



Division of Ecological and Earth Sciences  
Man and the Biosphere Programme



**Biosphere  
Reserves**

# Biosphere Reserves and Other Similarly-managed Areas and Tools for

## Area-based Sustainable Development in the context of ICRI

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UNESCO, Division of Ecological Sciences and  
Man and the Biosphere Programme (MAB)

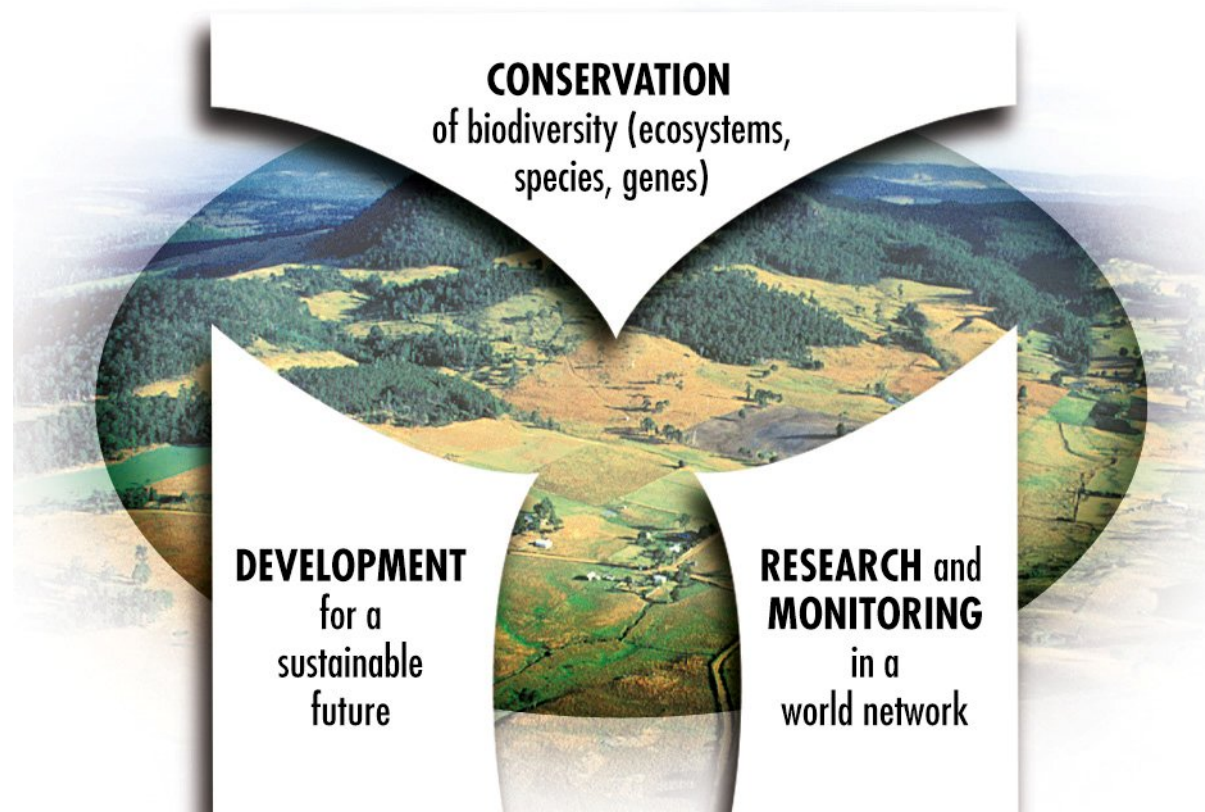


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# **Biosphere Reserves**

## Functions of a Biosphere Reserve





## What Is Ecosystem-based Management?

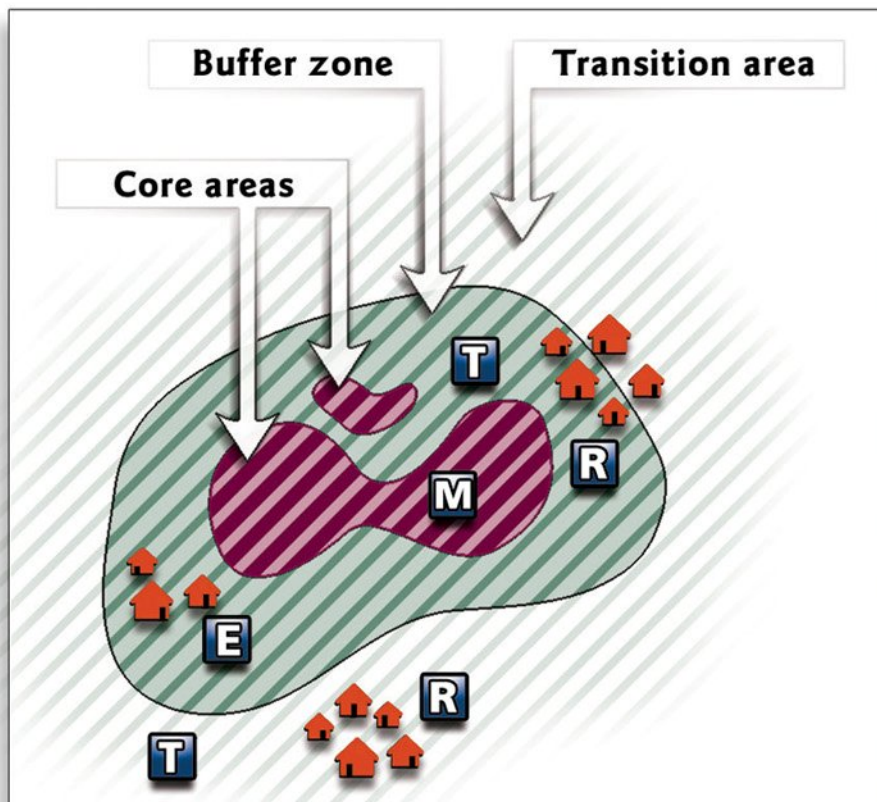


- Protection of ecosystem structure, functioning and key processes
- Interconnectedness within and among systems (air, land and sea)
