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RIVER STRETCHES FOR RESTORATION OF WATER QUALITY



CENTRAL POLLUTION CONTROL BOARD
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE
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FOREWORD

The water quality management is one of the many environmental problems in India. Increasing demand of water for human consumption, irrigation and growing industrial activities has impacted the water quality of rivers due to declining flows in rivers and depleting water levels of subsurface resources. Water quality data on rivers is analysed to compare with water quality criteria. Biochemical Oxygen Demand (BOD) has been considered as principal parameters for identification of monitoring locations in exceedance to the criteria limit. The present study highlights the water quality issues in 275 rivers comprising of 302 Stretches in 27 States and 2 UTs. The water data indicates that organic pollution as indicated by Biochemical Oxygen Demand (BOD) continues to be the major water quality issues. This is mainly due to discharge of untreated domestic wastewater from the urban centres of the country. The municipal corporations at large are not able to treat increasing load of municipal sewage flowing into water bodies. Secondly the receiving water bodies also do not have adequate water for dilution.

The contribution of Ms. Alpana Narula (JSA), Ms. Suniti Parashar (SSA), Ms. Deepty Goyal (SA-1) and Ms. Nupur Tandon (SA-1) in compilation of data and preparation of this Report is appreciable. The project study is coordinated by Shri R.M. Bhardwaj, Scientist 'D' under the supervision and guidance of Dr. A.B. Akolkar, Member Secretary. The co-operation extended by State Pollution Control Boards, Pollution Control Committees and Zonal Offices of Central Pollution Control Board in this endeavor is gratefully acknowledged.

Hopefully, this Report will be useful to all concerned with water quality management and its restoration to pristine purity.


(Shashi Shekhar)

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SUMMARY AT A GLANCE

- CPCB is monitoring 445 rivers in 29 States and 6 Union Territories in the country.
- There are 302 polluted river stretches on 275 rivers.

PRIORITY WISE POLLUTED RIVER STRETCHES

- Among the 302 polluted river stretches – 34 are in Priority Class – I, 17 in Priority Class – II, 36 in Priority Class – III, 57 in Priority Class – IV and 158 are in Priority Class – V.
- The State-wise number of stretches in descending order are – Maharashtra (49), Assam (28), Madhya Pradesh (21), Gujarat (20), West Bengal (17), Karnataka (15), Kerala (13), Uttar Pradesh (13), Manipur (12), Orissa (12), Meghalaya (10), Jammu & Kashmir (9), Goa (8), Himachal Pradesh (8), Jharkhand (8), Rajasthan (8), Tamil Nadu (7), Telangana (7), Andhra Pradesh (6), Bihar (5), Chhattisgarh (5), Sikkim (5), Uttarakhand (5), Nagaland (3), Haryana (2), Punjab (2), Tripura (2), Daman & Diu (1) and Delhi (1).

STATE-WISE POLLUTED RIVER STRETCHES

- The State-wise details of polluted rivers and category of priority classes are appended.

Andhra Pradesh - Godavari, Hundari, Krishna, Tungabhadra, Pennar and Kundu falling in priority class – V based on the level of BOD.

Assam - Mora Bharali, Barak, Beki, Bharalu, Bhogdoi, Boginadi, Brahmaputra, Burhidihing, Deepar Bill, Dhansiri, Digboi, Disang, Jia Bharali, Jhanji, Kalong, Kapili, Kharsang, Kohora, Kundli, Kushiara, Manas, Pagadia, Panchnai, Ranga nadi, Sankosh, Sonai, Subansiri, Kathakal. These rivers are classified in three priority classes (Class I, IV and V).

Bihar - Ganga, Harbora, Manusmar, Ramrekha and Sirsia. The polluted rivers in Bihar are in 4 priority classes (Class-II, III, IV and V).

Chhattisgarh - Hasdeo, Kelo, Kharoon, Mahanadi and Seonath in priority class

V.Daman and Diu - Damanganga in Priority class – I

Delhi - Yamuna in Priority class – I

Goa - Mandovi, Assonora, Bicholim, Chapora, Khandepar, Mapusa, Sal and Valvant. These rivers are classified in **Priority Class** – III, IV and V based on the level of BOD.

Gujarat - Mahi, Narmada, Ambika, Amlakhadi, Anas, Baleshwar Khadi, Bhadar, Damanganga, Kaveri, Khari, Kim, Kolak, Mahi, Mindhola, Narmada, Panam, Bhogavo, Dhadar, Purna, Sabarmati, Shedi, Tapi and Triveni. These rivers are classified in four priority classes (Class I, III, IV and V).

Haryana - Ghaggar and Yamuna. The polluted rivers in Haryana are in 2 priority classes (Class-II and IV).

Himachal Pradesh - Beas, Tons, Sirsa, Swan, Sukhana, Suketi khad, Markanda and Binwa falling in priority class I, IV and V based on the level of BOD.

Jammu and Kashmir - Banganga, Basanter, Chenab, Chunt Kol, Dewak, Gawkadal, Jhelam, Liddar Nalah and Tawi. These rivers are classified in two priority classes (Class IV and V).

Jharkhand - Bokaro, Damodar, Jumar, Karo, Koel, North Koel, Sankh and Subarnrekha. The polluted rivers in Jharkhand are in 2 priority classes (Class- IV and V).

Karnataka - Arkavathi, Bhadra, Bhima, Cauvery, Ghatprabha, Kabini, Kagina, Kali, Krishna, Lakshmantirtha, Malprabha, Manjira, Shimsha, Tungabhadra and Tunga. These rivers are classified in priority class IV and V based on the level of BOD.

Kerala - Chitrapuzha, Kadambayar, Kallai, Karamana, Keecheri, Kuppam, Manimala, Neeleswaram, Periyar, Pullur, Puzhckal, Thirur and Uppala. These rivers are classified in three priority classes (Class – I, IV and V).

Madhya Pradesh - Banjar, Betwa, Bichia, Chambal, Chillar, Denwa, Gohad, Gour, Jammer, Kalisot, Khan, Kolar, Kshipra, Kunda, Malei, Narmada, Parvati, Shivna, Tapi, Tons and Wainganga. The polluted rivers in Madhya Pradesh are in 5 priority classes (Class- I, II, III, IV and V).

Maharashtra - Wena, Wainganga, Godavari, Bhima, Krishna, Ulhas, Kundalika, Tapi, Girna, Panchganga, Nira, Bhatsa, Rangavali, Chandrabhaga, Vashishti, Mithi, Kanhan, Koyna, Amba, Amravati, Bindusara, Darna, Ghod, Gomai, Hiwara, Indrayani, Kan, Manjra, Mor, Morna, Mula, Mula- Mutha, Mutha, Panzara, Patalganga, Pawna, Pedhi, Pehlar, Penganga, Purna, Savitri, Sina, Surya, Urmodi, Vel, Vaitrana, Venna, Waghur and Wardha. These rivers are classified in priority class I, II, III, IV and V based on the level of BOD.

Manipur - Barak, imphal, Iril, Khuga, Khujairok, Lokchao, Maha, Manipur, Nambul, Sekmai, Thoubal and Wangjing. These rivers are classified in priority class II, III, IV and V based on the level of BOD.

Meghalaya- Bugi, Kynshi, Kyrhukhla, Lukha, Myndtu, Nonbah, Umkhrah, Umshyrpi, Umtrew and Wahbei. These rivers are classified in four priority classes (Class – I, III, IV and V).

Nagaland - Chathe, Dhansiri and Dzu. These rivers are classified in priority class II and IV based on the level of BOD.

Orissa - Brahmani, Budhalbhanga, Daya, Kathjodi, Koel, Kuakhai, Mahanadi, Nagavali, Rushikulya, Serua and Vanasdhara. The polluted rivers in Orissa are in 4 priority classes (Class- II, III, IV and V).

Punjab - Ghaggar and Satluj in two priority classes (Class – I and II).

Rajasthan - Banas, Chambal, Chappi, Ghaggar, kali sindh, Parvati, Jawai and Ujad. These rivers are classified in priority class I, II, III and V based on the level of BOD.

Sikkim - Dikchu, Maney Khola, Rangit, Ranichu, Teesta. The polluted rivers in Sikkim are in priority class V.

Tamil Nadu - Bhawani, Tambirapani, Palar, Sarabanga, Thirumanimuthar and Vasista. The polluted rivers in Tamil Nadu are in 3 priority classes (Class- I, II and V).

Telangana - Godavari, Krishna, Manjeera, Musi, Nakkavagu, Sabari and Maner. These rivers are classified in three priority classes (Class – I, II and V).

Tripura - Gumti and Haora in priority Class – V.

Uttar Pradesh - Gomti, Hindon, Kalinadi, Ramganga, Rapti, Rihand, Sai, Saryu, Ganga, Yamuna and Kosi. These rivers are classified in four priority classes (Class – I, III, IV and V).

Uttarakhand - Suswa, Ganga, Dhela, Bhella and Kosi. The polluted rivers in Uttarakhand are in 2 priority classes (Class- I and V).

West Bengal - Barakar, Churni, Damodar, Dwarkeshwar, Dwarka, Ganga, Jalangi, Kalijani, Kanshi, Karola, Mahananda, Mathabhanga, Mayurkashi, Rupnarayan, Silabati, Teesta and Vindhyadhari. These rivers are classified in priority class III, IV and V based on the level of BOD.

- Estimated polluted riverine length of all the priority classes putting together is 12,363 Km.

URBAN CENTRES ALONG POLLUTED RIVER STRETCHES

- There are 650 towns along the 302 polluted river stretches identified on 275 rivers.
- The state-wise number of towns/cities in descending order are – Maharashtra (161), Assam (49), West Bengal (47), Gujarat (38), Madhya Pradesh (37), Uttar Pradesh (37), Karnataka (24), Kerala (22), Tamil Nadu (23), Orissa (20), Rajasthan (20), Jammu & Kashmir (18), Manipur (17), Telangana (18), Jharkhand (16), Himachal Pradesh (14), Chhattisgarh (12), Meghalaya (12), Sikkim (11), Goa (9), Andhra Pradesh (8), Bihar (8), Haryana (7), Uttarakhand (6), Nagaland (4), Tripura (4), Punjab (5), Daman & Diu (2), Delhi (1).
- Out of 46 metropolitan cities (Census 2011), 35 cities (Vijayawada, Patna, Raipur, Delhi, Ahmedabad, Surat, Vadodara, Srinagar, Dhanbad, Ranchi, Bangalore, Indore, Bhopal, Jabalpur, Mumbai, Pune, Nagpur, Thane, Pimpri-Chinchwad, Nashik, Kalyan-Dombivali, Vasai-Virar, Ludhiana, Kota, Hyderabad, Lucknow, Kanpur, Ghaziabad, Agra, Meerut, Varanasi, Allahabad, Kolkata, Howrah, Faridabad) are identified along the polluted river stretches.

CHAPTER I

WATER QUALITY MONITORING IN INDIA

1.1 National Water Quality Monitoring Programme

The Central Pollution Control Board (CPCB) has established a network of monitoring locations on aquatic resources across the country. The monitoring of water quality initiated during 1977-78 under Global Environmental Monitoring System (GEMS) and gradually increased the network to cover all the aquatic resources.

1.2 Objectives of Water Quality Monitoring

The preamble of Water (prevention and control of pollution) Act, 1974 stated that pollution control board both at States and Central level to restore and maintain the wholesomeness of water bodies in India. Water quality monitoring is therefore an imperative prerequisite in order to assess the extent of maintenance and restoration of water bodies. The water quality monitoring is performed with following main objectives in mind.

- Rational planning of pollution control strategies and their prioritization
- To assess nature and extent of pollution control needed in different water bodies or their part
- To evaluate effectiveness of pollution control measures already in existence
- To evaluate water quality trend over a period of time
- To assess assimilative capacity of a water body thereby reducing cost on pollution control
- To understand the environmental fate of different pollutants
- To assess the fitness of water for different uses

1.3 Monitoring Network, Parameters and Frequency

The present network operated under Global Environmental Monitoring System (GEMS) and Monitoring of Indian National Aquatic Resources System (MINARS) covers 445 Rivers having 1275 locations. State wise Distribution of Water Quality Monitoring Stations is summarized in Table 1. The names of 445 rivers in alphabetical order are presented in Table2. The water samples are analyzed in accordance to the notified protocol order. In the present report data on Biochemical Oxygen Demand (BOD) is incorporated for interpretation and drawing inferences based on primary water quality criteria.

Table-1: State wise Distribution of River Water Quality Monitoring Locations

| State | Monitoring Locations on River |
|------------------------------------|-------------------------------|
| ANDHRA PRADESH | 50 |
| ARUNACHAL PRADESH | 18 |
| ASSAM | 43 |
| BIHAR | 62 |
| CHANDIGARH | 3 |
| CHHATISSGARH | 29 |
| DAMAN, DIU, DADRA AND NAGAR HAVELI | 12 |
| DELHI | 5 |
| GOA | 28 |
| GUJARAT | 53 |
| HARYANA | 8 |
| HIMACHAL PRADESH | 58 |
| JAMMU & KASHMIR | 45 |
| JHARKHAND | 31 |
| KARNATAKA | 61 |
| KERALA | 73 |
| MADHYA PRADESH | 96 |

| State | Monitoring Locations on River |
|---------------|-------------------------------|
| MAHARASHTRA | 156 |
| MANIPUR | 41 |
| MEGHALAYA | 40 |
| MIZORAM | 4 |
| NAGALAND | 16 |
| ORISSA | 64 |
| PONDICHERRY | 5 |
| PUNJAB | 38 |
| RAJASTHAN | 17 |
| SIKKIM | 14 |
| TAMIL NADU | 45 |
| TELANGANA | 90 |
| TRIPURA | 29 |
| UTTAR PRADESH | 64 |
| UTTRAKHAND | 28 |
| WEST BENGAL | 38 |
| | |

Table 2:List of Rivers (Alphabetical order) in the monitoring network

| Name of the River | Name of the River | Name of the River | Name of the River | Name of the River |
|---------------------------------|-------------------|-------------------|-------------------------------------|-------------------------------|
| Achankoil | Borak | Dikhow | Jamuni | Khari |
| Ajay | Bori | Dikrong | Jawai | Kharkhala |
| Alakananda-Upper Ganga | Brahmani | Disang | Jhanji | Kharoon |
| Amba | Brahmaputra | Drass | Jhelum | Kharsang |
| Ambika | Budhabalanga | Dwarakeshwar | Jiri | Khowai |
| Amlakhadi | Bugi River | Dwarka | Johila | Khuga |
| Amravati (Tributary of Cauvery) | Burai | Dzu | Jumar | Khujairok |
| Amravati (Tributary of Tapi) | Burhi Gandak | Dzucha | Juri River | Kichha |
| Anas | Burhidihing | Dzudza | Kabini | Kim |
| Ancharakandi | Burigaon River | Dzuna | Kadalundy | Kinnersani |
| Arasalar | Cauvery | Farmer | Kadambayar | Kodra |
| Arkavati | Chakpi | Feni River | Kagina | Koel |
| Arpa | Chalakudy | Gai Nadi | Kali (Tributary of Hindon)West | Kohara |
| Ashwani | Chaliyar | Gandak | Kali Bein | Kolak |
| Asanora | Chambal | Ganga | Kali Nadi (Tributary of Ganga) East | Kolar (Tributary of Ganga) |
| Ayroor | Chamla | Ganol | Kali Sindh | Kolar (Tributary of Godavari) |
| Bagmati | Chandergiri | Gautami-godavari | Kaliasot | Kolong |
| Baitarni | Chandrabhaga | Gawkadal | Kali-Karnataka | Konar |
| Baleshwar Khadi | Chapora | Ghaggar | Kaljani | Korayar |
| Banas | Chathe | Ghataprabha | Kallada | Kosi (Tributary of Ramganga) |
| Bandi | Chenab | Ghod | Kallai | Kosi (Tributary of Ganga) |
| Banganga | Chhapi | Giri | Kalna | Koyna |
| Banjara | Chhota Tawa | Girna | Kamala | Krishna |
| Barak | Chillar | Godavari | Kalpathi Puzha | Kshipra |
| Barakar | Chitrapuzha | Gohad | Kalyani | Kuakhai |
| Basanter | Choupan | Gola | Kameng | Kumardhara |
| Baspa | Chuntkol | Gomai | Kan | Kunda |
| Batta | Churni | Gomti | Kanhan | Kundalika |

| Name of the River | Name of the River | Name of the River | Name of the River | Name of the River |
|------------------------|-------------------|-------------------------------|-----------------------------|-------------------|
| Beas | Corapuzha | Gour | Kansi | Kundli |
| Beki | Coringa | Gumti | Kapili | Kundu |
| Bereng River | Daha | Haora | Karakavagu | Kuppum |
| Betwa | Damanganga | Harbora | Karingoda | Kusei |
| Bhadar | Damodar | Hasdeo | Karmana | Kushawati |
| Bhadra | Damring river | Hemavati | Karapuzha | Kushiara |
| Bhalla | Darna | Hindon | Kariyari | Kuttiyady |
| Bharalu | Daya | Hiwara | Karo | Kynshi River |
| Bharathapuzha | Deepar Bill | Hunder Tokpo | Karola | Largi |
| Bhawani | Denwa | Hundri | Karuvannur | Laxmantirtha |
| Bhima | Deo River | Ib | Kathajodi | Leh |
| Bhogavo | Devak | Imphal | Kathakal | Lidder River |
| Bhogdoi | Dhadar | Indravati | Katni | Lohit River |
| Bichia | Dhalai River | Indrayani | Kaveri | Lokchao |
| Bicholim | Dhansiri | Indus | Kavvai | Longai River |
| Bihar | Dhela | Irang | Keecheri | Lukha River |
| Bindusar | Dhous | Iril | Kelo | Luni |
| Binwa | Dibang River | Ithikkara | Kerandi | Madai |
| Birupa | Digboi | Jia Bharali | Khan | Maha |
| Boginadi | Dihing River | Jalangi | Khandepar | Mahanadi |
| Bokaro | Dickhu | Jammer | Kharasrota | Mahananda |
| Mahe | Myntang River | Poma River | Siang River | Triveni sangam |
| Mahi | Myntdu | Poonpun River | Sikrana | Tuirial |
| Malei | Nagavalli | Pullur | Silabati | Tunga |
| Malprabha | Nakkavagu | Purna (Tributary of Godavari) | Simrar River | Tungabhadra |
| Mamom | Nalkari | Purna (Tributary of Tapi) | Simsang | Ujad |
| Manas | Nambul | Puzhackal | Sina | Ujh |
| Manda (Dudhai) River | Namchik River | Ramapuram | Sindh (Indus) | Ulhas |
| Mandakini (M.P.) | Nandaur | Ramganga | Sindh (Ganga) | Ulhas-Bhatsa |
| Mandakini- Upper Ganga | Nao Dihing | Ramrekha | Sinquerim | Ulhas-Kalu |
| Mandovi | Narmada | Ranchu | Sirsia (Tributary of Ganga) | Umiam Mawphlang |
| Maner | Neelsvaram | Ranga | Sirsa (Tributary of Satluj) | Umken River |

| Name of the River | Name of the River | Name of the River | Name of the River | Name of the River |
|-------------------|------------------------------|-------------------------------|----------------------------|-------------------|
| Maney | Netravati | Ranganadi | Ganga (M&M) | Umkhras River |
| Manimala | Neugal | Rangavali | Siuel | Umgot River |
| Manipur | Newaj River | Rangit | Sonai | Umshyrpi River |
| Maniyankode Puzha | Neyyar | Rapti | Sone | Umtrew |
| Manjara (Manjira) | Nira (Tributary of Godavari) | Ravi | Spiti | Uppala |
| Manjeswar | Nira (Tributary of Krishna) | Rihand | Subansiri | Urmodi |
| Manu River | Nonbah River | Rilang River | Subarnerekha | Vaitarna |
| Manusmar | Pabbar | Rupanarayan | Sukheti Khad | Valapattanam |
| Mapusa | Pachin River | Rushikulya | Sukna | Valvant |
| Markanda | Pagldia | Sabarmati | Suru River | Vamanpuram |
| Matha Bhanga | Palar | Sabri | Surya | Vamsadhara |
| Mayurakshi | Paleru | Sai | Suswa | Vansadhara |
| Meenachil | Pallickal | Sal | Swan | Varuna |
| Meethi | Pamba | Sankh (Tributary of Brahmani) | Talpona | Vashisti |
| Meswa | Panam | Sankh (Tributary of Ganga) | Tambiraparani | Vasista |
| Milak | Panchganga | Sankhani | Tansa | Vel |
| Mindhola | Panchnai | Sankosh | Tapi | Venna |
| Mogral | Panzara | Sano | Tawi | Vindiyadhari |
| Mor | Pariyar | Sarabanga | Teesta | Vishwamitri |
| Mora Bharali | Parvati (Tributary of Ganga) | Saryu-Ghaghra | Tel | Waghur |
| Morna | Parvati (Tributary of Beas) | Satluj | Thalassery | Wah Blei |
| Muchkundi | Patalganga | Savitri | Thirumanimuthar | Wainganga |
| Muhari River | Pawana | Sekmai | Thirur | Wangjing |
| Mula | Pedhi | Serua | Thoubal | Wardha |
| Mula-Mutha | Pehlar | Shedhi | Tiracol | Wena |
| Muneru | Penganga | Sheonath | Titur | Yagachi |
| Musi | Pennar | Shimsa | Tlawng | Yamuna |
| Mutha | Peruvamba | Shivna | Tons (Tributary of Ganga) | Yongo Riner |
| Muvattupuza | Pilkhar | Shriya | Tons (Tributary of Yamuna) | Zuari |

1.4 Concept of Water Quality Management in India

The water quality management in India is performed under the provision of Water (Prevention and Control of Pollution) Act, 1974. The basic objective of this Act is to maintain and restore the wholesomeness of national aquatic resources by prevention and control of pollution. The Act does not define the level of wholesomeness to be maintained or restored in different water bodies of the country. The Central Pollution Control Board (CPCB) has tried to define the wholesomeness in terms of protection of human uses, and thus, taken human uses of water as base for identification of water quality objectives for different water bodies in the country.

It was considered ambitious to maintain or restore all natural water body at pristine level. Planning pollution control activities to attain such a goal is bound to be deterrent to developmental activities and cost prohibitive. Since the natural water bodies have got to be used for various competing as well as conflicting demands, the objective is aimed at restoring and/or maintaining natural water bodies or their parts to such a quality as needed for their best uses. Thus, a concept of “designated best use” (DBU) was developed. According to this concept, out of several uses a water body is put to, the use which demands highest quality of water is termed as “designated best use”, and accordingly the water body is designated. Primary water quality criteria for different uses have been identified.

The entire water resources of the country were classified according to their designated best uses and a “Water Use Map” was prepared. For identification of the water bodies or their parts where water quality is at variance with water quality criteria, it was felt important to measure water quality of that water body or its part. It would help in preparation of “Water Quality Map” of India. The idea was to superimpose “Water Quality Map” on “Water Use Map” to identify the water bodies or their parts, which are in need of improvement (restoration). Subsequently through a wide network of water quality monitoring, water quality data are acquired. A large number of water bodies were identified as polluted stretches for taking appropriate measures to restore their water quality. Today almost all policies and programmes on water quality management are based on this concept including the Ganga Action Plan and National River Action Plans.

CHAPTER-II

CRITERIA AND PRIORITY OF POLLUTED RIVER STRETCHES

2.1 Identification of polluted river stretches

The stretches of rivers not meeting with the criteria are identified as polluted stretches and categorized in five priority classes. As the level of BOD varies widely in River stretches the same are prioritized in five categories based on BOD concentration consistently exceeding to BOD levels >30 mg/l, BOD between 20&30 mg/l, BOD between 10&20mg/l, BOD between 6-10 mg/l and BOD between 3& 6 mg/l. The data obtained are analyzed statistically and compared with the water quality criteria with respect to BOD.

