

2.	Chapter II: Authorities to be Appointed or Constitutes under the Act	3 to 8
3.	Chapter III: Hunting of Wild Animals	9 to 12 (sections 13 to 17 are omitted)
4.	Chapter IIIA: Protection of Specified Plants	17A to 17H
5.	Chapter IV: Protected Areas	18 to 38
6.	Chapter IVA: Central Zoo Authority and Recognition of Zoos	38A to 38J
7.	Chapter IVB: National Tiger Conservation Authority	38K to 38X
8.	Chapter IVC: Tiger and Other Endangered Species Crime Control Bureau	38Y to 38Z
9.	Chapter V: Trade or Commerce in Wild Animals, Animal Articles and Trophies	39 to 49
10.	Chapter VA: Prohibition of Trade or Commerce in Trophies, Animal articles, etc., Derived from Certain Animals	49A to 49C
11.	Chapter VI: Prevention and Detection of Offences	50 to 58
12.	Chapter VIA: Forfeiture of Property derived from Illegal Hunting and Trade	58A to 58Y
13.	Chapter VII: Miscellaneous	59 to 66

For understanding the true nature and scope of the Act, we can classify the Act into two broad categories viz., firstly, to enumerate permissible areas and acts which are detrimental to the wildlife. Secondly, to enlist the constitution and functioning of the various government authorities established under the Act. The Act specifies the following acts and areas which are immediate threats to wildlife such as:

A. Prohibition of Hunting of Wild Animals: Hunting of wild animals is prohibited as per section 9 of the Act. The wild animals are mentioned under Schedule I, II, III and IV of the Act. But there are three situations in which hunting is permitted. First, if the Chief Wild Life Warden is satisfied that any wild animal has become dangerous to human life or is so disabled or diseased as to be beyond recovery and if the warden authorizes then the hunting is justified. Second, if a person kills or wound any wild animal in good faith i.e., to protect oneself or others in defence. The above two situations are mentioned in section 11. Third, if a wild animal is needed for education, scientific research and scientific

management, then the Chief Wild Life Warden will grant the permit in writing stating the reasons for hunting. The third ground of special purpose is mentioned under Section 12.

B. Protection of Specified Plants: The provisions relating to the specified plants were inserted in 1991 through amendment. The specified plants are mentioned in Schedule VI of the Act. Section 17A prohibits any person from willfully picking, uprooting, damaging, destroying, acquiring or collecting any specified plant from any forest land and any area specified by notification by the Central government. It also prohibits the possession, selling, offering for sale, or transferring by way of gift or transporting any specified plant whether alive or dead or part or derivative thereof. But the restrictions imposed in section 17A will be exempted by the Chief Wild Life Warden with the previous permission of the State government if the specified plant is needed for education, scientific research; collection, preservation and display in a herbarium of any scientific institution; or propagation by a person or an institution approved by the central government. These exemptions are mentioned under section 17B. Moreover, for the cultivation and dealing of the specified plants, the permission in writing is granted either by the Chief Wild Life Warden or any other authorized officer of the State Government.

C. Protected Areas: Chapter IV deals with Protected Areas. According to Section 2(24A), Protected Area means a National Park, a Sanctuary, a Conservation reserve or a Community Reserve. At the outset, we will discuss how protected areas are declared. Generally, the powers are vested with the State government. The process begins with the issuance of notification. Notification is the intention of the State government to declare a certain area as a protected area. After issuance of notification, the Collector is appointed to settle issues relating to the rights over the land to be acquired. Collector issues proclamation and conducts the inquiry into the claims. After the completion of the inquiry and the settlement of claims, the government issues a declaration. The declaration is the final order of the government that the area has been declared a protected area. The above procedure applies to all protected areas. After the declaration of the protected area, the Act prohibits certain acts. In a sanctuary, no person is allowed to remove wildlife and forest produce from a sanctuary. It prohibits destruction or damage or diversion of the habitat of the wild animal; and the diversion, stopping or enhancement of the flow of water into or outside the sanctuary. The Act prohibits the use of fire, chemicals, explosives or any other substances in the sanctuary in any manner which endangers any wildlife in the sanctuary. No individual is allowed to enter a sanctuary with any weapon except with the permission of the Chief Wild Life Warden. The above prohibitions to a large extent are also applicable to the National Parks, Conservation Reserve and Community Reserve. In addition, section

35(7) does not permit the grazing of any livestock in a National Park.

Conservation Reserve is “an area adjacent to the National Parks and Sanctuaries and those areas which link one protected area with another”. They are essential to protect landscapes, seascapes, flora and fauna. In the case of Community Reserve, section 36C (1) states that “the community or an individual has volunteered to conserve wildlife and its habitat, declare any private or community land not comprised within a National Park, sanctuary or a conservation reserve, as a community reserve, for protecting fauna, flora and traditional or cultural conservation values and practices.”

- D. The Act includes a provision for the establishment of Zoos. Besides constituting the authorities, Section 38J states that no person shall tease, molest, injure or feed any animal or cause disturbance to the animals by noise or otherwise, or litter the grounds in a zoo.
- E. Section 49B prohibits the commencement or carrying on business as a manufacturer or dealer or taxidermist or dealer in a trophy or uncured trophy or a dealer in any captive animals or a dealer in meat relating to Scheduled Animal except with the permitted license.

After we identified the protected areas and prohibited acts, we shall discuss the various authorities established under the Act. Every authority has a distinct task to undertake, its establishment and powers are laid down under the Act.

Table 10.2 Authorities to be appointed under the Wild Life (Protection) Act, 1972

S.No.	Subject Area	Authorities	Sections
1	Key administrative Authorities under the Act	a. Director of Wild Life Preservation appointed by the Central Government.	Section 3
		b. Chief Wild Life Wardens; Wild Life Wardens and honorary Wild Life Wardens appointed by the State Government	Section 4
2	Boards for Wild Life	As per the Wild Life (Protection) Amendment Act 2002, the Central Government Constituted the National Board for Wild Life.	Section 5A
		The State Government constituted the State Board for Wild Life.	Section 6
3	On the administration of Zoos in India	The Wild Life Amendment Act 1991 empowered the Central Government to establish the Central Zoo Authority	Section 38A

4	For the conservation of Tigers	The Central Government under the Wild Life Amendment Act 2006 established the National Tiger Conservation Authority.	Section 38L
		The State Government established Steering Committee and the Tiger Conservation Foundation.	Section 38U and Section 38X
		It has established Endangered Species Crime Control Bureau also known as the Wildlife Crime Control Bureau	Section 38Y
5	Adjudicatory Authority	The State Government shall establish the Appellate Tribunal	Section 58N

I. Key Administrative Authorities and their Functions

Under the Act, the Chief Wild Life Warden enjoys extensive powers. Some of these powers and functions are catalogued below:

1. Permits the hunting of wild animals if the animal has become detrimental to public safety (section 11).
2. Authority to grant permits for hunting and use of specified plants for special purposes such as scientific research purposes (section 12, section 17B).
3. Issues license for the planting of specified plants (section 17C).
4. The collector should consult Chief Wild Life Warden in determining the claims of the landholder on lands within the limits of the sanctuary (section 24).
5. Impose restrictions on the entry of any person in the sanctuary (section 27).
6. Authority to manage and maintain all sanctuaries (section 33).
7. Power to enter any property, search, arrest and detention of any person in relation to the offences committed under this Act (section 50).
8. Offers reward to the person who assists in the detection of the offence (section 60B).

II. Wild Life Boards, its Constitution, Powers and Functions

At the Centre and the State, the National Board for Wild Life and State Board for Wild Life are constituted. To further assist the National Board, the Act establishes Standing Committee.

