# Victoria Park: An Urban Oasis

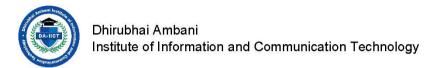
An Informative & Interactive Website

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# Feedback

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#### Introduction

Located in Gujarat state's Bhavnagar city, Victoria Park is a reserved forest range that was created by Maharaja Takhtasinhji of Bhavnagar in 1888. The park, which is spread over an area of 500 acres, has a triangular shape and is bounded by roads on all three sides. This manmade forest is one of India's oldest and is maintained by the Forest Department, Government of India. It is home to numerous rare flora and fauna species, including over 100 fauna species and 422 flora species consisting of 350 dicots and the remaining monocots, 241 herbs, 75 shrubs, and over 80 tree species. With 57.11 percent of its vegetation consisting of herbs and 16.35 percent of trees, Victoria Park offers a green space to the city's residents and is home to antelopes, hyenas, and foxes. Additionally, the park features two water bodies: Krishna Kunj Lake, which is located within the park, and Gaurishankar Lake, which is situated outside the park. These lakes attract numerous migratory birds such as Bar Headed Goose, Northern Pintail, Rain Quail, Baillon's Crake, Pacific Golden Plover & many more each year.

# **Project Brief**

#### i. Problem Statement

Tourism provides travellers with an opportunity to discover and experience historic landmarks, wildlife sanctuaries, nature parks, and various other natural heritage sites. While most visitors usually focus on the well-known attractions, every place has its own hidden gems and stories that relate to its cultural, architectural, social, and natural contexts. However, these hidden gems and stories often go unnoticed by visitors. To enhance visitors' experiences and appreciation, it would be beneficial to introduce visitors to these lesser-known aspects before their visit.

This will help visitors connect with the place better and notice these hidden contexts during their visit. Keeping this in mind, the challenge I face is how to educate and raise awareness among visitors about the importance of Victoria Park and its biodiversity. The importance of this urban forest must be conveyed to them along with historical and conservation related information about the park, as well as its regulations. Can the visitor be introduced to these contexts while they are planning their visit to Victoria Park?

The objective is thus to create a communication that would emphasize the significance of the man-made urban forests in cities such as Bhavnagar. I chose this subject with the aim of encouraging local inhabitants and authorities to take necessary measures to safeguard the forest, its ecosystem and biodiversity, before it becomes too late.

### ii. Personal Rational

I've visited this nature park several times since i get to know about its biodiversity & its importance for wildlife. I've joined multiple Nature Walks that were organised on occasion of Environment/ Nature Day or some special day on nature. I've observed people, their behaviour, their responses when they were asked about this nature park & its biodiversity. Most of the people are not aware about park & its biodiversity, but they are interested to know about it.

I want to convey this park's information & make visitors more aware about it. Here, I found it to be a good opportunity to pre-introduce visitor to these contexts while they are planning so that they might notice them during their visit.

# iii. Target Audience

The target audience for the website of Victoria Park could include:

**Residents** of Bhavnagar who are interested in learning more about the history and significance of the park, as well as the various activities and events that take place there.

Tourists and visitors to Bhavnagar who are looking for information about local attractions, including parks and green spaces.

Environmentalists, conservationists, and urban planners who are interested in learning more about the importance of urban parks and green spaces, and how they can be designed and managed to promote sustainability and biodiversity.

Educators, researchers, and students who are studying topics related to urban planning, environmental science, or biodiversity, and are looking for resources and information on urban parks and green spaces.

**Donors and sponsors** who are interested in supporting the development and maintenance of the park and are looking for information on how their contributions can make a difference.

#### iv. Communication Medium

To ensure effective communication with a diverse audience in terms of age, language, and literacy, the communication project must be easily accessible and affordable. I have chosen the medium of a website to achieve this goal, while engaging viewers senses, facilitating understanding, and increasing the chances of the message being conveyed to all types of people.

There are lots of means of communication such as Mobile Application, social media, Print Media, Signages, Articles, Book, Videos, Images, Website etc.

While news articles, vlogs, and social media channels and other medium can be effective means of communication, but a website offers several advantages in terms of wider reach and visibility.

Firstly, a website can be accessed by anyone, anywhere in the world, 24/7, making it a highly convenient and accessible platform. This means that individuals who are interested in accessing information about a particular topic can do so at any time of the day or night, from any location.

Secondly, a website allows for the easy organization and categorization of information, making it easier for users to find and access the information they need quickly and efficiently. This is especially important when dealing with complex topics or large amounts of information.

Thirdly, websites can be optimized for search engines, making it easier for users to find the information they need through search

engines like Google. This can increase the visibility of the website and attract more visitors.

Finally, websites can be easily updated and maintained, allowing for the timely dissemination of new information and the correction of errors. This ensures that the website remains relevant and up to date, which is important for maintaining user trust and credibility.

While it is true that news, social media, and vlogs can be accessed 24x7 and are often updated and organized, the main advantage of a website is the credibility and authenticity it provides. A website can serve as a central hub for information on a particular topic, providing users with reliable and trustworthy information that they can refer to at any time. This is especially important in today's world, where misinformation and fake news are rampant.

For instance, imagine a website dedicated to providing information about climate change. The website could be curated and run by reputable scientists and experts in the field, who regularly update the site with accurate and up-to-date information on climate science, climate policy, and climate-related news. Users would know that they can trust the information on this site, and they could rely on it as a valuable resource for information and education.

In contrast, if someone were to rely solely on social media or vlogs for their information on climate change, they might encounter misinformation or biased information that is not grounded in scientific fact. This could lead to confusion and misunderstandings about a critical issue like climate change, potentially hindering efforts to address and mitigate its impacts.

The decision to not implement physical signage at Victoria Park is based on a few factors. Firstly, physical signage can be costly and time-consuming to produce and install. It also has a limited lifespan and may need to be updated or replaced regularly. Additionally, physical signage can be negatively impacted by weather conditions and may require maintenance to keep it in good condition.

Instead, the website can serve as a more cost-effective and flexible solution to provide information to visitors. These digital platforms can be updated easily and can provide a more interactive and engaging experience for users.

As for interactive installations, while they can provide a unique and immersive experience, they also come with challenges such as maintenance and weather resistance. These challenges can make it difficult to ensure the installations are always functional and safe for visitors to use. Additionally, interactive installations can be costly to develop and install, making them less feasible for a public park such as Victoria Park. Overall, the decision to focus on digital solutions allows for a more cost-effective and accessible approach to providing information to visitors while also reducing maintenance and safety concerns.

In summary, while other means of communication like news articles, vlogs, and social media channels can be effective, a website offers advantages in terms of wider reach, visibility, organization, search engine optimization, and ease of maintenance and updating.

#### Research

#### i. Literature Review

Victoria Park is a popular destination for nature lovers, located in the city of Bhavnagar in Gujarat, India. It is a sprawling park spread over an area of 500 acres and is home to a diverse range of flora and fauna. The aim of this literature review is to explore the various aspects of Victoria Park, including its history, ecology, wildlife, and the cultural significance of the park.

### History of Victoria Park

According to historical records, Victoria Park was established in 1888 during the reign of Queen Victoria. It was originally known as the Jubilee Park and was designed under the guidance of Councillor and Chief Engineer Mr. Proctor Sims of the erstwhile Bhavnagar state. The park was later renamed Victoria Park in honour of Queen Victoria's Diamond Jubilee.

#### **Ecology of Victoria Park**

Victoria Park is home to a rich diversity of flora and fauna. The park's landscape includes a variety of ecosystems, including grasslands, wetlands, and woodlands. The park also has two lakes, which serve as important habitats for a range of aquatic life, including fish, turtles, and water birds.

#### Wildlife of Victoria Park

Victoria Park is home to a variety of wildlife, including mammals, birds, reptiles, and insects. Some of the prominent species found in

the park include the Indian jackal, blackbuck, spotted deer, Indian hare, Indian fox, hyena, and a range of bird species such as kingfishers, peafowl, and eagles. The park is also home to several species of reptiles, including snakes and lizards.

#### Cultural Significance of Victoria Park

Victoria Park is not only an important ecological and wildlife conservation area but also has cultural significance. The park has a history and is considered a landmark of the city of Bhavnagar. It is a popular destination for visitors and locals alike, who visit the park for birding, walks, and to enjoy the natural beauty of the park.

'Urban forests or tree groves in the urban areas are threatened by urbanization and their protection is only possible when their true values are accounted for properly to counter the forces of urbanization. True values include energy conservation, urban heat island reduction, storm water run-off, air pollution reduction, particulate pollution reduction, noise and glare control, carbon sequestration, urban recreation/enjoyment, and environmental security.

In addition to scattered trees, a city should be dotted with big patches of forest or tree groves, allowing them to function as pollution sink. Also, the planning of urban forestry to achieve this norm should be linked with planning in the energy, water supply, urban infrastructure, development of new housing society, waste disposal and reclamation sites. Existing patches of natural and man-made urban forests like Victoria Park in Bhavnagar and Indroda Park in Gandhinagar should be preserved and enriched.'

Study conducted by H. S. Singh (Social Forestry Division, Gandhinagar)

A literature survey in 'Scopus' (http://www.scopus.com) and 'Google Scholar' (http://scholar.google.co.in) research databases reveals only a few research studies on urban forestry/green spaces in India worth mentioning. These cover a narrow spectrum of use value estimation, species richness, birds in urban green spaces/biodiversity, carbon sequestration and a study about the Delhi ridge plantation. Though Gandhinagar city tops in per capita availability of urban greenery in India, to our knowledge no urban forestry study on any aspect has been reported in research journals for this city.

