

## Deliverable 4.5

**ECOMANAGE Project  
Conclusion of the Final Meetings with  
stakeholders – All sites**

ecomanager  
INTEGRATED ECOLOGICAL COASTAL  
ZONE MANAGEMENT SYSTEM



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# 1 Introduction

One of the tasks of the ECOMANAGE Project was to develop a close working relationship with local stakeholders in order to ensure that results from our modeling efforts may be useful to the local community and to decision makers.

The main goal of the final meetings was to assess the interest of key stakeholders on ECOMANAGES's development, their potential contribution in terms of data and information and the effective use of the ECOMANAGE legacy for further decisions on the development of the estuaries considered

The project aimed to establish cooperation with all stakeholders in order to understand and manage those areas. Using an assessment framework based on Driving forces, Pressures, States, Impacts and Responses (DPSIR), a tight connection was established between all the actors in the coastal zone (stakeholders) and led us to specific answers to local problems with generic methodologies.



## 2 Legacy of the project in the three different sites

### 2.1 Santos - São Vicente Estuary

Santos Estuary, in Brazil, is a highly changed ecosystem, after 500 years of urban, industrial and port use (it's the biggest port in Latin America). It has extensive areas of mangrove, partially degraded. Nevertheless, there are still some well preserved areas and the region is an important tourism area for the population of São Paulo. It is located at latitude of about 24° S. Santos is a major port and tourism area, located downstream from Sao Paulo (a city of 15 million people) and Cubatao, major industrial area. The Santos Estuary used to receive raw sewage from Sao Paulo and industrial and hydroelectric powerplant discharges from Cubatão. High levels of oxygen-demanding substances, phenols, metals (e. g., copper and zinc), and pesticides have been detected in the water, and metals and pesticides have been found in sediments.

A lot of research has been done in the past in this estuarine area, some of it by teams participating in this project, but all dealing with partial aspects of the ecosystem. An integrated approach is much needed to support local definition of sustainable development strategies, based on the data already available. Some decisions concerning port development and restoration of mangrove areas have to be taken by local stakeholders of the system. Stakeholders have shown their interest towards the project including local government, university and educational system, industrial and Harbour consortiums and NGO's (environmental protection).

The main aspects considered in the final meeting were the future scenarios projections for the year 2015 for new house neighborhoods predicted and the consequent sewage discharged in the estuary.

### 2.2 Santos-SãoVicente Stakeholder's perception of ecosystem services

The analysis of the perception of ecosystem services by stakeholders was done through a series of meeting conducted during 2007 for building the DSS. The ecosystem services of the Santos region were preliminary showed to stakeholders by presenting them biological and ecological results of mangrove, primary production, and modeling future scenarios where the presence of swamp ecosystem could avoid damages to the estuary, based also on literature review and local documents simulations which had been done.

Only the most relevant results, as they relate to stakeholders, were shown during the final meeting, but there still exist a lot of modeling simulations, which could be done such as those for oil spill and transport of sediment, for instance.

In that sense it was easy to convince stakeholders that the correct management of the ecosystem is always a more profitable way of doing a development for an specific region, once ecosystems do, in fact a lot of services to human beings and Ecomanage helped people to see these benefits.

## 2.3 Bahía Blanca Estuary – Argentina

We focused on present the results of the project to the main stakeholders of the Bahía Blanca ecosystem. Then, we invited the same stakeholders that came at the begging of the project. They are related to tourism, fisheries, industry (petrochemical plant, fertilizer plant, etc.), harbours and from the local government. We had several meetings with the following stakeholders:

Name	Institution
Prefectura Naval Argentina	(Argentine Coast Guard)
Rolando Balsamillo	Oiltanking (Industrial Company)
Nicolas Boot	Satecna Costa Afuera S.A. (Industrial Tug Company)
Aloma Sartor	Honorable Consejo Deliberante (Government)
Jorge Rey Saravia	Comité Téc. Ejecutivo, Municipalidad de Bahía Blanca G)
Marcelo Pereira	Comité Téc. Ejecutivo, Municipalidad de Bahía Blanca(G)
Victoria Massola	Reserva Natural Blanca (ONG)
José Vitale	Cia Pesquera Roucomar S.R.L. (Fisheries Industry)
Jorge Scoccia	Consorcio de Gestión del Puerto de Bahía Blanca (Bahía Blanca Management Ports Consortium, Harbour Services)

The main achievements about the Stakeholder-ECOMANAGE interaction results are presented below.

