agriculture,
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REPUBLIC OF SOUTH AFRICA

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RABIES IN SOUTH AFRICA:
Report from the RAG for 2015-2016

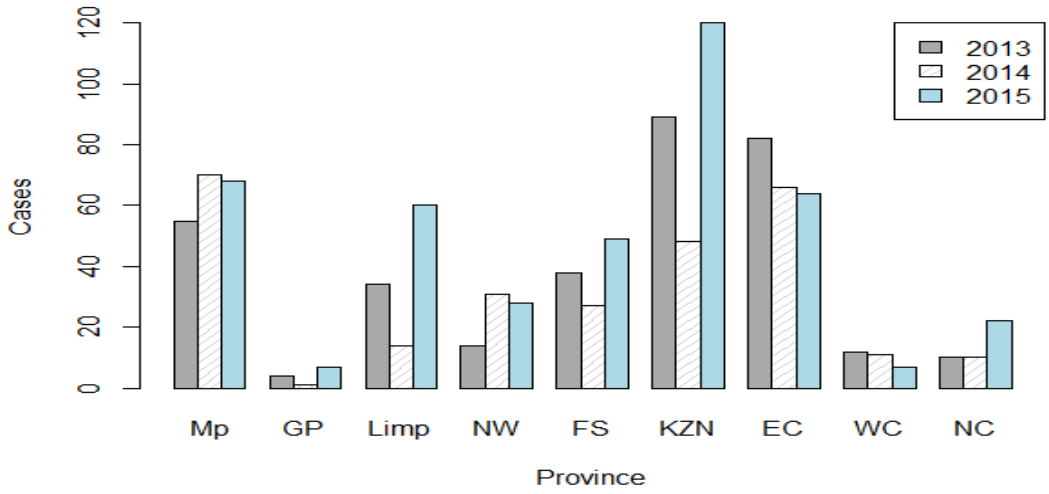
*Data for some provinces are reported for the 2015-2016 financial year whereas others report for the 2014 calendar year. This problem will be corrected for future RAG reports.

BACKGROUND:

This document is a summary of the state of rabies in South Africa and makes some recommendations as to its control.

COMPARATIVE STATUS REPORTS - CASES:

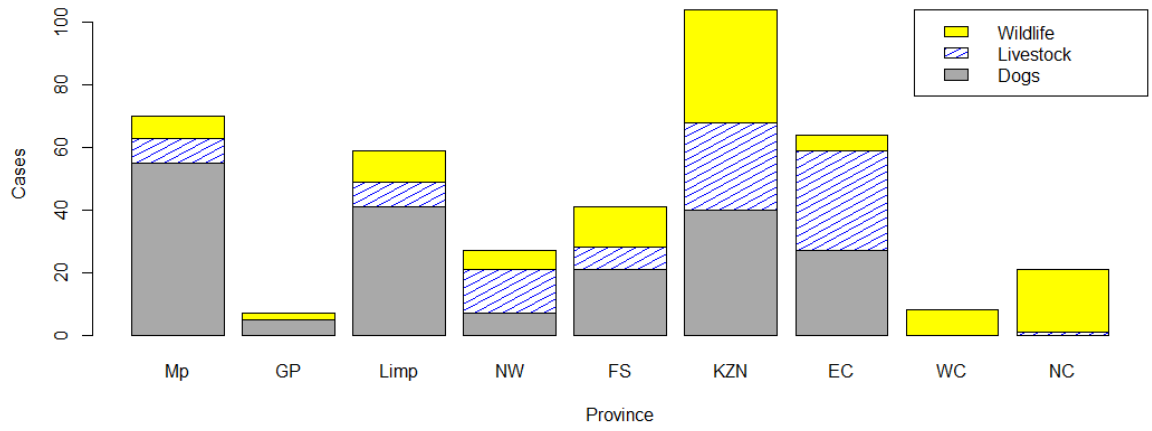
Graph 1 shows a three year progression for each province. A clearer understanding can therefore be gained by looking at the species contributions (see Graph 2). d