The water quality data for the years 2009-2012 is analyzed and monitoring locations exceeding the water quality criteria are identified as polluted locations with respect to risk. The degree of violation is with respect to water quality criteria for drinking water source with conventional treatment with respect to BOD. The polluted locations in a continuous sequence are defined as polluted river stretches.

2.2 Criteria for prioritization

The rivers have been prioritized based on the concentration of BOD in five classes from priority I to V. The criteria of each priority are elaborated indicating the concentration range of BOD in mg/l.

Criteria for Priority I

- ◆ Monitoring locations exceeding BOD concentration 30 mg/l has been considered as the standard of sewage treatment plant and in river it appears without dilution.
(River locations having water quality exceeding discharge standards for BOD to fresh water sources)

Criteria for Priority II

- ◆ Monitoring locations having BOD between 20-30 mg/l.

Criteria for Priority III

- ◆ Monitoring locations having BOD between 10-20 mg/l.

Criteria for Priority IV

- ◆ Monitoring locations having BOD between 6-10 mg/l.

Criteria for Priority V

- ◆ Monitoring locations having BOD between 3-6 mg/l.

2.3 Number of stretches- priority-wise

The priority wise number of river stretches has been summed up taking in to account of all the states and union territories in the country. The details of priority-wise number of stretches are summarized in Table 2.1 and the state-wise breakup is provided in Table 2.2. The polluted riverine lengths have been worked out tentatively using the digital maps for each priority class. The total polluted riverine length is 12,363 Km where in priority I to V is 2726 Km, 1145 Km, 1834 Km, 2496 Km and 4166 Km respectively (Table 2.3).

Table- 2.1: Number of stretches in priority class

| Priority | Number of Stretches |
|--------------|---------------------|
| Priority I | 34 |
| Priority II | 17 |
| Priority III | 36 |
| Priority IV | 57 |
| Priority V | 158 |
| Total | 302 |

Table- 2.2: State-wise number of stretches in each priority class.

| State | Priority -I | Priority - II | Priority - III | Priority - IV | Priority - V | Total |
|----------------|-------------|---------------|----------------|---------------|--------------|-------|
| Andhra Pradesh | - | - | - | - | 6 | 6 |
| Assam | 1 | - | - | 3 | 24 | 28 |
| Bihar | - | 1 | 1 | 1 | 2 | 5 |
| Chhattisgarh | - | - | - | - | 5 | 5 |
| Daman and Diu | 1 | - | - | - | - | 1 |
| Delhi | 1 | - | - | - | - | 1 |
| Goa | - | - | 1 | 2 | 5 | 8 |

| | | | | | | |
|----------------------------|-----------|-----------|-----------|-----------|------------|------------|
| Gujarat | 2 | - | 3 | 7 | 8 | 20 |
| Haryana | - | 1 | - | 1 | - | 2 |
| Himachal Pradesh | 2 | - | - | 3 | 3 | 8 |
| Jammu & Kashmir | - | - | - | 5 | 4 | 9 |
| Jharkhand | - | - | - | 3 | 5 | 8 |
| Karnataka | - | - | - | 3 | 12 | 15 |
| Kerala | 1 | - | - | 2 | 10 | 13 |
| Madhya Pradesh | 4 | 1 | 2 | 2 | 12 | 21 |
| Maharashtra | 4 | 5 | 18 | 12 | 10 | 49 |
| Manipur | - | 1 | 1 | 3 | 7 | 12 |
| Meghalaya | 2 | - | 1 | 2 | 5 | 10 |
| Nagaland | - | 1 | - | 2 | - | 3 |
| Orissa | - | 1 | 2 | 2 | 7 | 12 |
| Punjab | 1 | 1 | - | - | - | 2 |
| Rajasthan | 1 | 1 | 1 | - | 5 | 8 |
| Sikkim | - | - | - | - | 5 | 5 |
| Tamil Nadu | 5 | 1 | - | - | 1 | 7 |
| Telangana | 3 | 3 | - | - | 1 | 7 |
| Tripura | - | - | - | - | 2 | 2 |
| Uttar Pradesh | 3 | - | 2 | 2 | 6 | 13 |
| Uttarakhand | 3 | - | - | - | 2 | 5 |
| West Bengal | - | - | 4 | 2 | 11 | 17 |
| | 34 | 17 | 36 | 57 | 158 | 302 |

Table- 2.3: Priority-wise length of stretches in Km.

| Priority Class | Length in Km |
|-----------------------|---------------------|
| I | 2726 |
| II | 1145 |
| III | 1834 |
| IV | 2492 |
| V | 4166 |
| Total | 12,363 |

CHAPTER – III

STATUS OF POLLUTED RIVER STRETCHES

3.1 Polluted River Stretches –At a Glance

The river locations not meeting desired water quality criteria with respect to Bio chemical Oxygen Demand (BOD) are identified as polluted in 29 out of 35 States/UTs wherein the network of water quality monitoring locations are monitored on regular basis with the help of State Pollution Control Boards/Committees..The state-wise number of Polluted river stretches and cities/towns along these stretches are summarized in Table 3.1.The statewise description of polluted river stretches is provided in subsequent para.

Table –3.1: State-wise number of Polluted River Stretches and Cities/Towns along them.

| State | Cities/Towns along Polluted River Stretches | Number of Polluted River Stretches |
|-------------------|---|------------------------------------|
| Andhra Pradesh | 8 | 06 |
| Assam | 49 | 28 |
| Bihar | 8 | 05 |
| Chhattisgarh | 12 | 05 |
| Daman & Diu | 2 | 01 |
| Delhi | 1 | 01 |
| Goa | 9 | 08 |
| Gujarat | 38 | 20 |
| Haryana | 7 | 02 |
| Himachal Pradesh | 14 | 08 |
| Jammu and Kashmir | 18 | 09 |
| Jharkhand | 16 | 08 |
| Karnataka | 24 | 15 |
| Kerala | 22 | 13 |
| Madhya Pradesh | 37 | 21 |
| Maharashtra | 161 | 49 |
| Manipur | 17 | 12 |
| Meghalaya | 12 | 10 |
| Nagaland | 4 | 03 |
| Orissa | 20 | 12 |
| Punjab | 5 | 02 |
| Rajasthan | 20 | 08 |
| Sikkim | 11 | 05 |
| Tamil Nadu | 23 | 07 |
| Telangana | 18 | 07 |
| Tripura | 4 | 02 |
| Uttar Pradesh | 37 | 13 |
| Uttarakhand | 6 | 05 |
| West Bengal | 47 | 17 |
| Total | 650 | 302 |

3.2 Polluted River Stretches in Andhra Pradesh

Water Quality of rivers in A.P. is monitored at 50 locations on 9 rivers and out of which 38 locations are non-complying to the Water Quality Criteria with respect to BOD. These 38 locations are on 6 rivers. The names of 6 polluted rivers are Godavari, Hundari, Krishna, Tungabhadra, Pennar and Kundu. These rivers are classified in **five classes** based on the level of BOD falling in priority class-V. The details of polluted river stretches are provided in Table 3.2

Table – 3.2: Polluted River Stretches in Andhra Pradesh

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|-------------|------------------------------------|----------------------------------|--------------------------------------|
| 1. | GODAVARI | RAYANPETA TO RAJAHMUNDRI | RAJAHMUNDRI, RAYANAPETA | 140 |
| 2. | HUNDRI | LAXMIPURAM TO JOHARPURAM (KURNOOL) | KURNOOL | 10 |
| 3. | KRISHNA | AMRAVATHI TO HAMSALA DEEVI | VIJAYWADA | 270 |
| 4. | TUNGABHADRA | MANTHRALAYAM TO BAVAPURAM | KURNOOL | 50 |
| 5. | PENNAR | TADPATRI TO NELLORE | JAMMALAMADUGU, PRODDATUR, KADAPA | 120 |
| 6. | KUNDU | NANDYAL TO MADDURU | NANDYAL | 120 |

3.3 Polluted River Stretches in Assam

Water Quality of rivers in Assam is monitored at 43 locations on rivers out of which 42 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 42 non-complying locations are situated on 28 rivers. The names of the rivers are Mora Bharali, Barak, Beki, Bharalu, Bhogdoi, Boginadi, Brahmaputra, Burhidihing, Deepar Bill, Dhansiri, Digboi, Disang, JiaBharali, Jhanji, Kalong, Kapili, Kharsang, Kohora, Kundli, Kushiara, Manas, Pagadia, Panchnai, Ranga nadi, Sankosh, Sonai, Subansiri, Kathakal. These rivers are classified in three priority classes (Class I, IV and V). The details of polluted river stretches are provided in Table– 3.3.

Table–3.3: Polluted River Stretches in Assam

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|--------------|--------------------------------------|--|--------------------------------------|
| 1. | MORA BHARALI | TEZPUR TO UDMARI GAON | TEZPUR | 8 |
| 2. | BARAK | PANCHGRAM TO SILCHAR | BADARPUR, KANCHANPUR,SILCHAR,TAR APUR | 45 |
| 3. | BEKI | BARPETA ROAD TO JYOTI GAON | BARPETA | 10 |
| 4. | BHARALU | GUWAHATI TO CHILARAI NAGAR | SANTIPUR,ULUBARI | 6 |
| 5. | BHOGDOI | JORHAT TO DULIAGAON | JORHAT | 6 |
| 6. | BOGINADI | LAKHIMPUR TO DIBRUGARH | LAKHIMPUR | 40 |
| 7. | BRAHAMPU TRA | KHERGHAT TO DHUBRI | GUWAHATI,DIBRUGARH,SIV ASAGAR,JORHAT,TEZPUR,B ARPETA,GOLPARACHAPAR | 240 |
| 8. | BURHIDIHI NG | MARGHERITA TO TINSUKIA | MARGHERITA,NAHARKATIA , DULIAJAN | 30 |
| 9. | DEEPAR BILL | DEEPAR BILL TO GUWAHATI | DEEPARBILL | 10 |
| 10. | DHANSIRI | GOLAGHAT TO KATHKETIA | GOLAGHAT | 12 |
| 11. | DIGBOI | LAKHIPATHE, RESERVE FOREST | LAKHIPATHE | 10 |
| 12. | DISANG | DILLIGHAT TO GUNDAMGHAT | TEZPUR | 35 |
| 13. | JIA BHARALI | SONITPUR TO PANIGAON | TEZPUR | 15 |
| 14. | JHANJI | JORHAT TO CHAWDANG | JHANZI | 6 |
| 15. | KALONG | NAGAON TO MORI KALONG | KACHALUKHOWA | 4 |
| 16. | KAPILI | NAGAON TO KAMPUR TOWN | KALAIKHOWA | 20 |
| 17. | KHARSANG | ASSAM-ARUNANCHAL BORDER TO LONGTOM-1 | SINGMAO,ONGMAN,NEW LONGKEY | 5 |
| 18. | KOHORA | KOHORA TO MOHPARA | KAZIRANGA,BOGORIJURI | 4 |
| 19. | KUNDLI | SAPAKHOWA TO SADIA. | LAKHIMI PATHAR,SHANTIPUR | 12 |

| | | | | |
|-----|---------------|---------------------------|-------------------------------------|----|
| 20. | KUSHIARA | KARIMGANJ TO SARISA | ZAKIGANJ,KALACHERRA | 5 |
| 21. | MANAS | BARPETA TO CHILAPARA | JYOTIGAON,BADARPUR | 15 |
| 22. | PAGLDIA | NALBARI TO KHUDRA SANKARA | BIDYAPUR,SANTIPUR | 3 |
| 23. | PANCHNAI | ORANG TO BORSALA | PAKARIBARI,GARUBANDHA, KHANKHALA | 10 |
| 24. | RANGA NADI | DOIMUKH TO NAHARLAGUN | RONO BASTI, YUPIA, | 10 |
| 25. | SANKOSH | DHUBRI TO GOLAKGANJ | SANTI NAGAR, BIDYAPARA, | 10 |
| 26. | SONAI | SONAI TO DAKSHIN MOHANPUR | MAJHIRGRAM,KAPTANPUR | 15 |
| 27. | SUBANSIRI | GEREKAMUKH TO LAKHIMPUR | CHEZIA GOAN,HINDU GAON,BHIMPARA | 25 |
| 28. | KATHAKAL | HAILAKANDI TO MATIJURI | SUDORSHONPUR,DAKHIN, SONAPUR | 25 |

3.4 Polluted River Stretches in Bihar

Water Quality of rivers in Bihar is monitored at 62 locations on 18 rivers. Among these 7 locations are not complying with Water Quality Criteria. These river locations are situated on five rivers viz. Ganga, Harbora, Manusmar, Ramrekha and Sirsia. The polluted rivers in Bihar are in 4 priority classes (Class-II, III, IV and V). The details of polluted river stretches are provided in Table–3.4.

Table – 3.4: Polluted River Stretches in Bihar

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---|----------------------------|--------------------------------------|
| 1. | GANGA | BUXAR TO BHAGALPUR | BUXAR, PATNA, BHAGALPUR | 40 |
| 2. | HARBORA | SWADESHI SUGAR MILLS TO NARKATIAGANJ | NARKATIAGANJ | 5 |
| 3. | MANUSMAR | MOHANIAMNDAL TO RIGA (SITAMARHI) | SITAMARHI | 15 |
| 4. | RAM REKHA | HARINAGAR TO RAMNAGAR | RAMNAGAR, HARUNAGAR | 20 |
| 5. | SIRZIA | RUXOL TO KOIREA TOLA (RAXAUL) | RAXAUL | 8 |

3.5 Polluted River Stretches in Chhattisgarh

Water Quality of rivers in Chhattisgarh is measured at 24 locations on 8 rivers and among them 10 locations is non-complying to the Water Quality Criteria with respect to BOD. These 10 locations are on 5 rivers. The names of 5 polluted rivers are; Hasdeo, Kelo, Kharoon, Mahanadi and Seonath. These rivers are classified in priority class V based on the level of BOD. The details of polluted river stretches are provided in Table–3.5.

Table – 3.5: Polluted River Stretches in Chhattisgarh

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|----------------------|--|--------------------------------------|
| 1. | HASDEO | KORBA TO URGA | RUMGARA, SONPURI, KORBA | 20 |
| 2. | KELO | RAIGARH TO KANAKTORA | RAIGARH | 15 |
| 3. | KHAROON | BUNDRI TO RAIPUR | RAIPUR | 20 |
| 4. | MAHANADI | ARRANG TO SIHAWA | RAIPUR, NAWAPARA NAGAR, DHAMTARI, RUDRI, KANKER, RAJIM | 70 |
| 5. | SEONATH | SHIMGGA TO BEMTA | SIMGGA, BEMTA | 10 |

3.6 Polluted River Stretches in Daman and Diu

There are 12 monitoring locations on rivers in Daman, Diu and Dadra Nagar Haveli out of which 8 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 8 non-complying locations are situated on river Damanganga. These rivers are classified in priority classes (Class - I). The details of polluted river stretches are provided in Table–3.6.

Table – 3.6: Polluted River Stretches in Daman, Diu and Dadra Nagar Haveli

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|------------------------|------------------|--------------------------------------|
| 1. | DAMANGANGA | SILVASSA TO MOTI DAMAN | DAMAN, SILVASSA | 40 |

3.7 Polluted River Stretches in Delhi

River Yamuna is the river monitored in Delhi at 5 locations. Among these 3 locations are not complying with Water Quality Criteria. All the three locations are Priority Class – I. The details of polluted river stretches are provided in Table–3.7.

Table - 3.7: Polluted River Stretch in Delhi

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-------------------------------|------------------|--------------------------------------|
| 1. | YAMUNA | WAZIRABAD TO ASGARPUR VILLAGE | DELHI | 22 |

3.8 Polluted River Stretches in Goa

Water Quality of rivers in Goa is measured at 28 locations on 16 rivers and among them 11 locations is non-complying to the Water Quality Criteria with respect to BOD. These 11 locations are on 8 rivers. The names of 8 polluted rivers are; Mandovi, Assonora, Bicholim, Chapora, Khandepar, Mapusa, Sal and Valvant. These rivers are classified in **Priority Class – III, IV and V** based on the level of BOD. The details of polluted river stretches are provided in Table–3.8.

Table – 3.8: Polluted River Stretches in Goa

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-----------------------------|------------------|--------------------------------------|
| 1. | MANDOVI | MARCELA TO VOLVOI | MARCELA, VOLVOI | 10 |
| 2. | ASSONORA | ASSONORA TO SIRSAIM | ASSONORA | 5 |
| 3. | BICHOLIM | BICHOLIM TO CURCHIREM | BICHOLIM | 6 |
| 4. | CHAPORA | PERNEM TO MORJIM | CHIKHLI, SIOLIM | 18 |
| 5. | KHANDEPAR | PONDA TO OPA | PONDA | 10 |
| 6. | MAPUSA | MAPUSA TO BRITONA | MAPUSA | 16 |
| 7. | SAL | KHAREBAND TO MOBOR | MARGAO | 14 |
| 8. | VALVANT | SANKLI – BICHOLIM TO PORIEM | BICHOLIM | 5 |

3.9 Polluted River Stretches in Gujarat

There are 53 monitoring locations on 27 rivers in Gujarat out of which 41 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 41 non-complying locations are situated on 20 rivers. The names of the rivers are; Mahi, Narmada, Ambika, Amlakhadi, Anas, Baleshwar Khadi, Bhadar, Damanganga, Kaveri, Khari, Kim, Kolak, Mahi, Mindhola, Narmada, Panam, Bhogavo, Dhadar, Purna, Sabarmati, Shedi, Tapi and Triveni. These rivers are classified in four priority classes (Class I, III, IV and V). The details of polluted river stretches are provided in Table–3.9.

Table – 3.9: Polluted River Stretches in Gujarat

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|----------------|---------------------------------|-----------------------------|--------------------------------------|
| 1. | MAHI | SEVALIA TO BAHADARPUR | SEVALIYA, VADODARA | 15 |
| 2. | NARMADA | GARUDESHWAR TO BHARUCH | BOLAV, GARUDESHWAR, BHARUCH | 80 |
| 3. | AMBIKA | BILIMORA TO DEVDHA | NAVAPURA, GANDEVI | 13 |
| 4. | AMLAKHADI | PUNGUM TO BHARUCH | PUNGAM, GADKHOL | 20 |
| 5. | ANAS | DAHOD TO FATEHPURA | DAHOD | 80 |
| 6. | BALEHWAR KHADI | PANDESARA TO KAPLETHA | PANDESARA, UDHNA | 20 |
| 7. | BHADAR | JETPUR VILLAGE TO SARAN VILLAGE | UPLETA, DHORAJI, JETPUR | 15 |
| 8. | DAMANGANG A | KACHIGAON TO VAPI | KANCHIGAM, VAPI | 30 |
| 9. | KAVERI | BILLIMORA TO SAI NATH NAGAR | BILIMORA | 50 |
| 10. | KHARI | LALI VILLAGE TO KASHIPURA | UMIYAPURA | 20 |
| 11. | KIM | SAHOL BRIDGE TO HANSOL | SAHOL | 10 |
| 12. | KOLAK | KIKARLA TO SALVAV | KIKARLA, BAGWADA | 20 |
| 13. | PANAM | LUNAWADA TO THANA SAVALI | LUNAWADA | 20 |
| 14. | BHOGAVO | SURENDRANAGAR TO NANA KERALA | SURENDRANAGAR | 20 |

| | | | | |
|-----|-----------|-----------------------------|---|----|
| 15. | DHADAR | KHOTDA TO CHANDPURA | KHOTDA | 20 |
| 16. | PURNA | NAVSARI TO MACHHAD | NAVSARI, JALALPORE, VIRAVAl | 14 |
| 17. | SABARMATI | KHEROJ TO VAUTHA | GANDHINAGAR, AHEMDABAD | 80 |
| 18. | SHEDHI | DHAMOD TO KHEDA | DHAMOD | 6 |
| 19. | TAPI | KHADOD (BARDOLI) TO SURAT | BARDOLI, UKAI, MANDVI, SAMPURA, KAMREJ, SURAT | 45 |
| 20. | TRIVENI | TRIVENI SANGAM TO BADALPARA | PRABHAS PATAN, VERAVAL | 5 |

3.10 Polluted River Stretches in Haryana

The rivers in Haryana are monitored at 8 locations on 2 rivers. Among these 7 locations are not complying with Water Quality Criteria. These river locations are situated on two rivers viz. Ghaggar and Yamuna. The polluted rivers in Haryana are in 2 priority classes (Class-II and IV). The details of polluted river stretches are provided in Table– 3.10.

Table – 3.10: Polluted River Stretches in Haryana

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---|---|--------------------------------------|
| 1. | GHAGGAR | RORKI TO SIRSA | RORKI, SIRSA | 30 |
| 2. | YAMUNA | PANIPAT TO SONEPAT, DELHI TO FARIDABAD | PANIPAT, SONIPAT, FARIDABAD, BALLABHGARH, PALWAL | 45 |

3.11 Polluted River Stretches in Himachal Pradesh

Water Quality of rivers Himachal Pradesh is measured at 58 locations on 22 rivers and among them 12 locations is non-complying to the Water Quality Criteria with respect to BOD. These 12 locations are on 8 rivers. The names of 8 polluted rivers are; Beas, Tons, Sirsa, Swan, Sukhana, Suketi khad, Markandaand Binwa. These rivers are classified in priority class I, IV and V based on the level of BOD. The details of polluted river stretches are provided in Table– 3.11.

Table – 3.11: Polluted River Stretches in Himachal Pradesh

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|-------------|------------------------|----------------------------|--------------------------------------|
| 1. | BEAS | KULLU TO DEHRAGOPIPUR | SANOT, KULLU | 80 |
| 2. | TONS | KILLOR TO TILWARI | DANDA, HARIPUR | 10 |
| 3. | SIRSA | NALAGARH TO SOLAN | SORI,RADYALI | 6 |
| 4. | SWAN | UNA TO SANTOKHGARH | ARNIALA, PREM NAGAR | 10 |
| 5. | SUKHANA | SUKHNA TO PARWANOO | BHAGWANPURA, KISHANGARH | 15 |
| 6. | SUKETI KHAD | MANDI TO BEHNA | MANDI, SAMKHETAR, KARTAPUR | 6 |
| 7. | BINWA | PAPROLA TO BAIJNATH | KHATREHR | 5 |
| 8. | MARKANDA | KALA AMB TO NARAYANPUR | KALA AMB, OGLI | 4 |

3.12 Polluted River Stretches in Jammu and Kashmir

There are 45 monitoring locations on 17 rivers in Jammu and Kashmir out of which 16 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 16 non-complying locations are situated on 9 rivers. The names of the rivers are; Banganga, Basanter, Chenab, Chunt Kol, Dewak, Gawkadal, Jhelam, Liddar Nalah and Tawi. These rivers are classified in two priority classes (Class IV and V). The details of polluted river stretches are provided in Table– 3.12.

Table – 3.12: Polluted River Stretches in Jammu and Kashmir

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---------------------------|----------------------------------|--------------------------------------|
| 1. | BANGANG A | PONY SHED TO BATHING GHAT | KATRA | 3 |
| 2. | BASANTER | SAMBA TO CHAKMANGARAKWAL | MANANUN,BALOUR,PAREI, BEDI,PALTH | 5 |
| 3. | CHENAB | JAL PATAN TO PARGAWAL | AKHNOOR,MUTHI, PARGAWAL | 12 |

| | | | | |
|----|-----------|----------------------------------|-------------------------------------|----|
| 4. | CHUNT KOL | MAULANA AZAD BRIDGE TO KANIKADAL | SRINAGAR, FATEH KADAL, MAHARAJGANJ | 5 |
| 5. | DEWAK | GARIGARH TO UTTARBEHANI | JAMMU, TRIKUTA NAGAR, CHAK RAKWALAN | 5 |
| 6. | GAWKADAL | GAWKADAL BRIDGE TO NOHATA | SRINAGAR, SHAHEED GANJ | 2 |
| 7. | JHELAM | CHATTABAL WEIR TO ANANTNAG | SRINAGAR, KARAN NAGAR | 40 |
| 8. | LIDDER | SILICOM TO LIDDAR NALAH | ANANTNAG | 5 |
| 9. | TAWI | SURAJNAGAR TO BELICHARANA | JAMMU, CHAK RAKWALAN | 5 |

3.13 Polluted River Stretches in Jharkhand

The rivers in Jharkhand are monitored at 31 locations on 14 rivers. Among these 14 locations are not complying with Water Quality Criteria. These 14 locations are situated on 8 rivers viz. Bokaro, Damodar, Jumar, Karo, Koel, North Koel, Sankh and Subarnrekha. The polluted rivers in Jharkhand are in 2 priority classes (Class- IV and V). The details of polluted river stretches are provided in Table– 3.13.

