

Principles of Wildlife Management

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Designed for quick reference and deeper study

1. Definition & Scope

Aspect	Description
Wildlife Management	The science and practice of conserving, restoring, and sustaining wildlife populations and their habitats for ecological health, human benefit, and ethical responsibility.
Key Stakeholders	Government agencies, NGOs, landowners, hunters/fishers, indigenous communities, scientists, the general public.
Typical Objectives	- Maintain biodiversity - Preserve ecosystem functions - Provide sustainable use (e.g., hunting, ecotourism) - Protect threatened species - Balance human-wildlife conflicts

2. Core Principles

#	Principle	Core Idea	Practical Implications
1	Ecological Sustainability	Populations must be managed within the limits of their ecosystems.	Use carrying capacity estimates, monitor food webs, protect keystone species.
2	Population Viability	Ensure long-term survival and genetic health of species.	Conduct Population Viability Analyses (PVA), maintain minimum viable population (MVP) sizes, prevent inbreeding.
3	Adaptive Management	Management actions are treated as experiments; policies evolve with new data.	Set clear hypotheses, monitor outcomes, adjust tactics (e.g., harvest quotas).

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4	Science-Based Decision Making	Policies rest on rigorous, peer-reviewed research.	Use robust data (surveys, telemetry, genetics), apply statistical models, peer-review plans.
5	Ecosystem Approach	Focus on habitats and ecological processes, not just single species.	Protect corridors, restore wetlands, manage fire regimes, consider trophic cascades.
6	Precautionary Principle	When scientific uncertainty exists, err on the side of conservation.	Limit harvests of data-deficient species, impose buffer zones around critical habitats.
7	Socio-Economic Integration	Recognize human livelihoods, cultural values, and economic factors.	Involve local communities, develop compensation schemes for crop damage, promote wildlife-based tourism.
8	Legal & Ethical Responsibility	Follow national/international laws and ethical standards.	Comply with CITES, Endangered Species Act, IUCN Red List criteria; uphold animal welfare.
9	Stakeholder Participation	Inclusive planning leads to better compliance and outcomes.	Conduct public hearings, use co-management agreements, incorporate traditional ecological knowledge (TEK).
10	Monitoring & Evaluation	Continuous data collection to assess effectiveness.	Establish indicator species, set performance metrics, publish transparent reports.

3. Management Tools & Techniques

Tool	Description	Typical Use
Population Modeling	Mathematical simulations (e.g., Leslie matrix, stochastic models).	Forecast growth, set harvest limits.
Habitat Management	Manipulating land cover, water, food resources.	Controlled burns, reforestation, wetland creation.
Regulated Harvest	Quotas, season dates, bag limits, licensing.	Sustainable hunting/fishing.

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Tool	Description	Typical Use
Translocation & Reintroduction	Moving individuals to suitable habitats.	Restoring extirpated populations.
Captive Breeding & Genetic Rescue	Breeding programs to augment wild stocks.	Preventing extinction of critically endangered species.
Conflict Mitigation	Non-lethal deterrents, compensation	