

India Wilds®

Newsletter

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Inside this issue:

Natural Sounds: Restorative benefits on Ecosystems & Us	2
Conservation News	6
Equipment Discussions	10
Natural History	26
Wildlife Photography	28

Cover Page Photograph:

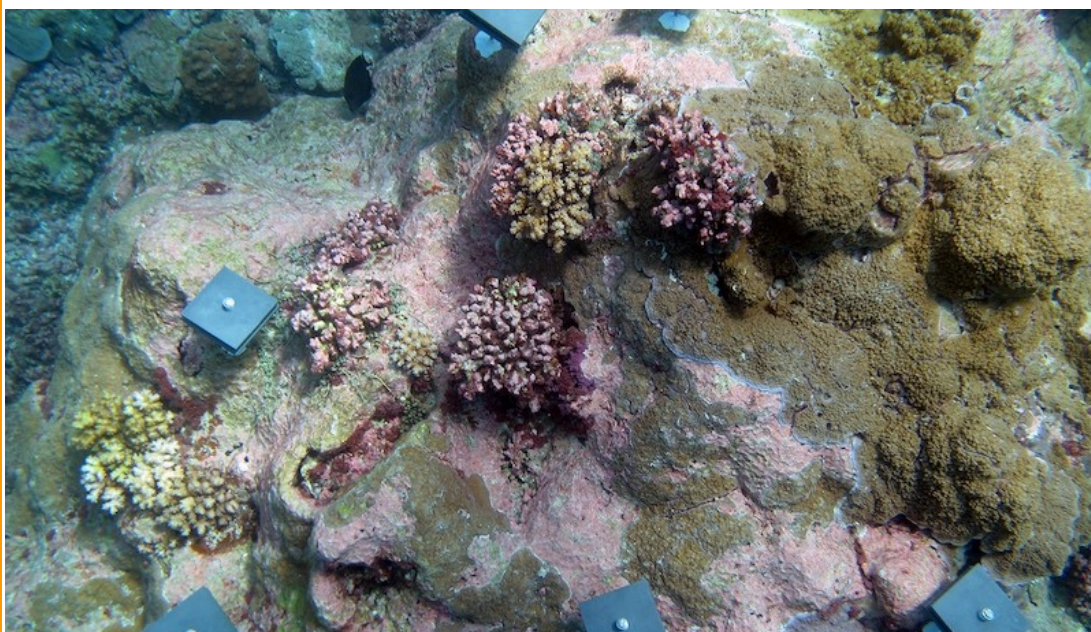
Tiger
by Sabyasachi Patra

Natural Sounds: Restorative benefits on Ecosystems & Us

The human population on earth is exploding and has already crossed 7 billion. By 2050 the human population is expected to cross 9 billion. The destructive hand of man is visible everywhere. Plastics have inundated the oceans. Sewage and industrial wastes have been polluting the ocean waters. Climate change has become a reality and has changed the weather patterns. Extreme weather events have become frequent and higher in intensity. Oceans are warming up and becoming more acidic. These changes are resulting in corals moving away from the equator to more cooler areas (Global biogeography of coral recruitment: tropical decline and sub-tropical increase; Price et al.; <https://www.indiawilds.com/diary/indiawilds-newsletter-vol-11-issue-vii/>). The existing corals are bleaching and dying. Fishes move away from dead coral reefs and those reefs become dead zones.

Our ecosystems are complex web or relationships between various species. Even in land based forest ecosystems the detailed relationships between species and their impact is not well understood. Compared to land our oceans are still relatively less explored and much less understood frontiers. So the behaviour of various species and their impact on each other is an important area that needs extensive study.

Anthropophony or human generated sounds such as loud sounds of boats, ships, underwater activities like oil rigs, mining, dredging and other human activities are causing great stress on the marine species, especially on the species that use ecolocation. It is well known that various species suffer great stress due to sound. Rapid palpitations, miscarriage etc are common when species are exposed to high sounds and often move away from good habitat to avoid sound.



Coral photo by Nichole Price



However, our ability to record and reproduce sounds can be of some help.

Till date we had not placed much emphasis on natural sounds and vocalisations of species. According to Indian law, environmental impact assessments (EIA) are done to understand the impact of various projects in ecologically sensitive areas. However, the consultants conducting the EIA never place emphasis on the sounds. Emphasis is placed on direct sightings. No consideration is given about the use of habitat by species in various seasons. A habitat looking like barren grassland or wetland can harbour thousands of migratory birds in winter. Similarly elephants and other animals make use of land as migratory corridors. Round the clock recording of sounds in habitats can give an accurate idea about the use of habitat.

Recording of sounds from habitat rich in species can be creatively used to lure species to degraded habitats. Scientists have found that by playing sounds of healthy coral reef ecosystems over loudspeakers in dying coral reefs they were able to attract more fishes. (Gordon, T.A.C., Radford, A.N., Davidson, I.K. et al. Acoustic enrichment can enhance fish community development on degraded coral reef habitat. *Nat Commun* 10, 5414 (2019) doi:10.1038/s41467-019-13186-2). This study was conducted over 40 days in Australia's northern Great Barrier Reef and it proved that playing sounds of healthy coral reefs attracted not only juvenile fishes but also retained them. After 40 days the comprehensive survey revealed that there were significantly more herbivores, omnivores, planktivores, invertivores and piscivores on acoustically enriched reefs than on acoustically unmanipulated reefs. The overall abundance doubled and the species richness increased by more than 50%.

This showed that despite visual cues of dying coral reefs the fishes give priority to sounds of rich coral reefs played via underwater loudspeakers and remain in the dying coral reefs. Over a period of time other species too get attracted and this create a vibrant ecosystem. This method can be successfully used while restoring degraded coral habitats. For example, construction of ports result in lot of dredging and the sediments inundate the corals resulting in their death. So habitat alteration to remove the sediments or while undertaking other management interventions and simultaneously playing sounds of underwater loudspeakers can result in fishes coming back and removing toxic algae and seaweeds and nourishing the coral reef back to health.

The experiment of playing sounds of healthy coral reef ecosystems can be replicated in our land based ecosystems as well. Too often, various species of wildlife avoid degraded habitats, buffer zones of forests etc. Herbivores concentrate on areas where they get enough food. These days many of our wilderness areas have been overrun with exotic weeds like *Lantana camara*. The exotic weeds outcompete native vegetation. So the herbivores find it difficult to have rich food supply. So their numbers deplete. When the forest department takes action to remove

exotic weeds, it can use acoustic enrichment techniques to attract species. Playing sounds of birds singing intermixed with joyful sounds of herbivores may help attract other species to the landscape. Natural dispersion of seeds is dependent on many wildlife and bird species. When large species like elephants and other herbivores avoid a part of forest then it impacts the regeneration of many species of trees. Undigested seeds often germinate in the dung. The dungs of various herbivores also help enrich the landscape.