Table – 3.13: Polluted River Stretches in Jharkhand

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|--------------|--------------------------|------------------------------|--------------------------------------|
| 1. | BOKARO | BILYOTARA TO JARANDI | BILYOTRA, GUMIA | 8 |
| 2. | DAMODAR | PHUSRO ROAD BDG TO TURIO | PHUSRO, BHANDARIDAH, DHANBAD | 12 |
| 3. | JUMAR | KANKE DAM TO KADAL | RANCHI, MORABADI | 10 |
| 4. | KARO | LOHOJIMI TO BALAGODA | BALAGODA, LOHOJIMI | 16 |
| 5. | NORTH KOEL | BASIADAM TO REHLA | RANCHI, DALTONGANJ | 6 |
| 6. | KOEL | DALTANGANJ TO REHLA | KANDI, BISRAMPUR, MAJHIAON | 25 |
| 7. | SANKH | KONGSERABASAR TO BOLBA | KUSUMDEGI, MACHHKATA | 10 |
| 8. | SUBARNAREKHA | HATIA DAM TO JAMSHEDPUR | RANCHI, NAMKUM | 120 |

3.14 Polluted River Stretches in Karnataka

Water Quality of rivers Karnataka is measured at 61 locations on 25 rivers and among them 38 locations is non-complying to the Water Quality Criteria with respect to BOD. These 38 locations are on 15 rivers. The names of 15 polluted rivers are; Arkavathi, Bhadra, Bhima, Cauvery, Ghatprabha, Kabini, Kagina, Kali, Krishna, Lakshmantirtha, Malprabha, Manjira, Shimsha, Tungabhadra and Tunga. These rivers are classified in priority class IV and V based on the level of BOD. The details of polluted river stretches are provided in Table–3.14.

Table – 3.14: Polluted River Stretches in Karnataka

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|-----------------|--|----------------------------------|--------------------------------------|
| 1. | ARKAVATHI | HALLI RESERVOIR TO KANAKAPURA TOWN | BENGALURU, BHADRAVATHI | 35 |
| 2. | BHADRA | HOLEHUNNUR TO BHADRAVATHI | CHIKKODI, KOPA | 10 |
| 3. | BHIMA | GHANAPUR TO YADGIR | JEVARGI | 80 |
| 4. | CAUVERY | RANGANATHITTU TO SATHYAMANGALAM BRIDGE | SRIRANGA PATNA | 50 |
| 5. | GHATPRABHA | GOKAK TO CHIGADOLLI | GOKAK | 5 |
| 6. | KABINI | NANJANAGUD TO HEJJIGE | BASAVANAPURA, CHIKKAIAHNACHATRA | 5 |
| 7. | KAGINA | SHAHABAD TO HONGUNTA | BHANKOOR | 10 |
| 8. | KALI | HASAN MAAD (WEST COAST PAPER MILL) TO BOMMANAHALLI RESERVOIR | DANDELI | 10 |
| 9. | KRISHNA | YADURWADI TO TINTINI BRIDGE | UGARKHURD, CHIKKODI, NARAYANPURA | 200 |
| 10. | LAKSHMAN TIRTHA | KATTEMALAVADI TO HUNSUR | UNDAVADI | 10 |
| 11. | MALPRABHA | KHANAPUR TO DHARWAD | M.K HUBLI, KADROLLI | 80 |
| 12. | MANJIRA | BIDAR TO HUSSAIN NAGAR | NITTUR, CHAMBOL, BIDAR | 10 |

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|-----|-----------------|-----------------------|-----------------------|----|
| 13. | SHIMSHA | YEDIYAR TO HALAGUR | THATTEKERE, MALLUR | 80 |
| 14. | TUNGABHA DRA | HARIHAR TO KORLAHALLI | ULLANUR, HARIHAR | 60 |
| 15. | TUNGA | SHIVAMOGA TO KUDLI | SHIVAMOGA | 10 |

3.15 Polluted River Stretches in Kerala

There are 73 monitoring locations on 55 rivers in Kerala out of which 18 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 18 non-complying locations are situated on 13 rivers. The names of the rivers are; Chitrapuzha, Kadambayar, Kallai, Karamana, Keecheri, Kuppam, Manimala, Neeleswaram, Periyar, Pullur, Puzhckal, Thirur and Uppala. These rivers are classified in three priority classes (Class – I, IV and V). The details of polluted river stretches are provided in Table– 3.15.

Table – 3.15: Polluted River Stretches in Kerala

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|-------------|------------------------------|----------------------------------|--------------------------------------|
| 1. | CHITRAPUZHA | IRUMPANAM TO KARINGACHIRA | CHITTETHUKARA | 15 |
| 2. | KADAMBAYAR | MANCKAKADAVU TO BRAHMAPURAM | KAKKATTIKARA, THENGUMTHURUTHU | 8 |
| 3. | KALLAI | THEKEPURAM TO ARAKKINAR | KOZHIKODE, MANANCHIRA | 5 |
| 4. | KARAMANA | MALEKKDU TO THIRUVALLAM | TRIKKANNAPURAM | 4 |
| 5. | KEECHERI | PULIYANNOR TO KECHERY | THRISSUR | 6 |
| 6. | KUPPAM | THALIPARAMBA TO VELICHANGOOL | MARATHAKKAD, KUTTIYERI | 12 |
| 7. | MANIMALA | KALLOOPARA TO THONDRA | MALLAPPALLY, VAIPUR | 10 |
| 8. | NEELESWARAM | NAMBIARKAL DAM TO HOSDURG | PUTHUKAI | 8 |
| 9. | PERIYAR | ALWAYE-ELOOR TO KALAMASSERY | MUTTINAKAM, EDAMPAADAM | 5 |
| 10. | PULLUR | RAMNAGAR TO KANNOTH | KOTTAPARA, | 2 |
| 11. | PUZHACKAL | OLARIKKARA TO PUZHACKAL | PUTHURKARA, CHETTUPUZHA | 3 |

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|----|--------|---------------------------------|---|---|
| 12 | THIRUR | NADUVILANGADI TO THALAKKADATHUR | CHEMBRA, THAZHEPALAM, MANGALAM THIRUTHUMMAL | 8 |
| 13 | UPPALA | POYYA TO MULINJA | MANJESHWAR, HOSABETTU | 3 |

3.16 Polluted River Stretches in Madhya Pradesh

The rivers in Madhya Pradesh are monitored at 96 locations on 41 rivers. Among these 45 locations are not complying with the Water Quality Criteria. These 45 locations are situated on 21 rivers viz. Banjar, Betwa, Bichia, Chambal, Chillar, Denwa, Gohad, Gour, Jammer, Kalisot, Khan, Kolar, Kshipra, Kunda, Malei, Narmada, Parvati, Shivna, Tapi, Tons and Wainganga. The polluted rivers in Madhya Pradesh are in 5 priority classes (Class- I, II, III, IV and V). The details of polluted river stretches are provided in Table– 3.16.

Table– 3.16: Polluted River Stretches in Madhya Pradesh

| S no. | River name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-------------------------|------------------------------------|--------------------------------------|
| 1. | BANJAR | MALANJKHAND TO TINGIPUR | MALANJKHAND, TINGIPUR | 15 |
| 2. | BETWA | MANDIDEEP TO VIDISHA | MANDIDEEP, VIDISHA, BHOPAL, RAISEN | 70 |
| 3. | BICHIA | SILPARI TO GADHAWA | REWA | 5 |
| 4. | CHAMBAL | NAGDA TO RAMPURA | NAGDA, RAMPURA | 150 |
| 5. | CHILLAR | SHAJAPUR TO MURADPURA | SHAJAPUR, DANSIPURA, MURADPURA | 10 |
| 6. | DENWA | DHUPGARH TO SARNI | DHUPGARH, SARNI | 50 |
| 7. | GOHAD | GOHAD DAM TO GORMI | BANIPURA, GOHAD, GORMI | 25 |
| 8. | GOUR | JABALPUR TO SALIWADA | JABALPUR | 15 |
| 9. | JAMMER | DHLOWAD TO RAOTI | RAOTI | 5 |

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|-----|-----------|--|---|-----|
| 10. | KALISOT | MANDIDEEP TO SAMARDHA VILLAGE | MANDIDEEP, BHOPAL | 12 |
| 11. | KHAN | KABIT KHEDI TO KHAJRANA | INDORE | 8 |
| 12. | KOLAR | SURAJNAGAR TO SHIRDIPURAM | INDORE | 8 |
| 13. | KSHIPRA | SIDDHAWAT TO TRIVENISANGAM | UJJAIN | 8 |
| 14. | KUNDA | KHARGONE TO KHEDI KHURD | KHARGONE | 15 |
| 15. | MALEI | JAORA TO BARAUDA | JAORA | 10 |
| 16. | NARMADA | MANDALA TO BHEDA GHAT SETHANI GHAT TO NEMAWAR | NEMAWAR, JABALPUR, HOSHANGABAD | 160 |
| 17. | PARVATI | BATAWADA TO PILUKHEDI | BATAWADA, PILUKHEDI, NARSINGHGARH | 80 |
| 18. | SHIVNA | MANDSAUR TO MALAYA KHEDI | MANDSAUR | 8 |
| 19. | TAPI | NEPANAGAR TO BURHANPUR | NEPANAGAR, BURHANPUR | 25 |
| 20. | TONS | CHAKGHAT TO CHAPPAR | GARGATA, CHAKGHAT, CHHAPAR | 5 |
| 21. | WAINGANGA | CHINDWARA TO BALAGHAT | CHHAPARA, BALAGHAT, JABALPUR, SEONI | 150 |

3.17 Polluted River Stretches in Maharashtra

Water Quality of rivers in Maharashtra is measured at 156 locations on 49 rivers and among them 153 locations is non-complying to the Water Quality Criteria with respect to BOD. These 153 locations are on 49 rivers. The names of 49 polluted rivers are;Wena, Wainganga, Godavari, Bhima,Krishna, Ulhas, Kundalika, Tapi, Girna,Panchganga, Nira, Bhatsa, Rangavali, Indrayani, Chandrabhaga, Vashishti, Mithi, Kanhan, Koyna, Amba, Amravati, Bindusara, Darna, Ghod, Gomai, Hiwara, Kan, Manjra, Mor, Morna, Mula, Mula- Mutha, Mutha, Panzara, Patalganga, Pawna, Pedhi, Pehlar, Penganga, Purna, Savitri, Sina, Surya, Urmodi, Vel, Vaitrana, Venna, Waghur and Wardha. These rivers are classified in priority class I, II, III, IV and V based on the level of BOD. The details of polluted river stretches are provided in Table– 3.17.

Table – 3.17: Polluted River Stretches in Maharashtra

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|--------------|---------------------------|---|--------------------------------------|
| 1. | WENA | KAWADGHAT TO HINDANGHAT | JAWADE, WANI | 5 |
| 2. | WAINGANGA | TUMSA TO ASHTI | TUMSA, ASHTI, KANHAN, BRAHMAPURI, BHANDARA | 150 |
| 3. | GODAVARI | SOMESHWAR TEMPLE TO RAHED | SAYKHEDA, GANGAPUR, KAYGAON, PAITHAN, DHELGAON, NANDED, RAHER, NASHIK | 300 |
| 4. | BHIMA | VITHALWADI TO TAKLI | KOREGAON,PARGAON,NIRA, NARASINGPUR,TAKALI | 200 |
| 5. | KRISHNA | SHINDI TO KURUNDWAD | WAI, KARAD, URAN ISLAMPUR, SANGLI, SHIROI, KSHETRA MAHULI | 200 |
| 6. | ULHAS | KALYAN TO BADLAPUR | KHADAKPADA, ULHAS NAGAR, DOMBIVALI, KALYAN | 20 |
| 7. | KUNDALIKA | SALAV TO ROHA | SUNDARNAGAR, ASHTAMI, ROHA | 25 |
| 8. | TAPI | RAVER TO SHAHADA | NANDURBAR, BHUSAWAL, NANDURBAR | 150 |
| 9. | GIRNA | MALEGAON TO JALGAON | GULSHANABAD, AGHAR | 100 |
| 10. | PANCHGANGA | SHIROL TO KOLHAPUR | SHIROL, ICHALKARANJI | 40 |
| 11. | NIRA | SANGAVI TO SHINDEWADI | SAKHARWADI, SAROLA, SHINDEWADI | 80 |
| 12. | BHATSA | SHAHAPUR TO BHADANE | SHAHAPUR, BHATSA, BHADANE | 20 |
| 13. | RANGAVALI | TINTEMBA TO NAVAPUR | NAVAPUR, DHAJ, UCHCHHAL | 10 |
| 14. | INDRAYANI | MOSHIGAON TO ALANDIGAON | DEHU, MOSHI, ALANDI, PIMPRI-CHINCHWAD | 96 |
| 15. | CHANDRABHAGA | PANDHARPUR TO SHEGAON | PANDHARPUR, NAGPUR, AMRAVATI | 12 |
| 16. | VASHISTI | KHERDI TO DALVATNE | KHERDI, DALVATNE, CHIPLUN | 3 |
| 17. | MITHI | POWAI TO DHARAVI | MUMBAI | 15 |
| 18. | KANHAN | BHANDARA TO NAGPUR | NAGPUR, KHANDALA, BHANDARA | 20 |
| 19. | KOYNA | KARAD TO PAPDARDE | KARAD, PATAN, PADARDE, TAMBAVE | 7 |

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|-----|------------|----------------------------------|--|-----|
| 20. | AMBA | BENSE TO ROHA | POYNAD, BENSE, ROHA | 10 |
| 21. | AMRAVATI | KOPARLI TO BETWAD | KOPARLI, DONDAICHA | 10 |
| 22. | BINDUSARA | SWARAJ NAGAR TO SNEHNAGAR | SWARAJ NAGAR, BEED, KADAMWADI, MOMINPURA | 3 |
| 23. | DARNA | IGATPURI TO SANSARI | NASHIK,IGATPURI,BHAGUR | 40 |
| 24. | GHOD | ANNAPUR TO SHISHUR | ANNAPUR, SHIRUR, PUNE, KATHAPUR, FAKATE | 10 |
| 25. | GOMAI | LONKHEDA TO SHAHDA | LONKHEDA, SHAHDA, DAMARKHEDA | 5 |
| 26. | HIWARA | PACHORA TO NIMBORA | PACHORA, NIMBORA | 10 |
| 27. | KAN | KAVATHE TO SAKARI | KAVATHE, SAKARI | 5 |
| 28. | MANJARA | LATUR TO NANDED BRIDGE | LATUR, WANJARKHEDA, SARSA | 2 |
| 29. | MOR | JALGAON TO AMODA | TAMBAPURA, FAIZPUR, AMODA, MAROOL, NHA VI | 2 |
| 30. | MORNA | AKOLA TO TAKALIJALAM | AKOLA | 4 |
| 31. | MULA | BOPODI TO AUNDH GAON | BOPODI, AUNDH | 6 |
| 32. | MULA-MUTHA | THEUR TO MUNDHWA BRIDGE | THEUR, MUNDHWA | 15 |
| 33. | MUTHA | SHIVAJI NAGAR TO KHADAKWASLA DAM | SHIVAJI NAGAR, SHIVANE | 12 |
| 34. | PANZARA | VARKHEDE TO DHULE | VARKHEDE, DHULE, KUNDANE, | 5 |
| 35. | PATALGANGA | KHADEPADA TO KOPOLI | KHOPOLI, KHARPADA, KHALAPUR, APTA | 30 |
| 36. | PAWNA | DAPODI TO RAVET | DAPODI, RAVET, KASARWADI, PIMPRI-CHINCHWAD, LONAVALA, DEHU, LAVALE | 12 |
| 37. | PEDHI | NARAYANPUR TO BHATKULI | BHATKULI, NARAYANPUR, AMRAVATI, WADWAD | 3 |
| 38. | PELHAR | PELHAR DAM TO GOLANI NAKA | GOLANI NAKA, VASAI, THANE | 6 |
| 39. | PENGANGA | MEHKAR TO UMARKHED | UMARKHED, JAGAPUR, MEHKAR, GARKHEDA, JUMDA, RITHAD | 150 |
| 40. | PURNA | DHUPESHWAR TO ASEGAON | AMRAVATI, ACHALPUR, SHINGNAPUR, HIWARA, BAJI | 150 |

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|-----|----------|-------------------------|---|----|
| | | | TPUR,MARKANDA,SONARKEHDA | |
| 41. | SAVITRI | DADLI TO MUTHAVALI | DADLI,MUTHAVALI,RAJEWADI,KEMBURLI | 2 |
| 42. | SINA | SOLAPUR TO BANKALAGI | SOLAPUR,BANKALAGIWADWAL,LAMB OTI,RIDHORE,MUNGASHI | 8 |
| 43. | SURYA | DHAMNI DAM TO | DHARAMPUR,HARANWALI,PALGHAR | 40 |
| 44. | URMODI | DHANGARWADI TO NAGTHANE | NAGTHANE,DHANGARWADI,VECHALE,UPALI,PARALI (SAJJANGAD) | 2 |
| 45. | VAITRANA | GANDHRE TO SARASHI | GANDHRE, SARASHI,PIMPROLI,KOYNA | 2 |
| 46. | VEL | NHAVARE TO SHIKARPUR | SHIKRAPUR,MUKHAI,PARHADWADI,KANHERSAR | 10 |
| 47. | VENNA | MAHABALESHWAR TO MAHULI | MAHULI,VARYE,SATARA | 50 |
| 48. | WAGHUR | SUNASGAON TO SAKEGAON | NASIRABAD,BHUSAWAL | 8 |
| 49. | WARDHA | GHUGHUS TO RAJURA | GHUGUS, RAJURA,BALHARSHAH, CHANDRAPUR | 30 |

3.18 Polluted River Stretches in Manipur

Water Quality of rivers Manipur is measured at 41 locations on 15 rivers and among them 29 locations is non-complying to the Water Quality Criteria with respect to BOD. These 29 locations are on 12 rivers. The names of 12 polluted rivers are; Barak, imphal, Iril, Khuga, Khujairok, Lokchao, Maha, Manipur, Nambul, Sekmai, Thoubal and Wangjing. These rivers are classified in priority class II, III, IV and V based on the level of BOD. The details of polluted river stretches are provided in Table– 3.18.

Table – 3.18: Polluted River Stretches in Manipur

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-----------------------------|------------------|--------------------------------------|
| 1 | BARAK | TAMENGLONG TO SENAPATI | KARONG, SENAPATI | 60 |
| 2 | IMPHAL | KANGLA MOAT TO SAMUROU | IMPHAL | 15 |
| 3 | IRIL | KANGLA SIPHAI TO UKHRUL | UKHRUL, IMPHAL | 10 |
| 4 | KHUGA | KHUGA LAKE TO CHURACHANDPUR | GELJANG, MATA, | 14 |

| | | | | |
|----|-----------|------------------------------------|--------------------------------------|----|
| | | | CHURACHANDPUR | |
| 5 | KHUJAIROK | MOREH TO MAOJANG | MOREH | 6 |
| 6 | LOKCHAO | BISHNUPUR TO LOKTAK LAKE | BISHNUPUR | 10 |
| 7 | MAHA | MANTRI PANTHA TO CHANDEL | CHANDEL | 2 |
| 8 | MANIPUR | SEKMAIJAN TO THOUBAL | BISHNUPUR, THOUBAL, SEKHMAIJAN | 30 |
| 9 | NAMBUL | SINGDA DAM TO BISHNUPUR | SENAPATI, IMPHAL, BISHNUPUR | 35 |
| 10 | SEKMAI | SEKMAI DAM TO KAKCHING, THOUBAL | SEKMAI | 45 |
| 11 | THOUBAL | SHONG KONG TO PHADOM | YAIRIPOK, PHADOM, UKHRUL | 80 |
| 12 | WANGJING | WANGJING TO HEIROK | WANGJING, HEIROK | 4 |

3.19 Polluted River Stretches in Meghalaya

There are 40 monitoring locations on 19 rivers in Meghalaya, out of which 13 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 13 non-complying locations are situated on 10 rivers. The names of the rivers are; Bugi, Kynshi, Kyrhukhla, Lukha, Myndtu, Nonbah, Umkhrah, Umshyrpi, Umtrew and Wahbei. These rivers are classified in four priority classes (Class– I, III, IV and V). The details of polluted river stretches are provided in Table–3.19.

Table – 3.19: Polluted River Stretches in Meghalaya

| S No. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-----------------------|------------------------|--------------------------------------|
| 1. | BUGI | SONGMAGIRI TO BUGI | DALU, SONGMAGIRI | 20 |
| 2. | KYN Shi | CHINTUSORA TO RANIKOR | CHINTUSORA, RANIKOR | 2 |
| 3. | KYRHUKHLA | SUTNGA TO KHLIERIAT | SUTNGA, KHLIEHRIAT | 10 |

| | | | | |
|-----|----------|--|---------------------------------|----|
| 4. | LUKHA | MYNDIHATI TO SHYMPLONG | KHLIEHRIAT | 25 |
| 5. | MYNTDU | JOWAI TO PAMHADEM | JOWAI | 5 |
| 6. | NONBAH | NANGSTOIN TO WAHRIAT | NONGSTOIN | 3 |
| 7. | UMKHRAH | MAWLAI TO SHILLONG | MAWLAI- MAWĪONG, SHILLONG | 15 |
| 8. | UMSHYRPI | UMSHYRPI BRIDGE TO DHANKETI | SHILLONG | 2 |
| 9. | UMTREW | BYRNIHAT TO MORANG DALA | BYRNIHAT | 5 |
| 10. | WAHBLEI | SHDADDKHAR, WEST KHASI HILLS TO RANIKOR | SHDADDKHAR | 5 |

3.20 Polluted River Stretches in Nagaland

Water Quality of rivers Nagaland is measured at 16 locations on 7 rivers and among them 8 locations is non-complying to the Water Quality Criteria with respect to BOD. These 8 locations are on 3 rivers. The names of 3 polluted rivers are; Chathe, Dhansiri and Dzu. These rivers are classified in priority class II and IV based on the level of BOD. The details of polluted river stretches are provided in Table–3.20.

Table – 3.20: Polluted River Stretches in Nagaland

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-------------------------|--|--------------------------------------|
| 1. | CHATHE | MEDZIPHEMA TO, DIMAPUR | MEDZIPHEMA, CHUMUKEDIMA, DIMAPUR | 15 |
| 2. | DHANSIRI | CHECK GATE TO DIPHU BDG | DIMAPUR | 6 |
| 3. | DZU | KOHIMA TO DZUKO VALLEY | KOHIMA | 15 |

3.21 Polluted River Stretches in Orissa

The rivers in Orissa are monitored at 64 locations on 21 rivers. Among these 24 locations are not complying with Water Quality Criteria. These 24 locations are situated on 12 rivers viz. Brahmani, Budhalbhanga, Daya, Kathjodi, Koel, Kuakhai, Mahanadi, Nagavali, Rushikulya, Serua and Vanasdhara. The polluted rivers in Orissa are in 4 priority classes (Class- II, III, IV and V). The details of polluted river stretches are provided in Table– 3.21.

