



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

<p style="text-align: center;">ESTADO FINAL RESOLUCION DEL CONSEJO</p> <p>Observaciones: _____</p> <p>_____</p>	<p>FECHA</p> <table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40px; height: 20px;"></td> </tr> <tr> <td> <p>1. APROBADO</p> <p>2. PENDIENTE</p> <p>3. RECHAZADO</p> <p>4. A FISCALIA</p> </td> </tr> </table>		<p>1. APROBADO</p> <p>2. PENDIENTE</p> <p>3. RECHAZADO</p> <p>4. A FISCALIA</p>
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EVALUATION REPORT CENTERS FOR ADVANCED RESEARCH

I. PROJECT INFORMATION

CENTER'S NAME Centre for Advances Studies in Ecology and Biodiversity

DIRECTOR Fabian M. Jaksic

II. EVALUATION PANEL

NAME	ORGANIZATION/ INSTITUTION	E-MAIL	SIGNATURE

III. CENTER EVALUATION

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Uso Interno
Degree of adoption of suggestions from the last report *	X			
Accomplishment of objectives and goals of the Center	X			
Quantity of reached outcomes related to proposal objectives and goals	X			
Quality of reached outcomes related to proposal objectives and goals	X			
Degree of integration between the programs of the Center	X			
Creation and reinforcement of international networks	X			
Outreach	X			
Diffusion of results	X			
Establishment and tasks of the Advisory Committee		X		

RECOMMENDATIONS (see following concepts)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
APPROVE	APPROVAL WITH SUGGESTIONS	ADDITIONAL INFO.	PENDING	REJECT	FONDECYT USE	

14	09	2011
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Evaluation Date

Signature reviewer

EVALUATION CONCEPTS ANNUAL REPORT

1. **Approve:** The reviewer recommends to accept the report in its present form since he/she considers objectives and goals fully accomplished and all relevant issues covered by the report.

2. **Approval with suggestions or minor observations**
 - 2.1 **Minor observations:** The reviewer recommends the approval of the report despite the justified incompleteness of some aspects that does not constitute an obstacle for the continuity of the Center activities.
 - 2.2 **Suggestions:** The reviewer recommends minor changes in order to improve the future performance of the Center.

3. **Additional information:** The reviewer requires additional documentation or specific explanations to fully evaluate the report.

4. **Pending:** The reviewer makes significant observations to the report and conditions its approval to the accomplishment of specific demands.

5. **Reject:** The reviewer has strong objections to the contents of the report.

EVALUATION COMMENTS:

Because the annual report did not include separate information about each of the individual research programs, I could not provide an evaluation on that basis. My report deals only with the Centre of Excellence in its entirety.

I fully support the decision to add a cross-cutting program on “bioinvasions” because this is such a vital aspect of the environmental stressors that are affecting biodiversity and its functioning in all parts of the world. It is vital that Chile document and understand this important cause of damage to its economic interests and natural values.

I consider the termination of a program (RP5) that was not meeting expectations of productivity to be a sensible act of adaptive management. While I am not familiar with the specific failings of that program, a decision to terminate it for non-performance indicates effective management.

There were numerous moves of highly qualified personnel into, among, or out of programs. All of these changes seem to be adaptive and forward-moving.

The changes to the budget were sensible and appear to have resulted in funding being allocated and spent more effectively.

I admire the numerous measures that have been undertaken to foster collaboration and interdisciplinarity. There appears to be excellent integrations of various kinds: amongst programs within the Centre of Excellence, with domestic and foreign universities, with governmental and non-governmental organizations, and with elements of the private sector.

There is excellent gender balance amongst graduate students and postdocs, and I hope this will eventually carry forward to a higher level of permanent appointments of women in universities and governmental institutions.

I would like to have known more about the interactions with NGOs, and the collaborative work being undertaken in conservation planning and in the establishment and stewardship of a network of protected areas. Nevertheless, I am encouraged to know that such collaborations have been established.

I have the sense that the International Advisory Board could be further energized. I think that the Board could be invited to a national meeting of researchers of the Centre of Excellence, where they could be exposed to the most important research programs and also participate in a strategic planning exercise.