National Board

Members

(a) the Prime Minister as Chairperson; (b) the Minister in-charge of Forests and Wild Life as Vice-Chairperson; (c) three members of Parliament of whom two shall be from the House of the People and one from the Council of States; (d) Member, Planning Commission in-charge of Forests and Wild Life; (e) five persons to represent non-governmental organizations to be nominated by the Central Government; (f) ten persons to be nominated by the Central Government from amongst eminent conservationists, ecologists and environmentalists; (g) the Secretary to the Government of India in-charge of the Ministry or Department of the Central Government dealing with Forests and Wild Life; (h) the Chief of the Army Staff; (i) the Secretary to the Government of India in-charge of the Ministry of Defence; (j) the Secretary to the Government of India in-charge of the Ministry of Information and Broadcasting; (k) the Secretary to the Government of India in-charge of the Department of Expenditure, Ministry of Finance; (l) the Secretary to the Government of India, Ministry of Tribal Welfare; (m) the Director-General of Forests in the Ministry or Department of the Central Government dealing with Forests and Wild Life; (n) the Director-General of Tourism, Government of India; (o) the Director-General, Indian Council for Forestry Research and Education, Dehradun; (p) the Director, Wild Life Institute of India, Dehradun; (q) the Director, Zoological Survey of India; (r) the Director, Botanical Survey of India; (s) the Director, Indian Veterinary Research Institute; (t) the Member-Secretary, Central Zoo Authority; (u) the Director, National Institute of Oceanography; (v) one representative each from ten States and Union territories by rotation, to be nominated by the Central Government; (w) the Director of Wild Life Preservation who shall be the Member-Secretary of the National Board.

Functions

The National Board performs the following functions - (a) frame policies and advises the Central Government and the State Governments on the ways and means of promoting wildlife conservation and effectively controlling poaching and illegal trade of wildlife and its products; (b) recommends setting up of and management of national parks, sanctuaries and other protected areas and on matters relating to the restriction of activities in those areas; (c) conduct impact assessment of various projects and activities on wildlife or its habitat; (d) undertakes periodical reviews on the progress of wildlife conservation in the country and suggesting measures for improvement thereto; and (e) publishes a status report at least once in two years on wildlife in the country.

State Boards

Members

(a) the Chief Minister of the State and in case of the Union territory, either

Chief Minister or Administrator, as the case may be - Chairperson; (b) the Minister in-charge of Forests and Wild Life - Vice-Chairperson; (c) three members of the State Legislature or in the case of a Union territory with Legislature, two members of the Legislative Assembly of that Union territory; (d) three persons to represent non-governmental organizations dealing with wildlife to be nominated by the State Government; (e) ten persons to be nominated by the State Government from amongst eminent conservationists, ecologists and environmentalists including at least two representatives of the Scheduled Tribes; (f) the Secretary to the State Government or the Government of the Union territory, as the case may be, in-charge of Forests and Wild Life; (g) the Officer in-charge of the State Forest Department; (h) the Secretary to the State Government, Department of Tribal Welfare; (i) the Managing Director, State Tourism Development Corporation; (j) an officer of the State Police Department not below the rank of Inspector-General; (k) a representative of the Armed Forces not below the rank of a Brigadier to be nominated by the Central Government; (l) the Director, Department of Animal Husbandry of the State; (m) the Director, Department of Fisheries of the State; (n) an officer to be nominated by the Director, Wild Life Preservation; (o) a representative of the Wildlife Institute of India, Dehradun; (p) a representative of the Botanical Survey of India; (q) a representative of the Zoological Survey of India; (r) the Chief Wild Life Warden, who shall be the Member-Secretary.

Functions

The State Boards advise the State Government in relation to the — (a) in the selection and management of areas to be declared as protected areas; (b) in the formulation of the policy for the protection and conservation of the wildlife and specified plants; (c) measures to be taken for harmonizing the needs of the tribals and other dwellers of the forest with the protection and conservation of wildlife, and (d) in any other matter connected with the protection of wildlife, which may be referred to it by the State Government.

III Central Zoo Authority

(1) The Central Government establishes the Central Zoo Authority to exercise the powers conferred on, and to perform the functions assigned to it under this Act. (2) The Authority consist of— (a) Chairperson; (b) a such number of members not exceeding ten; and (c) Member-Secretary, to be appointed by the Central Government.

Functions

The Central Zoo Authority perform following functions, namely:— (a) specify the minimum standards for housing, upkeep and veterinary care of the animals kept in a zoo; (b) evaluate and assess the functioning of zoos with respect to the standards or the norms as may be prescribed; (c) recognize or derecognize zoos; (d) identify endangered species of wild animals for purposes of captive breeding and assigning responsibility in this regard to a

zoo; (e) co-ordinate the acquisition, exchange and loaning of animals for breeding purposes; (f) ensure maintenance of studbooks of endangered species of wild animals bred in captivity; (g) identify priorities and themes with regard to display of captive animals in a zoo; (h) coordinate training of zoo personnel in India and outside India; (i) coordinate research in captive breeding and educational programmes for the purposes of zoos; (j) provide technical and other assistance to zoos for their proper management and development on scientific lines; (k) perform such other functions as may be necessary to carry out the purposes of this Act with regard to zoos.

IV National Tiger Conservation Authority

The Central Government establishes the National Tiger Conservation Authority under this Act. The Authority consists the following members, namely:— (a) the Minister in charge of the Ministry of Environment and Forests—Chairperson; (b) the Minister of State in the Ministry of Environment and Forests—Vice-Chairperson; (c) three members of Parliament of whom two shall be elected by the House of the People and one by the Council of States; (d) eight experts or professionals having prescribed qualifications and experience in conservation of wildlife and welfare of people living in tiger reserve out of which at least two shall be from the field of tribal development; (e) Secretary, Ministry of Environment and Forests; (f) Director General of Forests and Special Secretary, Ministry of Environment and Forests; (g) Director, Wild Life Preservation, Ministry of Environment and Forests; (h) six Chief Wild Life Wardens from the tiger reserve States in rotation for three years; (i) an officer not below the rank of Joint Secretary and Legislative Counsel from the Ministry of Law and Justice; (j) Secretary, Ministry of Tribal Affairs; (k) Secretary, Ministry of Social Justice and Empowerment; (l) Chairperson, National Commission for the Scheduled Tribes; (m) Chairperson, National Commission for the Scheduled Castes; (n) Secretary, Ministry of Panchayati Raj; (o) Inspector-General of Forests or an officer of the equivalent rank having at least ten years' experience in a tiger reserve or wildlife management, who shall be the Member-Secretary, to be notified by the Central Government, in the Official Gazette.

Powers and Functions

The Tiger Conservation Authority performs following functions: (a) approves the Tiger Conservation Plan prepared by the State Government; (b) evaluates and assess various aspects of sustainable ecology and disallow any ecologically unsustainable land use such as mining, industry and other projects within the tiger reserves; (c) lay down normative standards for tourism activities and guidelines for project tiger from time to time for tiger conservation in the buffer and core area of tiger reserves and ensure their due compliance; (d) provide for management focus and measures for addressing conflicts of men and wild animals and to emphasize on co-existence in forest areas outside the National Parks, sanctuaries or tiger reserve, in the working plan code; (e) provide information on protection measures including future

conservation plan, estimation of population of tiger and its natural prey species, status of habitats, disease surveillance, mortality survey, patrolling, reports on untoward happenings and such other management aspects as it may deem fit including future plan conservation; (f) approve, coordinate research and monitoring on tiger, co-predators, prey, habitat, related ecological and socio-economic parameters and their evaluation; (g) ensure that the tiger reserves and areas linking one protected area or tiger reserve with another protected area or tiger reserve are not diverted for ecologically unsustainable uses, except in public interest and with the approval of the National Board for Wild Life and on the advice of the Tiger Conservation Authority; (h) facilitate and support the tiger reserve management in the State for biodiversity conservation initiatives through eco-development and people's participation as per approved management plans and to support similar initiatives in adjoining areas consistent with the Central and State laws; (i) ensure critical support including scientific, information technology and legal support for better implementation of the tiger conservation plan; (j) facilitate ongoing capacity building programme for skill development of officers and staff of tiger reserves; and (k) perform such other functions as may be necessary to carry out the purposes of this Act with regard to conservation of tigers and their habitat.

Steering Committee

The State Government establishes a Steering Committee to ensure co-ordination, monitoring, protection and conservation of tigers, co-predators and prey animals within the tiger range States.

The Steering Committee shall consist of— (a) the Chief Minister — Chairperson; (b) the Minister-in-charge of Wild Life — Vice-Chairperson; (c) a such number of official members not exceeding five including at least two Field Directors of tiger reserve or Director of National Park and one from the State Government's Departments dealing with tribal affairs; (d) three experts or professionals having qualifications and experience in conservation of wildlife of which at least one shall be from the field of tribal development, (e) two members from the State's Tribal Advisory Council; (f) one representative each from State Government's Departments dealing with Panchayati Raj and Social Justice and Empowerment; (g) Chief Wild Life Warden of the State shall be the Member-Secretary, ex officio, to be notified by the State Government, in the Official Gazette.