- Integration of ecological, social, economic, and institutional perspectives
- ***Place-based or area-based, focusing on specific ecosystems***

Source: [www.compassonline.org](http://www.compassonline.org)



## Biosphere Reserve Zonation



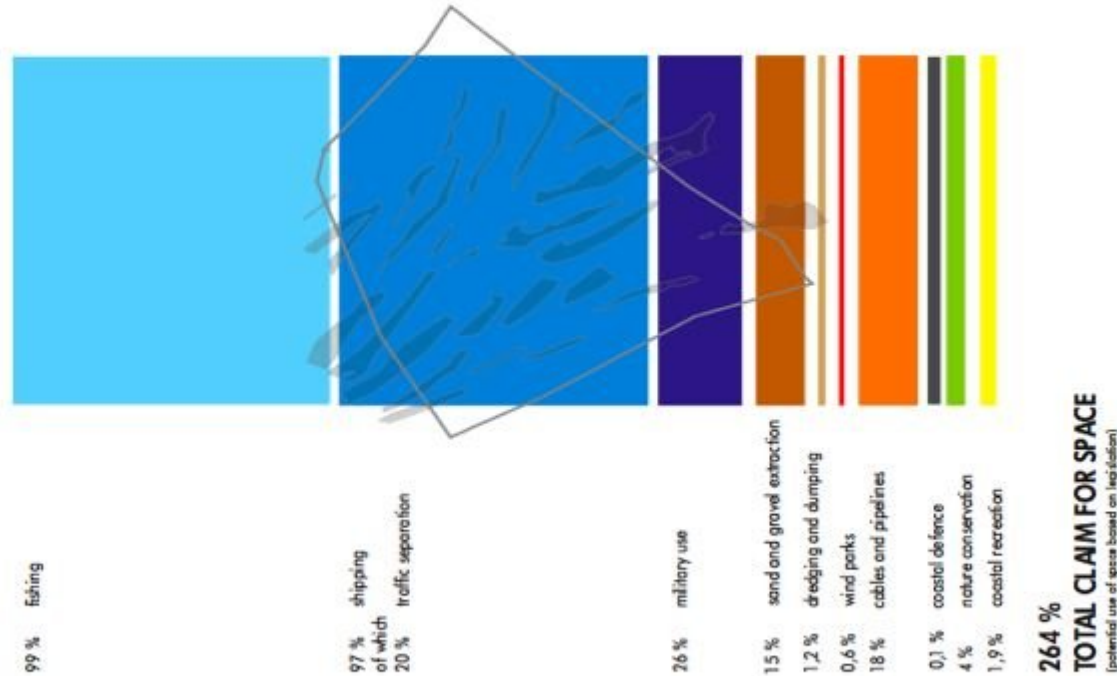
### Legend

-  Human settlements
-  Monitoring and research
-  Education and training
-  Research station or experimental research site
-  Tourism and recreation





## Why Is Marine Spatial Planning Needed?



The claims for ocean space exceed the supply by 2.64 times in Belgium

Source: Maes et al., 2005. *A Flood of Space*

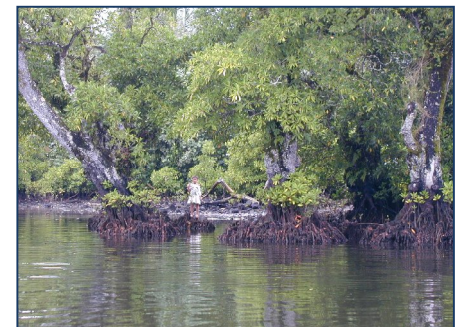
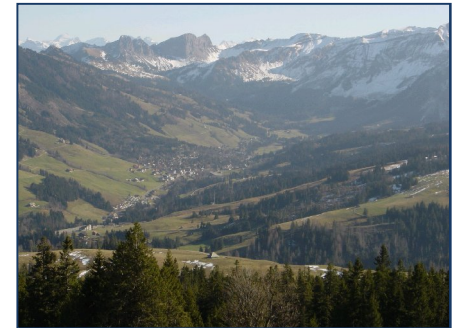


