



Observaciones:	ESTADO FINAL RESOLUCION DEL CONSEJO	FECHA	1. APROBADO 2. PENDIENTE 3. RECHAZADO 4. A FISCALIA	

This is only for internal use of FONDAP

#### EVALUATION REPORT CENTERS FOR ADVANCED RESEARCH

#### I. PROJECT INFORMATION

CENTER'S NAME Center for Advanced Studies in Ecology and Biodiversity

DIRECTOR Fabian M. Jaksic

<b>II. EVALUATION PANEL</b>			
NAME	ORGANIZATION/ INSTITUTION	E-MAIL	SIGNATURE
Sandy J. Andelman	Conservation International	s.andelman@conservat ion.org	Jundy Junde Quan

### ${\bf III.\ PROGRAMS\ EVALUATION}$ (please fill up as many forms as programs exist within the Center)

**PROGRAM'S NAME** The individual basis of biodiversity: patterns, processes and mechanisms in time and space

#### PRINCIPAL INVESTIGATOR Francisco Bozinovic

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

# **PROGRAM'S NAME** Biodiversity functioning and functioning of animal assemblages in terrestrial ecosystems of Chile: the population and community approach **PRINCIPAL INVESTIGATOR** Mauricio Lima

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

\* If there had been none, please disregard this question

**PROGRAM'S NAME** Integrating the functions of biodiversity from genes to ecosystems: experimenting and modeling approaches in Chilean semiarid and temperate ecosystems

#### PRINCIPAL INVESTIGATOR Juan Armesto

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

PROGRAM'S NAME Conservation and biocon	nplexity				
PRINCIPAL INVESTIGATOR Pablo Marquet					
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	Х				
Quantity of reached outcomes related to proposal objectives and goals	Х				
Quality of reached outcomes related to proposal objectives and goals	Х				
Degree of integration with other ongoing programs of the Center	Х				
Diffusion of the results	Х				

## **PROGRAM'S NAME** Marine populations: larval supply, recruitment and the effect of climatic factors

### PRINCIPAL INVESTIGATOR Patricio Ojeda

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

**PROGRAM'S NAME** Maintenance of diversity, benthic-pelagic coupling and human dimensions of coastal ecosystems

#### PRINCIPAL INVESTIGATOR Sergio Navarete

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

## **PROGRAM'S NAME** Changes in biodiversity, structure and function of coastal marine communities associated with anthropogenic disruptions

#### PRINCIPAL INVESTIGATOR Juan Correa

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	Х			
Quantity of reached outcomes related to proposal objectives and goals	Х			
Quality of reached outcomes related to proposal objectives and goals	Х			
Degree of integration with other ongoing programs of the Center		Х		
Diffusion of the results	Х			

#### **IV. CENTER EVALUATION**

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

RECOMMENDATIONS (see following concepts)				
APPROVE	APPROVAL WITH ADDITIONAL SUGGESTIONS	INFO. PENDING	REJECT FONDECYT USE	
	14.3.08		- may fude Quan	
	E	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:**

#### Approve

CASEB continues to provide an important scientific resource for Chile and for ecological and biodiversity sciences globally. In general, the PIs and Co-PIs are productive and the quantity and quality of scientific output remains high, and the quantity and quality of graduate students being trained also remains high. CASEB continues to enable cross-cutting research and is unique in the level and opportunities for cross-cutting graduate training.

Of particular note, is that the University has now fulfilled, and exceeded its commitment in terms of new space and facilities for the CASEB, and this should enhance the productivity and quality of collaborations among CASEB scientists in the coming years. The hiring of the five new technicians is noteworthy, and the overall increase in the number and caliber of new researchers (11) associated with the CASEB is also a very positive indicator.

The emergent cross-cutting programs continue to be some of the most exciting and important research areas for the CASEB. Programs 1, 2, 3, and 4 deserve recognition for exceeding the Center's expectations in terms of participation in cross-cutting initiatives. Thirty-three to fifty percent of the papers produced by these programs result from cross-cutting research activities. These cross-cutting programs represent one of the main results of FONDAP investment in this center, and advance ecological and biodiversity research both locally and globally beyond what researchers were doing before the Center was established.

It appears that the title of Program 4 has changed from "Biodiversity conservation in marine and terrestrial ecosystems of Chile" to "Conservation and biocomplexity." Is there a corresponding change in the research direction of this program, or is this simply a revision of the title?

### **RECOMMENDATIONS TO THE CENTER DIRECTOR:** (only if report is approved))

#### **1.5 Research Program**

The Director is to be commended for taking action (as a result of a previous review) to downsize the least productive program. The strategic question of downsizing, vs. either terminating or reinvigorating the least productive program through infusion of new leadership or through strong promotion of collaboration should be carefully considered. There is a risk that downsizing will essentially lead to termination of the program from the point of view of productivity, or, if not down sized strategically, could result in a lack of clarity in research objectives. Based on the publications and participation in congresses, most of the activity of this group appears to be focused on the CASEB goal related to biodiversity functioning. However, the stated theme for this group relates to the role of climatic factors. It is not evident how this important component of the research is advancing. A related issue is, what is the minimum level of resources needed to maintain a productive program area? For example, it appears that Program 5 had only two students during 2007, both of whom completed their theses. There were no incoming students or postdocs listed for 2007. From the publications produced by Program 5, it is not clear whether this program has a strategic approach to accomplishing its goals and objectives, or to determining the future of this program. I urge the Center Director, in collaboration with the Council to strategically address these issues.

