

Assessment of the Centre for Research and Conservation of the Royal Zoological Society of Antwerp

Summary

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1 INTRODUCTION

1.1 Background of the assignment

The Centre for Research and Conservation (CRC) is the research institute of the Royal Zoological Society of Antwerp (RZSA). Important activities carried out by the CRC include conducting scientific research in support of day-to-day operations at the ZOO and Planckendael, and actively contributing to the training of young scientists.

Since 1985, the non-profit RZSA has been subsidised by the Flemish Community. The RZSA's mandates are described in the cooperation agreement between the Flemish government and the RZSA. This same cooperation agreement contains a special agreement concerning the scientific mandate. This specific agreement (2007-2011) governs the reciprocal rights and obligations of the RZSA and the Flemish government with respect to the scientific mandate, and is carried out by the CRC.

Both the overall cooperation agreement as well as the cooperation agreement that concerns the scientific mandate expire on 31 December 2011. Both parties state that a new agreement can be made only after an assessment has been provided regarding the compliance with and/or implementation of the agreement.

The assessment referred to in this summary concerns the assessment of the scientific mandate of the RZSA as carried out by the CRC.

The department of Economy, Science and Innovation (ESI) of the Flemish government has awarded the assessment assignment to the firm IDEA Consult in accordance with the applicable regulations.

1.2 Objective of the assignment

The objective of this assignment is to perform an assessment of the CRC, where the following elements are of central importance:

- the operational functioning, including attention to the administrative bodies, the personnel policy, the financial operation, and the extent to which policies are translated into active projects;
- services provided, including attention to the scientific services provided by way of a bibliometric analysis and an examination of the CRC's excellence and international image/reputation;
- the standing of the CRC within the research landscape, including attention to the current substantive/relevant operation of the CRC, and the position it occupies within the national and international research landscape;
- an impact analysis that emphasises not only the scientific impact, but also the social impact, so that the CRC's goal of popularising science may also be considered.

The assignment is intended to result in specific recommendations concerning each of the elements analysed, both with regard to the Flemish government in the light of the new cooperation agreement to be negotiated, and also with immediate respect to the CRC and its policies.

1.3 Outline of the approach

In order to provide a well-substantiated answer to the assessment questions in the most appropriate manner, we have used a combination of quantitative and qualitative methods. The following is the list of the most important of these methods:

- Desk research, with an analysis of the **documents and data at our disposal**. This consisted both of publicly available documentation from the CRC and the Flemish government in particular, as well as from international policy institutes such as the EAZA (European Association of Zoos and Aquaria).
- The publicly available information was supplemented with **additional information** and data provided by the CRC.
- The insights derived from the analysis of available documents and data were supplemented and deepened based on **interviews**. A series of thematic workshops was held with the CRC. Following the desk research phase, a second series of in-depth interviews were held at the CRC (25 in total).
- In May of 2011, we provided our support and guidance to a **peer review** that was carried out. During a two-day visit to Antwerp, a group of three international experts¹ addressed the input and output characteristics of the CRC.
- This process was guided by a list of predefined questions.
- A **bibliometric** analysis of the academic output (number of publications) and impact (number of citations) of the CRC was also carried out. The CRC's performance was compared with the averages in specific subdisciplines as well as the performance of comparable research centres of zoos (namely the Leibniz Institute for Zoo and Wildlife Research (Germany), the Smithsonian Conservation and Research Centre (USA), and the Zoological Society London (UK)).
- Finally a **survey was conducted** among the general public to assess its familiarity with the CRC, with the "ZOO Natuurlijk" products, with the "ZOO zit dat" blog, as well as with the "ZOO Magazine".

1.4 Summary of contents

After this introduction, we provide a brief description of the CRC in Chapter 2. In chapter 3 we present the most important conclusions derived from our evaluation, and in chapter 4 we outline our recommendations, both with respect to policy makers and with respect to the CRC.