Elephant feeding in exotic infested landscape

Various birds as well as beetles, bugs and other microorganism too make use of the dung of elephants. So by acoustic enrichment when other species come from nearby jungles to degraded landscape where efforts are being taken to remove exotics and improve the biodiversity, natural processes of germination of various plants are likely to occur. Lesser carnivores as well as bigger predators will follow the herbivores. Acoustic enrichment along with other management interventions along contiguous patches in a phased manner can slowly ensure that species gradually move and reclaim the landscapes.

Studies have shown that natural environments help us in recovering from stress (Stress recovery during exposure to natural and urban environments; Ulrich et al., Journal of Environmental Psychology, Vol. 11, Issue 3, Sep 1991). Natural environments turn out to be particularly rich in the characteristics necessary for restorative experiences. Experience in natural environments can not only help mitigate stress; it can also prevent it through aiding in the recovery of this essential resource. (The restorative benefits of nature: toward an integrative framework; Kaplan 1995, Journal of Environmental Psychology). So our protected area managers and ecotourism operators also need to understand the impact of natural sounds on our well being and design ecotourism offerings accordingly.

At the moment, ecotourism operators set up tents and build resorts without understanding the impact of retaining the natural environment.

So they try to modify the places to create a playground like environment even in ecosensitive areas. In a recent visit to some of the places in Odisha, I found tents setup in pristine locations. However, loud music is played and dance and plays are staged in the name of promoting the local artists and culture. Why do you need to destroy the natural soundscape of a river mouth or seashore? Let the local cultural promotions happen at a different place. The primary purpose of people moving to a natural landscape to recover from stress is not solved if they are deprived of natural sounds. Hopefully the tourism department will not setup dance and music performances similar to Ramachandi beach festival in Rajhans island and destroy the peace of dolphins and aquatic fauna.



Tents at Ramchandi beach Odisha

A study has shown that the risk of Type 2 Diabetes Mellitus was significantly lower in greener neighbourhoods, controlling for demographic and cultural factors, especially among participants residing in neighbourhoods with 41-60% green space land use. (Is Neighbourhood Green Space Associated with a Lower Risk of Type 2 Diabetes Mellitus? Evidence from 267,072 Australians, Astell-Burt, T., X. Feng, and G.S. Kolt. 2013.) Currently many state governments mandate green areas for residential buildings but those are not followed. In many cases green areas are equated with playgrounds or lawns which take up more water. The Government should mandate that each building has to have tall trees and fenced green areas so that they work as micro wilderness areas for the mongoose and other smaller species and also help in carbon sequestration as well as help in lowering our stress and associated health risks.

We have messed up with the world and are now heavily facing pollution, stress, suicide etc. Hope people as well as authorities understand the impact of nature on us and take steps to not only preserve our natural landscapes but also reengineer our lives to be more in sync with nature.

Conservation News -

SC gives nod to African Cheetah introduction in India:

NTCA had filed an application seeking permission to introduce african cheetah in India. Supreme court has now allowed the central govt. to introduce African cheetahs in suitable habitat.

The case was heard by a SC bench comprising CJI S A Bobde, Justice B R Gavai and Justice Surya Kant and a three member committee has been formed to guide the NTCA. The members of the three member committee are Ranjit Singh, DG Wildlife Dhananjay Mohan, DIG Wildlife. The bench said that the decision for relocation will be taken after a proper survey and the action to introduce African cheetahs from Namibia will be left to the discretion of NTCA. This three member committee will submit a report within four months.

Earlier the Hon'ble Supreme Court had put a bar on introduction of African Cheetah in India. However, NTCA decided to again seek permission of the court and this time they have been successful.

The SC bench said “In an application in 2013 by The Centre for Environment law, this court struck down the order of MOEF in MP on the ground that the MOEF had not conducted any detailed study before introducing foreign species cheetah. This application seeks to remedy the effect in that application. The African cheetah would be introduced on the experimental basis in a carefully chosen habitat to see whether it can be put in some other place. In case there is difficulty in choosing the location the location may be changed. It is not desirable that this action of introducing the African cheetah be left to the sole discretion of NTCA but the NTCA be guided by a committee of experts in the field who would carry out a survey for the best location for cheetah and a careful decision of the viability of the cheetah”

Unfortunately, African Cheetah is an exotic species and its reintroduction has no conservation value. It would have tourism value and that is what is NTCA aiming for. African Cheetah was never a part of this landscape, so they should not be introduced in India.



African Cheetah

Source: Wikipedia

The proponents of this project say that it will help in habitat protection. Unfortunately that is farther from the truth. How many square kms of habitat are we talking? We simply don't have grasslands bigger than 30-40 Sq. kms. And if we are thinking of having a project in such a small area than it is like a small safari in a zoo. Already grasslands and forests are being taken over on some project or the other.

Conservation News -

It is said that introduction of African cheetah would lead to better protection of the existing species. There are existing projects like Project Tiger, Project Elephant etc. We do have sanctuaries after particular species. However, we don't pay attention to the existing protected areas. So introduction of African Cheetah can't break this apathy.

A charismatic species like the Tiger is on the brink. So definitely Cheetah can't succeed where tiger has failed in overcoming the structural issues. For e.g. Where is the protection?

Who is protecting? Our frontline guard force, foresters, rangers etc are old. Half of the posts are lying vacant. A number of places also require more manpower than the sanctioned capacity. They don't get their salaries in time. They are demotivated, ill equipped. Who is looking into this basic issue?

In our federal setup, the forests are under the control of the states. It is laughable when one state doesn't allow translocation of a species to a forest in another state. We haven't been able to save the Asiatic lion. Gujarat is not willing to give a few lions from Gir to be translocated to Madhya Pradesh despite Supreme Court order. Even though that is vital for the survival of lions in this country.

Our forest department is still oriented with the colonial hangover of calculating our forest wealth in terms of cubic feet of timber. Too often we resort to cheap gimmicks rather than ecologically sound plans. The few scientists of repute in this country are mostly depending upon their studies for support rather than illumination – the way a drunken person uses the lamp posts.

I would like to quote the late Kailash Sankhala here: “We seem to forget the fact that nature cannot be protected by chanting Vedic mantras or celebrating ‘Vana Mahotsava’ and National Wildlife Weeks, nor by building mathematical models and writing glossy management plans, nor by making formal declarations of intent in quick succession....”

Gimmicks like African Cheetah introduction doesn't help in our conservation and should not be a part of our vision. We have better things to do like energising our frontline protection force, creating ecologically sound management plans and implementing those, prosecution of poachers, restoration of wildlife corridors, relocation of villages from the forest and resettling the villagers, creating a dedicated wildlife department etc, than get swayed by such gimmicks.

India achieves complete phase out of Ozone depleting chemical HCFC-141b

India has successfully achieved the complete phase out of Hydrochlorofluorocarbon (HCFC)-141 b, which is a chemical used by foam manufacturing enterprises and one of the most potent ozone depleting chemical after Chlorofluorocarbons (CFCs). (HCFC)-141 b is used mainly as a blowing agent in the production of rigid polyurethane (PU) foams.