Urban forestry in India: development and research Scenario (Interdisciplinary Environmental Review, Vol. 12, No. 1, 2011)

#### Conclusion

As i worked on developing the content for website of Victoria Park, I encountered a challenge in finding sufficient information and resources about the park. Limited information was available about the park on the internet or in the form of books, and only a limited amount of research has been carried out within the park. Despite this challenge, i was able to find some valuable resources that helped me in creating the content for the website. These resources include books such as "Urban Forestry in India", "The History of Kathiawad from the Earliest Time", "General Information and Statistics Relating to The Province of Kathiawar", "Birds of Saurashtra" and "Gujarat State

Gazetteer", as well as journals like "Bombay Natural Heritage Society". Through careful research and sourcing of these materials, I was able to create a comprehensive website that highlights the history, biodiversity, and importance of Victoria Park.

In conclusion, Victoria Park is an important ecological and cultural landmark in the city of Bhavnagar. The park is home to a diverse range of flora and fauna and has a rich history and cultural significance. A website dedicated to Victoria Park can provide valuable information to tourists and locals alike, helping to raise awareness about the importance of conservation and preservation of this unique natural resource.

# ii. Field Study

Field study is an integral part of my Victoria Park project, which aims to create a website showcasing the natural beauty and biodiversity of this urban oasis. As a nature enthusiast and a passionate photographer, I believe that this project can raise awareness about the importance of preserving green spaces in urban areas.

To conduct the field study, I visited Victoria Park several times, carrying my camera, binoculars, and a notebook. I wanted to observe the environment, infrastructure, landscape, flora, and fauna of the park and document my findings through photographs and notes.

The field study is an essential component of the Victoria Park project as it aims to provide a comprehensive understanding of the park's ecosystem and its inhabitants. The purpose of the field study was to gather primary data and information about the park and its various aspects, such as the flora and fauna, landscape, water bodies, recreational areas, and infrastructure.

The field study involved conducting a series of surveys and observations to gather data on the park's flora and fauna. It also includes mapping the park's vegetation and identifying different plant species. The data collected during the field study is used to create a database that is available on the website to visitors, researchers, and park officials. The data can be used to monitor changes in the park's ecosystem over time and aid in conservation efforts.

During my visits, I explored different areas of the park, such as the lake, the forest, and the grasslands. I paid close attention to the

different species of animals, birds, insects, and plants that I came across. I was particularly fascinated by the Indian hyena, which is a rare species that can't be visible easily because its nocturnal animal.

Through my field study, I discovered that Victoria Park is not just a recreational space but also a vital habitat for many plant and animal species. I also learned about the challenges that the park faces, such as encroachment, navigation through park, lack of information, and lack of awareness among visitors.

By conducting a field study, I had observed and documented the park's features and gain a deeper understanding of its ecological and environmental significance. The data collected during the field study will be used to enhance the website's content and provide accurate and comprehensive information to visitors. Additionally, the field study enables us to identify any potential environmental issues and propose solutions to mitigate them.

Overall, the field study was a valuable experience for me, as it allowed me to appreciate the natural beauty of Victoria Park and understand its ecological significance. I hope that my findings can contribute to the website project and inspire others to explore and appreciate this urban oasis.

Research Questions That were asked to Visitors/ Residents/ Zoologists/Wildlife Experts:

- What are your thoughts on the impact of human activity on the environment of Victoria Park?
- How can we ensure the preservation and conservation of the park's biodiversity while accommodating the needs of a growing urban population?
- Do you believe that raising awareness about the park's environmental and ecological importance can lead to positive change in the community?
- What role do you think the government should play in promoting the protection and preservation of urban green spaces like Victoria Park?
- How can we make the park more accessible and inclusive to all members of the community?
- In your opinion, what steps should be taken to mitigate the environmental challenges that Victoria Park faces, such as encroachment, navigation, lake of information and climate change?
- How can we promote sustainable practices and behaviours among park visitors, such as reducing waste and minimizing carbon emissions?
- What are some potential risks and benefits of implementing new initiatives, such as increasing public education and awareness campaigns or introducing new conservation measures, in Victoria Park?

- How can we encourage more community involvement and engagement in the ongoing conservation and management of Victoria Park?
- What role does Victoria Park play in conserving and protecting local wildlife populations?
- How have human activities impacted the wildlife populations in Victoria Park, and what steps are being taken to mitigate these impacts?
- Are there any environmental challenges facing Victoria Park and its wildlife that visitors should be aware of?
- How can visitors to Victoria Park help to protect the local wildlife and ecosystem while enjoying the park's recreational opportunities?
- What are some of the ongoing research projects related to Victoria Park's ecology and wildlife populations, and what have been some of the most interesting findings to date?
- Are there any plans to expand or improve the park's infrastructure in order to better support the local wildlife and ecosystem? If so, what changes are being considered and why?
- What role do public parks like Victoria Park play in promoting biodiversity and conservation efforts more broadly?
- How can community members get involved in efforts to protect and conserve Victoria Park's wildlife and ecosystem?
- What do you see as the most pressing environmental challenges facing urban parks like Victoria Park, and how can we work to address these challenges in the coming years?

# iii. Availability of Information

Victoria Park is a beautiful and biodiverse urban oasis located in the heart of the city. However, despite its importance and popularity among visitors, there is a lack of readily available information about the park. This can be a significant hurdle for visitors who want to learn about the park's history, biodiversity, and environmental significance.

To address this issue, the Victoria Park project aims to provide a comprehensive online resource that visitors can use to learn about the park's different aspects. The website will feature detailed information about the park's history, the different habitats and ecosystems within the park, the plant and animal species found in the park, and the environmental and ecological significance of the park.

The availability of this information can have a significant impact on how visitors perceive and interact with the park. It can increase their appreciation for the park's natural beauty, raise awareness about the importance of preserving green spaces in urban areas, and encourage them to take an active role in conservation efforts.

In addition to providing information to visitors, the website will also serve as a valuable resource for researchers, park officials, and wildlife experts. The website's database will contain primary data and information gathered during the field study, which can be used to monitor changes in the park's ecosystem over time, develop conservation strategies, and identify potential environmental issues.

Overall, the availability of information is crucial for the success of the Victoria Park project. By providing accurate and comprehensive information about the park, the project aims to enhance visitors' experience, raise awareness about the park's ecological and environmental significance, and encourage visitors to take an active role in preserving the park for future generations.

#### iv. Data Collection

The data collection process for the Victoria Park project involved various methods and techniques to ensure the accuracy and comprehensiveness of the information gathered. Primary data was collected through field studies, surveys, and interviews with visitors, residents, zoologists, staff, and wildlife experts. The field study included conducting a series of surveys and observations to gather data on the park's flora and fauna, mapping the park's vegetation, and identifying different plant species. The interviews with various stakeholders helped to gather information about their perspectives and experiences related to the park. Secondary data was also collected through literature reviews, online resources, and existing databases related to the park. The collected data was then analyzed and organized to create a comprehensive database of information about the park. This database will be used to enhance the website's content and provide accurate and up-to-date information to visitors, researchers, and park officials.

# Faunal Diversity of Victoria Park, Bhavnagar

(IUCN - LC = Least concern, NT = Near threatened, VU = Vulnerable, EN = Endangered)

(Status - RE = Residential, M = Migratory, PM = Passage migrant

(Occurrence - C = Common, U = Uncommon, O = Occasional, R = Rare)

Sr. No.	Scientific Name	English Name	IUCN	Status	Occurrence
		Order: Anseriformes Family: Anatidae			
1.	Dendrocygna javanica (Horsfield, 1821)	Lesser Whistling Duck	LC	RE	С
2	Anser indicus (Latham, 1790)	Bar-headed Goose	LC	M	U
3	Anser anser (Linnaeus, 1758)	Greylag Goose	LC	M	0
4	Sarkidiornis melanotos (Pennant, 1769)	Knob-billed Duck	LC	RE	С
5	Tadorna ferruginea (Pallas, 1764)	Ruddy Shelduck	LC	M	С
6	Nettapus coromandelianus (J.F. Gmelin, 1789)	Cotton Pygmy Goose	LC	RE	С
7	Spatula querquedula (Linnaeus, 1758)	Garganey	LC	M	С
8	Spatula clypeata	Northern Shoveler	LC	M	С
9	Mareca strepera (Linnaeus, 1758)	Gadwall	LC	M	С
10	Mareca penelope (Linnaeus, 1758)	Eurasian Wigeon	LC	M	С
11	Anas poecilorhyncha (J.R. Forster, 1781)	Indian Spot-billed Duck	LC	RE	С
12	Anas platyrhynchos (Linnaeus, 1758)	Mallard	LC	М	R

13	Anas acuta (Linnaeus, 1758)	Northern Pintail	LC	М	С
14	Anas crecca (Linnaeus, 1758)	Common Teal	LC	М	С
15	Aythya ferina (Linnaeus, 1758)	Common Pochard	VU	M	С
16	Aythya fuligula (Linnaeus, 1758)	Tufted Duck	LC	M	U
		Order: Galliformes Family: Phasianidae			
17	Pavo cristatus (Linnaeus, 1758)	Indian Peafowl	LC	RE	С
18	Coturnix coromandelica (J.F. Gmelin, 1789)	Rain Quail	LC	М	Ο
19	Perdicula asiatica (Latham, 1790)	Jungle Bush Quail	LC	RE	R
20	Perdicula argoondah (Sykes, 1832)	Rock Bush Quail	LC	RE	Ο
21	Francolinus pictus (Jardine & Selby, 1828)	Painted Francolin	LC	RE	U
22	Francolinus pondicerianus (J.F. Gmelin, 1789)	Grey Francolin	LC	RE	С
	, , , , , , , , , , , , , , , , , , , ,	Order: Phoenicopteriform Family: Phoenicopterida		ŗ	
23	Phoenicopterus roseus (Pallas, 1811)	Greater Flamingo	LC	RE	U
24	Phoeniconaias minor (E. Geoffroy Saint- Hilaire, 1798)	Lesser Flamingo	NT	RE	U
		Order: Podicipediforme: Family: Podicipedidae	S		
25	Tachybaptus ruficollis (Pallas, 1764)	Little Grebe	LC	RE	С
26	Podiceps cristatus (Linnaeus, 1758)	Great Crested Grebe	LC	RE	С
27	Podiceps nigricollis (C.L. Brehm, 1831)	Black-necked Grebe	LC	М	R

