

# Why one group is pushing to become Bay Area's first 'Dark Sky Community'

Carlos Avila Gonzalez/The Chronicle SAM  
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On a rare moonless, fogless and even windless September night in Point Reyes Station near the Marin County coast, eight people hiked out into the pitch-black darkness in search of the Milky Way.

They carried no binoculars, telescopes or other visual aids, because that would be cheating: The ability to observe our full glowing galaxy with the naked eye is a criterion for qualifying as a Dark Sky Community, an appellation exalted by stargazers that no other community has attained, or even aspired to, in Northern California.

West Marin County will be the first, if it meets strict requirements set forth by [DarkSky International](#), a Tucson-based volunteer nonprofit committed to restoring the natural nighttime environment.

"Eighty percent of North America cannot see the Milky Way because of the light pollution," said Don Jolley, a retired Bolinas science teacher who describes his newfound occupation as "carny barker for the night sky."

He is among a core group of environmental activists, led by Point Reyes Station residents Peggy Day and Laura Arndt, both retired emergency room nurses, who want to keep West Marin as dark as humanly possible.

Their motivation is both aesthetic and practical. If West Marin becomes a certified Dark Sky Community, which will require action by the county Board of Supervisors to limit the brightness of exterior lighting, the effort might add a layer of protection against creeping light pollution — and the residential and commercial development that causes it.



Above: Laura Arndt, Don Jolley and Peggy Day hold monthly dark sky astronomy viewing walks in Point Reyes Station. West Marin is seeking to become a designated Dark Sky Community, the first in Northern California. To qualify, it must be dark enough to see the Milky Way on a clear night. To build support, Jolley, a retired schoolteacher, holds a monthly night walk when weather allows. Top: In a 30-second exposure, stargazers look up at the Milky Way during a dark sky astronomy walk in Point Reyes Station on Sept. 10.

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"I have concerns about what's to be lost when we can't see the night sky," said Jolley.

There are 27 verified Dark Sky Communities in the United States. Flagstaff, Ariz., became the first, in 2001, winning recognition for its campaign to curb light pollution through outdoor lighting policy and retrofits.

In California, only two communities have earned the certification of DarkSky International. Both are northeast of San Diego: Borrego Springs, surrounded by the largest desert state park in the nation, and the mountain town of Julian.

"It is a long, complicated process," Day said. "We've been working on it for three years, fulfilling their guidelines."

A 40-page application form has to be submitted, including answers to dozens of questions, letters of support from government officials, charts, maps and photographs.

Moreover, the community must submit a full year of data on sky glow, recorded with handheld sky quality meters. The meters give a reading on the brightness of night sky in order to detect light pollution. Day plans to conduct the survey this winter in all of the towns on the application.

"Every community that applies is required to meet the same standards to get recognition as a certified International Dark Sky Community," said Ruskin Hartley, executive director of the organization. "It's about monitoring the quality of the night sky and demonstrating a commitment to natural darkness at night."

The standards are high. The tiny community of Muir Beach may be serene, but it is not included in the West Marin application because it gets too much light bleed from San Francisco. Yet, Stinson Beach and Bolinas are far enough from the city to be protected. Also included are Olema, San Geronimo Valley, Nicasio, Inverness, Inverness Park, Point Reyes Station, Marshall, Tomales and Dillon Beach.

The area is unincorporated and amounts to half the acreage of Marin County. The Point Reyes Station Village Association is sponsoring DarkSky West Marin, the entity behind the application, and a [website has been launched](#) to back the effort.

The application fee is only \$250, but Day estimates the campaign — which involves website maintenance, educational presentations in the individual villages, venue rentals, speaker honorariums, printing costs and office supplies — will span five years and cost \$25,000.

Separate from that price tag are the modifications that must be made to dim outdoor lights that don't meet DarkSky International standards. The organization requires that no single outdoor light in a public or private area be stronger than 3,000K, which would put it on the softer and warmer side of the kelvin scale measuring the intensity of light emitted by LED bulbs.

"We plan to look at all bright lights and measure the brightest, but we won't become the light police," Day said. "We are hoping folks on private property decide to make changes on their own. It's already happening."

The Marin County Fire Department recently replaced glaring spotlights with downward-facing light fixtures as part of a remodel of the Point

Reyes Station Firehouse, and West Marin-Inverness School in Point Reyes Station has toned down its nighttime security lighting.