These umbrella conclusions and recommendations are based on the conclusions drawn from the assessment questions answered by us as part of this assignment. For these assessment questions and the corresponding conclusions, we refer the reader to the actual report. Our recommendations regarding the individual CRC activities have also not been included in this summary.

¹ Gordon McGregor Reid, Former Executive Director North of England Zoological Society (Chester Zoo); Lesley Dickie, Executive Director, European Association of Zoos and Aquaria (EAZA); Heribert Hofer, Director of the Leibniz Institute for Zoo and Wildlife Research.

2 THE CRC IN A NUTSHELL

2.1 Objectives and activities

The CRC is the research institute of the Royal Zoological Society of Antwerp. The mission of the CRC:²

“Carrying out scientific research in support of the day-to-day operations of the ZOO, and for the protection of wildlife and its habitat.”

More specifically, the goal of the CRC is to contribute to the maintenance of animal collections (conservation) in a scientifically responsible manner through management decisions and breeding programmes that are supported by research. The research department also aims to support the day-to-day operation of the ZOO and Planckendael through applied research, and in doing so make a contribution to the protection of endangered species and their natural habitat. This latter aim comes to fruition in the RZSA’s own conservation projects in Flanders (De Zegge), Brazil (BioBrasil) and in Cameroon (Projet Grands Singes), and in the captive breeding programmes coordinated by the RZSA.

In addition to research and nature conservation, training lies at the core of the CRC’s mission. One of the CRC’s mandates is accordingly to make an active contribution to the training of young scientists. Every year, dozens of students from Flemish and Dutch universities and academies take part in CRC research projects.

The research assignments of the CRC are carried out in 4 different disciplines within the CRC:

1. Ethology (animal behaviour and animal welfare);
2. Conservation biology (conservation projects/population genetics and demographics);
3. Veterinary research;
4. Functional morphology (locomotion and anatomy).

Interdisciplinary cooperation is often performed in conjunction with other research cells and institutes, both within Flanders and in Belgium as a whole, as well as internationally. The CRC currently employs 24 researchers and support staff³.

2.2 Funding and spending

The CRC is funded in large part by the Flemish government through the department of Economy, Science and Innovation (ESI). Additional resources - such as PhD grants or post-doctoral fellowships - are obtained through research funds such as the FWO (Fund for Scientific Research - Flanders) or IWT (Institute for the Promotion of Innovation through Science and Technology), and the VLIR-UOS (Flemish Interuniversity Council - University Development Cooperation).

Additional grants are usually paid directly to the universities where the students are enrolled, and not to the RZSA or the CRC (these are recorded separately). In 2010, the CRC generated an income of EUR 896,976, this being the amount received on account by the CRC. The Flemish government subsidy accounted for EUR 802,000 of this total. This subsidy is the result of the cooperation agreement.

² 2009 annual report of the CRC and www.zooresearch.be

³ Ex post evaluation 2007 - 2011 Centre for Research and Conservation

The subsidy from the Flemish government was reduced in 2010 as compared to 2009 as a result of across the board cutbacks to public spending (and to R&D in particular). For 2011, the subsidy amounts to EUR 770,000. This translates into an almost 9% reduction compared with 2009.

2.3 Management of the CRC

The CRC is a research institute which is fully integrated into the RZSA structure and organisation. The CRC is a part of the R&D division of the RZSA, and sits at the same level as the other departments within the hierarchy of the organisation.

As such the CRC has no legal status of its own (nor its own articles of association) nor any legal structure. The cooperation agreement that concerns the CRC has been negotiated between the Flemish government and the parent organisation RZSA.

Day-to-day direction of the CRC is in the hands of a manager; final responsibility for the CRC as a whole lies with the R&D manager at the RZSA. The CRC has its own Scientific Advisory Board (WAR) that is consulted at the initiative of the CRC.

