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Date:                7 May 2012

Request:            Documents contain CSIRO response to the recommendations made by  
external panel in their report from 2010 Science Review of CSIRO Entomology

Documents:        Docs 1-2

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## Memorandum to the CSIRO Executive Team

ET Meeting No. 12                      13-14 April 2010                      Agenda Item: 16.1

Subject                                      Round Table: Entomology Science Review – response

Author                                        Mark Lonsdale

Sponsor                                      Joanne Daly

Date    1 April 2010

Action for ET                              ☐ For Decision    ☐ For Discussion    ☒ For Information

### 1. Purpose

For the Executive Team to note the key recommendations of the Entomology Science Review, and the response of the Divisional leadership team.

### 2. Background

The review panel reviewed the Division in the period of the 7 - 12 February 2010, under the chairmanship of Prof John McKenzie from the University of Melbourne. The previous review was in February 2005.

### 3. Current Situation / Proposal

The Panel provided the Division with a solid endorsement of its leadership, science quality, performance and strategic direction. There was close agreement between the Groups' self-assessments and the Panel's assessments of them. The minimum assessment of any Group was "favourable". Five out of seven Groups were assessed as strong in terms of research impact, and five out of seven were assessed as strong or above in terms of industry/community impact (the maximum here was "benchmark", achieved by Invasion Ecology).

Many of the key recommendations overlapped. The important themes that emerged from the recommendations at divisional or at group level were as follows:

1. To improve the rate of ISI publication output. This has dramatically improved in the Division over the last five years, but still on average lags behind that of some individuals in top university departments. We intend to set a target increase for the rate of output from 1.5 currently to 2.0 ISI journal papers per scientist p.a.
2. To wind up activities in areas that, while industry-relevant, may not meet accepted standards of scientific excellence. To address this, we will be focusing in particular on post-harvest grains research, and commercial termite work where this situation has prevailed for many years.
3. The Panel felt we had a number of excellent scientists who have not been sufficiently recognised outside the Division. We will address the issue of seeking the most prestigious external awards processes for these scientists.
4. The Panel identified a significant lack of teamwork amongst the systematists who work in the ANIC. We will address this in the first instance by engaging consultants to meet with staff and prepare a teamwork development plan.
5. The Panel felt that we needed to be able to generate and allocate resources to seed new areas of research. While this is already something that we have taken very seriously, typically through the OCE postdoc scheme (Ento has around 30 Postdocs out of about 90 scientists, comparatively a very high number), we do feel somewhat restricted. The proposed merger with Sustainable Ecosystems will create a great opportunity to develop new areas of research at the interface of ecology, biotechnology,

social and economic research.

### 3.2 Divisional Response

The Division's response to the 16 high level recommendations is given at Attachment 1. Response to these will be managed by the Office of the Chief, and the relevant Program and Group Leaders will address the group level recommendations. (This will become a combined effort following the merger.) Top priority amongst the divisional recommendations will be addressing the publication performance, and the prioritisation of research, the latter being an ongoing task made all the more urgent under the current SIP deliberations.

The merger between Entomology and Sustainable Ecosystems raises some possibilities of synergy between the two science reviews. The CSE recommendations fall broadly into two classes in relation to the Entomology review.

1. Many of the CSE recommendations echo the Entomology recommendations, particularly around the need to increase the publication rate per scientist and improving the induction processes for new staff, especially students and PDFs.

2. The merger will facilitate the responses for both Divisions:

a. Where the need to introduce best practise for research groups was noted (the CSE review found that larger capability groups were assessed more highly).

b. Increasing multidisciplinary and providing greater support for the Wildlife Collection (where economies of scale may be achieved in combination with the ANIC).

Finally, there is one recommendation that will need to be sensitively handled – the CSE Panel recommended that the Division be given a period of stability to allow newly added groups to embed themselves in the Division.

### 3.3 Communications

The review findings will be communicated to internal stakeholders, and with external stakeholders where appropriate.

#### 4. Recommendation

That the Executive Team notes the key recommendations of the Entomology Review Panel and the response of the divisional leadership team.

#### 5. Next steps

An interim report on progress with implementation of CSIRO's response plan will be submitted to the Review Panel Chair, John McKenzie, by the end of June 2010.

