

Research needs expressed in the Decisions of the Conference of the Parties to the Convention on Biological Diversity: Thematic Work Programme on Island Biodiversity

Islands and their surrounding near-shore marine areas constitute unique ecosystems often comprising many plant and animal species that are endemic—found nowhere else on Earth (<http://www.cbd.int/island/default.shtml>). The legacy of a unique evolutionary history, these ecosystems are irreplaceable treasures. They are also key to the livelihood, economy, well-being and cultural identity of 600 million islanders—one-tenth of world population.

The cited Decisions that express research needs are VIII/1, where the work programme is annexed, and XI/15, also checked were Decisions VIII/3 Annex I Part IV and IX/21.

Direct research needs

Decision	Paragraph	Chapeau / Heading	Text	Source http://www.cbd.int/decisions/
VIII/1	Annex I Appendix Goal 1 Priority Action 1.1.1	Goal 1: Promote the conservation of the biological diversity of island ecosystems, habitats and biomes.	Identify, classify, map , and prioritize island ecosystems and sensitive areas important for biodiversity and/or for the maintenance of ecosystem goods and services, with the full and effective participation of indigenous and local communities, taking into account practical issues of connectivity and implementation of conservation activities. Improve understanding of ecological processes on and around islands , including isolation and fragmentation of habitats such as, seamounts, cold water coral reefs, hydrothermal vents, and cold seeps in conserving biodiversity.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 1 Priority Action 1.1.2		Identify and undertake rehabilitation of natural terrestrial ecosystems from which key components have been lost or significantly reduced , in cooperation with local, traditional, and indigenous experts to identify key vegetation components that have been lost or significantly reduced. Develop and implement methods to protect endangered species in their island environments and to enhance or re-establish populations that have sustained extensive declines. Explore the possibility of documenting traditional knowledge,	

			<p>innovations and practices relevant to local species, taking on board the work of the Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and related provisions while developing technical guidelines for such activities, with the full and effective participation of indigenous and local communities, consistent with Article 8(j).</p>	
VIII/1	Annex I Appendix Goal 1 Priority Action 1.1.3		<p>Develop practical criteria for classifying degraded island ecosystems and selecting priority ecosystems for restoration, based on their conservation and ecosystem service value and impact on other ecosystems or habitats.</p> <p>Systematically compile existing and new data on the status and trend of degraded island ecosystems. Establish a baseline measure of the extent of degraded island ecosystems as a means of determining progress towards restoration targets.</p>	
VIII/1	Annex I Appendix Goal 1 Priority Action 1.2.1		<p>Develop and apply active conservation methods that integrate <i>ex situ</i>, if appropriate, and <i>in situ</i> conservation.</p> <p>Identify and protect areas of significance to migratory species.</p>	
VIII/1	Annex I Appendix Goal 2 Priority Action 2.1.1	Goal 2: Promote the conservation of island species diversity.	<p>Identify, map, and prioritize areas containing native threatened, endemic, and/or culturally important species working closely with traditional, indigenous and local experts and communities.</p> <p>Develop and implement habitat protection, management, and if necessary, species reintroduction strategies giving priority to <i>in situ</i> activities.</p> <p>Improve scientific capacity in conservation biology tools for recovery of endangered species, including population genetic studies as part of recovery efforts.</p>	<p>cop-08.shtml?m=COP-08&id=11013</p>
VIII/1	Annex I Appendix Goal 2 Priority Action 2.2.1		<p>Compile and/or update maps and undertake censuses of all native threatened endemic, and/or culturally important species.</p> <p>Undertake studies and provide baseline data and information on marine species, spawning and breeding sites.</p> <p>Survey and assess known and potential biodiversity hot spots, with rapid assessments of components of island biodiversity.</p> <p>Undertake taxonomic studies or revisions of important island taxa, including marine, freshwater and terrestrial species.</p>	