1) **Petroleum Reservoir Industry in Puerto Rosales:** Personnel from Oiltanking (Industrial Company) worked with Lic. Jorge Pierini with the MOHID model about possible accidental petroleum spills in the estuary.

2) **Fisheries:** José Vitale and Leonardo Glarfo from the Compañía Pesquera Roucomar S.R.L. (Fisheries Industry) visited IADO and they gave us historical information about fisheries in the Bahía Blanca estuary from 1982 up to the present. The results not only were presented to the stakeholders, but they were published in the following Journal and in a research meeting.

- Cervellini, P. M., Piccolo, M. C. y Perillo, G. M. E., 2007. Variación anual de la pesca del langostino y camarón en el estuario de Bahía Blanca. *GEOACTA*, 32, 111-118 (ISSN 0326-7237)



- Piccolo, M. C., Conde, A. A., Pizarro, N., 2008. Análisis de las capturas de la flota costera en el puerto de Bahía Blanca. Período 1992-2007. Actas de las V Jornadas Interdisciplinarias Del Sudoeste Bonaerense, 20 Al 22 de Agosto. In press.

3) ***Bahía Blanca Government:*** The President of the Environmental Commission of the Bahía Blanca City Hall, Ing. Aloma Sartor, invited the ECOMANAGE group to participate in the meeting held in the Honorable Consejo Deliberante of Bahía Blanca (Government) to discuss the site of the future sewage of the city. Through the MOHID model, we presented a possible pollution problem in the Maldonado Resort site of the region, where the urban discharge plant is being constructed by the government of the city. Water from the plume of the urban discharge will go directly to the Maldonado, where the pools are filled with the estuarine waters. We already published a paper on the subject :

María Cintia Piccolo, Nora Pizarro, Augusto Conde, Mónica Baldini, María Amelia Cubitto y Nedda Chiarello, 2007. El balneario Maldonado para uso recreativo. *GEOACTA*, 32, 139-144. (ISSN 0326-7237)

**At present scientists from IADO participate as members of the Environmental Commission of the Bahía Blanca City Hall. We actively participate and give our advice in environmental issues related to the estuary in their monthly meetings.**

#### 4) *Bahía Blanca Management Ports Consortium.*

An agreement was signed on January 2008 between IADO (CONICET-UNS) and the Bahía Blanca Management Ports Consortium. The purpose of the agreement is to help the Management Ports Consortium to preserve the Bahía Blanca ecosystem and to advise in issues directly related to circulation and estuary dynamics (ie., dredging)

## 2.4 Puerto Aysén - Chile

At the end of the year 2006 we had the largest meeting with Chilean stakeholders of the ECOManage project during the 4<sup>th</sup> International meeting of the ECOMANAGE project. In that occasion the project hosted an International conference on Watershed Integrated Management. The conference gathered both governmental and private stakeholders and it was rather timely since Chile was at that time discussing the implementation of watershed management as a governmental policy. During the meeting we distributed the bilingual book entitled: “Toward the Integrated ecological management of coastal zones in Chile” (<http://ecosistemas.uchile.cl/ecomanage/documentos/ebooks/>). Afterwards, during the year 2007, we sent the printed book to all Chilean stakeholders receiving good comments about its use as a guide for Aysén environmental analysis. Recently, the final ECOManage book (Perspectives on Integrated Coastal Zone Management in South



America) was uploaded into our Internet site to make it available to Chilean stakeholders.

Beyond those meetings and discussions with all stakeholders, the ECOManage project in Chile was successfully accepted by the Chilean government (one of the key stakeholders in Aysén) as a key partner for the Aysén area. Chilean ECOManage scientists were invited to become members of the emergency team to deal with the Aysén Tsunami during the year 2007 (see final ECOManage book). They have also been invited to develop new projects using ECOManage's techniques and concepts. At least one new project was started during the period 2007/2008 (Analysis of the río Baker Watershed) and another one has already been requested for the period 2008/2009 (Analysis of the ecosystem services of the río Aysén watershed).

