100 Questions for priority research on conservation in MTEs

This questionnaire is aimed at identifying questions that will direct research towards successful conservation of biological diversity in the five Mediterranean regions of the world.

If you have any questions or concerns about the research, please feel free to contact Karen Esler < KJE@sun.ac.za>, Nicky Allsopp < allsopp@saeon.ac.za> or Jasper Slingsby < jasper@saeon.ac.za>.

Please assist us by formulating up to 10 research questions that "if answered, would have a high probability of increasing the success of actions targeted at the conservation of biological diversity in the Fynbos biome". Please note that we would like you to express your own view, and not necessarily that of the institution to which you are affiliated. Your answers cannot be traced back to you.

Your questions should:

- (1) be answerable through a realistic research design,
- (2) allow a factual answer that does not depend on value judgments,
- (3) address important gaps in knowledge,
- (4) be of a spatial and temporal scale that reasonably can be addressed by a research team,
- (5) not be formulated as a general topic area,
- (6) not be answerable with "it all depends",
- (7) if related to impact and interventions, contain a subject, an intervention, and a measurable outcome (thus, the question immediately suggests research design needed to address it), and (8) not be likely to be answerable with yes or no.

Your responses will be analysed in total anonymity. However, to determine if there are any covariates that determine responses and to describe the general characteristics of respondents in publications we would be pleased if you can fill in some ancillary information in addition to your questions.

I hereby agree to participate in this questionnaire and indicate my consent that any information I provide may be used for the stated research purposes. A requirement for ethical clearance. Check all that apply.
I agree
I do not agree
2. Which organisation bests describes where you currently work? If "Other" please specify. Mark only one oval.
National or provincial conservation agency
Government Department
Privately funded conservation agency or organisation
University or University of Technology
Government funded research organisation
Conservation advocacy group
Environmental consultancy
Environmental officer in non-conservation company
Other:

	ably in years in numerals (an estimate will
	you previously employed by an organisation in another category? If so which one?
	ick "None" near the bottom. If "Other" please specify. only one oval.
	National or provincial conservation agency
	Government Department
	Privately funded conservation agency or organisation
	University or University of Technology
	Government funded research organisation
	Conservation advocacy group
	Environmental consultancy
	Environmental officer in non-conservation company
	None
	Other:
do)	ably in years in numerals (an estimate will
	ably in years in numerals (an estimate will
do)	
do) In what if "Oth	at capacity are you currently employed? er" please specify.
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval.
do) In what if "Oth	at capacity are you currently employed? er" please specify.
do) In what if "Oth	et capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management
do) In what if "Oth	et capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education Environmental consulting
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education Environmental consulting Policy development
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education Environmental consulting Policy development Conservation stewardship
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education Environmental consulting Policy development Conservation stewardship Social ecology
do) In what if "Oth	at capacity are you currently employed? er" please specify. only one oval. Field staff Reserve manager Conservation management Conservation planning Technical support Research Environmental education Environmental consulting Policy development Conservation stewardship

	Preferably in years in numerals (an estimate will do)
8.	Were you previously employed in another capacity? If so which one If "Other" please specify.
	Mark only one oval.
	Field staff
	Reserve manager
	Conservation management
	Conservation planning
	Technical support
	Research
	Environmental education
	Environmental consulting
	Policy development
	Conservation stewardship
	Social ecology
	Lobbying
9.	Other: What are your main abiotic perspectives in conservation?
9.	Other: What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply.
Э.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate
9.	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify.
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply.
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Animals
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Animals Plants
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Animals Plants Society
	What are your main abiotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Terrestrial Freshwater Estuaries and marine Fire Climate Physical landscapes None of these Other: What are your main biotic perspectives in conservation? Tick as appropriate. If "Other" please specify. Check all that apply. Animals Plants

11. What scales of biodiversity and conservation do you primarily focus o
Tick as appropriate. If "Other" please specify. Check all that apply.
Genes
Species
Populations
Communities
Landscapes and ecosystems
Other:
12. What is the highest qualification you have calculated
12. What is the highest qualification you have achieved? If "Other" please specify. Mark only one oval.
Doctorate
Masters
Honours
Bachelors
Postgraduate diploma
Post-school diploma
School leaving certificate
Other:
13. What was your main field of study? If "Other" please specify. Mark only one oval.
Conservation
Agriculture
Biological Sciences
Business management
Education
Other:
14. Have you studied in another field as well? Please specify
15. How many years have you worked in a conservation related field? Please use numerals
16. What is your age?