		Order: Columbiformes Family: Columbidae			
28	Columba livia (J.F. Gmelin, 1789)	Rock Pigeon	LC	RE	С
29	Streptopelia decaocto (Frivaldszky, 1838)	Eurasian Collared Dove	LC	RE	С
30	Streptopelia tranquebarica (Hermann, 1804)	Red Collared Dove	LC	RE	U
31	Streptopelia chinensis (Scopoli, 1786)	Spotted Dove	LC	RE	U
32	Streptopelia senegalensis (Linnaeus, 1766)	Laughing Dove	LC	RE	С
33	Treron phoenicopterus (Latham, 1790)	Yellow-footed Green Pigeon	LC	RE	C
		Order: Pterocliformes Family: Pteroclidae			
34	Pterocles exustus (Temminck, 1825)	Chestnut-bellied Sandgrouse	LC	RE	0
		Order: Cuculiformes Family: Cuculidae			
35	Centropus sinensis (Stephens, 1815)	Greater Coucal	LC	RE	С
36	Taccocua leschenaultii (Lesson, 1830)	Sirkeer Malkoha	LC	RE	0
37	Clamator jacobinus (Boddaert, 1783)	Pied Cuckoo	LC	М	C
38	Eudynamys scolopaceus (Linnaeus, 1758)	Asian Koel	LC	RE	С
<b>3</b> 9	Hierococcyx varius (Vahl, 1797)	Common Hawk Cuckoo	LC	RE & M	С
40	Cacomantis passerinus (Vahl, 1797)	Grey-bellied Cuckoo	LC	RE & M	Ο
		Order: Caprimulgiformes Family: Caprimulgidae			
41	Caprimulgus asiaticus (Latham, 1790)	Indian Nightjar	LC	RE	С
		Family: Apodidae	_		_

42	Apus affinis (J.E. Gray, 1830)	Indian House Swift	LC	RE	С
43	Cypsiurus balasiensis (J.E. Gray, 1829)	Asian Palm Swift	LC	RE	С
		Order: Gruiformes Family: Rallidae			
44	Gallinula chloropus (Linnaeus, 1758)	Common Moorhen	LC	RE	С
45	Fulica atra (Linnaeus, 1758)	Eurasian Coot	LC	RE	С
46	Porphyrio poliocephalus (Latham, 1801)	Grey-headed Swamphen	LC	RE	С
47	Amaurornis phoenicurus (Pennant, 1769)	White-breasted Waterhen	LC	RE	С
48	Zapornia pusilla (Pallas, 1776)	Baillon's Crake	LC	М	U
		Family: Gruidae	and the same of th		
49	Grus virgo (Linnaeus, 1758)	Demoiselle Crane	LC	М	U
50	Grus grus (Linnaeus, 1758)	Common Crane	LC	М	U
		Order: Charadriiformes Family: Burhinidae			
51	Burhinus indicus (Salvadori, 1865)	Indian Thick-knee	LC	RE	U
52	Esacus recurvirostris (Cuvier, 1829)	Great Thick-knee	NT	RE	0
		Family: Recurvirostridae	20		
53	Himantopus himantopus (Linnaeus, 1758)	Black-winged Stilt	LC	RE	С
54	Recurvirostra avosetta (Linnaeus, 1758)	Pied Avocet	LC	М	U
		Family: Charadriidae		•	
55	Pluvialis squatarola (Linnaeus, 1758)	Grey Plover	LC	М	0
56	Pluvialis fulva (J.F. Gmelin, 1789)	Pacific Golden Plover	LC	М	0
57	Vanellus malabaricus	Yellow-wattled Lapwing	LC	RE	U

	(Boddaert, 1783)			ľ	
58	Vanellus indicus (Boddaert, 1783)	Red-wattled Lapwing	LC	RE	С
59	Vanellus leucurus (M.H.C. Lichtenstein, 1823)	White-tailed Lapwing	LC	М	Ο
60	Charadrius alexandrinus (Linnaeus, 1758)	Kentish Plover	LC	М	О
61	Charadrius mongolus (Pallas, 1776)	Lesser Sand Plover	LC	М	0
62	Charadrius dubius (Scopoli, 1786)	Little Ringed Plover	LC	RE	U
		Family: Rostratulidae			
63	Rostratula benghalensis (Linnaeus, 1758)	Greater Painted-snipe	LC	RE	U
		Family: Jacanidae		*	
64	Hydrophasianus chirurgus (Scopoli, 1786)	Pheasant-tailed Jacana	LC	RE	С
		Family: Scolopacidae			
65	Limosa limosa (Linnaeus, 1758)	Black-tailed Godwit	NT	М	С
66	Calidris pugnax (Linnaeus, 1758)	Ruff	LC	М	С
67	Calidris temminckii (Leisler, 1812)	Temminck's Stint	LC	М	U
68	Calidris minuta (Leisler, 1812)	Little Stint	LC	М	U
69	Gallinago gallinago (Linnaeus, 1758)	Common Snipe	LC	М	U
<b>7</b> 0	Xenus cinereus (Güldenstädt, 1775)	Terek Sandpiper	LC	М	R
71	Actitis hypoleucos (Linnaeus, 1758)	Common Sandpiper	LC	М	С
72	Tringa ochropus (Linnaeus, 1758)	Green Sandpiper	LC	М	С
73	Tringa erythropus (Pallas, 1764)	Spotted Redshank	LC	М	U

74	Tringa nebularia (Gunnerus, 1767)	Common Greenshank	LC	M	С
75	Tringa stagnatilis (Bechstein, 1803)	Marsh Sandpiper	LC	М	С
76	Tringa glareola (Linnaeus, 1758)	Wood Sandpiper	LC	M	С
77	Tringa totanus (Linnaeus, 1758)	Common Redshank	LC	M	С
		Family: Turnicidae	10007		
78	Turnix suscitator (J.F. Gmelin, 1789)	Barred Buttonquail	LC	RE	С
		Family: Glareolidae			
79	Cursorius coromandelicus (J.F. Gmelin, 1789)	Indian Courser	LC	RE	Ο
80	Glareola pratincola (Linnaeus, 1766)	Collared Pratincole	LC	RE	Ο
81	Glareola maldivarum (J.R. Forster, 1795)	Oriental Pratincole	LC	RE	Ο
82	Glareola lactea (Temminck, 1820)	Small Pratincole	LC	RE	0
t.		Family: Laridae	•		
83	Chroicocephalus genei (Breme, 1839)	Slender-billed Gull	LC	RE & M	U
84	Chroicocephalus ridibundus (Linnaeus, 1766)	Black-headed Gull	LC	М	С
85	Chroicocephalus brunnicephalus (Jerdon, 1840)	Brown-headed Gull	LC	М	С
86	Ichthyaetus ichthyaetus (Pallas, 1773)	Pallas's Gull	LC	M	U
87	Sternula albifrons (Pallas, 1764)	Little Tern	LC	RE	U
88	Gelochelidon nilotica (J.F. Gmelin, 1789)	Gull-billed Tern	LC	М	Ο
89	Hydroprogne caspia (Pallas, 1770)	Caspian Tern	LC	RE	U
90	Chlidonias hybrida	Whiskered Tern	LC	М	С

	(Pallas, 1811)			V	
91	Chlidonias leucopterus (Temminck, 1815)	White-winged Tern	LC	М	Ο
92	Sterna aurantia (J.E. Gray, 1831)	River Tern	VU	RE	С
		Order: Ciconiiformes		<u>.</u>	
00000	T 100 100 100 100 100 100 100 100 100 10	Family: Ciconiidae	Ti na san T		52000
93	Anastomus oscitans (Boddaert, 1783)	Asian Openbill	LC	RE	U
94	Ciconia episcopus (Boddaert, 1783)	Woolly-necked Stork	NT	RE	R
95	Mycteria leucocephala (Pennant, 1769)	Painted Stork	NT	RE	С
		Order: Suliformes	**	ţ.	
		Family: Anhingidae			
96	Anhinga melanogaster (Pennant, 1769)	Oriental Darter	NT	RE	С
		Family: Phalacrocoracida	ne	<u> </u>	
97	Microcarbo niger (Vieillot, 1817)	Little Cormorant	LC	RE	С
98	Phalacrocorax carbo (Linnaeus, 1758)	Great Cormorant	LC	RE	С
99	Phalacrocorax fuscicollis (Stephens, 1826)	Indian Cormorant	LC	RE	С
		Order: Pelecaniformes		•	
		Family: Pelecanidae		10	
100	Pelecanus onocrotalus (Linnaeus, 1758)	Great White Pelican	LC	М	С
101	Pelecanus crispus (Bruch, 1832)	Dalmatian Pelican	NT	М	U
		Family: Ardeidae			
102	Ixobrychus sinensis (J.F. Gmelin, 1789)	Yellow Bittern	LC	М	U
103	Ardea cinerea (Linnaeus, 1758)	Grey Heron	LC	RE	С
104	Ardea purpurea (Linnaeus, 1766)	Purple Heron	LC	RE	С
105	Ardea alba	Great Egret	LC	RE	С