Does the overall research program include a component in which “traditional ecological and biodiversity knowledge” of local people is being catalogued and evaluated? Such traditional knowledge often goes beyond that of conventional science and can yield highly beneficial observations and insights that are helpful in conservation planning and stewardship of economic and natural values.

I regret the loss of some research sites as a result of the devastating earthquake and seismic sea-wave of 2010. I hope that opportunistic studies have been established to follow up on the ecological recovery.

The output of publications is satisfactory, as are the venues, some of which are of the highest international tier. The prevailing co-authorship of papers indicates a high and desirable level of collaboration amongst the researchers. There are many additional efforts to communicate research and to participate in domestic and international forums, which is also good.

An impressive number of graduate students has been trained and postdocs supported. This is a great return on the investment made by FONDAP.

The Centre of Excellence is doing a good job of leveraging funding beyond the core amount provided by FONDAP, which accounts for 42% of the total funding of CASEB. The principal investigators and other associated researchers have done well in landing additional funding from governmental sources and the private sector, and even more of that leveraging is to be encouraged.

The efforts at outreach seem genuine and effective, and are a key to CASEB having a helpful and necessary influence on actions needed to conserve the natural heritage of Chile. I encourage even greater efforts in this regard.

I encourage continued and even up-graded funding of this well-performing Centre of Excellence. I hope that the level of funding would recognize both its emerging success and its needs for sustainability in view of the substantial erosion of its base support caused by monetary inflation, and the obvious need for re-capitalization of some of the vital research equipment needed to undertake world-class work in the realm of biodiversity.

<p style="text-align: center;">ESTADO FINAL RESOLUCION DEL CONSEJO</p> <p>Observaciones: _____</p> <p>_____</p>	<p>FECHA</p> <table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>				<table border="1" style="margin: auto;"> <tr> <td style="width: 40px; height: 20px;"></td> </tr> </table> <p>1. APROBADO 2. PENDIENTE 3. RECHAZADO 4. A FISCALIA</p>	

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**EVALUATION REPORT
CENTERS FOR ADVANCED RESEARCH**

I. PROJECT INFORMATION
CENTER'S NAME CASEB
DIRECTOR FABIAN JAKSIC

II. EVALUATION PANEL			
NAME	ORGANIZATION/ INSTITUTION	E-MAIL	SIGNATURE

III. PROGRAMS EVALUATION (please fill up as many forms as programs exist within the Center)

**PROGRAM'S NAME: INDIVIDUAL BASIS OF BIODIVERSITY
(PROGRAM 1)**

PRINCIPAL INVESTIGATOR: FRANCISCO BOZINOVIC

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of the results reached regarding the objectives and goals	XXXX			
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration with other ongoing programs of the Center	XXXX	XXXX		
Diffusion of the results	XXXX			

**PROGRAM'S NAME: BIODIVERSITY FUNCTION
(PROGRAM 2)**

PRINCIPAL INVESTIGATOR MAURICIO LIMA

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of reached outcomes related to proposal objectives and goals	XXXX			
Quality of reached outcomes related to proposal objectives and goals	XXXX	XXXX		
Degree of integration with other ongoing programs of the Center	XXXX			
Diffusion of the results	XXXX	XXXX		

* If there had been none, please disregard this question

PROGRAM'S NAME: INTEGRATING THE FUNCIONS OF BIODIVERSITY (PROGRAM 3)
PRINCIPAL INVESTIGATOR: JUAN ARMESTO

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of the results reached regarding the objectives and goals	XXXX	XXXX		
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration with other ongoing programs of the Center	XXXX			
Diffusion of the results	XXXX	XXXX		

PROGRAM'S NAME: CONSERVATION AND BIOCOMPLEXITY (PROGRAM 4)				
PRINCIPAL INVESTIGATOR: PABLO MARQUET				
ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of reached outcomes related to proposal objectives and goals	XXXX	XXXX		
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration with other ongoing programs of the Center	XXXX			
Diffusion of the results	XXXX	XXXX		

* If there had been none, please disregard this question

PROGRAM'S NAME: DISCONTINUED IN 2008 (PROGRAM 5)
PRINCIPAL INVESTIGATOR: NA

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *				
Accomplishment of objectives and goals of the reported program				
Quantity of the results reached regarding the objectives and goals				
Quality of reached outcomes related to proposal objectives and goals				
Degree of integration with other ongoing programs of the Center				
Diffusion of the results				