Graph 1: The number confirmed cases per province, showing last three years progression

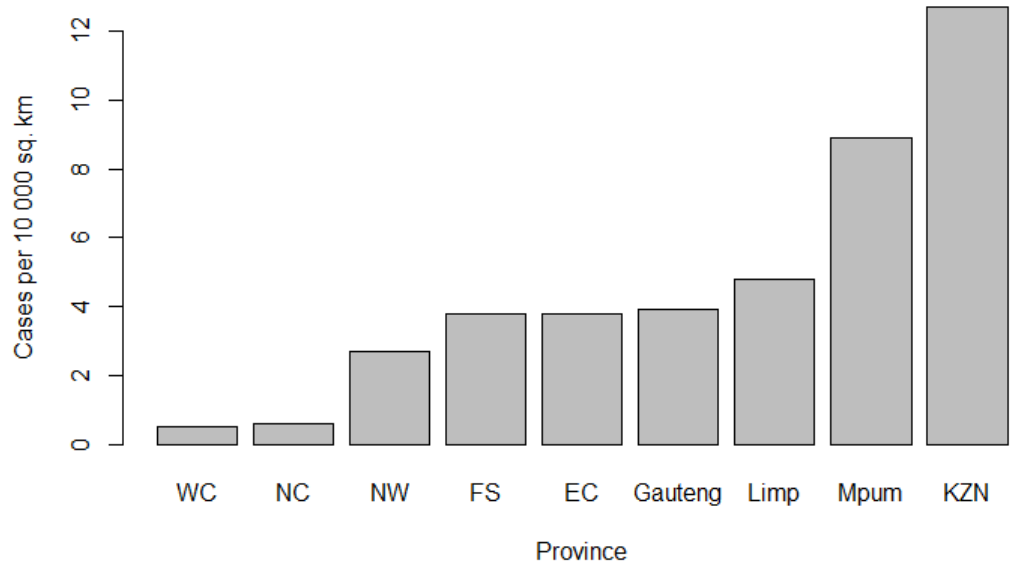
The most worrisome information is the increase (KZN and NC) and maintained intensity (NW) of black-backed jackal associated rabies. These cycles also result in relatively more livestock cases. The apparent increase in cases in Limpopo and the Free State is due to improved reporting and not

rising epidemics. Reporting has improved due to comparisons between OIE list reports and laboratory diagnosed lists.

