

From <http://tinyurl.com/elbel-quantify>

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Quantifying the Night at Elbel

February 2, 2016

While the Presidential caucus was playing out in Iowa, a more ingenuous slice of Americana was underway in the community room of a South Bend park. A grassroots group of about 120 concerned citizens had gathered to address a decision by the city administration to sell or lease a large city asset.

As an organizer spoke of key ideas, a flock of large birds circled widely in the background. Small group discussions were summarized and shared, some individuals and elected representatives and park reps weighed in, and a future plan of action was announced. Everyone said the right things. It was all very tidy, civil, and likely to yield a resolution that will be favorable to most parties. Thanks go to all participants at the Elbel for Everyone meeting for the democracy-in-action moment.

After the public meeting I gave a printed copy of At Risk at Elbel Park to each of two park reps in attendance and I headed for the door. The short blog post advocates for protecting the night sky by following a few simple tenets: fully shield all outdoor lights; use LEDs with a CCT at or below 3000K; and minimize glare, light trespass, and sky glow.

When I walk out of a building at night, my pattern is fairly consistent. I clear the building, move out of the way of pedestrian traffic, and look up. If it's cloudy I move on. Tonight was clear--as clear as the simulated image of the night sky I had included in the blog post.

In the parking lot I spoke with some people about the night sky and its value at Elbel, and we enjoyed a moment under the sky looking at Orion.

There was only one thing for me to do--go to Elbel! In At Risk at Elbel Park I propose quantifying the darkness at the park with a Sky Quality Meter, which I did not have in my car. Instead I could use the Dark Sky Meter (DSM) app on my cell phone.

From the Elbel parking lot I walked east down a slope and onto the golf course. There are only two lights in the main parking lot, but their "cobra head" luminaires permit a boatload of glare. I had to shield my eyes at night, all the while wondering "What's wrong with this picture?" as I trekked further from the obnoxious pair.

I took five DSM readings just after astronomical twilight (7:31 p.m.) as I wandered across a fairway or two, and submitted each to the Globe at Night data set. In time the recorded values will be reflected on the global 2016 [results map](#). For now I can tell you the night sky averaged **19.16** magnitudes per square arc-second.

In the blog post I had written, "I anticipate measuring the quality of the night there, and I expect it to approach 19 magnitudes per square arc-second. For a comparison with downtown South Bend values see [Power Outage Darkness](#), in which I measured the darkness with a Sky Quality Meter (SQM) during a May 2014 power failure. During the outage, the downtown sky averaged about 17 magnitudes per square arc-second. If I've got my math right, that suggests the nighttime at Elbel may be about two magnitudes greater, or six times darker (2.5 squared)."

I was happy to have had a clear sky to quantify the darkness at Elbel, [northwest of South Bend](#), especially after I had called on supporters to quantify the assets so we know what is at risk of being lost. But I was even happier simply to stand under the firmament and look up at the splendor overhead.

Orion was zooming! Down and to its left was the brightest star in the night sky, Sirius. The Pleiades grabbed my attention, but they were competing with so many other points of light. I had a deficit of attention among an abundance of star points.

Lastly I sought out [Indiana's Bicentennial Star](#), the star Scheat in the corner of the Great Square of Pegasus. There it was, right where it was supposed to be, toward the west, in the direction of the parking lot and those two offensive lights I had left behind. The second magnitude star was readily visible because the limiting magnitude at Elbel was a beautiful mag=5.6, per the DSM.

Most folks at the Elbel For Everyone meeting sought a one-year delay on any city decision on the park's future role to allow a new commission to solicit public input, to deliberate, and to formulate a recommendation. In that same year the state of Indiana would be [celebrating its bicentennial](#). I genuinely hope the dialogue about this park yields a favorable long-term outcome for the night sky there.

I see a preserved night sky as a bicentennial gift to future generations who will be looking skyward fifty years hence. What will we be able to claim as our deliberate action on their behalf? We have the potential to pass on the planets, the moon, and the stars. Or we could snuff out the darkness in a flash.

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