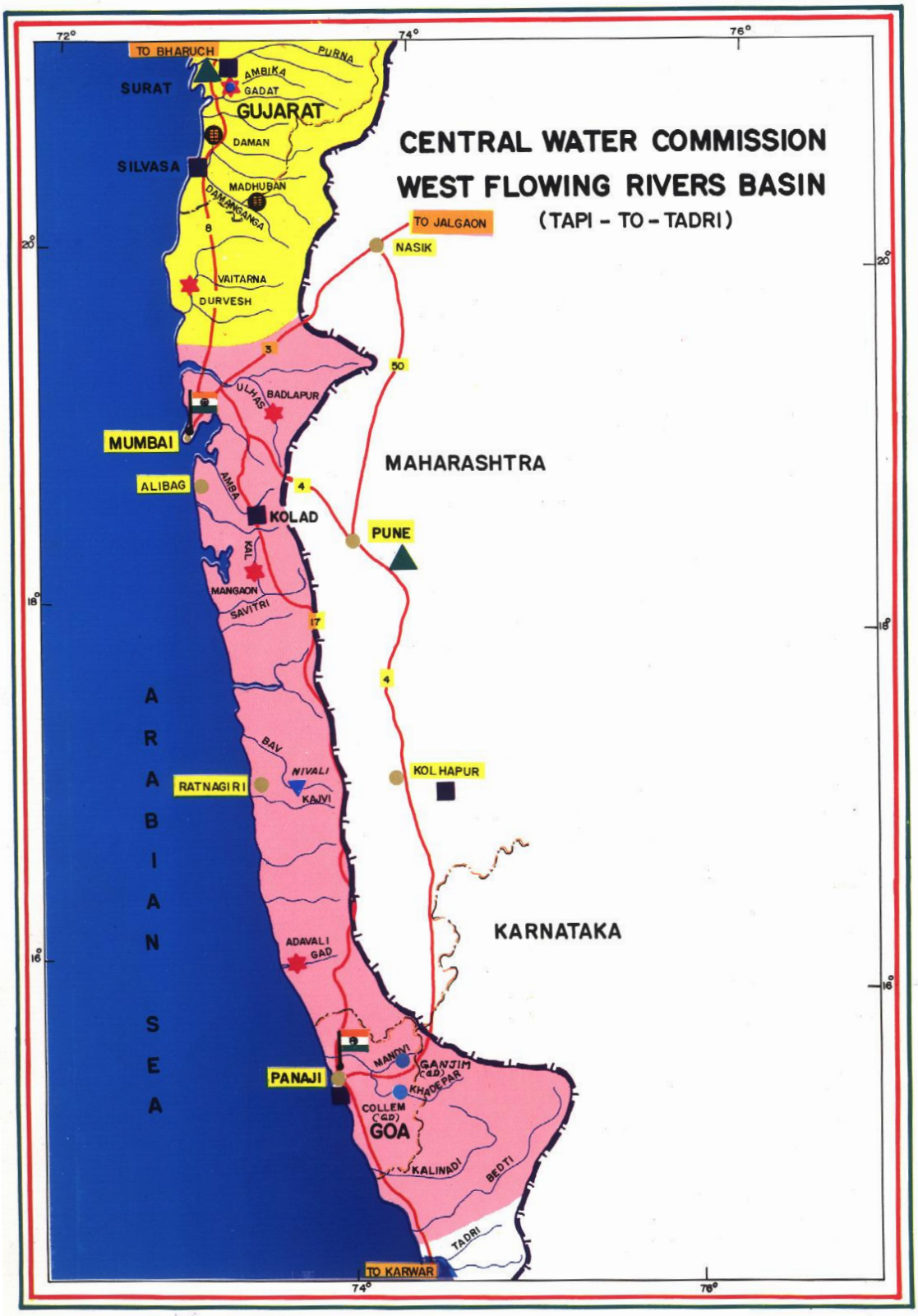
CENTRAL WATER COMMISSION
WEST FLOWING RIVERS BASIN
(TAPI - TO - TADRI)
TO BHARUCH
SURAT
AMBIKA
PURNA
GADAT
GUJARAT
DAMAN
SILVASA
MADHUBAN
DAMANGANGA
VAITARNA
DURVESH
TO JALGAON
NASIK
ULHAS
BADLAPUR
MUMBAI
MAHARASHTRA
ALIBAG
AMBA
KOLAD
PUNE
KAL
MANGAON
SAVITRI
BAV
NIVALI
RATNAGIRI
KAJVI
KOLHAPUR
KARNATAKA
ADAVALI
GAD
MANDVI
GANJIM (GD)
KHADEPAR
PANAJI
COLLEM (GD)
GOA
KALINADI
BEDTI
TADRI
TO KARWAR
ARABIAN SEA
72°
74°
76°
78°
20°
18°
16°