Table – 3.21: Polluted River Stretches in Orissa

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|--------------|-----------------------------|--|--------------------------------------|
| 1. | BAITRANI | JAJPUR-KUAKHIA RD TO DHAMRA | JAJPUR | 70 |
| 2. | BRAHAMANI | ROURKELA TO BIRITOL | ROURKELA, BANKI, TALCHER TOWN, BIRITOL | 250 |
| 3. | BUDHABALNAGA | MAHULIA TO BARIPADA | BARIPADA | 5 |
| 4. | DAYA | BHUBANESWAR TO BARAGARH | BHUBANESHWAR | 15 |
| 5. | KATHAJODI | CUTTACK TO URALI | CUTTACK, URALI | 5 |
| 6. | KOEL | DALKI TO PARLIPOS | DALKI | 2 |
| 7. | KUAKHAI | URALI TO BHUBANESWAR | BHUBANESHWAR | 25 |
| 8. | MAHANADI | SAMBALPUR TO PARADEEP | SAMBALPUR, CUTTACK, PARADEEP | 250 |
| 9. | NAGAVALLI | JAYKAYPUR TO RAYAGADA | JAYKAYPUR, RAYAGADA | 10 |
| 10. | RUSHIKULYA | PRATAPPUR TO GANJAM | ASKA, PITTAL, PURUSOTTAMPUR, GANJAM | 15 |
| 11. | SERUA | KHANDAETA TO SANKHATRASA | KHANDAETA | 5 |
| 12. | VANSADHARA | GUNUPUR TO BATHILI | GUNUPUR | 5 |

3.22 Polluted River Stretches in Punjab

There are 38 monitoring locations on 5 rivers in Punjab out of which 18 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 18 non-complying locations are situated on 2 rivers. Name of the rivers is; Ghaggar and Satluj. These rivers are classified in two priority classes (Class – I and II). The details of polluted river stretches are provided in Table– 3.22.

Table – 3.22: Polluted River Stretches in Punjab

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---------------------------|---|--------------------------------------|
| 1. | GHAGGAR | SARDULGARH TO MUBARAKPUR | SARDULGARH | 150 |
| 2. | SATLUJ | RUPNAGAR TO HARIKE BRIDGE | RUPNAGAR, LUDHIANA, JALANDHAR, PHAGWARA | 120 |

3.23 Polluted River Stretches in Rajasthan

Water Quality of rivers Rajasthan is measured at 17 locations on 11 rivers and among them 14 locations is non-complying to the Water Quality Criteria with respect to BOD. These 14 locations are on 8 rivers. The names of 8 polluted rivers are; Banas, Chambal, Chappi, Ghaggar, kali sindh, Parvati, Jawai and Ujad. These rivers are classified in priority class I, II, III and V based on the level of BOD. The details of polluted river stretches are provided in Table–3.23.

Table – 3.23: Polluted River Stretches in Rajasthan

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|--|--|--------------------------------------|
| 1. | BANAS | ALONG BISALPUR DAM, SWAROOPGANJ, NEWTA DAM | BISALPUR, SIROHI, SWAROOPGANJ, TONK, BHILWARA | 60 |
| 2. | CHAMBAL | SAWAIMADHOPUR TO KOTA | SAWAIMADHOPUR, KOTA | 65 |
| 3. | CHAPPI | CHHAPI DAM, JHALAWAR TO CHHAPIHERA | CHHAPIHERA, THONAWAD, ARNIA, METHOON, JHALAWAR | 20 |
| 4. | GHAGGAR | SUREWALA TO HAMUMANGARH | HANUMANGARH | 15 |
| 5. | KALI SINDH | BAROD TO GADEPAN | BORKHERA, BALDARA | 20 |
| 6. | PARVATI | KHATOLI, KOTA TO TODRA | MOHAMMADPUR, KHATOLI | 10 |
| 7. | JAWAI | JAWAI DAM SENA TO GALTHANI | SENA, GALTHANI | 10 |
| 8. | UJAD | MORI (BHIM SAGAR DAM) TO ANGHORA | MORI | 2 |

3.24 Polluted River Stretches in Sikkim

The rivers in Sikkim are monitored at 14 locations on 5 rivers. All the 14 locations are not complying with Water Quality Criteria. These 14 locations are situated on 5 rivers viz. Dikchu, Maney Khola, Rangit, Ranichu, Teesta. The polluted rivers in Sikkim are in priority class V. The details of polluted river stretches are provided in Table– 3.24.

Table – 3.24: Polluted River Stretches in Sikkim

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|-------------|----------------------------|-----------------------------------|--------------------------------------|
| 1. | DIKCHU | NAMPONG TO DIKCHU | DIKCHU | 4 |
| 2. | MANEY KHOLA | ADAMPOOL TO BURTUKK | ADAMPOOL | 2 |
| 3. | RANGIT | DAM SITE (NHPC) TO TREVENI | LEGSHP, JORETHANG, TRIVENI | 20 |
| 4. | RANICHU | NAMLI TO SINGTAM | RANIPOOL, NAMLI, SINGTAM, GANGTOK | 15 |
| 5. | TEESTA | MELLI TO CHUNGTHANG | MELLI, RANGPO | 60 |

3.25 Polluted River Stretches in Tamil Nadu

The rivers in Tamil Nadu are monitored at 45 locations on 9 rivers. Among these 39 locations are not complying with Water Quality Criteria. These 39 locations are situated on 7 rivers viz. Bhawani, Tambirapani, Palar, Sarabanga, Thirumanimuthar and Vasista. The polluted rivers in Tamil Nadu are in 3 priority classes (Class- I, II and V). The details of polluted river stretches are provided in Table– 3.25.

Table – 3.25: Polluted River Stretches in Tamil Nadu

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---------------------------|--|--------------------------------------|
| 1. | BHAVANI | SIRUMUGAI TO KALINGARAYAN | SIRUMUGAI, SATHYAMAGALAM, BHAVANI | 60 |
| 2. | CAUVERY | METTUR TO MAYILADUTHURAI | METTUR, BHAVANI, KOMRA, VAIRAPALAYAM, ERODE, | 200 |

| | | | | |
|----|-----------------|--------------------------------|---|----|
| | | | VELUR, PUGALUR, NAMAKKAL, TIRUCHIRAPPALLI | |
| 3. | PALAR | VANIYAMBADI TO MINNUR | VANIYAMBADI, VELLORE | 6 |
| 4. | SARABANGA | THATHAYAMPATTI TO T.KONAGAPADI | THATHAYAMPATTI, OMALUR, T.KONAGAPADI | 15 |
| 5. | TAMBIRAPANI | PAPPANKULAM TO ARUMUGANERI | PAPPANKULAM, TIRUNELVELI, SRIVAİKUNTAM | 80 |
| 6. | THIRUMANIMUTHAR | SALEM TO PAPPARAPATTI | SALEM | 15 |
| 7. | VASISTA | MANIVILUNDHAN TO THIYAGANUR | MANIVILUNDHAN, THALAIVASAL, THIYAGANUR | 10 |

3.26 Polluted River Stretches in Telangana

There are 38 monitoring locations on rivers in Telangana out of which 18 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 18 non-complying locations are situated on 7 rivers. The names of the rivers are; Godavari, Krishna, Manjeera, Musi, Nakkavagu, Sabari and Maner. These rivers are classified in three priority classes (Class – I, II and V). The details of polluted river stretches are provided in Table – 3.26.

Table – 3.26: Polluted River Stretches in Telangana

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|---------------------------|---|--------------------------------------|
| 1. | GODAVARI | KAMALAPUR TO BURGAMPAHAD | BASAR, MANCHERIAL, RAMAGUNDAM, MANTHAN, KAMALAPUR, BOORGAMPAHAD | 100 |
| 2. | KRISHNA | THANGADIGI TO WADAPALLY | THANGADIGI, GUNTUR | 80 |
| 3. | MANJEERA | GOWDICHARLA TO NAKKAVAGU | GOWDICHARLA | 110 |
| 4. | MUSI | HYDRABAD TO SURYAPET | HYDERABAD, RANGAREDDY, NALGONDA | 150 |
| 5. | NAKKAVAGU | PATANCHERU TO GOWDICHARLA | MEDAK, | 50 |

| | | | | |
|----|--------|-------------------------|-------------------------|-----|
| | | | BACHUGUDAM | |
| 6. | SABARI | PALANCHU TO BURGAMPAHAD | KHAMMAM | 50 |
| 7. | MANER | WARANGAL TO SOMNAPALLI | WARANGAL, KARIMNAGAR | 150 |

3.27 Polluted River Stretches in Tripura

Water Quality of rivers Tripura is measured at 29 locations on 12 rivers and among them 2 locations are non-complying to the Water Quality Criteria with respect to BOD. These 2 locations are on 2 rivers. The names of 2 polluted rivers are; Gumti and Haora. These rivers are classified in priority class V based on the level of BOD. The details of polluted river stretches are provided in Table– 3.27.

Table – 3.27: Polluted River Stretches in Tripura

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|----------------------------|----------------------------|--------------------------------------|
| 1. | GUMTI | TELKAJILA TO AMARPUR | UDAIPUR,BAMPUR, AMARPUR | 20 |
| 2. | HAORA | AGARTALA TO BISHRAMGANJ | AGARTALA | 10 |

3.28 Polluted River Stretches in Uttar Pradesh

There are 64 monitoring locations on 16 rivers in Uttar Pradesh out of which 42 locations are exceeding the Water Quality Criteria limit with respect to BOD. These 42 non-complying locations are situated on 13 rivers. The names of the rivers are; Gomti, Hindon, Kalinadi, Ramganga, Rapti, Rihand, Sai, Saryu, Ganga, Yamuna and Kosi. These rivers are classified in four priority classes (Class – I, III, IV and V). The details of polluted river stretches are provided in Table– 3.28.

Table – 3.28: Polluted River Stretches in Uttar Pradesh

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|-------------------------|--------------------------------|--------------------------------------|
| 1. | BETWA | HAMIRPUR TO WAGPURA | HAMIRPUR, JHANSI | 60 |
| 2. | GHAGHARA | BARHALGANJ TO DEORIA | AYODHYA, TANDA, DEORIA | 25 |
| 3. | GOMTI | SITAPUR TO VARANASI | SITAPUR, LUCKNOW, SULTANPUR | 250 |

| | | | | |
|-----|--------------------|--|---|-----|
| 4. | HINDON | SAHARANPUR TO GHAZIABAD | SAHARANPUR, MUZAFFARNAGAR, MEERUT, GHAZIABAD | 200 |
| 5. | KALINADI (EAST) | MUZAFFAR NAGARTO GULAOTHI | MEERUT, HAPUR, GULAOTHI, BULANDSHAHR | 80 |
| 6. | RAMGANGA | MURADABAD TO KANNAUJ | MORADABAD, BAREILLY, FARRUKHABAD | 200 |
| 7. | RAPTI | DOMINGARH TO RAJGHAT | GORAKHPUR | 50 |
| 8. | RIHAND | RENUKUT TO PIPARI | OBRA, RENUKOOT, PIPARI | 15 |
| 9. | SAI | UNNAO TO JAUNPUR | RAEBARELI, BELA PRATAPGARH, JAUNPUR | 180 |
| 10. | SARYU | AYODHYA TO ELAFATGANJ | FAIZABAD, AYODHYA | 25 |
| 11. | GANGA | KANNAUJ TO VARANASI | KANNAUJ, KANPUR, ALLAHABAD, MIRZAPUR, VARANASI | 450 |
| 12. | YAMUNA | ASGARPUR (NOIDA) TO ETAWAH AND SHAHPUR TO ALLAHABAD (BALUA GHAT) | GAUTAM BUDDHA NAGAR (NOIDA & GREATER NOIDA), VRINDAVAN, MATHURA, AGRA, SHAHPUR | 600 |
| 13. | KOSI | AJEETPUR TO CHAMRAUL | AJEETPUR, RAMPUR | 90 |

3.29 Polluted River Stretches in Uttarakhand

The rivers in Uttarakhand are monitored at 28 locations on 11 rivers. Among these 12 locations are not complying with Water Quality Criteria. These 12 locations are situated on 5 rivers viz. Suswa, Ganga, Dhela, Bhella and Kosi. The polluted rivers in Uttarakhand are in 2 priority classes (Class- I and V). The details of polluted river stretches are provided in Table–3.29.

Table – 3.29: Polluted River Stretches in Uttarakhand

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|------------|--|------------------|--------------------------------------|
| 1. | BHELA | KASHIPUR TO RAJPURA TANDA | KASHIPUR | 60 |
| 2. | DHELA | KASHIPUR TO GARHUWALA (THAKURDWARA) | KASHIPUR, | 6 |

| | | | | |
|----|-------|----------------------------------|------------------------|----|
| | | | THAKURDWARA | |
| 3. | SUSWA | MOTHRWALA TO RAIWALA | DEHRADUN | 20 |
| 4. | GANGA | HARIDWAR TO SULTANPUR ADAMPUR | RISHIKESH, HARIDWAR | 10 |
| 5. | KOSI | SULTANPUR TO PATTIKALAN | SULTANPUR | 6 |

3.30 Polluted River Stretches in West Bengal

Water Quality of rivers West Bengal is measured at 38 locations on 18 rivers and among them 35 locations is non-complying to the Water Quality Criteria with respect to BOD. These 35 locations are on 17 rivers. The names of 17 polluted rivers are; Barakar, Churni, Damodar, Dwarkeshwar, Dwarka, Ganga, Jalangi, Kalijani, Kanshi, Karola, Mahananda, Mathabhanga, Mayurkashi, Rupnarayan, Silababti, Teesta and Vindhyadhari. These rivers are classified in priority class III, IV and V based on the level of BOD. The details of polluted river stretches are provided in Table–3.30.

Table – 3.30: Polluted River Stretches in West Bengal

| S no. | River Name | Stretch Identified | Towns Identified | Approx length of the stretch (in Km) |
|-------|--------------|-----------------------------------|--|--------------------------------------|
| 1. | BARAKAR | KULTI TO ASANSOL | CHITTARANJAN, KULTI, BURNPUR, ASANSOL | 20 |
| 2. | CHURNI | SANTIPUR TOWN TO MAJHADIA | RANAGHAT | 30 |
| 3. | DAMODAR | DURGACHAKM TO DISHERGARH VILL | UDAYANARAYANPUR, BAGNAN, DURGAPUR, ASANSOL | 200 |
| 4. | DWARAKESHWAR | BANKURA TO KUSHTIA | BANKURA | 20 |
| 5. | DWARKA | TARAPITH TO SADHAK BAMDEB GHAT | CHANDIPUR, TARAPITH, BISHNUPUR, MARGRAM | 50 |

| | | | | |
|-----|-------------|---------------------------------------|--|----|
| 6. | GANGA | TRIBENI TO DIAMOND HARBOUR | KANCHRAPARA, HOOGLY, NAIHATI, CHANDANNAGAR, BHATPARA, BARRACKPORE, BARANAGAR, KOLKATA, HOWRAH, BERHAMPORE, PALTA, DAKSHINESWAR, ULUBERIA | 50 |
| 7. | JALANGI | LAAL DIGHI TO KRISHNA NAGAR | KRISHNANAGAR, CHAPRA | 20 |
| 8. | KALJANI | BITALA TO ALIPURDWAR | HAMILTONGANJ, ALIPURDUAR | 30 |
| 9. | KANSI | MIDNAPORE TO RAMNAGAR | MEDINIPUR | 25 |
| 10. | KAROLA | JALPAIGURI TO THAKURER KAMAT | JALPAIGURI | 50 |
| 11. | MAHANANDA | SILIGURI TO BINAGURI | SILIGURI | 50 |
| 12. | MATHABHANGA | MADHUPUR TO GOBINDAPUR | MAJHDIA, KRISHNAGANJ, DURGAPUR, SWARNAKALI | 80 |
| 13. | MAYURKASHI | SURI TO DURGAPUR | SURI, SAINTHIA | 95 |
| 14. | RUPNARAYAN | KOLAGHAT TO BENAPUR | BAGNAN, KOLAGHAT, TAMLUK | 20 |
| 15. | SILABATI | GHATAL TO NISCHINDIPUR | GHATAL, NISCHINDIPUR | 25 |
| 16. | TEESTA | SILIGURI TO PAHARPUR | JALPAIGURI, SILIGURI | 10 |
| 17. | VINDHADHARI | HAROA BRIDGE TO MALANCHA BURNING GHAT | HAROA, MINAKHAN, MALANCHA | 15 |

The details of polluted locations along with the maximum observed BOD for the year 2009-2012 is placed at **Annexure – I** and the stretches are carved out on the river map (**Annexure – II**). List of 275 rivers identified as polluted is given at **Annexure III**.

CHAPTER – IV

CAUSITIVE FACTOR FOR POLLUTION OF RIVERS

4.1 Availability of Water Resources

Accelerating population growth and unsustainable consumption and production patterns have increased the demand for water. In the greater competition for water, ecosystems and biodiversity tend to be the losers. Activities that reduce biodiversity jeopardize economic development and human health through losses of useful materials, genetic stocks, and potential medicines. As ecosystems and biodiversity get degraded, their ability to lend resilience to the biosphere declines, and communities and human health suffer. The decline in the quantity and quality of water flow has reduced the productivity of many terrestrial, aquatic, and coastal zone ecosystems and led to loss of biodiversity. The degradation of ecosystems has devastated fishing, agriculture, grazing and undermined the survival potential of rural communities relying on these activities.

Against a national per capita annual availability of 2,208 m³ of water, the average availability in Brahmaputra and Barak is as high as 16,589 m³, while it is as low as 360 m³ in the Sabarmati basin. The per capita annual water availability for the rest of the country, excluding Brahmaputra and Barak basin works out to be about 1,583 m³.

Water availability less than 1,000 m³ per capita is considered by international agencies as indicating scarcity conditions. Cauvery, Pennar, Sabarmati, east and west flowing medium and minor rivers are some of the basins with scarcity conditions. In majority of river basins, current utilization is significantly high and is in the range of 50-95 per cent of utilizable surface resources. But, in rivers such as Narmada and Mahanadi, percentage utilization is only 23 and 34 per cent respectively. In several basins, there is also an over drawl of groundwater leading to lowering of groundwater Tables and even salt water incursions. If the average national per capita availability of 2,000 m³ is to be maintained, given the burgeoning population, the only river in North India with significant surplus water to meet future needs of the country is the Brahmaputra. In peninsular India, the Godavari, Brahmani, Mahanadi and Narmada, besides regions of Tapi and Tadri have surplus water. Inter-linking of rivers shall address the spatial challenge of water availability. Besides its questionable techno-economic feasibility, the associated ecological damages of river linking may be irreversible. While at the country level, there may not appear to be an immediate problem of water availability, several basins (e.g. Sabarmati) are already under severe stress and face scarcity situations. With increasing demands, the situation is only going to be aggravated unless appropriate basin level measures are attempted now.

4.2 Water Pollution

The key challenges to better management of the water quality in India are temporal and spatial variation of rainfall, uneven geographic distribution of surface water resources, persistent droughts, overuse of ground water and contamination, salinisation and water quality problems due to treated, partially treated and untreated wastewater from urban settlements, industrial establishments and runoff from irrigation sector besides poor management of municipal solid waste and animal dung in rural areas.

It is estimated that about 38,000 million litres per day (mld) of wastewater generated in the urban centres having population more than 50,000 in India (housing more than 70% of urban population) as on 2009. The municipal wastewater treatment capacity developed so far in India is about 11,000 mld accounting for 29% of wastewater generation in these two classes of urban centers. In view of population increase, demand of freshwater for all the uses will be unmanageable. It is estimated that the projected wastewater from urban centres at present may be about 57,000 mld and the rural India may also generate substantial volume of waste water in view of water supply plans for community supplies in rural areas. However, waste water management including development of treatment facilities are not addresses to that pace.

Most human activities whether domestic, agricultural or industrial have an impact on water and the ecosystems. World Health Organization statistics indicate that half of India's morbidity is water related. Water borne diseases can be, to a large extent, controlled by managing human consumption and production patterns. It is therefore pertinent to have an understanding of human activities, including water management initiatives, and their impacts on water and the environment.

4.2.1 Domestic Water Pollution

Waste management systems have not been able to keep pace with the huge volumes of organic and non-biodegradable wastes generated daily. As a consequence, garbage in most parts of India is unscientifically disposed and ultimately leads to increase in the pollutant load of surface and groundwater courses. On the other hand, the large population of the poor in India does not have much choice but to live off the natural resource base and pollute the environment in the process. They deforest for food, fuel, fodder and fibre and pollute the water sources on which they depend, since they cannot afford access to sanitation services. Domestic water use today, though a small fraction of the total water requirement, is under-priced which leads to a considerable waste of the precious resource and inadequate revenues for operation and maintenance. Low revenues result in deterioration of the supply infrastructure and further loss of the resource due to system inefficiencies. In most parts of the country, waste water from domestic sources is hardly treated, due to inadequate sanitation facilities. This waste water, containing highly organic pollutant load, finds its way into surface and groundwater courses, very often close to dense

pockets of human habitation from where further water is drawn for use. Considerable investments will be required to install sewage treatment systems in all the major cities and towns of the country.

4.2.2 Industrial Water Pollution

The Industrial sector accounts for about 8 per cent of the current water use. With rapid industrialization and urbanization, the water requirement for energy and industrial use is estimated to rise to about 18 per cent (191 bcm) of the total requirements in 2025. Poor environmental management systems, especially in industries such as thermal power stations, chemicals, metals and minerals, leather processing and sugar mills, have led to discharge of highly toxic and organic wastewater. This has resulted in pollution of the surface and groundwater sources from which water is also drawn for irrigation and domestic use. The enforcement of regulations regarding discharge of industrial wastewater and limits to extraction of groundwater needs to be considerably strengthened, while more incentives are required for promoting waste water reuse and recycling.

4.2.3 Agricultural Water Pollution

Two-thirds of India's farm production comes from one-third of its land which is irrigated. The rest is from rainfed areas that employ large populations. In order to meet the increasing demand for food and farm employment, India has to enhance productivity in both irrigated and rainfed areas. For the agricultural sector, water and electricity for irrigation are subsidized for political reasons. This leads to wasteful flood irrigation rather than adoption of more optimal practices such as sprinkler and drip irrigation. Cropping patterns and farming practices also do not necessarily encourage the judicious use of water. Conservative estimates indicate that the same quantity of irrigation water used today can irrigate double the current area with optimized irrigation and farming practices. With limited revenues and budgetary support, the state engineering departments are unable to operate and maintain the irrigation systems efficiently, leading to increasing deterioration of the structures and systems over time. Consequently, there are further water losses due to breaches and seepage, resulting in water logging and salinity. Water quality is further affected due to the overuse of chemical fertilizers and pesticides.

