



# Colorado Delta Project News

Issue 1, July 2003

The Colorado Delta Project sets out to use the existing technology and knowledge in the new field of saltwater agriculture to establish a "worldfirst" biosaline agroforest under utilization of ocean water and desert land. It hopes to contribute to the economic and ecological restoration of the Colorado River Delta and other marginal drylands. In such places, biosaline agriculture has the potential to become a viable strategy for freshwater reduction, salinity and desertification management, and land reclamation. It addresses needs of poor farmers worldwide.

The Colorado Delta Project is being developed by Philipp Kauffmann, Jeannette Hoek, and Jose-Ramon Noriega.

## Shell Canada and Shell International partner

**London, Calgary.** In timely correspondence with *The Economist's* analysis of Shell Canada's Athabasca Oilsands Project, Shell Canada's General Manager Sustainable Development, Rob Seeley, confirmed his company's intent to work with Ocean Desert Enterprises (ODE) on the proposed four-year, 100-hectare Prototype Development Phase of the Colorado Delta Project. The Colorado Delta Project becomes one of Shell Canada's international projects under their strategy to offset carbon and contribute to sustainable development.



Ing. Joppe Cramwinckel, Shell International

Earlier, Shell International's Joppe Cramwinckel, had committed his company's involvement—for different reasons. While Shell Canada seeks cost-effective solutions to carbon sequestration, Cramwinckel in his earlier work in Oman and now as representative of Shell's Water Council, has first-hand experience with saline water. On many oil drilling sites, saline water is generated as

byproduct of the oil exploration process. Wasting such water in regions of extreme aridity is economically and politically unsustainable. The Colorado Delta Project aims at developing alternatives to bringing such water to productive use in desertified areas.

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## WWF Mexico supports Delta Project

**Mexico City.** WWF Mexico's new director and country representative Omar Vidal assured the Colorado Delta Project of his organization's support and collaboration. Based on his own extensive knowledge of the Gulf of California region and WWF's strategic priorities, Mr Vidal offered cooperation with regard to fundraising and project management.

A recent study by WWF Gulf of California Program and the Berkeley Public Policy team documents a shared

understanding among the stakeholders of subregion 27 that "salinity is a major concern in the Colorado River basin". The study comes as result of several workshops conducted among regional experts from various environmental institutions. The study concludes that there is no single solution. Water conservation as well as water re-use are among the short-term policy options discussed. The report can be downloaded at [ftp://200.52.182.69/GolfoCalifornia/GIWA27/Reporte/FinalReport\\_Sub-region27.pdf](ftp://200.52.182.69/GolfoCalifornia/GIWA27/Reporte/FinalReport_Sub-region27.pdf)



International Water Assessment of the Colorado River Delta, Mexico



## Project Plans get peer-reviewed

**Amsterdam.** During two and a half days at the Shell facilities here, a dozen international experts evaluated the project plans for the Colorado Delta Project. Strong emphasis was placed on technical questions, while socio-economic and stakeholder issues were discussed to a lesser degree. The group stated their trust in the technical feasibility of the project. They were confident that after 3 years sufficient data could be documented to decide

on a scale-up. The group felt assured by the economic realism of the underlying productivity assumptions and expressed confidence in the ongoing stakeholder commitment. They found that the Colorado Delta Project has potential to become a showcase for the triple p-approach. Proceedings and conclusions of this Peer Review can be obtained directly via ODE ([ode@imsa.nl](mailto:ode@imsa.nl)).



Participating experts at the Peer Review

*"There could be many benefits for migratory birds as a result of this project."*

*Ellen C. Murphy, U.S. Fish and Wildlife Service*

## Regional Stakeholders provide feedback

**Tucson.** Various stakeholders of the Colorado Delta Project have provided feedback on key elements of the project plan. In a recent exchange Steve Cornelius and Francisco Zamora of the Sonoran Institute and Prof. Edward Glenn of Arizona University jointly recommended three adaptations in the technical project design: Water for irrigation should ideally be sourced from groundwater. Final discharge water, because of its high salinity degree, should be directed towards the ocean. The economic design of the project could build on existing low-scale nature tourism as well as include aquaculture. Jennifer Pitt of Environmental Defense thinks that the project should more strongly emphasize native species and habitat creation. Assuming that it would work carefully with water sources to ensure that no existing environmental assets will be damaged, she believes that the project "will be doing a great service for the Colorado River delta ecosystems".