			<p>List all endangered island species that are stored in <i>ex situ</i> collections.</p> <p>Understand the dynamics of key island populations and ecological communities, and what constitutes an adequate area of key habitat to ensure viable populations.</p> <p>Assess genetic diversity and differentiation within and among island populations of wild flora and fauna.</p> <p>Undertake monitoring of those species at risk, especially, at a minimum, all critically endangered and endangered species.</p>	
VIII/1	Annex I Appendix Goal 3 Priority Action 3.1.1	Goal 3: Promote the conservation of island genetic diversity.	<p>Identify and support mechanisms for the restoration of lost germplasm and associated information to communities and countries.</p>	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 4 Priority Action 4.1.1	Goal 4: Promote sustainable use and consumption.	<p>Understand how biodiversity is affected by pressures resulting from economic activities including tourism, agriculture, forestry and fisheries, which are intensified in small island environments.</p>	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.1		<p>Develop and implement participatory standards and protocols in establishing measures for the sustainable utilization of marine-based resources.</p> <p>Develop an updated assessment of fishing gears and practices.</p>	
VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.3		<p>Identify market opportunities at the local, national, and international level to support the revitalization of sustainable agricultural production systems and consistent with international instruments, promote fair and equitable access to these markets for indigenous and local communities.</p> <p>Identify key components of biological diversity in agricultural production systems responsible for maintaining natural processes and cycles; monitor and evaluate the effects of different agricultural practices and technologies on these components and encourage restoration and other practices to attain appropriate levels of biological diversity.</p>	
VIII/1	Annex I		<p>Conduct research and extension activities on the propagation,</p>	

	Appendix Goal 4 Priority Action 4.2.4		production and use of native and endemic forest species , and associated traditional knowledge, where applicable, to maintain the diversity of native species.	
VIII/1	Annex I Appendix Goal 5 Priority Action 5.1.1	Goal 5: Pressures from habitat loss, land-use changes and degradation, and sustainable water use, reduced on islands.	Assess and address underlying causes of habitat loss in small islands , in particular in small island developing States. Develop alternatives to prevent loss of habitats and overexploitation of existing natural resources (e.g., forests, mangroves, marine resources) driven by mariculture, agriculture or tourism.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 6 Priority Action 6.1.1		Collect baseline data on invasive alien species introductions , and support regional and global databases providing comprehensive information on invasive species.	
VIII/1	Annex I Appendix Goal 6 Priority Action 6.1.3	Goal 6: Control threats to island biodiversity from invasive alien species.	Collect baseline data for existing native and endemic species in order to better understand what alien and invasive alien species populations have become established, so as to better assess their impacts. Identify and address likely invasion processes in the design of biodiversity conservation strategies. Perform science-based risk assessment for: (a) proposed deliberate introductions of alien species; and (b) importation of goods that may accidentally include invasive alien species (e.g. insects on food shipments). Develop science-based risk assessment methodologies applicable at the local, national and regional levels, including the risk of hybridization with endemic species.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 6		Identify priorities and opportunities for the practical control and eradication of key invasive alien species from islands , working closely with, civil society, business and local stakeholders.	

	Priority Action 6.2.1		Develop an inventory of invasive alien species on islands based on surveys. Link this with inventory of species and ecosystems to identify the pressures, risks and most cost-effective opportunities for preventing the introduction and spread of invasive alien species, thereby supporting the restoration of affected habitats.	
VIII/1	Annex I Appendix Goal 7 Priority Action 7.1.1	Goal 7: Address challenges to island biodiversity from climate change, and pollution.	Develop monitoring techniques to identify and monitor the impacts of climate change on key species. Develop models to understand the vulnerability of island biodiversity to climate change , including: Understand how sea level rise and other aspects of climate change threaten island biodiversity; Develop general circulation models and other scientific tools to help understand and adapt to the impacts of climate change on island biodiversity. Monitor and exchange information on the impacts of global climate change on island biodiversity. Identify species (e.g., corals) that are resilient to climate change in order to use those species for restoration.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 7 Priority Action 7.1.2		Identify and protect sites whose environmental conditions favour the maintenance and recovery of species and ecosystems under changed climate and sea level.	
VIII/1	Annex I Appendix Goal 8 Priority Action 8.1.2	Goal 8: Maintain capacity of island ecosystems to deliver goods and services and support livelihoods.	Identify and implement effective early-warning systems (forecasting) and strategies that address natural hazards and their impacts on island biodiversity and its recovery capacity, such as tsunamis, hurricanes, storm surges, floods, and tropical storms and longer-term trends such as climate change, sea level rise, El Niño and La Niña phenomena	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 8 Priority Action 8.2.1		Identify settled areas at risk from mudslides, landslides and storm surge, and implement vegetation stabilization and other mitigation measures.	
VIII/1	Annex I Appendix	Goal 10: Ensure the fair	Investigate and document, subject to Article 8(j), island genetic resources and associated knowledge, and their existing and potential	cop-08.shtml?m=COP-08&id=11013

