

LAKE TEKAPO AORAKI/MT COOK STARLIGHT INITIATIVE

SANTA CRUZ LA PALMA

November 9-10 2009

Margaret Austin

Ata Whakararongo ake e moko

Ki enei korero

O ou matua tupuna

I haere ta whiti mai ki tata

Listen carefully child

To these words of your grandparents

That have come from afar

Tena koutou, tena koutou, tena koutou katoa

Greetings, greetings to you all.

I have begun in this way to establish the great significance to mankind of recognizing the extreme importance of listening now to the wisdom of our elders, those who have seen the stars, set the calendar by them, navigated by them, planted and harvested their crops by them and who are telling us that with fifty per cent of the world's people no longer seeing the stars it is time to stop, reflect on what we can achieve and use every avenue we know to preserve our starlight heritage.

Aotearoa New Zealand has a rich starlight heritage. Maori navigated by the stars to find our country over 1000 years ago, they knew that Halley's

Comet appeared every 75-76 turns of the earth around the sun, that when the Pleiades or Matariki was low in the eastern sky in June it signaled the beginning of their year and that counting the full moons from then set the time for planting and making safe journeys across the mountains and the sea. The ancient people gathered around Lake Tekapo Aoraki/Mt Cook area in the centre of the South Island on a seasonal basis for food gathering and to observe and record night sky events. Pacific peoples navigated by the stars, judged distance by the stars, understood which birds inhabited the islands and planted their crops by them. Their knowledge has been transmitted through the generations which gives it a legitimacy which we must respect.

Then astronomy was pivotal to the exploration and eventual European settlement of Aotearoa New Zealand. Captain James Cook first came south in 1769 after observing the Transit of Venus in Hawaii for no other reason than to find and map the land, and later to make extensive astronomical observations for determining latitude and longitude. He came three times in all bringing explorers, astronomers, botanists and regretfully warriors. Those of you who know us well would say that this background has characterized us even to the present day.

We have had active professional and amateur astronomers of note over the last 160 years. James Hector, geologist, weather forecaster, surveyor, botanist, standardized NZ time at 11hours 30 minutes ahead of Greenwich Mean Time and founded the Dominion Observatory. Among the amateurs Gifford interpreted the lunar landscape, Grigg pioneered astronomical photography; McIntosh observed meteor showers and orbits, Bateson variable stars, Jones co-discovered supernova 1987A in the Large

Magellanic Cloud and comets in 1946 and 2000. Today the Royal Astronomical Society of New Zealand has 26 Affiliated Societies and nearly 2000 active members.

Among the professionals we can claim Sir William Pickering, the father of rocket science and space exploration including the mariner probes to Venus; Beatrice Tinsley, known as the Queen of the Cosmo and although I did not meet her she was a contemporary of mine at the University of Canterbury. There are over one hundred, active, living NZ astronomers including those actively involved in the Starlight project like Professors John Hearnshaw at the University of Canterbury and Phil Yock at Auckland and great interest among undergraduate and graduate students.

The major centre for the research is University of Canterbury Observatory at Mt John just 2km from Lake Tekapo and where there are now four reflecting telescopes engaged in high resolution spectroscopy, variable and binary stars, gravitational microlensing and asteroid research. The University of Canterbury is also a partner in the Southern African Large Telescope project. All of this leads us to be able to say with some confidence that the future of Astronomy in New Zealand is bright. We have come a long way from navigation to mapping, from time-keeping to measuring star velocities with precision and now with advanced instruments and committed researchers we believe the door is open through astrophysics to major new discoveries.

We can go much further than this. On average 3000 people a day or about 1.4M a year pass through Tekapo - Aoraki/Mt. Cook which means the potential for Astrotourism is immense. Many of these people visit the

Observatory at night and in daytime and they are entranced with what they are able to learn, see and do. There is opportunity too for astrophotography with an expert. Young people of all ages are captured by the introduction they get to astronomy, scientific research and for those interested in Maori culture there is the history and knowledge of the areas and the way the regular cycles of the stars dominated life. Furthermore as far back as 1981 the Mackenzie District Council put in place Lighting Ordinances to protect the night sky which are carefully monitored.

Put all of this together and you can understand why the Working Party of which I am the Chair is totally committed to Starlight Reserves.

While work has been ongoing for six years it is all taking too long to define the protocols and to determine the way forward for Starlight Reserves. This conference has a unique role to play in guiding those who make decisions on our behalf to step back, review their protocols and create more flexible operational guidelines that will take into account the heritage that is the firmament.

I do not need to review or remind you of the meetings we have held in Paris in each of 2005, 2006, 2007, 2008 and 2009. The La Palma Declaration of 2007 was a great step forward in clarifying principles and the 2008 Concept paper led to presentation of Case Studies at Fuerteventura in March this year of which Tekapo was one.

In August 2009 the International Astronomical Union passed a momentous resolution in Defence of the night sky and the right to starlight in asserting

“that an unpolluted night sky allows enjoyment and contemplation of the firmament and its degradation is a fundamental loss; that control of glow enhancing lighting should be basic to conservation policies; that responsible tourism should be encouraged to take on board the night sky as a resource to protect and value in all destinations; that IAU raise awareness at local, regional, national and international levels and that protection of the astronomical quality of areas suitable for scientific observation of the Universe should be taken into account when developing and evaluating scientific and environmental policies with due regard for local cultural and natural values.”

Where does Tekapo Aoraki/Mt Cook stand in relation to these principles? I can say unequivocally that we can subscribe to all of them. We have exceptional unpolluted skies with very low light pollution because of the Lighting ordinances which are now nearly 30 years old; the landscape of lakes, mountains are truly outstanding and on the boundary of the National Park and Te Wahipounamu World Heritage site; the University Observatory at Mt John is engaged in research and contributing to a world wide network of astronomical endeavour; facilities will be developed to provide educational opportunities for young people; 1.4M visitors pass through the area annually providing enormous scope for astro-tourism and domestic and international public awareness of the importance of the night sky; the area has a fascinating geological history as well as biodiversity; the cultural importance to Maori cannot be underestimated and we have the support of the local community and government.

We are determined to support the Starlight Initiative and to achieve World Heritage status as a mixed site combining astronomical, environmental and

tourism values. Together we have to pull out every stop we know to persuade the World Heritage Committee that their Operational Guidelines are too restrictive and they must be revised to take into account the revolution which is taking place in astronomical and public understanding of what they have lost and what they must conserve. But if World Heritage rejects the initiative then we must be prepared to find an alternative pathway to achieving our goals for recognition.

E te whare, E tu nei, Tena Koe

**E nga iwi, E nga karangatanga maha, o nga hau e wha, o Te Ao Whanui
Tenei te mihi atu ki a koutou katoa.**

I greet this house, all people, all voices, all the many relations from the four winds of the wide world; I greet you all from the land of the long white cloud, Aotearoa New Zealand.