



Nunoa Project

Nunoa Project's Peruvian Work

Nunoa Project Veterinary Goals in Peru:

- *Veterinary assistance to farmers to improve production through herd evaluations and education*
- *Expose students and veterinarians to the challenges and rewards of working in international agriculture*
- *Make a positive difference in the lives of Peruvian farm families and veterinary students and veterinarians*

Nunoa Project History in Peru:

- *12 years of twice annual veterinary team visits.*
- *Three, 3 month veterinary team placements in the Andes to assist farmers.*
- *Veterinary teams work directly with alpaca and llama farmers solving problems presented to us*
- *Management and reproduction advice and training seminars are provided to farmers.*
- *Approximately 100 student and veterinarian volunteers from the US, Peru, Argentina, Canada, New Zealand, the UK, and Germany have participated in and been trained during our work trips.*

Our most recent trip:

In June of 2018 our veterinary team lead by Drs. Gian D'Alterio from the UK and Jhoana Jimenez from Peru worked in remote areas of the Peruvian Andes. The mission was to evaluate herds of local llama and alpaca farmers and identify changes that would improve their production. The people of the altiplano rely on camelids to survive and even small improvements in the health and fertility of their herds have the potential to be of huge benefit to these rural families.

The Inca Trail as viewed from one of the hikes to work with a mountain herd.



Llama Work in Cancha Cancha and Quishuarani communities, Department of Cusco

The June 2018 trip included work with 8 family herds about 3 hours' drive or hike into the mountains from Urubamba, near Cusco. The scenery there is beautiful and the communities are along the Inca Trail to Macchu Picchu so on occasion the team saw groups of tourists with pack horses and mules carrying their gear.

The team was working with the Llama Pack Project from Urubamba to make initial and repeat veterinary contacts with farmers. The overall goal of their project is to assist the farm families to increase their income by using their llamas for packing with a secondary goal of generating income by providing meals to travelers and/or selling their beautiful hand woven crafts and clothing. Packing was the traditional use for llamas in the Andes but they have been replaced over time by packing companies using equines. Equines have been very destructive to the trails used by the local people for travel and have also contaminated the land and water with feces and urine as they work. The environmental impact of llamas is much less due to their more discrete defecation and urination habits and softer feet.

The llama herd evaluations included looking at animal stature and body condition in regard to suitability for packing and overall nutritional status. In addition, ultrasound pregnancy exams were performed to assess the efficacy of the breeding management plans of individual farmers; overall fertility results were good. Farmers will start using superior males provided by Llama Pack Project to improve their herds following the model Nunoa Project has used successfully with alpaca farmers in the Department of Puno. Females were tagged for identification and production tracking purposes again for the first time following our model.

Llama herd in a corral high in the mountains before starting evaluations.

Nunoa Project will continue to work with the Llama Pack Project to get more families to join this project in January 2019. The farmers overall are very interested in getting their llamas into productive work. Some farmers are a bit shy about working with the team but this is common in the Andes. They have an initial



distrust of foreigners but our repeat visits and positive attitude results in establishing trust for the future and recruitment of new farmers into the program.

Alpaca Work in Nunoa, Pucara, and Lampa, Department of Puno

The Nunoa Project has been working for four years with farmers in the Pucara/Lampa area and this year also returned to our original work area of Nunoa at the request of multiple farmers there.

Nunoa Project veterinary team members prepare to evaluate a camelid herd in Nunoa.

Herds which were evaluated varied in animal quality and nutritional and reproductive status as in past years. Most were very good but some could use better nutrition. At one location in Pucara, Mario Idme and his wife Bonita Gomez had the highest pregnancy rate I have ever seen in Peru (or the US for that matter) in their small herd at 100%. The farmers continue to improve their herds and they are increasingly aware of changes they can make to improve production as a result of our work.

Alpaca Work Summary:

1. Body condition scores of animals were low in some locations and it was suggested that animals get more access to pasture and water.
2. Pregnancy rates were what is normally seen for most farmers in the altiplano at 70 to 80%. One farmer achieved a 100% rate with an uncomplicated breeding management program. He will teach this program to other farmers in the area.
3. Several farmers were interested in borrowing new breeding males in January 2019 during the next work trip. These superior males are used to improve genetics and herd production of crias and fiber to increase income for the farmers.
4. Enterotoxemia was not a major concern in the area in the 2018 birthing season.
5. Further training on reproduction record keeping to identify fertility of females and males would be useful for farmers who wish to employ it.
6. Cria mortality rates were normal for the altiplano, usually at approximately 10%.



7. Training on breeding behavior of breeding males and females might be of use to some farmers.
8. Most farmers are very enthusiastic about continuing to work to improve their herds.

Alpaca herd at 14,000 ft. in the community of Alto Pucarayllu, Pucara.

Review of the Peruvian Work

We are very enthusiastic about the positive changes we have made, the new farmers we have met and what we can accomplish in the future. I am always saddened when the Nunoa Project volunteers go their separate ways but also feel that we have made another set of lifelong friends who have experienced the challenges and rewards of working in the Peruvian altiplano. Many thanks to the veterinary and pre-veterinary students and veterinarians who participate on these work trips and to my Peruvian veterinary colleague, Gerardo Diaz, whose input is critical to the success of the Nunoa Project's work. It is a pleasure to be able to work with these volunteers and the Peruvian people.

During the January 2019 work trip, we will again work with llama farmers in the Sacred Valley, and also with alpaca farmers in Nunoa, Pucara, and Lampa. The trip will be co-led by Drs Gerardo Diaz of Peru and our experienced colleague Dr. Gisela Marcoppido of Argentina. The team is also comprised of two other very experienced veterinarians, and veterinary students and post baccalaureate students trained in our North American Camelid Studies Program in the US. We continue our loan program for superior males and have replaced some our older ones with younger males from a progressive Nunoa farmer. Our work is paying off.

Stephen R. Purdy, DVM

Nunoa Project's US Work- the North American Camelid Studies Program

During each academic semester in western Massachusetts I work with undergraduate preveterinary students in the Alpaca and Donkey Reproduction and Camelid Management courses we provide. I recommended 5 students for veterinary school admission this year who are waiting to hear about admission. If they follow the course of past students as I expect they will, all will be starting veterinary school in the summer of 2019. *The total number of NACSP students admitted to veterinary school or other graduate school programs over the last 12 years is approximately 90.* We also offer a 6 day intensive Camelid Practice Course for veterinary students and veterinarians in June of each year. It is well attended and approximately half of the Peruvian work volunteers have taken courses as undergraduates, veterinary students, or veterinarians. The future is bright for large animal



veterinary medicine and international agriculture based on these excellent young people with whom we work.

Left: Veterinarians and NP Peruvian volunteers Nicole Rapa and Maggie Sorbi (far right) who were trained in the NACSP work with students evaluating breedings at our teaching farm in Western Massachusetts.

Right: Tufts University veterinary student Vanessa Sylvia who was also a Peruvian volunteer and NACSP trained evaluates a semen sample collected at the teaching farm.

Please help support the work of the Nunoa Project through our website at www.nunoaproject.org.

Private donations such as yours are needed to fund all of the work each year.

Should you have any questions regarding the Peruvian and US work please call me at [\(413\) 658-7718](tel:4136587718) or contact me by email at srpurdy@nunoaproject.org.

Thank you,