<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife was held on 7<sup>th</sup> September 2018 through Video Conference under the chairmanship of Hon'ble Minister for Environment, Forest & Climate Change. List of participants are placed at ANNEXURE- 1.

Hon'ble Chairman welcomed all the participants to the 50<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife and asked the IGF(WL) to initiate the discussions on the Agenda Items.

**AGENDA ITEM No. 1**

**Confirmation of the minutes of the 49<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife held on 13<sup>th</sup> June 2017**

The IGF(WL) mentioned that the minutes of the 49<sup>th</sup> Meeting of the Standing Committee of National Board for Wildlife held on 13<sup>th</sup> June 2017 were circulated to all the members of the Standing Committee on 29<sup>th</sup> June 2017. However representations were received from the State Government of Maharashtra to amend the minutes of 49<sup>th</sup> meeting of the Standing Committee on the following proposals:

- 49.4.2.1 Proposal for the construction of residential and commercial complexes by M/s. Reliable Housing India Pvt. Ltd. at Village Aehole, Ta. Vasai, Dist. Palghar. Sy.No. 153-B,154 (pt)
- 49.4.2.2 Proposal for the construction of residential and commercial construction project by M/s. Rashmi Ameya Developers Housing and Estate Realtors Pvt. Ltd. at Village Gokhivare, Ta. Vasai, Dist. Palghar Sy.No.62 H.No.1&7, Sy.No 63 & others Sy.Nos.
- 49.4.2.3 Proposal for the construction of residential and commercial complexes by M/s. Ameya Townhome Private Limited at Village Sandor, Ta. Vasai, Dist. Palghar Sy.No.230 H.No. 1,2,3,4,5,6,7,8; Sy.No.231 H.No.1,2,3,4,5,6,7,8&9; Sy.No.235 H.No.1/2,2,3,4, 5,6,7,8,9,10,11/1&11/2 and Sy.No 236-H.No.1,2,3,7,8,11,12,13,14, 15,17,18,19,20,21,22, 23-part, 24,25A,25B,27,28 & 29
- 49.4.2.4 Proposal for the construction of residential and commercial complexes M/s. Navkar Estate & Home Private Limited in Village Juchandra Ta. Vasai, Dist. Palghar Sy.No.332/1,2,3,4,6A,6B,7,B,333/1,2,335/1,2,336/2,3C,3D,3F & 351/1,2

- (4) The instructions/orders passed by the State Govt./ Central Govt. and the directions passed by Hon'ble High Court/Supreme Court from time to time regarding such project shall be complied with.
- (5) User agency will ensure that the project personnel engaged in the project shall observe the provisions of the Wildlife (Protection) Act, 1972 & Rules made thereafter.
- (6) Construction waste materials will not be thrown inside the sanctuary area or movement corridor of wildlife.
- (7) User agency will take all precautions including technical measures to contain the noise and air pollution, protection from fire due to construction activities.
- (8) The project proponent shall obtain consent to establish and to operate from U.P. Pollution Control Board and effectively implement all the conditions stipulated therein.
- (9) Two GPS sets shall be provided for the survey and demarcation of the sanctuary boundaries to the Bijnor forest division.
- (10) No labour camp shall be established in the sanctuary/forest area or other sensitive area.

The State Board for Wildlife has recommended the proposal in its meeting held on 26/05/ 2015.

After discussions the Standing Committee decided to recommend the proposal along with the conditions and the wildlife mitigation measures stipulated by the State Chief Wildlife Warden.

The annual compliance report on the stipulated conditions should be submitted by the User Agency to the State Chief Wildlife Warden and an annual compliance certificate shall be submitted by the State CWLW to GoI.

#### **50.3.12.2 De-notification of Kachhua Wildlife Sanctuary from 940 km to 970 km**

The IGF(WL) briefed the Standing Committee on the proposal and stated that the proposal is for the de-notification of Kachhua Wildlife Sanctuary having an area of 7 km of mid stream of river Ganga from both the banks notified vide no. 1485/14-4-2008-823 dated 21-03-2009 and to notify upstream stretch of 30 km (from 940 km to 970 km) stretch of river Ganga near Newada.