PROGRAM'S NAME: MAINTENANCE OF BIODIVERSITY (PROGRAM 6)				
PRINCIPAL INVESTIGATOR: SERGIO NAVARRETE				
ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of reached outcomes related to proposal objectives and goals	XXXX	XXXX		
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration with other ongoing programs of the Center	XXXX			
Diffusion of the results	XXXX	XXXX		

* If there had been none, please disregard this question

PROGRAM'S NAME: CHANGES IN BIODIVERSITY (PROGRAM 7)
PRINCIPAL INVESTIGATOR: JUAN CORREA

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX			
Quantity of the results reached regarding the objectives and goals	XXXX	XXXX		
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration with other ongoing programs of the Center	XXXX			
Diffusion of the results	XXXX	XXXX		

PROGRAM'S NAME: BIOINVASIONS (PROGRAM 8)
PRINCIPAL INVESTIGATOR: FABIAN JAKSIC

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Internal use
Degree of adoption of suggestions from the last report *	XXXX			
Accomplishment of objectives and goals of the reported program	XXXX	XXXX		
Quantity of reached outcomes related to proposal objectives and goals	XXXX	XXXX		
Quality of reached outcomes related to proposal objectives and goals	XXXX	XXXX		
Degree of integration with other ongoing programs of the Center	XXXX	XXXX		
Diffusion of the results	XXXX			

* If there had been none, please disregard this question

IV. CENTER EVALUATION

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Use Internal
Degree of adoption of suggestions from the last report *	XXXX	XXXX		
Accomplishment of objectives and goals of the Center	XXXX			
Quantity of reached outcomes related to proposal objectives and goals	XXXX			
Quality of reached outcomes related to proposal objectives and goals	XXXX			
Degree of integration between the programs of the Center	XXXX			
Creation and reinforcement of international networks	XXXX			
Outreach	XXXX	XXXX		
Diffusion of results	XXXX			
Establishment and tasks of the Advisory Committee		XXXX		

RECOMMENDATIONS (see following concepts)

					
APPROVE	APPROVAL WITH SUGGESTIONS	ADDITIONAL INFO	PENDING	REJECT	FONDECYT USE

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V
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Evaluation Date _____ Signature reviewer _____

EVALUATION CONCEPTS ANNUAL REPORT

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EVALUATION COMMENTS:

General Assessment

As in previous years, investment in CASEB by FONDAP has been cost-effective in advancing integrated research and education with regard to biodiversity and the environment. CASEB's research, education, and outreach activities have continued to deepen and broaden environmental understanding, and contribute to management and sustainable use of natural resources in Chile. The Center continues to maintain its international stature as a leading global biodiversity research center and *the* preeminent Center in South America. The vision, mission, and goals of CASEB address some of the most pressing 21st Century issues to face society across the globe and in Chile.

As outlined in previous reviews, the ultimate metrics of success for a scientific center such as CASEB include: (1) the quantity and quality of scholarship, including its multidisciplinary nature; (2) the extent to which human infrastructure is developed at the post-doctoral and doctoral levels, including the transformation of the culture of scientific collaboration; (3) the degree to which FONDAP resources are leveraged to secure other financial support for Center activities; and (4) the extent to which scientific understanding informs management, policy, or public understanding. The accomplishments of CASEB are outstanding in all of these areas, and reflect the continuing capacity of the Center to leverage FONDAP resources to excellent effect.

The overall success of the Center can be summarized via a number of impressive accomplishments during 2010, including the following:

- CASEB produced 105 ISI publications, ~17% in collaboration with graduate students, ~14% in collaboration with post-doctoral fellows, and ~4% in collaboration with undergraduate students. In addition, it produced 6 chapters in edited books, and 0 books.
- CASEB faculty members mentored 45 doctoral students (20 of which were associated with 2 or more programs) with about 25% graduating in 2010.
- CASEB faculty members mentored 12 masters students (none of which were associated with 2 or more programs) with less than 10% graduating in 2010.
- CASEB supported 19 post-doctoral associates (1 of which was associated with 2 or more programs), with an equivalent number of males and females. All but one matriculated from a Chilean institution, and most [63%] matriculated from PUC)
- CASEB (predominantly Programs 1, 3 and 7) participated in 30 international collaborative activities, mostly with colleagues in the US (~30%), Spain (~17%) or France (~17%).
- CASEB organized 1 international congress (Italy), 1 national congress (Chile), and 1 workshop (Chile). In addition, its members presented 25 papers at international congresses (~50% of which were at the VI Southern Connection Congress in Bariloche and the other 50% were in Mexico, Uruguay, UK, France, Italy, Spain, USA), 45 papers at Latin American congresses (Argentina and Chile), 7 papers at national congresses. 2 presentations at a national workshop and 2 presentations at international venues (1 in USA and 1 in Brazil).

- CASEB leveraged FONDAP support to good effect in that slightly over 4,000,000 pesos from other federal, international, or private agencies matched the base support of 3,000,000 pesos. Approximately half of non-CASEB funds appear to derive from industrial grants (> 2,000,000 pesos).

These accomplishments reflect effective leadership, management, and collaboration by senior personnel at the Center. Moreover, they have been attained with an annual budget that continues to be eroded by inflation, and without budgetary support for the acquisition of major instrumentation. Continued failure to address this issue will stymie growth of the Center, and compromise its ability to sustain its leadership in biodiversity research and education.

CASEB substantively contributes to the discovery of new knowledge, in the training of the next generation of scientists, and in the engagement of the public as well as the private sector and government-sector, about the importance of biodiversity, ecosystem services, and environmental sustainability. On average, the productivity of programs is high and similar to that in 2009 in terms of the quantity and quality of publications. Nonetheless, the extent of co-authorship by the programs on publications has decreased with respect to junior scientists: post-doctoral fellows from 25% to 14%, graduate students from 40% to 17%, and undergraduate students from 15% to 4%. Some explanation for this would have been welcome in the Annual Report.

Noteworthy Achievements & Suggestions for the Future

The publication record of CASEB continues to be superior with regard to the quantity of ISI publications and their scientific impact. Such scholarship is the *sine qua non* of scientific accomplishment. Moreover, CASEB has attained an appropriate balance of intra- and inter-programmatic collaboration, as evidenced by co-authorship on publications. All programs publish significantly with other programs, with the extent of such interactions ranging from 21% in Program 1, to 71% and 100% in Programs 4 and 8, respectively. This signals that the programs are effectively integrated with regard to scientific discovery.

CASEB deserves many accolades for its success in advancing issues of diversity in both its graduate student and post-doctoral fellow populations. For both groups, the numbers of females and males are essentially equal. Based on this success and as the Center continues to mature in the coming years, CASEB is strongly encouraged to recruit one or more female scientists into leadership roles within its focal programs.

CASEB deserves recognition for providing doctoral students with exposure to multiple scientific perspectives via participation in research activities in two or more research programs. Indeed, almost half of the PhD students are trained in more than one program (22% in two programs, 20% in three programs, and 2% in one program). This is an important milestone of success for the Center.

Given the size of the post-doctoral (19 individuals) population, it was surprising to see that these fellows contributed to only 26 publications (1.4 publications per fellow) in 2010. The leadership in CASEB should strongly encourage and support additional scholarship activities by post-doctoral fellows, who should be publishing 2-3 articles per year, on average, especially after the first 12 months in the program. CASEB should identify any barriers to post-doctoral publication and investigate ways in which they can be overcome or minimized.

Graduate students (45 doctoral and 12 masters students) contributed to 32 publications (0.56 publication per student [0.71 publications per student if only doctoral students are included in the basis]) in 2010. This is on par with per capita productivity in 2009. Such scholarship is good by

good by not stellar. The leadership in CASEB should investigate ways to reduce barriers to graduate student productivity and stimulate the culture of discovery in its students.

The functionality of the International Advisory Board remains marginal. As recommended in the past, CASEB should explore ways to revitalize such interactions. Perhaps quarterly or semi-annual videoconferences with the entire Board might focus on subsets of issues in a productive way in lieu of a "physical" meeting of the Board, should that remain a persistent challenge to orchestrate. Alternatively, perhaps the size of the Board could be enlarged from 3 to 6 so that at least 3 or 4 scientists could be in physical attendance at annual meetings. The synergisms that arise from such ongoing person-to-person interactions can be substantial, especially in providing strategic direction and critical feedback, and in communicating the many successes and transformative nature of CASEB to the broader scientific community.