2.4 Changes in the (policy) context

Since 2001 the CRC has been recognised by the Flemish government as a "Centre of Excellence". The operations of the CRC were assessed in 2006⁴. Based on this assessment, the CRC cooperated with the Flemish government on a series of innovations that were designed to elevate the standards of the scientific research conducted at the RZSA, at both the national and international level. This resulted in a renewed and modernised cooperation agreement for scientific research during the 2007-2011 time period.

⁴ Cooperation agreement between the Flemish government and RZSA-CRC 2007-2011 and specifications which underlie the assessment assignment.

3 CONCLUSIONS

3.1 The 2007-2011 cooperation agreement

1. *The CRC has achieved the great majority of the objectives outlined in the 2007-2011 cooperation agreement.*

- 1.1. Thanks to great energy and enthusiasm on the part of the CRC team, it has succeeded in achieving - and even surpassing - the objectives contained in the cooperation agreement.
- 1.2. At the same time, varying success has been observed with regard to the number of scientific publications and the attraction of outside funding, even though this fluctuation has had no implications for the fulfilment of the overall objectives.
- 1.3. This positive appraisal of the accomplishments has been confirmed by the report issued by the international panel of experts. The CRC is earning compliments for the way in which it has performed in recent years.
- 1.4. The Flemish government must likewise be commended for its recognition and funding of the CRC as a research centre, integrated as it is into the zoo - a state of affairs which is unique within Europe. The "CRC model" is viewed internationally as good practice.

2. *The CRC's self-assessment provides an accurate picture of reality.*

Underlying assessment has been based in part on the self-assessment carried out by the CRC in the course of 2011. A systematic analysis of this self-assessment, and of other sources, leads us to the conclusion that this provides a realistic picture of performance in recent years.

3.2 The operational functioning of the CRC

3. *The CRC is a high-functioning yet vulnerable organisation.*

- 3.1. CRC staff members are highly motivated, they work hard, they maintain a sense of responsibility and are in large part driven by idealism. At the same time we get the impression that the organisation has been "stretched" to its limit. Better organisation of the task to be carried out is imperative.
- 3.2. The extent to which practices are standardised is (too) low in all areas. Partly due to "organic" growth and a high degree of "informal" functioning, there are very few standardised procedures and descriptions of qualifications and responsibilities; internal governance and HRM are handled very informally.
- 3.3. The permanent team of researchers maintained by the CRC is limited, and does not seem to be up to the task of fulfilling the mandate, aspirations and current activities of the CRC. When associated researchers and doctoral students are taken into consideration, this conclusion warrants being tempered somewhat. "Relying" on external and part-time employees for a significant portion of the scientific output gives rise to dependency and a lack of internal "control".

4. The HRM policy is still in its infancy; researchers are "underpaid" in comparison to their "peers".

4.1. The challenges are greatest in the area of HRM, though it is here that the CRC's room for manoeuvre is perhaps most limited (there are no/very few formalised job profiles, expectations are not made explicit, performance appraisals rarely - if ever - take place, and there are no clearly defined developmental pathways for individual researchers). The RZSA has declared the professionalising of HRM policy to be a priority in the months and years to come.

4.2. There are clear indications that CRC researchers are "underpaid" when compared to their "peers" in academic research centres. CRC management is not to blame for this, seeing as the Collective Labour Agreement classification of RZSA personnel (which includes CRC personnel) does not allow for a higher salary. The RZSA parent organisation has been neither able nor willing to deviate from this principle.

5. The managerial structure and functioning are in line with the most important principles of sound management, but a "refresh" is desirable.

When measured against the principles outlined in the Buysse Code, it appears that the CRC implicitly strives for/employs a number of these principles. But there is still much to be done, principally in three specific areas: 1) composition and functioning of the Scientific Advisory board, 2) systematic assessment and compensation of the staff and the senior researchers, 3) internal financial oversight, and the procedural formalisation of this in particular.

