

# Consolidating lessons from research through peer-reviewed publication

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108 PEER REVIEWED PAPERS WERE PUBLISHED ON RESEARCH CONDUCTED WITHIN NATIONAL PARKS, WITH MORE THAN HALF OF THESE INCLUDING SANPARKS AUTHORSHIPS

Research represents a highly structured and rigorous form of learning. An additional level of robustness can be built into research findings when these are subjected to scientific peer-review, i.e. when scientific experts with specialised knowledge related to the specific research field get to review the methods used, results obtained and conclusions drawn from the research. Hence, publishing research findings in peer-reviewed journals contributes credibility to information that potentially underpins future management decisions. Furthermore, such publication helps to rigorously consolidate personal and organisational learning, and ensures safe archiving and availability of research information for use by both local and global science and conservation communities.

*"51% of SANParks authored papers had SANParks female authors involved"*

During the 2022/23 reporting period, 108 papers were published in peer-reviewed journals based on research conducted within South Africa's national parks. Of these, more than half (i.e. 55 papers) had one or more authorships from SANParks staff members, with SANParks staff being lead authors for 10 and co-authors for 45 of the papers respectively. Eighteen of the SANParks authored papers (33%) included SANParks authors from racial groups previously poorly represented in science, and 28 (51%) SANParks authored papers had SANParks female authors involved. As can be expected, the majority of the authors were from Scientific Services (26) spanning various job functions: scientist, science manager, regional ecologist, research technician, research assis-

tant, and science liaison officer. The remaining authors were from veterinary wildlife services (6 authors), management within parks (3), park planning (1) and parks division (1).

Three SANParks authors had an exceptionally productive publication year. Scientists Izak Smit and Sam Ferreira each contributed to seven peer-reviewed papers, while veterinary manager Peter Buss contributed to nine – a truly remarkable achievement.

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The 55 SANParks authored papers were published in 47 different journals, of which 94% have Impact Factors (as provided by analytics company Clarivate). An Impact Factor provides an indication of the relative importance of a journal in its field, with higher impact factors generally indicating a higher journal rank and more influence in its field. Higher impact journals also tend to be more selective in what they publish. Of the 47 journals, 51% had impact factors of  $\geq 3$ , which is regarded as good in a global context. Several of the other papers were in reputable local or regional journals, which have lower Impact Factors due to their more restricted readership. Two papers were published in journals with Impact Factors higher than 10. For the first, Corli Coetsee, Navashni Govender, Nokukhanya Mpanza and Tercia Strydom collaborated with scientists from the United States, Gabon, South Africa and Germany to quantify the environmental limits to fire spread in grassy ecosystems. Their findings were pub-

lished in Proceedings of the National Academy of Sciences, with an Impact Factor of 10.7. The second paper, published in Nature (Impact Factor = 69.5) and co-authored by Dirk Roux, presents a new systematic classification of Earth's ecosystems – from tropical forests, big rivers and coral reefs to deep ocean trenches, seamounts, lakes beneath the ice sheets and micro-ecosystems within rocks. Echoing the hierarchical Linnaean system for naming species (from kingdom to species), the so-called Global Ecosystem Typology is based on 10 realms, 25 biomes and 110 functional groups. The aim of this typology is to enable more coordinated and effective ecosystem-level assessment and conservation worldwide.

*"Kruger National Park had the most papers, followed by Addo Elephant and Table Mountain NPs."*

The majority of SANParks authored papers focussed on Kruger (27), while Table Mountain and Addo Elephant (including its MPA) were the focus of two papers and Garden Route, Golden Gate, Marakele and Tankwa Karoo National Parks each featuring in one paper. Four papers used multiple parks as study areas and 16 papers were not specifically focussed on one or more of the national parks but on issues of conservation relevance more broadly.

*The three top research themes included Ecosystem Structure, Function and Process; Global Environmental Change and Cultural Heritage."*

The SANParks Research Strategy highlights 11 key research themes based on current and emerging contexts and likely to influence SANParks' execution of its mandate over the next decade. Of these, Ecosystem Structure, Function and Process received attention in 30 of the SANParks authored papers. An encouraging sign is that themes previously less well covered such as Global Environmental Change (13) and Cultural Heritage (8) also received significant attention, together with Integrated Land-use and Planning (8) and Organisational Functioning and Adaptive Governance (5). However,

relatively few of the SANParks authored papers for the current reporting period addressed Technology Advancement (3), Societal Engagement and Influencing Societal Constructs (2), Protected Area Effectiveness (1) and Societal Expectations (1), while there were no papers on the Tourism and Socio-Economics themes. These themes did however receive attention within the broader research community serving SANParks, with various papers from external researchers contributing to the knowledge base (e.g. five externally authored papers related to tourism and 13 related to protected area effectiveness). This highlights the important role of embedded and connected scientists in an agency such as SANParks to both conduct and leverage research across very diverse knowledge domains.

*"The two dominant reasons for Kruger's success as premier research destination are good research support and opportunities to collaborate with KNP scientists and biotechnicians."*

From a Web of Science search done in 2016 by Izak Smit and others, it was shown that SANParks, and specifically Kruger National Park, was the most popular protected area for research in Africa. The two dominant reasons for Kruger's success as premier research destination were good research support and opportunities to collaborate with KNP scientists and biotechnicians. It comes as no surprise that each of the 55 SANParks authored papers was the result of collaborative research, with every paper including one or more external authors. This reflects the highly collaborative culture that prevails in SANParks' research, which helps to connect the organisation with the global scientific knowledge network.

Finally, published papers are not an end in themselves but rather represent a relatively reliable source of knowledge that needs to be deliberated and translated for local application when and where relevant. Deliberation typically takes place during science-management engagements and an example of translation is when new scientific information is incorporated during the development or revision of park management plans.