



**Mangrove
Specialist
Group**

IUCN Mangrove Specialist Group Statement for 2014 World Parks Congress: Mangroves: Protect, Restore, Expand

Mangrove ecosystems are one of the most undervalued ecosystems on earth. These remarkable forests are immensely important to coastal communities, providing a source of food and resources, protecting coastlines, preventing soil erosion as well as providing a global benefit in regulating our climate. Yet mangroves are also among the most threatened ecosystems globally and they continue to be cleared and degraded at an alarming rate. The three main drivers of mangrove destruction and loss are population growth, economic development, and demand for cultivated seafood.

The IUCN Mangrove Specialist Group, comprising of international experts in mangrove research and conservation, is working to a) assess the conservation status of mangrove systems; b) identify, quantify and prioritise threats; c) conserve the most threatened species and habitats; and d) disseminate best practices and share successful approaches for mangrove conservation, restoration and sustainable use. We recognise that protected areas are a vital tool for conserving mangroves, as part of the wider Global Action Plan under development by our group.

For the Promise of Sydney, we propose the following actions that relate to mangroves:

1. Mangrove protected areas - conserving nature while delivering essential ecosystem services

- a) **Protect remaining forests.** With only 6.9% of mangroves worldwide within protected areas¹ (recent calculations may be higher, Spalding, pers. comm.). The current rate of loss is 150,000 ha per year or ~1% of global coverage, reaching 2-3% annually in some countries. Among the >70 mangrove species, 16% are threatened². Existing protection of mangrove ecosystems must be enforced and managed more effectively, with new protected areas delineated to reduce the rate of loss.
- b) **Develop networks of interconnected protected areas from land to sea that include mangroves.** As mangroves depend on terrestrial and marine processes, protected areas with mangroves should form a hydrological network of protected habitats from the watershed to the coast, to ensure the ecological connectivity essential for the functioning of the whole coastal ecosystem. Activities outside park boundaries must not negatively impact the freshwater and sediment balances required for healthy mangroves.
- c) **Use flagship species to protect mangrove ecosystems.** Mangroves support rich species' diversity, including iconic threatened species such as tigers, proboscis monkeys, dugongs, sawfish and many species important to fisheries.
- d) **Manage protected areas for biodiversity and functionality as well as area.** Mangroves in protected areas may be degraded due to external influences e.g. loss of biological and ecological diversity due to pollution, sedimentation and fragmentation. Special emphasis should be placed on protecting undisturbed mangrove ecosystems that provide valuable reference sites, as well as having intrinsic and ecosystem service values. Indicators for mangrove ecosystem health need development.
- e) **Plan for climate change.** Mangrove ecosystems require a landward zone for forest retreat in response to sea level rise and to control 'coastal squeeze'. Due to their value as carbon sinks, mangroves should be integrated into nationally appropriate climate change mitigation actions.
- f) **Train protected area managers in mangrove management and restoration.** Mangroves usually fall outside the expertise of both forest and marine protected area managers, but there are existing mangrove training courses that should be part of an expanded education programme for mangroves.
- g) **Improve enforcement of mangrove protected areas.** Good mangrove protection practices exist in some countries and these should be replicated widely as a contribution to improving management effectiveness.

2. Mangrove protected areas within goals of economic and community well-being

- a) **Promote community-managed mangrove protected areas.** Local communities depend on mangroves directly, and often exclusively, for their livelihoods and food security; exclusion will marginalise and disenfranchise them. Local communities should *de facto* be the managers of mangroves, but trained to implement and manage mangrove protected areas effectively.
- b) **Implement ecologically functional coastal greenbelts.** Wetland coastal areas always require an ecologically functional greenbelt for protection and climate change mitigation, which should be factored in to protected area and coastal zone management planning.
- c) **Exclude destructive aquaculture practices from mangrove protected areas.** Most shrimp and fish farms negatively impact mangroves. New pond-based aquaculture in mangrove ecosystems is strongly discouraged and should never be allowed within protected areas. Existing pond-based aquaculture within mangrove protected areas should respect high mangrove to pond ratios and, where unsustainable, be phased out and the ponds reverted to mangroves.
- d) **Integrate appropriate mangrove practices into disaster relief and recovery.** Humanitarian agencies and governments need to adopt a code of practice and be trained in mangrove ecosystem restoration as part of a wider programme to build environmental and social resilience towards natural disasters, such as the 2004 Indian Ocean tsunami and typhoon Haiyan 2013³.
- e) **Increase awareness.** Protected areas with mangroves should use environmental education and innovative outreach tools to increase the profile of mangroves. Examples of successful mangrove parks as ecotourism, educational learning centres and research facilities should be scaled up and replicated, engaging local communities in their management.

3. Achieving mangrove protected areas in practice.

- a) **Convert ponds to parks.** Worldwide there is a conservative estimate of 400,000 hectares of abandoned and disused aquaculture ponds with potential for mangrove rehabilitation and protection. Governments and industry need to improve tenure processes that would enable reversion to mangroves and establishment as parks.
- b) **Use science-based restoration methods.** Most mangrove restoration projects have failed due to poor design and implementation and a lack of monitoring^{4,5}. However, science-based, community-appropriate methods for mangrove restoration have been developed and published and need to be widely adopted^{6,7,8}.
- c) **Develop a web-based platform for mangrove restoration.** Large-scale government and donor funds are being channelled into mangrove restoration projects that often fail. Urgent financial support is needed for a web-based platform that provides correct methodologies and tracks success would increase effectiveness.
- d) **Increase park management effectiveness.** Cross-sectoral cooperation among forestry, fisheries, wildlife, tourism and other relevant agencies is needed to better manage the multiple ecosystem services provided by protected mangroves and to minimise mangrove loss and degradation caused by surrounding coastal developments.
- e) **Engage local communities.** Communities are fundamental to mangrove conservation and must be involved in local decision making about coastal protected areas from the outset. Successful examples of shared governance (co-management) need to be scaled up and replicated.

4. Specific mangrove targets to 2020

1. By 2016, the top 10 humanitarian agencies worldwide involved in disaster relief will have adopted a mangrove code of practice; and by 2018 they will have 100 key personnel trained in mangrove ecosystem restoration as part of a wider programme to build environmental and social resilience towards natural disasters.
2. By 2016, implement a web-based platform to guide and monitor mangrove restoration projects, initially featuring 10 projects in 10 countries.
3. By 2017, science-based restoration methods for mangrove protection and rehabilitation will be adopted by 5 major funding agencies (e.g. USAID, EU, SIDA, CIDA) and 5 governments in key mangrove range states.

4. By 2017, a global mangrove training programme for protected area managers will be implemented in 10 countries, and have trained at least 300 managers.
5. By 2017, at least 10 countries will have mangrove conservation policies integrated into their national climate change mitigation plans and actions.
6. By 2020, 17% of mangrove ecosystems will be managed effectively within designated protected areas, including those operating at a transboundary level.
7. By 2020, 30% of mangroves adjacent to existing terrestrial or coral reef protected areas will be protected through area expansion.
8. By 2020, 5 countries in 5 geographic regions will have implemented at least one watershed-level network of interconnected protected areas that includes mangroves, as demonstration projects for replication.
9. By 2020, 100,000 hectares of abandoned or disused aquaculture and brackish rice culture ponds will be restored to mangrove forests and included within new designated protected areas.

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