

**SUPPLEMENTARY MATERIAL TO:** [Hamer et al. S Afr J Sci. 2021;117\(9/10\), Art. #11765.](#)

**HOW TO CITE:**

Hamer M, Behr K, Engelbrecht I, Richards L. Permit requirements, associated challenges and recommendations for biodiversity collections and research in South Africa [supplementary material]. S Afr J Sci. 2021;117(9/10), Art. #11765. <https://doi.org/10.17159/sajs.2021/11765/suppl>

**Supplementary table 1:** Summary of national legislation regulating the collection, acquisition and sharing of biological materials

International convention	National act	Regulations	What is regulated	What the legislation requires for institutions and researchers
Convention on Biological Diversity (1993)	National Environmental Management: Biodiversity Act (No. 10 of 2004)	The Threatened or Protected Species Regulations of NEMBA (2007)	Restricted activities including ‘catching or killing, gathering, collecting or plucking, picking parts off, cutting, importing into the country or exporting from the country, having in possession, conveying or moving any specimen (not only live specimens), receiving, giving, donating or accepting as a gift, or in any way acquiring or disposing of’ any specimen of a listed ToPS	Institutions that carry out research or do identifications on any species included in the ToPS list must register as a scientific institution
				Once registered, institution must apply for a standing permit, which is valid for 3 years Permits required for individual restricted activities including collecting and exporting
Convention on International Trade in Endangered Species (CITES) (1975)		CITES Regulations of NEMBA (2010)	Trade, import, export and re-export of species on Appendices I, II and III of CITES	Registration for institutions
				Scientific exchange: non-commercial loans, donations and exchanges between registered scientific institutions, for herbarium and preserved or dried museum specimens or DNA extracts or tissue samples exempt from permit requirements that apply to trade or import or export; but CITES “label” required. Limited to legally obtained specimens.

International convention	National act	Regulations	What is regulated	What the legislation requires for institutions and researchers
Nagoya Protocol (2014)		Bioprospecting, Access and Benefit-Sharing Regulations (2015)	(a) bioprospecting involving indigenous biological resources; (b) export from the Republic of indigenous biological resources for the purpose of bioprospecting or any other kind of research.	<p>Permit from the relevant provincial department where the material was collected is required to export any biological material from South Africa.</p> <p>BABS permits only be issued to institutions or organisations registered in South Africa, and to individuals who are South African residents or permanent residents. Foreign institutions or nationals can only access a BABS permit if they are working with and apply jointly for the permit with a South African registered institution / organisation or citizen or resident.</p>
				<p>Prior informed consent required (collecting permit / landowner permission) for export permit</p> <p>Exploration Permit required for collection of material that may be used for any research linked in any way to use / commercialisation</p> <p>Written consent of the issuing authority for material to be supplied to a third party</p> <p>Material Transfer Agreement (MTA) entered into between supplier (access provider) and recipient of material submitted with permit application for export of any biological material for research purposes</p>
	National Forests Act (No. 84 of 1998)	47 protected tree species last gazetted in 2019	Regulates activities involving listed protected tree species, Champion trees and any activities relating to biological objects carried out in state forests.	Licence must be obtained to possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, or any forest product derived from a protected tree
		Champion trees		Licence required to carry out research in any state forest
				Licence required to do research on any Champion tree
	Animal Diseases Act (No 35 of 1984. Section 20)		No person shall, except under a permit and in compliance with the conditions which are prescribed or, in any particular case, determined by the director	<p>Section 20 permit required</p> <p>Application must include letter from the State Veterinarian for each District in which the collection will take place</p>