	(Linnaeus, 1758)				
106	Ardea intermedia (Wagler, 1829)	Intermediate Egret	LC	RE	С
107	Egretta garzetta (Linnaeus, 1766)	Little Egret	LC	RE	С
108	Egretta gularis (Bosc, 1792)	Western Reef Egret	LC	RE & M	U
109	Bubulcus ibis (Linnaeus, 1758)	Cattle Egret	LC	RE	С
110	Ardeola grayii (Sykes, 1832)	Indian Pond Heron	LC	RE	С
111	Butorides striata (Linnaeus, 1758)	Striated Heron	LC	RE	Ο
112	Nycticorax nycticorax (Linnaeus, 1758)	Black-crowned Night Heron	LC	RE	U
		Family: Threskiornithidae		1. 1.	
113	Plegadis falcinellus (Linnaeus, 1766)	Glossy Ibis	LC	RE & M	U
114	Threskiornis melanocephalus	Black-headed Ibis	NT	RE	С
	•	(Latham, 1790)			
115	Pseudibis papillosa (Temminck, 1824)	Red-naped Ibis	LC	RE	С
116	Platalea leucorodia (Linnaeus, 1758)	Eurasian Spoonbill	LC	RE	С
	-	Order: Accipitriformes Family: Accipitridae			
117	Pandion haliaetus (Linnaeus, 1758)	Osprey	LC	M	U
118	Elanus caeruleus (Desfontaines, 1789)	Black-winged Kite	LC	RE	С
119	Pernis ptilorhynchus (Temminck, 1821)	Oriental Honey Buzzard	LC	RE & M	Ū
120	Circaetus gallicus (J.F. Gmelin, 1788)	Short-toed Snake Eagle	LC	RE	О
121	Clanga clanga (Pallas, 1811)	Greater Spotted Eagle	VU	М	О
122	Hieraaetus pennatus	Booted Eagle	LC	M	0

	(J.F. Gmelin, 1788)				
123	Aquila nipalensis (Hodgson, 1833)	Steppe Eagle	EN	M	Ο
124	Aquila heliaca (Savigny, 1809)	Eastern Imperial Eagle	VU	M	R
125	Butastur teesa (Franklin, 1831)	White-eyed Buzzard	LC	RE	О
126	Circus aeruginosus (Linnaeus, 1758)	Western Marsh Harrier	LC	М	С
127	Circus pygargus (Linnaeus, 1758)	Montagu's Harrier	LC	M	U
128	Accipiter badius (J.F. Gmelin, 1788)	Shikra	LC	RE	U
129	Accipiter nisus (Linnaeus, 1758)	Eurasian Sparrowhawk	LC	М	U
130	Milvus migrans (Boddaert, 1783)	Black Kite	LC	RE	U
131	Haliastur indus (Boddaert, 1783)	Brahminy Kite	LC	RE	O
		Order: Strigiformes Family: Strigidae			
132	Athene brama (Temminck, 1821)	Spotted Owlet	LC	RE	С
		Order: Coraciiformes Family: Alcedinidae			
133	Alcedo atthis (Linnaeus, 1758)	Common Kingfisher	LC	RE	С
134	Halcyon smyrnensis (Linnaeus, 1758)	White-throated Kingfisher	LC	RE	С
135	Ceryle rudis (Linnaeus, 1758)	Pied Kingfisher	LC	RE	С
		Family: Meropidae	-		
136	Merops orientalis (Latham, 1801)	Green Bee-eater	LC	RE	С
137	Merops persicus (Pallas, 1773)	Blue-cheeked Bee-eater	LC	PM	U
138	Merops philippinus (Linnaeus, 1767)	Blue-tailed Bee-eater	LC	RE & M	U

		Family: Coraciidae			
139	Coracias garrulus (Linnaeus, 1758)	European Roller	LC	PM	Ο
140	Coracias benghalensis (Linnaeus, 1758)	Indian Roller	LC	RE	С
		Order: Piciformes Family: Megalaimidae			
141	Psilopogon haemacephalus (Statius Muller, 1776)	Coppersmith Barbet	LC	RE	С
		Family: Picidae			
142	Leiopicus mahrattensis (Latham, 1801)	Yellow-crowned Woodpecker	LC	RE	Ο
143	Jynx torquilla (Linnaeus, 1758)	Eurasian Wryneck	LC	М	O
		Order: Falconiformes Family: Falconidae			
144	Falco tinnunculus (Linnaeus, 1758)	Common Kestrel	LC	М	Ο
145	Falco chicquera (Daudin, 1800)	Red-necked Falcon	NT	RE	Ο
146	Falco amurensis (Radde, 1863)	Amur Falcon	LC	PM	R
147	Falco subbuteo (Linnaeus, 1758)	Eurasian Hobby	LC	PM	О
148	Falco peregrinus (Tunstall, 1771)	Peregrine Falcon	LC	RE & M	0
		Order: Psittaciformes Family: Psittaculidae			
149	Psittacula eupatria (Linnaeus, 1766)	Alexandrine Parakeet	NT	RE	U
150	Psittacula krameri (Scopoli, 1769)	Rose-ringed Parakeet	LC	RE	С
		Order: Passeriformes Family: Pittidae			
151	Pitta brachyura	Indian Pitta	LC	M	O

	(Linnaeus, 1766)				
		Family: Campephagidae			
152	Pericrocotus cinnamomeus (Linnaeus, 1766)	Small Minivet	LC	RE	U
	41	Family: Oriolidae	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
153	Oriolus kundoo (Sykes, 1832)	Indian Golden Oriole	LC	RE	U
		Family: Vangidae			
154	Tephrodornis pondicerianus (J.F. Gmelin, 1789)	Common Woodshrike	LC	RE	Ο
		Family: Aegithinidae			
155	Aegithina tiphia (Linnaeus, 1758)	Common Iora	LC	RE	С
156	Aegithina nigrolutea (G.F.L. Marshall, 1876)	Marshall's Iora	LC	RE	U
		Family: Dicruridae	31.97		
157	Dicrurus macrocercus (Vieillot, 1817)	Black Drongo	LC	RE	С
158	Dicrurus leucophaeus (Vieillot, 1817)	Ashy Drongo	LC	М	U
		Family: Monarchidae			
159	Terpsiphone paradisi (Linnaeus, 1758)	Indian Paradise-flycatcher	LC	RE	U
		Family: Laniidae			
160	Lanius isabellinus (Hemprich & Ehrenberg, 1833)	Isabelline Shrike	LC	М	U
161	Lanius cristatus (Linnaeus, 1758)	Brown Shrike	LC	М	U
162	Lanius schach (Linnaeus, 1758)	Long-tailed Shrike	LC	RE	С
163	Lanius vittatus (Valenciennes, 1826)	Bay-backed Shrike	LC	RE	U
		Family: Corvidae			
164	Dendrocitta vagabunda (Latham, 1790)	Rufous Treepie	LC	RE	С

165	Corvus macrorhynchos (Wagler, 1827)	Large-billed Crow	LC	RE	С
166	Corvus splendens (Vieillot, 1817)	House Crow	LC	RE	С
		Family: Alaudidae			
167	Ammomanes phoenicura (Franklin, 1831)	Rufous-tailed Lark	LC	RE	U
168	Eremopterix griseus (Scopoli, 1786)	Ashy-crowned Sparrow Lark	LC	RE	С
169	Mirafra erythroptera (Blyth, 1845)	Indian Bushlark	LC	RE	U
170	Alaudala raytal (Blyth, 1845)	Sand Lark	LC	RE	U
171	Alauda gulgula (Franklin, 1831)	Oriental Skylark	LC	RE	U
172	Galerida cristata (Linnaeus, 1758)	Crested Lark	LC	RE	С
173	Galerida deva (Sykes, 1832)	Sykes's Lark	LC	RE	U
		Family: Cisticolidae			
174	Orthotomus sutorius (Pennant, 1769)	Common Tailorbird	LC	RE	С
175	Prinia hodgsonii (Blyth, 1844)	Grey-breasted Prinia	LC	RE	U
176	Prinia sylvatica (Jerdon, 1840)	Jungle Prinia	LC	RE	U
177	Prinia socialis (Sykes, 1832)	Ashy Prinia	LC	RE	С
178	Prinia inornata (Sykes, 1832)	Plain Prinia	LC	RE	С
179	Cisticola juncidis (Rafinesque, 1810)	Zitting Cisticola	LC	RE	U
b.		Family: Acrocephalidae	<u>'</u>	•	
180	Iduna caligata (M.H.C. Lichtenstein, 1823)	Booted Warbler	LC	М	U
181	Acrocephalus dumetorum (Blyth, 1849)	Blyth's Reed Warbler	LC	М	U

182	Acrocephalus stentoreus (Hemprich & Ehrenberg, 1833)	Clamorous Reed Warbler	LC	RE & M	U
		Family: Hirundinidae	200	*	
183	Riparia riparia (Linnaeus, 1758)	Sand Martin	LC	M	U
184	Ptyonoprogne concolor (Sykes, 1832)	Dusky Crag Martin	LC	RE	С
185	Hirundo rustica (Linnaeus, 1758)	Barn Swallow	LC	М	U
186	Hirundo smithii (Leach, 1818)	Wire-tailed Swallow	LC	RE	U
187	Cecropis daurica (Laxmann, 1769)	Red-rumped Swallow	LC	RE	U
188	Petrochelidon fluvicola (Blyth, 1855)	Streak-throated Swallow	LC	RE	0
	. , .	Family: Pycnonotidae		10	
189	Pycnonotus cafer (Linnaeus, 1766)	Red-vented Bulbul	LC	RE	С
		Family: Phylloscopidae			
190	Phylloscopus collybita (Vieillot, 1817)	Common Chiffchaff	LC	M	Ο
		Family: Sylviidae			
191	Curruca curruca (Linnaeus, 1758)	Lesser Whitethroat	LC	М	U
192	Curruca crassirostris (Cretzschmar, 1830)	Eastern Orphean Warbler	LC	М	O
		Family: Paradoxornithidae	e		
193	Chrysomma sinense (J.F. Gmelin, 1789)	Yellow-eyed Babbler	LC	RE	U
		Family: Zosteropidae			
194	Zosterops palpebrosus (Temminck, 1824)	Indian White-eye	LC	RE	С
		Family: Leiothrichidae			
195	Argya caudata (Dumont, 1823)	Common Babbler	LC	RE	С
196	Argya malcolmi	Large Grey Babbler	LC	RE	С

