August Newsletter 2025

The Tāhuna Glenorchy Dark Sky Group is full steam ahead with plans for a local star compass, and more star talks and star gazing even though the weather this last month has been...less than ideal for star gazing. Maybe it's been more like cloud gazing this year!

After looking at a number of sites, we have earmarked the green space south of the skate park as the preferred area for the star compass. It's close to the lake, has views to both the Dart and Rees valleys, as well as a good amount of sky and views of the mountains to record sunrise and sunset (moon rise, stars rising and all of that good stuff). It's a great site for storytelling, too!

We have started the ball rolling with council for permission to use this area.

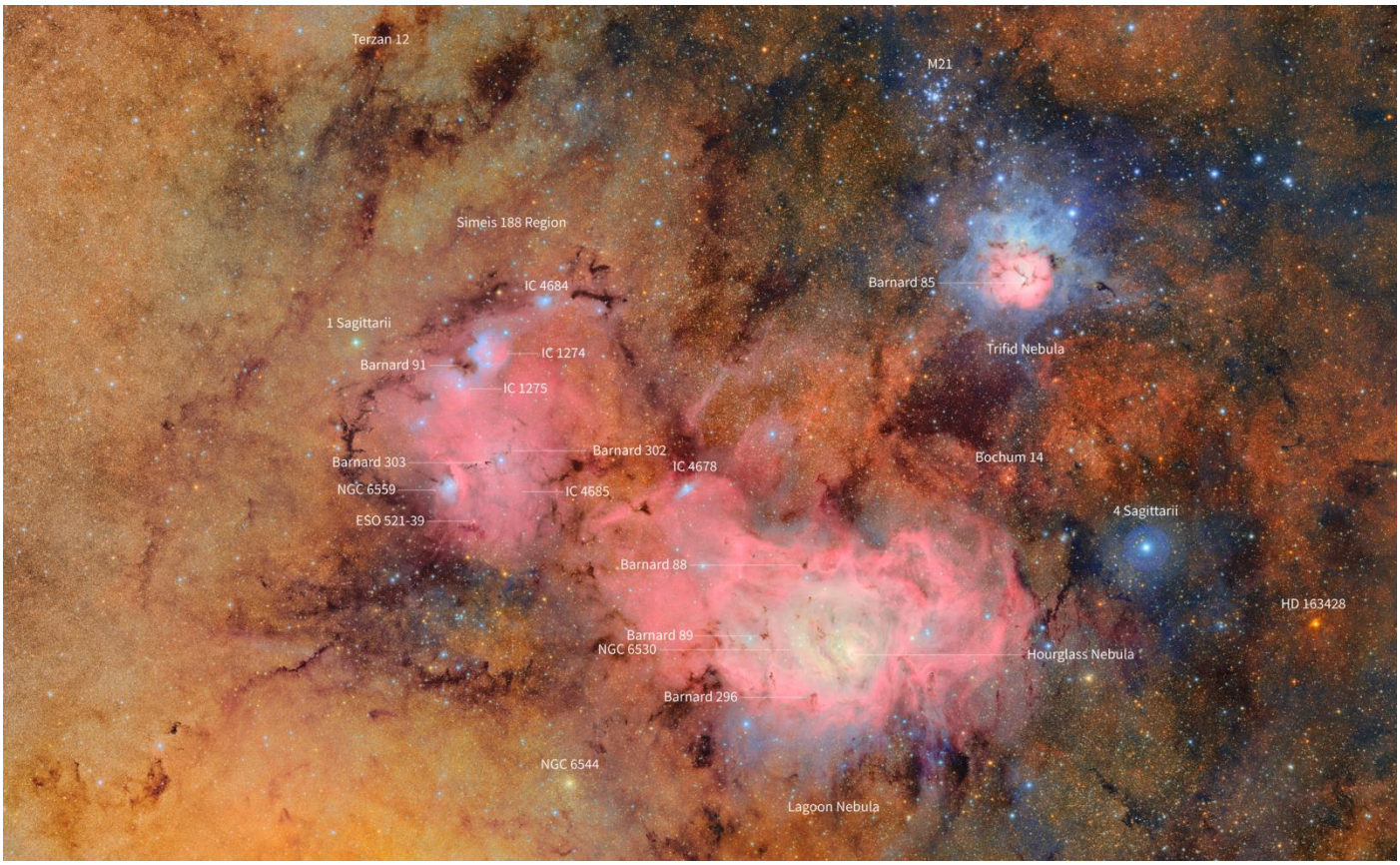
Now we need to think about what form we think our star compass should take and will be exploring ideas with everyone in the next few months.