GEOGRAPHICAL DESCRIPTION OF THE WEST FLOWING RIVERS BASIN

The West Flowing Rivers Basin consists of all the small independent river basins of peninsular India lying to the South of Krishna Basin (except Cauvery Basin) draining into the Arabian Sea. The basin is located in the South West corner of the peninsular India and covers the areas in the States of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala. There are as many as 31 Nos of medium and minor river basins in this region viz., Bhogeshwari, Amba , Kundalika , Ulhas, Kal, Kajavi, Gad, Mandovi/Madei, Aghanashini, Haladi, Sita, Swarna, Gurupur, Netravathi, Payaswani, Valatapatnam, Kuttayadi, Chaliyar, Kadalundi, Bharathapuzha, Chalakudi, Periyar, Muvattupuzha, Meenachil, Pamba, Achankovil, Manimala, Kallada, Vamanapuram, Pazhayar and Tambraparani.

All the rivers originate from the high mountains of the Western Ghats and exhibit similar characteristics. They have steep high banks which rarely overflow or cause floods.

DESCRIPTION OF THE RIVER SYSTEM – KGBO JURISDICTION

BHOGESHWARI

The river Bhogeshwari rises in the Western ghats near village Bhogeshwari, District- Raighad of Maharashtra at an altitude of about 228.6 m above the sea level. The river flows in the West direction through the Taluka-Pen and merges in the Dharmtar creek near village Antora. The total length of the river is about 40 kms. before joining the sea.

The tidal effect of the sea (backwater effect is felt up to 14 kms. up-stream of confluence with the sea i.e, up to road bridge on NH-17 connecting Goa and Mumbai. The CWC Hydrological Observation site is located at **Pen** about 3 kms. up-stream of the back water affected area. The catchment area of basin up to the site from the origin is 125 sq.kms.

The site covers the releases of Hetwane medium Irrigation project on Bhogeshwari river and Ambaghar project existing on the tributary of Bhogeswari river. The length of the river from it’s origin to the site is 22 kms.

AMBA

The river Amba originates in the Borghat hill of the Sahyadri ranges near Khopoli-khandala road at an altitude of about 554 m. Initially, the river flows in the South direction and then turns further into the North West direction till it joins the Arabian Sea in Dharmatar creek near village Revas. The total length of the river is about 76 kms before joining the sea.

The river is affected by tidal effect of the Arabian sea (backwater effect) up to Chikan village located at about 31 kms from Arabian Sea. The CWC Hydrological Observation site is located at **Nagothane** about 2 kms up-stream of backwater-affected area. Also due to the existence of K.T. weir at about 1.5 kms down-stream of the site, the backwater effect of sea has no influence on the site.

The catchment of the river up to site from its origin is 420 sq km. and is free from backwater. The length of the river up to the site is 41 kms. There is no structure in the up-stream of the river and the flow is seasonal.

THE KUNDALIKA

The river Kundalika, one of the west flowing rivers, in Maharashtra originates in the Sahayadri hills of the Western Ghats near the village Bhamburda. Initially the rivers flows in south West direction up to Patnus village and then turns to Nprth-west till it joins the A

THE ULHAS

The Ulhas River is one of the West Flowing Rivers in Maharashtra falling into the Arabian Sea. The boundary of the basin consists of the main Sahyadri hills on the East, Westerly off shoots on the North and South and on the West, a narrow opening at the end leading to the sea. The Ulhas basin lies between North latitudes of 18º 44' to 19º 42' and East longitudes of 72º 45' to 73º 48'. The CWC Hydrological Observation Station is located at **Badlapur**.

The Ulhas drains an area of 4,637 sq km which lies completely in Maharashtra. The Thane, Raigad and Pune districts fall in the basin. The Ulhas rises from Sahyadri hill ranges in the Raigad district of Maharashtra at an elevation of 600m above M.S.L. The total length of this West flowing river from its origin to its outfall in to the Arabian Sea is 122 km.

The important tributaries of the Ulhas River are Pej, Barvi, Bhivapuri, Murbari, Kalu, Shari, Bhasta, Salpe, Poshir and Shilar. The Kalu and Bhasta are the major right bank tributaries which together accounts for 55.7% of the total catchment area of Ulhas.