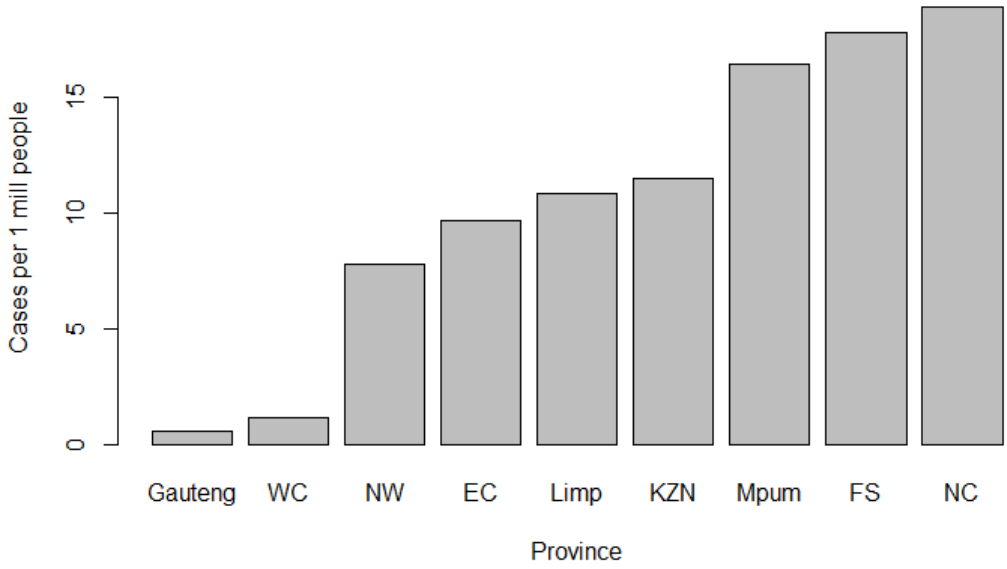


Graph 2: The number confirmed cases per province showing species distribution

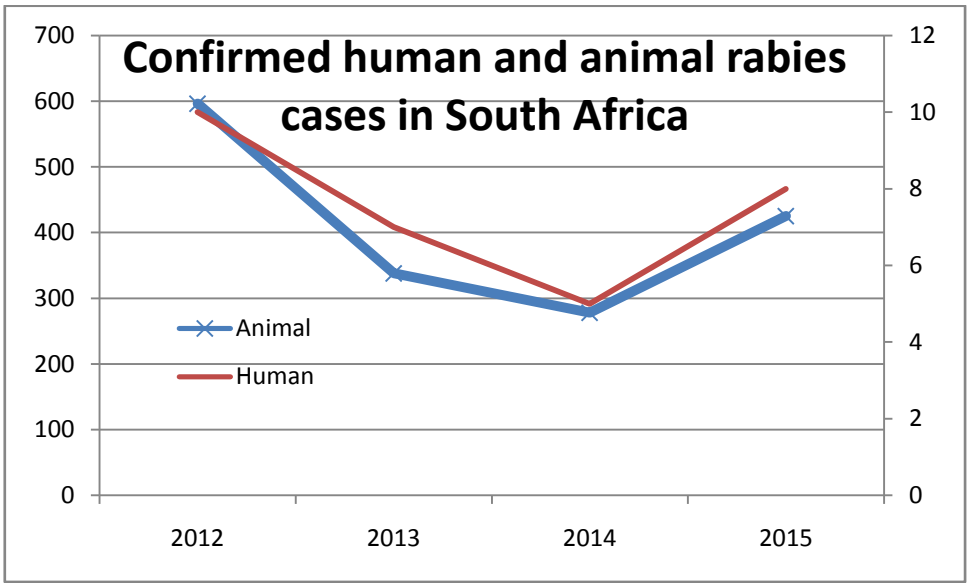
All the provinces have active rabies coordinators. Plans for elimination in each province are being investigated and consequently are being developed and refined through the RAG network. (To be submitted separate to the Country Report.)



Graph 3:The density of rabies cases per province, measured as the number of cases per 10 000 km^2

