

Mula - Mutha in Dreams



Biodiversity: Response options

Environmental Education in schools, Public awareness, Literature in vernacular, bird feeders and nest boxes, school gardens, terrace gardens, plant local plants, garbage management, vermiculture guidelines

I too can save biodiversity

- ♦ I will plant more trees or saplings.
- ♦ Whenever and wherever possible I will prevent tree cutting
- ♦ I will see that our rivers are least polluted through our own acts.
- ♦ I insist to keep our hills free of settlement or similar such encroachments.

This activity is supported by Millennium Ecosystem Assessment and UNDP - GEF / SGP - CEE Program

RANWA

(Research and Action in Natural Wealth Administration)

C-26/1, Ketan Heights, Near Karve Statue, Kothrud,
Pune, 411 038. Tel/Fax : 91 20 5446518
E-Mail: ranwa@yahoogroups.com
Webpage: www.ranwa.org

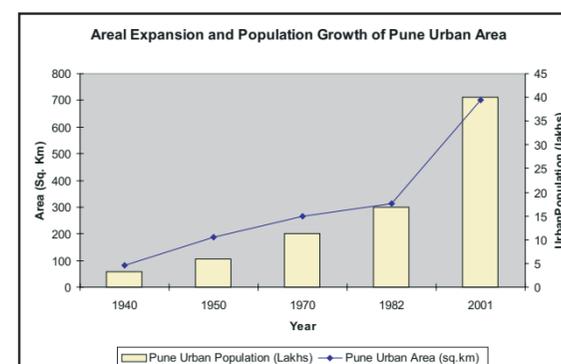
Illustrations by Smriti Sahasrabudhe
Omote Communications 020 5446518

URBAN WILDERNESS

(Nero's fiddle or Noah's Arc)

URBAN PUNE

Pune (18° 31' N, 73° 51' E), the fourth Greenest city of India (with more than 40 lakh trees), is a plateau city situated on the leeward side of the Western Ghats at a height of 560m above the mean sea level, at the confluence of Mula and Mutha rivers. Two more rivers Pavana and Indrayani traverse the North-eastern outskirts of the Pune urban area. The city is surrounded by hills on the west and the south. The highest point within the city is the Vetal hill (800 m). The Pune urban area has grown from a mere 5 sq.km in 1817 to present day 700 sq.km, whereas the urban population has grown from few thousands to about 40 lakh in the same period.



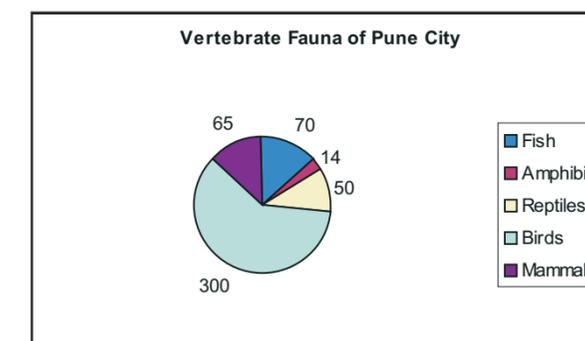
While urban metropolises may seem, at first glance, to be burgeoning, crowded, overstressed habitats with little room for nature, they in-fact provide mosaic of different types of habitats including sky scrappers, city parks, open grounds, riversides, graveyards, garbage dumps, agricultural lands, zoos and botanic gardens, university lands, tree-lined streets and so forth.

Pune : Widened Horizons!



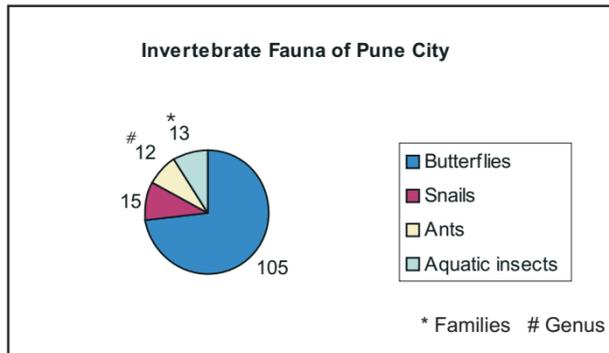
WILD PUNE

HILL FORESTS and well-wooded campuses such as Pune University continue to be the main source of biodiversity . For instance, nearly a fifth of the butterfly species enumerated in the city emerge from the food plants confined to the hill forests which also exclusively host over a sixth of the bird species, seldom seen elsewhere in the city area. Thus, bird or butterfly richness in the city gardens is difficult without the hill forests. A



total of 102 flowering plant species, 108 fish species, 130 bird species , 15 molluscs and uncountable forms of aquatic insects have been recorded in and around the city rivers. The riverbanks once supported dense groves of Babul (*Acacia nilotica*), Karanj (*Pongamia pinnata*) and Shindi (*Phoenix sylvestris*).

