

2010 Deer Industry Biennial Environmental Awards

Recognising excellence and innovation on sustainable, environmentally responsible deer farms

Primary goals of the Awards:

To recognise innovative, sustainable, and profitable deer farmers.

To recognise that "sustainability is a work in progress".



This year's deer industry environmental awards attracted universally high quality entries from environmentally conscious deer farmers from Warkworth in the far North to Te Anau in the South, who were prepared to put their farms and themselves under scrutiny by our team of judges.

The NZDFA congratulates all award winners, and indeed all those who entered their properties in this year's competition, especially the Premier Award winners, Landcorp Farming Ltd's *Mararoa Station*, Te Anau, managed by Tim and Trish Smith.

Since deer farming sustainability and environmental care as a formal part of industry activity, and development of the industry's Environment Landcare Manual, was first raised more than 10 years ago, the NZDFA has been keenly aware of the difficulties and challenges faced by deer farmers in balancing a profitable business against maintaining the environment we live and work in.

Competitions such as this, while recognising excellence in the vision and management of the winning properties, also promote the sustainability of our industry as a whole, while encouraging



many of us who will attend a related field day or read this brochure to do better.

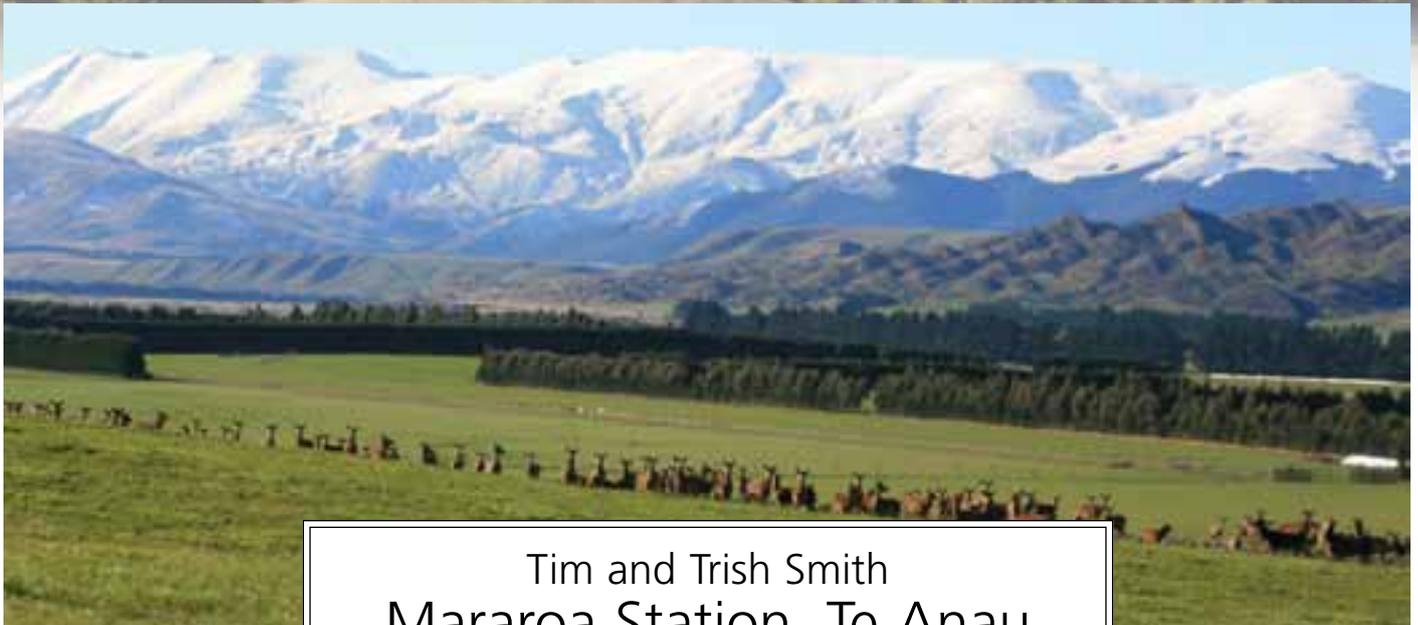
Accountability for carbon footprints, animal welfare, traceability and environmental sustainability are all requirements that we are now faced with, as today's consumers of our products base their purchasing decisions on more than price and flavour. As well as recognising excellence, this competition helps demonstrate this industry's continued commitment to environmental sustainability, and I, on behalf of the NZDFA, would like to thank the judges and sponsors who make it possible.