V. Wildlife Crime Control Bureau

Composition

(a) the Director of Wildlife Preservation—Director ex officio;(b) the Inspector-General of Police—Additional Director; (c) the Deputy Inspector-General of Police—Joint Director; (d) the Deputy Inspector-General of Forests—Joint Director; (e) the Additional Commissioner (Customs and Central Excise)—Joint Director; and (f) such other officers as may be

appointed.

Functions

The Wildlife Crime Control Bureau performs the following tasks— (i) collect and collate intelligence related to wildlife crime activities and share it with the State and other enforcement agencies for immediate action; (ii) coordinate actions by various officers, State Governments and other authorities in connection with the enforcement of the provisions of this Act; (iii) implementation of various international Conventions and protocols on wildlife crime control; (iv) coordinate with the foreign countries on wildlife crime control; (v) develop infrastructure and capacity building for a scientific and professional investigation into wildlife crimes and assist State Governments to ensure success in prosecutions related to wildlife crimes; (vi) advice the Government of India on issues relating to wildlife crimes having national and international ramifications, and suggest changes required in relevant policy and laws from time to time.

Penalties Under the Act

Section 51 of the Act states that any person who violates any of the provisions under this Act and it may include breach of any of the conditions of any licence or permit granted under this Act, then such person shall be punished with imprisonment for a term which may extend to three years, or with fine which may extend to twenty-five thousand rupees or with both.

Provided that where the offence committed is in relation to any animal specified in Schedule I or Part II of Schedule II or meat of any such animal or animal article, trophy or uncured trophy derived from such animal or where the offence relates to hunting in a sanctuary or a National Park or altering the boundaries of a sanctuary or a National Park, such offence shall be punishable with imprisonment for a term which shall not be less than three years but may extend to seven years and also with fine which shall not be less than ten thousand rupees. If the offence is repeated then the term of the imprisonment shall not be less than three years but may extend to seven years and also with a fine which shall not be less than twenty-five thousand rupees.

Any person who contravenes any provisions of Chapter VA shall be punishable with imprisonment for a term which shall not be less than three years but which may extend to seven years and also with a fine which shall not be less than ten thousand rupees.

The power to take cognizance of an offence under this Act as per Section 55 lies with the Director of Wild Life Preservation or any other officer authorized on this behalf by the Central Government; or the Member-Secretary, Central Zoo Authority; Member-Secretary, Tiger Conservation Authority or Director of the concerned tiger reserve or the Chief Wild Life Warden, or any other officer authorized in this behalf by the State Government.

10.5 THE WILDLIFE (PROTECTION) RULES, 1995

The Wildlife (Protection) Rules 1995 merely contains three provisions. It provides how the notice should be issued under section 55 (c). Section 55 deals with the cognizance of an offence under the Act. So, Clause C mentions that "(c) any person who has given notice of not less than sixty days, in the manner prescribed, of the alleged offence and of his intention to make a complaint, to the Central Government or the State". The manner in which the notice is to be issued is laid down in the 1995 rules. The complainant has to fill out the form laid down under the rules to satisfy the requirement of section 55(c).

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the unit.

1. What are the objectives of the Nilgiris Game and Fish Preservation Act, 1879?

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2. Write a short note on wildlife conservation.

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3. Explain the features of the Wild Life (Protection) Act, 1972.

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4. Write a short note on the Wildlife (Protection) Rules, 1995.

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10.6 LET US SUM UP

Wildlife has a wider scope as it encompasses wild animal, their habitat, and plants among others. Hence any laws on the protection and conservation of wildlife have to consider all factors to generate effective outcomes. Colonial lawmakers took some serious steps only at the end of their rule as they introduced some special laws for the protection of elephants and tigers. Until then their actions had severely impacted the wildlife. The post-colonial Wild Life (Protection) Act 1972 addressed some key problems like hunting wild animals. But it had to amend later to extend protection to the tigers and specified plants. Special protection zones such as Zoos and Parks also found substantial relevance in it. Moreover, the Act has established special administrative authorities such as Central Zoo Conservation Authority, National and State Wildlife Boards etc., to effectively implement the wildlife law and overcome policy inertia.

10.7 KEY WORDS

Protected Area: Protected area includes National Park, Sanctuary, Conservation Reserve or Community Reserve.

10.8 SUGGESTED FURTHER READING/REFERENCES

Mandala, V. (2015). The Raj and the Paradoxes of Wildlife Conservation: British Attitudes and Expediencies. *The Historical Journal*, Cambridge University Press, Vol. 58(1): 75-110. doi:10.1017/S0018246X14000259

Mehra, S. (2011). *Study and Practice of Wildlife Laws in India: Concepts, Acts, Rules and Notifications*. Natraj Publishers.

Nelivigi, N. (1995). Biodiversity, Wildlife and Protected Area Management in India: A people-centred Approach. *Journal of the Indian Law Institute*, Vol. 37(2): 145-181.

Niraj, S.K., Krausman, P. R. and Dayal, V. (2012). A Stakeholder Perspective into Wildlife Policy in India. *The Journal of Wildlife Management*, Vol. 76(1):10-18.

10.9 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. The objective of the Nilgiris Game and Fish Preservation Act, 1879 was to provide for the protection of Game and acclimatized fish in the district of the Nilgiris.
2. Please refer to section 10.3
3. Please refer to section 10.4
4. Please refer to section 10.5



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UNIT 11 BIODIVERSITY

Structure

- 11.1 Introduction
- 11.2 Objectives
- 11.3 The Biological Diversity Act, 2002
- 11.4 National Biodiversity Authority (NBA)
- 11.5 State Biodiversity Boards (SBBs)
- 11.6 Biodiversity Management Committees (BMCs)
- 11.7 Biodiversity Heritage Sites (BHS)
- 11.8 Let Us Sum Up
- 11.9 Key Words
- 11.10 Suggested Further Reading/References
- 11.11 Answers to Check Your Progress

11.1 INTRODUCTION

The Biological Diversity Act, 2002 is an Act enacted by the Parliament of India for the preservation of biological diversity in India and provides a mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. This act was an attempt to meet the objectives carved in the United Nations Convention on Biological Diversity (CBD) 1992. CBD has three main objectives: the conservation of biodiversity; the sustainable use of its components; and the fair and equitable sharing of benefits arising from genetic resources. It has two supplementary agreements, the Cartagena Protocol and Nagoya Protocol. Before going deeper into “The Biological Diversity Act, 2002”, let us quickly recap the definition of biodiversity! CBD defined biodiversity as **“the variability among living biota from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”**. This unit will give you an overview of the Biological Diversity Act, 2002. We will be discussing the functions of the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs).

11.2 OBJECTIVES

After studying this unit, you should be able to:

- explain the features of the Biological Diversity Act, 2002;
- explain the functions of the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management

Committees (BMCs); and

- describe the Biodiversity Heritage Sites (BHS).

11.3 THE BIOLOGICAL DIVERSITY ACT, 2002

The biological diversity act, 2002 has a total of 12 chapters (Table 11.1). The act envisaged a three-tier structure to regulate the access to biological resources at the national level, at the state level and district level through The National Biodiversity Authority (NBA), The State Biodiversity Boards (SBBs) and The Biodiversity Management Committees (BMCs) respectively.

Table 11.1 The chapters in the Biological Diversity Act, 2002

Chapter	Content
I	1. Short title, extent and commencement and 2. Definitions.
II	Regulations of Access to Biological Diversity
III	National Biodiversity Authority
IV	Functions and Powers of the National Biodiversity Authority
V	Approval by the National Biodiversity Authority
VI	State Biodiversity Board
VII	Finance, Accounts and Audit of National Biodiversity Authority
VIII	Finance, Accounts and Audit of State Biodiversity Board
IX	Duties of the Central and the State Governments
X	Biodiversity Management Committee
XI	Local Biodiversity Fund
XII	Miscellaneous

Let's know about the National Biodiversity Authority (NBA)!

11.4 NATIONAL BIODIVERSITY AUTHORITY

The National Biodiversity Authority (NBA) was established in 2003 and is a statutory body that performs facilitative, regulatory and advisory functions for the Government of India on the issue of conservation and sustainable use of biological resources. The head office of the NBA is in Chennai, Tamil Nadu, India.

