



Sustainable development and Astro-tourism

Antonia Varela

Fundación Starlight
Institute of Astrophysics of Canary Islands

2º PREMIO - Jorge Humberto Velázquez - Tema: Noche Mágica
III MARATÓN FOTOGRÁFICO M-Starlight



Topics

1. **La Palma Declaration** (April 2007)-Starlight Initiative and Fundación Starlight.
2. **Astro-Tourism**: What is it? Where is it?
...Dark Sky Oases (DSOs)
3. **Cases** of study
4. **Values** of DSO
5. **Resources** and **Training**
6. **Benefits**
7. **Lessons** learned



La Palma Declaration (April, 2007)

COUNCIL OF EUROPE (Spatial Planning and Landscape Division)
CMS-UNEP (Convention on the Conservation of Migratory Species of Wild Animals)
ESO (European Southern Observatory)
European Commission - DG-TREN (Sustainable Energy Europe Campaign)
IAU (International Astronomical Union)
Ramsar Convention on Wetlands
SCBD (Secretariat of the Convention on Biological Diversity)
UNESCO (United Nations Educational, Scientific and Cultural Organization)
Unión Latina
UN-WTO (UN World Tourism Organization)



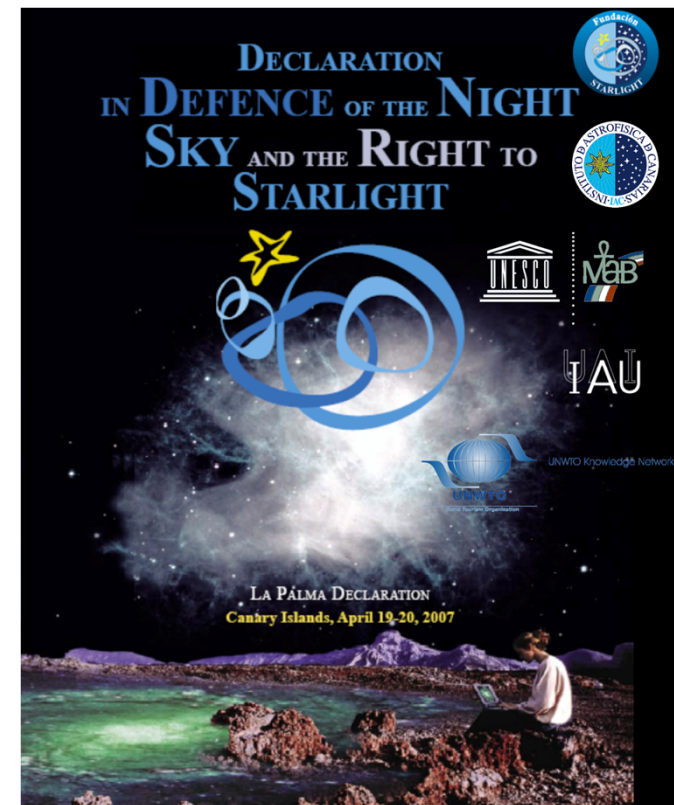
International Non-governmental Organizations:

CIE (International Commission on Illumination) **EREC** (European Renewable Energy Council) **IDA** (International Dark Sky Association) **ITR** (Responsible Tourism Institute) **SEAC** (European Society for Astronomy in Culture)

Promoters - Organizers:

Cabildo de La Palma
Government of the Canary Islands
IAC (Instituto de Astrofísica de Canarias)
La Palma Biosphere Reserve
MAB (UNESCO - Division of Ecological Sciences / Man and Biosphere Programme)
Spanish Ministry of Environment
INTERNATIONAL DARK-SKY ASSOCIATION EUROPE
OPTICON
Optical Infrared Co-ordination Network for Astronomy

VERENIGING VOOR STERRENKUNDE VZW
WERKGROEP LICHTHINDER
Institutions of 23 countries



La Palma Declaration (April, 2007)

9 Among others, tourism can become a major instrument for a **new alliance in defence of the quality of the nocturnal skyscape**. Responsible tourism can and should take on board the night sky as a resource to protect and value in all destinations. Generating new tourist products based on the observation of the firmament and the phenomena of the night, opens up unsuspected possibilities for **cooperation among tourism stakeholders, local communities, and scientific institutions**.