Please do let us know what you think about the site and the Star Compass. You can send us an email at https://glenorchydarkskies.org.nz/contact/

Tāhuna GLENORCHY DARK SKIES

World Astronomy News

Astronomers have discovered a new comet / asteroid approaching the Earth from the core of the Milky Way Galaxy. Named 3I/Atlas it is thought to pass close to Mars in October this year. It will be closest to Earth in December. It is only the 3rd Interstellar object confirmed to enter our solar system from further away. All other comets and asteroids originate from within our own solar system.



Last month an amazing telescope observatory in Peru called the Vera C Ruebens telescope came online. (Image from this telescope shown above). The result of more than two decades of work, the Rubin Observatory is located at the summit of Cerro Pachón in Chile. The brilliant combo of dry air and dark skies provides one of the world's best observing locations. The 8.4-meter telescope has the largest digital camera ever built. Later this year, the Rubin will begin its primary mission, the Legacy Survey of Space and Time, in which it will scan the night sky continuously for 10 years to precisely capture every visible change. The result will be an ultra-wide, ultra-high-definition time-lapse record of the Universe. The images will reveal asteroids and comets, pulsating stars, supernova explosions, far-off galaxies and perhaps cosmic phenomena that no one has seen before! Maybe even some alien selfies...only time will tell but we're looking forward to seeing the images.

Learn the Night Sky

This month...
The Moon will be full on August 9th and the New Moon is on August 23rd.

Photo credit: Jordan McInally

About 300 to 500 stars can be seen with the naked eye on a night with the full Moon, but **3,000 to 5,000** stars are visible on nights without the light from the Moon Millions of stars can be seen through just a pair of binoculars and **billions of galaxies** can be seen through telescopes; with each galaxy being made up of millions of stars**.**

August is a good month for meteors...
The Piscus Austrinid (try saying that 10x fast...) shower continues until about the 10th of August. The Perseids peak on the 12th of August, although the moon will still be quite full at that time. The Aurigid shower begins on the 28th of August with its peak on the 30th. Meteor showers look like lots of falling stars as opposed to satellites that move and wobble across the sky.

In the Dawn Sky
We can now see all of Taramainuku's Waka o Rangi including the stars of Matariki (Pleiades) and Tautoru (Orion's Belt) If you don't know this story, this is a link to a good website for information https://matariki.twoa.ac.nz/the-setting-of-matariki/

For the early risers, Venus reaches its highest altitude in the morning sky, and Jupiter is now visible close, to Venus.

Fun Fact! Did you know Venus has phases like our moon? When seen through a telescope, Venus is often a crescent!

In the Evening Sky
The Constellations of Scorpius and Sagittarius are visible high in the sky. With binoculars try looking for gaseous nebulae in these constellations such as the Lagoon Nebula and the Trifid Nebula. Nebulae are giant clouds of gas, dust and plasma. They're the remnants dying stars but also often serve as new star nurseries, too.

Hot tip! The phone app **Stellarium** we told you about last month also has a web version!