Currently, 150 LED streetlights exceed the allowed level in the West Marin dark sky zone. Day knows this because she counted them, mostly by driving around with a map.

"The light that is bouncing up into the sky," she said, "is coming from the streetlights."

Replacing those bulbs will cost \$250 apiece plus installation, an additional cost of at least \$37,500, though some of them could possibly be retrofitted, which would reduce the cost.



The Andromeda Galaxy, the Milky Way's closest galactic neighbor, is faintly visible during a dark sky

astronomy viewing in Point Reyes Station on Sept. 10.

Carlos Avila Gonzalez/The Chronicle

To move that effort along, the Point Reyes Station Village Association has proposed what it says would be [Marin's first county lighting ordinance](#), covering unincorporated West Marin. Its provisions include restricting illumination levels, limiting outdoor lighting and providing enforcement. It targets full compliance within 10 years.

Supervisor Dennis Rodoni, who represents West Marin, has helped lead the local dark sky effort, according to the group's website. He did not respond to email and voicemail requests for comment, including about how the designation could affect future development in West Marin, with the county under pressure to [build 14,000 new housing units](#) within a decade to meet its state-mandated goals.

Sarah Jones, director of the Marin County Community Development Agency, which regulates buildings on private property, said she has had background discussions with Rodoni on the issue. But she noted it would take a request from the full Board of Supervisors to consider a new lighting ordinance or policy change for West Marin.

The Community Development Agency also oversees new development and construction.

"I don't see the dark sky initiative as an attempt to slow or stop development," she said. She added, though, that while she thinks it's a "great concept," she is "concerned about implementing and enforcing a lighting ordinance on private property."



Attendees gather on a marsh trail west of town during a dark sky astronomy walk in Point Reyes Station on Sept. 10.

Carlos Avila Gonzalez/The Chronicle

Outreach and fundraising for the effort are underway, including an event at 6 p.m. Friday at the Dance Palace Community Center in Point Reyes Station. Titled "The Night Lives of Our Wildlife: How Light Pollution Affects Ecosystems," it will explain the science behind the application for dark sky status, and how it will improve the quality of life for all residents of West Marin.

"This is not just about us," said Arndt, a local movement co-leader. "Every single living creature needs the dark, even moths that spend their nights flying around a lightbulb that could be turned off."

Arndt said light pollution is increasing nationwide at 10% a year, but that if the Board of Supervisors goes along with the plan to replace or

retrofit streetlights, West Marin could be the outlier, decreasing light by 10%.

"Let's make it a goal that we can see the Milky Way from everybody's backyard," she said, "because many people in this country have never seen it."

To build awareness, DarkSky West Marin hosts a monthly event called "Star Watching with Don Jolley" before the new moon rises. That part is easy to schedule. But it also takes a night without fog, and that is difficult to pull off in West Marin. A seven-day window is posted to the website.

"We take the first cloud-free night in that window," Jolley said, "but it is always a crapshoot."

So far this year, the January, March, May and July viewings were canceled altogether, and the August event happened at the last minute. Still, 19 people came out, paying a \$10 donation.



Star trails swirl over an old milking barn in a 10-minute exposure during a dark sky astronomy walk in Point Reyes Station on Sept. 10.

Carlos Avila Gonzalez/The Chronicle

On the first Friday night in September, the stargaze was on until one hour before darkness, when the fog rolled in, and it had to be postponed until Sunday.

The eight gazers parked near the firehouse, loaded up folding chairs and hiked 100 yards into the marsh at Giacomini Wetlands Restoration Project.

Laurie Tolen and her partner, Jason Means, had parked their camper in Point Reyes Station on Sunday night, when a small crowd formed in the lot. Tolen and Means had not heard of DarkSky West Marin, but they followed the crowd out into the field.

"It was one of the most phenomenal experiences I've ever had," said Tolen, who has been a resident of the Concord area for 37 years.

Jolley, armed with a small laser pointer, pointed out the bull, the dragon, the arm with a bow, the Big Dipper and the Milky Way, which Tolen had seen only on the Discovery Channel.

"I live in the East Bay where we don't see stars like I did there," said Tolen. "It was fabulous."

Heather Ireland of Placer County had been vacationing in Point Reyes Station when she saw a flier for the initiative posted on a bulletin board. That got her to attend the stargazing event.

"What awed me the most was how clear the Milky Way was. You can't see it where I live," she said, before turning philosophical.

"It puts us back in touch with our prehistoric beginnings, the reverence of Earth and sky, and the connection between the two."

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