India has consciously chosen a path for environment friendly and energy efficient technologies while phasing out Ozone

Conservation News -

Depleting Substances (ODSs). Importantly, India is one among the few countries globally and a pioneer in some cases in the use of technologies, which are non-Ozone Depleting and have a low Global Warming Potential (GWP).

India had proactively and successfully taken the challenge of complete phase out of Hydrochlorofluorocarbon (HCFC)-141b, which is a chemical used by foam manufacturing enterprises by 1.1.2020. On 31 December, 2019, as part of the Government's commitment for moving towards environment friendly technologies, in a significant first, the Ministry of Environment, Forest and Climate Change (MoEFCC) brought out a notification in the Gazette of India through which the issuance of import license for HCFC-141b is prohibited from 1st January, 2020 under Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2019 issued under the Environment (Protection) Act, 1986.

HCFC-141b is not produced in the country and all the domestic requirements are met through imports. With this notification, prohibiting the import of HCFC-141b, the country has completely phased out the important ozone depleting chemical. Simultaneously, the use of HCFC-141 b by foam manufacturing industry has also been closed as on 1st January, 2020 under the Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2014.

Nearly, 50 % of the consumption of ozone depleting chemicals in the country was attributable to HCFC-141b in the foam sector. The Ministry adopted a structured approach to engage with foam manufacturing enterprises for providing technical and financial assistance in order to transition to non-ODS and low GWP technologies under HCFC Phase out Management Plan (HPMP). Around 175 foam manufacturing enterprises have been covered under HPMP out of which, 163 enterprises are covered under stage II of HPMP. The complete phase out of HCFC 141 b from the country in foam sector is among the first at this scale in Article 5 parties (developing countries) under the Montreal Protocol. The implementation of HPMP through regulatory and policy actions, implementation of technology conversion projects has removed around 7800 Metric Tonnes of HCFC 141-b from the baseline level of 2009 and 2010 of the country.

The phase out of HCFC-141b from the country has twin environmental benefits viz. (i) assisting the healing of the stratospheric ozone layer, and (ii) towards the climate change mitigation due to transitioning of foam manufacturing enterprises at this scale under HPMP to low global warming potential alternative technologies.

The polyurethane foam sector has links with important economic sectors related to buildings, cold storages and cold chain infrastructure, automobiles, commercial refrigeration, domestic appliances such as refrigerators, water geysers, thermo ware, office and domestic furniture applications, specific high value niche applications etc. In India, the foam manufacturing sector is mix of large, medium and small enterprises having varying capacities, with preponderance of MSMEs. Many of the MSMEs operate largely in the informal sector.

To ensure minimal dislocation in the sector and for enhancing the capacities of Micro, Small, and Medium Enterprises (MSMEs) in converting to low-GWP non-ODS technologies, training and awareness programmes on non ODS and low GWP alternatives to HCFCs including adoption of such alternatives have been organized in close collaboration with Industry and MSMEs will also be facilitated for adequate tie-ups with system houses, laboratories for getting their material test-

Conservation News -

ed, etc, in addition to organizing study tours, field visits, etc.

Noting the challenges, the Ozone Cell, MoEF&CC entered into a MOA with the Central Institute of Plastics Engineering & Technology, Department of Chemicals & Petrochemicals to facilitate and hand-holding foam manufacturing enterprises. Transitioning to non HCFC and low GWP alternatives. As part of assistance made available to the enterprises technology workshops, field trials, on-site demonstration and support, practical hands on training and product validation are being provided. Already enterprises assisted for stabilizing alternative technologies have been able to move towards adoption of alternatives at commercial scale.

Air pollution will lead to irreversible blindness

Air pollution is a major cause of respiratory diseases and deaths and now it is proving to be a cause of blindness as well. A recent study found that people living in areas with higher fine particulate matter have 6% more chance of suffering from glaucoma than people living in the least-polluted quartile among the study group. (The Relationship Between Ambient Atmospheric Fine Particulate Matter (PM_{2.5}) and Glaucoma in a Large Community Cohort; Chua SYL et al.; Investigative Ophthalmology & Visual Science, Nov 2019). Also the study found that these people have thinner retinas which is a sign of progression of glaucoma.

This study is based on questionnaire data, ophthalmic measures, and ambient residential area air quality data for 111,370 UK Biobank participants. Glaucoma is known as a neurodegenerative disease and is accepted as hereditary. This study is the first to suggest a linkage with air pollution. The first author of the study Dr. Sharon YL Chua said *"Air pollution may be contributing to glaucoma due to the constriction of blood vessels, which ties into air pollution's links to an increased risk of heart problems. Another possibility is that particulates may have a direct toxic effect damaging the nervous system and contributing to inflammation."*

One of the authors Professor Paul Foster from UCL Institute of Ophthalmology and Moorfields Eye Hospital said, "Most risk factors for glaucoma are out of our control, such as older age or genetics. It's promising that we may have now identified a second risk factor for glaucoma, after eye pressure, that can be modified by lifestyle, treatment or policy changes."

He further said *"We found a striking correlation between particulate matter exposure and glaucoma. Given that this was in the UK, which has relatively low particulate matter pollution on the global scale, glaucoma may be even more strongly impacted by air pollution elsewhere in the world. And as we did not include indoor air pollution and workplace exposure in our analysis, the real effect may be even greater."*

It would be important to conduct such a study in India as we have 15 of the most polluted cities in the list of world infamous Top 20 polluted cities. Earlier glaucoma was considered as just an age and hereditary linked disease. However, with this study showing a linkage of blindness with air pollution the Government needs to take concrete steps to resolve the root causes of air pollution in India as air pollution is proving to be enemy No. 1 of public health.

Equipment Discussions -

Canon EOS 1DX Mark III final specifications revealed:

Canon has announced the final specifications of the EOS 1DX Mark III camera and it will be available in mid February 2020.

Following are the salient features of the Canon EOS 1DX Mark III DSLR Camera:

- Sensor resolution: 20.1 Megapixel full frame CMOS sensor with a new High detail Low-pass filter.
- Processor: New DIGIC X image processor.
- ISO: 100-102400 and expandable to an ISO 50 to 819200. It is yet to be seen how the insane 819200 ISO works.



- Optical viewfinder: 191 point optical viewfinder AF system with all cross type sensors and Deep Learning Technology to track faces
- DPAF: Dual Pixel CMOS AF covering 90% x 100% of the area. It has 3869 manually selectable AF positions and 525 automatic areas
- Media: Dual CFexpress media card slots
- Raw: 12-bit 5.5K internal RAW video recording. Oversampling 4K 60p video recording using the full width of the sensor in Canon Log with 10-bit 4:2:2
- No AF in Raw video: There will be no auto-focus in any frame rate in raw video shooting. This is a significant let down for many of us shooting fast moving wildlife and sports.
- Eye detections AF: In live view there is eye detection AF tracking which provides high-precision tracking by locking in on and following the eye of a moving subject. When in Live View AF/AE tracking is supported during high-

speed burst shooting with the ability to capture up to 20 fps in both RAW and RAW + JPEG file format.