6. Financial policy and management are adequate.

6.1. The way that the subsidies were used was in line with the budgets and the assigned objectives and priorities. Almost 60% of overall expenditures are spent on salaries for the researchers (and supporting staff). PhD research grants account for approximately 10% of overall expenditures, and approximately 30% of total expenditures go to operational costs and investments.

6.2. The design of the budget and the bookkeeping are both going well. The CRC conforms to the "cycles" and procedures of the parent organisation RZSA in carrying out these functions. With respect to the internal authorisation procedures for making payments, the "4-eyes principle" applies. Special attention is needed to payments made in connection with international conservation projects (verification is difficult, as invoices/receipts are often handwritten). Further procedural development and formalisation is necessary as well.

6.3. The financial state of the CRC is sound. The CRC currently has about EUR 150,000 in reserves, and is thus maintaining a "sensible" financial policy. This acts as a buffer in the event of unusual expenses or declining income.

6.4. The CRC makes no/insufficient use of the options it has at its disposal to request modest "reimbursement" for costs incurred when organising events or for printing/sending posters for those events, for instance. This is something that could keep the CRC's total expenses down.

6.5. Besides its provision of “in kind” compensation (office space and utilities), the RZSA does not otherwise explicitly contribute to the income of the CRC. A significant portion of the CRC’s activities nevertheless benefits the RZSA. The current “relationship” seems out of balance.

3.3 Communication and society

7. *The CRC communicates intensively and widely, but does not apply enough of a “personal touch”.*

7.1. The CRC communicates intensively and widely with the outside world, but in doing so does not pursue an explicitly “characteristic” communication strategy. The present way of communicating limits the potential for dialogue and interaction with the “public” (“one-way” instead of “two-way” communication).

7.2. The CRC focuses its communication resources on a wide swath of target groups (scientists, educators, guides, the press, policymakers, zoo lovers, the wider public). This strategy would seem to lessen the effectiveness of the communication.

7.3. The CRC makes use of efficient albeit rather “traditional” methods of (digital) communication. Use of new social media such as Facebook and Twitter is limited.

7.4. Up until now, communication with respect to policy has occurred on a strictly ad-hoc basis. Familiarity with the CRC in these circles seems to be limited and could stand to be expanded. The policy makers could also take better advantage of the services and expertise of the CRC.

7.5. Familiarity with the CRC and its products among the wider public is low. Branding, however, is important. On this point it is also important to examine the extent to which the branding and visibility of the CRC and the RZSA can dovetail with each other, or whether there are still differences that necessitate a more unique and personal identity and communication strategy.

3.4 Scientific operations

8. *As a research institute, the CRC occupies a unique position within the international zoological community.*

The status of the CRC is fairly unique, and not for a lack of reasons. The most important reason is the integration of the CRC within the RZSA, and the access this affords the CRC to the zoos in Antwerp and Mechelen, which makes applied work possible. The CRC enjoys a good international reputation as well, especially within the zoological community. The CRC is viewed as an example of how research can be organised in and around zoos.

9. The CRC plays an important role in the guidance and training of students.

The CRC makes a sizable contribution to the formation of a new generation of conservation biologists. Every year the CRC coaches 25 bachelors and masters students. In addition there are 6-7 doctoral students who are guided along their path to becoming a researcher. The current cooperation agreement does not sufficiently value the guidance of students or the teaching of classes at colleges and universities (it is not included as a performance indicator either). Having said that, these activities have not been explicitly "requested" by the Flemish government either.

10. Mission, vision and choices are often historically determined.

10.1. The CRC's research topics have been judged by the panel of international experts to be "adequate". But the lack of strategic vision underlying these choices should be pointed out. There are new, relevant research topics out there: animal welfare, conservation psychology, climate change, wildlife criminality and genetics etc., all of which the CRC can tackle. Experience managing small animal populations provides opportunities to the CRC as well.

