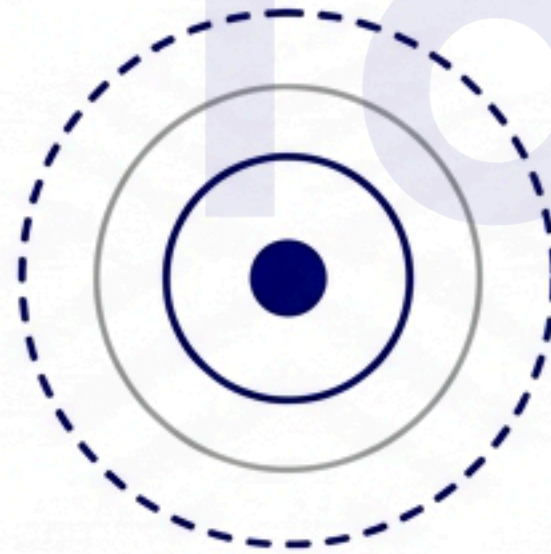


CHAPTER 13 CONTEXT

Saving Species in Their Natural Homes

The Architecture of In Situ Conservation



Ex Situ (Off-Site)

Removing threatened organisms from their natural habitat to be protected in special settings (zoos, botanical gardens, seed banks).

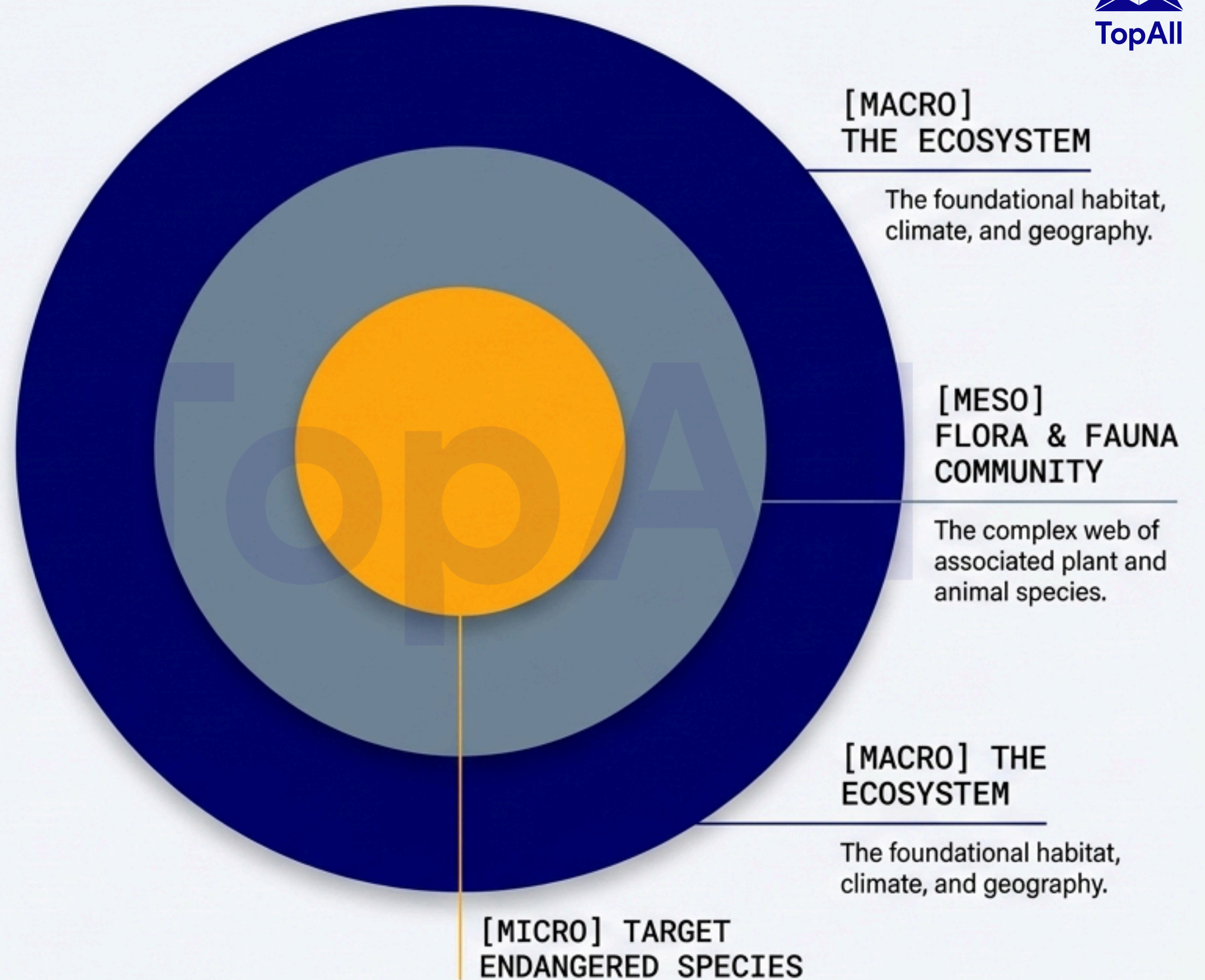
In Situ (On-Site)

Conserving and protecting the entire ecosystem to safeguard its biodiversity at all biological levels simultaneously.

STRATEGIC REALITY: Conservation resources are finite. It is economically unfeasible to save every species individually.

“Save the forest to save the tiger”

Instead of micromanaging the survival of a single apex species, in situ conservation throws a protective perimeter around the outermost container. Protecting the habitat passively and comprehensively protects every organism residing within it.





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The Biodiversity Hotspot Strategy



GLOBAL COUNT: 34 HOTSPOTS

Biodiversity Hotspots: Critically selected regions prioritized for maximum protection due to their biological wealth and vulnerability.

Accelerated Habitat Loss

These regions are under severe threat.
The ecosystem perimeters are rapidly shrinking.

EXTINCTION REDUCTION

Although hotspots cover < 2% of Earth's land area, strict protection of these specific perimeters could reduce ongoing mass extinctions by ~30%.



[HIGH RICHNESS] + [HIGH ENDEMISM] + [HIGH THREAT] = IMMEDIATE IN SITU LOCKDOWN

Indian Hotspots: The Critical Zones

Three of the world's 34 hotspots cover India's exceptionally high biodiversity regions.

WESTERN GHATS & SRI LANKA

High density of
endemic amphibians
and rare flora.

INDO-BURMA

Complex tropical
forest ecosystems
facing intense
development
pressure.

HIMALAYA

Altitude-stratified
biological diversity
with unique
evolutionary
lineages.

Implementing the Perimeter: India's Protected Areas

State-Managed
Legal Protection

Community-Managed
Cultural Tradition

[14] Biosphere Reserves

[90] National Parks

[448] Wildlife Sanctuaries

Sacred Groves

Tracts of forest set aside where all trees and wildlife are venerated and given total protection by local communities.

Khasi & Jaintia Hills (Meghalaya), Aravalli Hills (Rajasthan), Western Ghats (Karnataka/Maharashtra), Sarguja/Chanda/Bastar (Madhya Pradesh).

In Meghalaya, these ancient groves serve as the last refuge for a large number of rare and threatened plants.

Key Takeaway: Ecological Triage

In situ conservation acknowledges a harsh reality: we cannot save everything everywhere. It is a strategic act of ecological triage.

- ✓ By identifying the most biologically dense and highly endemic zones (hotspots).
- ✓ And locking down their geographic perimeters (reserves, parks, and sacred groves).
- ✓ We preserve the maximum possible amount of the planet's evolutionary legacy using finite conservation resources.



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