Price: \$6499 US Dollars

PRESS RELEASE

A Masterpiece In Engineering And Design: Canon Announces The EOS-1D X Mark III Camera

MELVILLE, NY, January 6, 2020 – Canon U.S.A. Inc., a leader in digital imaging solutions, today announced the highly

Equipment Discussions -

anticipated Canon EOS-1D X Mark III camera – the successor to the world-renowned and award-winning EOS-1D X Mark II. The Company's new flagship DSLR has been engineered and designed using extensive feedback from the professional sports, photojournalist, wildlife and wedding photographers.

This new groundbreaking workhorse EOS-1D X Mark III DLSR Camera features:

- New 20.1 Megapixel Full-frame CMOS Sensor combined with newly designed High Detail Low-Pass Filter
- New DIGIC X Image Processor with an ISO range of 100-102400; Expandable to 50-819200i
- New 191-point optical viewfinder AF system capable of tracking the subject's head, and face using Deep Learning Technology
- New Smart Controller built into the AF-On button for fast control of the AF Point selection
- Dual Pixel CMOS AF for fast and accurate autofocus in Live View covering 90%x100% of the image area at an EV of -6 ~ 18
- The lightning-fast camera features the ability to shoot up to 16 frames-per-second in optical viewfinder shooting and up to 20 fps while in Live View shooting with mechanical or silent shutter
- Maximum buffer in continuous shooting (RAW+JPEG) of 1000 images or more with dual CFexpress card slots
- 12-bit 5.5K RAW video internal recording and oversampling 4K 60p video recording using the full width of the sensor in Canon Log with 10-bit 4:2:2

"When engineering and designing the new flagship camera, Canon's top priority was collecting and implementing extensive user-feedback from a variety of professionals," said Kazuto Ogawa, president and chief operating officer, Canon U.S.A., Inc. "In the end, the outcome is at first glance a familiar tool, but in reality, so much more; a camera unlike anything the company has introduced before. Canon is eagerly waiting to see what timeless memories professional image makers capture with this new camera."

At the camera's core is Canon's newly developed 20.1 megapixel full-frame CMOS sensor, a High Detail Low-Pass Filter and the DIGIC X image processor. These features will help to provide professional photographers with a fast and powerful tool to capture images with a greater level of resolution, higher sensitivity, reduced moiré and improved image quality in higher ISO ranges with reduced noise. Utilizing a single DIGIC X image processor and a DIGIC 8 dedicated for AF/AE the camera's image processing performance far exceeds and surpasses that of its predecessor, all while reducing power consumption. The DIGIC X is capable of up to approximately 3.1 times the image processing and 380 times Dual CMOS AF processing performance compared to the dual DIGIC 6+ found in the EOS-1D X Mark II. The new powerful image processor also allows for an ISO range of 100-102,400 (expandable up to 50-819,200), providing users with higher clarity images and quality in various shooting situations.

The EOS-1D X Mark III camera also provides users with equally impressive video features, with the ability to internally rec-

Equipment Discussions -

ord 5.5K RAW video and uncropped 4K 60p derived from the original 5.5K readout in Canon Log with 10-bit 4:2:2. Canon Log allows users to record 4K and 1080p video files with up to 12 stops of High Dynamic Range and wide exposure latitude, making it simple to coordinate color settings with other Canon cameras in multi-camera set-ups. It's ideally suited to help streamline and provide greater creative freedom during the extensive post-production processing. In addition, the camera's HDMI terminal can be used to transmit 4K 60p data to another device for display or external recording.

When developing the EOS-1D X Mark III, Canon put a heavy emphasis on designing and installing a completely overhauled and comprehensive Auto Focus system for the user with the need for speed. The new 191-point AF system with 155-point all cross-type points helps users to quickly and smoothly track a subject and maintain a level of focusing accuracy during a variety of shooting situations such as tracking a motorcar circling around the race track or a leopard bolting across the plains. Canon has redesigned the AF sensor incorporating a new square pixel design based on an image sensor, essentially making the AF sensor 28x higher resolution at the center area.

Canon's revolutionary Dual Pixel CMOS AF technology provides users with fast and accurate AF using 3869 manually selectable AF positions and 525 automatic areasii. In Live View shooting, the EOS-1D X Mark III's AF system supports face, head and, most noteworthy, eye detection AF tracking. Eye detection AF provides high-precision tracking by locking in on and following the eye of a moving subject. When in Live View AF/AE tracking is supported during high-speed burst shooting with the ability to capture up to 20 fps in both RAW and RAW + JPEG file format.

Using the traditional optical viewfinder, the camera has the ability to capture up to an extraordinary 16 fps with reduced time lag and image blackout. Reducing lag and image blackout greatly increases a photographer's ability to track moving subjects and never miss a shot. Regardless of the method of shooting through the OVF or LCD, the EOS-1D X Mark III can shoot over 1000 images in a burst using the dual CFexpress cards.

To support the needs of top professionals, the camera's communications functions have been greatly enhanced. Incorporating a dedicated Network tab in the menu, the photographer can much more easily set up network functions such as connections via built-in gigabit Ethernet, Wi-Fi® connectivity, Bluetooth connectivity and destinations such as FTP servers, EOS Utility, or Browser Remoteiii functions. It will even support encrypted network authentication for advanced network users.

Thoughts from the First Users

"I can't say enough good things about how well the EOS-1D X Mark III camera performed on so many levels. The new AF system is a game-changer for me, I was totally blown away by how well it performed in various situations, including very low-light levels," said wildlife photographer and Canon Explorer of Light Adam Jones. "The ability to move the AF point quickly with the new sensor-based AF button was simply amazing; the focus followed the subject like nothing before. As a wildlife photographer, I never dreamed we would have a camera that could follow focus on fast-flying snow geese using a super-telephoto lens with 1.4x and 2x converters - but with the new camera here we are!"

"My job is to travel the world to photograph automobile racing and car culture in the harshest conditions imaginable."

Equipment Discussions -

Racetracks, salt flats, sand dunes, frozen lakes, you name it, I photograph all things four wheels. That is why I need a camera that works as hard as we do,” said automotive photographer Larry Chen. “I started my professional career on the EOS-1D series of bodies, and I’ve had several over the years with over one million images captured. The EOS-1D X Mark III really is the next generation of professional cameras in a familiar package, the first words out of my mouth after shooting with it were “There are no more excuses, to miss a shot!” I can’t wait to use it for the 2020 racing season!”