La Palma Declaration, 2007

UNESCO, UNWTO, IAU, UNEP-CMS, COE, SCBD, MaB, EC and Ramsar Convention.



@F. Ruiz, Monasterio Starlight de El Olivar, Teruel, Spain

Fundación Starlight Goals



Protection of the
night skies



Smart lighting
and energy
saving



Cultural
dissemination of
the astronomy



Astro-Tourism
Training,
Advise &
Consultancy

Starlight, a common heritage

**One People — One Night Sky
Astronomy is for Everybody**



What is Astro-Tourism?

Astro-tourism is a **sustainable and responsible** form of tourism that combines night sky **observation, outreach and leisure** activities related to astronomy.

Trends:

- Desire to enjoy stargazing
- **Interest in knowledge, particularly in astronomy**
- Demand for quality and expertise (Starlight training)
- **Selectivity of destinations**
- Infrastructures
- **Search for authentic experiences**



Where to go for Astro-Tourism?

La Palma Starlight, Canary Islands

Starlight Albarari Glamping, Galicia



Los Pedroches Starlight, Córdoba, Andalucía

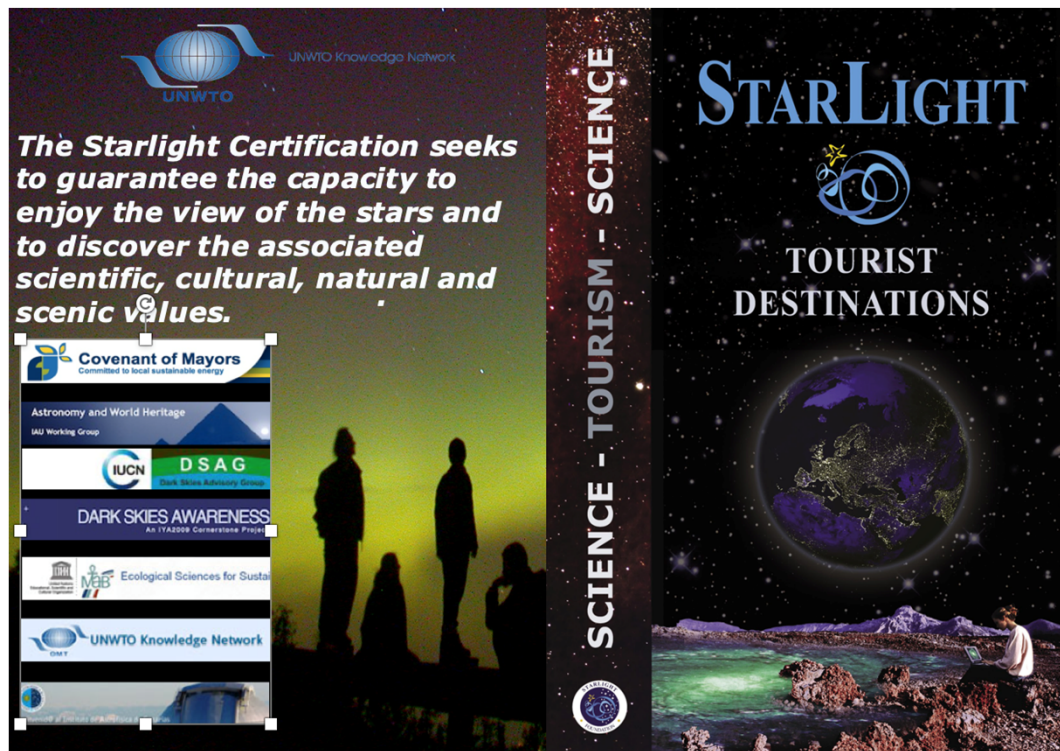


- ✓ **Environmental requirements** (night and day sky quality) and others related to **natural, cultural and scientific** resources.
- ✓ **Visitable, accessible and safe**
- ✓ **Infrastructure and services.**
- ✓ **Intelligent lighting strategies and regulations.**
- ✓ **Strategy and management of starlight-related resources.**
- ✓ **Knowledge management** (research, innovation, education and information).
- ✓ **Astro-tourism program macro-management.**