	Goal 10 Priority Action 10.1.1	and equitable sharing of benefits arising out of island genetic resources.	uses, including status, trends, and threats. Identify and assess systems of information delivery , and update them to improve the recording and cataloguing of island genetic resources and, where appropriate, to implement alternative systems.	
VIII/1	Annex I Appendix Goal 10 Priority Action 10.2.1		Investigate and document the potential for research, including bioprospecting, into island genetic resources.	
VIII/1	Annex I Appendix Goal 11 Priority Action 11.2.1	Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.	Assess and identify suitable technology for conserving island biodiversity, at all scales.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 11 Priority Action 11.2.2		Identify existing island-based technology that supports the implementation of the programme of work on island biodiversity.	
VIII/1	Annex I Appendix Goal 11 Priority Action 11.3.3		Investigate perceptions of biodiversity by island inhabitants, tourists, developers and other stakeholders to improve the legitimacy and effectiveness of island-specific, science-based policy making.	

Indirect research needs

Decision	Paragraph	Chapeau / Heading	Text	Source
VIII/1	Annex I Appendix Goal 1 Priority Action 1.1.1	Goal 1: Promote the conservation of the biological diversity of island ecosystems,	Establish efficient local, national, and regional ecosystem monitoring programmes.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix		Develop and implement appropriate techniques and guidelines through reviewing and monitoring restoration projects globally.	

	Goal 1 Priority Action 1.1.2	habitats and biomes.	Re-establish animal species in terrestrial and freshwater ecosystems from which they have been lost or significantly reduced. Re-establish depleted species into marine ecosystems (e.g. artificial reefs, coral transplanting and species restocking).	
VIII/1	Annex I Appendix Goal 1 Priority Action 1.1.3		Restore selected island ecosystems through control and management or, where feasible, the eradication of invasive alien species. Restore degraded mangrove, seagrass and coral reef ecosystems.	
VIII/1	Annex I Appendix Goal 2 Priority Action 2.1.1		Develop and implement recovery plans for selected single, multiple or region-wide island endangered species in collaboration with indigenous and local communities, giving particular priority to species most at risk of extinction, those that are endemic, and species that will provide the broadest range of benefits. Develop protocols for translocation of island endemics threatened by invasive alien species to different islands or new locations within the same island.	
VIII/1	Annex I Appendix Goal 2 Priority Action 2.2.1	Goal 2: Promote the conservation of island species diversity.	Document traditional use with the full and effective participation and prior informed consent of indigenous and local communities, consistent with Article 8(j). Promote studies on key species life histories with special emphasis on conservation biology tools and approaches to assist active recovery efforts. Improve the infrastructure and resources for data and information collection, management and exchange. Provide taxonomic training and prepare guides to enable researchers to identify poorly known biological groups, coral species and other associated island species.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 3 Priority Action 3.1.1	Goal 3: Promote the conservation of island genetic diversity.	Develop , with the full and effective participation of indigenous and local communities, processes and mechanisms to facilitate the return of genetic resources held in ex situ collections to their ecosystems of origin , with the view to assisting <i>in situ</i> conservation initiatives of indigenous and local communities.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I		Develop capacity to establish and maintain gene banks/genetic	

	Appendix Goal 3 Priority Action 3.1.2		resources centres , including for aquatic/marine species, crops, and livestock, subject to Article 8(j). Develop a mechanism that enables and facilitates the development of regional gene banks/genetic resources centres to serve those islands that lack the resources and infrastructure to establish and maintain gene banks.	
VIII/1	Annex I Appendix Goal 4 Priority Action 4.1.1	Goal 4: Promote sustainable use and consumption.	Assess the effectiveness of policies designed to make economic activities sustainable on islands, and use socio-economic and scientific knowledge to develop them further. Assess the current and potential contribution of biodiversity to island peoples in terms of sustaining livelihoods, economic activity and cultural value.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.1		Assess and promote new techniques to help alleviate fishing pressures on coastal ecosystems. Develop and implement fishery management plans to control pressure on resources and habitats, ensure stock replenishment and prevent loss of biodiversity/habitats, taking into account user's rights, zoning (including setting of no take zones), drawing on traditional and science-based knowledge. Establish effective participatory monitoring, control and surveillance systems to ensure compliance with regulations by users of coastal and marine resources , at the local, national and regional levels.	
VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.2		Establish effective monitoring, control and surveillance systems to ensure compliance with regulations by users of terrestrial and freshwater resources , at the local, national and regional levels. Develop effective and generally accessible information systems and management strategies for terrestrial and freshwater resources.	
VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.3		Develop and implement, through a participatory process, a sustainable and integrated agriculture development plan. Compile , in collaboration with FAO and other relevant bodies and organizations, and disseminate through the clearing-house mechanism and other means: guidelines/tool kits geared towards the development of sustainable agriculture systems, case-studies, lessons learned and best-practice guidance on sustainable agriculture systems.	