Presently, Pune has two forest parks (Bhamburda and Parvati-Pachgaon), two unofficial bird sanctuaries (Mula-Mutha and Pashan Lake), two zoological parks (Peshwe and Rajiv Gandhi). As a result of this Pune is arguably the most biodiverse city of India.

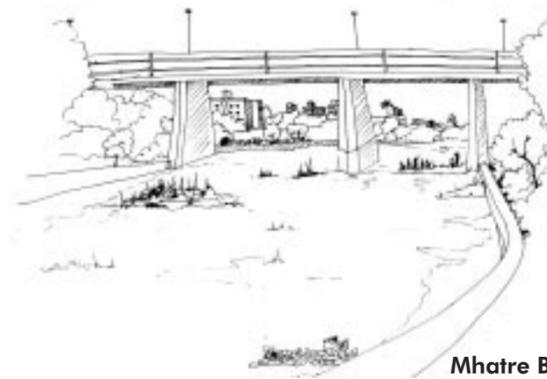
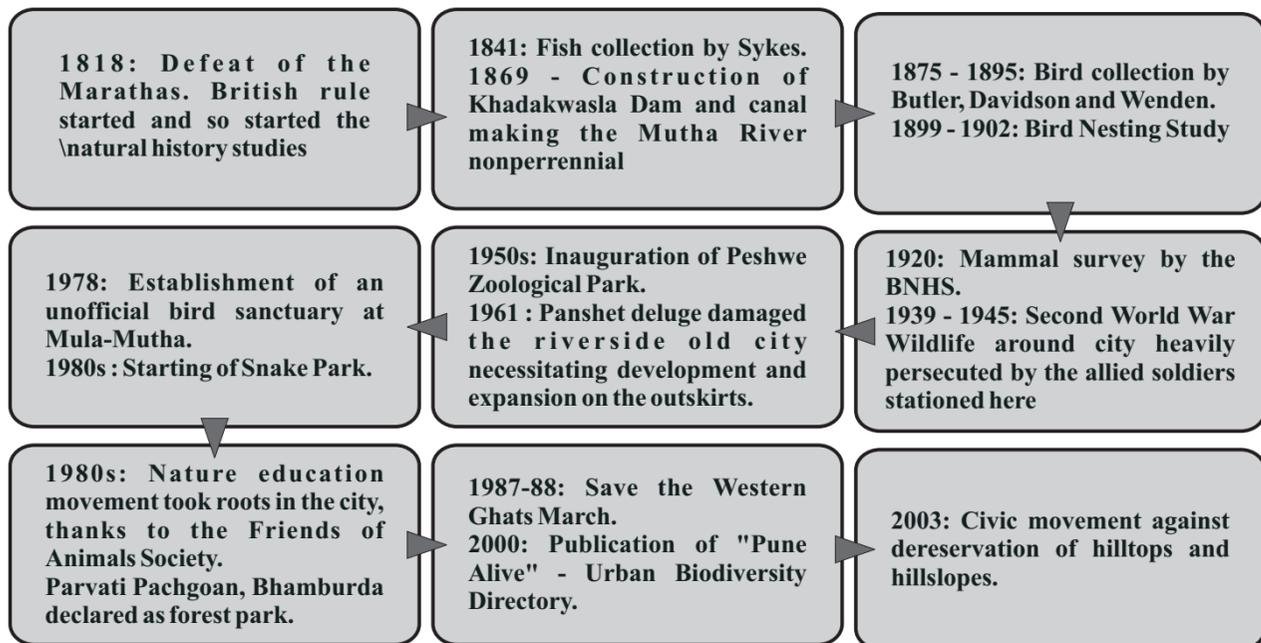


Trees of Pune : Cosmetic increase ?

A total of 380 tree species have been recorded from Pune urban area. Two third of them being cultivated, mostly exotics and one third wild, native. Unfortunately, the increase in populations of most of these exotic, ornamental trees has been at the cost of local, fruit tree species with decreasing populations over the last few decade. These include Neem (*Azadirachta indica*), Mango (*Mangifera indica*), Jackfruit (*Artocarpus integra*) Tamarind (*Tamarindus indica*), Jamun (*Syzygium cumini*), Guava (*Psidium guajava*), Banyan (*Ficus bengalensis*), Peepal (*F. religiosa*) and Wild fig (*F. glomerata*). Some of them like the figs (*Ficus spp.*) were common as avenue and habitation trees earlier, but no more planted and in fact chopped down to accommodate new buildings and wider road. Mango, Guava etc. were common in orchards along city fringes but now encroached by housing colonies.

