



HOME

ABOUT CDA

- [Mission](#)
- [Who We Are](#)
- [Press Room](#)
- [Contacts](#)
- [Membership](#)
- [Members Entry](#)

APPLICATIONS

- [Architecture](#)
- [Automotive](#)
- [Electrical](#)
- [Building Wire](#)
- [Energy Efficiency](#)
- [Power Quality](#)
- [Tube, Pipe & Fittings](#)
- [Fuel Gas](#)
- [Industrial](#)
- [Marine](#)
- [Machined Products](#)
- [Telecommunications](#)

RESOURCES AND TOOLS

- [Find Suppliers Of Copper](#)
- [Copper Data Center](#)
- [Copper Topics](#)
- [Market Data](#)
- [Publications List](#)
- [Standards & Properties](#)
- [Applications Directory](#)

EDUCATION

- [Copper Through The Ages](#)
- [The Statue Of Liberty](#)
- [Copper Production](#)
- [The History Of Copper In The U.S.](#)
- [60 Centuries Of Copper](#)
- [Copper Facts](#)

COPPER IN YOUR HOME

- [Electrical & Communications Wiring](#)
- [Plumbing, Heating & Cooling](#)
- [Architecture](#)
- [Lighting & Decor](#)
- [Environment & Health](#)
- [Cookware & Decorations](#)
- [Copper & Kids](#)
- [Do-it-yourself and Crafts](#)
- [Innovations & Technology](#)

COPPER & THE ENVIRONMENT

- [Recycling Copper](#)
- [Copper and Human Health](#)
- [Copper In Drinking Water](#)
- [Copper and the](#)

[Home](#) > [Copper & the Environment](#) > [Environmental Case Studies](#)

## Andean Flamingoes and Escondida: Environmental Partners

In Northern Chile, the Andean Flamingo is dying. Every year fewer are born, and the cause is apparently related to drought conditions that have been plaguing the region since 1987. Fortunately for the flamingo, a sizable copper deposit was discovered near their natural habitat, and the environmental baseline studies identified the plight of this large bird.



The flamingos' unlikely savior, the Escondida copper mine, has voluntarily undertaken scientific studies to help save the Andean Flamingo population.

In 1988, before starting mining operations in Chile's Atacama Desert, studies were carried out in the mining area and in the Punta Negra Salt Pan Basin. They found the only water source in the area to be underground water close to the flamingos' habitat during summer months where they come to feed and breed.

According to Rene Kurte, subdirector of the Agriculture Department in Antofagasta, Chile, the flamingo's breeding colonies have been gradually decreasing in size since 1988. And since 1992, the breeding success of the Andean Flamingo's colonies in Northern Chile has been practically zero.



"The abundance of the Andean Flamingo in Chile during the summer months greatly depends on the success of the breeding colonies," said Mario Parada, Escondida's biologist who has developed innovative projects to preserve the species. "Their reproductive success varies from year to year and depends on prevailing weather conditions in the breeding areas. The lack of rainfall and excessive evaporation may cause the breeding lagoon areas to dry up, thus preventing the female birds from building nests or making them prey to predators such as foxes," he said.

The Culpeo Fox is the Andean Flamingo's primary predator. In mid-1996, Parada initiated a radio-tracking project to discover the foxes' domain and evaluate its impact on the flamingo's nesting colonies. "This project will allow for potential seasonal technical controls of the impact of the Culpeo Fox, and provide a monitoring tool for the conservation of the Andean Flamingo by increasing the odds of success of its reproductive process," said Parada.

Another negative factor influencing the flamingos' reproductive process is the harmful effect of waves on the mud nests. In fact, it's the leading cause of destroyed eggs in the flamingo's breeding colonies in the Punta Negra salt pan. During the 1991-92 breeding season, Parada conducted an experiment using artificial nests as "wave breakers" to protect the natural nests. The flamingos accepted the artificial nests; 94 percent of the nests had eggs, and a 65 percent survival rate of chicks born in the artificial nests was achieved.

The flamingos also contributed to their own decline by abandoning their egg-filled nests. Abandoning nests is common among reproducing flamingo colonies and results from changes in water levels or the presence of predators. Parada's newest experiment involves rescuing abandoned eggs, artificially assisting in the post-egg laying reproductive process, and then artificially feeding the abandoned chicks.

Escondida has gathered information of significant scientific value regarding Andean natural habitats. "The tools we have developed are not limited to flamingos and Chile. This knowledge is valuable to the worldwide scientific community," said Marius Smit, manager of environment at Escondida.

How does Escondida benefit from preserving the Andean Flamingo? "These programs strengthen our relationship with the regulatory authorities with whom we work very closely. They provide us with technical assistance and with advice in our programs. The governmental agencies now look on Escondida favorably, and that obviously

### Sidebar

"I believe in life and in a superior being that placed those birds in our midst to share this planet with us. They are part of our culture and a symbol of wildlife and beauty in desolate areas," said Rene Kurte, subdirector of the Chilean Agriculture Department



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<a href="#">Natural Environment</a>	<p>spills over into the community," said Smit.</p> <p>Of course, there's still the question of whether human beings should intervene in natural processes. According to Smit, the Chilean government will ultimately make the decision about allowing human intervention to correct a dangerously low flamingo population. Rene Kurte voiced his opinion eloquently, "Personally, I believe in life and in a superior being that placed those birds in our midst to share this planet with us. They are part of our culture and a symbol of wildlife and beauty in desolate areas." </p> <p>— <i>PJ Cannon is with BHP Copper Metals.</i></p>	
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