Finally, the participative modelling methodology implemented during the ECOManage project was so well received in Chile that ECOManage scientists were awarded a governmental contract to generate conceptual models in one of the most controversial Chilean environmental problems: the migration and death of black-necked swans in southern Chile (<http://ecosistemas.uchile.cl/cruces/>).

## 3 Potential Impacts of ECOMANAGE project

### 3.1 Problems addressed and how ECOMANAGE helped to solve them in Santos Estuary

The project aims at establishing cooperation with all stakeholders of the studied coastal zones in order to understand and manage those areas. Using an assessment framework based on Driving forces, Pressures, States, Impacts and Responses (DPSIR), enables a tight connection between all the actors in the coastal zone (stakeholders) and leads to specific answers to local problems with generic methodologies.

The analysis of diagnostics and development plans, for the sites that will be studied, will define the present situation of those coastal ecosystems, whose stakeholders are involved in them and what their future development scenarios are.

For the Brazilian site, there was a good understanding by the partners of what were the problems to be solved; who was responsible for them and what kind of responses had been tried in the past. The totally new conceptual framework brought by ECOMANAGE improved the better understanding of Santos coastal zone.

Outcomes of the project were of significant interest to both scientific and water resources management communities, improving allocation of public and private funding for water resources, as we follow last year with the project from SABESP “*Programa onda limpa*” on sanitation of the estuary by building new sewage treatment plants; and improvement of land use as we follow by the Project of CDHU of verticalization of new houses at Bolsão IX in Cubatão replacing the former subnormal houses at the edge of the estuary.

Better understanding and forecasting of the effects of land use options, using improved models such as MOHID provided a new degree of refinement in the strategic planning of costly water infrastructure investments, and play a key role in water resources supply and demand management.

A better understanding of the processes was a major requirement for scientific progress. Despite of non available biological data had to be researched during data field campaigns, the inclusion of this knowledge into models simplified the multidisciplinary studies, allowing one discipline to use results of other disciplines without having to go into all the details.

Biologists could access physical results using a model where physics had been previously validated in collaboration with physicists once the productivity was improved by using integrated models.



Project's outcomes helped refine environmental and socio-economic impacts and improve the Responses although it did not replace stakeholders own analyses of development scenarios and its perception more logical of it instead of in only a political point of view.

### 3.2 Innovations presented on Santos Estuary

The project presented some valuable innovation aspects:

- Once in none of the coastal areas of the participating South American countries, a similar PHES system and SDSS had been applied before, ECOMANAGE was a Project of great relevance since it's a new methodology for South America as hole, which was very well received, both by the scientific local researchers and by the stakeholders.
- The Brazilian estuary system studied required a special implementation for the DSS, once there're many problems to be solved, due to highly increasing degree of human occupation. The decision of choosing housing and sewage as the scenarios to be discussed, in the first moment, (instead of the Port or the dredging problems for instance) was not only a lucky choice, but also a very prudent choice, once all the actors involved agreed with the idea of searching a sustainable development for the excess of population predicted for the area, to be occurring in the next 10 years.
- The application of such methodology incurred in gathering a very good group of sparse data, sometimes in almost loose reports and to put them in an available and easier way to be consulted (i.e. by SDSS webgis maps). So, it became much easier for decision makers to accept the project and to solve problems of future land use and land cover.

### 3.3 Socio-economic scenarios in Argentina

During the present period the work was concentrated in understanding the following scenarios: 1) fisheries are declining due to anthropogenic effects and 2) the urban pollution affects the water of the estuary and it cannot be used for recreation.

#### ***1) Fisheries***

During this period we worked on the study of the fishery evolution in the estuary. This subject is a major problem for the fishermen community of the Bahia Blanca Estuary. As it was described in previous reports, most of the stakeholders were concerned with the future fisheries. Their interest is to obtain some explanation about the possible causes of the decline of fish capture.