Structure of NBA

The National Biodiversity Authority (NBA) consists of the following members who are appointed by the Central Government:

a. The Chairperson

The Chairperson shall be an eminent person having adequate knowledge and experience in the conservation and sustainable use of biological diversity and in matters relating to equitable sharing of benefits, to be appointed by the Central Government.

Term of Office of the Chairperson

1. The Chairperson of the Authority shall hold the office for a term of three years and shall be eligible for re-appointment,
 2. Provided that no Chairperson shall hold office as such after he attains the age of sixty-five years or his term of office expires which is earlier.
 3. The Chairperson may resign from his office by giving at least one month's notice in writing to the Central Government.
- b. Three ex officio members, one representing the Ministry dealing with Tribal Affairs and two representing the Ministry dealing with Environment, Forests, and Climate Change.
- c. Seven ex-officio members to represent respectively the Ministries of the Central Government dealing with:
- i) Agricultural Research and Education
 - ii) Biotechnology
 - iii) Ocean Development
 - iv) Agriculture and Cooperation
 - v) Indian Systems of Medicine and Homoeopathy
 - vi) Science and Technology
 - vii) Scientific and Industrial Research
- d. Five non-official members to be appointed from amongst specialists and scientists having special knowledge and experience in the areas relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, representatives of industry, conservers, creators and knowledge-holders of biological resources.

Functions of the NBA

- To promote conservation and sustainable use of biodiversity.
- Advising the central government, regulating activities and issuing guidelines for access to biological resources and fair and equitable benefit sharing as per Biological Diversity Act, 2002.
- To oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge

associated with such biological resources derived from India.

- Advising the State Governments in the selection of areas of biodiversity importance to be notified as heritage sites and their management.

Approval from the National Biodiversity Authority (NBA)

Approval from the National Biodiversity Authority (NBA) is required for the following:

- To obtain any biological resource occurring in India or knowledge associated with the biological resource for research or commercial utilisation.
- To transfer the results of any research relating to any biological resources from India.
- To claim intellectual property rights on any invention based on the research made on the biological resources obtained from India.
- Under the Biological Diversity Act, 2002, the Central Government in consultation with the NBA:
- Shall notify threatened species and prohibit or regulate their collection, rehabilitation and conservation.
- All offences under this act are cognizable and non-bailable.

Any grievances relating to the determination of benefit sharing or order of the National Biodiversity Authority or a State Biodiversity Board under this Act shall be taken to the National Green Tribunal (NGT). NGT is a specialised body set up under the National Green Tribunal Act (2010) for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.

Exemptions from the Act

- The Act excludes Indian biological resources that are normally traded as commodities.
- The act also excludes traditional uses of Indian biological resources and associated knowledge and when they are used in collaborative research projects between Indian and foreign institutions with the approval of the central government.
- Growers and cultivators of biodiversity, and vaidas and hakims, who have been practising indigenous medicine are exempted.

11.5 STATE BIODIVERSITY BOARDS (SBBS)

The SBBs are established by the State Governments in accordance with Section 22 of the Biological Diversity Act, 2002.

Structure of SBBs

The State Biodiversity Board consists of the following members:

- A Chairperson;
- Not more than five ex officio members to represent the concerned Departments of the State Government; and
- Not more than five members from amongst experts in matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources.

All the members of the SBB are appointed by the respective State Governments.

Functions of SBBs

1. To advise the State Government, subject to any guidelines issued by the Central Government, on matters relating to the conservation, sustainable use or sharing of equitable benefits.
2. To grant approvals or otherwise requests for commercial utilisation or bio-survey and bio-utilisation of any biological resource by people.

11.6 BIODIVERSITY MANAGEMENT COMMITTEES (BMCs)

According to Section 41 of the Biological Diversity Act, 2002, every local body shall constitute the BMC within its area to promote conservation, sustainable use and documentation of biological diversity including:

- Preservation of habitats
- Conservation of Landraces
- Folk varieties and cultivars
- Domesticated stocks and breeds of animals
- Microorganisms and chronicling of knowledge relating to biological diversity

“The National Biodiversity Authority and the State Biodiversity Boards shall consult the Biodiversity Management Committees while taking any decision relating to the use of biological resources and knowledge associated with such resources occurring within the territorial jurisdiction of the Biodiversity Management Committee. The Biodiversity Management Committees may levy charges by way of collection fees from any person for accessing or collecting any biological resource for commercial purposes from areas falling within its territorial jurisdiction” (<https://www.indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf>).

Structure of BMCs

- It shall consist of a chairperson and not more than six persons nominated by the local body.
- Out of the total members of a BMC, not less than one-third should be women and not less than 18% should belong to the Scheduled Castes/ Scheduled Tribes.
- The Chairperson of the Biodiversity Management Committee shall be elected from amongst the members of the committee in a meeting to be chaired by the Chairperson of the local body.
- The chairperson of the local body shall have the casting votes in case of a tie.

Functions of BMCs

- The main function of the BMC is to prepare the People's Biodiversity Register in consultation with the local people.
- The register shall contain comprehensive information on the availability and knowledge of local biological resources, their medicinal or any other use or any other.

11.7 BIODIVERSITY HERITAGE SITES (BHS)

According to Section 37 of the Biological Diversity Act, 2002, the State Government in consultation with local bodies may notify the areas of biodiversity importance as Biodiversity Heritage Sites. “The State Government, in consultation with the Central Government, may frame rules for the management and conservation of all the heritage sites. The State Government shall frame schemes for compensating or rehabilitating any person or section of people economically affected by such notification” (<https://www.indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf>).

The Biodiversity Heritage Sites are the well-defined areas that are unique, ecologically fragile ecosystems - terrestrial, coastal and inland waters and marine having rich biodiversity comprising of any one or more of the following components:

- the richness of wild as well as domesticated species or intra-specific categories
- high endemism
- presence of rare and threatened species
- keystone species
- species of evolutionary significance
- wild ancestors of domestic/cultivated species or their varieties
- past pre-eminence of biological components represented by fossil beds and having significant cultural, ethical or aesthetic values

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the unit.

1. What are the functions of the National Biodiversity Authority?

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2. Write a short note on State Biodiversity Authority.

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3. Write a short note on the "Biodiversity Management Committee".

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4. Write a short note on Biodiversity Heritage Sites.

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11.8 LET US SUM UP

India is a nation rich in biodiversity and has a history of enriched knowledge of its forms and biodiversity use in traditional medicine etc. Way back on 5th June 1992, India became a party to the United Nations Convention on Biological Diversity signed in Rio de Janeiro, 1992 and the said Convention came into force on the 29th December 1993. The Convention has the main

objective of conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

In this unit, we have discussed the salient features of the Biological Diversity Act, 2002. The Biological Diversity Act, 2002 is an Act enacted by the Parliament of India for the preservation of biological diversity in India and provides a mechanism for equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. This act was an attempt to meet the objectives carved in the United Nations Convention on Biological Diversity (CBD) 1992. We have also discussed the functions of the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs).

11.9 KEY WORDS

Agrobiodiversity: "Agrobiodiversity" means the biological diversity of agriculture-related species and their wild relatives.

Biological Diversity: "Biological diversity" means the variability among living organisms from all sources and the ecological complexes of which they are part and includes diversity within species or between species and of ecosystems.

Biological Resources: Biological Resources can be defined as plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but do not include human genetic material.

Commercial Utilisation of Biodiversity: "Commercial utilisation of biodiversity" means end uses of biological resources for commercial utilisation such as drugs, industrial enzymes, food flavours, fragrance, cosmetics, emulsifiers, oleoresins, colours, extracts and genes used for improving crops and livestock through genetic intervention, but does not include conventional breeding or traditional practices in use in any agriculture, horticulture, poultry, dairy farming, animal husbandry or beekeeping.

Sustainable Use of Biodiversity: "Sustainable use of biodiversity" means the use of components of biological diversity in such manner and at such a rate that does not lead to the long-term decline of the biological diversity thereby maintaining its potential to meet the needs and aspirations of present and future generations.