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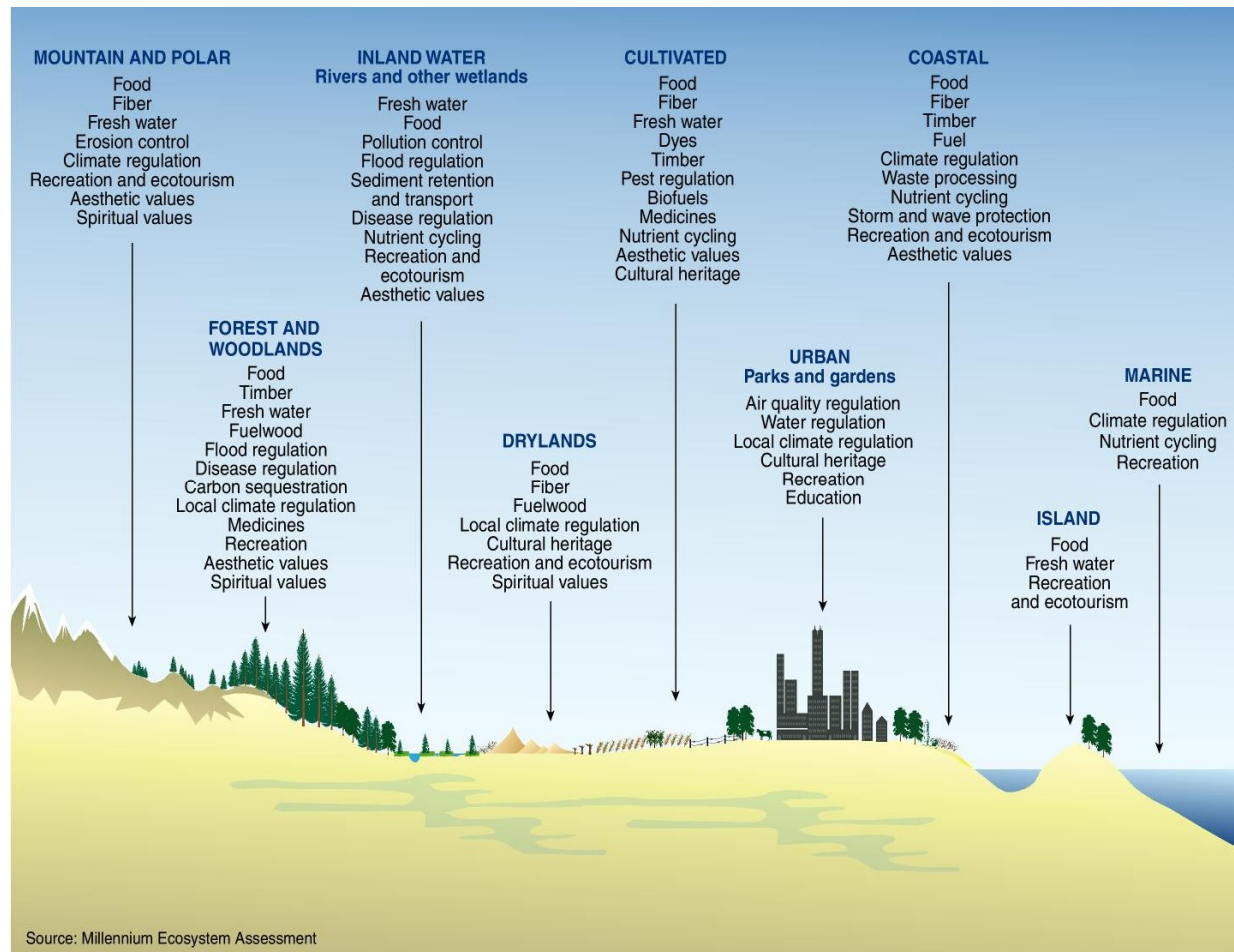
# **Biosphere Reserves**

- Agricultural/rural lands
- Dry and Sub-humid zones
- Forests
- Rivers, lakes, wetlands
- Small Islands
- Coastal and Oceans
- Mountains
- Urban areas





## Ecosystem Services in Biosphere Reserves







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# Biosphere Reserves



ASHOKA

the  
katoomba  
group



Miembro No. 1000 de  
**UICN**  
La Unión de Conservación Mundial

Forest Trends



Fundación  
**WALMART**  
MEXICO

National Committee of  
The Netherlands

**IUCN**  
The World Conservation Union



FUNDACION  
GONZALO RIO ARRONTE, I.A.P.



