



ENVIS CENTRE, CHANDIGARH

Newsletter

P a r y a v a r a n P a t r a

Chandigarh State of Environment



EDITORIAL

Everyone is important on this earth! It is well documented fact that earth's beauty lies in its bio-diversity. Human is called a superior animal for its abilities and adaptations, still species like birds amaze the minds and sights with their wonderful talents. The life of human has become so complicated that it has started forgetting the joy of life. The noise of various electrical and electronic appliances is replacing the joyous sound of



chirping birds. A short stroll in the morning or evening may give you pleasure of hundreds hours of television besides health. Sukhna, a wetland in Chandigarh is host of number of birds migrating every year. The present newsletter is an effort to sensitize the readers about the birds and bird watching. It also brings in notice the birds that migrate to Chandigarh seasonally for various reasons. The effort is to appreciate the beauty of life and bio-diversity. Eco-clubs must take a clue and organize bird watching camps for students and even create shelters wherever possible for the birds in their vicinity.

Director, Environment

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For Private Circulation only



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Birds

Birds (class Aves) are feathered, winged, bipedal, endothermic (warm-blooded), egg-laying, vertebrate animals. Extant birds range in size from the 5 cm (2 in) Bee Hummingbird to the 2.75 m (9 ft) Ostrich. The fossil record indicates that birds emerged within theropod dinosaurs during the Jurassic period, around 160 million years (Ma) ago.

Modern birds are characterized by feathers, a beak with no teeth, the laying of hard-shelled eggs, a high metabolic rate, a four-chambered heart, and a lightweight but strong skeleton. All living species of birds have wings-the now extinct flightless moa of New Zealand were the only exception. Wings are evolved forelimbs, and most bird species can fly. Flightless birds include ratites, penguins, and a number of diverse endemic island species. Birds also have unique digestive and respiratory systems that are highly adapted for flight.

Environmental Importance of Birds

Birds are the greatest indicators of climate change

Birds keep insect and rodent population in control

Birds help in pollination and distribution of seeds; hence, conservation of forests

Birds are part of bio-diverse system of Planet Earth



Economic Importance of Birds

Many species are of economic importance, mostly as sources of food acquired through hunting or farming. Some species, particularly songbirds and parrots, are popular as pets. Other uses include the harvesting of guano (droppings) for use as a fertilizer. Birds figure prominently in all aspects of human culture from religion to poetry to popular music.

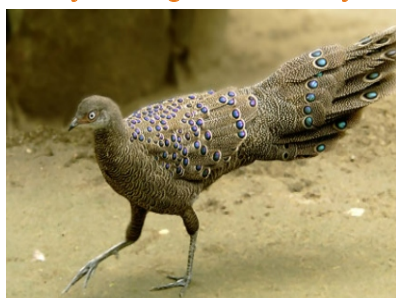
Threat to Birds

About 120-130 species have become extinct as a result of human activity since the 17th century, and hundreds more before then. Currently about 1,200 species of birds are threatened with extinction by human activities, though efforts are underway to protect them.

Social Characteristics of Birds

Birds are social; they communicate using visual signals and through calls and songs, and participate in social behaviours, including cooperative breeding and hunting, flocking, and mobbing of predators. The vast majority of bird species are socially monogamous, usually for one breeding season at a time, sometimes for years, but rarely for life. Other species have polygynous ("many females") or, rarely, polyandrous ("many males") breeding systems. Eggs are usually laid in a nest and incubated by the parents. Most birds have an extended period of parental care after hatching.

Diversity among Bio-Diversity



Bird Intelligence

Anatomically, a bird has a relatively large brain compared to its head size. The visual and auditory senses are well developed in most species, while the tactile and olfactory senses are well realized only in a few groups. Birds achieve locomotion through flight and use of the legs in most species. The beak and feet are used to manipulate food and other objects. Birds can communicate using visual signals as well as through the use of calls and song. The testing of intelligence is therefore based on studying the responses to sensory stimuli. Birds in the crow family (corvids), and parrots (psittacines) have been shown to live socially, have long developmental periods, and possess large forebrains, and these may be expected to allow for greater cognitive abilities. Counting has been considered an ability that shows intelligence. Anecdotal evidence from the '60s has suggested that crows may count up to 3. Some studies, such as one done at Moscow State University, have suggested that crows may indeed have a true numerical ability. It has been shown that parrots can count up to 6. Research published in 2008 that was conducted with an Eleonora Cockatoo named Snowball has shown that birds can identify the beat of man-made music, an ability known as beat induction.

