



A Monthly e Magazine
ISSN:2583-2212

July, 2023; 3(07), 1469-1472

Popular Article

Microchips and M-STrIPES for Wildlife Conservation

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<https://doi.org/10.5281/zenodo.8169845>

Microchips are used in wildlife for a variety of purposes, including:

- **Identification:** Microchips can be used to uniquely identify individual animals, which can be helpful for tracking their movements, studying their behavior, and managing populations.
- **Rehabilitation:** Microchips can help to identify animals that have been rehabilitated and released back into the wild. This can help to ensure that the animals are not recaptured and returned to captivity unnecessarily.
- **Research:** Microchips can be used to track the movements of animals in the wild, which can provide valuable information about their habitat use, migration patterns, and interactions with other animals.
- **Conservation:** Microchips can be used to track the survival rates of endangered species, which can help to inform conservation efforts.

Microchips are a relatively safe and effective way to mark wildlife. They are small and lightweight, and they do not interfere with the animal's normal behaviour. Microchips can be implanted by a veterinarian or a wildlife specialist.

Here are some examples of how microchips are being used in wildlife conservation:

- **The Wildlife Conservation Society** is using microchips to track the movements of snow leopards in the Himalayas. This information is helping to scientists to understand how these animals use their habitat and to develop more effective conservation strategies.



- **The National Fish and Wildlife Foundation** is using microchips to track the movements of endangered sea turtles. This information is helping to scientists to understand how these animals migrate and to identify threats to their survival.
- **The University of California, Davis** is using microchips to track the movements of black bears in California. This information is helping to scientists to understand how these animals use their habitat and to develop more effective management strategies.

Microchips are a valuable tool for wildlife conservation. They can help to track the movements of animals, identify individuals, and study their behaviour. This information can be used to inform conservation efforts and to protect endangered species. There are several types of chips that can be used for wildlife research and conservation purposes. Here are a few examples:

1. **GPS Tracking Chips:** These chips are commonly used to track the movements and behaviours of wildlife. They are usually attached to animals using collars or other devices. GPS tracking chips can provide real-time or periodic location data, allowing researchers to study migration patterns, habitat use, and other important aspects of animal behaviour.
2. **Radio Frequency Identification (RFID) Chips:** RFID chips are small electronic devices that emit a unique identification code when activated by a reader. They can be used to identify individual animals and track their movements within a defined range. RFID chips are often employed for studies involving small animals or in situations where GPS tracking is not feasible.
3. **Biologging Sensors:** Biologging sensors, including accelerometers, gyroscopes, magnetometers, and other environmental sensors, can be used to collect data on animal behaviour, physiology, and environmental conditions. These sensors are often combined with data loggers or other storage devices to record and analyse the data.
4. **Bioacoustic Recording Chips:** Bioacoustic chips are designed to record and analyse sounds in the environment. They are particularly useful for studying animal vocalizations, such as bird songs or whale calls. Bioacoustic chips can be deployed in various ways, including on animals, in fixed locations, or on autonomous recording devices.
5. **Environmental Data Loggers:** Environmental data loggers are used to monitor and record various environmental parameters, such as temperature, humidity, light levels, and water



quality. These chips can be used to study the impact of environmental changes on wildlife populations and their habitats.

It's important to note that the specific chips used for wildlife research can vary depending on the objectives of the study, the target species, and the environmental conditions. Researchers often select and deploy chips based on their ability to collect accurate data without causing harm or disruption to the animals being studied.

The **MSTrIPES** program utilizes Global Positioning System (GPS), General Packet Radio Services (GPRS), and remote sensing to acquire data from the field, create a database by employing contemporary Information Technology (IT) based tools, analyze the data through GIS and statistical tools to draw conclusions that enable tiger reserve managers to effectively manage their wildlife assets.

M-STrIPES stands for Monitoring System for Tigers - Intensive Protection and Ecological Status. It is a software-based monitoring system launched across Indian tiger reserves by the Indian government's National Tiger Conservation Authority (NTCA) in 2010. The system's objective is to strengthen patrolling and surveillance of the Endangered Bengal tiger. Forest guards in tiger reserves are equipped with personal digital assistants (PDAs) and GPS devices to capture data relating to tiger sightings, deaths, wild life crime and ecological observations while patrolling.

M-STrIPES for tiger

The data collected by M-STrIPES is used to track tiger populations, identify threats to their survival, and develop more effective conservation strategies. The system has been credited with helping to increase the number of tigers in India by 25% since 2010.

M-STrIPES is a valuable tool for tiger conservation. It provides a real-time view of tiger populations and threats, and it helps to ensure that conservation efforts are targeted and effective.

Here are some of the benefits of using M-STrIPES for tiger conservation:

- **Improved data collection:** M-STrIPES allows forest guards to collect data more efficiently and accurately. This data can then be used to track tiger populations, identify threats, and develop more effective conservation strategies.
- **Enhanced patrolling:** M-STrIPES helps to improve the efficiency of patrolling by providing forest guards with real-time information about tiger sightings and potential threats. This helps to ensure that tigers are better protected from poaching and other threats.



- **Increased collaboration:** M-STrIPES facilitates collaboration between different agencies involved in tiger conservation, such as the NTCA, the Wildlife Institute of India, and the state forest departments. This collaboration helps to ensure that conservation efforts are coordinated and effective.

M-STrIPES is a valuable tool for tiger conservation. It is helping to improve the data collection, patrolling, and collaboration that are essential for protecting these endangered animals.

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