International convention	National act	Regulations	What is regulated	What the legislation requires for institutions and researchers
			<p>a. conduct any investigation, experiment or research with .... any biological product which consists or originates wholly or partially of, or from, any micro-organism, or of or from the glands, organs, fluids, or any other part, of an animal or parasite;</p> <p>b. or for the purposes of any investigation, experiment or research referred to in paragraph (a), ii. introduce into or collect in the Republic, or have in his possession, or remove or transport from the place where it is normally found or kept, any controlled animal or thing, or any protozoon, bacterium, virus, fungus, parasite, other organism or agent which is capable of spreading any animal disease or parasite.</p>	<p>Transport of samples must be according to IATA standards.</p>
				<p>For biobanked materials, including frozen tissues, DNA samples, or microbes, the biobank or storage facility must be audited and certified by DALRRD officials. Waste removal must be through a certified company, and compliance certificate may be requested by inspectors.</p> <p>Supplying or using any biobanked materials for any purpose requires a Section 20 permit for each sample</p> <p>Import of any material requires Section 20 permit, and State Veterinarian sign off required before release from customs.</p> <p>Material must be in formalin, and brought in as air freight.</p>
	<p><b>Agricultural Pests Act (No. 36 of 1983)</b></p>		<p>Import and export permits are required for plants and plant products, these are focussed on agricultural products (fruit, vegetables, ornamental plants) and associated packaging</p>	<p>Not specifically addressed for non-agricultural work.</p>
	<p><b>National Heritage Resources Act (No. 25 of 1999)</b></p>		<p>Export, either temporarily or permanently of natural history collections and specimens, in particular type specimens in all disciplines including zoological, palaeontological and botanical specimens'</p>	<p>Permit application to the South African Heritage Resources Agency (SAHRA) to determine whether they may be temporarily or permanently exported, or not. Applications through the South African Heritage Resources Information System (SAHRIS)</p>

**Supplementary table 2:** Summary of permitting requirements for biodiversity collections and related research activities in South Africa. Where there is some uncertainty this is indicated by a “#”.

Legislation and component of biodiversity or area affected	Collecting from the field: inside state protected areas (PA)	Collecting from the field: outside state protected areas	Holding / onsite research	Donating / loaning locally	Donating internationally	Importing
<p><b>ToPS Regulations:</b></p> <p>Species on the ToPS list only</p>	<p>#Permit from DFFE for national PAs; currently some provincial authorities for other PAs.</p>	<p>#Permit from provincial authorities (requires clarity for organs of state).</p> <p>Private land: written landowner permission.</p> <p>Marine listed species: DFFE permit</p>	<p>#Register as scientific institution (inland species only). Standing permit. Issuing authority unclear.</p>	<p>#Receiving institution must have Standing or Ordinary permit. Issuing authority unclear.</p>	<p>#Receiving institution must have Ordinary Permit; export permit required. Issuing authority unclear.</p>	<p>#Import and possibly also Registration, Standing or Ordinary permit. Unclear whether sending institution requires ToPS permits.</p>
<p><b>CITES Regulations:</b></p> <p>CITES listed species only</p>	<p>No</p>	<p>No</p>	<p>#Register as CITES institution. Unclear process.</p>	<p>#Unclear but receiving institution may need to be registered as CITES institution.</p>	<p>#Sending and receiving institutions CITES registered; export permit from provincial authority required or in case of marine species or state controlled protected areas, DFFE; recipient may need import permit</p>	<p>#Sending and receiving institutions CITES registered; export permit required by sender; import permit from provincial authority may be required</p>
<p><b>BABS Regulations:</b></p> <p>All material exported, any material collected that may be used for research that has commercial potential</p>	<p>If any potential use of material for any type of use (Exploration permit from DFFE).</p> <p>Proof of legal acquisition needed if material will be exported (landowner permission and provincial authority collecting permit)</p>	<p>If any potential use of material for any type of use (Exploration permit from DFFE)</p> <p>Proof of legal acquisition needed if material will be exported (written landowner permission or provincial authority collecting permit).</p>	<p>If used for any form of research that may be linked to commercialisation Exploration permit from DFFE required.</p>	<p>No</p>	<p>#Export permit required; proof of legal acquisition (may be landowner permission or collecting permit) Mutually Agreed Terms (benefit sharing, Material Transfer Agreement). Unclear issuing authority.</p>	<p>Not covered by BABS, but Nagoya Protocol requires that country of origin legislation complied with (proof of legal acquisition, Mutually Agreed Terms).</p>