WJ (Bill) Taylor
Executive Committee Chairman, NZDFA



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Tim and Trish Smith
Mararoa Station, Te Anau
Landcorp Farming Ltd

Premier Award: The Elworthy Environmental Award



*Sponsored by Deer Industry New Zealand
Recognising leadership in environmental sustainability
and excellence in land management*

*The vision of a balanced system ensuring long term protection of
the environment and sustainable production is not only planned
for but visibly evident when viewing Mararoa Station.*

Tim and Trish Smith manage the large sheep, beef and – in deer farming terms – historic *Mararoa Station* for Landcorp Farming Ltd in the Te Anau Basin. The vision they have for the property is expressed through the excellent planning, documentation and systems that they have in place to achieve production goals and

advance and maintain substantial land and environmental management projects. That vision and practice is conveyed consistently through all management levels. Excellent communication and regular staff meetings with time allowed for training and encouragement to pursue off-farm interests ensures a good balance within the work- force of 11 staff. These are vital components of efficient management of the extensive 5,440-hectare property, of which 1,900 ha of flat to hill country is included in the breeding and finishing deer unit.

The property includes three tributaries to the Mararoa River, which runs along the eastern boundary. These entire stream tributaries to the Mararoa River are protected within the property, with large areas of native vegetation protecting soil, water and biodiversity values. Most significant is the Thomas Burn which runs for 14km through the deer unit and incorporates a range of vegetation from red tussock wetlands in the headwaters to regenerating broadleaf forest and shrub land with small areas of beech forest. Staff from Fish and Game, QEII Trust and the Waiiau Habitat and Wildlife Enhancement Trust have helped Landcorp staff with information and advice that has been vital to increasing understanding and knowledge of the value of these areas. A stream survey identified excellent populations of brown and rainbow trout and native fish including round and flathead

galaxiids, upland bully, koura and long-finned eel. This information is now being incorporated into regular monitoring to assess ecosystem health by the staff. A total of 334ha are under six separate but linked QEII covenants, providing long-term protection.

To enable all riparian areas to be fenced off, a major stock water

system has been installed. Through discussions with John Scandrett from Scandrett Rural, a system was designed utilising spring-fed water off the hill and driven through a Pelton wheel fed by the 70 metres gravity fall from the source, lifting 200,000 litres per day 180 metres up to storage tanks. This is then reticulated throughout the whole property via 120km of piping. This system has also resulted in significant economic benefits by eliminating electricity costs of \$14,000 annually and avoiding the \$250,000 expense of getting power to the spring.

Tim recognises the value of the tussock country on steep faces in providing excellent cover for fawning hinds and the benefits it provides in filtering the high rainfall in the area and protecting soil values. Retaining this tussock cover allows further pasture development on the flatter areas. This ensures sustainable production in a challenging environment which can have climatic extremes from droughts through to snow and flooding.

Tim and Trish have gained knowledge from a team of people from different agencies including QEII Trust, Waiiau Habitat and Wildlife Enhancement Trust, Fish & Game, Environment Southland and Scandrett Rural. They have provided advice on land protection, water quality, fish species and engineering systems, which is now incorporated



From left: deer manager Dan Hall and Mararoha Station managers Tim and Trish Smith.

into monitoring systems for the property. Tim sees these people as part of an overall advisory group who can provide important information and advice and who share common goals.

While Landcorp Farming Ltd has a corporate commitment to land management programmes across the company and provides additional funding for major schemes, the delivery and implementation of these is integrated into the on-farm work and management programmes.

There is total commitment to recognising strengths and limitations of the farm environment and suitability of stock type and class to fit the different areas.

Judges were particularly impressed by

- systems to enable a large scale integrated farming property
- labour management including promotion, personal training and development of employees
- balance between protecting the environment and the farming business
- integration of sheep and cattle with deer at different times
- understanding of the importance of quality feed
- use of nutrient management plans and GPS monitoring during application
- Work Safe and Farm Safe programmes
- identification of risk areas and development of mitigation options
- relationships with agribusiness and supporting agencies
- balance of hill and flat country to suit deer age class
- infrastructure taking account of deer traits and behaviour
- monitoring of water quality as an indicator of farm systems and the influence of management
- gaining knowledge of native fish species and integrating into monitoring systems
- inclusive approach to community access and events.