Proposal for denotification of the existing sanctuary and notification of new stretch of the river as sanctuary is based on the study "*Assessment of the wildlife values of the Ganga River from-Bijnor to Ballia including turtle wild life sanctuary, Uttar Pradesh*" conducted by the Wildlife Institute of India, Dehradun on the request of the UP State Government. The report was submitted to the State Government vide WII no. WII/SAH-TWS-UP/2018 dated 6<sup>th</sup> July 2018.

While submitting the justification for the proposal for de-notification of the existing Kachua Wildlife Sanctuary the state government highlights the following findings of the WII study:

“Only five freshwater turtle species were encountered in TWS out of the 13 species reported from the Ganga river. Capture rates for turtle species were low in the TWS, indicating low abundance of turtles during the sampling period and high anthropogenic disturbance within TWS.”

The State Government also highlights the following conclusion of the study about efficacy of Kacchua wildlife Sanctuary

“3.1.5 very low encounter rate of turtles in TWS indicate high human disturbance leading to habitat alteration within a very small Protected Area. Sites along the TWS in left bank are seen to have least suitable habitat for turtles with high anthropogenic presence such as cemented ghats, intense ferry and boat activity, pollution and human presence along the river. The sand bar in the right bank of the sanctuary though is an excellent habitat for turtles and breeding birds, is also under severe anthropogenic pressure. Higher diversity and catch of fish species from the TWS is indicative of restriction on fishing in the sanctuary”

While pointing to the findings of the study where Kacchua Wildlife Sanctuary receives the score of 1(one) in overall aquatic habitat quality the State Government concludes that

“it is clear from the above that 7 km stretch was observed to have high anthropogenic disturbance throughout the day and night due to motor boat and tourist activities in certain areas of the sanctuary and is ranked as ‘No habitat-1’. This shows that Kacchua Wildlife Sanctuary has been classified into no habitat class. Hence, due to high human disturbance leading to habitat alterations within a very small protected area, Kacchua Wildlife Sanctuary is found to have least suitable habitat for turtles with high anthropogenic disturbance and aforesaid area is no longer is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment”

While justifying their intention for notification of upstream stretch of 30 km (from 940 km to 970 km) stretch of river Ganga near Newada in lieu of existing Kacchua Wildlife Sanctuary the state government refers to following conclusion of the WII report regarding habitat suitability for the purpose of finalizing conservation priority areas in river Ganga.

“10. Based on combined score the stretch from downstream Newada in Allahabad district to Adalpur in Mirzapur district, a total of 140 km may be considered as conservation priority area and notified as wildlife sanctuary under provision of Wildlife (Protection) Act, 1972. Since the ecological

characteristics and wildlife values vary along the 140 km stretch on account of anthropogenic pressure, harmonization for excluding some areas having high anthropogenic pressures on account of intense cultural religious uses may be required and to be done by the Uttar Pradesh Forest Department.”

For the purpose of identifying suitable stretch for declaring as Wildlife Sanctuary from the stretch of 140 km suggested by the WII study the state government has analyzed the cumulative score of stretches and concluded that cumulative score of 3 stretches ( 940-950, 950-960 and 960-970) comes out to be 10.36, which is highest in all the stretches. Accordingly state government concludes that

“considering the high conservation suitability of this particular stretch of 30 km near Newada near Allahabad ( 940-970 km), it is considered appropriate to notify it as a Wildlife Sanctuary under the provision of Wildlife (Protection) Act, 1972 for conservation of turtles and other aquatic fauna. This would sufficiently compensate/mitigate the existing Kacchua Wildlife Sanctuary, which is only 7 km stretch length, while the aforesaid area being proposed as sanctuary would cover 30 km length in an areas which is more than 4 times and of much higher conservation value as per WII report.”

This proposal was discussed in the State Board for Wildlife of Uttar Pradesh in its meeting on 30<sup>th</sup> August 2018.

The board while seeking information about the efforts being made for turtle conservation, noted the following conclusion of the WII study “.....As evident from the assessment, the creation of protected areas does help in species conservation, along the Ganga river. However, the area should be large covering diverse habitat type and minimal threats.”