STATE-WISE POLLUTED RIVER STRETCHES AND PRIORITY CLASSES

| RIVER NAME | STRETCH IDENTIFIED | BOD RANGE/ MAX VALUE | PRIORIT Y | TOWNS |
|-----------------------|--|-------------------------|--------------|--|
| ANDHRA PRADESH | | | | |
| GODAVARI | RAYANPETA TO RAJAHMUNDRI | 6.0 | V | RAJAHMUNDRI, RAYANAPETA |
| HUNDRI | LAXMIPURAM TO JOHARPURAM (KURNOOL) | 4.0 | V | KURNOOL |
| KRISHNA | AMRAVATHI TO HAMSALA DEEVI | 3.5-5.3 | V | VIJAYWADA |
| TUNGABHADRA | MANTHRALAYAM TO BAVAPURAM | 3.4-3.6 | V | KURNOOL |
| PENNAR | TADPATRI TO NELLORE | 3.1-6.0 | V | JAMMALAMADUGU, PRODDATUR, KADAPA |
| KUNDU | NANDYAL TO MADDURU | 3.2 | V | NANDYAL |
| ASSAM | | | | |
| MORA BHARALI | TEZPUR TO UDMARI GAON | 3.2 | V | TEZPUR |
| BARAK | PANCHGRAM TO SILCHAR | 4.5 | V | BADARPUR, KANCHANPUR, SILCHAR, TARAPUR |
| BEKI | BARPETA ROAD TO JYOTI GAON | 5.2 | V | BARPETA |
| BHARALU | GUWAHATI TO CHILARAI NAGAR | 50.0 | I | SANTIPUR, ULUBARI |
| BHOGDOI | JORHAT TO DULIAGAON | 3.3 | V | JORHAT |
| BOGINADI | LAKHIMPUR TO DIBRUGARH | 3.3 | V | LAKHIMPUR |
| BRAHAMPUTRA | KHERGHAT TO DHUBRI | 3.1-9.2 | IV | GUWAHATI, DIBRUGARH, SIVASAGAR, JORHAT, TEZPUR, BARPETA, GOL PARACHAPAR |
| BURHIDIHING | MARGHERITA TO TINSUKIA | 3.6-5.5 | V | MARGHERITA, NAHARKATIA, DULIAJAN |

| | | | | |
|-------------|---|---------|----|----------------------------------|
| DEEPAR BILL | DEEPAR BILL TO GUWAHATI | 4.4 | V | DEEPARBILL |
| DHANSIRI | GOLAGHAT TO KATHKETIA | 3.2 | V | GOLAGHAT |
| DIGBOI | LAKHIPATHE, RESERVE FOREST | 6.5 | IV | LAKHIPATHE |
| DISANG | DILLIGHAT TO GUNDAMGHAT | 3.7-6.3 | IV | TEZPUR |
| JIA BHARALI | SONITPUR TO PANIGAON | 3.3 | V | TEZPUR |
| JHANJI | JORHAT TO CHAWDANG | 3.2 | V | JHANZI |
| KALONG | NAGAON TO MORI KALONG | 4.3 | V | KACHALUKHOWA |
| KAPILI | NAGAON TO KAMPUR TOWN | 3.9 | V | KALAIKHOWA |
| KHARSANG | ASSAM-ARUNANCHAL BORDER TO LONGTOM-1 | 3.1 | V | SINGMAO,ONGMAN,NEW LONGKEY |
| KOHORA | KOHORA TO MOHPARA | 3.8 | V | KAZIRANGA,BOGORIJURI |
| KUNDLI | SAPAKHOWA TO SADIA. | 3.3 | V | LAKHIMI PATHAR,SHANTIPUR |
| KUSHIARA | KARIMGANJ TO SARISA | 4.7 | V | ZAKIGANJ,KALACHERRA |
| MANAS | BARPETA TO CHILAPARA | 3.5 | v | JYOTIGAON,BADARPUR |
| PAGLDIA | NALBARI TO KHUDRA SANKARA | 3.8 | V | BIDYAPUR,SANTIPUR |
| PANCHNAI | ORANG TO BORSALA | 3.6 | V | PAKARIBARI,GARUBANDHA, KHANKHALA |
| RANGA NADI | DOIMUKH TO NAHARLAGUN | 5.3 | V | RONO BASTI, YUPIA, |
| SANKOSH | DHUBRI TO GOLAKGANJ | 3.2 | V | SANTI NAGAR, BIDYAPARA, |
| SONAI | SONAI TO DAKSHIN MOHANPUR | 6.0 | V | MAJHIRGRAM,KAPTANPUR |
| SUBANSIRI | GEREKAMUKH TO LAKHIMPUR | 5.2 | V | CHETIA GOAN,HINDU GAON,BHIMPARA |

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|----------|------------------------|-----|---|-------------------------------|
| KATHAKAL | HAILAKANDI TO MATIJURI | 3.1 | V | SUDORSHONPUR, DAKHIN, SONAPUR |
|----------|------------------------|-----|---|-------------------------------|

BIHAR

| | | | | |
|-----------|--------------------------------------|-----------|-----|-------------------------|
| GANGA | BUXAR TO BHAGALPUR | 7.8-27 | II | BUXAR, PATNA, BHAGALPUR |
| HARBORA | SWADESHI SUGAR MILLS TO NARKATIAGANJ | 3.4 | V | NARKATIAGANJ |
| MANUSMAR | MOHANIAMNDALTO RIGA (SITAMARHI) | 10.0 | IV | SITAMARHI |
| RAM REKHA | HARINAGAR TO RAMNAGAR | 4.8 | V | RAMNAGAR, HARUNAGAR |
| SIRSIA | RUXOL TO KOIREA TOLA (RAXAUL) | 12.0-15.0 | III | RAXAUL |

CHHATTISGARH

| | | | | |
|----------|----------------------|---------|---|--|
| HASDEO | KORBA TO URG | 3.2-3.6 | V | RUMGARA, SONPURI, KORBA |
| KELO | RAIGARH TO KANAKTORA | 3.2 | V | RAIGARH |
| KHARON | BUNDRI TO RAIPUR | 3.4 | V | RAIPUR |
| MAHANADI | ARRANG TO SIHAWA | 3.2-3.8 | V | RAIPUR, NAWAPARA NAGAR, DHAMTARI, RUDRI, KANKER, RAJIM |
| SEONATH | SHIMGA TO BEMTA | 3.9 | V | SIMGA, BEMTA |

DAMAN, DIU AND DADRA NAGAR HAVELI

| | | | | |
|------------|-------------------------------------|-------|---|-----------------|
| DAMANGANGA | SILVASSA TO DAMAN JETTY, MOTI DAMAN | 4-354 | I | DAMAN, SILVASSA |
|------------|-------------------------------------|-------|---|-----------------|

DELHI

| | | | | |
|--------|-----------------------|--------|---|-------|
| YAMUNA | WAZIRABAD TO ASGARPUR | 39-113 | I | DELHI |
|--------|-----------------------|--------|---|-------|

GOA

| | | | | |
|---------|-------------------|-----|---|-----------------|
| MANDOVI | MARCELA TO VOLVOI | 3.9 | V | MARCELA, VOLVOI |
|---------|-------------------|-----|---|-----------------|

| | | | | |
|-----------|-----------------------------|----------|-----|-----------------|
| ASSONORA | ASSONORA TO SIRSAIM | 7.0 | IV | ASSONORA |
| BICHOLIM | BICHOLIM TO CURCHIREM | 3.9 | V | BICHOLIM |
| CHAPORA | PERNEM TO MORJIM | 5.0 | V | CHIKHLI, SIOLIM |
| KHANDEPAR | PONDA TO OPA | 3.9 | V | PONDA |
| MAPUSA | MAPUSA TO BRITONA | 6.2 | IV | MAPUSA |
| SAL | KHAREBAND TO MOBOR | 3.2-10.6 | III | MARGAO |
| VALVANT | SANKLI – BICHOLIM TO PORIEM | 3.1 | V | BICHOLIM |

GUJARAT

| | | | | |
|----------------|---------------------------------|----------|-----|-----------------------------|
| MAHI | SEVALIA TO BAHADARPUR | 3.1-8.0 | IV | SEVALIYA, VADODARA |
| NARMADA | GARUDESHWAR TO BHARUCH | 5.0 | V | BOLAV, GARUDESHWAR, BHARUCH |
| AMBIKA | BILIMORA TO DEVDHA | 4.0 | V | NAVAPURA, GANDEVI |
| AMLAKHADI | PUNGUM TO BHARUCH | 43-72.1 | I | PUNGAM, GADKHOL |
| ANAS | DAHOD TO FATEHPURA | 5.0 | V | DAHOD |
| BALEHWAR KHADI | PANDESARA TO KAPLETHA | 3.7 | V | PANDESARA, UDHNA |
| BHADAR | JETPUR VILLAGE TO SARAN VILLAGE | 11.0 | III | UPLETA, DHORAJI, JETPUR |
| DAMANGANGA | KACHIGAON TO VAPI | 5-7.8 | IV | KANCHIGAM, VAPI |
| KAVERI | BILLIMORA TO SAI NATH NAGAR | 4.0 | V | BILIMORA |
| KHARI | LALI VILLAGE TO KASHIPURA | 9.0 | IV | UMIYAPURA |
| KIM | SAHOL BRIDGE TO HANSOL | 3.4 | V | SAHOL |
| KOLAK | KIKARLA TO SALVAV | 6.2-10.7 | III | KIKARLA, BAGWADA |

| | | | | |
|-----------|------------------------------|---------|-----|---|
| PANAM | LUNAWADA TO THANA SAVALI | 5.0 | V | LUNAWADA |
| BHOGAVO | SURENDRANAGAR TO NANA KERALA | 10.0 | IV | SURENDRANAGAR |
| DHADAR | KHOTDA TO CHANDPURA | 9.0 | IV | KHOTDA |
| PURNA | NAVSARI TO MACHHAD | 7.0 | IV | NAVSARI, JALALPORE, VIRAVAL |
| SABARMATI | KHEROJ TO VAUTHA | 4.0-46 | I | GANDHINAGAR, AHMEDABAD |
| SHEDHI | DHAMOD TO KHEDA | 15.0 | III | DHAMOD |
| TAPI | KHADOD (BARDOLI) TO SURAT | 3.1-9.0 | IV | BARDOLI, UKAI, MANDVI, SAMPURA, KAMREJ, SURAT |
| TRIVENI | TRIVENI SANGAM TO BADALPARA | 6.0 | V | PRABHAS PATAN, VERAVAL |

HARYANA

| | | | | |
|---------|--------------------|---------|----|--|
| GHAGGAR | RORKI TO SIRSA | 3.1-21 | II | RORKI, SIRSA |
| YAMUNA | PANIPAT TO SONEPAT | 4.0-7.0 | IV | PANIPAT, SONIPAT, FARIDABAD, BALLABHGARH, PALWAL |

HIMACHAL PRADESH

| | | | | |
|-------------|------------------------|---------|----|----------------------------|
| BEAS | KULLU TO DEHRAGOPIPUR | 4-8.7 | IV | SANOT, KULLU |
| TONS | KILLOR TO TILWARI | 5.0 | V | DANDA, HARIPUR |
| SIRSA | NALAGARH TO SOLAN | 4.0-7.5 | IV | SORI, RADYALI |
| SWAN | UNA TO SANTOKHGARH | 9.0 | IV | ARNIALA, PREMNAGAR |
| SUKHANA | SUKHNA TO PARWANOO | 26-180 | I | BHAGWANPURA, KISHANGARH |
| SUKETI KHAD | MANDI TO BEHNA | 4.0 | V | MANDI, SAMKHETAR, KARTAPUR |
| BINWA | PAPROLA TO BAIJNATH | 4.1 | V | KHATREHR |
| MARKANDA | KALA AMB TO NARAYANPUR | 185.0 | I | KALA AMB, OGLI |

JAMMU & KASHMIR

| | | | | |
|-----------|----------------------------------|---------|----|-------------------------------------|
| BANGANGA | PONY SHED TO BATHING GHAT | 4-4.8 | V | KATRA |
| BASANTER | SAMBA TO CHAKMANGARAKWAL | 3.6-8.0 | IV | MANANUN,BALOUR,PAREI,BEDI,PALTH |
| CHENAB | JAL PATAN TO PARGAWAL | 8.0 | IV | AKHNOOR,MUTHI, PARGAWAL |
| CHUNT KOL | MAULANA AZAD BRIDGE TO KANIKADAL | 5 | V | SRINAGAR, FATEH KADAL, MAHARAJGANJ |
| DEWAK | GARIGARH TO UTTARBEHANI | 6.3 | IV | JAMMU, TRIKUTA NAGAR, CHAK RAKWALAN |
| GAWKADAL | GAWKADAL BRIDGE TO NOHATA | 6 | V | SRINAGAR, SHAHEED GANJ |
| JHELAM | CHATTABAL WEIR TO ANANTNAG | 4.0-7.0 | IV | SRINAGAR, KARAN NAGAR |
| LIDDER | SILICOM TO LIDDAR NALAH | 4.6 | V | ANANTNAG |
| TAWI | SURAJNAGAR TO BELICHARANA | 3.4-6.5 | IV | JAMMU, CHAK RAKWALAN |

JHARKHAND

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| BOKARO | BILYOTARA TO JARANDI | 4 | V | BILYOTRA, GUMIA |
| DAMODAR | PHUSRO ROAD BDG TO TURIO | 7.1 | IV | PHUSRO, BHANDARIDAH, DHANBAD |
| JUMAR | KANKE DAM TO KADAL | 5.2 | V | RANCHI, MORABADI |
| KARO | LOHOJIMI TO BALAGODA | 6 | V | BALAGODA, LOHOJIMI |
| KOEL | BASIADAM TO REHLA | 6.8 | IV | RANCHI, DALTONGANJ |
| KOEL | DALTANGANJ TO REHLA | 3.6-4.2 | V | KANDI, BISRAMPUR, MAJHIAON |
| SANKH | KONGSERABASAR TO BOLBA | 6 | V | KUSUMDEGI, MACHHKATA |
| SUBARNAREKH A | HATIA DAM TO JAMSHEDPUR | 3.2-8 | IV | RANCHI, NAMKUM |

KARNATAKA

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| ARKAVATHI | HALLI RESERVOIR TO KANAKAPURA TOWN | 5.0-8.0 | IV | BENGALURU, BHADRAVATHI |
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| BHADRA | HOLEHUNNUR TO BHADRAVATHI | 6 | V | CHIKKODI, KOPA |
| BHIMA | GHANAPUR TO YADGIR | 3.8-5.0 | V | JEVARGI |
| CAUVERY | RANGANATHITTU TO SATHYAMANGALAM BRIDGE | 4 | V | SRIRANGA PATNA |
| GHATPRABHA | GOKAK TO CHIGADOLLI | 4 | V | GOKAK |
| KABINI | NANJANAGUD TO HEJJIGE | 5 | V | BASAVANAPURA, CHIKKAIAHNACHATRA |
| KAGINA | SHAHABAD TO HONGUNTA | 3.1-3.2 | V | BHANKOOR |
| KALI | HASAN MAAD (WEST COAST PAPER MILL) TO BOMMANAHALLI RESERVOIR | 4.3 | V | DANDELI |
| KRISHNA | YADURWADI TO TINTINI BRIDGE | 3.2-4.8 | V | UGARKHURD, CHIKKODI, NARAYANPURA |
| LAKSHMANTIR THA | KATTEMALAVADI TO HUNSUR | 4.0-5.0 | V | UNDAVADI |
| MALPRBHA | KHANAPUR TO DHARWAD | 3.4-4.6 | V | M.K HUBLI, KADROLLI |
| MANJIRA | BIDAR TO HUSSAIN NAGAR | 3.5 | V | NITTUR, CHAMBOL, BIDAR |
| SHIMSHA | YEDIYAR TO HALAGUR | 4.5 | V | THATTEKERE, MALLUR |
| TUNGABHADRA | HARIHAR TO KORLAHALLI | 3.5-9.3 | IV | ULLANUR, HARIHAR |
| TUNGHA | SHIVAMOGA TO KUDLI | 6.7 | IV | SHIVAMOGA |

KERALA

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| CHITRAPUZHA | IRUMPANAM TO KARINGACHIRA | 8 | IV | CHITTETHUKARA |
| KADAMBAYAR | MANCKAKADAVU TO BRAHMAPURAM | 4.4-8.0 | IV | KAKKATTIKARA, THENGUMTHURUTHU |
| KALLAI | THEKEPURAM TO ARAKKINAR | 6 | V | KOZHICODE, MANANCHIRA |

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| KARAMANA | MALEKKDU TO THIRUVALLAM | 80 | I | TRIKKANAPURAM |
| KEECHERI | PULIYANNOR TO KECHERY | 3.8 | V | THRISSUR |
| KUPPAM | THALIPARAMBA TO VELICHANGOOL | 5.4 | V | MARATHAKKAD, KUTTIYERI |
| MANIMALA | KALLOOPARA TO THONDRA | 4.2-4.4 | V | MALLAPPALLY, VAIPUR |
| NEELESWARAM | NAMBIARKAL DAM TO HOSDURG | 3.3-3.8 | V | PUTHUKAI |
| PERIYAR | ALWAYE-ELOOR TO KALAMASSERY | 3.7-6.0 | V | MUTTINAKAM, EDAMPAADAM |
| PULLUR | RAMNAGAR TO KANNOTH | 3.1 | V | KOTTAPARA, |
| PUZHACKAL | OLARIKKARA TO PUZHACKAL | 5.4 | V | PUTHURKARA, CHETTUPUZHA |
| THIRUR | NADUVILANGADI TO THALAKKADATHUR | 4.4 | V | CHEMBRA, THAZHEPALAM, MANGALAM THIRUTHUMMAL |
| UPPALA | POYYA TO MULINJA | 3.3 | V | MANJESHWAR, HOSABETTU |

MADHYA PRADESH

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| BANJAR | MALANJKHAND TO TINGIPUR | 3.6 | V | MALANJKHAND, TINGIPUR |
| BETWA | MANDIDEEP TO VIDISHA | 5.4-64 | I | MANDIDEEP, VIDISHA, BHOPAL, RAISEN |
| BICHIA | SILPARI TO GADHAWA | 5.8 | V | REWA |
| CHAMBAL | NAGDA TO RAMPURA | 3.1-50 | I | NAGDA, RAMPURA |
| CHILLAR | SHAJAPUR TO MURADPURA | 4.3 | V | SHAJAPUR, DANSIPURA, MURADPURA |
| DENWA | DHUPGARH TO SARNI | 18 | III | DHUPGARH, SARNI |
| GOHAD | GOHAD DAM TO GORMI | 3.6 | V | BANIPURA, GOHAD, GORMI |
| GOUR | JABALPUR TO SALIWADA | 3.8 | V | JABALPUR |
| JAMMER | DHLOWAD TO RAOTI | 4 | V | RAOTI |
| KALISOT | MANDIDEEP TO SAMARDHA VILLAGE | 6.4 | IV | MANDIDEEP, BHOPAL |
| KHAN | KABIT KHEDI TO KHAJRANA | 50-70 | I | INDORE |
| KOLAR | SURAJNAGAR TO SHIRDIPURAM | 14 | III | INDORE |
| KSHIPRA | SIDDHAWAT TO TRIVENISANGAM | 18-22 | II | UJJAIN |
| KUNDA | KHARGONE TO KHEDI KHURD | 4.2 | V | KHARGONE |
| MALEI | JAORA TO BARAUDA | 4.2 | V | JAORA |
| NARMADA | MANDALA TO BHEDA GHAT SETHANI GHAT TO NEMAWAR | 3.3-7.9 | IV | NEMAWAR, JABALPUR, HOSHANGABAD |
| PARVATI | BATAWADA TO PILUKHEDI | 3.2-3.9 | V | BATAWADA, PILUKHEDI, NARSINGHGARH |
| SHIVNA | MANDSAUR TO MALAYA KHEDI | 3.2 | V | MANDSAUR |

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| TAPI | NEPANAGAR TO BURHANPUR | 3.8-4.0 | V | NEPANAGAR, BURHANPUR |
| TONS | CHAKGHAT TO CHAPPAR | 3.5 | V | GARGATA, CHAKGHAT, CHHAPAR |
| WAINGAN GA | CHINDWARA TO BALAGHAT | 3.8-4.0 | I | CHHAPARA, BALAGHAT, JABALPUR, SEONI |

MAHARASHTRA

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| WENA | KAWADGHAT TO HINDANGHAT | 7.8-18.6 | III | JAWADE, WANI |
| WAINGAN GA | TUMSA TO ASHTI | 8.8-20.6 | II | TUMSA, ASHTI, KANHAN, BRAHMAPURI, BHANDARA |
| GODAVARI | SOMESHWAR TEMPLE TO RAHED | 4-40.0 | I | SAYKHEDA, GANGAPUR, KAYGAON, PAITHAN, DHELGAON, NANDED, RAHER, NASHIK |
| BHIMA | VITHALWADI TO TAKLI | 9.5-12.7 | III | KOREGAON, PARGAON, NIRA, NARASINGPUR, TAKALI |
| KRISHNA | SHINDI TO KURUNDWAD | 5.4-24.0 | II | WAI, KARAD, URAN ISLAMPUR, SANGLI, SHIROI, KSHETRA MAHULI |
| ULHAS | KALYAN TO BADLAPUR | 3.8-5.0 | V | KHADAKPADA, ULHAS NAGAR, DOMBIVALI, KALYAN |
| KUNDALIK A | SALAV TO ROHA | 4.6-29.0 | II | SUNDARNAGAR, ASHTAMI, ROHA |
| TAPI | RAVER TO SHAHADA | 9.0-18.0 | III | NANDURBAR, BHUSAWAL, NANDURBAR |
| GIRNA | MALEGAON TO JALGAON | 6.0-7.0 | IV | GULSHANABAD, AGHAR |
| PANCHGA NGA | SHIROI TO KOLHAPUR | 4.6-7.6 | IV | SHIROI, ICHALKARANJI |
| NIRA | SANGAVI TO SHINDEWADI | 8.1-14.6 | III | SAKHARWADI, SAROLA, SHINDEWADI |
| BHATSA | SHAHAPUR TO BHADANE | 5.8-6.6 | IV | SHAHAPUR, BHATSA, BHADANE |
| RANGAVA LI | TINTEMBA TO NAVAPUR | 12 | III | NAVAPUR, DHAJ, UCHCHHAL |

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| INDRAYAN I | MOSHIGAON TO ALANDIGAON | 8.1-9.2 | III | DEHU, MOSHI, ALANDI, PIMPRI- CHINCHWAD |
| CHANDRA BHAGA | PANDHARPUR TO SHEGAON DHUMALA | 8.4-10.6 | III | PANDHARPUR, NAGPUR, AMRAVATI |
| VASHISTI | KHERDI TO DALVATNE | 3.2-4.8 | V | KHERDI,DALVATNE,CHIPLUN |
| MITHI | POWAI TO DHARAVI | 170 | I | MUMBAI |
| KANHAN | BHANDARA TO NAGPUR | 9.6-22 | II | NAGPUR, KHANDALA, BHANDARA |
| KOYNA | KARAD TO PAPDARDE | 7.8 | IV | KARAD,PATAN,PADARDE,TAMBAVE |
| AMBA | BENSE TO ROHA | 5 | V | POYNAD, BENSE, ROHA |
| AMRAVATI | KOPARLI TO BETWAD | 14 | III | KOPARLI, DONDAICHA |
| BINDUSAR A | SWARAJ NAGAR TO SNEHNAGAR | 8 | IV | SWARAJ NAGAR, BEED, KADAMWADI, MOMINPURA |
| DARNA | IGATPURI TO SANSARI | 4.0-8.0 | IV | NASHIK,IGATPURI,BHAGUR |
| GHOD | ANNAPUR TO SHISHUR | 10.5 | III | ANNAPUR, SHIRUR, PUNE, KATHAPUR, FAKATE |
| GOMAI | LONKHEDA TO SHAHDA | 10 | IV | LONKHEDA,SHAHDA,DAMARKHEDA |
| HIWARA | PACHORA TO NIMBORA | 4 | V | PACHORA, NIMBORA |
| KAN | KAVATHE TO SAKARI | 8 | IV | KAVATHE, SAKARI |
| MANJARA | LATUR TO NANDED BRIDGE | 6.5 | IV | LATUR, WANJARKHEDA, SARSA |
| MOR | JALGAON TO AMODA | 4 | V | TAMBAPURA,FAIZPUR,AMODA,MAROOOL,NHAVI |
| MORNA | AKOLA TO TAKALIJALAM | 34 | I | AKOLA |
| MULA | BOPODI TO AUNDH GAON | 13.5-16.5 | III | BOPODI,AUNDH |
| MULA- MUTHA | THEUR TO MUNDHWA BRIDGE | 16 | III | THEUR,MUNDHWA |