## SSM in Wall Street Journal



**New York.** In a recent article about the "Trendy Sprout (That) Thrives On Water From the Sea" the Wall Street Journal recognized SSM's Salicornia plantation as the world's first commercial food production to be grown entirely on seawater irrigated soil—all year round. The article confirms that Salicornia and other halophytes can play a crucial role in preserving the planet's precious freshwater supplies. As the Wall Street Journal describes irrigating a commercial crop with seawater has long been a Holy Grail of agro-futurists. SSM now propagates a variety of seawater-tolerant crops and plants and after three is shipping as much as three tons of Salicornia cuttings a week, mostly into overseas markets. Just some hundred miles from the Ensenada location, the Colorado Delta Project will be developed at the Ejido Luis Encinas Johnson. SSM's Founder and Director, Jose Ramon Noriega., will function as Technical Director of the project. Having been born in the region and being intimately familiar with the desert and the people of the region, it has long been Mr Noriega's dream to bring back life to the barren soil of the Lower Colorado Delta. In collaboration with other experts in the field of biosaline agriculture, such as Prof. Helmut Lieth, Dr. Faisal Taha, and Prof. Edward Glenn, Mr Noriega will implement an integrated agroforest, based on salt-tolerant grasses and tree species. Water will be re-used across several levels of the plantation, a design so far applied at several locations across the world.

## Partner Profile: Juan Carlos Barrera, Director General Pronatura Noroeste Mar de Cortez

**Ensenada.** Juan Carlos Barrera is one of the key nodes for nature conservation in the Gulf of California region. After years as Head of the Biosphere Reserve of the Upper Gulf and Program Leader of the WWF Gulf of California Program he has recently been announced as new Director General of Pronatura Noroeste Mar de Cortez. Pronatura, established in 1981, is one of the leading Mexican nature organizations, committed to the conservation of and education on biodiversity.

Mr Barrera has been an outspoken supporter of the plans for a biosaline restoration project in the lower Colorado River Delta. He believes that a saltwater agriculture project will turn barren into productive land and establish new

economic alternatives for the local communities. The establishment of such alternatives has long been on the agenda of various regional NGO's.

Mr Barrera thinks that the project proposal comes at a good moment, as the "Coalition for the Upper Gulf" is being established between a large number of organizations determined to advance the conservation plans in the Delta region and ready to collaborate with other initiatives under the same purpose. Says Barrera: "If we want to restore parts of the ancient delta, we need to consider seriously the use of brackish or marine water resources. That is the proposition of the Colorado Delta Project."



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OCEAN DESERT ENTERPRISES

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Ocean Desert Enterprises BV (ODE) was formed in 1997 by its mother company, the Institute for Environment and Systems Analysis (IMSA), to develop new system approaches to the restoration of saline dryland regions with the help of saltwater agriculture and forestry. It is ODE's ambition to expand the successful tradition of Dutch water- and agriculture engineering into the new field of saltwater applications. To this end, ODE operates in close co-operation with a range of private and public institutions. With its sister company Saline Seed Mexico S.A. (SSM), ODE runs a saline plantation in Ensenada, Mexico, where halophytic vegetables, grasses, and trees are tested and planted to deliver into international markets. Applied research is conducted with partners such as Plant Research International (PRI), Agrotechnological Research Institute (ATO) Wageningen, the Netherlands Institute of Ecology (NIOO), the OASE Foundation at University of Amsterdam, the International Institute for Biosaline Agriculture in Dubai, or Shell's Sustainable Development Group.