Joanne Daly

Agribusiness Group Executive

### Attachments [please list attachments]

Attachment 1

Major recommendations and responses

Attachment 2

Entomology Divisional Review

## Attachment 1

## Entomology Review Major Recommendations & Responses

### Divisional Response to Recommendations

No.	Recommendation	Divisional Response
1.	The Division should ensure that its resources are targeted to areas of highest strategic priority, ensuring that all science programs are both internationally competitive and nationally important.	Agree. Our annual internal review process collectively assesses each Group's strategic direction and science performance. In general however this process leads to tactical, rather than strategic, modifications and the Division needs to make some deeper changes (see next).
2.	The Division should identify those projects that, whilst industry funded, do not currently meet accepted standards of scientific excellence and move to redress the situation.	Agreed. We acknowledge the low scientific quality of activities in some industry-focussed areas. We are now at a point where we need to make some deeper strategic changes involving closing down areas to reinvest in others. The review has provided added impetus to pursue this course.
3.	The Division establish a target for the rate of improvement in ISI publication output and develop a more explicit strategy to encourage publication in high impact journals.	Partially agree. Our reservation is that CSIRO scientists do not have ready access to Ph.D. students (who typically publish three or four papers per thesis with the supervisor as co-author), and much of our funding comes from very applied projects, where the ability to pursue interesting lines of research is limited. Consequently, the rate of output across all our scientists is unlikely to match that of university scientists in top departments. Over the last five years, however, the Division has more than doubled its publication rate in refereed journals and substantially lifted the impact factors overall. We aim to increase the average output rate still further from 1.5 to 2.0 per scientist per year. Note also that the citation rate for our papers compares very favourably with universities working in similar domains.
4.	Appropriation funds should be used to recruit postdoctoral researchers and postgraduate students to projects of strategic priority. Performance criteria for postdoctoral researchers and other staff should be defined at the time of appointment.	Noted. We were slightly puzzled by this as we felt we were largely already doing it. All PDFs come into positions with clearly defined goals and all PDFs develop a training plan which they must adhere to. We could improve the process by ensuring that PDFs have a clearer understanding of our expectations when they join the Division and of their likely future prospects.
5.	The Division should ensure that opportunities for career development are uniform across programs and that the transition beyond initial postdoctoral appointments provides the opportunity to develop skills in grant preparation and submission.	Partially agree. Our slight reservation is that the core activity of PDFs is to develop their science. We could include grant writing in the training plan of second term PDFs but they should only be doing this as part of a larger writing team, to avoid raising unrealistic expectations of continuation, should the grant application be successful.
6.	The Division should increase its efforts to ensure that excellent science and	Agree. We thank the Panel for their comments about the scientific excellence and prominence of many of our staff. We

No.	Recommendation	Divisional Response
	people are recognized both within and outside the Division.	will develop a structured strategy to build on their excellence and recognition already achieved to pursue some of the most prestigious awards for our scientists.
7.	The Division should develop its capacity to add value to subsequent career outcomes of those who participate in its postdoctoral program.	<b>Noted.</b> We interpret this as strong endorsement of the career development outcomes that we have provided in our PDF program to date and we propose to monitor ongoing progress.
8.	The Division should continually nurture external partnerships and ensure that both real and perceived difficulties with IP, reports and account rendering, are addressed to achieve uniform best practice.	<b>Agree.</b> The range of issues around IP, accounting and reporting are real and the Chief needs to provide greater oversight to minimise any problems that might arise in negotiations.
9.	For joint appointments, the individuals should be employed by one partner with clear KPIs agreed for each partner and with joint performance appraisal.	<b>Noted and Agree with the Principle.</b> We are uncertain as to the implications here as we have only two joint appointments and, in both cases, they are employed by the University with clear KPIs agreed and with joint performance appraisal.
10.	The Division should recognise Systematics, Evolution and Informatics as a capability program and ANIC as a divisional facility.	<b>Agree.</b> We do propose to restructure. It is reasonable to provide more formal and distinct recognition of both ANIC as a facility, and of the capability of the Systematics and Evolution and Biodiversity Informatics Groups. However, the specifics of this restructuring need to be carefully considered in terms of the lack of teamwork highlighted below (11), as well as the proposed merger with CSE, which would bring the Wildlife Collection into scope.
11.	The lack of team work and harmony in the current Systematics and Evolution group must be urgently addressed.	<b>Agree.</b> We propose to engage external HR consultants to assist to develop a team building plan within the context of the proposed merger. The problems are deep-seated and will take at least a year to resolve.
12.	The Division should generate and allocate resources to seed new areas of research, particularly at the boundaries of disciplines.	<b>Noted.</b> The recent appointment of a Science Leader in bioinformatics was a direct attempt to put appropriation funds into an area of strategic importance. Likewise we have redirected capability into the area of ecogenomics where multidisciplinary outcomes and science impact can be achieved. As a merged, larger Division, we will have much more flexibility to invest in growth areas at the boundaries of disciplines (e.g. social sciences and biotechnology, bioinformatics and macro ecology)
13.	The Division should develop a rolling three year business plan for its Genomics initiatives.	<b>Agree.</b> This will be particularly important in the light of the proposed merger. We have a strategic plan for our Genomics Initiatives of which the Helicoverpa genome project, Ecogenomics and Vector Biology are lead project areas for the next several years. Genomics and bioinformatics will underpin developments in biodiversity science over the next decade - as we build an understanding of ecosystems from gene to