10.2. However, a clear mission and a clear vision must lie at the heart of this. The experts have pointed out the fact that many of the CRC's activities have been "historically" determined, but the time has come for reflection and focus. What does the CRC stand for? This also applies to the conservation research it performs. More fine-tuning and profiling would seem to be necessary.

11. In-situ conservation: socially quite relevant, but not enough scientific value added.

The CRC's conservation projects are of great social interest, and the impact on the local community is considerable. However, there has been so far insufficient scientific output. Various things can be blamed for this, such as the scientific choices made (what research questions will we ask, what approach will we take?) and the guidance received, but also the complexity of managing these kinds of projects. In past years, local CRC managers have focused above all on "structuring" factors, and not enough on scientific research. The CRC does not have the capacity to deal with local socio-economic and political problems on its own, or to do so without outside cooperation. The perception of conservation (including the in-situ conservation) should therefore be reviewed along with the parent organisation RZSA.

12. Tension exists between "administrative duties" and "scientific research".

When we take a look at the entirety of services provided by the CRC, we are struck by how versatile it is. This is a reflection of the great drive and ample commitment on the part of the CRC and its employees. CRC researchers spend a great deal of time on "service provision" in the broader sense of the word, at the expense of scientific research in the purest sense. Support of the day-to-day operation of the zoo is of great social importance without a doubt, but at the same time this demands "time" that cannot otherwise be spent on scientific research.

13. The present composition and role of the Scientific Advisory Board is outdated.

The composition and operation of the current Scientific Advisory Board is a good reflection of the local and historical character of the CRC. In line with the demands faced by a modern research institute and the international aspirations/potential of the CRC, it is recommended that the Board have an international composition, and that it be given a proactive and dynamic role. It must also have a clearly defined mandate in order to ensure that the Board is acting in the interests of the CRC.

14. The absence of an ethics review commission presents a major risk.

The panel of international experts has explicitly pointed to the possible consequences of the absence of a regular, objective and independent ethical review commission. Ill-considered research activities could result in grave harm to the reputation of the CRC and the RZSA. The Flemish government is also exposed to these risks.

15. The quality of the scientific publications ranges from good to very good.

The CRC is productive in the realm of scientific publications, and fares well when compared to its sister organisations such as the IZW (Berlin) and the IOZ (London). The number of citations per publication is on average higher than those of these "sister organisations". The CRC performs especially well within the discipline of evolutionary biology (conservation biology). It must be noted however that the CRC primarily publishes in magazines that have a relatively lower impact factor.

16. The "critical mass" is limited.

Even though critical mass can be seen as a representation of the relationship between aspirations and capacity, we have concluded that the CRC will have to put forth a great deal of effort in order to achieve the desired scientific output. The fact that the CRC relies so heavily on doctoral students and associated researchers for its scientific output is an indication that the internal critical mass with respect to research is limited. This could eventually undermine the CRC's status as a scientific centre of excellence.

17. The CRC's efforts in the area of networking and cooperation are solid, yet primarily reactive; within Flanders there is potential for a "smart" intensification of these activities.

17.1. The CRC's cooperation strategy tends to be more opportunistic than proactive, and is often rather informal as opposed to formal (which is normal within the zoo community); many cooperative relationships evolve organically. The CRC participates in a variety of international forums, especially within the trusted confines of the international zoo world (and the EAZA network in particular).

17.2. Cooperation with the University of Antwerp has traditionally been very strong. There is also ad-hoc cooperation with other Flemish universities, but further intensification seems possible (in areas where a clear opportunity for a "win-win" scenario exists).

17.3. At the European level - and with regard to participation in R&D Framework Programmes in particular - the CRC has already posted a number of initial successes. EU funding is fairly new for the CRC and is actually still in a preliminary phase. The CRC's role has so far been limited to that of a partner; at this point, it is still not prepared to initiate and coordinate a project.