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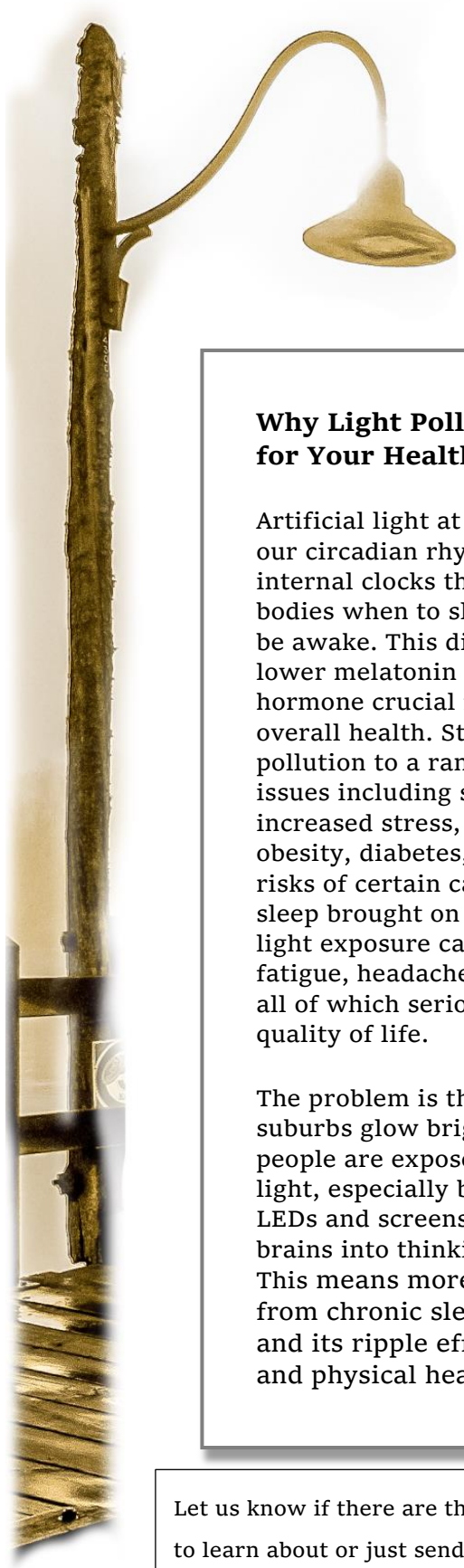
Let's talk about light pollution



Why Light Pollution Is Bad for Your Health

Artificial light at night disrupts our circadian rhythms—the internal clocks that tell our bodies when to sleep and when to be awake. This disruption can lower melatonin production, a hormone crucial for sleep and overall health. Studies link light pollution to a range of health issues including sleep disorders, increased stress, depression, obesity, diabetes, and even higher risks of certain cancers. Poor sleep brought on by artificial light exposure can also cause fatigue, headaches, and anxiety, all of which seriously impact the quality of life.

The problem is that as cities and suburbs glow brighter, more people are exposed to disruptive light, especially blue light from LEDs and screens that trick our brains into thinking it is daytime. This means more people suffer from chronic sleep deprivation and its ripple effects on mental and physical health.

Light Pollution in New Zealand: A Growing Concern

New Zealand, known for its stunning natural landscapes and dark skies, is experiencing rising light pollution, particularly in urban centres like Auckland and Wellington. According to recent studies, 54% of New Zealanders live in areas where night skies are brightened by artificial light, dimming the stars and affecting nocturnal wildlife. Light pollution is rising at a rate of 4.5% per year—higher than the world average. This is especially concerning given our country's commitment to preserving our unique environment and biodiversity.

Impact on the Environment

Many animals rely on natural light cycles to navigate, hunt, and reproduce. Excessive artificial light can confuse migratory birds, disrupt insect behaviour, and alter predator-prey relationships.

Moths, our insect of the year, play a crucial role as pollinators and are a food source for many other species. They are particularly vulnerable to light pollution. Artificial lights attract moths, disrupting their natural behaviours such as feeding and mating. This attraction often leads to exhaustion and increased predation, causing declines in moth populations. Since moths contribute significantly to pollinating native plants in New Zealand, their decline can ripple through ecosystems, affecting plant reproduction and the animals that depend on them. Let's try to keep the whole ecosystem healthy through reducing our light pollution. We can all do our part!

Let us know if there are things you'd like to learn about or just send us a hello at https://glenorchydarkskies.org.nz/contact/

Keep it starry!

The Tāhuna Glenorchy Dark Skies Crew