Presently the group is working in conjunction with the government of the Buenos Aires Province, Direction of Fisheries, for further analysis of the evolution of fish resources, both at the artisanal and commercial levels. The objective is to analyze the development of coastal fishing at the port of Bahia Blanca considering changes in the provincial fisheries legislation. We are studying the total catch of the fishing fleet using information supplied by the Ministry of Agriculture, Livestock, Fisheries and Food of Argentina. During the previous reported period we analyzed the 1982-1998 captures. Last year the study was completed adding the 1992 to 2007 information of fishing captures.

The fish resources declined significantly causing a change in provincial legislation. Catches showed significant inter-annual variations, with a maximum and minimum of 759.3 tons in 1992 and 134.2 tons in 2001. That is why in 2000 an emergency law (Fisheries No. 12481) was issued by the government to address the decline in catches. In addition various resolutions were generated and provisions were made to establish periods with a strict fishing prohibition by the province, extending the region authorized for artisanal fishing, selecting the type of vessel allowed for fishing in the area with the ultimate goal of protecting some species typical of the region. There are natural cycles of decline of fish resources. The results of the study were handed over to the main stakeholders. Conferences were held at IADO explaining the results of investigations. We agree to continuous work on the subject to resolve or suggest solution to future problems.

## **2) *Bahia Blanca Estuary recreational area***

The objective of this theme is to study the water of the Maldonado recreational pools considering that they are filled at high tide by the water of the estuary. It began as a primary objective of ECOMANAGE. project, now it is considered a long term project to be continue beyond it. We had several meetings with the authorities of the Social and Human Development Secretary of the Municipal Government. The main concern was to have healthy waters free of pollution. They gave us information from their archives and from current measurements. We analyzed the number of people that attend the resort area during the summer and the chemical measurements that they performed every summer season.

The results were published in scientific journals, but also we are preparing a Technical Report to present at the Bahia Blanca Municipal Government. Two Licentiate thesis are being developed at the Universidad Nacional del Sur with data given by the Municipal Government. The interaction between IADO and the Municipality is fluent.



### 3.4 Exploitation and dissemination of ECOMANAGE

The ECOMANAGE Book “*Perspectives on integrated coastal zone management*” was very useful not only for the prompt availability of data required by the stakeholders but also to join all the experiences interchanged among the different country partners, during the 3 and a half years period of time. Digital Copies of the book were distributed recorded in a pen drive designed for the event. An internet website was organized by the general coordination in Portugal describing the project and for dissemination of most important achievements including data and technical reports. Besides, a site was also developed at UNISANTA in Portuguese language in order to provide easier access of local stakeholders of Santos. Another site has been developed in Chile at Universidad de Chile (<http://ecosistemas.uchile.cl>)



## 4 Conclusions

In summary, our results indicate that stakeholders in South America had different degrees of participation. We could conclude that in all three sites the local government power will continuously induce regional increase of the estuary use and in different intensity rates. Outcomes of the project were of significant interest to both scientific and water resources management communities, improving allocation of public and private funding for water resources and improvement of land use. ECOMANAGE legacy was also a better understanding and forecasting of the effects of land use options, using improved models, which provide a new degree of refinement in the strategic planning of costly water infrastructure investments, and play a key role in water resources supply and demand management.

Results show that current conditions of some ecosystems could be dangerously disturbed in a short future and that all three estuarine systems could develop serious environmental problems unless a strong, participative, environment management is started today for the local population and local governments. For example, in the case of Santos, our analysis has shown that the key stakeholder, in relation to sewage at Santos was SABESP – CDHU and CETESB. The main reason for this has to do with the future projects of sanitation proposed for the region. Thus, Santos- São Vicente region is preparing the environment for a better future. However, this could only become a better environmental reality not earlier than the year 2015. At the present moment, simulations till 2010 based upon the new investments proposed on sewage treatment won't change very much the polluted scenario of Santos estuary.