3.5 Relationship to policy area and policy context

18. *Vague posture, but also a vague mandate on the part of the CRC regarding its role in policy preparation.*

There is no (clear) mandate provided by the Flemish government as to what role the CRC can play in the policy landscape. The CRC is thus being insufficiently utilised as an instrument for supporting policies (the number of "questions" is limited). The CRC itself is also not clear as to what sort of role it can or wants to assume. It is a wait-and-see attitude that prevails, whereas a more proactive approach is both desirable and necessary.

19. *There remains a great deal of potential for a larger role.*

Considering the importance of and the interest in the preservation of biodiversity at various policy levels (in Flanders, but definitely in Europe as well), the CRC is in an excellent position to become more active at the international level. The CRC could for instance play a supporting role when it comes to observing the international obligations of Flanders (biodiversity goals). The unique position of the CRC could be further leveraged in the way of policy at the European level as well.

3.6 The 2012-2016 policy plan

20. *The policy plan is very provisional in nature; further development and substantiation is needed.*

The provisional policy decisions that the CRC is putting forward are viewed as adequate by us and by the international experts. But the plan is not fully mature yet, and further development and substantiation is needed. The plan lacks sufficient international dimensions, and doesn't go far enough in accounting for the relevant developments and trends in research. More development in the area of policy is needed as well. Currently there is no attention being paid to the financial support and the "delta" required to realise the stated ambitions.

21. *The policy plan is (too) ambitious in its current state of development.*

21.1. The CRC's policy plan is ambitious, but whether it is also realistic will depend in large part on the financial resources to which it will have access. We therefore feel it is important that the CRC reexamine its aspirations in the context of the resources available, and also that a set of dependable priorities be introduced. A "roadmap" is likewise just as important to be able to see what the CRC's time frame is for achieving its aspirations.

21.2. Recently the CRC has performed well and extensively, with the result that the risk to the organisation of "overload" must not be underestimated. In our opinion, the emphasis must be on the creation of the appropriate conditions that will allow the organisation to continue to grow "wisely" in a sustainable fashion.

22. *The policy plan's impression is too much that of a "going concern".*

The plan would seem to give the impression of a "going concern", whereby it fails to sufficiently call into question the CRC's current choices - choices which have largely been historically determined. The experts have stated in this regard that the CRC is not adequately departing from a clear-cut mission and vision on what it can do and what it wants to do.

4 RECOMMENDATIONS

4.1 With respect to the Flemish government

1. Invest further in the CRC, and as such negotiate a new cooperation agreement with the CRC that covers the 2012-2016 time period

Considering the CRC's good performance and the opportunities that the future holds for the organisation, we recommend that the Flemish government renew the cooperation agreement with the CRC. The CRC demonstrates that it is capable of conducting qualitative research and assuming an important social role at the same time, namely the support of the day-to-day operations at the Antwerp and Mechelen zoos.

2. Development of a vision of what the CRC is and what goals it has to realise

As a centre of excellence, the CRC is responsible for carrying out the RZSA's mission of scientific research. But the CRC does much more than that - ranging from the active role it takes in training to the international work it does with in-situ conservation. The Flemish government must send a strong signal regarding its expectations for the RZSA and the CRC, as to which responsibilities are and are not attributable to the CRC as a centre of excellence.

This vision would also allow for a role to be reserved for the CRC as an instrument of policy support. In other words, the expectation is for the CRC to become more active in the policy arena, and if it does, in what form.

3. Secure public investment by taking a number of issues into consideration

Though we are consciously refraining from commenting on the precise levels of the CRC's funding, we feel it is important for the discussion concerning the provisions under which the renewal of the cooperation agreement will take place to address a number of issues.