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| MUTHA | SHIVAJI NAGAR TO KHADAKWASLA DAM | 18.2 | III | SHIVAJI NAGAR,SHIVANE |
| PANZARA | VARKHEDE TO DHULE | 6 | V | VARKHEDE,DHULE,KUNDANE, |
| PATALGAN GA | KHADEPADA TO KOPOLI | 4.0-4.4 | V | KHOPOLI,KHARPADA,KHALAPUR,APTA |
| PAWNA | DAPODI TO RAVET | 6.5-20.0 | III | DAPODI, RAVET, KASARWADI, PIMPRI-CHINCHWAD, LONAVALA, DEHU, LAVALE |
| PEDHI | NARAYANPUR TO BHATKULI | 14 | III | BHATKULI,NARAYANPUR,AMRAVATI,WADWAD |
| PELHAR | PELHAR DAM TO GOLANI NAKA | 5 | V | GOLANI NAKA, VASAI, THANE |
| PENGANG A | MEHKAR TO UMARKHED | 8.7-12.6 | III | UMARKHED,JAGAPUR,MEHKAR,GARKHEDA,JUMDA,RITHA D |
| PURNA | DHUPESHWAR TO ASEGAON | 14-26.0 | II | AMRAVATI, ACHALPUR,SHINGNAPUR,HIWARA,BAJITPUR,MARKANDA, SONARKEHDA |
| SAVITRI | DADLI TO MUTHAVALI | 4.4-15 | III | DADLI,MUTHAVALI,RAJEWADI,KEMBURLI |
| SINA | SOLAPUR TO BANKALAGI | 10.4 | III | SOLAPUR,BANKALAGIWADWAL,LAMBOTI,RIDHORE,MUN GASHI |
| SURYA | DHAMNI DAM TO PALGHAR | 4.6-8.0 | IV | DHARAMPUR,HARANWALI,PALGHAR |
| URMODI | DHANGARWADI TO NAGTHANE | 9.5 | IV | NAGTHANE,DHANGARWADI,VECHALE,UPALI,PARALI (SAJJANGAD) |
| VAITRANA | GANDHRE TO SARASHI | 6 | V | GANDHRE, SARASHI,PIMPROLI,KOYNA |
| VEL | NHAVARE TO SHIKARPUR | 11 | III | SHIKRAPUR,MUKHAI,PARHADWADI,KANHESAR |
| VENNA | MAHABALESHWAR TO MAHULI | 8.6 | IV | MAHULI,VARYE,SATARA |
| WAGHUR | SUNASGAON TO SAKEGAON | 4 | V | NASIRABAD,BHUSAWAL |

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| WARDHA | GHUGHUS TO RAJURA | 8.2-31.0 | I | GHUGUS, RAJURA, BALHARSHAH, CHANDRAPUR |
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MANIPUR

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| BARAK | TAMENGLONG TO SENAPATI | 3.6-5.7 | V | KARONG, SENAPATI |
| IMPHAL | KANGLA MOAT TO SAMUROU | 3.6-12.3 | III | IMPHAL |
| IRIL | KANGLA SIPHAI TO UKHRUL | 5.1-6.2 | IV | UKHRUL, IMPHAL |
| KHUGA | KHUGA LAKE TO CHURACHANDPUR | 3.1 | V | GELJANG, MATA, CHURACHANDPUR |
| KHUJAIRO K | MOREH TO MAOJANG | 4.3 | V | MOREH |
| LOKCHAO | BISHNUPUR TO LOKTAK LAKE | 4.5 | V | BISHNUPUR |
| MAHA | MANTRI PANTHA TO CHANDEL | 6.7 | IV | CHANDEL |
| MANIPUR | SEKMAIJAN TO THOUBAL | 3.3-4.7 | V | BISHNUPUR, THOUBAL, SEKMAIJAN |
| NAMBUL | SINGDA DAM TO BISHNUPUR | 4.3-23.7 | II | SENAPATI, IMPHAL, BISHNUPUR |
| SEKMAI | SEKMAI DAM TO KAKCHING, THOUBAL | 6.4 | IV | SEKMAI |
| THOUBAL | SHONG KONG TO PHADOM | 4.3-5.3 | V | YAIRIPOK, PHADOM, UKHRUL |
| WANGJING | WANGJING TO HEIROK | 4.1-4.3 | V | WANGJING, HEIROK |

MEGHALAYA

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| BUGI | SONGMAGIRI TO BUGI | 10 | IV | DALU, SONGMAGIRI |
| KYN Shi | CHINTUSORA TO RANIKOR | 3.5 | V | CHINTUSORA, RANIKOR |
| KYRHUKH LA | SUTNGA TO KHLIERIAT | 10.8 | III | SUTNGA, KHLIERIAT |
| LUKHA | MYNDIHATI TO SHYMP LONG | 6 | V | KHLIEHRIAT |
| MYNTDU | JOWAI TO PAMHADEM | 3.1 | V | JOWAI |

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| NONBAH | NANGSTOIN TO WAHRIAT | 4 | V | NONGSTOIN |
| UMKHRAH | MAWLAI TO SHILLONG | 26-100 | I | MAWLAI-MAWLONG, SHILLONG |
| UMSHYRPI | UMSHYRPI BRIDGE TO DHANKETI | 80-95 | I | SHILLONG |
| UMTREW | BYRNIHAT TO MORANG DALA | 8.2 | IV | BYRNIHAT |
| WAHBLEI | SHDADDKHAR, WEST KHASI HILLS TO RANIKOR | 5.6 | V | SHDADDKHAR |

NAGALAND

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| CHATHE | MEDZIPHEMA TO, DIMAPUR | 9 | IV | MEDZIPHEMA, CHUMUKEDIMA, DIMAPUR |
| DHANSIRI | CHECK GATE TO DIPHU BDG | 9.0-22.0 | II | DIMAPUR |
| DZU | KOHIMA TO DZUKO VALLEY | 10 | IV | KOHIMA |

ORISSA

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| BAITRANI | JAJPUR-KUAKHIA RD TO DHAMRA | 3.2-3.4 | V | JAJPUR |
| BRAHAMANI | ROURKELA TO BIRITOL | 3.6-7.0 | IV | ROURKELA, BANKI, TALCHER TOWN, BIRITOL |
| BUDHABALNAGA | MAHULIA TO BARIPADA | 22 | II | BARIPADA |
| DAYA | BHUBANESWAR TO BARAGARH | 4.1 | V | BHUBANESHWAR |
| KATHAJODI | CUTTACK TO URALI | 4.4 | V | CUTTACK, URALI |
| KOEL | DALKI TO PARLIPOS | 12 | III | DALKI |
| KUAKHAI | URALI TO BHUBANESWAR | 3.4-6.0 | V | BHUBANESHWAR |
| MAHANADI | SAMBALPUR TO PARADEEP | 3.7-9.6 | IV | SAMBALPUR, CUTTACK, PARADEEP |
| NAGAVALLI | JAYKAYPUR TO RAYAGADA | 3.7-16 | III | JAYKAYPUR, RAYAGADA |
| RUSHIKULYA | PRATAPPUR TO GANJAM | 3.3 | V | ASKA, PITTAL, PURUSOTTAMPUR, GANJAM |
| SERUA | KHANDAETA TO SANKHATRASA | 3.6 | V | KHANDAETA |
| VANSADHARA | GUNUPUR TO BATHILI | 4 | V | GUNUPUR |

PUNJAB

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| GHAGGAR | SARDULGARH TO MUBARAKPUR | 12.0-43.0 | I | SARDULGARH |
| SATLUJ | RUPNAGAR TO HARIKA BRIDGE | 3.5-27 | II | RUPNAGAR, LUDHIANA, JALANDHAR, PHAGWARA |

RAJASTHAN

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| BANAS | ALONG BISALPUR DAM, SWAROOPGANJ, NEWTA DAM | 4.2-39.9 | I | BISALPUR, SIROHI, SWAROOPGANJ, TONK, BHILWARA |
| CHAMBAL | SAWAIMADHOPUR TO KOTA | 3.5-4.1 | V | SAWAIMADHOPUR, KOTA |
| CHAPPI | CHHAPI DAM, JHALAWAR TO CHHAPIHERA | 4.8 | V | CHHAPIHERA, THONAWAD, ARNIA, METHOON, JHALAWAR |

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| GHAGGAR | SUREWALA TO HANUMANGARH | 4.6 | V | HANUMANGARH |
| KALI SINDH | BAROD TO GADEPAN | 7.7-26.9 | II | BORKHERA, BALDARA |
| PARVATI | KHATOLI, KOTA TO TODRA | 15.4 | III | MOHAMMADPUR, KHATOLI |
| JAWAI | JAWAI DAM SENA TO GALTHANI | 3.4 | V | SENA, GALTHANI |
| UJAD | MORI (BHIM SAGAR DAM) TO ANGHORA | 3.9 | V | MORI |

SIKKIM

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| DIKCHU | NAMPONG TO DIKCHU | 3.4 | V | DIKCHU |
| MANEY KHOLA | ADAMPOOL TO BURTUKK | 3.8-4.2 | V | ADAMPOOL |
| RANGIT | DAM SITE (NHPC) TO TREVENI | 4.0-4.2 | V | LEGSHP, JORETHANG, TRIVENI |
| RANICHU | NAMLI TO SINGTAM | 4.5 | V | RANIPOOL, NAMLI, SINGTAM, GANGTOK |
| TEESTA | MELLI TO CHUNGTHANG | 3.4-4.5 | V | MELLI, RANGPO |

TAMIL NADU

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| BHAVANI | SIRUMUGAI TO KALINGARAYAN | 3.9-115 | I | SIRUMUGAI, SATHYAMAGALAM, BHAVANI |
| CAUVERY | METTUR TO MAYILADUTHURAI | 3.8-9.3 | I | METTUR, BHAVANI, KOMRA, VAIRAPALAYAM, ERODE, VELUR, PUGALUR, NAMAKKAL, TIRUCHIRAPPALLI |
| PALAR | VANIYAMBADI TO MINNUR | 3.2-21.9 | II | VANIYAMBADI, VELLORE |
| SARABAN GA | THATHAYAMPATTI TO T.KONAGAPADI | 4 | V | THATHAYAMPATTI, OMALUR, T.KONAGAPADI |
| TAMBIRAP ANI | PAPPANKULAM TO ARUMUGANERI | 126 | I | PAPPANKULAM, TIRUNELVELI, SRIVAIKUNTAM |
| THIRUMAN IMUTHAR | SALEM TO PAPPARAPATTI | 67 | I | SALEM |
| VASISTA | MANIVILUNDHAN TO THIYAGANUR | 500 | I | MANIVILUNDHAN, THALAIVASAL, THIYAGANUR |

TELANGANA

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| GODAVARI | BASAR TO KHAMMAM | 3.6-26 | II | BASAR, MANCHERIAL, RAMAGUNDAM, MANTHAN, KAMALAPUR, BOORGAMPAHAD |
| KRISHNA | THANGADIGI TO WADAPALLY | 6.0-2.4 | II | THANGADIGI, GUNTUR |
| MANJEERA | GOWDICHARLA TO NAKKAVAGU | 3.2-4.6 | V | GOWDICHARLA |
| MUSI | HYDRABAD TO NALGONDA | 8.6-165 | I | HYDERABAD, RANGAREDDY, NALGONDA |
| NAKKAVAGU | GANDILACHAPET TO SEVALAL THANDA | 64 | I | MEDAK, BACHUGUDAM |
| SABARI | KHAMMAM TO KUNNAPURAM | 3.7 | I | KHAMMAM |
| MANER | WARANGAL TO SOMNAPALLI | 25-27 | II | WARANGAL, KARIMNAGAR |

TRIPURA

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|-------|-------------------------|-----|---|--------------------------|
| GUMTI | TELKAJILA TO AMARPUR | 4.5 | V | UDAIPUR, BAMPUR, AMARPUR |
| HAORA | AGARTALA TO BISHRAMGANJ | 4.8 | V | AGARTALA |

UTTAR PRADESH

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| BETWA | HAMIRPUR TO WAGPURA | 3.3 | V | HAMIRPUR, JHANSI |
| GHAGHARA | BARHALGANJ TO DEORIA | 3.4-3.6 | V | AYODHYA, TANDA, DEORIA |
| GOMTI | SITAPUR TO VARANASI | 3.7-11 | III | SITAPUR, LUCKNOW, SULTANPUR |
| HINDON | SAHARANPUR TO GHAZIABAD | 24-80 | I | SAHARANPUR, MUZAFFARNAGAR, MEERUT, GHAZIABAD |
| KALINADI | MUZAFFAR NAGARTO GULAOTHI TOWN | 4-369 | I | MEERUT, HAPUR, GULAOTHI, BULANDSHAHR |
| RAMGANGA | MURADABAD TO KANNAUJ | 6.8 | IV | MORADABAD, BAREILLY, FARRUKHABAD |
| RAPTI | DOMINGARH TO RAJGHAT | 3.4-3.8 | V | GORAKHPUR |

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| RIHAND | RENUKUT TO PIPARI | 3.3-7.2 | IV | OBRA, RENUKOOT, PIPARI |
| SAI | UNNAO TO JAUNPUR | 3.5-3.7 | V | RAEBARELI, BELA PRATAPGARH, JAUNPUR |
| SARYU | AYODHYA TO ELAFATGANJ | 3.2 | V | FAIZABAD, AYODHYA |
| GANGA | KANNAUJ TO VARANASI | 3.8-16.9 | III | KANNAUJ, KANPUR, ALLAHABAD, MIRZAPUR, VARANASI |
| YAMUNA | ASGARPUR TO ETAWAH SHAHPUR TO ALLAHABAD (BALUA GHAT) | 3.8-41 | I | GAUTAM BUDDHA NAGAR (NOIDA & GREATER NOIDA), VRINDAVAN, MATHURA, AGRA, SHAHPUR |
| KOSI | AJEETPUR TO CHAMRAUL | 4.0 | V | AJEETPUR, RAMPUR |

UTTARAKHAND

| | | | | |
|-------|---------------------------------------|---------|---|-----------------------|
| BHELA | KASHIPUR TO RAJPURA ATNDA | 60-74 | I | KASHIPUR |
| DHELA | KASHIPUR TO GARHUWALA, THAKURDWARA | 58-62 | I | KASHIPUR, THAKURDWARA |
| SUSWA | MOTHRWALA TO RAIWALA | 46 | I | DEHRADUN |
| GANGA | HARIDWAR TO SULTANPUR | 4.2-5.8 | V | RISHIKESH, HARIDWAR |
| KOSI | SULTANPUR TO PATTIKALAN | 4.0-4.5 | V | SULTANPUR |

WEST BENGAL

| | | | | |
|---------------|---------------------------------------|-----------|-----|--|
| BARAKAR | KULTI TO ASANSOL | 4.6 | V | CHITTARANJAN, KULTI, BURNPUR, ASANSOL |
| CHURNI | SANTIPUR TOWN TO MAJHADIA | 11.7 | III | RANAGHAT |
| DAMODAR | DURGACHAKM TO DISHERGARH | 3.2-8.0 | IV | UDAYANARAYANPUR, BAGNAN, DURGAPUR, ASANSOL |
| DWARAKE SHWAR | BANKURA TO KUSHTIA | 4.5 | V | BANKURA |
| DWARKA | TARAPITH TO SADHAK BAMDEB GHAT | 10.8-19.5 | III | CHANDIPUR, TARAPITH, BISHNUPUR, MARGRAM |
| GANGA | TRIBENI TO DIAMOND HARBOUR | 3.1-5.8 | V | KANCHRAPARA, HOOGHLY, NAIHATI, CHANDANNAGAR, BHATPARA, BARRACKPORE, BARANAGAR, KOLKATA, HOWRAH, ,BERHAMPORE, PALTA, DAKSHINESWAR, ULUBERIA |
| JALANGI | LAAL DIGHI TO KRISHNA NAGAR | 7.3 | IV | KRISHNANAGAR, CHAPRA |
| KALJANI | BITALA TO ALIPURDWAR | 5.4 | V | HAMILTONGANJ, ALIPURDUAR |
| KANSI | MIDNAPORE TO RAMNAGAR | 4.3 | V | MEDINIPUR |
| KAROLA | JALPAIGURI TO THAKURER KAMAT | 3.6 | V | JALPAIGURI |
| MAHANANDA | SILIGURI TO BINAGURI | 5.2-5.7 | V | SILIGURI |
| MATHABHANGA | MADHUPUR TO GOBINDAPUR | 19.8 | III | MAJHDIA, KRISHNAGANJ, DURGAPUR, SWARNAKALI |
| MAYURKASHI | SURI TO DURGAPUR | 4.6 | V | SURI, SAINTHIA |
| RUPNARAYAN | KOLAGHAT TO BENAPUR | 5.1 | V | BAGNAN, KOLAGHAT, TAMLUK |
| SILABATI | GHATAL TO NISCHINDIPUR | 3.4 | V | GHATAL, NISCHINDIPUR |
| TEESTA | SILIGURI TO PAHARPUR | 3.6 | V | JALPAIGURI, SILIGURI |
| VINDHADHARI | HAROA BRIDGE TO MALANCHA BURNING GHAT | 10.1-11.8 | III | HAROA, MINAKHAN, MALANCHA |

STATE-WISE POLLUTED RIVER STRETCHES-DIGITAL MAPS

Polluted River Stretches in Andhra Pradesh



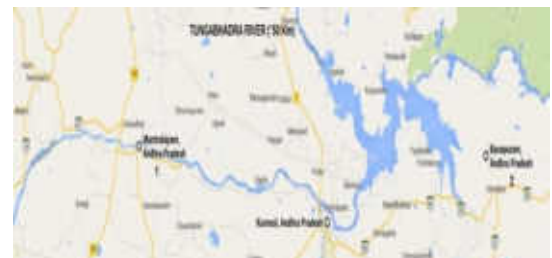
RIVER GODAVARI FROM RAYANPETA TO RAJAHMUNDRI



RIVER HUNDRI FROM LAXMIPURAM TO JOHARPURAM (KURNOOL)



RIVER KRISHNA FROM AMRAVATHI TO HAMSALA DEEVI



RIVER TUNGABHADRA FROM MANTHRALAYAM TO BAVAPURAM



RIVER PENNAR FROM TADPATRI TO NELLORE



RIVER KUNDU FROM NANDYAL TO MADDURU

Polluted River Stretches in Assam



RIVER MORA BHARALI FROM TEZPUR TO UDMARI GAON



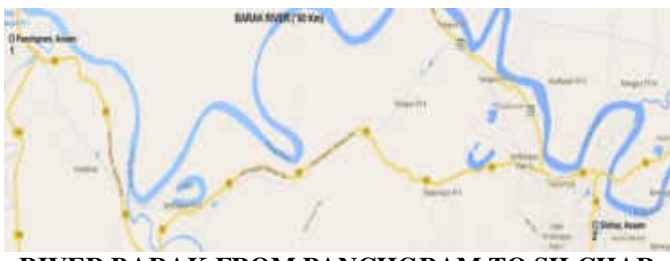
RIVER BHARALU FROM GUWAHATI TO CHILARAI NAGAR



RIVER BEKI FROM BARPETA ROAD TO JYOTI GAON



RIVER BOGINADI FROM LAKHIMPUR TO DIBRUGARH



RIVER BARAK FROM PANCHGRAM TO SILCHAR



RIVER BHOGDOI FROM JORHAT TO DULIAGAON



RIVER BRAHAMPUTRA FROM KHERGHAT TO DHUBRI



RIVER BURDIHING FROM MARGHERITA TO TINSUKIA



RIVER DEEPAR BILL FROM DEEPAR BILL TO GUWAHATI



RIVER DHANSIRI FROM GOLAGHAT TO KATHKETIA



RIVER DISANG FROM DILLIGHAT TO GUNDAMGHAT



RIVER JIA BHARALI FROM SONITPUR TO PANIGAON



RIVER JHANJI FROM JORHAT TO CHAWDANG



RIVER KUSHIARA FROM KARIMGANJ TO SARISA



RIVER KALONG FROM NAGAON TO MORI KALONG



RIVER KOHORA FROM KOHORA TO MOHPARA



RIVER KAPILI FROM NAGAON TO KAMPUR TOWN



RIVER KHARSANG FROM ASSAM-ARUNACHAL BORDER TO LONGTOM-1



RIVER KUNDLI FROM SAPAKHOWA TO SADIA



RIVER MANAS FROM BARPETA TO CHILAPARA



RIVER PAGLDIA FROM NALBARI TO KHUDRA SANKARA



RIVER KATHAKAL FROM HAILAKANDI TO MATIJURI



RIVER PANCHNAI FROM ORANG TO BORSALA



RIVER RANGANADI FROM DOIMUKH TO NAHARLAGUN



RIVER SANKOSH DHUBRI TO GOLAKGANJ



RIVER SONAI FROM SONAI TO DAKSHIN MOHANPUR



SUBANSIRI RIVER FROM GEREKAMUKH TO LAKHIMPUR

Polluted River Stretches in Bihar



RIVER GANGA FROM BUJAR TO BHAGALPUR



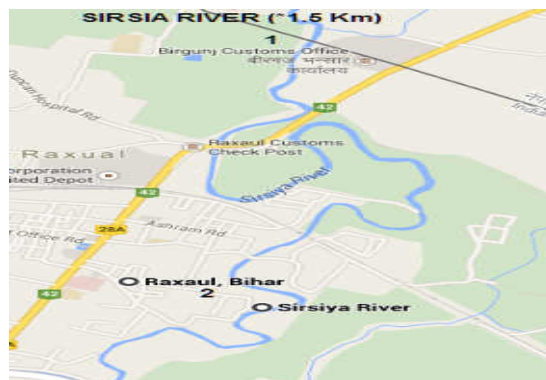
RIVER HARBORA FROM SWADESHI SUGAR MILLS TO NARKATIAGANJ



RIVER RAM REKHA HARINAGAR TO RAMNAGAR



RIVER MANUSMAR FROM MOHANIAMNDAL TO RIGA (SITAMARHI)



RIVER SIRSIA FROM RUXOL TO KOIREA TOLA (RAXAUL)