SEDESU



Gobierno del Estado de  
Querétaro



COMISIÓN NACIONAL FORESTAL



Conabio

Comisión nacional para el conocimiento y uso de la biodiversidad



COMISIÓN NACIONAL  
PARA EL DESARROLLO  
DE LOS PUEBLOS INDÍGENAS

### County governments:

Jalpan de Serra, Qro.  
Pinal de Amoles, Qro.  
Landa de Matamoros, Qro.  
Arroyo Seco, Qro.  
Peñamiller, Qro.  
Xilitla, S.L.P.  
Aquismón, S.L.P.

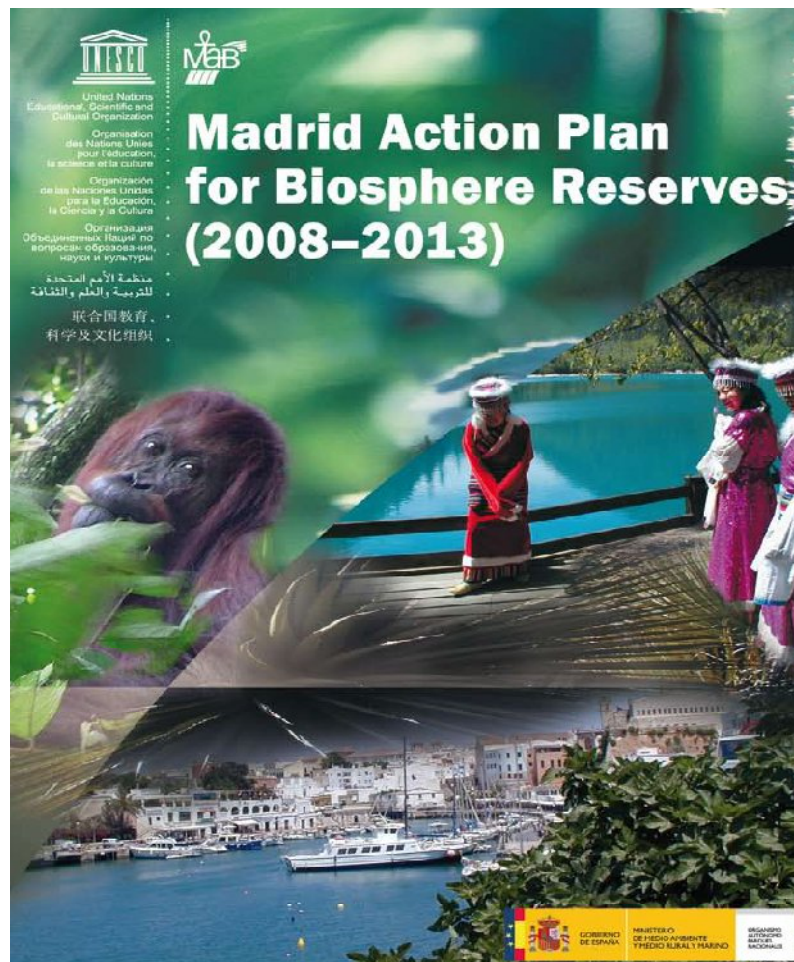




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# Biosphere Reserves

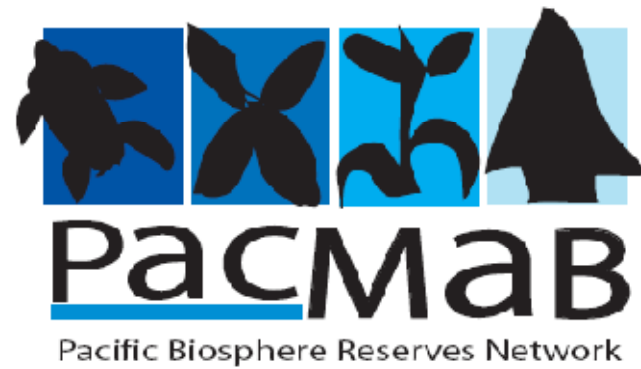




- ◆ **Over 530 sites worldwide in over 110 countries of which approximately 100 coastal marine**
- ◆ **Biosphere reserves are recognized under UNESCO's Man and the Biosphere (MAB) Programme**
- ◆ **Act as laboratories where biodiversity conservation and sustainable development approaches are tested and developed**
- ◆ **Ideal places to design innovative economic models that benefit local people and maintain cultures, biodiversity and associated values**