The SBWL recommended the proposal of de-notification of Kacchua wildlife sanctuary along with compensatory/mitigation measures as per details below.

- (1) Kacchua Wildlife Sanctuary, Varanasi was found to be very low on the basis of different parameters for suitability. Hence the proposal for de-notification may be forwarded to MoEF&CC for approval of the standing committee of the NBWL and as per prevailing legal provisions the permission be obtained from CEC / Hon'ble Supreme Court.
- (2) Proposal for notification of 30 km (940 km to 970 km) stretch near Newada (Allahabad) as wild life sanctuary may be forwarded to MoEF&CC for approval of standing committee of NBWL and following action may also be taken simultaneously:
  - (a) The social Impact assessment of proposed Kacchua Wildlife Sanctuary will be conducted and mitigation measures would also be adopted.

- (b) Opinion of Chief Naval Hydrographer would also be obtained.

The State Chief Wildlife Warden has recommended the proposal with following conditions:

- (i) Social Impact Assessment of the proposed Kacchua Wildlife Sanctuary will be conducted and mitigation measures would be adopted.
- (ii) Opinion of Chief Naval Hydrographer would be obtained.

The State Government has recommended the proposal for de-notification of Kacchua Wildlife Sanctuary and notification of 30 Km (940 km-970 km) stretch near Newada (Allahabad) as wild life sanctuary in view of recommendations made by SBWL, UP in its meeting dated 30.8.2018 under the chairmanship of Hon'ble Chief Minister Uttar Pradesh.

After discussions the Standing Committee decided to recommend the proposal of the State Government of Uttar Pradesh along with the conditions stipulated by the State Chief Wildlife Warden and State Board for Wildlife.

The State Government may proceed with the process of notification of proposed Wildlife Sanctuary and de-notification of existing Kacchua Wildlife Sanctuary as per the prevailing instructions and relevant provisions of the Wildlife (Protection) Act, 1972.

The annual compliance certificate on the stipulated conditions should be submitted by the State Chief Wildlife Warden.

#### **AGENDA ITEM NO. 4**

(Any other item with the permission of the Chair)

#### **50.4 AGENDA ITEMS OF RAJASTHAN**

##### **50.4.1 Bhaisrodgah – Borav Water Supply Project in Mukundara National Park, Kota**

The State Chief Wildlife Warden has requested the board to consider the proposal for construction of Bhaisrodgah – Borav Water Supply Project for the benefit of village people of District Kota.

The IGF(WL) stated that the said proposal is falling in Mukundara Tiger Reserve and the proposal was referred to the NTCA for their recommendations. He also stated that the NTCA has not submitted the report and therefore as per procedure the proposal was not placed before the Standing Committee. However the Standing Committee may like to take a view regarding inclusion of this agenda at this stage. The Standing Committee considered the fact that proposal is related to drinking

IN THE SUPREME COURT OF INDIA  
[CIVIL/CRIMINAL ORIGINAL/APPELLATE JURISDICTION]

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S.L.P./W.P./T.P./Review Petition (Civil/Crl.) No.(s) ...../2019

Petitioner(s)/  
Appellant(s)

VERSUS

Respondent(s)

**VAKALATNAMA**

I/We.....Appellant(s)/  
Petitioner(s)/Respondent(s) Opposite party in the above Suit/Appeal/Petition/Reference do hereby  
appoint and retain ..... Advocate of the Supreme Court of India to act and  
appeal for me/us in the above Suit/Appeal/Petition/Reference and on my/our behalf to conduct and  
prosecute (or defend) the same and all proceedings that may be taken in respect of any application  
connected with the same or any decree or order passed therein, including proceedings in taxation  
and applications for Review, to file and obtain return of documents and to deposit and receive money  
on my/our behalf in the said Suit/Appeal/Petition/Reference and in application of Review, and to  
represent me/us and take all necessary steps on my/our behalf in the above matter. I/We agree to  
ratify all acts done by the aforesaid Advocate in pursuance of this authority.

Dated this the .....day of.....2019

Accepted :

[  
Advocate, Supreme Court ]

APPELLANT(S)/PETITIONER(S)/RESPONDENT(S)

**MEMO OF APPEARANCE**

To  
The Registrar  
Supreme Court of India,  
New Delhi

Sir,

Please enter my appearance on behalf of the Petitioner(s)/Appellant(s)/ Respondent(s)  
Opposite Parties/Intervener No.....in the matter above.