Polluted River Stretches in Chhattisgarh



RIVER MAHANADI FROM ARRANG TO SIHAWA



RIVER KHARON FROM BUNDRI TO RAIPUR



RIVER KELO FROM RAIGARH TO KANAKTORA

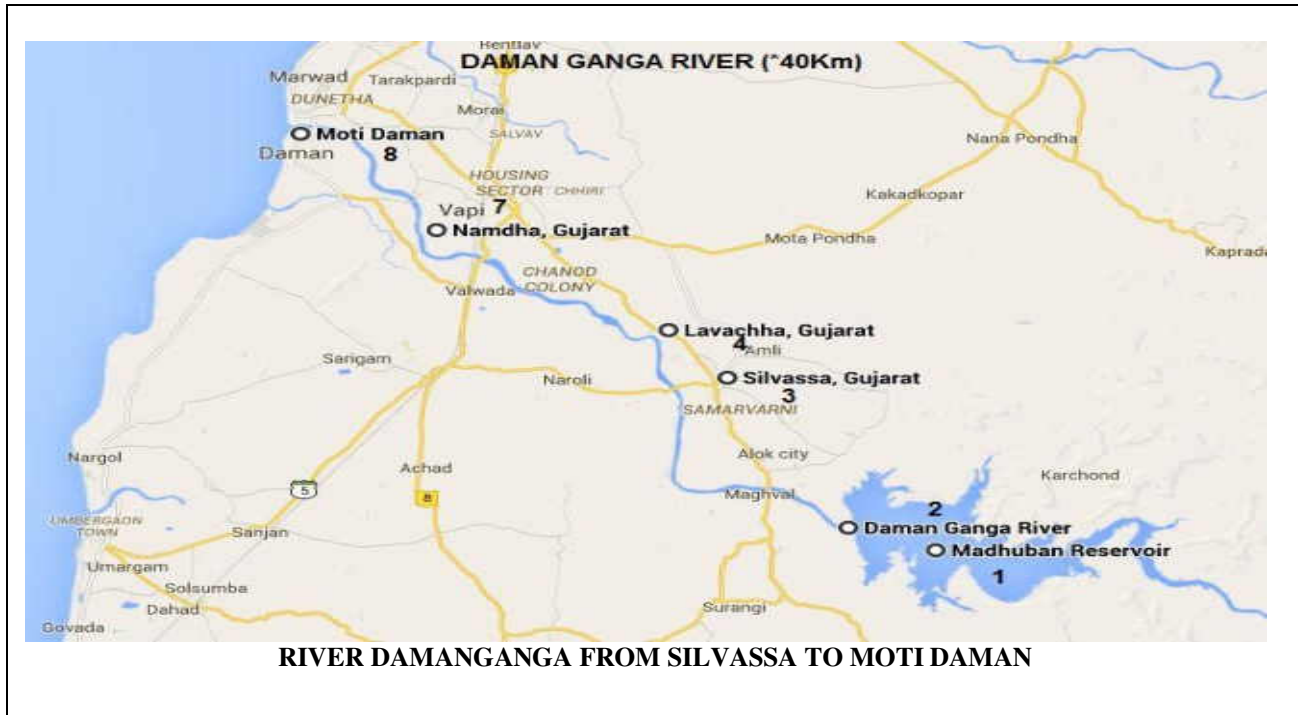


RIVER SEONATH FROM SHIMGGA TO BEMTA

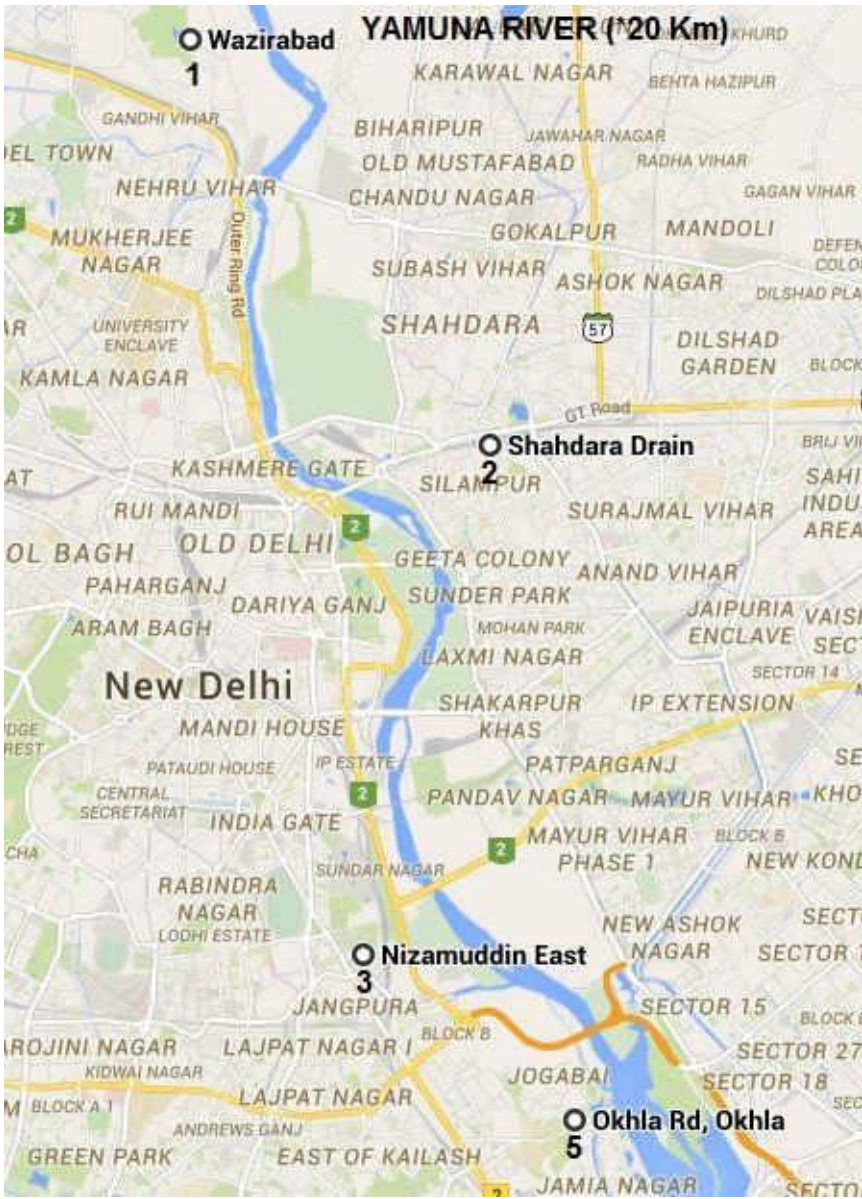


RIVER HASDEO FROM KORBA TO URGA

Polluted River Stretches in Daman



Polluted River Stretches in Delhi



RIVER YAMUNA FROM WAIZRABAD TO OKHLA BRIDGE

Polluted River Stretches in Goa



RIVER MANDOVI FROM MARCELA TO VOLVOI



RIVER VALVANT FROM SANKLI – BICHOLIM TO PORIEM



RIVER ASSONORA FROM ASSONORA TO SIRSAIM



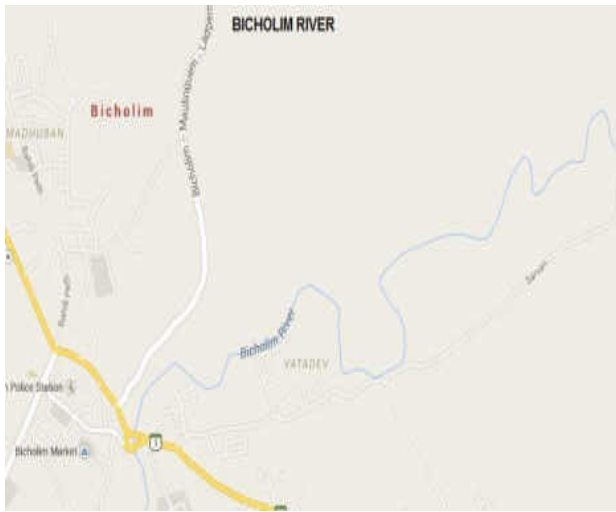
RIVER KHANDEPAR FROM PONDA TO OPA



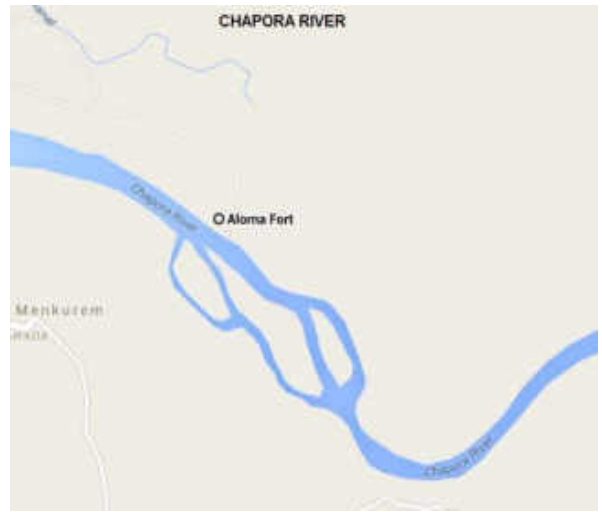
RIVER SAL FROM KHAREBAND TO MOBOR



RIVER MAPUSA FROM MAPUSA TO BRITONA



RIVER BICHOLIM FROM BICHOLIM TO CURCHIREM



RIVER CHAPORA FROM PERNEM TO MORJIM

Polluted River Stretches in Gujarat



RIVER MAHI FROM SEVALIA TO BAHADARPUR



RIVER AMBIKA FROM GARUDESHWAR TO BHARUCH



RIVER NARMADA FROM BILIMORA TO DEVDHA



RIVER AMLAKHADI FROM PUNGUM TO BHARUCH



RIVER ANAS FROM DAHOD TO FATEHPURA



RIVER BALEHWAR KHADI FROM PANDESARA TO KAPLETHA



RIVER BHADAR FROM JETPUR VILLAGE TO SARAN VILLAGE



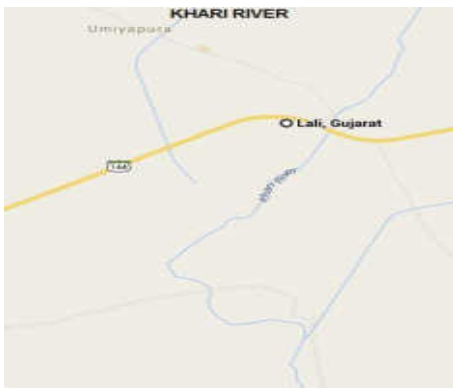
RIVER KAVERI FROM BILLIMORA TO SAI NATH NAGAR



RIVER DAMANGANGA FROM KACHIGAON TO VAPI



RIVER KIM FROM SAHOL BRIDGE TO HANSOL



RIVER KHARI FROM LALI VILLAGE TO KASHIPURA



RIVER KOLAK FROM KIKARLA TO SALVAV



RIVER PANAM FROM LUNAWADA TO THANA SAVALI



RIVER DHADHAR FROM KHOTDA TO CHANDPURA



RIVER BHOGAVO FROM SURENDRANAGAR TO NANA KERALA



RIVER PURNA FROM NAVSARI TO MACHHAD



RIVER SAMBARMATI FROM KHEROJ TO VAUTHA



RIVER SHEDHI FROM DHAMOD TO KHEDA

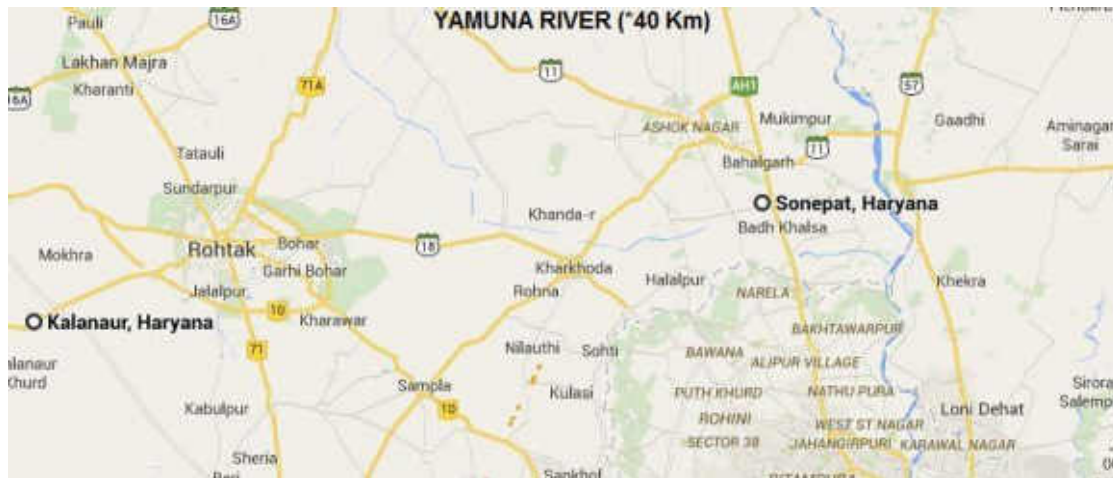


RIVER TAPI FROM KHADOD (BARDOLI) TO SURAT



RIVER TRIVENI FROM TRIVENI SANGAM TO BADALPARA

Polluted River Stretches in Haryana



RIVER YAMUNA FROM PANIPAT TO SONEPAT



RIVER GHAGGAR FROM RORKI TO SIRSA

Polluted River Stretches Himachal Pradesh



RIVER SIRSA FROM NALAGARH TO SOLAN



RIVER SWAN FROM UNA TO SANTOKHGARH



RIVER SUKHANA FROM SUKHNA TO PARWANOO



RIVER BINWA PAPROLA TO BAJNATH



RIVER TONS FROM KILLOR TO TILWARI



RIVER SUKETI KHAD FROM MANDI TO BEHNA

Polluted River Stretches in Jammu and Kashmir



BANGANGA RIVER FROM PONY SHED TO BATHING GHAT



CHENAB RIVER FROM JAL PATAN TO PARGAWAL



GAWKADAL RIVER FROM GAWKADAL BRIDGE TO NOHATA



JHELUM RIVER FROM CHATTABAL WEIR TO ANANTNAG



CHUNTKOL RIVER FROM MAULANA AZAD BRIDGE TO KANIKADAL



DEWAK RIVER FROM GARIGARH TO UTTARBEHANI



LIDDER RIVER FROM SILICOM TO LIDDAR NALAH



TAWI RIVER FROM SURAJNAGAR TO BELICHARANA



BASANTER RIVER FROM SAMBA TO CHAKMANGARAKWAL

Polluted River Stretches in Jharkhand



RIVER BOKARO FROM BILYOTARA TO JARANDI



RIVER PHUSRO ROAD FROM BDG TO TURIO



RIVER JUMAR FROM KANKE DAM TO KADAL



RIVER KARO FROM LOHOJIMI TO BALAGODA



RIVER KOEL FROM DALTANGANJ TO REHLA

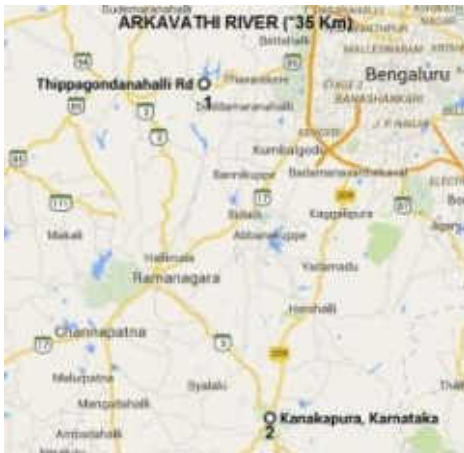


RIVER SANKH FROM KONGSERABASAR TO BOLBA



RIVER SUBARNAREKHA FROM HATIA DAM TO JAMSHEDPUR

Polluted River Stretches in Karnataka



RIVER ARKAVATHI HALLI RESERVOIR TO KANAKAPURA TOWN



RIVER BHADRA FROM HOLEHUNNUR TO BHADRAVATHI



RIVER BHIMA GHANAPUR TO YADGIR



RIVER CAUVERY FROM RANGANATHITTU TO SATHYAGALAM BRIDGE



RIVER GHATPRABHA FROM GOKAK TOWN TO CHIGADOLLI



RIVER MALPRABHA FROM KHANAPUR TO DHARWAD



**RIVER MANJIRA
BIDAR TO HUSSAIN NAGAR**



**RIVER TUNGABHADRA FROM HARIHAR
TO KORLAHALLI**



RIVER SHIMSHA FROM YEDIYAR TO HALAGUR



**RIVER TUNGTHA FROM SHIVAMOGA TO
KUDLI**



**RIVER LAKSHMANTIRTHA FROM
KATTEMALAVADI TO HUNSUR**



**RIVER KALI FROM HASAN MAAD (WEST
COAST PAPER MILLS) TO BOMMANAHALLI
RESERVOIR**



RIVER KAGINA FROM SHAHABAD TO HONGUNTA

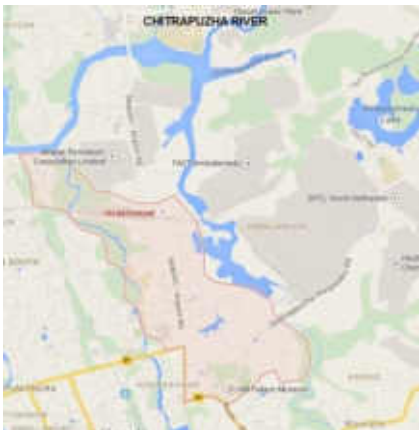


RIVER KABINI FROM NANJANAGUD TO HEJJIGE

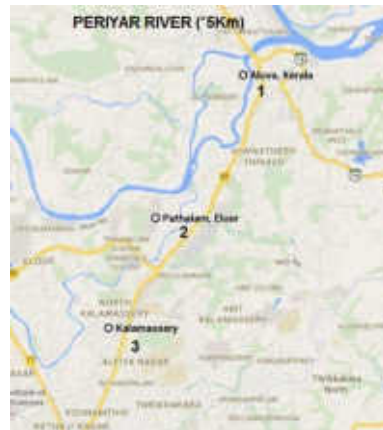


RIVER KRISHNA FROM YADURWADI TO TINTINI BRIDGE

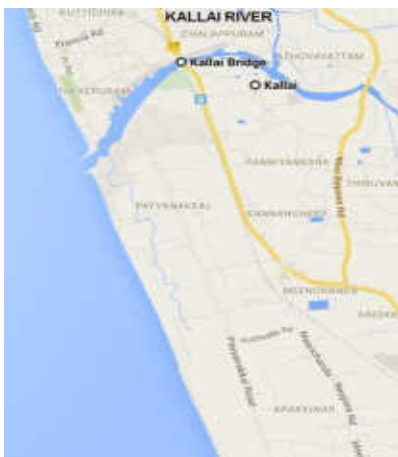
Polluted River Stretches in Kerala



RIVER CHITRAPUZHA FROM IRUMPANAM TO KARINGACHIRA



RIVER PERIYAR FROM ALWAYE-ELOOR TO KALAMASSERY



RIVER KALLAI FROM THEKEPURAM TO ARAKKINAR



RIVER KECHERI FROM PULIYANNOR TO KECHERY



MANIMALA RIVER FROM KALLOOPARA TO THONDRA



RIVER PULLUR FROM RAMNAGAR TO KANNOTH



RIVER KARAMANA FROM MALEKKDU TO THIRUVALLAM



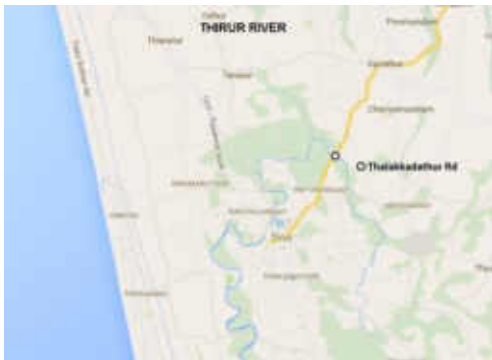
RIVER NEELESWARAM FROM NAMBIARKAL DAM TO HOSDURG