# MAB in the Pacific







# The Pacific on the MAB map!

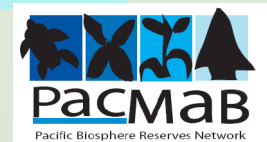
Utwe Biosphere Reserve



Ngaremeduu Biosphere Reserve



MAN AND BIOSPHERE PROGRAMME





# NGAREMEDUU BIOSPHERE RESERVE, PALAU

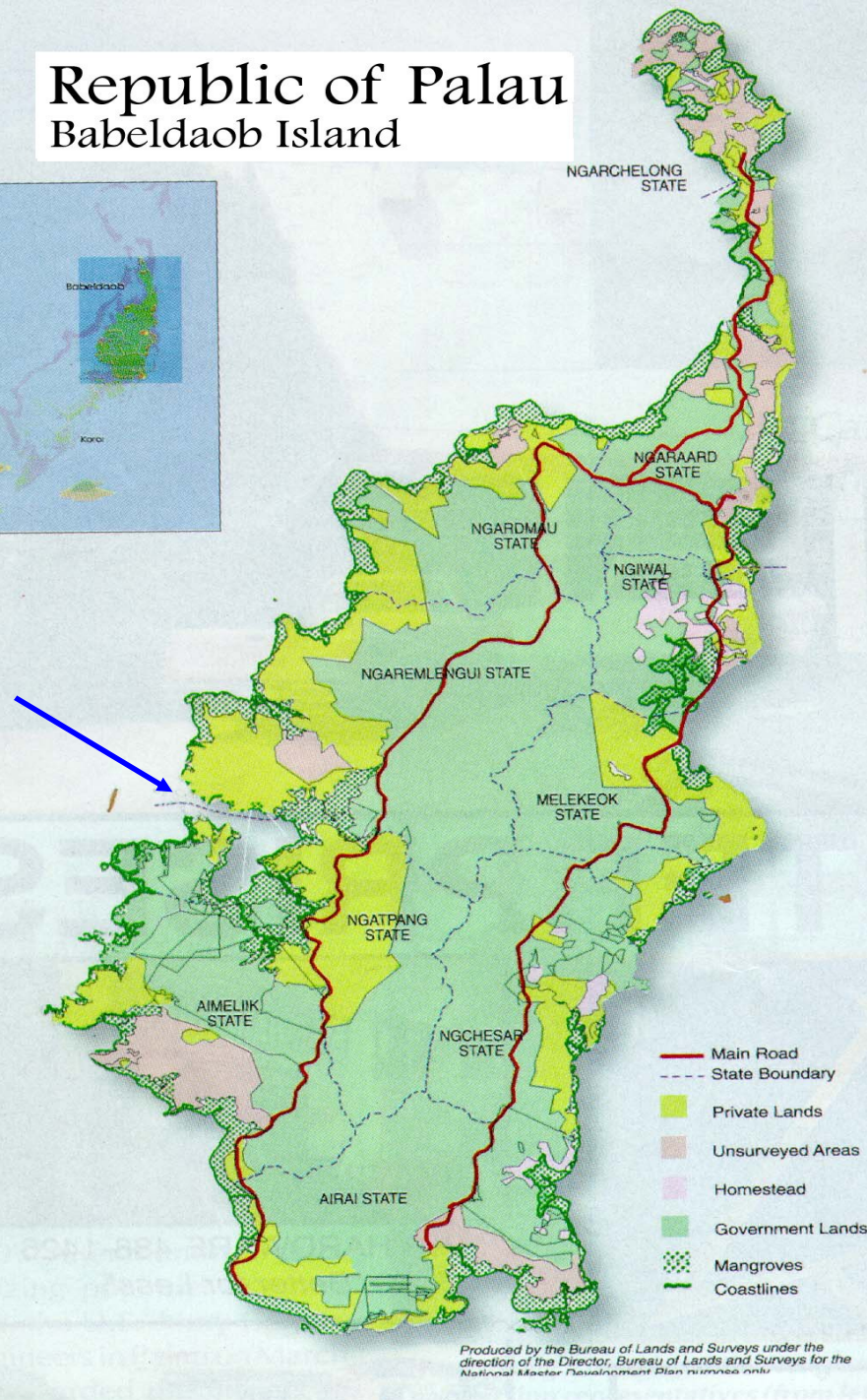
**1<sup>st</sup> Biosphere Reserve in the Pacific**