Mararoha Station has also received the Massey University Discovery Award and the Southland Water Quality Award

in the Southland 2010 Ballance Agri-Nutrients Farm Environment Awards.

Future development plans include extending the deer unit to allow grazing flexibility and manipulation of stocking rates to ensure adequate feeding levels and to allow for more finishing of weaners on the property.

NZ Landcare Trust Award for Excellence and Commitment to Sustainable Deer Farming



The NZ Landcare Trust is fully supportive of the New Zealand deer industry in their farm environment awards where leading deer farmers are recognised for their sustainable land management, implementation of “best practice” and protection of their local environment, often involving local communities and expertise – sustainable land management through community involvement. Mararoha Station is an excellent example of such work and the NZ Landcare Trust congratulates all those involved in managing this property. Deer farmers are continually looking at ways to improve their properties to meet increasing demand for production which is supported by wise environmental management and these awards are an excellent means of promoting the range of options that can be implemented throughout New Zealand to suit a range of conditions.

Tim and Trish Smith have shown an excellent commitment to protection of valuable streams, vegetation and biodiversity, which then provides a platform for careful development and farm management that fits their farm environment, providing sustainable benefits for the farm and the wider environment.

Mararoha Station’s programmes ensure long-term benefits, not only in protection of valuable native ecosystems and habitat, but also as key filtering zones for water absorption and run off. Formal protection of large areas of native vegetation will allow for continual habitat growth and change with tussock, shrub lands, broadleaf forest and beech forest well represented.

Staff have been actively involved in gaining further information and assessment of fish species in streams on the property and this information is incorporated into monitoring of water quality and biodiversity – acknowledged as special qualities of the whole farm environment.

Retention of the tussock grasslands is critical in an environment of thin poor soils and extremes of weather,



This Pelton wheel pumps 200,000 litres of stock water per day up 180 metres and saves \$14,000 per year in electricity costs.

2010 Deer Industry Environmental Awards

benefitting by absorbing and retaining moisture and allowing sustained growth of exotic pasture species while maintaining soil cover. The tussock provides added production benefits of natural cover for fawning hinds thereby increasing survival.

Mararoa Station has developed excellent relationships with people from different agencies and agribusiness. They have incorporated this information into their farm and monitoring systems and recognise the part these people play as a larger advisory group.

All staff are actively involved in the local community and this provides mutual benefits for staff as time off farm is seen as vital for staff health and well being, as well as contributing to the local rural community. Access is allowed for on *Mararoa Station*, with fishing at Lake Thomas and the property being part of a venue for a mountain bike trail ride, trail bike riding and horse and hound hunting.

Mararoa Station exhibits best practice for production and environmental systems and continues to incorporate new developments and technology.



One of the gullies that has been fenced off and is reverting to native vegetation.

pasture as silage as the basis of that production system, allows the bulk of weaners to be finished on site. This in turn substantially reduces stress and production losses in shifting weaners to other finishing blocks within the farming group, as has been past practice.

The award also acknowledges the excellent communication between managers and 10 staff, based around regular meetings and a monthly planning calendar, creating the time for staff to follow on- and off-farm pursuits and training. The environmental management plans and requirements around the QEII covenants and riparian protection programmes are part of this monthly programme and an integral part of *Mararoa Station's* operations.

Duncan and Company Award for Excellence, Innovation and Vision in a Demanding Environment



Duncan and Company is a foundation sponsor of the industry environment awards, with a particular emphasis that recognises innovation and forward planning in sustainable management. The award also acknowledges that deer are farmed in virtually all climatic and geographic locations around New Zealand, including demanding environments, and seeks to recognise innovation in adapting management systems to reduce these impacts on deer production and land management.

