

A night of observation, exploration at Hilltop meadow

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On Sept. 19, local astronomers, stargazers and conservationists alike gathered in the Grand Forest's Hilltop meadow for a night of observation and exploration.

The unique event, which took place on NASA's 'International Observe the Moon Night,' was co-hosted by the Bainbridge Island Land Trust and the Battle Point Astronomical Association (BPAA). Observations included the Andromeda galaxy, Saturn, the Great Hercules Cluster, stars such as Arcturus, Deneb and Vega, the International Space Station and a Waning Gibbous (slightly more than half full) moon, as well as nocturnal wildlife.

"We've been doing these night walks every solstice and equinox," said Gina King, conservation director of the Bainbridge Island Land Trust. "They help people to experience what the forest is like at night with as little aid of light as possible as you walk through the trails."

The Grand Forest, one of Bainbridge's critical wildlife corridors, provides habitat to a diverse array of species, including Pileated Woodpeckers, Barred Owls, and bats, the latter of which was on display Sept. 19. The event is part of the Land Trust's 'Dark Sky' conservation, which aims to protect wildlife habitats, reduce light pollution, and preserve the night sky.

"Light pollution affects both wildlife and our ability to see the stars at night," King said. It's an issue that affects both organizations. We connected with the Astronomical Association with this idea that we could combine a star party with the night hikes."

Among the night's astronomical



Hilltop meadow at dusk Sept. 19, the site of an event co-hosted by the Bainbridge Island Land Trust and Battle Point Astronomical Association.

attractions were globular clusters, which are very old stars congregated together and gravitationally bound, according to Frank Petrie, president of the BPAA, who also attended the event.

"When you look at them in a telescope, they look like a bunch of bees buzzing around a beehive. You don't actually see them moving, but because they've been observed for many, many years, astronomers know that stars do change position within the cluster," said Petrie. "They're some of the oldest stars in the galaxy."

Petrie also discussed another astronomical phenomenon, which BPAA is actively studying: exoplanets.

Classified as planets outside our solar system, most but not all of which orbit a star, more than 6,000 exoplanets have been confirmed, out of the billions that may exist, per NASA's website. But, NASA, as Petrie noted, needs help.

He connected the BPAA's work to two NASA space telescopes, the now-defunct Kepler telescope, launched in 2009, and the TESS (Transiting Exoplanet Survey

Satellite) telescope, launched in 2018, which were each tasked with the mission of discovering exoplanets.

"They've scanned the whole sky and found a lot of candidate exoplanets... but there needs to be follow-up observations to confirm those," said Petrie. "That's where amateurs come in, because it requires a lot of time observing the star. The big telescopes, they can't be dedicated to just staring at one star for hours and hours and hours because they're too valuable for doing other types of work. Amateur

astronomers can do those follow-up studies, and that's what we're getting into."

BPAA has recently recruited a small group of interested Bainbridge High School students to participate in this program, a rare opportunity for young, aspiring astronomers.

"If they take the observations that can confirm that there's an exoplanet there, [the students] get their name on the paper that's published to announce the discovery; it's pretty exciting," said Petrie.

The observations are possible thanks to BPAA's high-end equipment. "We've done some preliminary work evaluating the equipment we have, and it turns out that we've got really, really good equipment that's going to really lend itself to doing these studies," Petrie said.

Among the most 'serious telescopes,' according to Petrie, is the telescope in the observatory at Battle Point Park, a PlaneWave CDK-14, which BPAA is currently using to study exoplanets.

On Sept. 19 at Hilltop, equipment included a Celestron CPC-925 telescope, used to observe the moon and its many vast craters and a Dwarf Mini Smart Scope, which captured an image of the Andromeda Galaxy that was later shown on an iPad.

"A 'Smart Scope' takes a whole bunch of images and stacks them and builds them up, so it's essentially taking a very long exposure," said Petrie.

Another example of cross-organization (or rather, cross-national) collaboration is the International Space Station, which was also visible to the naked eye from Hilltop Sept. 19, flying over the Pacific Northwest 48° above the horizon at 8:47 p.m. The ISS, part of an international partnership of five space agencies across 15 countries, features an international crew of seven astronauts and travels at a rate of five miles per second, orbiting the Earth once every 90 minutes or 16 times per day, per NASA's website.

Both the Land Trust and BPAA plan on further collaborations and observations of both terrestrial and astronomical observations.

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