Additional Features of the Canon EOS-1D X Mark III DSLR Camera Include:

- Enhanced operational controls including button illumination, Touch AF and a multi-controller allowing users to select the desired AF point more easily
- Face-Priority E-TTL II metering enables the camera to automatically adjust to provide the appropriate output of an external flash when it detects a face
- Digital Lens Optimizer helps to correct against any potential lens diffraction or aberration based on the design of each individual lens. DLO also improves the overall resolution of an image
- Ability to capture stills in 10-bit using the HEIF (High-Efficiency Image File) file format. HEIF produces a wider dynamic range and greater color representation compared to 8-bit JPEG
- Built-in Wi-Fi®iv, Bluetooth® v, and GPSvii Technology
- Faster speed and improved user interface for networking with optional Wireless File Transmitter WFT-E9 or with the built-in gigabit ethernet port
- Canon EOS-1D series level of durability including dust-and-weather- resistance

Price and Availability

The Canon EOS-1D X Mark III DSLR camera body and WFT-E9 wireless file transmitter are both scheduled to be available in mid-February 2020 for an estimated retail price of **\$6,499.00 and \$649.99**, respectively*.

Equipment Discussions -

Insta360 ONE R: an adaptive Action Camera Co-Engineered with Leica

Innovative camera maker Insta360 has announced ONE R, an adaptive action cam whose unique interchangeable-lens design enables 360-degree capture, standard 4K wide-angle capture, and use of a groundbreaking 5.3K 1-inch sensor — all with a single device.



The concept is simple — one battery, one processor and a selection of quick-swapping lens Mods. In an instant, ONE R transforms from a dual-lens 360 shooter to a standard action cam. ONE R currently offers three ways to shoot with three available lens Mods — the Dual-Lens 360 Mod, the 4K Wide-Angle Mod and the 1-Inch Wide Angle Mod co-engineered with Leica.

The 1-Inch Wide Angle Mod achieves the best performance ever in an action camera, combining a 1-inch sensor with the legendary optical expertise of Leica and 5.3K resolution — in a compact, rugged body backed by Insta360's signature FlowState stabilization.

The right tool for every job:

ONE R is designed to give creators, athletes and adventurers a single tool that can adapt to any shoot.

In terms of creative freedom, nothing beats a dual-lens 360 camera. It unlocks the ability to reframe shots after the fact, ensures that users never miss the action, and enables unique techniques such as drone-like aerial angles. But for scenes in which action is concentrated in one direction, a reframed shot from a 360 camera still doesn't achieve the same level of

Equipment Discussions -

quality and resolution as a specialized single-lens shooter.

These two camera formats have unique strengths and tradeoffs — just as telephoto and wide-angle setups on an SLR camera have equal but opposite strengths. The only way to take advantage of both formats is with an easy, efficient way to switch from one to the other on the fly. ONE R is just that.

High quality action cam:

ONE R redefines what's possible with an action cam. Each of its three available Mods unlock breakthrough imaging and quality.

Dual-Lens 360 Mod: This Mod supports 5.7K capture on two lenses that cover every direction at once. It enables a real-time 360-degree preview on ONE R's touchscreen, while innovations like Color Plus, HDR video and Night Shot achieve the best color accuracy and low-light performance in any consumer 360 camera.

4K Wide Angle Mod: Ready for 4K@60fps, this Mod captures crisp, vibrant, stabilized action and supports up to 8x slow mo. Its reversible design lets you flip the touchscreen from back to front in a snap — perfect for getting real-time feedback when filming yourself.

1-Inch Wide Angle Mod co-engineered with Leica: This Mod achieves a level of quality never before seen in an action cam. The 1-Inch Wide Angle Mod uses a best-in-class 1-inch sensor to capture brilliant 5.3K video and 19MP photos even in complex lighting conditions. Premium performance in a device that's ready to go anywhere — the 1-Inch Wide Angle Mod

Insta360 ONE R



Equipment Discussions -

is a game-changer.

Insta360 One R 1 inch edition co-engineered with Leica

Leica worked closely with Insta360 on the optical engineering and industrial design of the 1-Inch Wide Angle Mod, and contributed its unmatched expertise in image quality and color reproduction.

Smooth moves Even in the dark:

The ONE R uses a fully upgraded FlowState stabilization algorithm to achieve gimbal-like stabilization whether you're shooting in 360 or with a standard wide angle. Using a smart scene-detection algorithm, ONE R outclasses the competition with stabilization that holds steady even in low-light scenes.

Waterproof upto 16.4 feet:

ONE R is IPX8 waterproof to depths of 5 meters (16.4 feet) straight out of the box. For those who want to go deeper, a Dive Case enables descents of up to 60 meters (197 feet). However, the comparable Go Pro hero cameras go upto 33 feet without housing.

Voice control:

Voice control lets you control ONE R with a few simple commands. If ONE R is mounted on a helmet or out of reach, just give it a shout.

Auto Frame changes the game:

The best thing about shooting 360 video is that you capture an infinite number of possible angles and edits. The worst thing about shooting 360 video is that you capture an infinite number of possible angles and edits. If only there were some kind of artificial intelligence that could analyze a scene in every direction at once to find the most interesting moments and angles.

Enter Auto Frame. Insta360 has developed its own computer vision algorithm to identify the best parts of any 360 video and recommend them to creators. There's still plenty of choice, but the ONE R app's Auto Frame feature helps you quickly narrow down the shots worth considering and does the reframing for you.

Deep Track:

AI-powered computer vision also enables ONE R's mind-blowing tracking capabilities. When editing 360 video, creators can simply select a subject to follow with a tap. The ONE R app will automatically keep it locked in center-frame. Even if a subject is obscured by an obstacle, ONE R's algorithm will remember it and start tracking again as soon as it reappears.

And if you don't want to wait for post-production to choose your subject, you can also use Deep Track in real time. ONE R's unique "Point to Track" feature lets you lock onto a subject with the voice prompt "Mark that!". The next time you connect

Equipment Discussions -

to your camera, you'll get an automatically reframed shot that follows your chosen subject — it's like having a cameraman with you wherever you go.

Mimicking a drone:

ONE R brings back Insta360's endlessly fun and versatile Invisible Selfie Stick feature. Easily capture aerial angles and video-game-style third-person views by making your camera grip invisible. Invisible Selfie Stick is only supported when using the Dual-Lens 360 Mod.

Low light:

ONE R offers a range of both hardware and software upgrades to achieve best-in-class low-light performance. New Night Shot mode captures low-light photos that pop, while automatic de-noising preserves detail in low-light video.

ONE R also supports HDR modes for both photos and video, and creators can take advantage of Color Plus to do an automatic, one-touch color grade that brings out brighter, more vibrant hues.

When it comes to color reproduction and low-light performance, the 1-Inch Wide Angle Mod co-engineered with Leica is in a class of its own. Its 1-Inch sensor brings out highlights and shadows in vivid detail. Vloggers will be tempted to leave the rest of their kit at home.

Sounds good:

Every ONE R build comes standard with two onboard mics and an automatic wind-reduction algorithm that achieves great sound straight off the camera. However, its USB Type-C port and top-mounted Accessory Shoe also allow for easy third-party 3.5mm mic connection.