ECOMANAGE data, methods and concepts can be used by local actors and stakeholders to improve local manager's knowledge on integrated management and stakeholder's participation. The willingness of data sharing with the local government makes this a promising alternative to influence the way in which ecosystems will be managed since final meeting. In this regard, ECOMANAGE has help advancing concepts such as local governance by showing that both private and public local stakeholders are willing to work together if scientific work and results are share early in the decision process.



## 5 References

Neves R.; Baretta, J ; Mateus M. (Edts). **Perspective on Integrated Coastal Zone Management in South America**. IST Press. Lisbon. 2008

## 6 Annex

### ANEX I

#### Final Meeting - Santos and Sao Paulo Brazil, 13 to 15<sup>th</sup> May 2008.

<b>Dates</b>	<p>May 13<sup>th</sup> - Project Partners Final Meeting (Santos)          May 14<sup>th</sup> – Meeting with Stakeholders (Santos)          May 15<sup>th</sup> – Steering Committee Final Meeting (São Paulo)          Meeting with Researchers and Stakeholders (São Paulo)</p>
<b>City</b>	Santos (May 13 <sup>th</sup> and 14 <sup>th</sup> ) and São Paulo (May 15 <sup>th</sup> )
<b>Local organizer</b>	UNISANTA, Fabio Giordano & IOUSP, Ceci Sousa
<b>Venues</b>	<p><b>Santos:</b> Universidade Santa Cecília – Auditório Bloco E - 4º andar  <b>São Paulo:</b> Sala de reuniões Instituto Oceanográfico -USP (Cidade Universitária-          USP Bairro do Butantã)</p>
<b>Objectives of the Meeting</b>	<p>This final meeting started with an evaluation by each partner of the EcoManage legacy for its institution and/or for its country. This will be the main goal of the first day, along with solving any other business that is required for the closure of the project.</p> <p>In the meetings with stakeholders the project results explained how the partnership was successful in achieving the main goals of the project. Also, this is an appropriate forum to propose future developments in the area of Integrated Coastal Management, particularly in Santos.</p>
<b>Participants</b>	Partners and stakeholders.



## ANEX II

### Meeting Program.

<b>Meeting Program</b>	
<b>May 13<sup>th</sup></b>	
9:00 – 9:20	Welcome address: Ramiro Neves (IST) and Fabio Giordano (Unisanta)
	Presentation of each partner on the EcoManage legacy for its Institution
9:20 – 9:40	Unisanta
9:40 – 10:00	IOUSP
10:00 – 10:20	UNITS
10:20 – 10:40	IADO
<b>10:40 – 11:00</b>	<b>Coffee break</b>
11:00 – 11:20	UCHILE
11:20 – 11:40	CEA
11:40 – 12:00	LNEC
12:00 – 12:20	HIDROMOD
12:20 – 12:40	NOCTILUCA
12:40 – 13:00	IST
<b>13:00 – 14:00</b>	<b>Lunch</b>
	Workshops on final products of the Project
14:00 – 14:30	Presentation of the book
14:30 – 15:00	Presentation of the DSS
15:00 – 15:30	Presentation of the Metadatabase
<b>15:30 – 16:00</b>	<b>Coffee break</b>
16:00 – 17:30	Deliverables