	(Sykes, 1832)				
		Family: Sturnidae	30	<del>,</del>	
197	Pastor roseus (Linnaeus, 1758)	Rosy Starling	LC	М	С
198	Sturnia pagodarum (J.F. Gmelin, 1789)	Brahminy Starling	LC	RE	С
199	Acridotheres tristis (Linnaeus, 1766)	Common Myna	LC	RE	С
200	Acridotheres ginginianus (Latham, 1790)	Bank Myna	LC	RE	C
		Family: Muscicapidae	•		
201	Copsychus fulicatus (Linnaeus, 1766)	Indian Robin	LC	RE	С
202	Copsychus saularis (Linnaeus, 1758)	Oriental Magpie Robin	LC	RE	С
203	Cyornis tickelliae (Blyth, 1843)	Tickell's Blue Flycatcher	LC	RE	U
204	Muscicapa muttui (E.L. Layard, 1854)	Brown-breasted Flycatcher	LC	М	R
205	Muscicapa striata (Pallas, 1764)	Spotted Flycatcher	LC	PM	R
206	Ficedula parva (Bechstein, 1792)	Red-breasted Flycatcher	LC	М	0
207	Luscinia svecica (Linnaeus, 1758)	Bluethroat	LC	М	U
208	Phoenicurus ochruros (S.G. Gmelin, 1774)	Black Redstart	LC	М	U
209	Monticola solitarius (Linnaeus, 1758)	Blue Rock Thrush	LC	М	0
210	Saxicola maurus (Pallas, 1773)	Siberian Stonechat	LC	М	U
211	Saxicola caprata (Linnaeus, 1766)	Pied Bushchat	LC	М	O
212	Oenanthe isabellina (Temminck, 1829)	Isabelline Wheatear	LC	М	U
213	Oenanthe deserti (Temminck, 1825)	Desert Wheatear	LC	М	U
214	Oenanthe picata	Variable Wheatear	LC	М	R

	(Blyth, 1847)				
		Family: Nectariniidae			
215	Cinnyris asiaticus (Latham, 1790)	Purple Sunbird	LC	RE	С
		Family: Ploceidae			
216	Ploceus philippinus (Linnaeus, 1766)	Baya Weaver	LC	RE	С
		Family: Estrildidae			
217	Lonchura punctulata (Linnaeus, 1758)	Scaly-breasted Munia	LC	RE	U
218	Euodice malabarica (Linnaeus, 1758)	Indian Silverbill	LC	RE	С
	!	Family: Passeridae			
219	Passer domesticus (Linnaeus, 1758)	House Sparrow	LC	RE	С
220	Gymnoris xanthocollis (E. Burton, 1838)	Chestnut-shouldered Petronia	LC	RE	U
		Family: Motacillidae			
221	Motacilla cinerea (Tunstall, 1771)	Grey Wagtail	LC	RE	U
222	Motacilla flava (Linnaeus, 1758)	Western Yellow Wagtail	LC	М	С
223	Motacilla citreola (Pallas, 1776)	Citrine Wagtail	LC	М	U
224	Motacilla maderaspatensis (J.F. Gmelin, 1789)	White-browed Wagtail	LC	RE	U
225	Motacilla alba (Linnaeus, 1758)	White Wagtail	LC	М	U
226	Anthus campestris (Linnaeus, 1758)	Tawny Pipit	LC	М	С
227	Anthus trivialis (Linnaeus, 1758)	Tree Pipit	LC	М	U
228	Anthus rufulus (Vieillot, 1818)	Paddyfield Pipit	LC	RE	С
229	Anthus similis (Jerdon, 1840)	Long-billed Pipit	LC	М	U

230	Anthus cervinus (Pallas, 1811)	Red-throated Pipit	LC	М	R
	5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5	Family: Fringillidae	200		
231	Carpodacus erythrinus (Pallas, 1770)	Common Rosefinch	LC	М	U
		Family: Emberzidae	737 740		
232	Emberiza melanocephala (Scopoli, 1769)	Black-headed Bunting	LC	М	U
233	Emberiza bruniceps (von Brandt, 1841)	Red-headed Bunting	LC	М	U
234	Emberiza buchanani (Blyth, 1845)	Grey-necked Bunting	LC	М	Ο
		Order: Bucerotiformes	3200		
		Family: Upupidae			
235	Upupa epops (Linnaeus, 1758)	Eurasian Hoopoe	LC	М	С

# Damselfly Diversity of Victoria Park, Bhavnagar

Sr. No.	Common Name	e Species Name	
	Family: C	oenagrionidae	
1.	Golden dartlet	Ischnura aurora	О
2	Pixie dartlet	Ischnura nursei	O
3	Blue tailed dartlet /Senegal Golden dartlet	Ischnura senegalnesis	С
4	Pigmy dartlet	Agriocnemis pygmaea	С
5	Coromandel marsh dart	Ceriagrion coromandelanum	С
6	Rusty marsh dart	Ceriagrion olivaceum	0
7	Azure dartlet	Enallgma parvum	0
8	Elegant sprite	Pseudagrion decorum	С
	Family: P	rotoneuridae	
9	Black winged bamboo tail	Disparoneura quabrimaculata	0
	Family	: Lestidae	
10	Brown spread wing	Lestes umbrinus	O

# Dragonfly Diversity of Victoria Park, Bhavnagar

No.	Species	Common Name	Status		
	Family: Gomphidae (Species- 01)				
1	Ictinogomphus rapax	Common Clubtail	С		
	Family: Aeshn	idae (Species-01)			
2	Anax Parthenope	Blue-Tailed Brown Darner	0		
3	Acisoma panorpoides	Trumpet Tail	0		
4	Brachythemis contaminate	Ditch Jewel	С		
5	Bradinopyga	Granite Ghost	0		
6	Crocothemis servilia	Ruddy Marsh Skimmer	С		
7	Diplacodes trivialis	Ground Skimmer	0		
8	Orthetrum glaucum	Blue Marsh Hawk	О		
9	Orthetrum Sabina	Green Marsh Hawk	С		
10	Pantala flavescens	Wandering Glider	О		
11	Rhyothemis variegata	Common Picture Wing	С		
12	Tramea limbata	Black Marsh Trotter	0		
13	Trithemis aurora	Crimson Marsh Skimmer	0		
14	Trithemis festiva	Black Stream Glider	С		
15	Trithemis pallidinervis	Long-Legged Marsh Skimmer	С		
16	Brachydiplax Sobrina	Blue Tailed Black Skimmer	О		
17	Orthetrum triangulare	Blue Tailed Forest Hawk	0		

# **Butterfly Diversity of Victoria Park, Bhavnagar**

Sr. No.	Scientific Name	Common Name	IUCN
1	Borbo cinnara (Wallace, 1866)	Rice Swift	NE
2	Hasora chromus (Cramer, 1780)	Common Banded Awl	NE
3	Spialia galba (Fabricius, 1793)	Indian Skipper	NE
4	Suastus gremius (Fabricius, 1798)	Indian Palm Bob	NE
5	Graphium agamemnon (Linnaeus, 1758)	Tailed Jay	NE
6	Graphium nomius (Esper, 1799)	Spot Swordtail	NE
7	Pachliopta aristolochiae (Fabricius, 1775)	Common Rose	LC
8	Papilio demoleus (Linnaeus, 1758)	Lime Butterfly	NE
9	Papilio polytes (Linnaeus, 1758)	Common Mormon	NE
10	Belenois aurota (Fabricius, 1793)	Pioneer	LC
11	Catopsilia pomona (Fabricius, 1775)	Common Emigrant	NE
12	Catopsilia pyranthe (Linnaeus, 1758)	Mottled Emigrant	NE
13	Cepora nerissa (Fabricius, 1775)	**Common Gull	NE
14	Colotis amata (Cramer, 1775)	Small Salmon Arab	NE

15	Colotis danae (Fabricius, 1775)	Crimson Tip	NE
16	(Fabricius, 1775)  Colotis etrida (Boisduval, 1836)	Small Orange Tip	NE
17	Colotis fausta (Olivier, 1804)	Large Salmon Arab	NE
18	Delias eucharis (Drury, 1773)	Common Jezebel	NE
19	<i>Eurema blanda</i> (Boisduval, 1836)	Three-spot Grass Yellow	NE
20	Eurema brigitta (Stoll, 1780)	Small Grass Yellow	LC
21	Eurema hecabe (Linnaeus, 1758)	Common Grass Yellow	NE
22	Eurema laeta (Boisduval, 1836)	Spotless Grass Yellow	NE
23	Ixias marianne (Cramer, 1779)	White Orange Tip	NE
24	<i>Ixias pyrene (</i> Linnaeus, 1764)	Yellow Orange Tip	NE
25	<i>Azanus jesous</i> (Guérin– Méneville, 1849)	African Babul Blue	LC
26	Azanus ubaldus (Stoll, 1782)	Bright Babul Blue	LC
27	Azanus uranus (Butler, 1886)	Dull Babul Blue	NE
28	Castalius rosimon (Fabricius, 1775)	*Common Pierrot	NE
29	Catochrysops strabo (Fabricius, 1793)	Forget-me-not	NE
30	Chilades lajus (Stoll, 1780)	Lime Blue	NE
31	Chilades pandava (Horsfield, 1829)	Plains Cupid	NE
32	Chilades parrhasius (Fabricius, 1793)	Small Cupid	NE