Infinite possibilities:

The ONE R app comes with a range of new editing features designed to help creators take advantage of all its capabilities. The TimeShift hyperlapse effect popularized by ONE X can now be completed with a couple taps, and a new pose-detection algorithm lets creators instantly identify and extract every frame of a clip in which they strike a similar posture — enabling mind-bending stop-motion effects that used to take hours of work.

New Starlapse mode automatically calibrates exposure settings to capture stunning time-lapses of the night sky — creators just pick a time and a place and hit record. The ONE series' signature Bullet Time effect has also been upgraded with a smart horizon-leveling algorithm.

FlashCut auto editing:

FlashCut is the ONE R app's content-aware editing algorithm. First, it finds shots based on a theme set by the creator — like food, travel or pets. Then it combines them on beat into a stylish edit. FlashCut can filter and combine footage cap-

Equipment Discussions -

tured by any ONE R build — 360 or standard.

More Mods:

ONE R doesn't stop at three Mods. Its unique design enables a huge range of efficient add-ons and upgrades. The standard Battery Base can be swapped for a double-size Boosted Battery Base for extended shooting.

Meanwhile, Insta360 has also announced the groundbreaking Insta360 ONE R Aerial Edition, which offers a specialized mounting system to make supported drones completely invisible and captures an unobstructed, airborne 360-degree view.

Price:

Insta360 One R Twin edition costs **\$479.99 US Dollars**

Insta360 R One inch edition costs **\$549.99 US Dollars**

Insta360 ONE R 4K Wide Angle Mod for **\$299.99 USD.**

Equipment Discussions -

Panasonic Announces HC-X1500, HC-X2000 And AG-CX10 - Lightweight 4K 60P Professional Camcorders With A Wide-Angle 25MM Lens And 24X Optical Zoom

Panasonic has announced 3 of the industry's smallest and lightest 4K 60p camcorders. Though compact and lightweight, the HC-X1500, HC-X2000 and AG-CX10 offer a high standard of on-site mobility and portability, as well as the high-quality 4K 60p recording capability demanded by professionals. The Wide-Angle 25mm Lens and 32x i.ZOOM (4K recording) achieve high-spec optical performance thanks to Panasonic's exclusive high-precision AF, which also provides high-speed, accurate focusing for both 4K and Full-HD shooting. The new models have professional functions like Two Manual Rings, an ND Filter, a Built-in LED Video Light (except HC-X1500), and 24-bit High Resolution Linear PCM Audio Recording. Users can further customize the recording formats according to the shooting environment or preference.



10 bit internal: The HC-X1500, HC-X2000 and AG-CX10 all support 4:2:2 10bit Internal Recording upto 4K 30p and the new, high-efficiency HEVC codec, and built-in Wi-Fi supports HD Live Streaming without additional equipment.

File format:

The AG-CX10 supports the broadcaster-targeted P2 MXF File Format. Ethernet HD Live Streaming and an NDI|HX

Equipment Discussions -

(which requires a license) compatible IP connection function are equipped, and connectivity is provided for use as a live camera.

Precise Optical Performance

The 4-Drive Lens System controls the lens groups independently. This integrated lens offers a remarkably powerful optical 24x zoom that ranges from 25mm* wide angle to 600mm* tele.

Using i.ZOOM achieves 32x at 4K resolution, and 48x at FHD.

Equipped with a LEICA Dicomar Lens world-renowned for its high standards of lens resolution, contrast, and quality, the camcorders produce stunningly beautiful images while suppressing flaring and ghosts. Two Manual Rings are provided, one for focusing and the other for zoom or iris operation. The Manual Rings are different sizes, so the appropriate ring be accurately identified by touch. ND Filters can be selected from 1/4, 1/16, 1/64, and Clear, while glass is newly used as a countermeasure against scorching from sunlight condensation.

High-speed, High-precision AF Including Face Detection AF/AE

Face Detection AF/AE provides precise focusing and sufficient exposure for subjects, and together with the precise focus lens drive achieves superior focusing speed, stability and tracking performance for both 4K and Full-HD. In addition, subject tracking with color recognition can be activated on the LCD panel.

5-Axis Hybrid O.I.S.

For both UHD and FHD modes, in addition to O.I.S. (Optical Image Stabilization), Electronic Image Stabilization operates to detect and correct handshake in 5 axes, including rotational blurring. The Ball O.I.S. System reduces friction on the drive section, achieving delicate correction even for small-amplitude handshake. This produces beautiful images with suppressed handshake even at high, 24x optical zoom.

Industry's Smallest and Lightest Camcorder

According to Panasonic, a newly developed fan is at the center of Panasonic's new heat-dispersing design and has helped in creating the industry's smallest and lightest camcorder with integrated lens capable of 4K 60p recording. By borrowing air from the rear panel of the camera and efficiently dispersing heat from the front panel, reliable, extended shooting is achieved.

High-Quality, Versatile Recording

The Venus Engine, found in almost all of Panasonic's LUMIX cameras, is also incorporated in these camcorders. This enabled 4:2:2 10-bit internal recording with maximum 29.97p in UHD, and maximum 59.94p in FHD.

Equipment Discussions -

When set for 10-bit recording, the camcorder delivers 4K 60p 4:2:2 10-bit HDMI output, enabling high image quality capture with an external recorder. New, highly efficient HEVC recording (LongGOP/10-bit 4:2:0/MOV) is also supported for recording 59.94p at a high bit rate of 200 Mbps. As for file formats, in addition to MOV, MP4, and AVCHD, the AG-CX10 also supports the ideal P2 MXF for the editing system for broadcast stations, and recording by the AVC-Intra/AVC-LongG codecs is supported.

* AVC-Intra100/50 codec support is planned for the future. Recording by all P2 formats requires a microP2 card.

Super Slow-Motion Recording

FHD mode enables slow-motion recording at 120 fps (for 59.94 Hz)/100 fps (for 50 Hz). 10-bit recording is supported, and full-frame images with the image area uncropped are obtained even at high frame rates. Additionally, auto focus can be used in this mode.

Professional Functionality and Design

- A bright video light is built into the handle*1 and can be adjusted between 30% to 100% using the dimmer dial. IR lights*2 are supported for IR (Infrared) Shooting for shooting in dark conditions.
- The 3.5-inch monitor has 2,760K-dots of resolution, making it approximately 2x brighter and having approximately 2x the number of dots compared to a conventional monitor*3. It provides higher legibility even under bright sunlight.
- An electrostatic touch panel improves the operating ease of selecting menu items.
- Since the 1,555K-dot tiltable viewfinder and LCD output simultaneously, the image being recorded can also be confirmed in the LCD monitor while viewing it on the EVF.
- Focus Assist functions including Expand, Peaking and One-push AF are included to support fast, accurate manual focusing.
- The included battery is unobtrusive when attached and enables approximately 4.5 hours of continual operation.

*1 The optional handle unit (VW-HU1) is required for HC-X1500.