Dark Sky Oasis Scheme

IUCN-DSAG Class	Zenith Brightness Threshold (NSU)	International Dark-Sky Association (IDA) Category	Starlight Foundation Category	Royal Astronomical Society of Canada (RASC) Category
1	1.1	International Dark Sky Sanctuary	Starlight Reserve	Nocturnal Preserve
2	1.6	International Dark Sky Park	Starlight Landscape; Starlight Wilderness	Dark Sky Preserve
3	4.0	(none)	Starlight Heritage Site	(none)
4	2.6	Urban Night Sky Place	Starlight Astronomy Site; Starlight Tourism Destination; Starlight Stellar Park; Starlight Camp	Urban Star Park
5	2.6	International Dark Sky Reserve	Mixed Starlight Site	(none)
6a	4.0	International Dark Sky Community	(none)	(none)
6b	3.0	International Dark Sky Community	Starlight Oasis; Starlight Village	(none)

Starlight Tourist Destinations: bringing for first time science and tourism together



They are scenarios that incorporate the **preservation and observation of the sky** as part of the natural, scenic, cultural and scientific heritage and encourage “Star Tourism”, promoting **infrastructure, products, activities and training of specialized guides** in sustainable tourism.

Astronomical and astrotouristic audits are required.

Other accredited Starlight modalities

Rural Hotel&Houses, Inns, Camps, ...

Stellar Parks, Wilderness, farms, activities. ... Cultural Monuments



Starlight Lighting



Case study: La Palma Starlight Reserve & Starlight Tourist Destination



One of the best skies of the world, the island hosts the Roque de los Muchachos Observatory.

The first Starlight Reserve of the world, also named Starlight Tourist Destination in 2012. The STD are the only certification on astrotourism after restrictive audits (astronomical + astrotouristic).

UNESCO Biosphere Reserve
Sky Law in 1988 & La Palma Declaration in 2007

More than 120 Starlight Guides & Monitors.
Starlight wineries, trails and rural hotel & houses.
Astronomical viewpoints, hiking trails, visitors centers, G-Astronomy, etc.

Annual Income about 29.5M€ on astrotourism (total about 220M€).

Case study: Aoraki-Mackenzie International Dark Sky Reserve (New Zealand)

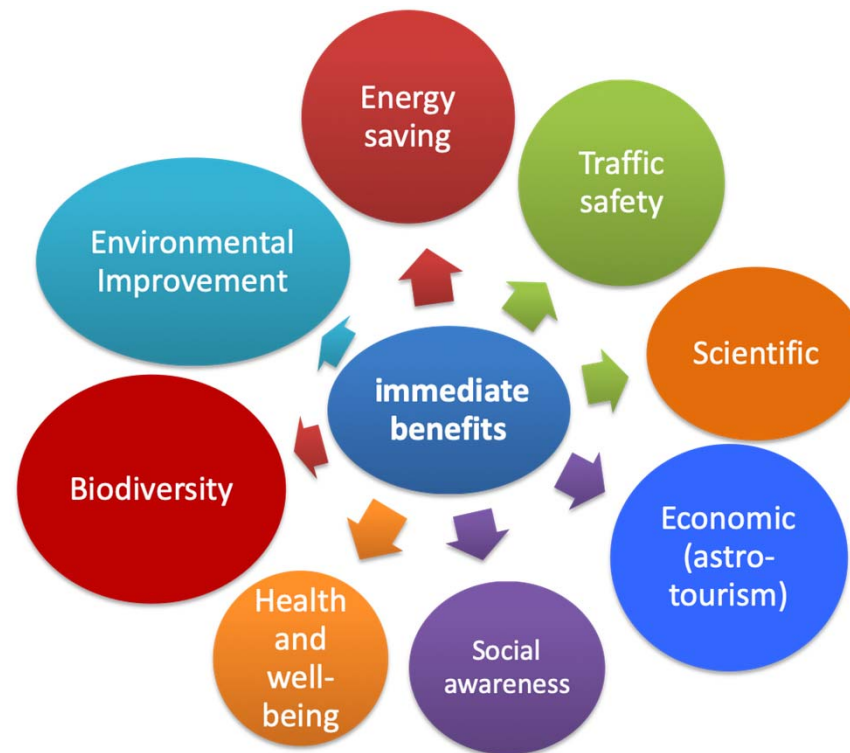
Astro-tourism had its major launch in Tekapo in 2004, although some small stargazing ventures were there from early 1990s.