33	Curetis thetis (Drury, 1773)	Indian Sunbeam	NE
34	Euchrysops cnejus (Fabricius, 1798)	**Gram Blue	NE
35	Freyeria putli (Kollar, 1844)	Small Grass Jewel	NE
36	Jamides celeno (Cramer, 1775)	Common Cerulean	NE
37	Lampides boeticus (Linnaeus, 1767)	**Pea Blue	LC
38	Leptotes plinius (Fabricius, 1793)	Zebra Blue	NE
39	Pseudozizeeria maha (Kollar, 1844)	Pale Grass Blue	NE
40	Rapala iarbus (Fabricius, 1787)	Indian Red Flash	NE
41	Spindasis ictis (Hewitson, 1865)	Common Shot Silverline	NE
42	Spindasis vulcanus (Fabricius, 1775)	Common Silverline	NE
43	Tarucus indica (Evans, 1932)	Pointed Pierrot	NE
44	Tarucus nara (Kollar, 1848)	Rounded Pierrot	NE
45	Zizeeria karsandra (Moore, 1865)	Dark Grass Blue	LC
46	Zizina otis (Fabricius, 1787)	Lesser Grass Blue	NE
47	Zizula hylax (Fabricius, 1775)	Tiny Grass Blue	NE
48	Acraea violae (Fabricius, 1793)	Tawny Coster	NE
49	Ariadne ariadne (Linnaeus, 1763)	Angled Castor	NE
50	Ariadne merione (Cramer, 1777)	Common Castor	NE

51	<i>Byblia ilithyia</i> (Drury, 1773)	Joker	NE
52	Charaxes solon (Fabricius, 1793)	**Black Rajah	NE
53	Danaus chrysippus (Linnaeus, 1758)	Plain Tiger	LC
54	Danaus genutia (Cramer, 1779)	Striped Tiger	NE
55	Euploea core (Cramer, 1780)	***Common Crow	LC
56	<i>Hypolimnas bolina</i> (Linnaeus, 1758)	Great Eggfly	NE
57	Hypolimnas misippus (Linnaeus, 1764)	**Danaid Eggfly	NE
58	Junonia almana (Linnaeus, 1758)	Peacock Pansy	LC
59	Junonia atlites (Linnaeus, 1763)	Gray Pansy	NE
60	<i>Junonia hierta</i> (Fabricius, 1798)	Yellow Pansy	NE
61	Junonia iphita (Cramer, 1779)	Chocolate Pansy	NE
62	Junonia lemonias (Linnaeus, 1758)	Lemon Pansy	NE
63	Junonia orithya (Linnaeus, 1758)	Blue Pansy	NE
64	<i>Melanitis leda</i> (Linnaeus, 1758)	Common Evening Brown	NE
65	Phalanta phalantha (Drury, 1773)	Common Leopard	NE
66	Symphaedra nais (Forster, 1771)	Baronet	NE
67	Tirumala limniace (Cramer, 1775)	Blue Tiger	NE
68	Vanessa cardui (Linnaeus, 1758)	Painted Lady	LC

69	Ypthima asterope (Klug,	Common Three-ring	LC
	1832)		

# Floral Diversity of Victoria Park, Bhavnagar

Sr.No	Name
1	Acacia leucophloea
2	Acalypha indica
3	Asparagus racemosus
4	Azadirachta indica
5	Balanites asgyptiaca
6	Boarhevia verticillata
7	Capparis sepiaria
8	Cardiospermum halicacabum
9	Cassia auriculata
10	Casuarina equisetifolia
11	Cayratia carnosa
12	Cocculus hirsutus
13	Cryptostegia grandiflora
14	Cynodon dactylon
15	Cyperus rotundus
16	Dalechampia scandens
17	Dichanthium annulatum
18	Dichrostachys cinerea
19	Diplocyclos palmatus
20	Dipteracanthus patulus
21	Euphorbia neriifolia

22	Grewia tenax
23	Grewia villosa
24	Hibiscus caesius
25	Hibiscus rosa-sinensis
26	Ipomoea indica
27	Justicia procumbens
28	Lantana camara
29	Lepidagathis trinervis
30	Leptadenia reticulata
31	Leucaena leucocephala
32	Maerua oblongifolia
33	Maytenus emarginata
34	Mimosa hamata
35	Pedilanthus tithymaloides
36	Pentatropis microphylla
37	Pergularia daemia
38	Polygala persicariifolia
39	Prosopis juliflora
40	Rhynchosia minima
41	Rivea ornata
42	Salvadora persica
43	Securinega leucopyrus
44	Taverniera cuneifolia
45	Telosma pallida
46	tinospora cordifolia
47	Typha angustifolia
48	Vernonia cinerea
49	Ziziphus mauritiana
50	Ziziphus nummularia

# Animals of Victoria Park, Bhavnagar

Sr. No	Name	
1	Blue Bull	,
2	Wild Cat	
3	Common Mungoose	,
4	Indain Fox	
5	Jackal	
6	Hedgehog	,
7	Hare	,
8	Indian Porcupine	
9	Stipped Squirrel	
10	Field Rat	
11	Garden Lizard	
12	Indian Monitor	
13	Rat Snake	
14	Sand Boa	
15	Cobra	
16	Russell's Viper	
17	Common Krait	
18	Bull-Forg	
19	Water Skipping Frog	
20	Toads	

Above Data is Collected from Several Interviews with Experts, Maharaja Krishnakumarsinhji Bhavnagar University – Zoology Department Research Papers, Bombay Natural Heritage Society Journals, Birds of Saurashtra.

# **Design Process**

### i. Website Name:

Firstly, the name 'Victoria Park' itself is well-known and has a historical significance in Bhavnagar. It was established in the 19th century and named after Queen Victoria. Therefore, using this name for the website project will not only help in creating brand recognition, but it will also add to the historical significance of the park.

Secondly, the term 'Urban Oasis' perfectly describes the park's characteristics. It is an oasis in the midst of a busy and crowded city. The park's greenery, biodiversity, and recreational facilities provide a sanctuary for the people of Bhavnagar. By using this term, the website project aims to convey the park's unique qualities that make it stand out from other sites in the city.

Overall, 'Victoria Park: An Urban Oasis' is a fitting name for the website project because it effectively captures the essence of the park and conveys its significance as a natural and historical landmark in Bhavnagar.

# a. Logo

The British coat of arms has been chosen as the logo of the Victoria Park website because it represents the heritage and history of the park. The coat of arms is prominently displayed on the entrance gate of the park, and it is a symbol of the park's long-standing ties to British history.



#### b. Colours

The colour green has always been associated with nature and is known to have a calming effect on people. By choosing shades of green as the colour palette for the website, we are reflecting the essence of Victoria Park as a natural and peaceful oasis in the heart of the city.

Green is also known to represent growth, freshness, and harmony, which aligns with the park's conservation efforts and commitment to maintaining a healthy ecosystem. This colour palette reflects a natural tone that is suitable for a park-themed website and creates a connection between the visitor and the park.

The use of shades of green in the website's design will help users perceive the website as a peaceful and informative space that is in harmony with the environment. It also creates a sense of trust and reliability, as the green colour is associated with positive emotions such as happiness, hope, and peace.

Overall, the use of shades of green in the website's colour palette not only reflects the essence of Victoria Park but also creates a positive perception among the website's users.



# c. Typography

The choice of fonts is an important aspect of creating a visually appealing and engaging website. For the headings, we have selected Playfair Display, a classic serif font that adds elegance and sophistication to the text. The font is bold and commanding, making it perfect for drawing the reader's attention to important headings and titles.

For the body text and subheadings, we have selected the Raleway font family. Raleway is a modern sans-serif font that is clean, simple, and easy to read, making it ideal for presenting information in a clear and concise manner. Its versatility and legibility make it an excellent choice for body text and subheadings.

The combination of Playfair Display and Raleway creates a balanced and harmonious typographic hierarchy that enhances the overall aesthetic of the website. The fonts work well together, providing a cohesive and consistent look throughout the website.

Overall, the font selection for this website is intended to convey a sense of elegance, simplicity, and modernity while ensuring that the text is easy to read and understand.



#### d. Choice of Software

Adobe XD is a great choice for designing websites, especially for projects like this. Here are some reasons why:

Adobe XD was specifically created for designing user interfaces and experiences, making it an ideal tool for website design. It offers a range of features and tools that are tailored to this purpose.

The interface of Adobe XD is designed to be intuitive and user-friendly, with easy-to-use tools and simple navigation. This makes it easy for designers to quickly create and iterate designs without getting bogged down in complex menus and options.

Adobe XD allows designers to create interactive prototypes of their designs, which can be shared with stakeholders and users for feedback. This is a crucial step in the design process, and Adobe XD makes it easy and seamless.

Adobe XD integrates with other Adobe tools like Photoshop and Illustrator, making it easy to import and export assets and designs. This can save time and streamline the design process.

In my opinion, I believe that Adobe XD is a great choice for designing websites, particularly for Use Experience & User Interface design. While other design tools like Figma, Photoshop, and Illustrator may offer more advanced features for specific tasks, I appreciate Adobe XD's focused and streamlined approach to web design. Its ease of use and purpose-built design tools make it an excellent option for creating user-friendly and engaging websites.

Adobe XD allows designers to directly export assets, fonts, and colours in a single document that can be easily shared with developers. This streamlines the design-to-development process and ensures consistency throughout the website.