- 3.1. As an umbrella organisation, the RZSA can and must partially fund the CRC as compensation for the services provided by the CRC to the RZSA (as it appears that the current relationship between the RZSA and the CRC is out of balance). The CRC is of great value to the RZSA's national and international operations.
- 3.2. The salary problem is jeopardising the sustained operation and growth of the CRC. It is unacceptable that highly-qualified researchers earn less than their "peers" in academic research institutions. The RZSA and the CRC must resolve to eliminate this discrepancy and adopt the wage scales of the Flemish government, and the wage scales of university institutions in particular.
- 3.3. The CRC can and must do a better and more consistent job of promoting itself as being up to the task of the so-called "grand challenges" that exist in the area of biodiversity preservation, and actively support Flanders in this effort (in partnership with other actors) in fulfilling and maintaining international commitments in this area.
- 3.4. It is crucial that an ethics review commission be established, not only for the RZSA and the CRC, but also for the Flemish government, so that it can serve as a watchdog. Indeed, the government also runs the risk of damage to or loss of its reputation.

- 3.5. The CRC is a department of the RZSA. This raises questions about the legal status of the CRC as an independent entity with which a cooperation agreement can be negotiated.
- 3.6. Finally it is important to have a more articulated strategy available - a strategy in which clear choices are made, which contains a budget, and which defines a clear time frame for achieving goals.

4. Fine-tuning of the new cooperation agreement to be negotiated

- 4.1. In view of the evolutionary phase in which the CRC finds itself, it is our opinion that the new cooperation agreement to be signed must contain clearly formulated and measurable objectives and activities concerning a variety of matters. For example there is a need for specific instructions concerning internal operations - including the role and composition of the Scientific Advisory Board - and concerning scientific operations, international cooperation, the potential role that the CRC can play in policymaking, etc.
- 4.2. In addition, the CRC's current evolutionary phase requires more "result indicators" than it does "output indicators", though we do propose that most of the present indicators be preserved, albeit in a modified form. We introduce several new indicators in the report which could track the CRC's activities in the area of cooperation and policy.

4.2 With respect to the CRC

1. Be conscious of the risks and anticipate them

A focus on risk management is key, in which advance accommodations are made for expected and/or unexpected developments concerning government subsidies and employee turnover (mitigating the effect of the departure of key employees). This must result in specific plans (contingency plans) that can also be put into action. The formation of key positions, like that of the CRC manager, is also important and must be examined.

2. Further professionalising and strengthening of the organisation

- 2.1. Get down to the business of further professionalising HRM policy through the creation of job profiles, the review of evaluation procedures, and the further decentralising of evaluations on the basis of hierarchy. Department heads must evaluate their employees and regularly consult with them in personal conversations.
- 2.2. It is obvious that the CRC is a vulnerable organisation in terms of critical mass. It is important for vulnerable positions to have a "back-up" in place in order to guarantee continuity. This applies to senior researchers, but also to the position of CRC manager.
- 2.3. When it comes to financial management, it is recommended that the procedures concerning the authorisation of payments and the auditing of invoices be standardised (clearly established and articulated).
- 2.4. A little more standardisation in the way of day-to-day operations likewise seems advisable. Example: the consistent drafting of meeting reports so that arrangements can be followed up, and also so that those not present can be brought up to speed on the subject matter discussed and the arrangements made.

3. Take stock of and - if necessary - repair the imbalance that exists in the "business" relationship with the RZSA

In the short term we recommend that an objective analysis be made of the support that the CRC provides to the day-to-day operations of the RZSA, and to compare this to the terms and/or the return on the part of the RZSA. This is intended to lead to a mutual understanding and, where necessary, compensatory measures that will guarantee a healthy relationship.

4. Elimination of the wage discrepancies between CRC researchers and their "peers" at academic institutions

The discrepancy between the remuneration of CRC researchers and the remuneration of researchers at academic institutions must be eliminated as quickly as possible, in conjunction with the RZSA. We consider this to be a critical situation for continuity at the CRC. Our suggestion is to adopt the wage structure employed by the Flemish government, and in particular that of Flemish academic institutions.