*2 Recommended: 850-nm wavelength light

*3 HC-X1000

Equipment Discussions -

Double SD Card Slot

Two SD memory card slots are provided and with unlimited Relay Recording, the device switches automatically and seamlessly from Slot 1 to Slot 2. * Simultaneous Recording or Background Recording is also selectable to match the workflow and card necessity.

* Maximum file size that can be recorded over multiple SD cards is 96 GB. Recording will not stop even when the data size exceeds 96 GB.

48-kHz/24-bit High Resolution Linear PCM Audio Recording

+48V Phantom Power Supply/MIC/LINE Selectable XLR Audio Input with Manual Volume is equipped for each of 2 channels. Also supported is a 24-bit linear PCM system (MOV/P2 MXF*₁), 16-bit AAC (MP4), or Dolby Audio system (AVCHD) high-quality 2-channel audio recording. The optional handle unit (VW-HU1) is required for HC-X1500.

*₁ AG-CX10 only

Versatile Network Functions

A Wi-Fi module is built-in, so there is no need for a separate wireless LAN module, and Wi-Fi connection is possible without additional equipment. Using a tablet application HC ROP, wireless remote control, including camera settings and lens control, can be set. RTSP/RTP/RTMP/RTMPS-Compatible HD Streaming allows direct connection and streaming over Facebook, YouTube, etc., of concerts, sports events, and news flashes.

In addition, the AG-CX10 has an NDI|HX mode, so an external converter is not needed for data transmission and camera control via IP connection.

Other Network Features:

- 3G-SDI for connecting to an external recorder (AG-CX10, HC-X2000)
- USB (micro AB) to LAN Conversion Adaptor* Included (AG-CX10)

* USB micro AB-Host Cable (included) is necessary for the connection.

- Compatibility with wired remote controls via the remote terminal.

Optional Handle Unit

An optional Handle Unit (VW-HU1) is easily detached and equipped with a 2-channel XLR Audio Input, audio control, and

Equipment Discussions -

LED light. Operation of the zoom lever attached to the Handle Unit maintains a constant zoom speed, which can be set in 7 steps from the menu.

All three camcorders will be available in late March 2020.

Price

The HC-X2000 costs **\$2197.99 US Dollars**

<https://www.bhphotovideo.com/c/buy/>

[Panason-](#)

[ic HC X2000 UHD 4K 3G SDI HDMI Pro Camcorder https www bhphotovideo com u203A panasonic hc x2000 4k uhd full hd/Ntt/Panasonic%2BHC-X2000%2BUHD%2B4K%2B3G-SDI%252FHDMI%2BPro%2BCamcorder%2B...%2Bhttps%253A%252F%252Fwww.bhphotovideo.com%2B%2525u203A%2Bpanasonic hc x2000 4k uhd full hd/N/o/kw/search/BI/19990/KBID/13252/DFF/d10-v1-t12](https://www.bhphotovideo.com/c/buy/Panasonic%2BHC-X2000%2BUHD%2B4K%2B3G-SDI%252FHDMI%2BPro%2BCamcorder%2B...%2Bhttps%253A%252F%252Fwww.bhphotovideo.com%2B%2525u203A%2Bpanasonic%2Bhc%2Bx2000%2B4k%2Buhd%2Bfull%2Bhd/N/o/kw/search/BI/19990/KBID/13252/DFF/d10-v1-t12)

HC-X 1500 costs **\$1697.99 US Dollars**

AG-CX10 costs **\$2595 US Dollars**

Equipment Discussions -

Fuji Film launches X-T200 mirrorless digital camera

Salient features:

- **Sensor:** 24.2 Mega pixel CMOS sensor.
- **Sensor size:** APS-C 23.5 x 15.7 mm
- **Maximum stills resolution:** 6000x4000 pixels
- **ISO range:** ISO 200-12800. Expanded to ISO 100-51200



- **Burst speed:** 8 fps still photos
- **Shutter speed:** Mechanical shutter speed from 1/4000 to 30 seconds. 0 to 60 mins in bulb mode. Electronic shutter speed can range from 1/32000 to 30 seconds.
- **Video resolution:** UHD 4k video upto 30fps and Full HD (1080p) upto 60fps.
- **Autofocus:** phase detection as well as Eye and Face detection

Equipment Discussions -

- **Viewfinder:** 2.36m dot OLED
 - **LCD:** 3.5" 2.76m dot touchscreen LCD
 - **Film Simulation modes** for classic FUJIFILM film types like Provia, Velvia, Astia, Classic Chrome, PRO Neg, and several Monochrome modes.
 - **HDR mode** available for difficult lighting conditions.
 - **Portrait Enhancer** settings produces smooth and natural skin tones to make sure everyone looks their best.
 - **Depth Control:** to produce and pre-visualise different depth of field effects.
 - **Scene Position modes:** Portrait, Night, Fireworks, Sunset, Snow, Beach, Party, Flower, Text, Multiple Exposure, and Light Trail.
 - **Advanced Filter modes:** Toy Camera, Miniature, Pop Color, High-Key, Low-Key, Dynamic Tone, Fish-Eye, Soft Focus, Cross Screen, Partial Color (Red, Orange, Yellow, Green, Blue, Purple), Fog Remove, and HDR Art.
 - **Audio** recorded in a stereo built-in microphone.
 - **Dimensions:** 4.76 x 3.3 x 2.17 inch
 - **Weight:** 370 gms
 - **Price:** \$699 US Dollars
-

Natural History -

COUNTRY NOTEBOOK: The Jungle Cat: M.Krishnan:- 17 September 1972

The Sunday Statesman (shared by Shri. Saktipada Panigrahi)

The Jungle Cat

" One of the animals long familiar to villagers where human settlements and agriculture adjoin scrub and forest, is the Jungle Cat, *Felis Chaus* to be specific - and, as will be apparent later in this note, there is need to be specific.



The earliest extant Tamil poetry, some 18 centuries old, has a brief vivid reference to it :

"The round-footed Jungle Cat
Waiting at dusk at the edge of Jowar-field.
Waiting with inexorable patience
For the atrutting red-watiled village
Rock to stray near."

I spent my boyhood in the scrub jungles and forest of what used to be the TAMILIAN and TELEGU tracts of the Madras Presidency, and have often seen the Jungle Cat. Later in the Deccan, I saw it again, many times - once, a Jungle Cat got somehow into my pigeon-house and slaughtered my racing homers, as most predators will when in the midst of thronging prey, and after watching it for a while as it crouched in a corner and spat at me, I let it go. I let it go. I mention this past experience only to say that in my youth and prime I knew the animal well, and had no difficulty in telling it apart from domestic cats

run wild (which is also quite common in the scrub-jungles around villages), even when I could get only a brief glimpse of it. For one thing, it was twice as big as its domestic cousin turned feral, with a comparatively short tail ringed with black at the tip, standing almost as tall as a jackal.