In addition, Adobe XD offers a variety of plugins that can be used to convert designs into HTML code, speeding up the development process and reducing the chance of errors. These plugins can be customized to meet the specific needs of the project.

From an SEO perspective, Adobe XD offers several features that can help developers create SEO-friendly websites. The software allows for the creation of structured and organized designs, making it easier for search engines to crawl and index the website. Additionally, the ability to easily add alt tags to images and use semantic HTML markup can improve the website's accessibility and search engine visibility. Overall, Adobe XD's design tools and plugins can help developers create websites that are both visually appealing and optimized for search engines.

In conclusion, Adobe XD is a great choice for designing websites, especially for projects like this. Its purpose-built approach, user-friendly interface, powerful prototyping features, and integration with other Adobe tools make it an excellent choice for any UX/UI designer.

### e. Layout

Grid and layout design are critical aspects of web design, which provide a structure for organizing content and elements on a web page. The Victoria Park website is designed using a 12-grid system, which means that each page is divided into 12 equal-width columns with a 24-pixel gutter between them. This system provides a consistent and organized layout, allowing for easy navigation and a visually appealing design.

In addition, the Victoria Park website utilizes a hybrid layout, which is a combination of both fixed and fluid layout design. A fixed layout means that the width of the web page remains constant and does not change when the screen size changes. On the other hand, a fluid layout means that the width of the web page changes as the screen size changes, allowing for a more responsive design.

By using a hybrid layout, the Victoria Park website is designed to be both responsive and visually appealing, regardless of the screen size or device used to access it. The use of a 12-grid system and a hybrid layout ensures that the content and elements on each page are well-organized and easy to navigate, providing a seamless user experience for all visitors to the website.



#### ii. Information Architecture

Information architecture refers to the process of organizing, structuring, and labelling content in a way that makes it easy to understand and navigate for users. It involves creating a clear and intuitive hierarchy of information, so users can quickly find what they are looking for and complete their intended actions on the website.

For the Victoria Park website, the information architecture should be designed to guide visitors through the different sections of the website in a logical and intuitive manner. The navigation should be clear and consistent throughout the site, with a main menu that includes the most important sections such as Home, About, Species, Events, Support, and Contact.

Each of these sections should have their own subpages, with clear and concise headings that describe the content of each page. For example, under the "Species" section, there could be subpages for mammals, birds, butterflies, and other wildlife found in Victoria Park. Each of these subpages should have relevant information and images, as well as links to related pages and resources.

The information architecture should also take into consideration the different types of users who will be visiting the website, such as tourists, researchers, and conservationists. It should be designed in a way that caters to the needs and goals of each of these user groups.

Overall, the goal of the information architecture for the Victoria Park website should be to make it easy for users to find the information they need, while also providing an engaging and informative experience that encourages them to explore and learn more about this unique and important ecosystem.

### iii. Sitemap

A sitemap is a hierarchical diagram or list of all the pages and sections of a website. The sitemap helps the user to navigate through the website and find the information they are looking for.

In general, a sitemap is a visual or textual representation of the hierarchy and structure of a website's pages. It is used to provide users with an overview of the content available on a site and to help search engines crawl and index the site's pages.

The sitemap for the Victoria Park website is structured as follows:

#### 1. Home Page

- Fun Facts
- Why You Should Visit Victoria Park
- Map with Attractions
- Gallery for Glimpse
- Photograph of the Week
- Quote Related to Nature, Conservation & Biodiversity
- Articles

#### 2. About Park

- Idea of Victoria Park
- Establishment and Purpose of Victoria Park
- How Victoria Park is Today
- Geography of Victoria Park
- Ecology of Victoria Park

- Climate of Victoria Park
- People Behind Victoria Park
- Zone Distribution and Total Area of Victoria Park
- Socio Economic Impact of Victoria Park

#### 3. Biodiversity Page

- Wildlife in Victoria Park
- Endangerment of Species in Victoria Park
- Mammals of Victoria Park
- Birds of Victoria Park
- Butterflies of Victoria Park
- Damselflies of Victoria Park
- Dragonflies of Victoria Park
- Flora of Victoria Park
- Conservation Status of Species in Victoria Park

#### 4. Conservation Page

- Threats to Victoria Park
- How Can We Conserve Victoria Park
- Planting Trees in Victoria Park

#### 5. Support Page

- Volunteer Opportunities in Victoria Park
- Partnership Opportunities with Victoria Park
- Upcoming Events in Victoria Park
- Citizen Activation in Victoria Park

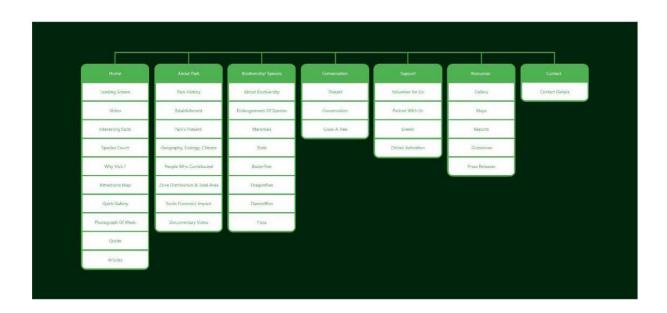
#### 6. Resources Page

- Photo Gallery of Victoria Park
- Maps of Victoria Park
- Annual Census Reports of Victoria Park
- Safety Guidelines for Visitors of Victoria Park
- Press Releases Related to Victoria Park

#### 7. Contact Page

• Contact Details for Each Department of Victoria Park

This sitemap provides a clear and organized structure for the Victoria Park website, allowing users to easily navigate and access the information they are looking for.



#### iv. Wireframes

Wireframes are a critical component of the design process for any website, as they provide a visual representation of the layout and functionality of each page. In the case of the Victoria Park website, wireframes were created to ensure that the content and design of each page were carefully planned out and optimized for user experience.

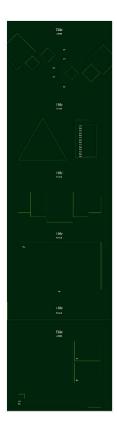
The wireframes for the Victoria Park website were designed with the user in mind, ensuring that each page is easy to navigate and visually engaging. The home page wireframe features a prominent banner image with quick links to key areas of the website, including the park map, photo gallery, and articles section. The About Park page wireframe includes sections for the history, geography, and ecology of the park, as well as information about the people behind the park and its socio-economic impact.

The Biodiversity and Conservation pages were designed with a focus on education and awareness, featuring sections on endangered species, conservation efforts, and ways that visitors can help protect the park. The Support page wireframe includes information on volunteering, partnering with the park, and upcoming events. The Resources page includes a photo gallery, maps, annual census reports, safety guidelines, and press releases.

The wireframes were designed to be responsive, ensuring that the website would be easily accessible on mobile devices as well as desktop computers. Additionally, the wireframes were designed to be scalable, allowing for additional pages and content to be added in the future.

Overall, the wireframes for the Victoria Park website were carefully planned out and designed with the user in mind. They provide a solid foundation for the visual and functional design of the website, ensuring that it will be both easy to use and visually engaging for visitors





## v. UI Design

#### a. Header

The header section of the Victoria Park website is the topmost area of the site that appears on every page.

When designing the header section of the Victoria Park website, the user experience was a top priority. The header is designed to be clean and simple, making it easy for users to navigate the website and find the information they need. The logo of the website is placed prominently in the top center of the header, allowing users to easily identify the website they are visiting. The main navigation menu is located in below logo, with clearly labelled links to each of the main pages of the website.



#### b. Footer

The footer section of the website plays a crucial role in providing important information and resources to the visitors. The footer is located at the bottom of the website, and it contains the logo of the website, copyrights, and "All rights reserved" message. In addition to these, there are four links under the "Also Visit" title.

These links are arranged in a hierarchical order from the top central government to the city heritage. The first link is of the Ministry of Environment and Forests of India, which is the central government's department responsible for the environment and forest-related policies. The second link is of the Forest Department of Gujarat, which is the state government's department responsible for managing the forests and wildlife of Gujarat.

The third link is of Gujarat Tourism, which promotes tourism in the state and provides information about tourist destinations and activities. The fourth link is of Bhavnagar Heritage, which is dedicated to promoting and preserving the cultural heritage of the city of Bhavnagar.

By providing these links, the website aims to provide visitors with additional information and resources related to the forest and the environment. The hierarchy of links also reflects the importance of each entity in managing and promoting the park and the environment. This approach ensures that the visitors can easily access information and resources related to the park and the environment from trusted and reliable sources.



# c. Home Page

The Home page of Victoria Park website greets the visitors with a warm welcome message, inviting them to explore the natural beauty of Bhavnagar. The landing section prominently displays the name of the park along with a call-to-action that encourages the users to celebrate the natural wealth of Bhavnagar and contribute towards its preservation. The section also provides useful information about the park, including weather information, timings, coordinates, making it easier for the visitors to plan their trip accordingly. The landing section is designed in a way that quickly captures the attention of the users and encourages them to explore more about the park. Overall, the landing section of the home page sets the tone for the rest of the website and effectively communicates the park's vision and mission to the visitors





#### **About Park**

The About Park page of the Victoria Park website is designed to provide visitors with a comprehensive understanding of the park. The page begins with a brief history of the park, including its establishment and original purpose. It then goes on to describe the park as it is today, providing information about its geography, ecology, and climate. This information is presented in an easily digestible manner, with subheadings making it simple to navigate.

Moreover, the page highlights the socio-economic impact of the park, showcasing its importance to the local community and economy. This information is particularly valuable for those interested in the park's role in promoting sustainable tourism.