11.10 SUGGESTED FURTHER READING/REFERENCES

Web Links

<http://nbaindia.org/link/304/1/1/home.html>

<https://legislative.gov.in/sites/default/files/A2003-18.pdf>

<https://www.indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf>

<http://nbaindia.org/content/106/29/1/bhs.html>

http://www.wiienvi.nic.in/Database/bhs_8650.aspx

11.11 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. Please refer to section 11.4
2. Please refer to section 11.5
3. Please refer to section 11.6
4. Please refer to section 11.7



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UNIT 12 CONSERVATION OF WATER BODIES

Structure

- 12.1 Introduction
- 12.2 Objectives
- 12.3 National River Conservation Plan
- 12.4 Ganga Action Plan Phase-I (GAP-I)
- 12.5 Ganga Action Plan Phase-II (GAP-II)
- 12.6 National Mission for Clean Ganga
- 12.7 Ganga Knowledge Centre
- 12.8 National Lake Conservation Plan
- 12.9 The Wetland (Conservation and Management) Rules, 2010
- 12.10 National Wetland Conservation Programme
- 12.11 Coastal Zone Regulation
- 12.12 Let Us Sum Up
- 12.13 Key Words
- 12.14 Suggested Further Reading/References
- 12.15 Answers to Check Your Progress

12.1 INTRODUCTION

Most of the Indian rivers, such as the Ganga, Yamuna, Godavari, Krishna, Sone, Cauvery, Damodar and Brahmaputra and their tributaries are extremely contaminated because of the release of untreated sewage and industrial effluents into these rivers. For instance, the Ganga alone gets sewage from 29 (class I) urban communities situated on its banks and industrial effluent of more than 300 industrial units all through its entire journey of about 2,525 km. Similarly, the river Yamuna has additionally been undermined by contamination in Delhi and the Ghaziabad zone. Around 5,15,000 kiloliters of untreated sewage are released into the river Yamuna daily. Apart from this, there are around 1,500 medium and small industrial units which additionally contribute enormous measures of untreated wastewater to the river Yamuna every day.

Similarly, numerous different rivers were studied in the past decades concerning their pollution status and most of them were found polluted. Since, the 1980s, the Government of India made up several genuine efforts for checking water contamination of the river Ganga and other significant rivers of India. The significant action is the Ganga Action Plan. Conservation of water bodies is a continuous and ongoing process. Presently, several

programmes are running in the country for the conservation of water bodies. In this unit, we will be discussing the National River Conservation Plan and the features of the Ganga Action Plan Phase-I and Phase-II. This unit will also provide an overview of the National Mission for Clean Ganga. Further, we will be discussing the features of the Wetland (Conservation and Management) Rules, 2010 and the National Wetland Conservation Programme.

12.2 OBJECTIVES

After studying this unit, you should be able to:

- describe the National River Conservation plan of India;
- explain the Ganga Action Plan Phase-I and Phase-II;
- explain the features of the National Mission for Clean Ganga;
- explain the features of the Wetland (Conservation and Management) Rules, 2010;
- describe the National Wetland Conservation Programme; and
- explain the Coastal Zone Regulation.

12.3 NATIONAL RIVER CONSERVATION PLAN

In 1985, the Government of India started its river pollution control program with the start of the Ganga Action Plan (GAP). After that, the GAP Phase II started in 1993 to control pollution of the river Yamuna and Gomati and major tributaries of the river Ganga. The river pollution mitigation program was further expanded to include other major rivers of the country in 1995 under the aegis of the National River Conservation Plan (NRCP). In December 1996, GAP Phase II was also merged with the NRCP and all projects related to river conservation in the country were brought under one plan of NRCP.

Objectives of NRCP

The main goal of the plan was to reduce the pollution load in Indian rivers through the use of different pollution control measures, resulting in improvement in river water quality. NRCP was a central government-funded plan launched in 1995, the main goal of the plan was to mitigate the pollution of rivers. The main purposes of the plan include the construction of STPs, river development, low-cost sanitation, and afforestation.

NRCP covers 38 rivers in 178 cities from more than 20 states. The sewage treatment capability of almost 4064 million litres per day (MLD) has been set up. River activities for sewage disposal and management were also introduced into other plans like the Jawaharlal Nehru National city-based renewal & development plan for small and medium towns. Conservation of rivers comprises whole approaches of the central and state governments.

The central government helped in all the efforts of the state governments to overcome river pollution. Based on the supervising system followed by institutions on some of the main rivers under NRCP, the water pollution in terms of BOD (Biochemical Oxygen Demand) values has improved at most of the locations as compared to water quality before implementing the pollution control measures. The central government, in February 2009, set up the National Ganga River Basin Authority (NGRBA) which has the powers to initiate financial planning, supervising and coordinating authority to make sure of effective pollution control measures for the river Ganga. Discharge of untreated wastewater contributes to the pollution load for the rivers. Drawing water for agricultural practices, industrial use, drinking purpose, power plants for electricity generation and other uses additionally gives the challenge to keep the adequate flow rate in the rivers and cleansing them. Diversion of sewage and installation of sewage treatment plants (STP) is the foremost aim of pollution control under the plan (NRCP). The concept of NRCP is to enhance the water quality of Indian rivers by strict implementation of pollution control measures because rivers are the lifelines of any country. Conservation of rivers is a continuous and ongoing process. Later in June 2015, an Integrated Ganga Conservation Mission, namely "Namami Gange" has been approved as a 'Flagship Programme' set up to accomplish effective abatement of pollution, conservation and rejuvenation of the river.

The pollution mitigation measures taken up under the NRCP scheme are:

- a) Interception and diversion of sewerage systems to collect sewage water flowing into the rivers through drains and diverting them for treatment.
- b) Installation of sewage treatment plants for treating the diverted sewage.
- c) Building of public toilets to control open defecation on river banks.
- d) Building of electric crematoria and improving wood crematoria.
- e) Riverfront development practices, i.e., development of river ghats.
- f) Public awareness and participation.

State governments and local bodies are responsible for the proper treatment and disposal of sewage. Central government supporting the efforts of state governments through the NRCP plan of MoEF&CC, NGRBA/Namami Gange plan of MoWR, RD&GR and AMRUT/Smart cities plans of MoUD.

12.4 GANGA ACTION PLAN PHASE –I (GAP-I)

The river Ganga is worshipped by millions of Indians, because of its purity and spiritual values, but now it is one of the most polluted rivers in India. It is so polluted that in some parts of the river, the water doesn't fit even for bathing purposes, especially in the summertime. It starts from the Gangotri glacier, around 4100 meters above ocean level. The river flows through the Himalayas and combines with other streams at Devprayag. The Ganga basin is the dominant river basin of the country covering approximately 40% population of India. The Ganga after travelling a distance of around 2,525 km

from its origin, then falls into the Bay of Bengal. During its journey from the hills to the Bay of Bengal, a large amount of sewage from sewage treatment plants and effluent treatment plants and wastes from many other sources are discharged into the river increasing pollution. This scenario is unacceptable because it is a common practice for the Indians to take a bath in the 'holy' water of the Ganga. Similarly, a large number of people live along the river that uses the river water for drinking and other living purposes. The livelihoods of many humans like fishermen, boatmen and monks are also linked to the water quality of the river Ganga.

Objectives of Ganga Action Plan Phase - I (GAP-I)

The main goal of the GAP was to improve the water quality of the river Ganga up to acceptable standards by preventing pollution, but later, the goal of the GAP was changed to restoring the river water quality to the “Bathing class”.

Table 12.1 Towns covered in the Ganga Action Plan Phase-I

State	Town
Uttar Pradesh	Mirzapur, Haridwar, Faridabad, Fatehgarh, Allahabad, Kanpur and Varanasi
Bihar	Chapra, Bhagalpur, Munger and Patna.
West Bengal	Naihati, Kamarhati, Bharampore, Nabadwip, Hugli Chinsura, Serampore, Chandan Nagar, Bally, Kalyani, Bhatpara, Titagarh, Howrah, Faridkot, Calcutta and Baranagar.

Box 12.1 Ganga and GAP in Kanpur

Kanpur became the key participant of GAP because of its huge pollution levels. Nearly, Rs.730 million had been invested for GAP phase I in Kanpur city for mitigation of pollution load. The overall sewage generated in Kanpur at the time of the starting of the GAP was around 285 MLD out of which 162 MLD of sewage were diverted to sewage treatment plants for treatment under phase I.