Legislation and component of biodiversity or area affected	Collecting from the field: inside state protected areas (PA)	Collecting from the field: outside state protected areas	Holding / onsite research	Donating / loaning locally	Donating internationally	Importing
<b>National Forest Act</b>  Protected tree species; all State Forests; all Champion Trees	#All taxa in state forests – licence from DFFE (also provincial collecting permit). Not clear where to submit application or location of state forests.	#Protected trees and Champion Trees – licence from DFFE (also provincial permits). Unclear where to submit applications.	No	No	No	No
<b>Animal Disease Control Act</b>  All activities involving animals, microbes	#Enquire about all terrestrial and freshwater animals. State vet letter required; Section 20 permit required for some taxa in some areas	#Enquire about all terrestrial and freshwater animals. State vet letter required; Section 20 permit required for some taxa in some areas	Biobanked samples: certification required, includes SOPS, waste removal company compliance certificate.	Section 20 permit; transport requirements specified.	#Unclear	State Vet clearance and import permit required from DALLRD
<b>Agricultural Pests Act</b>  Preserved specimens / packaging	No	No	No	No	#Phytosanitary certificate may be required by some recipient countries.	#Unclear but phytosanitary certificate may be required.
<b>National Heritage Resources Act</b>  Type specimens	No	No	No	No	#Enquire about all type specimens; may need export permit.	
<b>Provincial Ordinances</b>	National Parks: registration of project; landowner permission; provincial permit.  #Provincial parks: registration of project; collecting permit; export permit if material will be taken out of province.	#Permit required to collect all species listed by province; some provinces require permits outside PAs for any collecting.; export permit if material will be taken outside of province.  Landowner permission required.	No	Exporting from the province; donation to a third party requires permit.	#Export permit generally required, but varied across provinces	#Required for listed species. Unclear for preserved specimens not on the lists.

**Supplementary table 3:** Assessment of information available online for provincial permits for collection, transport, import and export of biological materials

Provincial websites and information available	Permit applications and details accessible on website	Legal basis
<b>Eastern Cape:</b> No information about research permits, ordinances or protected species lists. DFFE and SANBI websites provide contact details but last updated 2015. Permitting may be delegated to regional offices	No information available.	No information available
<b>Free State</b> Website includes application forms for permits and contact details. No guidelines, ordinance or species lists provided. <a href="http://www.edtea.fs.gov.za/">http://www.edtea.fs.gov.za/</a>	Integrated permit for activities involving listed Threatened or Protected Species and activities involving indigenous / exotic species mentioned in the Free State Ordinance on Nature Conservation (Ord. 8 of 1969).	Free State Ordinance on Nature Conservation (Ord. 8 of 1969). ToPS Regulations.
	Application to collect wild animals or plants for research	NEMBA: ToPS Regulations and indigenous or exotic species mentioned in the Free State Ordinance on Nature Conservation (Ord. 8 of 1969)
	Application to transport plants	No details
	Application to export/import/re-export CITES listed fauna and flora	NEMBA: CITES Regulations
<b>Gauteng:</b> <a href="https://www.gauteng.gov.za/Departments/CPM-001000/Services">https://www.gauteng.gov.za/Departments/CPM-001000/Services</a> Contact details provided; limited information about the purpose of some permits, but not all application forms accessible; legislation and protected species lists not provided.	CITES permits: no application form provided but link to DFFE website.	Ordinary permit, provisions of the NEMBA ToPS Regulations, 2007.
	ToPS Standing Permit	ToPS Regulations, 2007. No application form.
	ToPS Ordinary Permit (conveying, moving, translocation)	The application form link opens the CITES Dealers book application form for traders
	ToPS Ordinary Permit (hunting, catching, killing)	TOPS Regulations 2007. Link to application form does not open.
	ToPS Ordinary Permit (Possession)	ToPS Regulations, 2007; no application form
	ToPS Ordinary Permit (Selling/buying/receiving/giving/donating)	ToPS Regulations, 2007; no application form
	Permit to catch fish	No details
	Permit to catch wild animals	No details
	Permit to collect and transport plants	No details
	Permit to donate plants	No details
	Permit to export dead game or game products	No details
	Export permit for research	No details
	Permit to export genetic material	No details
	Permit to export plants	No details