Yours faithfully,

NEW DELHI:  
FILED ON:

(  
[CODE NO - ]  
Advocate for Petitioner/Respondent  
102, New Lawyers Chamber  
Opp. Supreme Court of India,  
M.C.Setalvad Block, New Delhi-110001

ITEM NO.2

COURT NO.1

SECTION PIL-W

S U P R E M E C O U R T O F I N D I A  
R E C O R D O F P R O C E E D I N G S

Writ Petition(s)(Civil) No(s).337/1995

CENTRE FOR ENVIRONMENT LAW WWF 1

Petitioner(s)

VERSUS

UNION OF INDIA &amp; ORS.

Respondent(s)

(ONLY I.A Nos. 192/2017, 26080 & 26088/2018, 173956 & 173962/2018 ARE TO BE TAKEN UP FOLLOWING ADVOCATE NAME TO BE SHOWN "MR. T.V.S. RAGHVENDRA SREYAS, ADV., MR. A.D.N. RAO, ADV., MR. SIDDHARTHA CHOWDHURY, ADV., MR. HARISH N. SALVE, SR. ADV., MS. APARAJITA SINGH, ADV. (A.C.), MR. G.S. MAKKER, ADV., MR. L. R. SINGH, ADV., MR. V.N. RAGHUPATHY, ADV., MR. V.D. KHANNA, ADV, MR. M.K. MARORIA, ADV., Mr. LAKSHMI RAMAN SINGH, ADV. MR. NISHANT R. KATNESHWARKAR,ADV, SRISHTI AGNIHOTRI,ADV, URMILA SIRUR, ADV, VISHWA PAL SINGH, ADV"

[NTU 14.1.20]

(With

I.A. No.192/2017 - FOR DIRECTIONS

I.A. No.26080/2018 - DIRECTIONS AND I.A. No. 26088/2018 - FOR IMPLEADMENT

I.A. No.173962/2018 - FOR DIRECTIONS AND I.A. No.173956/2018 - FOR INTERVENTION

I.A. No.117425/2019 - FOR INTERVENTION AND I.A. No.117429/2019 - FOR DIRECTIONS

WITH

W.P.(C) No. 1032/2013 (PIL-W)

(With IA No. 158416/2018 - PERMISSION TO FILE ADDITIONAL DOCUMENTS/FACTS/ANNEXURES)

Date : 28-01-2020 These matters were called on for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE B.R. GAVAI

HON'BLE MR. JUSTICE SURYA KANT

Counsel for the parties

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Mr. Tamim Qadri, Adv.

Mr. Saeed Qadri, Adv.

Mr. Lakshmi Raman Singh, Adv.

Mr. V.N. Raghupathy, Adv.

Md. Apzal Ansari, Adv.

Mr. Manendra Gupta, Adv.

Mr. V.D. Khanna, Adv

Mr. M.K. Maroria, Adv.

Mr. Nishant R. Katneshwarkar, Adv.

Ms. Anitha Shenoy, Sr. Adv.

Ms. Srishti Agnihotri, Adv.

Ms. Sanjana Thomas, Adv.

Ms. Kanika Sood, Adv.

Mr. Sharan Balakrishna, Adv.

Ms. Urmila Sirur, Adv.

Ms. Aishwarya Bhati, Sr. Adv.

Mr. Rajeev Dubey, Adv.

Mr. Ashiwan Mishra, Adv.

Mr. Anurag Tiwari, Adv.

Mr. Vishwa Pal Singh, Adv.

Mr. N. Ganapathy, Sr. Adv.

Mr. Aniruddha Deshmukh, AOR

UPON hearing the counsel the Court made the following  
O R D E R

I.A. No.192/2017 - FOR DIRECTIONS

This is an application filed by the applicant viz., National Tiger Conservation Authority (for short, the 'NTCA') for permission to re-introduce Cheetahs from Africa to suitable sites in India.

