

Dr. Steve Purdy's January 2010 Update

Another group of volunteers from the Nunoa Project worked in the Peruvian altiplano in January 2010. The group consisted of a medical team: Tara Futrel, MD; Elizabeth Erickson, PA; Julie Erickson- translator; and a veterinary team: Mana Stratton, BVSc, New Zealand; Nanci Richards- vet student Illinois; Dylan Stocz- undergraduate student; and Steve Purdy, DVM, Massachusetts, Nunoa Project President.

The work in Nunoa included our first medical assistance team working at the Nunoa Health Center and at a remote clinic. Medicine and equipment had been donated and purchased. Clinical work in Nunoa Hospital included treating many children and adults for all types of problems: obstetrical, musculoskeletal, cardiac, dermatology, respiratory, and diarrheal diseases. The team spent one day working in a remote farming clinic in the area and people were lined up when they arrived to deal with the same types of problems.

Dr Tara Futrel made an emergency birthing call to a farm distant from Nunoa. Her expertise in neonatal resuscitation was indispensable. A Peruvian child is alive and the medical people there now have knowledge and equipment to resuscitate a neonate because of Tara's efforts. It doesn't get any better than that!

The team also established the future needs of the area including a four wheel drive pickup to drive to remote farms to transfer people to the outlying clinics or to the main hospital.



Nurses and Tara bringing birthing mother in wheel barrow down from her home to a car for transport to the local medical clinic.



The baby Tara resuscitated with a local nurse and the baby's grandmother and mother.

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The veterinary team worked on a local farm and completed a male testes study to compare data with a US study in progress at the University of Massachusetts at Amherst. A semen evaluation study was also completed with a battery powered microscope on a local farm since there is no electrical power there. Post breeding samples were collected for four different males.

Lab work was completed at the Nunoa hospital using equipment donated by Light Livestock Equipment. Results were comparable to those obtained from alpacas in Massachusetts. An intestinal parasite survey was conducted with fecals from adult males and females, yearling males and females, and young crias. Results were similar to those found in the US. The yearlings showed the highest levels of parasite eggs including strongyles, Nematodirus, whipworms, small coccidia, tapeworms, and Eimeria macusaniensis.



The goal was to determine what parasites are of concern in the local area, and to minimize or eliminate drug usage and concentrate on management factors. These are the same goals as we have for the US. None of the animals had any clinical signs of disease, and so our recommendation was no treatment with drugs just as it would be in the US. This avoids development of drug resistant parasites and prevents contamination of water and plants with drug residues, thereby eliminating the potential toxic effects on the environment and the people who live there.

A pilot program was started on this farm for alpacas and llamas last fall including vaccination of pregnant animals and 10 day old crias against the major killer of neonates, enterotoxemia. Clostridium perfringens, type A, is the organism most often responsible for this fatal disease.



The vaccine we used is manufactured at San Marcos University veterinary School in Lima. It has been very successful in the past in Peru, although it has never been used in the Nunoa district. We will have results of the vaccine effectiveness later this spring and hope to convince the local government authorities to start a widespread vaccination program. This would potentially eliminate or greatly reduce the frequent 30 to 70% mortality rate in crias every year.

As you can well imagine, reduction in mortality would have a tremendously positive economic influence on the main crop of the district, alpaca wool. Wool prices are very low right now. Colored Suri and Huacaya are selling at \$2 per pound with white at \$3

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per pound. This is almost one third of the price from 2 years ago. It has had a devastating effect on the lives of the local farmers whose yearly clip must sustain their families a year at a time.

We also left two medications for treatment of mange to see which proved to most effective. Sarcoptic mange is the most common type seen in Peru unlike the Chorioptic mange most often seen in the US.

Humanitarian projects for local farmers in the future include improving the farmers' homes from stone to adobe which will make them much warmer in the freezing temperatures seen almost every night. The addition of water lines from the springs and water hydrants at the homes will provide a safe source of drinking water as well. We plan to introduce inexpensive greenhouses to the farms and town so that a wider variety of vegetables will be available for consumption. The farms at high elevation can only grow onions and garlic. Potatoes and quinoa are available at lower elevations, but greenhouses should allow potatoes, carrots, and even tomatoes to be harvested.

The Nunoa Children's Home project awaits more funding so that it may be hopefully be completed this year. Dirt is ready on site for adobe brick making starting after the rainy season ends in April. It was too wet over the winter to make and dry the bricks. Plans for construction of the walls and building were firmed up. We need \$25,000 in hand to progress further and then another \$25,000 to complete the buildings, walls, and furnishings. See our Donation page for how you could fund individual rooms in the home. On completion the home will have two full time caretakers for the children, house 15 children full time, and also provide lunch for another 30 children.

The next visit to Nunoa is scheduled to leave the US on July 23, 2010. Medical assistance is always needed and includes medications, small equipment such as Ambu bags, and medical expertise to work with and train the highly dedicated staffs of the Nunoa hospital and outlying clinics. The veterinary team will work on ultrasound pregnancy diagnosis of females, more fecals for diagnosis of intestinal parasites, further checks of breeding male testes, and slaughter house improvements. Pending successful results with the enterotoxemia vaccine this birthing season we will advocate for widespread use of the Enterotox® vaccine in Nunoa District. This will increase cria survival, allowing culling more poor quality animals. The subsequent increased animal production will increase farm profits and make more meat available for consumption and sale.

Please consider a tax deductible contribution to the Nunoa Project. You can make a difference!