#### 1.6 Management

I commend the Director and the Center Faculty for their efforts to expand the crossprogram collaboration and integration activities. I encourage the Center Director to consider additional incentives from within existing resources that would further stimulate cross-cutting collaborations. The cross-cutting themes are among the most exciting parts of the Center's work and this is also the part of the Center's work that likely would not have happened without the FONDAP Program and support.

#### 6. International Advisory Board

The steps to implement official meetings of the IAB are positive. However, some more details about the ways that the IAB operates would be useful. What are the terms of service for Advisory Board members? Do they serve indefinitely, or do they have fixed terms? Are the terms renewable? Most important, what are the specific mechanisms by which the Advisory Board advises junior staff of CASEB on their research?





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#### EVALUATION REPORT CENTERS FOR ADVANCED RESEARCH

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

<b>II. EVALUATION PANEL</b>			
NAME	ORGANIZATION/ INSTITUTION	E-MAIL	SIGNATURE
Michael R. Willig	University of Connecticut	Michael.willig @uconn.edu	

#### PROGRAM'S NAME Program 1: Individual basis ... PRINCIPAL INVESTIGATOR F. 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			
Diffusion of the results	XXXX			

PROGRAM'S NAME							
Program 2: Biodiversity function							
PRINCIPAL INVESTIGATOR							
M. Lima							
ITEM	Total/	Partial/	Insufficient/	Internal			
	Good	Regular	Deficient	use			
Degree of adoption of suggestions from the last	XXXX						
report *							
Accomplishment of objectives and goals of the	XXXX	XXXX					
reported program							
Quantity of reached outcomes related to proposal		XXXX					
objectives and goals							
Quality of reached outcomes related to proposal	XXXX	XXXX					
objectives and goals							
Degree of integration with other ongoing programs of	XXXX						
the Center							
Diffusion of the results	XXXX	XXXX					

#### PROGRAM'S NAME Program 3: Integrating functions ... PRINCIPAL INVESTIGATOR J. 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				
Program 4: Conservation & Biocomplexity				
PRINCIPAL INVESTIGATOR				
P. 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			
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			

#### PROGRAM'S NAME Program 5: Marine populations ... PRINCIPAL INVESTIGATOR P. Ojeda

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 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		

PROGRAM'S NAME				
Program 6: Maintenance of				
PRINCIPAL INVESTIGATOR				
S. Navarete				
ITEM	Total/	Partial/	Insufficient/	Internal
	Good	Regular	Deficient	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			
Degree of integration with other ongoing programs of the Center		XXXX		
Diffusion of the results	XXXX			

\* If there had been none, please disregard this question

#### PROGRAM'S NAME Program 7: Changes in biodiversity ... PRINCIPAL INVESTIGATOR J. 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		

\* If there had been none, please disregard this question

### **IV. CENTER EVALUATION**

ITEM	Total/ Good	Partial/ Regular	Insufficient/ Deficient	Uso Interno
Degree of adoption of suggestions from the last report *	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	XXXX		
Creation and reinforcement of international networks		XXXX		
Outreach	XXXX	XXXX		
Diffusion of results	XXXX			
Establishment and tasks of the Advisory Committee		XXXX		

	RECOMMENDATION	S (see following	concepts)	
XXX	XXX			
APPROVE	APPROVAL WITH ADDITIONAL INFO SUGGESTIONS	. PENDING	REJECT FONDECYT U	JSE
	7	III 20 <b>0</b> 8	Michael R. Willig	
	Eval	uation Date	Signature reviewer	

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#### **EVALUATION COMMENTS:**