Provincial websites and information available	Permit applications and details accessible on website	Legal basis
	Permit to hunt wild animals for scientific purposes	No details
	Permit to import dead game or game products	No details
	Permit to import plants	No details
	Permit to possess elephant tusks	No details
	Permit to possess rhino horns	No details
	Permit to remove bats from caves	No details
<p><b>KwaZulu-Natal:</b>  Ezemvelo KZN Wildlife:  <a href="http://www.kznwildlife.com/Research%20Project.html">http://www.kznwildlife.com/Research%20Project.html</a>. Guidelines and application forms available.  Application form includes more guidelines. No functional link to legislation or list of protected species.  Also an online permitting site:  <a href="https://www.kznwildlifepermits.com/">https://www.kznwildlifepermits.com/</a> - registration required. No details provided on opening page about what it covers.</p>	<p>Application for Registration of a Research Project and/or for a Scientific Collection Permit. Collection permits must be obtained whenever biological specimens are collected. If working outside of a protected area, collecting permit needed to work on species protected under the KZN Nature Conservation Ordinance, ToPS regulations, or Marine Living Resources Act or if for exporting any biological material out of the province; in the case of ToPS species additional ToPS permit application form must be completed and attached to application; some applications may trigger the Bioprospecting Regulations - copy of a letter from DFFE confirming research registered with them required.  If collecting includes iSimangaliso Wetland Park World Heritage Site, project and/or collecting permit to be authorised by the iSimangaliso Wetland Park Authority.</p>	<p>Natal Nature Conservation Ordinance 15 of 1974 and the KwaZulu Nature Conservation Act, 1992.  ToPS Regulations.  Marine Living Resources Act.</p>
<p><b>Limpopo:</b>  Website includes activities of the staff related to wildlife trade and regulation but no guidelines provided, no application forms or contact details or legislation or protected species lists.  <a href="http://www.ledet.gov.za/">http://www.ledet.gov.za/</a>.</p>	<p>No information available.</p>	<p>No details provided.</p>
<p><b>Mpumalanga:</b>  <a href="http://www.mpumalanga.com/our-provincial-parks/wildlife-protection-services/permits-cites">http://www.mpumalanga.com/our-provincial-parks/wildlife-protection-services/permits-cites</a> Includes contact details, and a list of permit application forms but most of these are not functional. No link to ordinance or protected species list.</p>	<p>Protected / Specially Protected Plants Permit Application (form not available)</p>	<p>Provincial Ordinance, CITES and ToPS Regulations</p>
<p><b>Northern Cape:</b>  Provincial Department website has no information. No documents or forms for permitting available online. There is a link to the Department of Environment &amp; Nature Conservation website, but this is not functional.</p>	<p>No information available.</p>	<p>No information available</p>
<p><b>North West Province:</b>  No information about permits on the provincial department or the parks board websites. Legislation and protected species list not provided.</p>	<p>Online permitting application system (<a href="https://www.nipas.co.za/">https://www.nipas.co.za/</a>). Entry to this site requires registration, and once registered all personal details including a copy of identification document is required to apply for a permit. Unclear what permits are covered.</p>	<p>No information provided.</p>

Provincial websites and information available	Permit applications and details accessible on website	Legal basis
<p><b>Western Cape: CapeNature</b>  <a href="https://www.capenature.co.za/permits-information/">https://www.capenature.co.za/permits-information/</a>            Online permit application system. Requires registration but all information on permits, including relevant contact details provided. Provincial ordinance provided, includes list of protected species.</p>	<p>Application to undertake research / collect specimens (fauna and / or flora) on provincial protected areas under control of the Cape Nature or on privately owned land in the Western Cape province.            Research projects within a National Park: - permission is also required from SANParks. Also, for a research project within the marine environment a research permit is required from DFFE.            Land-owner permission in writing required for other lands.            Red Listed species and species on provincial protected lists must be specified in the permit.            Donation or use by third party requires written consent from CapeNature.</p>	<p>Nature Conservation Ordinance, 1974.            CITES mentioned. Nothing about ToPS. Export to other countries covered but not in terms of BABS regulations.</p>
	<p>Flora permit: donate, receive as a donation, export, import, be in possession, transport, pluck endangered flora.</p>	<p>Nature Conservation Ordinance, 1974            (Ordinance 19 of 1974) (section 62)</p>
	<p>Fauna permit: application for a permit to import / transport wild animals            (wild animals are defined as indigenous live vertebrates and invertebrates, but this section may also relate to preserved specimens)</p>	<p>Nature Conservation Ordinance, 1974            (Ordinance 19 of 1974) (section 44(1)(a) and (e))</p>
	<p>Fauna permit: application for a permit to be in possession of the carcass of an endangered wild animal(s) / to sell / donate / buy / receive as a donation a carcass or anything manufactured from the carcass</p>	<p>Nature Conservation Ordinance, 1974            (Ordinance 19 of 1974) (section 26)</p>