

Arauco & PIMEX Nueva Aldea: Environmental Research Supports Sustainable Development



When Celulosa Arauco y Constitución (Arauco) began the construction of its Nueva Aldea pulp mill plant, the Master Plan called for a pipeline to carry fully-treated effluent to the Pacific Ocean, rather than discharging it into a nearby river, where the relatively constant volume of water from the mill might, at times, overwhelm the seasonal flow of the waterway.

Sound environmental practice is one of the central tenets of Arauco's environment policy, and environmentally responsible operation of the pipeline was a primary concern of Arauco management. Recognizing that the possible impact of the pipeline on the marine ecosystem was also a concern shared by the local fishing communities whose traditional fishing grounds included areas close to the discharge site, roughly a mile offshore, Arauco conducted an exhaustive environmental impact study prior to the start of construction on the Nueva Aldea complex.

To ensure that concerns about the pipeline would be adequately addressed, Arauco, together with the Federation of Artisanal Fishers, the regional government, local fishers' unions, and the University of Concepción convened a multi-stakeholder forum called the Nueva Aldea Fishery Round Table. This forum has been working for three years, producing a very positive dialogue with the goal of reaching consensus regarding the pipeline's operation and management.

In addition to the environmental monitoring program required by



Chilean environmental legislation, ARAUCO and the University of Concepción agreed to conduct a major research program on the coastal marine ecosystem relevant to the pipeline. The research program was designed around the public concerns expressed during the citizen participation in the environmental impact assessment process, and on scientific advice regarding key research areas for understanding ecosystem structure and functioning. The program, known as PIMEX-Nueva Aldea (Program of Marine Research of Excellence on the Ecosystem Surrounding the Mouth of the Itata River) and approved by the stakeholders participating in the Nueva Aldea Fishery Round Table was launched in Winter 2006.

"We strive for continuous improvement in our environmental performance, and in many occasions it means going beyond current environmental legislation and regulation," said Andres Camaño, Arauco's Corporate Environment Manager, "PIMEX is a clear example of this ARAUCO policy."

PIMEX Research Areas

The essence of the PIMEX philosophy is to conduct independent, practical and outstanding science. PIMEX has a staff of 35 researchers, and a Board of Directors comprised of representatives of all the stakeholders represented in the Nueva Aldea Fishery Round Table. The results of PIMEX' research are published in peer-reviewed scientific journals and, to date, PIMEX has made about 40 presentations in scientific congresses and pub-



lished ten scientific papers.

To develop a deep understanding on ecosystem structure and functioning, PIMEX Nueva Aldea established two main areas of research: Ecology, which examines the pipeline's impact on the marine species, populations and communities living on the continental shelf; and Physical and Chemical Oceanography, which explores the physics and chemistry of the continental shelf, with special emphasis on the micro-, meso- and macro-scale processes that might affect the transport, dispersion and dilution of the pulp mill's treated effluent. In addition, PIMEX has an area of Technological Innovation, which includes biological and technological studies on species that have high commercial value for local fishing communities.

PIMEX' approach to ecosystem research uses experimentation, field observation and modeling to achieve its targets. To further the work of the program, a marine ecology laboratory is presently built at the University of Concepción's Marine Biology Station located at Dichato cove, near the pipeline site.

PIMEX also has embarked on an environmental education initiative with special emphasis on visually impaired adolescents. This program was developed in conjunction with the local Corporation for Helping the Visually Impaired (COALIVI).

"PIMEX is a program of scientific investigation, not one of regulatory monitoring, allowing the program to have high flexibility regarding research topics," said PIMEX Director Renato Quiñones, PhD, from the Faculty of Natural and Oceanographic Sciences of the Universidad de Concepción. "By providing scientific information and advice, the interaction of PIMEX with the fishers, Arauco plant personnel and governmental agencies has been very rewarding."

According to Hugo Arancibia, President of the Artisanal Fishers Federation of the Bío-Bío Region, PIMEX plays an important role by promoting conservation in a way that goes beyond regulatory compliance, and by improving transparency through the availability of scientific findings and technical advice. To Mr. Arancibia, PIMEX is an example that should be followed by other companies.

Dr. Quiñones concurs, adding that through PIMEX, Arauco has gone beyond the requirements defined by Chile's environmental legislation. "This is the first time a comprehensive voluntary project of this magnitude has been undertaken by a private company to answer queries that go beyond the country's legal requirements," Dr. Quiñones said. "This work is of great value to science and to the coastal communities, and I think it is an effort worth replicating."

Future Strategy

Originally conceived as a three-year program, PIMEX has been extended into a second phase in order to



increase the scope and to go further in-depth in some areas of study. "By providing scientific knowledge and advice to all the stakeholders, PIMEX has been a key element in promoting a constructive dialogue that, in turn, has contributed to an optimization of our pipeline environmental program," said Arauco's Andrés Camaño.

Arauco management is convinced about the value of PIMEX and the necessity of conducting scientific research in the ecosystems where its industrial operations take place. As noted by Iván Chamorro, Arauco's Public Affairs and Communications Manager, "Undertaking stakeholder-driven projects such as PIMEX is central to fulfilling Arauco's commitment to increased transparency and corporate social responsibility."

For additional information, contact your Arauco sales representative or email info@arauco.cl.