For *Mararoa Station*, this award recognises all of the features mentioned as part of the Premier Award and the management required to cope with long, hard and wet winters and the programme of effective waterway protection. As noted in the Ballance Farm Environment Awards, creating the extensive reticulated water supply via the Pelton wheel has allowed full waterway protection programmes to be rapidly developed. With reliable water systems on hand, it is the key to good stock health and production and management flexibility. The judges were also impressed with the combination of extensive breeding management and intensive finishing systems. The tussock country is managed to avoid depletion risk, using its natural features for enhanced fawning performance. Being able to relocate weaners onto the protected fertile flats using autumn-saved pasture and winter crops and conserved



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Tim and Lucy's shared vision and passion for the land is reflected in their sustainable management systems. The property specialises in venison production as part of the Firstlight Foods UK venison marketing programme, integrated with bull beef on 316 hectares (280ha effective) on flat to rolling hill country near Tikokino in Hawke's Bay.

They carry 660 red hinds and rear 50 R2 and 555 mixed sex weaners and 300 bulls for bull beef trading stock. Deer are performing at a high level, weaning 92–94 percent and achieving yearling hind conception rates commonly from 96–99 percent.

The property features three distinct major soil horizons, each with its own challenges, and seasonal climatic variation. It incorporates extensive mature totara throughout the breeding hill blocks and mature stands of rimu and kahikatea. Environmental challenges range from a risk of wind erosion of the cultivated Kapua silt loams, swampy wet flats and the extensive hill blocks and tree management. Issues like fence tracking of weaners have been overcome with tree lane plantings and changes in weaning management to assist in quiet settled stock.

Tim and Lucy recognise the added value of environmental sustainability, not only to their own property, but also its value in the market place. The property is an excellent example of implementation of the triple bottom line.

Recent improvements include the building of a further large dam. This is ultimately part of a linked series of dams which have multiple benefits, but is primarily a sediment trap to improve water quality. Wetlands, forest and riparian areas have been fenced. *The Steyning* has undertaken extensive planning and consultation with the Hawke's Bay Regional Council for water, soil and tree management, primarily as extensive wetland management programmes.

The management attitude is one of constant analysis,



The Steyning incorporates extensive mature totara throughout the breeding hill blocks. The self-feed silage pit can be seen in the middle distance.

Tim Aitken and Lucy Robertshawe The Steyning Waipawa Hawke's Bay

NZDFA Environmental and Sustainability Award with Distinction



Lucy Robertshawe and Tim Aitken.

identifying environmental issues stemming from farming activity and implementing mitigation options while continuing to meet production targets. Soil testing is part of a formal nutrient budgeting programme and application methods have changed to GPS-tracked ground application where it is most needed, or with specific helicopter application if timing and ground conditions dictate. Direct drilling has replaced conventional ground working apart from fodder beet establishment. The property has been innovative in

developing a summer/autumn brassica, plantain/chicory forage-based production system to maximise weaner growth. The property utilises a self-feed silage pit and systems.

Seed from native trees is collected, germinated and grown by the Taupo Native Plant Nursery for eventual replanting on the property. A QEII covenant has been established on a portion of the totara forest, ensuring its long-term protection and understory regeneration.

Tim and Lucy demonstrate a total management commitment to continued excellence in environmental sustainability.

The judges were impressed by:

- flexible management with constant fine tuning in response to seasonal (also utilising Farmax™)
- risk management planning and environmental farm plan (also featuring in the industry's Landcare Manual)
- shared vision within the partnership
- excellent understanding of the value of environmental enhancement to the business and total supply chain
- targeted use of alternative crops to maximise production to meet animal feed requirements
- protection of vulnerable wet areas to provide multiple benefits for the farm environment
- excellent relationships with agencies and industry, including the Deer Industry Focus Farm project for the region and also recently acknowledged as the 2010 Silver Fern Farms Hawke's Bay Farmers of the Year
- measuring and monitoring systems
- excellent documentation to support farm and market requirements
- biological control of nodding thistles and ragwort
- carbon budgeting.

This award recognises the excellence in environmental sustainability Tim and Lucy are obtaining and acknowledges their commitment to continually improving the sustainability and legacy of the property. The Distinction citation recognises the closeness of this property in judging for the Premier Elworthy Award.

2010 Deer Industry Environmental Awards

Peel Forest Estate is an extensive commercial and stud operation covering 1200 hectares in the Geraldine foothills, running up to 5,000 deer and 200 beef cows.