**Declared 29 June 2005**





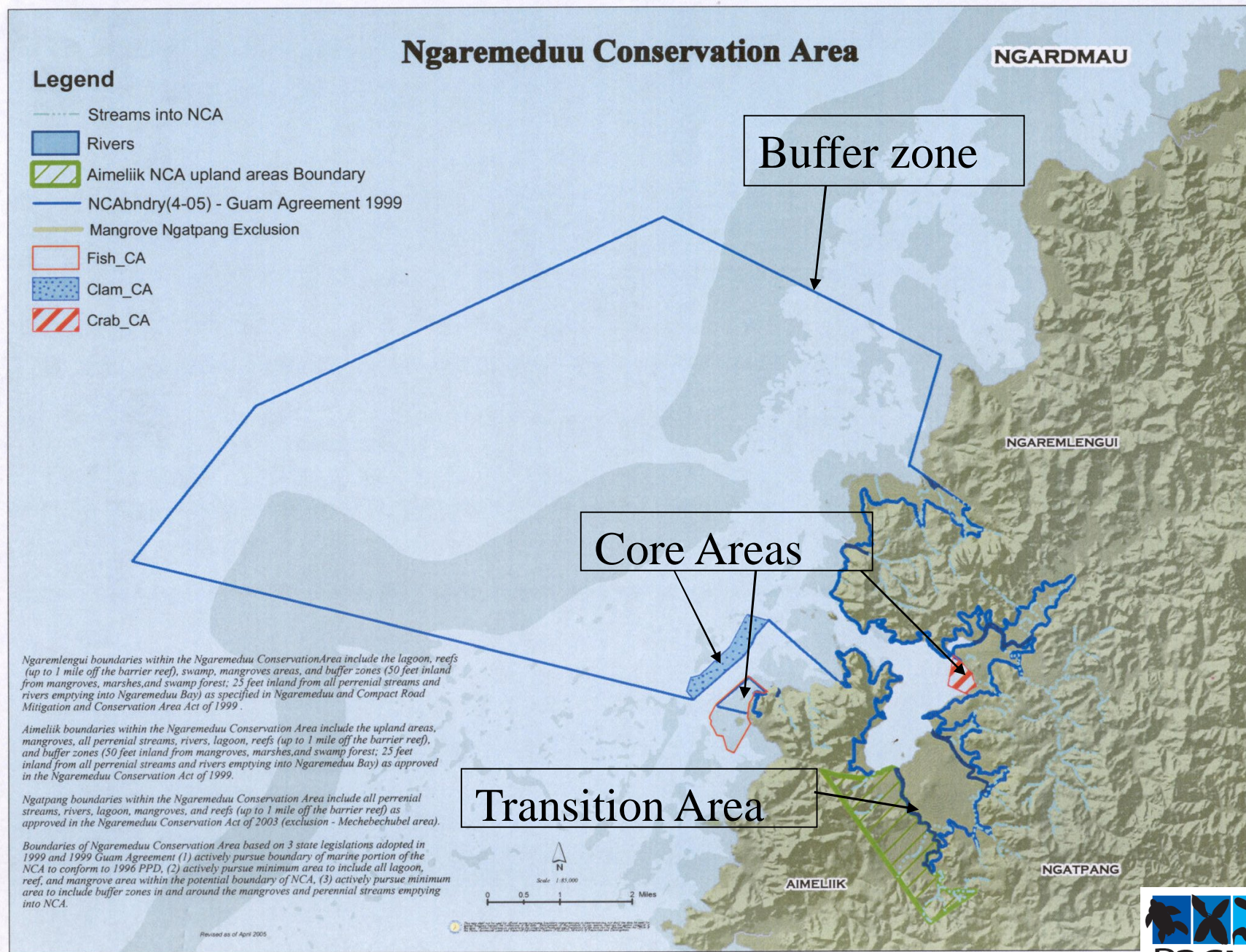
## Republic of Palau Babeldaob Island



## Ngaremeduu BR

- Within 3 states
  - Aimeliik
  - Ngaremlengui
  - Ngatpang
- Area – 13,674 ha
- Over 25 various ecosystems (mangroves, seagrasses, coral reefs, etc.)