We have heard Mr. Prashanto Chandra Sen, learned Senior Counsel for the applicant, Mr. ANS Nadkarni, learned Additional Solicitor General for the respondent-Union of India, Mr. A.D.N. Rao, learned Amicus Curiae and Dr. M.K. Ranjit Singh (IAS Retd.)-in-person, Former Director of Wildlife Preservation, India.

At the outset, we find that the word 're-introduce' has been erroneously applied since it is an admitted fact that the African Cheetahs never inhabited in India. Therefore, if an attempt is made to relocate the African Cheetah within the territory of India, it will amount to an 'introduction' of the African Cheetah and not a 're-introduction'.

Be that as it may. We find that in the case of *Centre for Environment Law, World Wide Fund - India vs. Union of India & Ors.* - (2013) 8 SCC 234, this Court struck down an order of the Ministry of Environment, Forest & Climate Change (MoEF&CC) to introduce the African Cheetahs in Kuno in Madhya Pradesh on the ground that MoEF&CC had not conducted any detailed study before passing the order of introducing 'foreign species' to the territory of India.

The instant application presumably seeks to remedy the defect that was noticed earlier. In that, it is submitted that African

Cheetahs would be introduced on an experimental basis in a careful chosen habitat and nurtured and watched to see whether it can adapt to the Indian conditions. In case there are some difficulties noticed about the location in which it is introduced, we are informed that the location would be changed to another forest which is more habitable for the animals. It is not desirable that this action of introducing the African Cheetahs into India be left to the sole discretion of the NTCA but we consider it appropriate that NTCA be guided and directed by the Committee of Experts in the field who would carry out the survey for the best location for introducing the African Cheetahs in India and take a careful decision about the viability of introducing this animal on a larger scale. The expert committee shall also supervise the entire process and NTCA shall be guided to act in co-ordination with the expert committee. The expert committee shall comprise the following members :

- (1) Dr. M.K. Ranjit Singh (IAS Retd.),  
Former Director of Wildlife Preservation, India.  
Cell : 9868888456
- (2) Dr. Dhananjai Mohan, Chief Conservator  
of Forests, Wildlife Admn. Protection & Intelligence,  
Nainital, Uttarakhand.
- (3) DIG (Wildlife)  
Ministry of Environment, Forest & Climate Change,  
Government of India,  
New Delhi.

The said expert committee shall submit a report to this Court every four months.

List the matter after four months with the report of the expert committee.

I.A. No.26080/2018 - DIRECTIONS AND I.A. No. 26088/2018 - FOR  
IMPLEADMENT

List the instant applications on 04.02.2020 (a non-miscellaneous day).

In the meantime, the applicant is directed to serve a copy of these applications upon Mr. ANS Nadkarni, learned Additional Solicitor General for the respondent - Union of India to enable him to file reply, if any.

I.A. No.173962/2018 - FOR DIRECTIONS AND I.A. No.173956/2018 - FOR  
INTERVENTION

Heard.

As prayed for, the following persons are impleaded as party respondents in the instant application for directions :

- (1) Dr. Dhananjai Mohan, Chief Conservator  
of Forests, Wildlife Admn. Protection & Intelligence,  
Nainital, Uttarakhand.
- (2) Wildlife Conservation Trust  
Rajkot.

Issue notice to the respondents as also to the newly added party respondents returnable four weeks.

Waive service on the respondent-Union of India since Mr. G.S. Makker, learned counsel, is appearing on behalf of the Union of India.

In the meantime, as prayed for, Mr. ANS Nadkarni, learned Additional Solicitor General for the respondent - Union of India, is allowed to file reply affidavit.

I.A. No.117425/2019 - FOR INTERVENTION AND I.A. No.117429/2019 -  
FOR DIRECTIONS

Issue notice returnable four weeks.

Waive service on the respondent-Union of India since Mr. G.S. Makker, learned counsel, is appearing on behalf of the Union of India.

In the meantime, as prayed for, Mr. ANS Nadkarni, learned Additional Solicitor General for the respondent - Union of India, is allowed to file reply affidavit.

(SANJAY KUMAR-II)  
COURT MASTER (SH)

(INDU KUMARI POKHRIYAL)  
ASSISTANT REGISTRAR