The vision for Peel Forest Estate embraces strong commitment to enhancing the farm environment and improving farm production through good planning and execution, initiating advances in genetic development and animal health programmes – particularly in extending their work on Johne's disease resilience into a major research investigation with Otago University's Disease Research Laboratory, and supporting industry initiatives.

Graham uses specialists in their field as an integral part of the team for planning and execution across all aspects of the farm and animal management.

Judges were impressed with the extensive rehabilitation of streambeds to improve water quality and protect soil values. In consultation with Environment Canterbury, Graham has realigned some streams to their original courses, incorporating filtration and ponding zones. This ensures water quality is of the highest possible standard when leaving the farm. This development has enhanced the sustainability of the property, protecting soil quality and reducing the effect of deer on waterways.



Extensive and ongoing plantings have continued to enhance animal welfare and aesthetic values at Peel Forest.



Streams have been realigned to the original courses at Peel Forest.

Graham Carr Peel Forest Estate Geraldine South Canterbury

Firstlight Foods Ltd Award for Total
Commitment to Sustainability:
environmental, farm and social and
innovation



Peel Forest Estate's selection and breeding programmes have influenced commercial operations throughout the deer industry by its investment in elite genetics for a range of deer breeds. Recent developments include breeding for Johne's disease resilience, EBV-based selection for terminal sires and high-end EBVs as specific growth rate strains. Marketing innovations include selling stock via video to enhance animal welfare, and objective descriptions of stock performance and antler production. Breeding programmes are informed by consultation with industry and farmer clients.

Peel Forest's long history of exotic plantings dates back to 1856 and Graham has continued the tradition with up to 400 trees per year planted for the last three years. The property is now extensively planted with trees to shelter and shade livestock, creating an aesthetically pleasing environment.

Judges were impressed by:

- an integrated commercial and stud operation and very high-quality stock along distinct genetic lines
- breeding for Johne's disease resilience in animals and high priorities for animal health and welfare programmes
- leadership within the deer industry in genetics, research and sustainability
- commitment to sustainable farm development
- identifying and mitigating environmental issues
- well-documented and planned development
- clear goals and objectives to protect and enhance the environment and ensure sustainable farm production.

Graham Carr and manager Steve Blanchard have a good understanding of environmental issues, developing sustainable production systems adapted to the farm's soil types and local conditions. Peel Forest Estate was also recognised for these combined commitments with the New Zealand Farm Environment Award Trust Livestock Farm Award, in the Canterbury 2010 Ballance Farm Environment Awards. Those judges described the achievements at Peel Forest thus: "You have developed an attractive and productive deer stud breeding operation and landscape while enhancing and protecting the environment from the challenges that intensive deer farming can present."

Ongoing improvements include continuing to plant adjacent to waterways to increase biodiversity and enhance the stream environment through shading and lowering of water temperatures. Further plantings of native trees to allow for corridors of bush to connect with native forest areas will benefit native biodiversity and the farming system.



Solway Deer Farm, on a 265ha rolling hill property near Warkworth, is home to a well-performed closed herd of 1600 red deer as a combined breeding and finishing operation, incorporating some AI to improve replacement genetics around venison production. The operation is integrated with cattle. Venison supply is contracted from August until January at higher weights incorporating a proportion of 18–22 months finishing.

The farm operates with a strong environmental focus and shows farming and community leadership in waterway protection. Responsible farm and environmental management challenges are amplified as Solway is surrounded by a busy urban and lifestyle block community and is a major water catchment source for drainage and runoff.

Solway has been a key part of the district’s Mahurangi Action Plan, funded (\$200,000 per annum) through the Auckland Regional Council and Rodney District Council, now in its seventh year. The primary goal is to reduce sedimentation (and nutrient overload) entering the nearby estuary, the spawning ground for a number of marine and freshwater species and a key location for oyster farming.

Third-generation family farm owner Shelley Trotter has responded with a planned and staged commitment to numerous linked riparian plantings and the enhancement of waterways. This starts at the many waterway exit points and works back up streams and gullies to incorporate point sources, swamps and difficult land slopes. All aspects of these and future plantings well planned using professional advice and a planting guide.