# Ngaremeduu Biosphere Reserve zonation

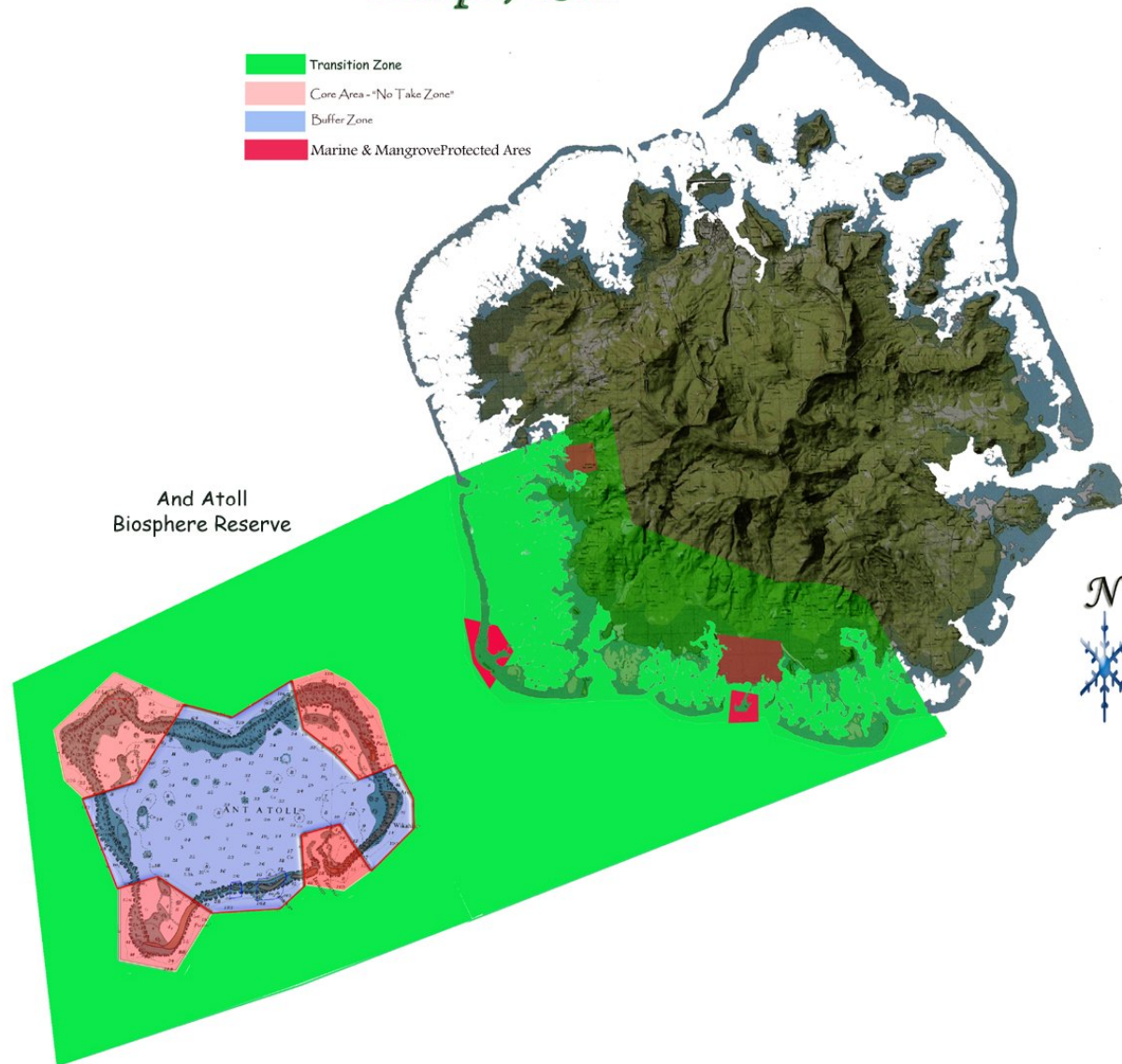


## And Atoll – the Pacific's newest Biosphere Reserve



# And Biosphere Reserve

*Pohnpei, FSM*





In the And Biosphere Reserve, the local authorities have embarked into socio-economic monitoring to assess positive or negative effects the BR may be having on the local communities. This included the Enipein communities who are some of the main users of And and live within the transition zone.



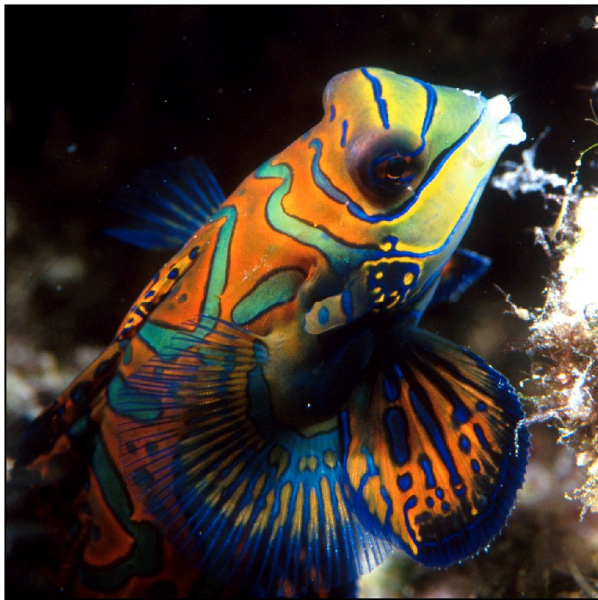
# FSM-Vietnam study exchange for Utwe BR leaders





# FULLFILMENT OF THE THREE FUNCTIONS OF BIOSPHERE RESERVES

- ◆ Conservation – To promote the conservation, protection, and wise management of the diverse and abundant resources within the Pacific BRs
- ◆ Sustainable Development – Promotion of ecotourism projects within BRs, with community involvement
- ◆ Environmental Education – Proactive awareness