<b>May 14<sup>th</sup></b>	
	<b>Presentations to Stakeholders</b>
9:00 – 9:30	Welcome address to Stakeholders: Dra Silvia Ângela Teixeira Penteadó (UNISANTA's Dean) and Prof. Ramiro Neves (EcoManage Coordinator) The EcoManage Legacy: Book, Metadatabase, DSS...
9:30 – 9:50	Results of EcoManage in Argentina (Dr. Jorge Marchovechio)
9:50 – 10:10	Results of EcoManage in Chile (Prof. Victor Marin)
<b>10:10 – 10:30</b>	<b>Coffee break</b>
10:30 – 12:30	Results of EcoManage in Brasil (Presentations coordinated by Dr. Fabio Giordano)
12:30 – 13:00	Open Discussion (Q&A)
<b>13:00 – 15:00</b>	<b>Official Lunch offered to partners and stakeholders that were actively involved with the development of the DSS</b>
<b>15:30 – 18:00</b>	Working meetings with specific stakeholders Optional field trip to the S. Vicente part of the Estuary Travel by bus to São Paulo to a Hotel near IOUSP
<b>May 15<sup>th</sup></b>	
<b>9:00 – 12:00</b>	<b>Steering Committee (at the Hotel Quality Faria Lima)</b>
<b>12:00 – 14:00</b>	<b>Lunch</b>
	<b>Presentation of the project to researchers from USP and to stakeholders</b>
14:00 – 14:20	Welcome address to Stakeholders: Dra Ana Maria Vanin (Director of IOUSP) and Prof. Ramiro Neves (EcoManage Coordinator) The EcoManage Legacy: Book, Metadatabase, DSS...
14:20 – 14:40	Results of EcoManage in Argentina (Dr. Jorge Marchovechio)
14:40 – 15:00	Results of EcoManage in Chile (Prof. Victor Marin)
15:00 – 17:00	Results of EcoManage in Brasil (Presentations coordinated by Dra. Eduinetty Ceci Pereira Moreira de Sousa)
17:00 – 17:30	Open Discussion (Q&A)
<b>17:30</b>	<b>Closing cocktail offered by IOUSP</b>



## ANEX III

15ª Edição com 2c

Quinta-feira 15  
maio de 2008

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ATRIBUNA

Local | A-3

# Poluição

## Estudo revela impacto nos estuários

**Da redação**

A poluição e a ausência de tratamento de esgoto em áreas com subornadas são fatores que contribuem para a ocorrência de impactos negativos nos estuários de Santos e São Vicente.

O assunto foi tema da apresentação do programa EcoManager, um projeto de gerenciamento costeiro ecológico desenvolvido pela Universidade de Santa Cecília (Unisantia) em parceria com instituições e entidades nacionais e internacionais, que além de apontar os principais problemas, também servirá como instrumento para monitorar futuras pesquisas e empreendimentos na Região Metropolitana da Baixada Santista.

Durante três anos e meio, pesquisadores e autoridades da Itália, Portugal, Holanda,

Chile, Argentina e Brasil integraram o projeto com o apoio da União Europeia.

Segundo Ramiro Neves, do Instituto Técnico de Portugal, a proposta e de mostrar que os estudos ligados ao meio ambiente devem ser encarados como investimento e não como despesas. "Que possam proporcionar soluções mais baratas e eficazes para o futuro".

Coordenador do Programa EcoManager, Fabio Giordano destacou que a principal conclusão do estudo aponta para a necessidade de se investir cada vez mais em saneamento básico.

"A região mais crítica no mapeamento se situa em São Vicente, nas imediações do Largo da Pompeia, que tem uma alta concentração de poluição vivendo em subor-

radias (favelas). Isso revela que é preciso consolidar essa população, seja nesse local, com estrutura adequada, seja transferindo esse público para outros locais, em projetos de moradia para famílias de baixa renda".

O chefe do escritório regional da Companhia de Desenvolvimento Habitacional Urbano (CDHU), José Marcelo Ferreira Marques, disse que o estudo do EcoManager será útil no futuro para planejar os novos projetos na região.

"Acho que isso poderá complementar as ações desenvolvidas pelo Estado".

A reitora da Unisantia, Silvia Angela Teixeira Pentecost, destaca que o momento é oportuno para discutir temas ambientais. "Esta iniciativa mostrará as realidades biológicas de diferentes locais que

**Destaque**

### Derramamento de óleo

As pesquisas alimentaram um sistema de modelos, tanto para a Baía Hidrográfica quanto para as águas estuarinas. Estes modelos permitem aplicar, em computador, os dados científicos coletados em campo, simulando possíveis consequências de lançamento de efluentes, modificações de linha de costa, implantação de marinas, aterros, derramamento de óleo e outras intervenções do homem.

trabalham para o gerenciamento de forma sistematizada e servirá para a tomada de decisões mais consistentes".

A presidente da Unisantia,

Lúcia Maria Teixeira Furlani, informa que a instituição trabalha há 14 anos com pesquisas na área em parceria com o Instituto de Portugal. "Sem dúvida esses dados irão mapear uma série de desenvolvimentos e pesquisas e trarão um diagnóstico atual e preciso para a nossa região".