In the long term, development of the scientific infrastructure related to environmental sustainability -- a clearly articulated part of the vision and mission of CASEB -- requires the training of transdisciplinary scientists and full engagement with the **social science dimensions** of environmental processes. To provide guidance for sustainable development in Chile and the world, CASEB with support from FONDAF and other funding sources, must accelerate socioecological research and education. I continue to recommend with high priority, the allocation of new positions to this area.

Comparative Analysis of Programs

The overall assessment of CASEB is that the Center continues to be **excellent**. My evaluations of the seven current programs (1, 2, 3, 4, 6, 7 and 8) represent an attempt to distinguish among them based on qualitative and quantitative metrics, so as to assess the extent to which they individually contribute to the overall accomplishments of the Center. Because of time lags in processes associated with publication and graduate student recruitment, assessment of Program 8, which was newly constituted in 2008, remains a task for the future. Consequently, I will only evaluate Programs 1, 2, 3, 4, 6 and 7 in a comparative sense. Importantly, inter-program comparisons are difficult, as the distribution of resources and staffing is not the same for all programs. Consequently, that return on investment is hard to ascertain with confidence. I provide two windows for viewing programmatic accomplishment: unstandardized and standardized assessments.

No standardization for variation in support.--Without standardization for differences in support (e.g., hours in support of PI or Research Associates, hours of support for Post-Doctoral Fellows, or hours of support for Technicians), publication productivity in Program 1 is superior, in Programs 2, 6, and 7 is excellent, and in Programs 3 and 4 is very good. By unstandardized metrics, graduate student mentorship is superior in Program 6, excellent in Programs 1 and 2, and very good in Programs 3, 4 and 7.

Standardization for variation in support.--When metrics are standardized for total hours of support in programs allocated to PIs, Research Associates, Post-doctoral Fellows, and Technicians, the ranking is somewhat different. Publication productivity in Programs 1 and 7 is superior, in Programs 2 and 4 is excellent, and in Programs 3 and 6 is very good. By standardized metrics, graduate student mentorship is superior in Program 2 and 6 and excellent in Programs 1, 3, 4, and 7.

Program 8 is functioning in well. Its accomplishments parallel the goals that were delineated when it was created via additional programmatic support by FONDAF. Its early successes primarily derive from collaborations with Programs 2 and 3 in terms of doctoral student training and publication. I would have expected other natural linkages to be developing with the other programs as well, given potential shared thematic foci. Thus, I encourage deeper integration of

the study of bioinvasions with the full spectrum of Programs in the Center.

In summary, CASEB has made enduring contributions to the infrastructure of environmental sciences in Chile and the world, while accelerating the rate of scientific discovery. Its accomplishments appear to be primarily limited by financial constraints rather than by a lack of leadership, vision, or entrepreneurship. Current environmental problems will likely become exacerbated in the future as a consequence of climate change, operating at local, regional, and global scales. Thus, it is with firm conviction that I applaud CASEB's vision and accomplishments, and encourage the Center to move forward in the second decade of the 21st Century with continued focus and dedication to solving some of the most pressing environmental issues to confront society.

ADDITIONAL INFORMATION REQUIRED FOR THE FULL EVALUATION OF THE ANNUAL REPORT:

If you require additional information or leave the evaluation pending, please indicate the documentation or explanations required to complete the evaluation. In case there are additional demands that the Center's director has to accomplish, these have to be explained so the director may take the necessary measures.

If you entirely reject the contents of the report (or significant portions of it) please indicate here the demands that should be posted to the Center' director.

RECOMMENDATIONS TO THE CENTER DIRECTOR:

(only if report is approved)

As in previous years, the depth and breadth of accomplishments by CASEB are enviable and a clear reflection of effective leadership. I have attempted to distinguish among your programs based on excellence in graduate education and scholarship, but all are doing very well. In short, CASEB continues to be a leader in graduate education and scientific discovery regarding environmental issues in Chile and the World.