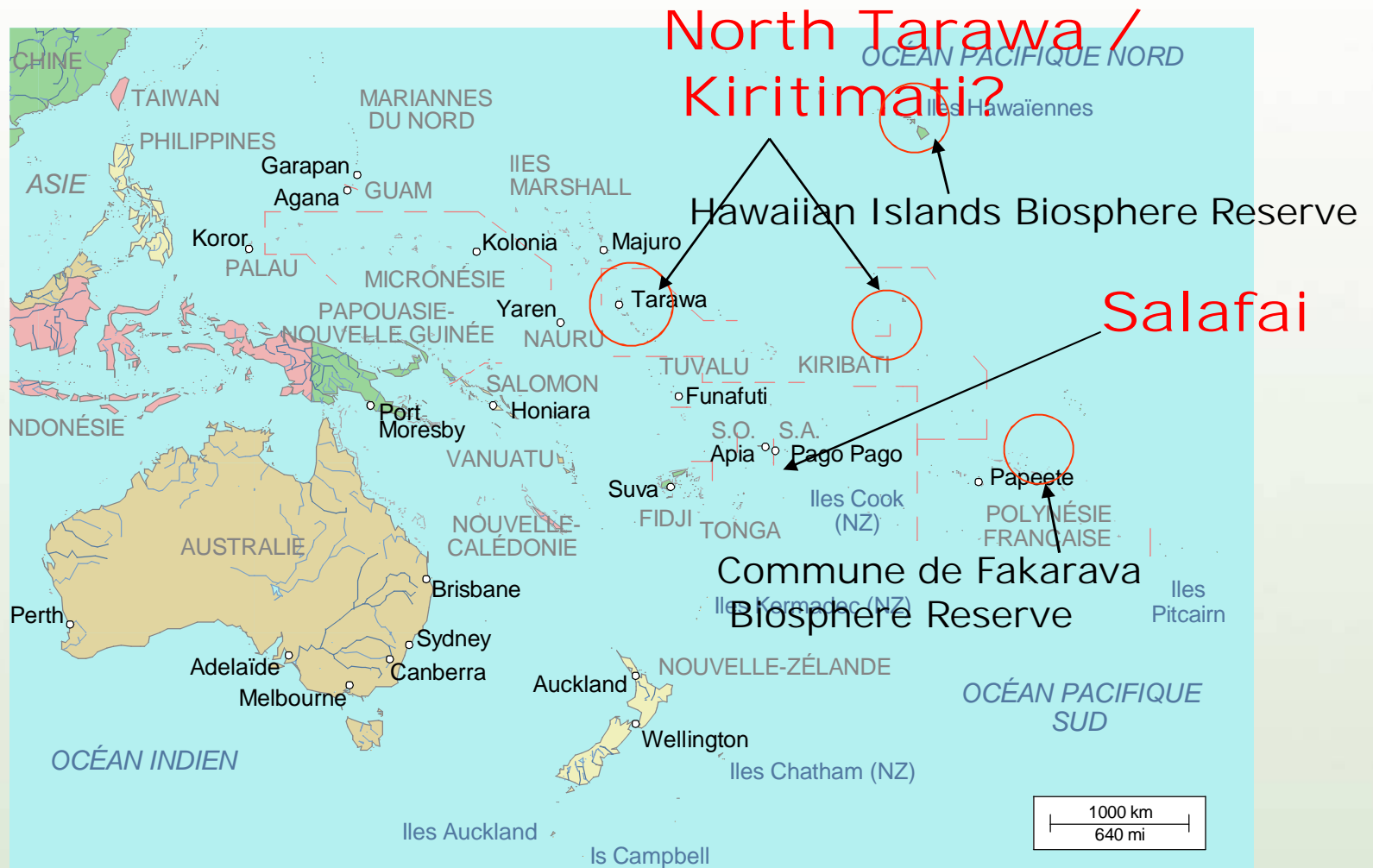
# Linkages to the Madrid Action Plan Goals

- ◆ Cooperation amongst various stakeholders (managers, scientists, decision makers, local communities, etc.) to support the long-term sustainability of the BRs
- ◆ Meeting global targets and national targets
  - Mitigating and Adapting to Climate Change
  - Micronesia Challenge (Palau/FSM & others): conserve 30% marine resources and 20% terrestrial resources by 2020





# Pacific Biosphere Reserves under development



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# UNESCO World Heritage Convention

## Selection criteria:

- ♦ to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;
- ♦ to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;
- ♦ to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;
- ♦ to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;
- ♦ to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;
- ♦ to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;
- ♦ to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.





## MAB and WHC as Tools

- ◆ Common heritage vs. freedom of use (WHC)
- ◆ Reconciling conservation with use (MAB)
- ◆ Issues related to ABS (MAB)
- ◆ Sovereignty vs. universal applicability (MAB & WHC)
- ◆ International list of sites proposed by governments: issues of ownership and accountability
- ◆ Enforcement
- ◆ Operationalization of the concept of BR relies on 35+ years of experience and a set of tools:
  - conflict prevention/resolution
  - spatial planning
  - promotion of standardized scientific research and monitoring
  - scientific assessments and other communication and awareness
  - education



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# Biosphere Reserves



Coral reef protected areas in international conventions and programmes

**Bernard SALVAT**  
*Pr Emeritus EPHE*  
*FRANCE*



**GLOBAL CORAL REEF  
MONITORING NETWORK**



## Next Steps

- ◆ Inventory, assessments and monitoring important; promoting concepts and tools urgent
- ◆ ICRI may wish to endorse these tools/approaches
- ◆ Formal recognition under CBD and other enabling frameworks therefore policy legitimacy too





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Merci!