Giordano: estudo aponta para a necessidade de se investir em saneamento



## ANEX IV

### Internet newsletter

#### [Geral](#) > [Editorial](#)

In: [http://atribunadigital.globo.com/coluna\\_editorial.asp?opr=106](http://atribunadigital.globo.com/coluna_editorial.asp?opr=106)

Domingo, 18 de Maio de 2008, 12:46

#### **Poluição no estuário**

É da maior importância o estudo feito pelo programa EcoManage, que apontou alto teor de contaminação no estuário, e isto porque reforça a luta em favor da implantação de projetos de saneamento básico para se enfrentar o problema. O trabalho, realizado pela Unisanta em conjunto com entidades ambientalistas e acadêmicas — inclusive internacionais, tem como objetivo o gerenciamento costeiro fundado em princípios ecológicos. Sob esse prisma, o combate às fontes poluidoras adquire um nível de prioridade máxima.

A divulgação do levantamento vem em hora oportuna, quando o Governo do Estado, através da Sabesp, está executando grandes obras de saneamento no litoral. A sujeira no estuário não pode deixar de figurar entre as causas a serem removidas, sejam os despejos efetuados por navios, sejam as favelas sobre palafitas em Santos e São Vicente. Dotar de esgoto esses núcleos não será fácil, mas de alguma forma a tomada de providências precisa começar. E continuar, pelo futuro, sem cessar.

Indiscutivelmente, a iniciativa da Unisanta constitui uma valiosa contribuição ao empenho no sentido de reduzir os níveis de poluição em nosso ambiente marinho. Bom será que suas conclusões não se percam, mas ajudem a sensibilizar as autoridades para a adoção das medidas que a situação requer.



## ANEX V

### Internet newsletter

#### [Geral](#) > [Santos](#)

In: [http://atribunadigital.globo.com/bn\\_conteudo\\_cidades.asp?opr=103](http://atribunadigital.globo.com/bn_conteudo_cidades.asp?opr=103)

Quinta-Feira, 15 de Maio de 2008, 07:14

#### **Estudo revela impacto nos estuários**

Da Redação

A poluição e a ausência de tratamento de esgoto em áreas com submoradias são fatores que contribuem para a ocorrência de impactos negativos nos estuários de Santos e São Vicente.

O assunto foi tema da apresentação do programa EcoManage, um projeto de gerenciamento costeiro ecológico desenvolvido pela Universidade Santa Cecília (Unisantia) em parceria com instituições e entidades nacionais e internacionais, que além de apontar os principais problemas, também servirá como instrumento para nortear futuras pesquisas e empreendimentos na Região Metropolitana da Baixada Santista.

Durante três anos e meio, pesquisadores e autoridades da Itália, Portugal, Holanda, Chile, Argentina e Brasil integraram o projeto com o apoio da União Européia.

Segundo Ramiro Neves, do Instituto Técnico de Portugal, a proposta é de mostrar que os estudos ligados ao meio ambiente devem ser encarados como investimento e não como despesas. “Que possam proporcionar soluções mais baratas e eficazes para o futuro”.

Coordenador do Programa EcoManage, Fabio Giordano destacou que a principal conclusão do estudo aponta para a necessidade de se investir cada vez mais em saneamento básico.

“A região mais crítica no mapeamento se situa em São Vicente, nas imediações do Largo da Pompeba, que tem uma alta concentração de população vivendo em submoradias (favelas). Isso revela que é preciso consolidar essa população, seja nesse local, com estrutura adequada, seja transferindo esse público para outros locais, em projetos do moradia para famílias de baixa renda”.

O chefe do escritório regional da Companhia de Desenvolvimento Habitacional Urbano (CDHU), José Marcelo Ferreira Marques, disse que o estudo do EcoManage será útil no futuro para planejar os novos projetos na região. “Acho que isso poderá complementar as ações desenvolvidas pelo Estado”.