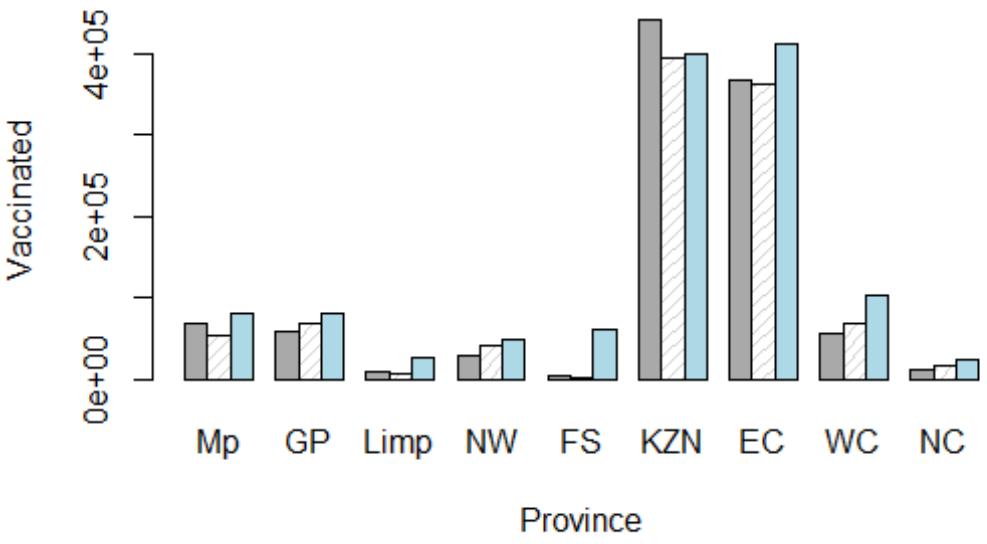


Graph 4:The density of rabies cases per province, measured as the number of cases per million people

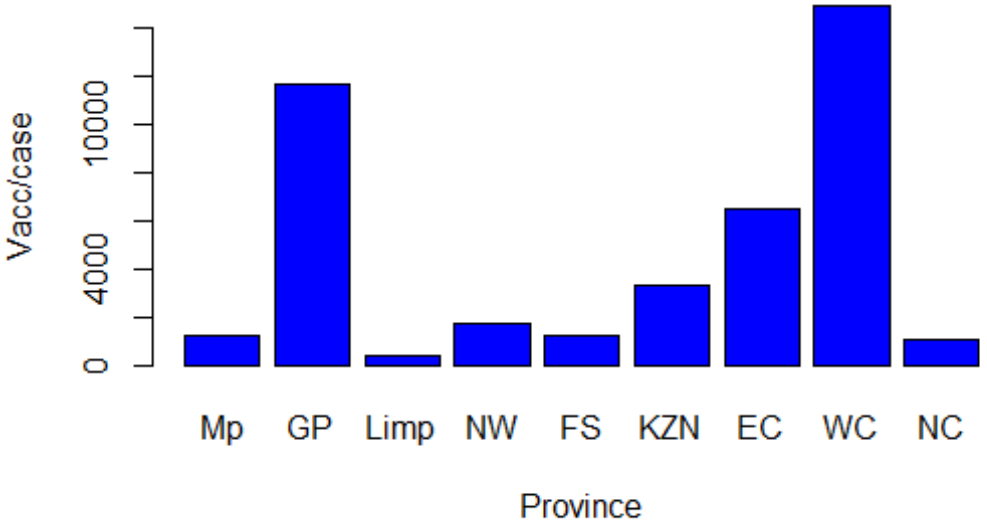


Graph 5:Confirmed animal and human rabies cases in South Africa over the last 4 years.

COMPARATIVE STATUS REPORTS - VACCINATIONS:



Graph 6: The number of vaccinations done per province over the last three years



Graph 7: The number of vaccination done per positive case for each province

SPECIFIC SHORT COMMENTS ON EACH PROVINCE:

1. **KWAZULU-NATAL**

An isolated outbreak of Jackal associated rabies persists in the Natal Midlands. Cases associated with this outbreak contributes more than half (62%) of the total cases reported.

Cases of Mokola virus in cats in the greater Durban area are being investigated.

2. NORTH WEST PROVINCE

The Jackal associated outbreak seems to have passed its peak but it still persists. A mongoose cycle persists in the south-west of the province.

3. FREE STATE

Logistical constraints have led to fewer submissions to the lab. From graph 6 it seems as if there has been a great increase in vaccinations. This is unfortunately also a relic of improved reporting.

Officials do not have enough kilometres to implement mass rabies vaccination campaigns.

4. EASTERN CAPE

Rabies control is continuously improving. Vaccinations have been increased to over 400 000 (surpassing KZN). Campaigns are focussed in problem areas. Estimates of the total dog population are improving.

There is a need for a local laboratory to improve surveillance. The surveillance is judged to be poor by the large number of livestock cases and a large percentage of positive cases among all the submitted samples. (However, surveillance seems to be improving.)