AMIDSR was founded in 2012 with IDA accreditation

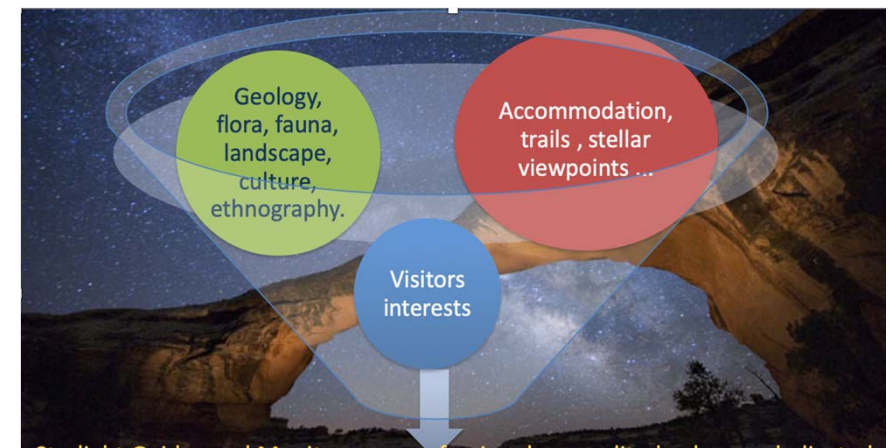
Visitor spend in the Mackenzie District now exceeds NZ\$320m per year (in 2018)



What are the values of Dark Sky Oases?



Resources for Astro-Tourism and Training



- ✓ 112 Starlight Guides
- ✓ 526 Starlight Monitor
- ✓ 35 Introduction in Astrotourism
- ✓ 37 Lighting Technicians
- ✓ 18 Starlight Auditors

> 15 nationalities

Benefits



- Overnight stay
- Deseasonalization
- The decentralization of supply
- Powerful tool against depopulation

In covid pandemia is emerging because:

- ❖ Open spaces
- ❖ Safe
- ❖ Attractive and quiet places
- ❖ Not overcrowded
- ❖ Personalised products
- ❖ Inclusive
- ❖ Excellence+knowledge+experience



Dark and Quiet Skies for Science and Society II

Implementing the recommendations

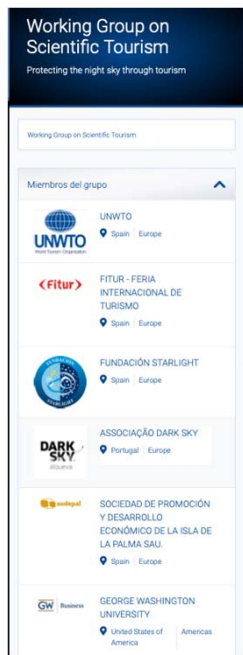
La Palma, Canary Islands, Spain

3 - 7, October, 2021

Scientific/Astrotourism WG Affiliate Members UNWTO led by the Starlight Foundation

41ST Plenary AAMM UNWTO, 6-11 September 2021, St. Petersburg (Russia)

I International Astrotourism Conference by Starlight, 6-11 Sept. 2021, Évora (Portugal), included in AAMM UNWTO Agenda 2021



Science and Tourism in the horizon of the touristic industry and to reach the SDG's of Agenda 2030

3 October 2021



Antonia Varela

Lessons Learned

A sustainable astrotourism industry in an area depends strongly on **careful planning** to ensure that the growth of a tourism infrastructure does not imperil the resource that tourists come to experience.

It is important to **involve local communities** in decision making early.

Study examples from around the world to understand **best practices**.

The appeal of astrotourism is not limited to astronomy, but rather encompasses **all aspects of the nighttime experience** in a naturally dark place.


To be leaders in astrotourism, it is necessary to **innovate, diversify and sophisticate the offer**, personalizing it in each destination and promoting the development articularly.



Starlight Foundation & BPW Spain SDG18 Sky Quality And Access To Starlight



www.ods18.org

 Sign the petition

Let's protect the sky

Threats:
ALAN
Radio wavelengths
LEO satellites



Questions?

Thank you for your attention.



DARK & QUIET SKIES

Acknowledgement: Dark&Quiet Sky Oases WG and ALAN WG

Antonia Varela

avp@iac.es

directora@fundacionstarlight.org

www.fundacionstarlight.org



UNITED NATIONS
Office for Outer Space Affairs