The objective of treatment plants was to mitigate the 162 MLD of home/domestic sewage and 9 MLD of tannery effluent generated from one hundred seventy-five (175) tanneries and transport the treated wastewater to the villages for irrigation purposes. Four intermediate pumping stations had been constructed alongside the Ganga, and all wastewater drains had been interrupted and diverted to the pumping stations. The pumping stations were to transfer the wastewater into a common waste pipe leading to the main pumping station, which filters out solid waste and then pumps the remaining wastewater into three sewage treatment plants. Two of these sewage treatment plants (5 MLD & 130 MLD) treated domestic wastewater, using

sedimentation after aerobic treatment and anaerobic stabilization. Another plant, with a capability of 36 MLD integrated with the Dutch technology (known as UASB) was also constructed. This plant used anaerobic microorganisms to decompose the waste substances and needed a few amounts of post-treatment. This plant was supposed to treat the tannery effluent, with the idea that the chromium and different heavy metals from this effluent should be recovered and recycled at the manufacturing unit. Various initiatives had been undertaken perfectly, including cleaning of sewers, enlargement of the sewer system, installation of electric crematoria, and the setup of low-price sanitation systems.

12.5 GANGA ACTION PLAN PHASE –II (GAP-II)

The GAP I was continued as GAP II from 1993. GAP II includes four main tributaries of the Ganga, which are Yamuna, Gomati, Damodar and Mahanadi. As GAP I addressed only a part of the pollution load of Ganga, GAP II was launched in stages between 1993 and 1996. Under GAP-II, 59 towns along the main stem of the river Ganga in five States of Uttarakhand, U.P., Jharkhand, Bihar and West Bengal are covered. In GAP-II, Yamuna and Gomati action plans have been approved in April 1993. Plans for the other rivers were also permitted in 1995 under NRCP; in December 1996, it was decided to combine GAP II and NRCP.

The program has become vast in 1995 with the addition of other rivers and the GAP was renamed NRCP. The remarkable achievements of GAP were the use of appropriate technologies for sewage treatment such as Upflow Anaerobic Sludge Blanket (UASB), sewage treatment with the help of plants, upgraded oxidation ponds, aquaculture with the usage of duckweeds and pisciculture etc. The technologies were cost-effective in terms of operation & maintenance. The cost-effectiveness of these technologies helped to make GAP and plans sustainable.

Monitoring System for GAP

The action plans are monitored at both the State as well as Central government levels through a multi-level monitoring system.

State Level

- i) Detailed monitoring by a group of technically sound people on daily basis.
- ii) Monthly review of the progress by the Chief Executive of the nodal association.
- iii) Local people are included in the monitoring committee to audit the advancement and give contributions to public participation and association.
- iv) A regular survey by the divisional project monitoring cells.

- v) A timely study of advancement of the plan by a state guiding council driven by the concerned Chief Secretaries.
- vi) Overall consistent audit by a high-powered committee under the chairmanship of the chief minister.

Central Level

- i) Regular communication and audit by NRCD authority, including regular site visits. Regular review by the NRCD project director.
- ii) The quarterly survey of advancement by a steering committee headed by the Secretary of the ministry. Chief Secretaries of the concerned states and experts in public health engineering and other related areas are the members of this committee.
- iii) Quarterly review of the progress of scientific and technical aspects of the programme as well as the impact of works on the river water quality by a monitoring committee headed by member environment, planning commission.
- iv) Quarterly review by a standing committee headed by the Union Minister of Environment & Forests.
- v) Annual review of progress by the National River Conservation Authority led by the Prime Minister. The concerned Chief Ministers of the states and individuals from this Committee.

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the unit.

- 1. Write a short note on Ganga Action Plan Phase-I (GAP-I).

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- 2. Write a short note on Ganga Action Plan Phase-II (GAP-II).

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12.6 NATIONAL MISSION FOR CLEAN GANGA

National Mission for Clean Ganga (NMCG), a society registered under the Societies Registration Act, 1860, is an authority created under the river Ganga (Rejuvenation, Protection and Management) authorities order, 2016 by the government of India. NMCG is a nodal service for effective mitigation of pollution and rejuvenation, protection and management of the river Ganga and its tributaries. The states have a river Ganga basin, specifically, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal, Delhi and tributaries of the river Ganga are covered under this mission.

NMCG approved the planning, financing and execution of projects to overcome the contamination in the river Ganga, including the development of a sewerage system, treatment of chemicals released from numerous industries, catchment area treatment, flood control, creating public awareness and participation programs, conservation of oceanic, riparian life and biodiversity and such other measures for sustainable river management. NMCG also facilitated, screened and survey the utilization of various projects and exercises taken up for prevention and control of contamination, safety and management in the river Ganga and its tributaries.

12.7 GANGA KNOWLEDGE CENTRE

River Ganga has important economic, ecological and social values in India. The river travels a distance of approx 2,525 km from the Himalayas to the Bay of Bengal. The Ganga basin, which is spread out into parts of Nepal, China and Bangladesh, represents 26% of India's landmass, 30% of its water assets and over 40% of its population. The Ganga is one of India's holiest rivers whose social and cultural values rise above the limits of the basin. The Ganga Knowledge Center is set up at National Mission for Clean Ganga to discover the issues and to improve the nature of the execution of the National Ganga River Basin Authority (NGRBA) program. The Ganga Knowledge Center is an autonomous information-based organization which supports advancement and partner cooperation to enhance the investments of NGRBA. The Ganga Knowledge Centre is situated in Delhi and is a part of the NMCG. It will have a physical presence on the Ganga and topical focuses on subjects like dolphin conservation, ecological diversity, flora, fauna, industrial pollution, hydro-power etc.

Objectives and Scope of Ganga Knowledge Centre

- a) To make and oversee learning assets.
- b) Inspection and analysis of data relevant to the river Ganga.
- c) To develop and inquire about improvement through recognizable knowledge gaps, the need for new ideas and support focused on research.
- d) To encourage partners through public participation and building

partnership with colleges/educational/research institutes of national and international repute and NGOs.

- e) The Ganga Knowledge Center is an organization which produces the condition of specialized learning even while considering always conventional and local knowledge.
- f) Knowledge-based items include distributions, on the website, virtual information bases and e-library.
- g) Sharing the improved vision across agencies.

The main functions of the Ganga Knowledge Centre are:

- a) Collection of real-time information to work as an observing centre.
- b) The key function of the Ganga Knowledge Center is to make and keep up, an excellent web-based interface for the Ganga, a data focus (MIS) on all major Ganga projects, a GIS-based mapping arrangement of the Ganga basin, a process for supporting new thoughts and procedures for connecting with partners through occasions, publications and online media.

12.8 NATIONAL LAKE CONSERVATION PLAN

Analyzing the significance of lakes, MOEF&CC, the Government of India, started the National Lake Conservation Plan (NLCP), a Central government-funded plan mainly focused on maintaining the quality of lake water and the ecology of the lakes in the territories of the nation. The plan was approved by the government of India during the IXth Plan (June 2001) as a 100% Central government grant. The funding pattern for NLCP has been changed in February 2002 from 100% central funding to 70:30 cost sharing between the central and the concerned state government. The primary objective of the plan is to re-establish and preserve the urban and semi-urban lakes in the nation which are highly contaminated due to wastewater released into the lake and other wastewater sources.

Activities under NLCP

To prevent the contamination from point sources by intercepting, redirecting and treating the contamination entering the lake. The interferences may incorporate sewage treatment for the entire lake catchment area.

- a) In situ measures of lake cleaning like de-silting, de-weeding, bioremediation, bio-manipulation, nutrient reduction, air circulation etc.
- b) Catchment area treatment may incorporate afforestation, stormwater drainage, sediment traps etc.
- c) Lake fencing and shoreline development.
- d) Lake eco-development programmes, including public participation.
- e) Solid waste management & provision of Dhobi Ghats (washing areas)

was generally not secured under NLCP.

- f) Prevention of pollutants from non-point sources.
- g) Public awareness and public participation.
- h) Training and research for lake conservation.