5. NORTHERN CAPE

Despite having the canine strain of the virus present all across the province, outbreaks remain exclusively wildlife with spill over into livestock. There was a sharp increase in cases in 2015. Vaccinations per annum are steadily increasing.

6. LIMPOPO

Rabies is not receiving the attention it should. The normal functioning of technicians in diseases control activities are disrupted due to the municipalisation.

Many owners refuse to have their dogs vaccinated and the one human case never sought PEP. This highlights the great need to educate the population regarding rabies.

7. WESTERN CAPE

All cases remain bat-eared fox associated. Annual vaccinations are rising.

8. GAUTENG

There is some concern regarding repeated outbreaks but encouragingly these cases do not result in cycling outbreaks. The provincial response to cases is good. Recently outbreaks of jackal cases caused a huge media response which will hopefully assist all the provinces in rabies control.

The need to sequence these sporadic cases is very important.

9. MPUMALANGA

Outbreaks in SV Mbombela and SV Bushbuckridge areas have quietened down a little. The total cases for the province as a whole remained stable due to a new outbreak of Mozambique origin in Nkomazi.

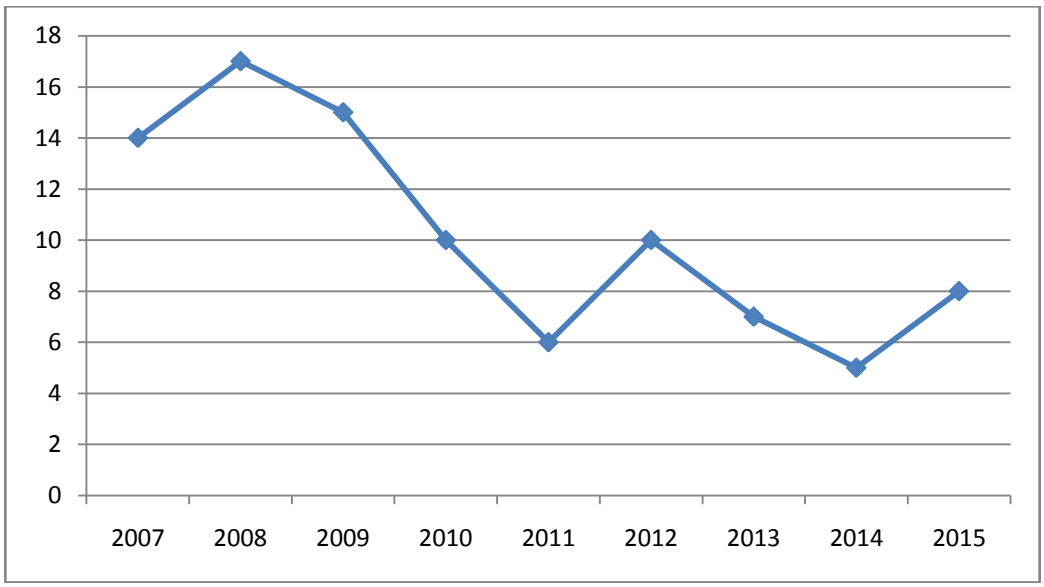
Vaccinations are increasing.

10. HUMAN CASES

Human case remain relatively stable. From Graph 5 it can clearly be seen that the human and animal cases follow one another. This reiterates the need for strong cooperation between DAFF and DOH. Through RAG this cooperation is strengthening. An early report system of all animal cases to DOH from Allerton and OVI is being implemented.

The economic burden of saving lives through post-exposure prophylaxis is enormous, amounting to R70 million per annum. (R50 million for rabies vaccine and R20 million for rabies immuno-globulin.)

The use of Equined derived Ig will be implemented in the middle of 2016 to relieve the shortage of Human derived Ig.



Graph 8: The number of laboratory confirmed human cases (sourced from NICD).

GENERAL COMMENTS AND RECOMMENDATIONS

1) The plan for elimination

A plan to eliminate canine rabies will be submitted independently of this report.

