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The Human Hand on Island Life: Rethinking Conservation Baselines

 **DOWN TO EARTH**

24 July 2026

ENVIRONMENT**GS3**

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GS3

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THE LIFT LINE

“We long imagined islands as sealed natural laboratories, their species arranged by wind, water and chance. New evidence says a human hand has been on the scale all along, which changes what we are trying to restore.”

Recent research finds that **humans have fundamentally shaped the biodiversity patterns of islands**, through introductions, extinctions and habitat change, alongside the natural processes of **island biogeography**. This editorial argues that recognising this deep human imprint should reshape conservation baselines, shifting the goal from restoring a mythical pristine state to realistic restoration and rigorous **invasive-species control**.

WHY THIS EDITORIAL MATTERS FOR YOUR EXAM

This theme sharpens a concept examiners love to probe: the **shifting baseline** and what we mean by a “natural” or “pristine” ecosystem. It moves biodiversity from rote facts to a conceptual argument about conservation goals.

It also connects a global finding to Indian geography, the Andaman and Nicobar Islands and Lakshadweep, whose fragile, **endemic-rich** ecosystems are textbook cases.

GS Paper 3: Conservation, biodiversity and ecology, and environmental degradation, including the science underpinning conservation policy.

GS Paper 1: Salient features of the world’s physical geography and the distribution of species.

For **Prelims**, hold the specifics: the **theory of island biogeography** (**MacArthur and Wilson**) holds that species richness depends on island **area and isolation**, balancing immigration against extinction; **endemism** is the restriction of a species to one place; island species are especially vulnerable to **invasive species**; a **shifting baseline** is the gradual, unnoticed lowering of what each generation treats as “natural”; and India’s island territories are the **Andaman and Nicobar Islands** and **Lakshadweep**.

For **Mains**, frame the shift: if humans shaped island ecosystems long before modern conservation, then setting a “pristine” target is misleading, and policy should aim at ecological function and invasive control.

BACKGROUND AND CONTEXT

Islands have always fascinated ecologists. Isolated, bounded and species-rich, they inspired the **theory of island biogeography** by **MacArthur and Wilson**, which explains species richness through **area** (larger islands hold more species) and **isolation** (remoter islands receive fewer colonists), with richness settling at a balance between arrivals and extinctions. This natural-process model became a cornerstone of ecology and reserve design.

But the new research complicates the picture. It shows that **humans have been shaping island biodiversity** for a very long time, carrying species across oceans, driving others extinct, and transforming habitats through fire, agriculture and settlement. The patterns we read as “natural” often already carry a deep human signature.

This matters because conservation implicitly aims at a **baseline**, a reference state we try to protect or restore. If that baseline was itself part-human all along, then the goal of returning an island to a “pristine” condition may be chasing something that never quite existed.

THE CORE ARGUMENT / ISSUE

The central claim is that the human imprint on island ecosystems is so deep that conservation must abandon the fantasy of pristineness and instead pursue realistic, function-focused restoration.

Nature and the Human Hand Together

Island biodiversity is the product of both **natural processes**, area, isolation, colonisation, and **human action**, introductions, extinctions, habitat change. The two are entangled. Recognising this does not diminish natural processes; it adds a driver that conservation has often overlooked.

Two Lenses on an Island

LENS	WHAT IT EXPLAINS	WHAT IT MISSES
Island biogeography	Richness from area and isolation	The human role in shaping species
Human-imprint view	Introductions, extinctions, habitat change	Risk of ignoring natural constraints
Shifting baseline	Why “pristine” keeps sliding	Can excuse accepting degraded states
Invasive-species focus	The main present-day threat	Needs sustained funding and vigilance

The Baseline Problem and Its Trap

The honest complication runs both ways. Acknowledging the human imprint frees conservation from an impossible target, but it must not slide into fatalism, using “there was never a pristine state” to excuse further degradation or accept whatever exists now. The productive middle is to define baselines by **ecological function and endemism** rather than by an imagined untouched past, and to concentrate effort where the present threat is sharpest: **invasive species**, which on islands can drive endemic species to extinction with startling speed. For the **Andaman and Nicobar Islands** and **Lakshadweep**, that means guarding endemic species against invasives and managing habitat realistically.

HOW TO THINK ABOUT THIS (ANALYTICAL FRAME)

Every conservation goal implies a baseline, a picture of what “should” be. The analytical skill is to ask where that reference came from and whether it was ever real. A shifting baseline means each generation quietly accepts a poorer nature as normal; a mythical baseline sets goals no one can meet. Good policy names its reference state explicitly and justifies it by function and value, not nostalgia. When you evaluate any restoration target, first ask: restore to when, and why that moment.

THE DIAGRAM IN WORDS

Islands seen as natural laboratories (area + isolation shape richness) -> new research: humans introduced, extinguished, altered species -> “pristine” baseline was already part-human -> shifting-baseline problem distorts conservation goals -> redefine baseline by function and endemism, not an untouched past -> focus on invasive-species control and realistic restoration -> protect Andaman-Nicobar and Lakshadweep endemics effectively

WAY FORWARD

- ❶ **Redefine conservation baselines.** Set restoration targets by ecological function and endemism rather than an imagined pristine past, making goals both honest and achievable.
- ❷ **Prioritise invasive-species control.** Treat invasives as the leading present threat to island endemics, funding eradication and **biosecurity** for territories like the Andaman and Nicobar Islands and Lakshadweep.
- ❸ **Avoid the fatalism trap.** Use the human-imprint insight to guide realistic restoration, not to justify accepting degraded ecosystems as inevitable.
- ❹ **Integrate people into conservation.** Since human action shaped these islands, involve local communities in stewardship and design conservation that works with, not against, their presence.

PYQ LINKAGE AND PRACTICE

- **UPSC GS3 (2019):** “How is biodiversity important for ecosystem stability?” (function-based conservation framing)
- **UPSC GS1 (2018):** On the world's biodiversity and the factors shaping species distribution.
- **UPSC GS3 (2014):** On the conservation of endemic and threatened species.

Practice question (250 words, 15 marks): “The idea of a pristine island ecosystem may be a myth, since humans have long shaped island biodiversity. Discuss how this insight should reshape conservation baselines and the priority given to invasive-species control.”

Sources: Down To Earth, Science Advances

Source: The Human Hand on Island Life: Rethinking Conservation Baselines — Ujjyari.com | Free UPSC & State PCS Editorial Analysis

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