Deer are managed in their age groups to encourage quiet social behaviour. Cattle grazing is based around heifer finishing to provide some protection on fragile soils and challenging winter conditions, and have a role in developing pasture quality for the deer. Battling ticks, especially for newborn deer, has been a major challenge, now successfully controlled via tick tags and other animals acting as “tick

Shelley Trotter and Tony Ward Solway Deer Farm Warkworth, Northland

Fish and Game New Zealand Award for Excellence in Riparian Management



vacuums”. All animal health programmes are preceded by the appropriate testing and monitoring where available. Solway spends freely on animal health and welfare and seeks to improve the calving environment as part of longer-term planting programmes.

Shelley is committed to community involvement in Solway’s programmes. Locals actively participate in planting projects as part of the wider community aspirations to improve and protect local waterways that lead into the Hauraki Gulf. A goal is to incorporate plantings to develop wildlife corridors with community walkway access, making the

property and other local features more accessible.

The property has embarked on an impressive riparian planting programme to protect and enhance water quality, using a mix of native wetland plants. This has resulted in an extensive network across the whole farm. It incorporates the Mahurangi Action Plan and has utilised the Environmental Initiatives Fund from the Auckland Regional Council and Rodney District Council. Solway acknowledges that the councils’ support and advice has allowed fast tracking of the environmental protection project and encouraged more difficult-to-establish native plantings

Selection and propagation of plants and various planting options seeking the most effective establishment methods was also trialled via a MAF Sustainable Farming programme targeted in Solway’s case at riparian strip planting. This aims to slow runoff and discharge into key waterways.

The property’s management is focused on environmental issues including managing of problematic clay soils. Shelley has been willing to alter paddock design and fence layout to protect valuable waterways. She has an in-depth understanding of water quality issues on her own property and local catchments and appreciates how urbanisation and farming affect the local marine environment, a highly regarded spawning area for native fish and molluscs.

Shelley has a strong background in environmental science and close ties to the local area and community within her well-established deer farming venture.



Edmund Noonan (judging panel, left) Matt Harrex, Auckland Regional Council (judging panel, centre) and Solway owner Shelley Trotter (right).



Multi-purpose plantings will provide shelter, runoff protection, wildlife corridors and also eventually community access as walkways through a working deer farm.



The riparian planting programme uses a mix of native wetland plants.

2010 Deer Industry Environmental Awards

Summing up

For the 2010 awards, the eight entrants again set universally higher standards in their delivery of planned, innovative and committed sustainability programmes, encompassing the complete range of riparian, shelter, shade and amenity plantings and soil and landscape management. Properties ranged from locations in Warkworth to the Te Anau basin also, covering Taihape, Hawke's Bay, Otago hill country and quite contrasting deer farms in North and South Canterbury.

While some of the properties were challenged by extreme drought and demanding environments, all demonstrated fine examples of deer and other livestock management systems benefiting from commitment to sustainability programmes, while operating at high levels of return from deer enterprises.

All entrants showed strong social commitment to their industry and community, leaving the judging panel very impressed.

Major features and programmes will be displayed and discussed at field days on the winning properties, to be held later this year in association with the award sponsors.

2010 Awards Assessment team

Janet Gregory (NZ Landcare Trust – Lead Assessor)
Adam Whaanga (representing *Totara Hills*, 2008 winner)
Alastair Nicol, (Lincoln University)
Angus Irvine (Firstlight Foods Ltd)
Dave Harrison (Horizons Regional Council)
Dale Robertson (Otago Regional Council)
Jim Risk (Environment Southland)
Mat Harrex (Auckland Regional Council)
Ian Millner (Hawke's Bay Regional Council)
John Sheen (Fish & Game, Hawke's Bay)
Emily Arthur (Fish & Game, Canterbury)
Stephen Pickering (Fish & Game, Wellington)
Edmund Noonan (NZDFA Executive Committee)
EarleWells (NZDFA Executive Committee – Convenor)
Tony Pearse (DINZ)

Further information

The Deer Farmers' Environmental Awards are part of the deer industry's environmental awareness programme, and help with the dissemination of practical knowledge. The entrants demonstrate the principles found in the industry's major information resource on environmental matters: *The New Zealand Deer Farmers' Landcare Manual*, published in 2004. For further information on the awards or the Landcare Manual, contact: Tony Pearse, DINZ Producer Manager, 04 471 6118 or 021 719 038, tony.pearse@deernz.org



Mararoa Station, Te Anau, winner of the Premier Elworthy Environmental Award.