5. Introduction of interim monitoring of the way time is allocated

We recommend that a system (limited and flexible) for recording time spent be set up so as to better monitor the various ways time is being allocated. This monitoring system could be used as a management information system that would allow for insight into the way time is currently being allocated, and to then be able to take an even more objective approach towards decision making. It could also be used to get a better idea of how CRC employees are spending their time, in particular the time they spend on supporting the RZSA.

6. Reexamination of the way that scientific research is organised

6.1. Researchers at the CRC work on a variety of divergent tasks. An examination must be made into whether more time could be freed up for the "core" team at CRC to conduct more research by reorganising the way in which duties are assigned. A suggestion brought up by the staff at CRC is to appoint research assistants who could relieve the research team of more of the supportive duties.

6.2. The way in which scientific research is organised also has a bearing on the extent to which the CRC is dependent on doctoral students and associated researchers. The burden of generating scientific output must be borne by the permanent core of researchers at the CRC.

7. Reexamine the composition and operation of the Scientific Advisory Board

Reexamine the composition and operation of the Scientific Advisory Board in line with the recommendations made by the panel of international experts. Adjust the mandate of the Board and make it more explicit.

8. Appointment of an ethics review commission

In line with the recommendations of the panel of international experts, it is crucial for an independent ethics review commission to be appointed, which can make recommendations for all the research plans - and perhaps for the communication plans - of the CRC and the RZSA.

9. Formulate a clear vision regarding international developments

The extent to which the CRC takes account of and sufficiently anticipates developments and trends in international research must be examined (for example in the context of and in line with the EAZA research strategy at the EU level). The mission and the vision of the CRC is to be enhanced as a result.

10. In-situ conservation projects: assume the role of scientific promoter

With regard to the conservation projects, we propose redefining and focusing on the scientific objectives of ongoing commitments, and translating that into an action plan. At the same time it seems appropriate to transfer local projects to other national and international parties (parties operating under the RZSA umbrella, for instance). The CRC can/must continue to fulfil the role of scientific promoter/coach and continue to perform the scientific follow-up. This appears to be a good position from which to develop new conservation projects.

11. Streamlining of partnerships and the development of a proactive cooperation strategy

The streamlining and development of a proactive cooperation strategy is called for, both regionally and internationally. The CRC can get a look at which organisations might make beneficial partners by thoroughly screening competitors and potential partners, both at the national and international level.

12. Put a personal touch on communication, with respect to policy as well

12.1. It is important that the CRC develop its own unique communication strategy, albeit in conjunction with the RZSA. Key points to keep in mind are the branding, and thus the visibility of the CRC, by way of the leveraging of the results. A part of this process has to be a comprehensive analysis of the current tools and the degree to which they do or do not give the activities and operations enough play. The various target groups must also be addressed.

12.2. Attention must also be paid to the channels that the CRC uses to communicate. Consideration can be given to the ways in which social media could be deployed as one component of a modern communications strategy.

13. Benchmark yourself on a regular basis, especially internationally

Because there are currently no foreign experts serving in an administrative role at the CRC, it seems advisable to us for the CRC to measure its own practices periodically against those of foreign organisations. This could be done for instance by arranging for a biennial "expert visit", in which experts at the top of their field spend a couple of days "examining" the CRC. This type of exercise might be quite useful when paired with the organisation of an animal research conference. Taking part in Joint Programming, which entails a limited amount of examination/benchmarking, also seems interesting in this context.

14. Be prepared to make some choices

During the most recent cooperation period, the CRC has succeeded in vastly expanding its activities, partially through the attraction of outside funding. In our opinion, and in the opinion of the panel of international experts, these accomplishments are "impressive". Still we need to recognise that there are limits to such major accomplishments, or limits to the ability to maintain them at the very least. The CRC's aspirations for the 2012-2016 period are once again far-reaching. In the event that the necessary resources do not end up being commensurate with these aspirations, it will be necessary for the CRC to make some choices.