Lake Selection Criteria

Hydrological Criteria

- a) The lake water body is enduring i.e., it holds a certain volume of water at all times, even in the lean period of the year.
- b) Physical parameters of the lake are: (i) Lake size > 10 Ha (Exception: lakes larger than 3 Ha having social, cultural or religious importance) (ii) Lake depth (maximum depth) > 3 m

Scientific Criteria

The lake is prioritized by the concerned state government or if the water body is highly contaminated/degraded and cannot be put to its traditional use, primarily because of the discharge of domestic and industrial wastewater into the lake & dumping of municipal solid waste.

Funding for the NLCP

- a) 70% of project expenses were supported by the Government of India and the remaining 30% of the project cost was supported by the state government, of which the share of the local body would be up to 10% to ensure public participation in the project. A commitment to this impact too to be provided by the state government.
- a) Part of the lake where sewage treatment is being supported by other sources. In case, the proposal also includes the internal sewerage as one of the components; the funding pattern shall be 60:40 between the centre and the respective state. As far as possible, government land may be identified for the creation of infrastructure.
- b) The Operation & Maintenance (O&M) are a part of the project and the costs are borne entirely by the States for which additional resources have to be demonstrably raised and committed to O&M. The O&M Plan must reveal the dedicated streams for revenue generation to meet O&M expenses and the same has to be passed as a resolution by the concerned local body.
- c) If there is a cost overrun in a project because of the delay, inflation or any other reason, the contribution of the government of India shall be limited to the amount initially agreed to in the administrative approval & expenditure sanction order.

In February 2013 the National Lake Conservation Plan (NLCP) has been merged with another scheme of the National Wetlands Conservation Programme (NWCP) to avoid overlap and promote better synergy into a new integrated scheme of the National Plan for Conservation of Aquatic-ecosystems (NPCA) for holistic conservation and restoration of lakes and wetlands in the country.

Check Your Progress 2

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the unit.

1. What are the major activities of the National Mission for Clean Ganga (NMCG)?

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2. Write a short note on Ganga Knowledge Center.

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12.9 THE WETLANDS (CONSERVATION AND MANAGEMENT) RULES, 2010

The Ministry of Environment and Forests notified the Wetlands (Conservation and Management) Rules, 2010. These rules have been drafted by the Ministry of Environment and Forests to ensure better conservation and prevent the degradation of existing wetlands in India. These rules came into force on 4th December 2010.

Wetlands are essential for human progress and prosperity, especially in India, a large number of individuals depend on them for drinking water, food and livelihood. The wetlands are among the most degraded biological systems in the world. Research study suggests that 1/3rd of India's wetlands have been wiped out due to excess fishing, discharge of industrial effluents, fertilizers and pesticides, uncontrolled siltation and weed invasion. Wetland protection is the need of the hour in India. National Wetlands Conservation Program of India has been financially supporting wetland safeguarding techniques all

over India. 115 wetlands have been identified for conservation and management to date in this program. Under the Ramsar convention, there are 27 wetlands of India, which are involved in the wetlands of global significance.

Essential features of the Wetlands (Conservation and Management) Rules, 2010

- The Wetlands (Conservation and Management) Rules, 2010 is to reduce and prohibit the degradation of wetlands in India. Its objectives are wetland conservation, wetland protection, and wetland management to ensure that no further degradation of wetlands takes place in India.
- The rules indicate the exercises which are degrading the wetlands such as industrialization, developmental activities, dumping of untreated sewage and solid waste etc. The rules forbid these exercises within the wetlands.
- The Central Wetland Regulatory Authority has been set up to guarantee appropriate execution of the Rules and performs all functions for the management of wetlands in the nation. Apart from fundamental government delegates, the Authority shall have various expert members to ensure that wetland preservation is done in the most ideal way.
- The rules have classified the wetlands to ensure wetland protection, and its easier identification and management.
- The activities, for example, harvesting, dredging and so on might be done in the wetlands, but only after consent from the concerned authorities.
- To avoid confusion, it was referenced in the rules that if the wetlands are present inside the protected zones of the National Parks and Wildlife Sanctuaries they will be managed by the regulations of the Wild Life (Protection) Act, 1972.
- The Wetlands (Conservation and Management) Rules, 2010 was a necessary step to promote wetland protection and conservation in India.
- The Wetlands (Conservation and Management) Rules, 2010 has been amended in 2016 and again in 2017. The new Wetlands (Conservation and Management) Rules, 2017 replaced the Wetland (Conservation and Management) Rules, 2010.

12.10 NATIONAL WETLAND CONSERVATION PROGRAMME

The National Wetlands Conservation Programme (NWCP) has been merged in February 2013 with National Lake Conservation Plan (NLCP) into a new scheme “National Plan for Conservation of Aquatic Ecosystems” (NPCA) to avoid overlap and better collaboration. NPCA goes for the preservation and reclamation of wetlands and lakes for achieving the ideal water quality, besides progress in biodiversity and biological communities through an

incorporated and multidisciplinary approach. Around 115 wetlands in 24 states and two Union Territories are recognized for protection under the NPCA/NWCP.

The Ministry has guided state governments through a series of gatherings held in November 2013 and in October 2014 for the preparation of Comprehensive Management Action Plans for seeking financial help and for coordinated administration of lakes and wetlands. The activities required by the states are with respect to the following:

- a) Identification of priority wetlands.
- b) Construction of wetland boards.
- c) Development of coordinated administrative plans.
- d) Securing assets for implementation of management plans.
- e) Strengthening legal and administrative aspects.
- f) Proper monitoring and assessment.
- g) Strengthening research practices.

About nine states (Orissa, Karnataka, Bihar and Kerala) have officially set up State wetland/lake authorities for appropriate conservation. Specific lake authorities like Chilka Development Authority, Loktak Development Authority, Wullar Conservation and Management Authority and East Calcutta Wetland Management Authority have additionally been set up by the separate State Governments.

12.11 COASTAL REGULATION ZONE

There is an urgent need to protect the coastal ecosystems and habitats by executing the coastal regulation zone notice. A sound coastal life needs an understanding and proper planning of the environment, on and nearby the coast. Maybe with these perspectives, the Ministry of Environment and Forest, Government of India issued a notice in the year 1991, beneath the Environment (Protection) Act of 1986, declaring coastal extends as a coastal regulation zone and controlling activities in it.

India has a coastline of around 7516 km long and around 4198 islands are there along the shores of the Andaman, Nicobar and Lakshadweep groups. The coastal zone consolidates the zone between the high tide line (HTL) and low tide line (LTL), up to 10 maritime miles towards the ocean side from HTL and up to 20 km from HTL towards the land side. The precise boundary of the shoreline is critical for planning purposes. The prime imperative of the coastal regulation zone plan chart is basically to manage coastal and coastal zone features for sustainable use by outlining high and low tide lines on the chart with the assistance of hydrographic surveys.

For the conservation of resources by controlling their exhaustion and managing developmental activities, the Government of India proclaimed the

Environment (Protection) act 1986. The Ministry of Environment and Forest has informed in February 1991, that the coast extends from HTL to 500 meters towards land and from HTL to LTL towards the sea as a coastal regulation zone (CRZ).

The CRZ notification has put an excessive number of limitations on the advancement along the coast. In Maharashtra, with its coastline of 720 km and 54 river creeks, noteworthy stretches of land are hit by the CRZ notice. It is representing a few issues previously the planners and decision-makers on one side and investors and developers on the other. Various critical issues of CRZ notification and suggestions engaged with the way toward planning and improvement are:

- a) Demarcation of High tide line (HTL) in the coastal control zone warning is characterized as the line up to which most noteworthy high tide comes in spring tides. It is delineated by remote sensing data.
- b) Demarcation of the low tide line is the limit up to which the lowest tide retreats during spring tide. This line would be arrived at by making a bathymetric graph of the coastal region with the datum of the graph being the least low tide.
- c) In the case of rivers, CRZ notification and resulting Supreme Court judgment have stipulated that if the width of the stream is up to 350 meters, the CRZ will be 100 meters from the creek and if the width surpasses 350 meters, it will be 150 meters from the brook. Presently where to measure the separation of 100 meters or 150 meters is a point of debate. Another point in the appreciation of the creek is up to what distance inside the brook, the CRZ notice will be regulated. Some specialists have opined that distance in the river, where the tidal impact of the wave arrives at an end, ought to be considered as the distance inside the creek for deciding the coastal zone.
- d) It is stipulated that if there should arise an area of mangrove with a territory of 1000m^2 or more, would be named CRZ with a buffer zone of no less than 50 meters. The mangrove is a tropical tree developing, along the coastline and requires saline water for its development.