VIII/1	Annex I Appendix Goal 4 Priority Action 4.2.4		Develop and implement, through a participatory process, a sustainable forestry plan , integrating, where appropriate, the traditional knowledge, innovations and practices of indigenous and local communities, subject to Article 8(j). Develop plans for sustainable management of mangrove ecosystems and ensure sustainability of fuelwood harvests.	
VIII/1	Annex I Appendix Goal 4 Priority Action 4.3.3		Develop and adopt management plans for key species to ensure that harvest for international trade in them is sustainable.	
VIII/1	Annex I Appendix Goal 6 Priority Action 6.1.3	Goal 6: Control threats to island biodiversity from invasive alien species.	Develop contingency plans for the early detection and rapid response to the introduction of invasive alien species that may affect the ecological, social, economic and cultural balance in both terrestrial and marine ecosystems. Make available information on population dynamics, habitat (natural and semi-natural), reproductive biology and propagation features of potentially invasive species.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 6 Priority Action 6.2.1		Review and, as necessary, facilitate the revision or development of national and/or local legal instruments , adapted to the situation of each island state or island region, to prevent undesired introductions and to manage or eradicate established invasive alien species.	
VIII/1	Annex I Appendix Goal 7 Priority Action 7.1.1	Goal 7: Address challenges to island biodiversity from climate change, and pollution.	Consider afforestation and reforestation projects that enhance island biodiversity , noting that it <i>may</i> be possible for these projects to be eligible to generate certified emission reduction units under the Kyoto Protocol's Clean Development Mechanism.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 9 Priority Action 9.1.2	Goal 9: Maintain socio-cultural diversity of indigenous and local	Develop and implement effective systems to respect, preserve and maintain traditional knowledge, innovations and practices , where appropriate, for sustainable use of island resources. Document traditional knowledge, innovations and practices relevant to local species or the sustainable use of island biodiversity,	cop-08.shtml?m=COP-08&id=11013

		communities of islands	with the full and effective participation and prior informed consent of indigenous and local communities consistent with Article 8(j).	
VIII/1	Annex I Appendix Goal 10 Priority Action 10.1.2	Goal 10: Ensure the fair and equitable sharing of benefits arising out of island genetic resources.	Develop and implement a national access and benefit-sharing strategy , and national access and benefit-sharing measures, including legislative, administrative and policy measures with particular reference to endemic island species, taking into account the Bonn Guidelines.	cop-08.shtml?m=COP-08&id=11013
VIII/1	Annex I Appendix Goal 11 Priority Action 11.3.5	Goal 11: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.	Establish monitoring systems to assess the implementation and long-term impact of national biodiversity strategies and action plans and the programme of work. Continue work on a vulnerability index and other indicators that reflect the status of small islands, and integrate ecological fragility, socio-economic and cultural vulnerabilities. Develop appropriate techniques for monitoring island biodiversity in order to assess and report on long-term regional and global trends and on the drivers of biodiversity loss, including global change, and their impacts on biodiversity.	cop-08.shtml?m=COP-08&id=11013
XI/15	Para 1	The Conference of the Parties	<i>Urges</i> Parties, and invites other Governments, financial institutions and other relevant organizations to strengthen the implementation of the programme of work on island biodiversity and to build on successful island approaches by: d) Maintaining and supporting key databases and information portals [...] to enable effective invasive species monitoring and eradication prioritization on islands, as valuable tools in support of the implementation of the programme of work;	cop/default.shtml?id=13176