RIVER PUZHACKAL FROM OLARIKKARA TO PUZHACKAL



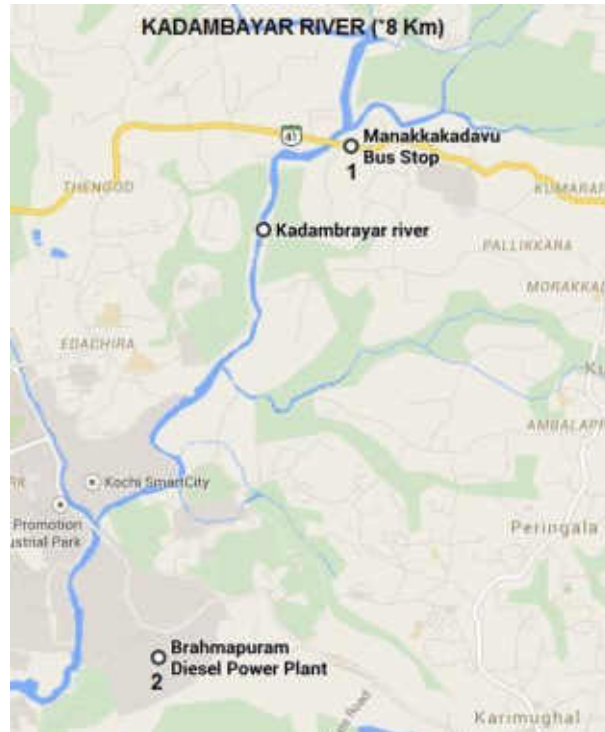
RIVER UPPALA FROM POYYA TO MULINJA



RIVER THIRUR FROM NADUVILANGADI TO THALAKKADATHUR



RIVER KUPPAM FROM THALIPARAMBA TO VELICHANGOOL



RIVER KADAMBAYAR FROM MANCKAKADAVU TO BRAHMAPURAM

Polluted River Stretches in Madhya Pradesh



RIVER BANJAR FROM MALANJKHAND TO TINGIPUR



RIVER BETWA FROM MANDIDEEP TO VIDISHA



RIVER CHAMBAL FROM RAMPURA TO NAGDA



RIVER CHILLAR FROM SHAJAPUR TO MURADPURA



RIVER GOHAD FROM GOHAD DAM TO GORMI



RIVER GOUR FROM JABALPUR TO SALIWADA



RIVER JAMMER FROM DHOLOWAD TO RAOTI



RIVER KALISOT FROM MANDIDEEP TO SAMARDHA VILLAGE



RIVER KOLAR FROM SURAJNAGAR TO SHIRDIPURAM



RIVER KSHIPRA FROM SIDDHAWATI TO TRIVENISANGAM



RIVER KUNDA FROM KHARGONE TO KHEDI KHURD



RIVER MALEI FROM JAORA T BARAUDA



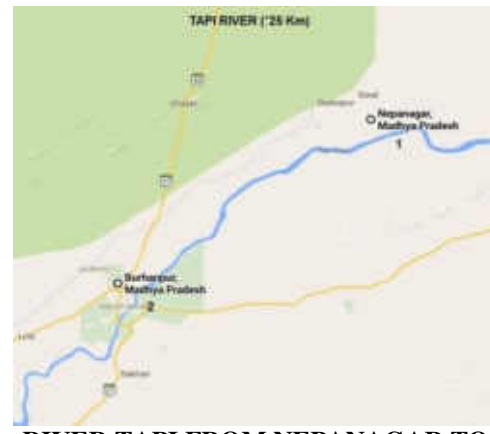
RIVER DENWA FROM HUPGARH TO SARNI



RIVER PARVATI FROM BATAWADA TO PILUKHEDI



RIVER SHIVNA FROM MANDSAUR TO MALAYA KHEDI



RIVER TAPI FROM NEPANAGAR TO BURHANPUR



RIVER TONS FROM CHAKGHAT TO CHAPPAR



RIVER WAINGANGA FROM CHINDWARA TO BALAGHAT



RIVER BICHIA FROM SILPARI TO GADHAWA



RIVER KHAN FROM KABIT KHEDI TO KHAJRANA



RIVER NARMADA FROM MANDALA TO BHEDA GHAT, SETHANI GHAT TO NEMAWAR

Polluted River Stretches in Maharashtra



RIVER WENA FROM KAWADGHAT TO HINDANGHAT



RIVER WAINGANGA FROM TUMSA TO ASHTI



RIVER GODAVARI FROM SOMESHWAR TEMPLE TO RAHED



RIVER BHIMA FROM VITHALWADI TO TAKLI



RIVER KRISHNA FROM SHINDI TO KURUNDWAD



RIVER ULHAS FROM KALYAN TO BADLAPUR



RIVER KUNDALIKA FROM SALAV TO ROHA



RIVER TAPI FROM RAVER TO SHAHADA



RIVER GIRNA FROM MALEGAON TO JALGAON



RIVER PANCHGANGA FROM SHIROL TO KOLHAPUR



RIVER NIRA FROM SANGAVI TO SHINDEWADI



RIVER BHATSA FROM SHAHAPUR TO BHADANE



RIVER RANGAVALI FROM TINEMBA TO NAVAPUR



RIVER CHANDRABHAGA FROM PANDHARPUR TO SHEGAON DHUMALA



RIVER VASHISTI FROM KHERDI TO DALVATNE



RIVER MITHI FROM POWAI TO DHARAVI



RIVER KANHAN FROM BHANDARA TO NAGPUR



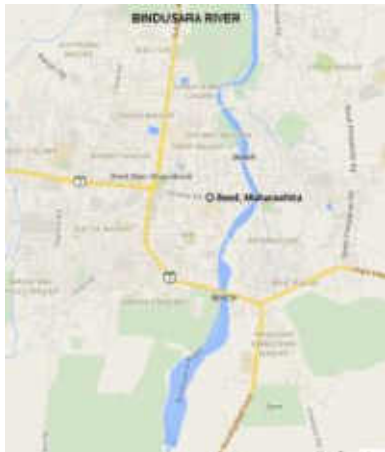
RIVER KOYNA FROM KARAD TO PAPPARDE



RIVER AMBA FROM BENSE TO ROHA



RIVER AMRAVATI FROM KOPARLI TO BETWAD



RIVER BINDUSARA FROM SWARAJ NAGAR TO SNEHNAGAR



RIVER DARNA FROM IGATPURI TO SANSARI



RIVER GHOD FROM ANNAPUR TO SHISHUR



RIVER GOMAI FROM LONKHEDA TO SHAHDA



RIVER HIWARA FROM PACHORA TO NIMBORA



RIVER KAN FROM KAVATHE TO SAKARI



RIVER MANJARA FROM LATUR TO NANDED BRIDGE



RIVER MOR FROM JALGAON TO AMODA



RIVER MORNA FROM AKOLA TO TAKALIJALAM



RIVER MULA FROM BOPODI TO AUNDH GAON



RIVER MULA- MUTHA FROM THEUR TO MUNDHWA BRIDGE



RIVER MUTHA FROM SHIVAJI NAGAR TO KHADAKWASLA DAM



RIVER PANZARA FROM VARKHEDE TO DHULE



RIVER PATALGANGA FROM KHADEPADA TO KOPOLI



RIVER PAWNA FROM DAPODI TO RAVET



RIVER PEDHI FROM NARAYANPUR TO BHATKULI



RIVER PELHAR FROM PEHLAR DAM TO GOLANI NAKA



RIVER PENGANGA FROM MEHKAR TO UMARKHED



RIVER PURNA FROM DHUPESHWAR TO ASEGAON



RIVER SAVITRI FROM DADLI TO MUTHAVALI



RIVER SINA FROM SOLAPUR TO BANKALAGI



RIVER SURYA FROM DHAMNI DAM TO PALGHAR



RIVER URMODI FROM DHANGARWADI TO NAGTHANE



RIVER VAITARNA FROM GANDHRE TO SARASHI



RIVER VEL FROM NHAVARE TO SHIKARPUR



RIVER VENNA FROM MAHABALESHWAR TO MAHULI



RIVER WAGHUR FROM SUNASGAON TO SAKEGAON



RIVER WARDHA FROM GHUGHUS TO RAJURA



RIVER INDRAYANI FROM MOSHIGANO TO ALANDIGAON

Polluted River Stretches in Manipur



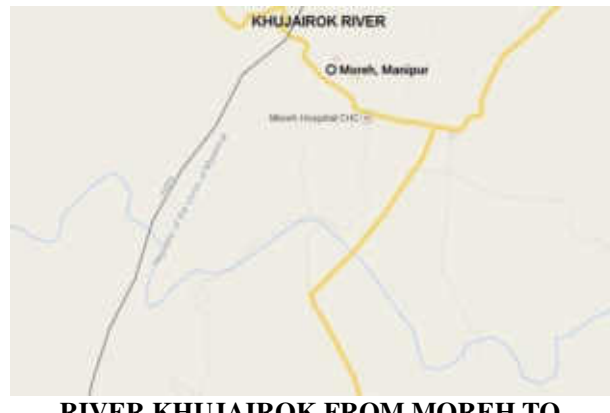
RIVER BARAK FROM TAMENGLONG TO SENAPATI



RIVER IMPHAL FROM KANGLA MOAT TO SAMUROU



RIVER KHUGA FROM KHUGA LAKE TO CHURACHANDPUR



RIVER KHUJAIROK FROM MOREH TO MAOJANG



RIVER LOKCHAO FROM BISHNUPUR TO LOKTAK LAKE



RIVER MAHA FROM MANTRI PANTHA TO CHANDEL



RIVER MANIPUR FROM SEKMAIJAN TO THOUBAL



RIVER NAMBUL FROM SINGDA DAM TO BISHNUPUR



RIVER SEKMAI FROM SEKMAI DAM TO KAKCHING, THOUBAL



RIVER THOUBAL FROM SHONG KONG TO PHADOM



RIVER WANGJING FROM WANGJING TO HEIROK

Polluted River Stretches in Meghalaya



RIVER BUGI FROM SONGMAGIRI TO BUGI



RIVER KYNSHI FROM CHINTUSORA TO RANIKOR



RIVER KYRHUKHLA FROM SUTNGA TO KHLJERIAT



RIVER LUKHA FROM MYNDIHATI TO SHYMPLONG



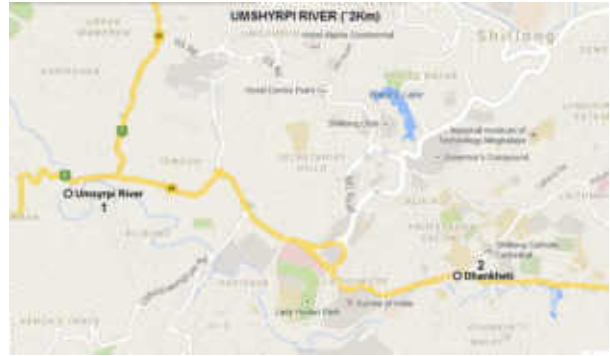
RIVER MYNTDU FROM JOWAI TO PAMHADEM



RIVER NONBAH FROM NANGSTOIN TO WAHRIAT



RIVER UMKHRAH FROM MAWLAI TO SHILLONG



RIVER UMSHYRPI FROM UMSHYRPI BRIDGE TO DHANKETI



RIVER UMTREW FROM BYRNIHAT TO MORANG DALA

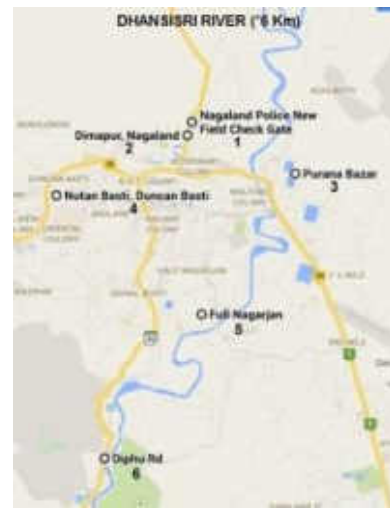


RIVER WAHBLEI FROM SHDADDKHAR, WEST KHASI HILLS TO RANIKOR

Polluted River Stretches in Nagaland



RIVER CHATHE FROM MEDZIPHEMA TO DIMAPUR



RIVER DHANSIRI FROM CHECK GATE TO DIPHU BDG



RIVER DZU FROM KOHIMA TO DZUKO VALLEY

Polluted River Stretches in Orissa



**RIVER BAITRANI FROM JAJPUR-KUAKHIA RD TO
DHAMRA**



**RIVER BRAHAMANI FROM ROURKELA TO
BIRTOL**



**RIVER BUDHABALNAGA FROM MAHULIA TO
BARIPADA**



**RIVER DAYA FROM BHUBANESWAR TO
BARAGARH**



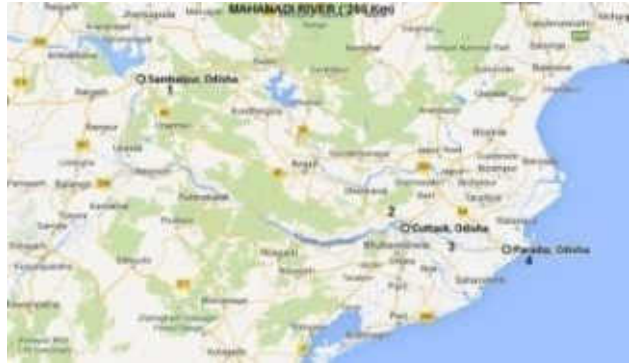
RIVER KATHAJODI FROM CUTTACK TO URALI



RIVER KOEL FROM DALKI TO PARLIPOS



RIVER KUAKHAI FROM URALI TO BHUBANESWAR



RIVER MAHANADI FROM SAMBALPUR TO PARADEEP



RIVER NAGAVALLI FROM JAYKAYPUR TO RAYAGADA



RIVER RUSHIKULYA FROM PRATAPPUR TO GANJAM



RIVER SERUA FROM KHANDAETA TO SANKHATRASA



RIVER VANSADHARA FROM GUNUPUR TO BATHILI

Polluted River Stretches in Punjab



RIVER GHAGGAR FROM SARDULGARH TO MUBARAKPUR



RIVER SATLUJ FROM RUPNAGAR TO HARIKE BRIDGE

Polluted River Stretches in Rajasthan



**RIVER BANAS ALONG BISALPUR DAM,
SWAROOPGANJ, NEWTA DAM**



**RIVER CHAMBAL FROM SAWAIMADHOPUR TO
KOTA**



**RIVER CHAPPI FROM CHHAPI DAM,
JHALAWAR TO CHHAPIHERA**



**RIVER GHAGGAR FROM SUREWALA TO
HAMUMANGARH**



RIVER KALI SINDH FROM BAROD TO GADEPAN



RIVER PARVATI FROM KHATOLI, KOTA TO TODRA



RIVER JAWAI FROM JAWAI DAM , SENA TO GALTHANI



RIVER UJAD FROM MORI (BHIM SAGAR DAM) TO ANGHORA

Polluted River Stretches in Sikkim



RIVER DIKCHU FROM NAMPONG TO DIKCHU



RIVER MANEYKHOLA FROM ADAMPOOL TO BURTUKK



RIVER RANJIT FROM DAM SITE (NHPC) TO TREVENI



RIVER RANICHU FROM NAMLI TO SINGTAM



RIVER TEESTA FROM MELLI TO CHUNGTHANG

Polluted River Stretches in Tamil Nadu



RIVER SARABANGA FROM THATHAYAMPATTI TO T.KONAGAPADI



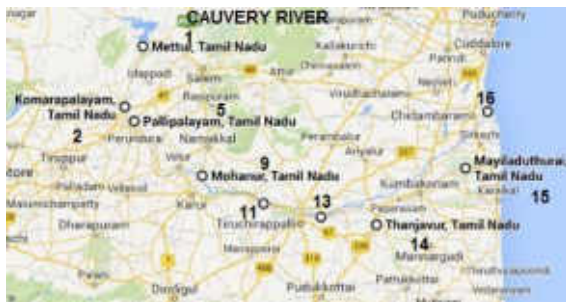
RIVER THIRUMANIMUT FROM SALEM TO PAPPARPATTI



RIVER PALAR FROM VANIYAMBADI TO MINNUR



RIVER VASISTA FROM MANIVILUNDHAN TO THIYAGANUR



RIVER CAUVERY FROM METTUR TO MAYILADUTHURAI



RIVER TAMBIRAPANI FROM PAPPANKULAM TO ARUMUGANERI



RIVER BHAVANI FROM SIRUMUGAI TO KALINGARAYAN CANAL

Polluted River Stretches in Telangana



GODAVARI FROM KAMALAPUR TO BURGAMPAHAD



KRISHNA FROM THANGADIGI TO WADAPALLY



MANJEERA FROM GOWDIC HARLA TO NAKKAVAGU



MUSI FROM HYDERABAD TO SURYAPET



NAKKAVAGU FROM PATANCHERU TO GOWDIC HARLA



SABARI FROM PALANCHU TO BURGAMPAHAD



MANER FROM WARANGAL TO SOMNAPALLI

Polluted River Stretches in Tripura



RIVER GUMTI FROM TELKAJILA TO AMARPUR



RIVER HAORA FROM AGARTALA TO BISHRAMGANJ

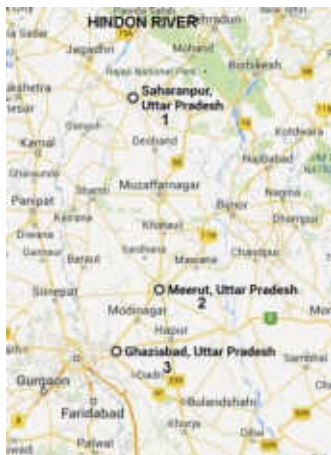
Polluted River Stretches in Uttar Pradesh



RIVER SARYU FROM AYODHYA TO ELAFATGANJ



RIVER SAI FROM UNNAO TO JAUNPUR



RIVER HINDON FROM SAHARANPUR TO GHAZIABAD



RIVER KALINADI FROM MUZAFFAR NAGAR TO GULAOTHI TOWN



RIVER GANGA FROM KANNAUJ TO VARANASI



RIVER RAPTI FROM DOMINGARH TO RAJGHAT



RIVER RIHAND FROM RENUKUT TO PIPARI



RIVER BETWA FROM HAMIRPUR TO WAGPURA



RIVER RAMGANGA FROM MURADABAD TO KANNAUJ



RIVER YAMUNA FROM SHAHPUR TO ALLAHABAD (BALUA GHAT)



RIVER GOMTI FROM SITAPUR TO VARANASI



RIVER GHAGHARA FROM BARHALGANJ TO DEORIA



RIVER KOSI FROM AJITPUR TO CHAMRAUL

Polluted River Stretches in Uttarakhand



RIVER GANGA FROM HARIDWAR TO ROORKEE



RIVER KOSI FROM SULTANPUR PATTI TO PATTIKALAN



RIVER SUSWA FROM MOTHROWALA TO RAIWALA



RIVER DHELA FROM KASHIPUR TO THAKURDWARA



RIVER BHEHA FROM KASHIPUR TO RAJPURA TANDA

Polluted River Stretches in West Bengal



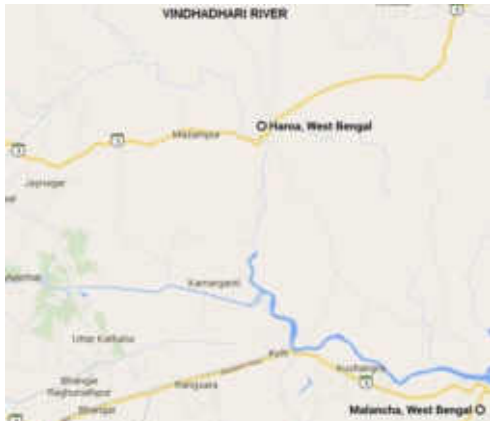
RIVER MAHANANDA FROM SILIGURI TO BINAGURI



RIVER TEESTA FROM SILIGURI TO PAHARPUR



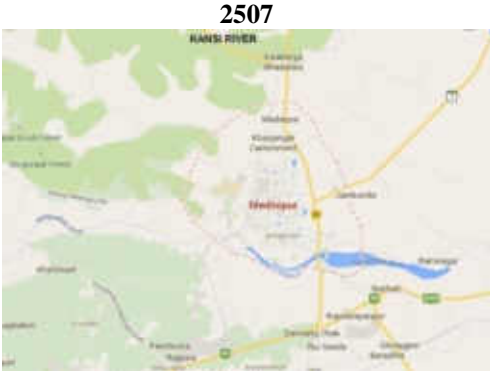
RIVER MAYURKASHI FROM SURI TO DURGAPUR



RIVER VINHADHARI FROM HAROA BRIDGE TO MALANCHA BURNING GHAT



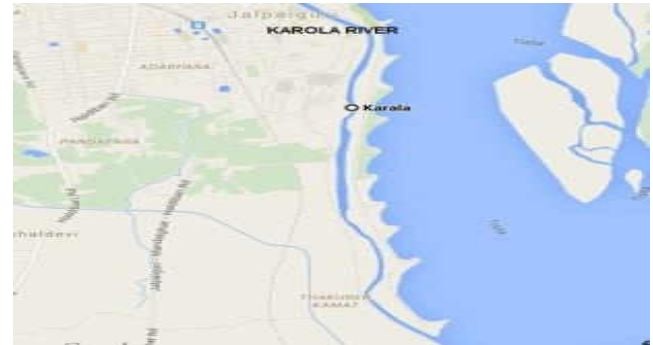
RIVER DAMODAR FROM DURGACHAK TO DISHERGARH VILLAGE



RIVER KANSI FROM MIDNAPORE TO RAMNAGAR



RIVER DWARKA FROM TARAPITH TO SADHAK BAMDEB GHAT



RIVER KAROLA FROM JALPAIGURI TO THAKURER KAMAT



RIVER JALANGI FROM LAAL DIGHI TO KRISHNA NAGAR



RIVER KALJANI FROM BITALA TO ALIPURDUAR



RIVER BARAKAR FROM KULTI TO ASANSOL



RIVER DWARKESHWAR FROM BANKURA TO KUSHTIA



RIVER SILBATI FROM GHATAL TO NISCHINDIPUR



RIVER CHURNI FROM SANTIPUR TO MAJHADIA



RIVER RUPNARAYAN FROM KOLAGHAT TO BENAPUR



RIVER MATHABHANGA FROM MADHUPUR TO GOBINDAPUR



RIVER GANGA FROM TRIBENI TO DIAMOND HARBOUR

ANNEXURE III**LIST OF POLLUTED RIVERS**

| S NO. | POLLUTED RIVER | S NO. | POLLUTED RIVER | S NO. | POLLUTED RIVER | S NO. | POLLUTED RIVER |
|-------|----------------|-------|----------------|-------|----------------|-------|----------------|
| 1. | AMBA | 41. | CHAMBAL | 81. | HASDEO | 121. | KHAROON |
| 2. | AMBIKA | 42. | CHANDRABHAGA | 82. | HINDON | 122. | KHARSANG |
| 3. | AMLAKHADI | 43. | CHAPORA | 83. | HIWARA | 123. | KHUGA |
| 4. | AMRAVATI | 44. | CHAPPI | 84. | HUNDRI | 124. | KHUJAIROK |
| 5. | ANAS | 45. | CHATHE | 85. | IMPHAL | 125. | KIM |
| 6. | ARKAVATHI | 46. | CHENAB | 86. | INDRAYANI | 126. | KOEL |
| 7. | ASSONORA | 47. | CHILLAR | 87. | IRIL | 127. | KOHORA |
| 8. | BAITRANI | 48. | CHITRAPUZHA | 88. | JAI BHARALI | 128. | KOLAK |
| 9. | BALEHWAR | 49. | CHUNT KOL | 89. | JALANGI | 129. | KOLAR |
| 10. | BANAS | 50. | CHURNI | 90. | JAMMER | 130. | KOLONG |
| 11. | BANGANGA | 51. | DAMANGANGA | 91. | JAWAI | 131. | KOSI |
| 12. | BANJAR | 52. | DAMODAR | 92. | JHANJI | 132. | KOYNA |
| 13. | BARAK | 53. | DARNA | 93. | JHELAM | 133. | KRISHNA |
| 14. | BARAKAR | 54. | DAYA | 94. | JUMAR | 134. | KSHIPRA |
| 15. | BASANTER | 55. | DEEPAR BILL | 95. | KABINI | 135. | KUAKHAI |
| 16. | BEAS | 56. | DENWA | 96. | KADAMBAY | 136. | KUNDA |
| 17. | BEKI | 57. | DEWAK | 97. | KAGINA | 137. | KUNDALIKA |
| 18. | BETWA | 58. | DHADAR | 98. | KALI | 138. | KUNDLI |
| 19. | BHADAR | 59. | DHANSIRI | 99. | KALI SINDH | 139. | KUNDU |
| 20. | BHADRA | 60. | DHELLA | 100. | KALINADI | 140. | KUPPAM |
| 21. | BHARALU | 61. | DIGBOI | 101. | KALISOT | 141. | KUSHIARA |
| 22. | BHATSA | 62. | DIKCHU | 102. | KAI IANI | 142. | KYNSHI |
| 23. | BHAVANI | 63. | DISANG | 103. | KALLAI | 143. | KYRHUKHLA |
| 24. | BHELA | 64. | DWARAKESHWA | 104. | KALONG | 144. | LAKSHMANTIRTHA |
| 25. | BHIMA | 65. | DWARKA | 105. | KALU | 145. | LIDDER |
| 26. | BHOGAVO | 66. | DZU | 106. | KAN | 146. | LOKCHAO |
| 27. | BHOGDO | 67. | GANGA | 107. | KANHAN | 147. | LUKHA |
| 28. | BICHIA | 68. | GAWKADAL | 108. | KANSI | 148. | MAHA |
| 29. | BICHOLIM | 69. | GHAGGAR | 109. | KAPILI | 149. | MAHANADI |
| 30. | BINDUSARA | 70. | GHAGHARA | 110. | KARAMANA | 150. | MAHANANDA |
| 31. | BINWA | 71. | GHATPRABHA | 111. | KARO | 151. | MAHI |
| 32. | BOGINAD | 72. | GHOD | 112. | KAROLA | 152. | MALEI |
| 33. | BOKARO | 73. | GIRNA | 113. | KATHAJODI | 153. | MALPRBHA |
| 34. | BORI | 74. | GODAVARI | 114. | KATHAKAL | 154. | MANAS |
| 35. | BRAHAMPUTRA | 75. | GOHAD | 115. | KAVERI | 155. | MANDOVI |
| 36. | BUDHABALNAG | 76. | GOMAI | 116. | KEECHERI | 156. | MANER |
| 37. | BUGI | 77. | GOMTI | 117. | KELO | 157. | MANEY KHOLA |
| 38. | BURAI | 78. | GOUR | 118. | KHAN | 158. | MANIMALA |
| 39. | BURHIDIHING | 79. | HAORA | 119. | KHANDEPAR | 159. | MANIPUR |
| 40. | CAUVERY | 80. | HARBORA | 120. | KHARI | 160. | MANJEERA |

| S NO. | POLLUTED RIVER | S NO. | POLLUTED RIVER | S NO. | POLLUTED RIVER |
|-------|----------------|-------|----------------|-------|----------------------------|
| 161. | MANJIRA | 201. | RAM REKHA | 241. | TAPI |
| 162. | MANUSMAR | 202. | RAMGANGA | 242. | TAPTI |
| 163. | MAPUSA | 203. | RANGA NADI | 243. | TAWI |
| 164. | MARKANDA | 204. | RANGAVALI | 244. | TEESTA |
| 165. | MATHABHANGA | 205. | RANGIT | 245. | THIRUMANIMUTHAR |
| 166. | MAYURKASHI | 206. | RANICHU | 246. | THIRUR |
| 167. | MITHI | 207. | RAPTI | 247. | THOUBAL |
| 168. | MOR | 208. | RIHAND | 248. | TITUR |
| 169. | MORA BHARALI | 209. | RUPNARAYAN | 249. | TONS (TRIBUTORY OF GANGA) |
| 170. | MORNA | 210. | RUSHIKULYA | 250. | TONS (TRIBUTORY OF YAMUNA) |
| 171. | MUCHKUNDI | 211. | SABARI | 251. | TRIVENI |
| 172. | MULA | 212. | SABARMATI | 252. | TUNGABHADRA |
| 173. | MULA-MUTHA | 213. | SAI | 253. | TUNGA |
| 174. | MUSI | 214. | SAL | 254. | UJAD |
| 175. | MUTHA | 215. | SANKH | 255. | ULHAS |
| 176. | MYNTDU | 216. | SANKOSH | 256. | UMKHAH |
| 177. | NAGAVALLI | 217. | SARABANGA | 257. | UMSHYRPI |
| 178. | NAKKAVAGU | 218. | SARYU | 258. | UMTREW |
| 179. | NAMBUL | 219. | SATLUJ | 259. | UPPALA |
| 180. | NARMADA | 220. | SAVITRI | 260. | URMODI |
| 181. | NEELESWARAM | 221. | SEKMAI | 261. | VAITARNA |
| 182. | NIRA | 222. | SEONATH | 262. | VALVANT |
| 183. | NONBAH | 223. | SERUA | 263. | VANSADHARA |
| 184. | PAGLDIA | 224. | SHEDHI | 264. | VASHISTI |
| 185. | PALAR | 225. | SHIMSHA | 265. | VASISTA |
| 186. | PANAM | 226. | SHIVNA | 266. | VEL |
| 187. | PANCHGANGA | 227. | SILABATI | 267. | VENNA |
| 188. | PANCHNAI | 228. | SINA | 268. | VINDHADHARI |
| 189. | PANZARA | 229. | SIRSA | 269. | WAGHUR |
| 190. | PARVATI | 230. | SIRSIA | 270. | WAHBLEI |
| 191. | PATALGANGA | 231. | SONAI | 271. | WAINGANGA |
| 192. | PAWNA | 232. | SUBANSIRI | 272. | WANGJING |
| 193. | PEDHI | 233. | SUBARNAREKHA | 273. | WARDHA |
| 194. | PEHLAR | 234. | SUKETI KHAD | 274. | WENA |
| 195. | PENGANGA | 235. | SUKHANA | 275. | YAMUNA |
| 196. | PENNNAR | 236. | SURYA | | |
| 197. | PERIYAR | 237. | SUSWA | | |
| 198. | PULLUR | 238. | SWAN | | |
| 199. | PURNA | 239. | TAMBIRAPANI | | |
| 200. | PUZHACKAL | 240. | TANSA | | |