Most popular plantation and habitation dwelling trees are exotic and include Rain tree (*Samanea saman*), Copper pod (*Peltophorum ferruginum*), Gulmohar (*Delonix regia*), Silver Oak (*Grevillea robusta*), Bottle palm (*Roystonea regia*), Asoka (*Polyalthia longifolia var. pendula*) Fountain tulip (*Spathodea companulata*) Siamese Cassia (*Cassia siamea*)

ECOLOGICAL HISTORY OF PUNE - MAJOR MILESTONES



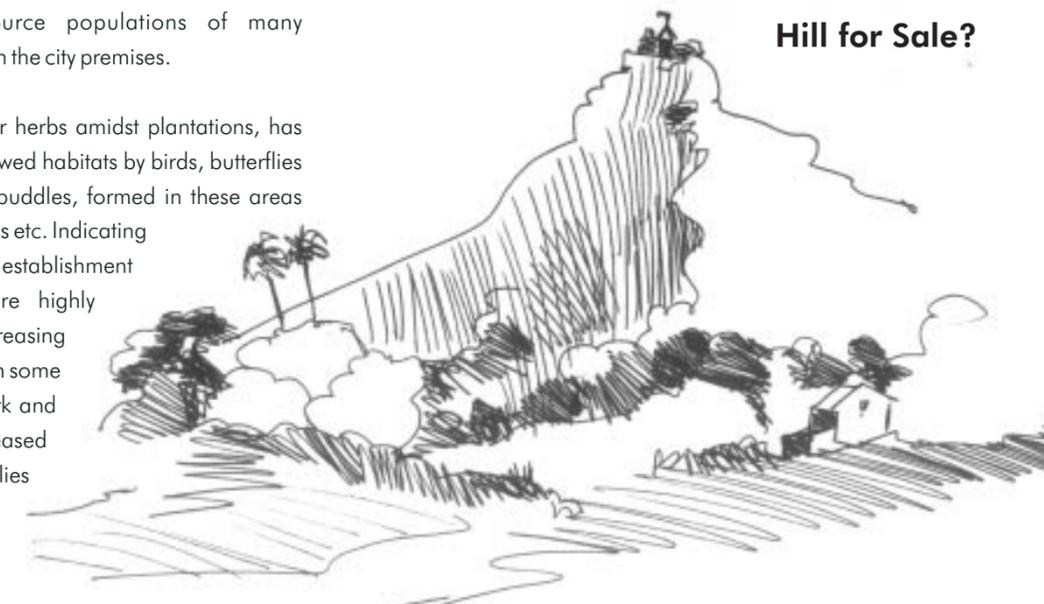
Mhatre Bridge

Neelmohor (*Jacaranda mimisaefolia*) and Cork Tree (*Millingtonia hortensis*).

FACTS

- Fishes and Birds show low biodiversity in impacted habitat types (habitats with more human impact such as agriculture habitation, waterbody etc.) contrasting the less sensitive organisms such as ants.
- Out of 108 fish species reported so far, we have lost 40% species due to pollution, exotic fish, heavy harvesting and changing river ecology.
- Diversity of fleshy fungi, Herbs and Trees seems to be as much or more in impacted habitat.
- Butterflies, Reptiles and Mammals have almost all their species recorded from wilderness zone such as forest, scrub etc.
- Fringe wilderness pockets that are most vulnerable to destruction, support source populations of many butterflies and birds found in the city premises.

The revival of natural trees or herbs amidst plantations, has triggered colonisation of renewed habitats by birds, butterflies etc. Notably, even seasonal puddles, formed in these areas now harbour dragonfly nymphs etc. Indicating Ongoing Colonisation And establishment of even organisms that are highly Susceptible to seasonality. Increasing tree cover of suitable species in some areas such as the Rajnish Park and Parvati-Pachgaon has increased Western Ghats dweller butterflies such as the Blue Mormon.



Threats to Pune's urban biodiversity

- Conversion of 1/3rd of agriculture and 1/2 of scrubland into settlements during last 30 yrs.
- Pollution of Mula, Mutha and Pawana rivers
- Unscrupulous cutting and clearing of vegetation especially along riverside and in the hilly areas for fuelwood by hutment dwellers.
- Old wadas being replaced with modern apartments, buildings reducing favourable nesting or roosting sites for birds, insects etc.

Is there a way out ?

- ECORESTORATION efforts of PMC and Forest department at Parvati-Pachgaon and Bhamburda have bore fruits when butterflies like Blue Mormon started making its appearance felt in the city (a typical Western Ghats dweller) which was earlier not the seen in city. Now one can also chance upon tree frogs appearing at some places.
- Private housing societies and schools are environmentally aware than before and are cautious and choosy about what trees should be planted in their own backyard so that they can chance upon natural bounty.
- Butterfly gardens and Arogya Vatika
- Roof top greenery.