Coral reefs are vital encouraging grounds for fish. Mangrove and coral reefs act as a buffer zone against wave and tidal power, for balancing out and protecting the coast. Before making the CRZ outline, the best possible assessment of the coastal features and their accurate measurement is essential.

Apart from systematizing the 25 amendments that were made to CRZ notice during 1991-2009, the CRZ notice (2011) has a few new highlights: It has exceptional arrangements for Goa, Kerala, Greater Mumbai and critically vulnerable coastal regions like Sundarbans mangrove area, Sunderland Mangrove, Chilka and Bhitarkanika (Orissa), Gulf of Khambat and Gulf of Kutch (Gujarat), Malwan (Maharashtra), Karwar and Kundapur (Karnataka),

Vembanad (Kerala), Coringa, East Godavari and Krishna Delta (Andhra Pradesh), East Godavari, Gulf of Mannar (Tamil Nadu).

Water zones up to 12 nautical miles in the sea and the entire water zone of the tidal water body, i.e., stream, river, estuary and so on, would presently be consolidated into the CRZ zones management plan, without pushing any limitations of angling activities. The thought of a Coastal Zone Management Plan, to be established with the fullest commitment and support of local communities, has been introduced.

To control developmental exercises, the coastline extends inside 500 meters of HTL on the landward side and is described in the following four various classes of coastal regulation zones.

- i) Category I (CRZ-I): The zones that are naturally sensitive and significant, i.e., national parks, sanctuaries, reserve forests, wildlife habitats, mangroves, coral reef areas close to the breeding ground of fish and marine life, Historical heritage areas, and regions subject to be submerged due to rise in sea level because of global warming. It covers the areas between HTL and LTL.
- ii) Category II (CRZ-II): The areas that have recently been created up to and near the shoreline. Created areas are referred to as that territory within the municipal limits assigned urban region which is now significantly developed and which has been furnished with waste and approach streets and other foundation offices, for example, water supply and sewerage mains. Some advancement on the landward side of the present road/street and proposed road/street that appeared on the coastal zone management plan are allowed in this category.
- iii) Category III (CRZ-III): The commonly undisturbed regions and those which don't have a place with either classification I or II. These will include seaside zone in the rural regions (developed and undeveloped) and also regions inside municipal limits or legally assigned urban areas, which are not essentially created.
- iv) Category IV (CRZ-IV): Coastal stretches in the Andaman and Nicobar, Lakshadweep and little islands except those assigned as CRZ-I, CRZ-II and CRZ-III.

Check Your Progress 3

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the unit.

- 1. What do you understand by coastal regulation zone? What is its importance?

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2. Mention the four categories of coastal zones as per CRZ notification.

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3. Enlist some activities under NLCP for the prevention of pollution from point sources.

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4. How many wetlands are under the Ramsar Convention in India? What is the significance of wetlands?

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5. Why National Lake Conservation Plan was merged into National Wetlands Conservation Programme?

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12.12 LET US SUM UP

In this unit, we have discussed the National River Conservation Plan and key features of the Ganga Action Plan Phase-I and Phase-II. The Central Government set up the "National Ganga River Basin Authority" in 2009 for

the river Ganga, to ensure effective abatement of pollution. National Mission for Clean Ganga was also constituted for effective control of water pollution and rejuvenation, protection and management of the river Ganga and its major tributaries. Under this mission, no untreated municipal sewage and industrial effluent are to be discharged into the river Ganga. Later in June 2015 an Integrated Ganga Conservation Mission, namely “Namami Gange” has been ratified as the flagship programme to achieve effective abatement of pollution, conservation and rejuvenation of the river. For the conservation of lakes, the Government of India started the National Lake Conservation Plan in June 2011. The plan mainly focused on maintaining the quality of lake water and the ecology of the lakes. In 2013, the National Lake Conservation Plan has been merged with the National Wetlands Conservation Programme to avoid overlap. Wetlands conservation is very essential as they protect and improve water quality, provides fish and wildlife habitats, control floods by holding water like a sponge and maintains surface water flow during dry periods. The Ministry of Environment and Forests drafted Wetlands (Conservation and Management) Rules, 2010 for better preservation and to prevent the degradation of existing wetlands in India.

12.13 KEY WORDS

Wetland: Wetland means an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes.

Wetlands Complexes: Wetlands complexes mean two or more ecologically and hydrologically contiguous wetlands and may include their connecting channels/ducts.

ABBREVIATIONS

NRCP	:	National River Conservation Plan
GAP	:	Ganga Action Plan
MLD	:	Million Liters per Day
BOD	:	Biochemical Oxygen Demand
NGRBA	:	National Ganga River Basin Authority
STP	:	Sewage Treatment Plant
MOEF & CC	:	Ministry of Environment, Forest and Climate Change
MOWR, RD&GR	:	Ministry of Water Resources, River Development and Ganga Rejuvenation

AMRUT	:	Atal Mission for Rejuvenation and Urban Transformation
MOUD	:	Ministry of Urban Development
UASB	:	Up-flow Anaerobic Sludge Blanket
NMCG	:	National Mission for Clean Ganga
NLCP	:	National Lake Conservation Plan
NPCA	:	National Plan for Conservation of Aquatic Ecosystems
NWCP	:	National Wetland Conservation Program
CRZ	:	Coastal Regulation Zone

12.14 SUGGESTED FURTHER READING/REFERENCES

Iyer, R.R. (2015). Living Rivers, Dying Rivers. Oxford University Press.

Web Links

<https://nrcd.nic.in/writereaddata/FileUpload/23617950NRCP%20Backgrpund.pdf>

http://www.moef.gov.in/sites/default/files/National%20River%20Conservation%20Plan_0.pdf

https://nmcg.nic.in/pdf/13_Guide%20Lines%20IAndD%20and%20STP%20-%20Final.pdf

http://www.moef.nic.in/sites/default/files/nlcp/NLCP_guideline.pdf

<http://www.indiaenvironmentportal.org.in/files/file/National%20Lake%20Conservation%20Programme.pdf>

<http://envfor.nic.in/division/national-wetland-conservation-programme-nwcp>

https://nrcd.nic.in/npca/npca/nwcp/index_nwcp.aspx

<http://nrcd.nic.in/npca/writereaddata/fileups/97112050Significant%20acheivement.pdf>

<http://envfor.nic.in/sites/default/files/press-releases/DRAFT%20CRZ%20NOTIFICATION%2020181.pdf>

<https://nmcg.nic.in/gkc.aspx>

<http://www.moef.nic.in/sites/default/files/ngrba/Appraisal%20Note%20GKC.pdf>

<https://www.ramsar.org/sites-countries/the-ramsar-sites>

12.15 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

1. Please refer to section 12.4

2. Please refer to section 12.5

Check Your Progress 2

1. Major activities of NMCG are to approve the planning, financing and execution of projects to overcome the contamination in the river Ganga. Besides this, the development of sewage treatment plants, catchment area treatment, flood control, creating public awareness and participation programs, conservation of aquatic life and such different measures for sustainable river management are the other activities of NMCG.
2. The Ganga Knowledge Centre is situated in Delhi, and is a part of the NMCG. The centre is set up to improve the nature of the execution of the National Ganga River Basin Authority (NGRBA) program. The key function of the Ganga Knowledge Center is to make and keep up, an excellent web-based interface for Ganga, a data focus (MIS) on all major Ganga projects, a GIS-based mapping arrangement of the Ganga basin, and a process for supporting new thoughts and procedures for connecting with partners through occasions, publications and online media.

Check Your Progress 3

1. Please refer to section 12.11
2. Please refer to section 12.11
3. To prevent contamination from point sources, the following activities can be recommended in the lake catchment areas.
 - a) In situ measures of lake cleaning like de-silting, de-weeding, nutrient reduction, air circulation etc.;
 - b) Afforestation in the catchment area to reduce soil erosion and trap sediments;
 - c) Lake fencing and shoreline development;
 - d) Lake eco-development programmes;
 - e) Public awareness and public participation; and
 - f) Training and research for lake conservation.
4. Currently, 27 wetlands of India are under the Ramsar convention. Wetlands are essential for human progress and prosperity, a large number of individuals depend on them for drinking water, food and livelihood.
5. Please refer to section 12.10