Many birds have been shown capable of using tools. The definition of a tool has been debated. One proposed definition of tool use has been defined by T. B. Jones and A. C. Kamil in 1973 as

the use of physical objects other than the animal's own body or appendages as a means to extend the physical influence realized by the animal

By this definition, a Bearded Vulture (Lammergeier) dropping a bone on a rock would not be using a tool since the rock cannot be seen as an extension of the body. However the use of a rock manipulated using the beak to crack an ostrich egg would qualify the Egyptian Vulture as a tool user. Many other species, including parrots, corvids and a range of passerines, have been noted as tool users.

New Caledonian Crows have been observed in the wild to use sticks with their beaks to extract insects from logs. While young birds in the wild normally learn this technique from elders, a laboratory crow named "Betty" improvised a hooked tool from a wire with no prior experience. The Woodpecker Finch from the Galapagos Islands also uses simple stick tools to assist it in obtaining food. In captivity, a young Cactus Finch learned to imitate this behavior by watching a woodpecker finch in an adjacent cage. Crows in urban Japan have innovated a technique to crack hard-shelled nuts by dropping them onto crosswalks and letting them be run over and cracked by cars. They then retrieve the cracked nuts when the cars are stopped at the red light. Macaws have been shown to utilize rope to fetch items that would normally be difficult to reach. Striated Herons (*Butorides striatus*) use bait to catch fish.

Bird Migration

Bird migration is the regular seasonal journey undertaken by many species of birds. Bird movements include those made in response to changes in food availability, habitat, or weather. Sometimes, journeys are not termed "true migration" because they are irregular (nomadism, invasions, irruptions) or in only one direction (dispersal, movement of young away from natal area). Migration is marked by its annual seasonality. In contrast, birds that are non-migratory are said to be resident or sedentary. Approximately 1800 of the world's 10,000 bird species are long-distance migrants.

The primary motivation for migration appears to be food; for example, some hummingbirds choose not to migrate if fed through the winter. Also, the longer days of the northern summer provide extended time for breeding birds to feed their young. This helps diurnal birds to produce larger clutches than related non-migratory species that remain in the tropics. As the days shorten in autumn, the birds return to warmer regions where the available food supply varies little with the season.

World Migratory Bird Day

World Migratory Bird Day (WMBD) was initiated in 2006 and is an annual awareness-raising campaign highlighting the need for the protection of migratory birds and their habitats. On the second weekend each May, people around the world take action and organise public events such as bird festivals, education programmes and birdwatching excursions to celebrate World Migratory Bird Day.

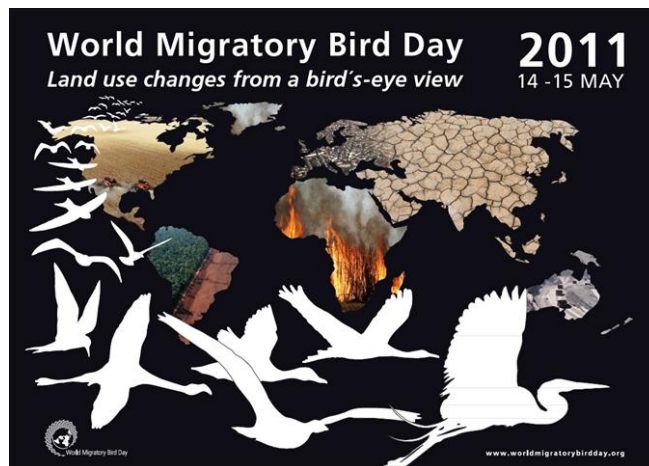
The Theme for 2011

“Land Use Changes from a Bird’s-Eye View”

Imagine the unique perspective migrating birds have of the Earth. Each year they fly thousands of kilometres across entire continents covering the vast expanse of the planet, its many different climates and landscapes. This unrivalled view also enables them to notice the dramatic changes which are currently threatening many of our planet’s ecosystems. Each year more and more of the sites migratory birds depend on during their journeys disappear. As these ecosystems change, there is no guarantee that the habitats migratory birds need along their migration path, will be there the next time they return. Through their dependence on many habitats along their migrations, birds often feel the effects of these changing environments first before many other animal species, making them key indicators for the health of our environment. By focussing on "Land use changes from a bird's eye view" World Migratory Bird Day 2011 aims to highlight the negative effects human activity is having on migratory birds and our global environment.