THE KAL

The Kal River is one of the West Flowing Rivers in Maharashtra. This is a major tributary of the river Savitri. The Kal basin lies between North latitudes of 18^0 05' to 18^0 25' and East longitudes of 73 ^{0} 10' to 73^0 13' approximately. The CWC Hydrological Observation Station is located at **Mangaon**.

The Kal rises from Sahyadri hill ranges in the Raigad district of Maharashtra at an elevation of 652m above M.S.L. The total length of this West Flowing River from its origin to its confluence with the Savitri River is 40 km.

The Kal River drains a total area of 670 sq km., in Raigad district of Maharashtra. This is an important tributary of the Savitri river on the right and accounts for 23% of the total catchment area of the Savitri Basin.

KAJAVI RIVER

The Kajavi River rises in the Vishalghat region of Sahyadri hills and flows West ward and joins the Arabian Sea near Ratnagiri port where a 10 km. long creak named Bhatya Creak has been formed.

During monsoon, tidal effect is felt up to village Hercheri that is about 25 km. from the mouth of river. The nature of Bed is sandy mixed with gravels.

The Hydrological Observation site is at **Anjanari** village in Lanja Taluk of Ratnagiri District of Maharashtra State.

THE GAD

The Gad River is one of the West Flowing Rivers in Maharashtra falling into Arabian Sea. The Gad Basin lies between North latitude 16^{o} to 16^{o} 20' and East longitude 73º 30' to 74º approximately. The CWC Hydrological Observation Station is located at **Belne Bridge.**

The Gad drains an area of 890 sq km which lies completely in Sindhudurg district of Maharashtra.

The Gad rises from the Sahyadri hill ranges in the Sindhudurg district of Maharashtra at an elevation of 600m above M.S.L. The total length of the River from its origin to its outfall into the Arabian Sea is 66 km.

The important major tributary of the Gad River is Kasal. The Kasal River joins river Gad near the village Chunavara. During monsoon, tidal effect reaches up to this village. The Kasal River accounts for 20.8% of the total catchment area of the Gad. At present there is no existing project on this river.

MANDOVI

The Mandovi River is one of the main West Flowing Rivers of Goa State. The river runs in the North- East direction for about 5 km and then follows in the West ward direction. The Mandovi Basin lies between North latitudes of 15º 15' to 15º 40' and East longitudes of 73º 15' to 73º 45' approximately. There are two CWC Hydrological Observation Stations located at **Ganjim & Collem.**

The Mandovi River drains an area of 1,550 sq km., which lies in Tiswadi, Berdez, Bicholim, Sanguem and Ponda Talukas of Goa State.

The Mandovi River rises in the Jamboti Ghats in Karnataka State. At the origin, near the village Mabulyesheir, it is known as Bhaburnal, which is at an elevation of 600m above M.S.L. The total length of this West Flowing River from its origin to its out fall into the Arabian Sea is 62 km.

The important tributaries of Mandovi River are Sarang, Mahainada, Udel, Lohi, Velvota Bicholim, Mapuce, Nanoda and Khandepar.

GEOGRAPHICAL DESCRIPTION OF THE EAST FLOWING RIVERS BASIN

The basin of East flowing rivers consists of a number of independent river basins of peninsular India lying to the South of Krishna basin, except Cauvery basin. The East flowing rivers are draining into the Bay of Bengal.

The basin of the East flowing rivers (excluding Cauvery) covers large areas in the states of Andhra Pradesh, Tamil Nadu, Puducherry and a small area in the state of Karnataka. There are twelve river basins of which the Pennar, Palar and Ponnaiyar are more important. Other river basins are the Gundlakamma, thePaleru, the Swarnamukhi, the Kalingi, the Varahanadi, the Vellar, the Vaigai, theVaippar and the Tambraparani.

DESCRIPTION OF THE RIVER SYSTEM

THE GUNDLAKAMMA

The Gundlakamma river rises near Kagundam village in Kurnool district at an elevation of 600 m from the Eastern slopes of the Nallamala hills at North latitude 15º 38' and East longitude 78º 47' and flows in a North-East, East and Southern direction for a total length of 220 km to join the Bay of Bengal. The total area drained by this river is 8,494 Sq Km. The Kandleru is its important left bank tributary. Central Water Commission is operating one Hydrological Observation site on this River at Marella.