17. What is your gender? Mark only one oval.	
Female	
Male	
Do not wish to disclose	
18. Research question 1:	
Please enter your question.	
	-
	-
	-
19. Which of the subject areas is this question re	elevant to? You can tick more than 1.
Check all that apply.	
Protected areas	
Ecosystem services	
Landscape management and restoration	
Farming and Forestry	
Fire and Grazing	
Climate change	
Impact assessment and mitigation	
Species management	
Alien and invasive species	
Governance	
Public participation	
Other	
20. Research question 2: Please enter your question.	
ricase effect your question.	
	-
	_
	_
	_

21. Which of the subject areas is this question relevant to? You can tick more than 1.
Check all that apply.
Protected areas
Ecosystem services
Landscape management and restoration
Farming and Forestry
Fire and Grazing
Climate change
Impact assessment and mitigation
Species management
Alien and invasive species
Governance
Public participation
Other
22. Research question 3: Please enter your question.
ricase enter your question.
23. Which of the subject areas is this question relevant to? You can tick more than 1.
Check all that apply.
Protected areas
Ecosystem services
Landscape management and restoration
Farming and Forestry
Fire and Grazing
Climate change
Impact assessment and mitigation
Species management
Alien and invasive species
Governance
Public participation
Other

24.	Research question 4: Please enter your question.
25.	Which of the subject areas is this question relevant to? You can tick more than 1. Check all that apply.
	Protected areas
	Ecosystem services
	Landscape management and restoration
	Farming and Forestry
	Fire and Grazing
	Climate change
	Impact assessment and mitigation
	Species management
	Alien and invasive species
	Governance
	Public participation
	Other
26.	Research question 5: Please enter your question.

	eck all that apply.
	Protected areas
	Ecosystem services
	Landscape management and restoration
	Farming and Forestry
	Fire and Grazing
	Climate change
	Impact assessment and mitigation
	Species management
	Alien and invasive species
	Governance
	Public participation
	Other
29 Po s	search question 6:
	ase enter your question.
	ich of the subject areas is this question relevant to? You can tick more than 1.
Che	eck all that apply.
	Protected areas
	Ecosystem services
	Landscape management and restoration
	Farming and Forestry
	Fire and Grazing
	Climate change
	Impact assessment and mitigation
	Species management
	Alien and invasive species
	Governance
	Public participation
	Other

30.		earch question 7: ase enter your question.
24	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ah of the subject areas is this greation relevant to 2 Var oon tiek more than 1
J 1.		ch of the subject areas is this question relevant to? You can tick more than 1. ck all that apply.
		Protected areas
		Ecosystem services
		Landscape management and restoration
		Farming and Forestry
		Fire and Grazing
		Climate change
		Impact assessment and mitigation
		Species management
		Alien and invasive species
		Governance
		Public participation
		Other
32.		earch question 8: ase enter your question.

	n of the subject areas is this question relevant to? You can tick more than 1.
F	Protected areas
E	Ecosystem services
L	andscape management and restoration
F	Farming and Forestry
F	Fire and Grazing
	Climate change
I	mpact assessment and mitigation
	Species management
	Alien and invasive species
	Governance
F	Public participation
	Other
Please	e enter your question.
Check	n of the subject areas is this question relevant to? You can tick more than 1.
	Ecosystem services
L	andscape management and restoration
F	Farming and Forestry
F	Fire and Grazing
	Climate change
ı	mpact assessment and mitigation
	Species management
	Alien and invasive species
	Governance
F	Public participation
	Other

	search question 10: ase enter your question.			
	and officer your quotient			
1471. *				4
	ich of the subject areas is this question releveck all that apply.	ant to? You car	1 tick more tha	an 1.
	Protected areas			
	Ecosystem services			
	Landscape management and restoration			
	Farming and Forestry			
	Fire and Grazing			
	Climate change			
	Impact assessment and mitigation			
	Species management			
	Alien and invasive species			
	Alien and invasive species Governance			
	·			