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		landscape level.
14.	To resolve the looming infrastructure crisis, it is essential that an audit of needs be carried out and a plan developed to redress the situation. Where appropriate, partnerships with other institutions should be developed.	<p>Agree. We agree that an appropriate mechanism for funding may be through partnerships with other institutions or other parts of CSIRO that we have not utilised sufficiently. We will explore this option as part of our plan both nationally (especially with a new Division and CSIRO Plant Industry) and internationally.</p> <p><u>Deletion</u></p>
15.	In its capacity as the host institution of ALA, the Division needs to develop a financial and administrative plan for the initiative up to and beyond 2012.	<p>Agree. The Division agrees with the Panel that post 2012 funding is a critical issue that needs to be addressed by the ALA. A Steering Committee is already in place to work towards the goals of effectively delivering ALA outputs up to 2012, which are embodied in the existing ALA business plan. The Steering Committee is charged with developing a financial and administrative plan that will secure further funding for ALA beyond 2012 and seek to ensure its ongoing value in the biodiversity sector.</p>
16.	The Division should consider whether the name CSIRO Entomology best projects its current research to the scientific and general community. Such consideration should also recognise the considerable "brand value" of the current name.	<p>Agree. While the Divisional leadership feels a sentimental attachment to the name, it is a poor and restrictive description of what the Division does, which may exclude us from important opportunities. It is now time to consider moving on. The proposed merger provides an opportunity to think about this.</p>

## Memorandum to the CSIRO Board

Board Meeting No. 160      23 June 2010      Agenda Item: 17

Subject      Science Reviews – Entomology, Livestock Industries, Plant Industry

Authors      Mark Lonsdale, Alan Bell, Jeremy Burdon

Sponsor      Joanne Daly, Group Executive Agribusiness

Date      9 June 2010

Action for Board      ☐ For Decision   ☐ For Discussion   ☒ For Information

## 1. Purpose

For the Board to note the key recommendations and responses in relation to the external reviews undertaken in relation to (i) Entomology Deletion

## 2. Background

Entomology (CE) was reviewed 7-12 February 2010, chaired by Prof John McKenzie, University of Melbourne. The previous review was in February 2005.

Deletion

## 3. Review Outcomes

## OVERALL SUMMARY – stand out recommendations

- (1) All the reviews endorsed the strategic direction of the Divisions and commented on their strong science quality in many areas. Deletion Both CE and Deletion have some areas to either exit or seriously rebuild. All Divisions need to raise their scientific profile ('Hiding the light under a bushel' syndrome).
- (2) All reviews expressed a need to increase investment to create 'head space' (CE), enhance activities of science leaders. Deletion
- (3) There was good agreement between panels' and the Divisions' assessments of their science quality and impact.
- (4) All panels expressed their confusion over the matrix structure, which also might be a reflection of what they were hearing from staff.
- (5) Other leading issues for CE were the need to continue building science excellence and publication rates and quality. CE has some challenges in its systematics area.

Deletion

## ENTOMOLOGY REVIEW

Five out of seven Research Groups were assessed as "strong" in terms of research impact, and five out of seven were assessed as "strong" or above in terms of industry/community impact (the maximum here was "benchmark", achieved by Invasion Ecology). The minimum assessment of any Group was "favourable".

The Division's response to the 16 high level recommendations is given at **Attachment 1**. Top priority amongst the divisional recommendations will be to address the publication performance and the prioritisation of research, the latter being an ongoing task made all the more urgent under the current SIP deliberations.

The merger between CE and Sustainable Ecosystems (CSE) raises some possibilities of synergy between the two science reviews. The CSE review recommendations fell broadly into two classes in relation to the CE review.

1. Many of the CSE recommendations echoed the CE recommendations, particularly around the need to increase the publication rate per scientist and improving the induction processes for new staff, especially students and PDFs.
2. The merger will facilitate the responses for both Divisions:
  - a. Where the need to introduce best practise for research groups was noted (the CSE review found that larger capability groups were assessed more highly).
  - b. Increasing multidisciplinary and providing greater support for the Wildlife Collection (where economies of scale may be achieved in combination with the ANIC).

Finally, there is one recommendation that will need to be sensitively handled – the CSE Panel recommended that the Division be given a period of stability to allow newly added groups to embed themselves in the Division.

Deletion

Deletion

#### 4. Recommendation

That the Board note the key recommendations and responses to the external reviews of Entomology,  
Deletion

Joanne Daly

Agribusiness Group Executive

#### Attachments

Attachment 1

Entomology Major recommendations and responses

Deletion

## Board 160 Item 17 Science Reviews Attachment 1 Entomology

## Major Recommendations &amp; Responses

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2.	The Division should identify those projects that, whilst industry funded, do not currently meet accepted standards of scientific excellence and move to redress the situation.	<b>Agreed.</b> We acknowledge the low scientific quality of activities in some industry-focussed areas. We are now at a point where we need to make some deeper strategic changes involving closing down areas to reinvest in others. The review has provided added impetus to pursue this course.
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