A reitora da Unisantia, Sílvia Ângela Teixeira Penteado, destaca que o momento é oportuno para discutir temas ambientais. “Esta iniciativa mostrará as realidades biológicas de diferentes locais que trabalham para o gerenciamento de forma sustentada e servirá para a tomada de decisões mais consistentes”.

A presidente da Unisantia, Lúcia Maria Teixeira Furlani, informa que a instituição trabalha há 14 anos com pesquisas na área em parceria com o instituto de Portugal. “Sem dúvida esses dados



irão mapear uma série de desenvolvimentos e pesquisas e traçarão um diagnóstico atual e preciso para a nossa região”.

### **Derramamento de óleo**

As pesquisas alimentaram um sistema de modelos, tanto para a Bacia Hidrográfica quanto para as águas estuarinas. Estes modelos permitem aplicar, em computador, os dados científicos coletados em campo, simulando possíveis consequências de lançamento de efluentes, modificações de linha de costa, implantação de marinas, aterros, derramamento de óleo e outras intervenções do homem.



## ANEX VI

**Open Channel TV Report of the ECOMANAGE Project, transmitted by the local TV on may 12<sup>th</sup>.**

TV TRIBUNA – Santos

<http://www.tvtribuna.com/videos/?video=15313>



## ANEX VII

### Final meeting with ECOMANAGE Santos' Stakeholders - UNISANTA - Santos, 14<sup>th</sup> May 2008

#### List of presence

**Nome**

ADRIANA VITA DE NORONHA PINTO  
Agnes Junqueira Crespo  
Alba Rodrigues  
Alberto Hossoda  
Alesandro Perreira  
alex garcia  
Alex Garcia  
Alexandra S. Grotta  
Aline de Jesus Lobo  
Alvaro Junior Perreira  
Ana Lucia M. Franco dos Santos  
Ana Patricia Arantes  
André Fabiano de Castro Vicente  
André Luiz Olmos dos Santos  
Andréa Guelheri Araújo  
ARISTIDES FARIA LOPES DOS SANTOS  
Arnaldo Izaque de Macedo Junior  
Avelino Ruivo Jr.  
Brenda Wanda Machado da Silva  
Bruno Lima  
Bruno Paes De Carli  
Camila Gomes Alves  
Carla Pereira Cottini  
Carlos Eizo  
Celso Garanhani  
Cibele Coelho Augusto  
Cintia Miyaji  
Clarissa Ramos Kawakami  
Claudemir Freitas Pereira  
Cristiane Evaristo A. do Nascimento  
Daniel Frias  
Dayene Cristina Rosa  
Deborah Ricciotti dos Anjos  
Denis Abessa  
Douglas J. Azevedo  
Edgar Dall'Acqua  
Edmar Fernando da Silva Jardim  
Elaine Cristina Inácio  
Elpídio Gualberto de Oliveira  
Eugenio Martins Júnior

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Ílio Carlos Pinto  
Ingrid Oberg  
Isabel França Peter  
Janaina Moraes  
Jauro Bello  
Joanna Paula Solamon  
Joaquim Matheus Santiago Coelho  
Jorge Telésforo Branco  
Joyce Marcondes  
Juliana Beltramin De Biasi  
Juliana dos Santos Guimarães  
Karla Soares  
Kate Cristina Pereira de Andrade  
Kelly Honoría de Sousa  
Kleber Vasconcelos Amedi  
Lafaiete Alarcon  
Laura Lucia Lopes Santos Silva  
Leandro Castilho Barros  
Leandro Kodama Kasamatsu  
Livia Huln Fenili  
Lorena Souza  
Lucio Fagundes  
Luis E. E. Zantut  
Luis Engelbrecht Zantut  
Luis Engelbrecht Zantut  
Luis Fabiano Joaquim de Oliveira  
Luis Renato Lia  
Luis Walter Orsatti  
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Marco Antonio Alonso Ferreira  
Marco Antonio Silva de Oliveira  
Marcus Neves Fernandes  
Maria Aparecida Campos Carneiro  
Maria Rosa Nisthi Yoshihai  
Maria Teresa da Silva Teixeira Pinto  
Mariana B. Massuti  
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