Dear [Name of Participant]

As you are aware, Mediterranean regions worldwide are hotspots of biodiversity, which are at risk due to a range of insidious threats. We (Karen Esler, Jasper Slingsby and Nicky Allsopp) have teamed up with researchers from the other 4 Mediterranean regions in a research project to identify *questions that will direct research towards successful conserv ation ofbiological diversity in the five Mediterranean regions of the world.*

Our group is focused on gathering perspectives for the Fynbos Biome of South Africa.

Please assist us by <u>formulating up to 10</u> research_questions that if **answered**, **would have a high probability of increasing the success of actions targeted at the conservation ofbiological diversity in the Fynbos biome**. These questions should be framed in such a way that:

- (1) if you identify a problem, describe a realistic research question to address this,
- (2) they address important gaps in knowledge,
- (3) the spatial and temporal scale can reasonably be addressed by a research team,
- (4) they are not formulated as a general topic area, e.g. NOT "mountain bikes" BUT "What is the impact of mountain bikes on soil stability in fynbos wetland conservation areas?"
- (5) they will not be likely to be answerable with yes or no.

To get you started here are some general topics that you may want to consider when formulating your questions: Protected areas (design, management) and alternatives; ecosystem function and services; landscape management and restoration; agriculture, forestry and tourism; climate change; development, impact assessment and mitigation; species management; invasive species; governance; people. But feel free to address any other topics related to conservation in the Fynbos biome.

We are asking for research questions which you personally think are important. These do not necessarily have to reflect those prioritised by your organisation. Since your response is anonymous neither you nor your institution will be identified personally with the responses.

To assist you in this process, we have developed a web-based questionnaire found http://goo.gl/forms/nU8n0yv45m into your browser. We are also

willing to set up telephonic appointments should you prefer this route of communication.

We are offering an incentive of a lucky draw for one of the following two books published in 2014 to two respondents:

- Fynbos Ecology and Management
- Fynbos Ecology, Evolution, and Conservation of a Megadiverse region

After you have completed the questionnaire, you will be given the opportunity to submit your e-mail address. Note that this is entirely optional, and in no way will your e-mail address be linked to your questionnaire response.

Our core research group within each region will compile and organize the research questions received. These will then be further discussed, grouped and prioritized in a symposium at the International Congress of Conservation Biology (2-6 August 2015, Montpellier, France). The intention is that a synthesis of the combined questions for all Mediterranean regions will be published in an international journal. Our intention is that, should the combined publication not address perspectives from the Fynbos biome sufficiently, we would publish a Fynbos focused analysis in a local journal.

We realize that this is a big "ask", but we hope that the exercise will ultimately help to direct conservation research in the Fynbos Biome and in Mediterranean-type ecosystems in general.

Ethics:

Please take some time to read the information presented here, and contact us if you require further explanation or clarification of any aspect of the study. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Humanities Research Ethics Committee (HREC) at Stellenbosch University and will be conducted according to accepted and applicable national and international ethical guidelines and principles.

If you have any questions or concerns about the research, please feel free to contact any one of us (contact details below)

RIGHTS OF RESEARCH PARTICPANTS: You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

You have a right to receive a copy of the Information and Consent form.

If you are willing to participate in this study please sign the attached Declaration of Consent and e-mail/post it back to us.

Yours sincerely

Nicky Allsopp (021 799-8836, <u>allsopp@saeon.ac.za</u>); Karen Esler (021 808 4005, kje@sun.ac.za); Jasper Slingsby (083 406-0581, jasper@saeon.ac.za)