

MIDDLE FORK RIVER FOREST PRESERVE

SUMMER, 2021

Summer is the best time of the year to take advantage of the dark skies over the Middle Fork River Forest Preserve, though the long summer days mean you have to start later in the evening. The Milky Way blazes overhead, running north to south. Bring your binoculars and your camera!

If you're out near sunset, look westward for the brightest "star" in the sky. This isn't a star but the planet Venus. Venus has been steadily getting higher in our sky each day but the rise is slow. Venus will pass Mars on July 12th with Venus getting higher and Mars heading towards the glow of the Sun. Mars will pass behind the Sun in early October so it isn't placed well for observing this summer. Venus appears to move from right to left along the horizon, appearing nearly due west in early August. Venus appears to come very near the star Spica on the evening of September 5th. Having a crescent Moon near Venus is always a wonderful sight. You can see this gathering on the evenings of July 11th, August 10th & 11th and September 9th.

The Milky Way begins in the northeast with the familiar "W" shape of constellation Cassiopeia. Scan just below the "W" (closer to the horizon) for the Double Cluster, two star clusters next to each other. These are both "open clusters," groups of 100-200 stars in the disk of our Milky Way galaxy.

Nearly overhead is our "summer triangle" consisting of three bright stars. If you're facing south, Deneb is to the upper left, Vega to the upper right, and Altair below. Deneb marks the tail of Cygnus, the Swan (also known as the northern cross), Vega is part of Lyra, the harp, and Altair is brightest in Aquila, the Eagle. Deneb is a star roughly 60,000 times brighter than our Sun, but its enormous distance from us (1425 light years) renders it as the 19th brightest in our sky. If you have a telescope, look at the tip of the cross, a star called "Albireo." It is a wonderful double star with each having a distinct color, blue and gold. Use your binoculars and look in the middle of the triangle for a small cluster called Collinder 399 which looks like an upside-down coat hanger! Also note in Cygnus how the Milky Way seems to split into two lanes. What's actually happening is dust is blocking the light of the stars behind. You can't see this from nearby cities!

If you can find Lyra, note how Vega is joined by four stars that make a parallelogram. Point your telescope halfway between the two southernmost stars in the parallelogram. It's faint but you might see what looks like a small donut. This is the Ring Nebula (M57), the expanding shell of a dead star. The "M" stands for Charles Messier, an 18th century comet hunter. Eventually our Sun may follow in this star's footsteps.

If you follow the Milky Way to the south, you'll see a few bright spots in the star clouds. South of Altair is the open cluster, M11, better known as the "Wild Duck Cluster." A telescope will show the stars aligned roughly in "V"-shapes, like birds flying south for the winter. You'll also find the Omega Nebula (M17), a star forming region of glowing hydrogen gas. If you look up these objects you'll see wonderful colors, but know the human eye needs a certain threshold of light to see color, so most will seem gray.

Near the southern horizon are two more constellations. Scorpius, the Scorpion, appears as a letter "J," and boasting the red giant star Antares, 700 times the Sun's diameter! Look with binoculars near the tail of the scorpion and you'll find two more open clusters, M6 and M7. Above these clusters is the spout of the Teapot. The constellation is technically Sagittarius but, instead of an archer, imagine a

teapot! Use those binoculars to look just above the spout of the teapot for the Lagoon Nebula (M8). The Lagoon is also a star-forming region with a star cluster embedded inside it.

Further left of the teapot, you'll easily see two very bright starlike objects. The westernmost is Saturn, followed by Jupiter, the brighter of the two. If you hold your binoculars still, Jupiter just may show you several moons. The four moons discovered by Galileo are easily seen with a small telescope as are the rings of Saturn. Both planets are best seen when they are closest to our Earth (meaning we're all on the same side of the Sun, an event called "opposition"). Opposition for Saturn is August 1 with Jupiter following nine days later. At opposition, a planet rises as the Sun sets and is visible all night.

Those of you camping at the Middle Fork get a good look at the morning sky. If you're there sometime from the end of June to the end of July, you may catch a glimpse of the planet Mercury. Greatest separation from the Sun occurs on the 4th of July. Look low in the east-northeast.

One of the fun things to do at the Middle Fork, with its pristine skies, is watch meteors. The Delta Aquarid shower peaks during the morning hours of July 28. The biggest meteor shower of the year is the August Perseids, though. You can see Perseid meteors throughout August but the mornings of August 12 and 13 are best. Under ideal conditions, you might see an average a couple of meteors per minute. And we'll have ideal conditions in 2021 as the Moon will set early in the evening leaving dark skies for meteor watching. And you don't need a telescope! A comfy lawn chair facing straight up is best but do dress warm as it gets rather chilly after midnight, even in August. Try the Waterfowl Viewing Area parking lot, north of the campground. Good luck and have fun!