Overall, the "About Park" page of the Victoria Park website provides a well-organized and informative overview of the park. Its design and content consider the user's need for clarity and concision, while also providing a thorough understanding of the park's history, ecology, and socio-economic significance.





# **Biodiversity**

The biodiversity page of Victoria Park website provides a comprehensive overview of the diverse range of flora and fauna found within the park's boundaries. The page highlights the importance of biodiversity conservation and the role that Victoria Park plays in the protection of endangered species. The page provides information on the number of species, including mammals, birds, butterflies, dragonflies, and damselflies found within the park, and educates users about the conservation status of these species. This information is presented in an easy-to-understand manner, with clear and concise descriptions of species. The page emphasizes the need to protect and conserve these species and encourages visitors to learn more about the importance of biodiversity conservation. The design of the page is visually appealing, with high-quality images of most of the species found within the park. The information is presented in a user-friendly manner, with clear headings and subheadings, making it easy for users to find the information they are looking for. Overall, the Biodiversity page of Victoria Park website is an informative and engaging resource for anyone interested in learning more about the flora and fauna of the park and the importance of biodiversity.

















#### Conservation

The Conservation page of Victoria Park is dedicated to spreading awareness about the importance of preserving the natural beauty of the park and ensuring a sustainable future. It highlights the various threats that the park is facing, such as urbanization, construction activities, and illegal poaching, and emphasizes the need to take action to protect it. The page encourages visitors to participate in conservation efforts by planting trees, supporting local wildlife conservation initiatives, and spreading awareness about the need for conservation. The Conservation page aims to educate visitors about the importance of sustainable practices and encourage them to take steps towards a greener and more sustainable future.





# Support

The Support page is where visitors can learn more about how they can get involved and support the efforts of Victoria Park. There are several ways to contribute to the park, including volunteering, partnering with the park, participating in events, and engaging in citizen activation. By volunteering, visitors can help ensure that the park remains a vibrant and thriving ecosystem for generations to come. Events provide opportunities for visitors to engage with the park and learn more about the local environment. From guided nature walks to educational workshops, there is something for everyone. By empowering individuals to act on behalf of the environment, the park can achieve greater impact and make a more significant difference in the community. Overall, the Support page is an essential resource for anyone looking to get involved and support the work of Victoria Park.



#### Resources

The Resources page on the Victoria Park website is designed to provide visitors with a range of information to enhance their experience and understanding of the park. From Beautiful Photo Gallery to Maps, Guides, News, Reports etc. Overall, the Resources page is designed to provide visitors with a range of tools and information to help them explore and learn about Victoria Park. Whether visitors are planning a trip to the park, interested in its conservation efforts, or simply want to admire its natural beauty, the Resources page has something for everyone.



### Contact

The Contact Page for Victoria Park's website is designed to provide users with easy access to the park's management. This page includes contact information for different departments of the park, including Administration, Social Forestry, and Guides.

Users can choose to contact the park management team by email, phone, or mail, depending on their preference.

Overall, the Contact Page is an essential component of Victoria Park's website, ensuring that users can interact with the park management team and staff quickly and easily.



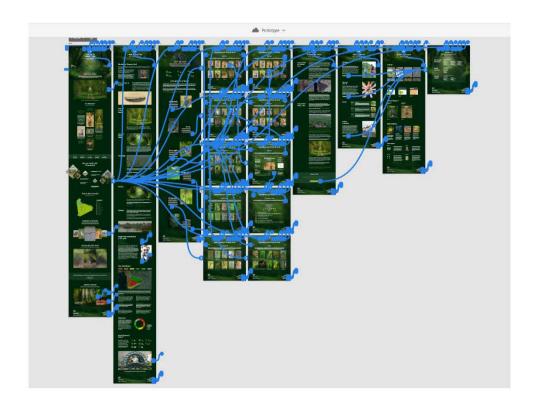
# vi. Prototype

Prototyping is an essential part of the website design process, as it allows designers to create a visual representation of the website before it is developed. For the Victoria Park website, a prototype was created to ensure that the design was user-friendly and visually appealing.

The prototyping process began with the creation of wireframes that defined the layout and structure of the website. Once the wireframes were finalized, they were used to create high-fidelity pages that provided a more accurate representation of the final website.

The prototype was designed using a hybrid (fixed and fluid) layout with a 12-grid system. This allowed for a consistent and organized design, with each page divided into 12 columns and a 24-pixel gutter. The grid system also ensured that the design was responsive and adapted to different screen sizes.

In summary, the prototyping process for the Victoria Park website involved the creation of wireframes, high-fidelity pages, and user feedback. The hybrid layout with a 12-grid system ensured a consistent and responsive design, while user feedback ensured that the design was user-friendly and met the needs of the website visitors.



## vii. Responsive Versions

In today's world, it's essential that websites are optimized for all devices, including mobile and tablet. For the Victoria Park website, a responsive design was created to ensure that it looks great and functions well on all devices.

Responsive design means that the website is designed to adapt and adjust based on the screen size of the device being used. This is achieved using flexible grids, images, and other elements that can resize and reposition themselves to fit the screen.

Some of the features of the responsive version of the Victoria Park website include a simplified navigation menu, easy to read fonts and buttons, and a streamlined layout to improve usability on smaller screens. The images and videos are optimized for fast loading times and to reduce data usage on mobile devices.

Overall, the responsive design of the Victoria Park website ensures that users can access all the content and features of the site regardless of the device they are using, providing a seamless and enjoyable user experience.



# viii. Usability Testing

Usability testing is a crucial part of the website design process as it ensures that the website meets the needs and requirements of its users. In this project, i conducted usability testing on the website prototype to identify any issues and gather user feedback.

The usability testing was conducted with a diverse group of participants who were representative of the website's target audience. The participants were asked to perform a series of tasks on the prototype, and their interactions with the website were observed. The tasks included exploring website, finding information on the park's biodiversity, learning about conservation efforts, and finding contact information.

The feedback from the users was collected through interviews. The users found the website to be informative and good to navigate. They appreciated the use of images and videos to showcase the park's beauty and biodiversity. However, some users found the website's layout to be overloaded with information, which made it difficult to find specific information.

Based on the feedback received, i had to make some changes to the website prototype. I reorganized the content to make it more accessible and used more whitespace to reduce clutter. I also made the navigation more prominent to make it easier for users to find the information they were looking for.

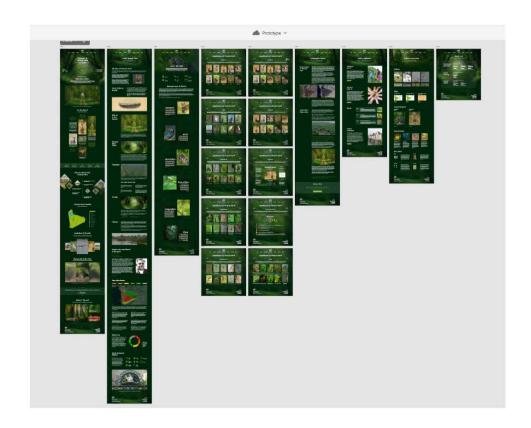
Overall, the usability testing helped me identify issues with the prototype and provided valuable feedback from users. The changes i

made based on the feedback helped improve the user experience and ensure that the website meets the needs and requirements of its users.

# xi. Final Web Prototypes

Web Prototype:

https://xd.adobe.com/view/9f1f38cc-7ac5-4e81-b6eb-64dc433cea1d-ca4c/?fullscreen





Scan QR Code to Visit Website

## V. Future Scope

The Victoria Park website has great potential for future improvement and expansion. One possible avenue for improvement is the addition of more multimedia content, such as videos and interactive graphics, to make the website more engaging and interactive. This would require careful consideration of the user experience and the technical infrastructure needed to support this content.

Another area for improvement is the addition of multiple languages to the website. As the park is now becoming popular destination for visitors, offering content in Gujarati & Hindi languages could help attract and retain a wider audience. This would require translation services and the implementation of a language-switching feature on the website.

In terms of functionality, the website could benefit from the inclusion of a more robust search function inside the website, allowing users to find information quickly and easily on specific topics.

Furthermore, the Victoria Park website can continue to enhance its interactivity, providing users with a more engaging and immersive experience. Interactive maps, image galleries, and videos can be further developed and integrated to help users explore the park's diverse range of flora and fauna. Additionally, the website can incorporate more interactive features such as virtual reality experiences and 360-degree views of the park, allowing users to virtually visit and experience the park from anywhere in the world. These interactive elements can help increase user engagement and

knowledge of the park's conservation efforts, ultimately leading to a greater appreciation and support for the park's sustainable future.

Finally, the website could be improved by offering more opportunities for user engagement and feedback, such as surveys and discussion forums. This would help the park better understand the needs and interests of its visitors and stakeholders and could inform future improvements to the website and the park itself.

Overall, there are many opportunities for future improvement and development of the Victoria Park website, and these should be pursued with the goal of creating a more engaging, informative, and user-friendly experience for visitors.

#### VI. Conclusion

In conclusion, the Victoria Park website has been designed to promote and raise awareness about the park's beauty, biodiversity, and conservation efforts. The website aims to provide visitors with comprehensive information about the park's history, geography, ecology, and socio-economic impact. It also offers details on the park's flora and fauna, including their conservation status and endangerment.

The website has been prototyped and tested to ensure optimal usability and accessibility, with feedback from users incorporated into the final design. In addition, the website has been optimized for future improvements, such as the inclusion of additional languages, the development of interactive features, and the integration of social media platforms.

Overall, the Victoria Park website represents a comprehensive and user-friendly platform for visitors to learn about the park's history, biodiversity, and conservation efforts. It serves as a powerful tool to promote awareness and appreciation for the park and its natural wealth, ensuring that it will continue to exist for generations to come.

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