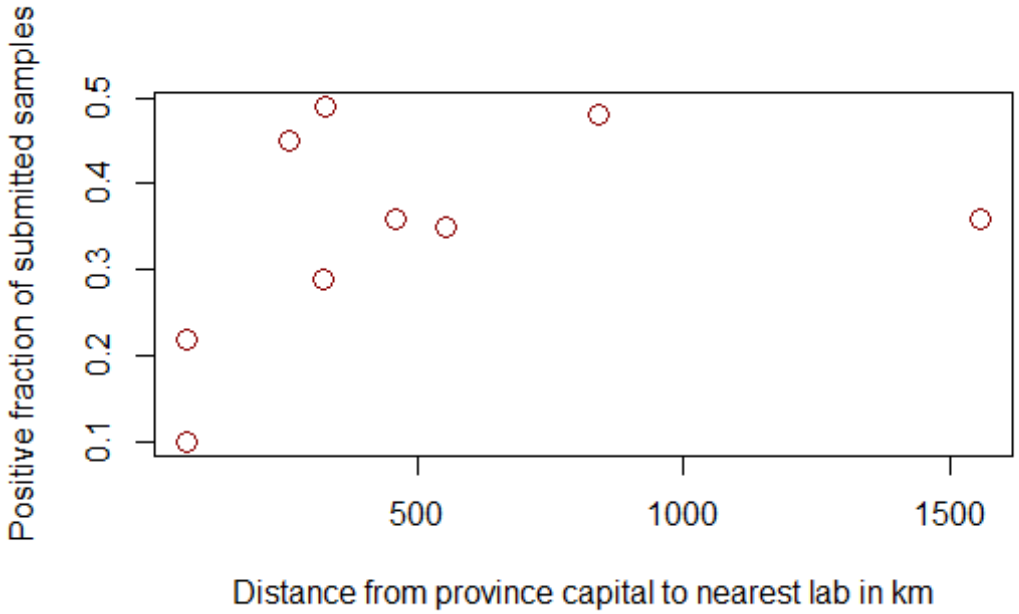
2) Sequencing

Sequencing has recommenced at a slow pace but already great benefit has been realised. During the last RAG meeting, province representatives were trained on the purpose and usefulness of sequencing. The University of Pretoria indicated that they will assist the OVI to have more samples sequenced. It is foreseen that provinces will ask appropriate research questions and that informative answers will be obtained.

From the few samples that were sequenced in the last few months the following facts were drawn:

- An outbreak of rabies in an otherwise free area near Middelburg, Mpumalanga originated from Limpopo.
- The SV Nkomazi area successfully eliminated the Mpumalanga strain of virus in 2012.
- A new virus strain was introduced in 2015 from Mozambique. This cross-border spread is a relatively rare occurrence.
- An isolated case of rabies in north-east Gauteng was typed as having its closest relative from the same region 9 years ago! This raises the question about outbreaks cycling over long periods of time without our knowledge.

3) Decentralisation of laboratories



Graph 9: The effect of distance from a rabies laboratory on the proportion of submitted samples that test positive for rabies.

The percentage of positive samples from all submissions to a rabies laboratory is a widely recognised (yet crude) method to gauge the strength of the surveillance. Graph 9 illustrates this point for South Africa.

The provinces situated the furthest from a laboratory are the Western Cape, Northern Cape, Eastern Cape and Free State. Of these the latter two are especially concerning because of the high incidence of dog rabies.

It is recommended that another rabies laboratory be set up in the Eastern Cape. It is recommended that such a laboratory be allowed to operate while SANNAS approval is still pending (as provision has been made for in paragraph 6.1.d of the proposed Laboratory Approval Policy). A proposed site has been identified by the Eastern Cape at Tsolo.

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CHAIRPERSON: NATIONAL RABIES ADVISORY COMMITTEE