Sukhna Lake, Chandigarh

Sukhna Lake in Chandigarh, India is an artificial lake at the foothills of the Himalayas, the Shivalik hills. This 3 km² rainfed lake was created in 1958 by damming the Sukhna Choe, a seasonal stream coming down from the Shivalik Hills. Originally the seasonal flow entered the lake directly causing heavy siltation. To check the inflow of silt, 25.42 km² of land was acquired in the catchment area and put under vegetation. In 1974, the Choe was diverted and made to bypass the lake completely, the lake being fed by three siltation pots, minimising the entry of silt into the lake itself. It is wetland and oasis of many migratory birds.



★ Migratory Birds of Chandigarh

Common Pochard



Greenshank



Red Crested Pochard



Great Egret



Purple Moorhen



Ferruginous Pochard





Migratory Birds of Chandigarh
Greylag Geese



Tufted Pochard



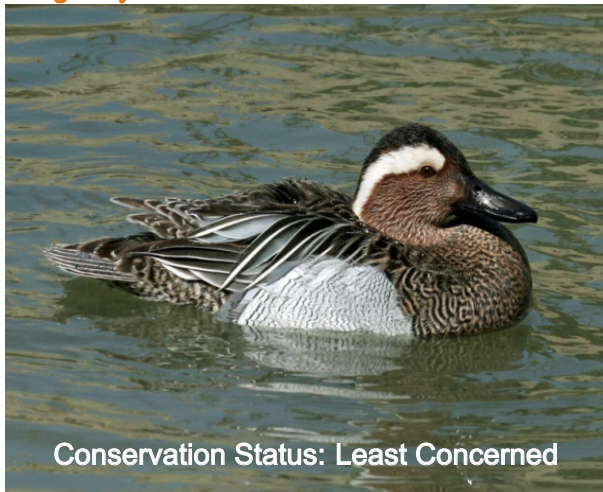
Common Redshank



Mallard



Garganey



Brown Headed Gull





Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.

Your feedback is valuable to us and will be highly appreciated



- Name _____
- Designation _____
- Department _____
- Address _____
_____ City _____
- State _____ Country _____ Pin _____
- Phone _____ Fax _____
- Email _____

Your views on scope of improvement :

- Interest Area _____

I would like to have information on following :



ENVIS CENTRE TEAM

Mr. Santosh Kumar
 (Director, Environment)

Mr. P.J.S. Dadhwal
 (Project Coordinator)

Er. Arun Bansal
 (Sr. Programme Officer)

Mr. Surinder Kumar
 (Data Entry Operator)

First-ever Wildlife Census conducted

The two day 'Wildlife Census 2010' exercise was concluded on 11th Dec, 2010. The census was carried out by Department of Forest & Wildlife, UT Administration in overall supervision of experts from Wildlife Institute of India, Dehradun. In all, 8 groups were formed for transect in 8 different beats of Sukhna Wildlife Sanctuary. Direct counting from Transect walk, collection of indirect evidences like pellets count, others evidence etc were taken and all such raw data shall be processed by Wildlife Institute of India at Dehradun and the final estimate of population & species richness shall be declared by Wildlife Institute of India, Dehradun. Forest Dept installed one camera at one location and plans to put 25-30 cameras in near future for recording of census.



✿ Tips on Bird watching

- ☞ The best time to watch the birds is between 7 and 10 in the morning and between 3.30 and 7 in the evening
- ☞ The Forest Department has put up two binoculars and one Spotting Scope at the Regulator End for the convenience of the bird watchers.
- ☞ Read field guides on bird watching for better understanding and greater delight.

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To,

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