During the past few years, however, when I had occasion to see and even closely observe jungle cats in forests all over the peninsula, and in UP, West Bengal and Assam, I have not always been able to tell it apart from feral cats with certainty. Perhaps it is that with this greater opportunity and closer observation I am finding it increasingly difficult to reconcile the animals actually seen with textbook descriptions of *Felis chaus*.

The textbooks describe the Jungle Cat as an animal with a foot-long tail and about 18 inches high, long-legged and varying in colour from "sandy grey to yellowish grey" (a ground-colour difficult to comprehend) with the tail ringed with black towards the end and black tipped; the ears are said to be reddish, "ending in a small pencil of black hairs", and while there may be vestigial stripes on the underside and flanks, the body is unmarked. The weight is given as from 10 to 12 pound. The Jungle Cats I saw varied from fulvous grey to a grey with a distinct red tinge to it (a ferruginous grey) in ground colour, and sometimes a neutral grey, with the chin, throat, insides of the limbs and the chest and abdomen much paler. Adults animals did not show any patterning on the body, but carried the characteristic rings at the end of the tail and the black tip~ the tail was comparatively short, and noticeably so in short adults.

The ears always showed the pointed tuft of short, dark hairs. The iris varied in colour from yellow ochre to a pale green, and was not always pale green as stated in the text- books. It will be seen that except for the marked ferruginous ground colour of many Jungle Cats seen (especially in the Nilgiris and in West Chanda in Maharashtra) there is no discrepancy in colouring between the taxonomic descriptions and the specimens I observed."

- M. Krishnan

This was published on 17 September 1972.

Wildlife Photography -

Capped Langur of Manas by Samrat Sarkar

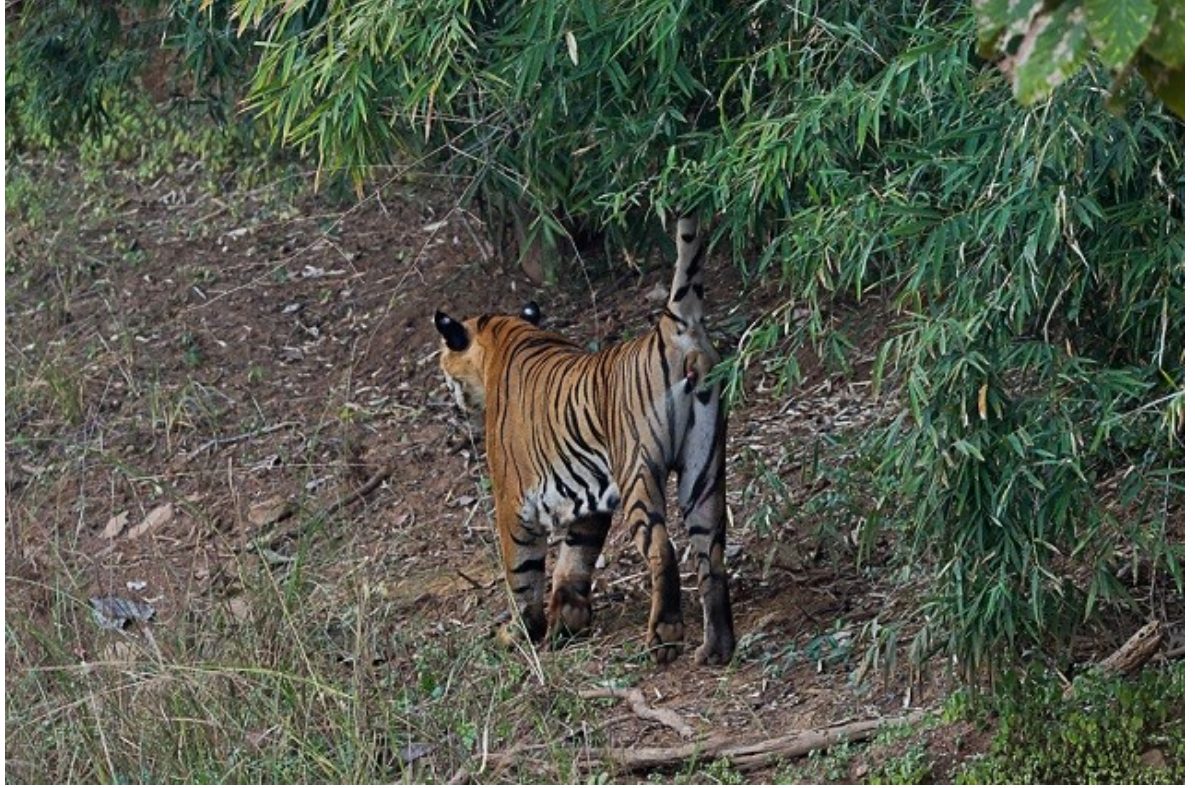


The Male Tiger (T 54) by Sucheth Lingachar



Wildlife Photography -

Tiger in Tadoba by V S Sankar



Sirkeer-Malkhoa by Shyamala Kumar



Wildlife Photography -

Male Peregrine by Vipin Sharma



Spotted Owl in Bharatpur by Mickey Verma



Wildlife Photography -

Pangong Lake in Ladakh by Sundar Amartur



Potter Wasp by Prajwal Ullal





This is the 133rd issue of IndiaWilds. With this issue we start our 12th year of uninterrupted publication. The photo of a tiger cub with its eyes wide open is perhaps wondering what what kind of future is awaiting it. These days smaller National Parks like Bandhavgarh as well as a few other premier national parks are having tiger populations that are struggling to survive competition. These adolescents need to find and carve a territory for themselves away from competition from other tigers. They also need to survive brush with poachers and encounters with cattle owners. These tigers in their initial years need to survive in less than ideal habitats where prey base is less. Scientists and park managers in Buffer zones and smaller wildlife sanctuaries can perhaps experiment with acoustic enrichment along with exotics removal and managing habitat in an ecologically sound manner help in enticing prey base as well as adolescent tigers to help in dispersal as well as survival of tigers. Else, few places are becoming islands with too many tigers and closed gene pools.

Tiger is the apex predator in most of the forest landscapes in our country. The health of the tiger indicates the overall health of the ecosystem as the predators, prey as well as millions of other species including herpetofauna and microorganisms are tightly bound with each other by a complex web of ecological inter-relationships. Unfortunately, these days estimates of tiger numbers from a few tiger landscapes using questionable methodologies makes people believe that all is well with our forests. However, if we really need to protect our tigers, wildlife and wilderness areas for future generations then we need to be more careful in protecting wilderness areas as well as undertaking scientific interventions in an ecologically sound manner.

I look forward to your inputs and support in preserving the last tracts of wilderness and wildlife of our beautiful country. For other interesting articles and images check - <http://www.indiawilds.com/forums/>

To post in the IndiaWilds forums, you can register free of cost using your Full Name as user id at -

<http://www.indiawilds.com/forums/register.php>

If you are already a member of IndiaWilds and have forgotten your user id and/or password you can mail administrator@indiawilds.com

Regards,

Sabyasachi Patra

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