Wildlife Population Monitoring and Research Training Course

Professional Development Training Course Outline

Category	Environmental Management and Conservation	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Wildlife Population Monitoring and Research Training Course provides essential knowledge and **hands-on skills** for professionals in the field of **wildlife conservation**. The program focuses on equipping participants with modern, **data-driven** approaches to **wildlife population monitoring**, a cornerstone of effective **biodiversity management** and **conservation strategy**. This training is designed to empower individuals with the expertise to conduct robust **wildlife surveys**, analyze **population dynamics**, and contribute to sustainable **ecosystem management**. We delve into the latest **ecological research methods**, from **remote sensing** and **GIS mapping** to **non-invasive genetic sampling**, ensuring graduates are at the forefront of **wildlife science** and ready to tackle contemporary conservation challenges.

Our curriculum emphasizes **practical application** and **scientific rigor**. By integrating **field techniques** with **advanced data analytics**, we prepare participants to design and implement **monitoring programs** that yield accurate and actionable insights. The course not only covers the 'how-to' but also the 'why,' exploring the critical role of **long-term monitoring** in evaluating conservation success, informing **policy decisions**, and mitigating **human-wildlife conflict**. We foster a deep understanding of **conservation technology** and its potential to revolutionize **species protection** and **habitat preservation**.

Programme Curriculum

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Course Objectives

- Master the principles of ecological survey design and wildlife research.
- Implement data collection techniques for various wildlife taxa, including mammals, birds, and herpetofauna.
- Utilize GIS and remote sensing for habitat mapping and species distribution modeling.
- Analyze wildlife population data using statistical software and quantitative methods.
- Design and execute effective long-term monitoring programs.
- Employ non-invasive sampling methods such as camera trapping and eDNA analysis.
- Interpret population trends and demographic parameters.
- Mitigate human-wildlife conflict through data-informed strategies.
- Apply knowledge of population viability analysis (PVA).
- Conduct species identification and biodiversity assessments.
- Communicate research findings to stakeholders and policymakers.
- Integrate citizen science initiatives into monitoring efforts.
- Adhere to ethical guidelines in wildlife research and handling.

Target Audience

1. Conservation Biologists & Ecologists
2. Wildlife Managers & Park Rangers
3. Environmental Consultants
4. Graduate Students & Researchers
5. NGO Staff & Field Technicians
6. Government Agency Professionals
7. Community-Based Conservation Leaders
8. Zoological & Botanical Garden Curators

Course Modules

1. Introduction to Wildlife Monitoring

- Defining monitoring goals and objectives.
- Ethical considerations in wildlife research.
- Overview of various monitoring techniques.
- The role of monitoring in adaptive management.
- **Case Study**: The value of long-term monitoring for tiger population recovery in India's Sariska Tiger Reserve.

2. Survey Design & Sampling Methods

- Random vs. systematic sampling designs.
- Line transects and point counts.
- Camera trapping and occupancy modeling.
- Non-invasive methods: scat, hair, and footprint surveys.
- **Case Study**: Designing a camera trap grid to estimate jaguar density in the Amazon rainforest.

3. GPS, GIS, & Remote Sensing

- Utilizing GPS for accurate data collection.
- GIS for mapping species ranges and habitat suitability.
- Analyzing satellite imagery for land-use changes.
- **Case Study**: Using GIS to model habitat connectivity for grizzly bears in North America.

4. Population Estimation Techniques

- Capture-recapture methods.
- Distance sampling and its assumptions.
- Index-based methods and their limitations.
- Population viability analysis (PVA).
- **Case Study**: Estimating elephant population size in a protected area using aerial surveys and mark-recapture.

5. Data Management & Analysis

- Data cleaning, validation, and storage.
- Introduction to statistical software (e.g., R, Program MARK).
- Basic statistical tests for population trends.
- **Case Study**: Analyzing long-term data on bald eagle nest success to determine population trends.

6. Non-invasive Genetic Monitoring

- Introduction to **eDNA** (environmental DNA).
- Collecting and analyzing genetic samples from hair or scat.
- Individual identification and kinship analysis.
- **Case Study**: Using eDNA to detect the presence of rare aquatic species, such as the hellbender salamander.

7. Radio Telemetry & GPS Tracking

- Principles of animal tracking.
- Home range and movement analysis.
- VHF vs. GPS collars.
- **Case Study**: Tracking African wild dogs to understand their movement patterns and habitat use.

8. Camera Trapping Best Practices

- Setting up camera traps for various species.
- Data processing and photo identification.
- Using automated image recognition software.
- **Case Study**: A community-led wildlife monitoring program in Canada using camera traps to monitor moose populations.

9. Human-Wildlife Conflict

- Assessing the drivers and impacts of conflict.
- Developing mitigation strategies using monitoring data.
- Community engagement and education.
- **Case Study**: Using monitoring data to inform management strategies for human-leopard conflict in India.

10. Report Writing & Scientific Communication

- Structuring scientific reports and publications.
- Presenting complex data to non-scientific audiences.
- Data visualization techniques.
- **Case Study**: Crafting a compelling report to influence policy decisions on bison management in a national park.

11. Citizen Science in Wildlife Monitoring

- Engaging the public in data collection.
- Designing effective citizen science projects.
- Quality control for crowdsourced data.
- **Case Study**: The Great Backyard Bird Count and its contribution to long-term bird population data.

12. Wildlife Disease Monitoring

- Introduction to wildlife epidemiology.
- Sampling for disease surveillance.
- Role of monitoring in preventing disease outbreaks.
- **Case Study**: Monitoring Chronic Wasting Disease (CWD) in deer and elk populations to inform management.

13. Advanced Statistical Modeling

- Introduction to generalized linear models (GLMs).
- Survival and recruitment analysis.
- Analyzing spatial data.
- **Case Study**: Using advanced modeling to predict the impact of climate change on polar bear populations.

14. Habitat Assessment & Analysis

- Vegetation surveys and habitat suitability modeling.
- Measuring habitat fragmentation and connectivity.
- Impact of land use on wildlife populations.
- **Case Study**: Assessing the impact of forest clear-cutting on red-cockaded woodpecker habitat.

15. Career Pathways & Professional Development

- Networking in the conservation field.
- Identifying key professional organizations.
- Grant writing and fundraising for conservation projects.
- **Case Study**: Discussing the career path of a successful conservation professional who leveraged data and research skills.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

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