#### **General Assessment**

The vision, mission, and goals of CASEB are well designed and integrated from a conceptual perspective to advance basic and applied understanding of biodiversity and ecosystem services, thereby enhancing sustainable management and stewardship of Chile's "diverse natural heritage". Moreover, the assembled faculty members and post-doctoral fellows in the Center are well qualified to engage in this activity, and to lead in the education and training of scientists who will be fully capable of addressing what are arguably the most pressing challenges facing human society in the 21<sup>st</sup> Century. Indeed, the training of doctoral students is a stellar accomplishment of CASEB, as is the training of post-doctoral fellows from around the world. The overall productivity of the Center is quite high from the perspective of scholarship, grantsmanship, and graduate education – using both quantitative and qualitative measures. In addition, the leadership of the Center has responded in a **<u>comprehensive</u>** fashion to the recommendations of the previous program external review panel by undertaking a number of major activities: (1) incorporating two social scientists into CASEB programs; (2) enhancing synergism via cross-program seminars and workshops; (3) involving an amplified Technical Council in administrative decisions regarding the Center (resulting in more shared governance); and (4) strengthening cross-cutting programs by increasing "joint appoints", by obtaining augmented funding for the Bioinvasions CCT, and by developing a CCT on biocomplexity (I strongly support this CCT and consider Dr. Marquet well qualified to lead it). I also applaud the successful efforts by CASEB to enhance vertical and horizontal mobility of participants in the various research programs, and to attract new associates to research programs from PUC and beyond. Taken together, these actions speak highly of the responsiveness of the group to the previous panel's review and point toward a renewed dedication to significantly deepening and broadening the scientific understanding of patterns and processes related to biodiversity, ecosystem services, and environmental sustainability. Without a doubt, CASEB is a world-class institution that is well recognized for its considerable strengths and productivity. It is arguably the best such center in Latin America and among the very best in world, especially given its size and resources. Without exception it is clear that research and educational activities of CASEB meet or exceed expectations, especially given constraints of numbers of faculty members who can be marshaled to assist the Center in attaining its goals. It is clear that increased financial resources likely are needed if FONDAP wishes to increase productivity with respect to either quantitative or qualitative indicators of success. In the sections that follow, I identify a number of suggestions for the leadership of CASEB to consider in the future. These suggestions do not represent significant obstacles, but are offered as ideas to potentially fine-tune performance and increase efficiency of operations.

#### Outreach

From quantitative perspectives, it is also clear that CASEB engages in considerable outreach activities. It remains unclear if these outreach activities are successful, strategic, or effective from a qualitative perspective in translating science-based understanding into policy or management, or have been useful in providing the citizenry with appropriate knowledge and tools to make sustainable decisions in their every day lives. I would recommend more clearly aligning specific outreach activities to the particular focal areas represented by the Research Programs and Cross-Cutting Groups. Such integration of research, education, and outreach could be quite effective, leading to synergisms and broader integration of activities in a cost-effective manner. To the extent possible, it would be useful to identify strategic metrics or outcomes associated with "outreach activities" so that their efficacy could be evaluated in a consistent manner.

#### **International Collaborations**

International collaborations are strong, especially those with institutions France and South Africa. The status of the collaboration with the University of Connecticut should be resolved in a manner that is mutually beneficial to CASEB and UConn, or should be abandoned as a failed experiment. The developing collaborations with Australia (a southern continent), as well as with Columbia University and the Santa Fe Institute in the US, signal a revitalized interest in leveraging strengths and biogeographic contexts to understand biodiversity. Nonetheless, the strategic or technical rationales for seeking associations with particular institutions abroad are not well articulated, thus the expected benefits from such associations for the various research programs and CCTs of CASEB would enhance the likelihood of success for the association, and provide metrics against which to judge its success.

#### **International Advisory Board**

The reconfiguration of the International Advisory Board with three new members and with as set of scheduled meetings in 2008 and 2009 are a positive steps forward. Inclusion of scientists who are international collaborators (CIB-SA, CNRS-France, and Santa Fe Institute-US) with CASEB enhances the likelihood of strong and enduring interactions. At the same time, the depth of collaboration may result in views characterized by conflicts of interests. CASEB should consider adding a number of scientists to the IAB who are not current collaborators, so as to maximize the diversity and independence of advice obtained from board members.

#### **Formation of Human Resources**

CASEB deserves significant accolades for its great success in educating and training PhD students and Postdoctoral fellows. The number of both is quite high given the size of the faculty. Moreover, 70% of

the doctoral students are assigned to 2 or more research lines. I would guess that somewhere between 50% and 70% is a reasonable target, so this is quite an accomplishment. However, it would be appropriate for a number of post-doctoral fellows to also have "split appointments" between research programs, as none are now assigned to 2 or more lines.

#### Staffing

CASEB has hired and retained an excellent team of research scientists (PIs), who have been quite productive as evinced by publications, presentations, and the training of graduate students and postdoctoral fellows. An assessment of the value of appointing Research Associates for very few hours (i.e., ~12 have less than 8 hours [9 have 4 hours or less]) should be undertaken and contrasted with re-investment in postdoctoral fellows or doctoral students.

#### **Procedural Note**

The overall evaluation of CASEB is that the Center is clearly outstanding. My evaluation of the seven programs within it represents an attempt to distinguish among them based on quality and quantity, so as to assess the extent to which they individually contribute to the overall outstanding accomplishments of the Center. This is a difficult task as the distribution of resources to the programs is not equal, and at some level, expectations of productivity for each program should be weighted by the Center's investment in the program. I have attempted to do this in my evaluation, although this is not an exact science as I only had staffing data as an estimate of investment in program. In general, three programs are stellar (Programs 1, 4, and 6), three programs are very good (Programs 2, 3, 7), and one program is adequate (Program 5).