

The Observer's Challenge Objects

Submitted by Larry McHenry, Pittsburgh, PA, USA. <http://stellar-journeys.org>

October: **NGC 7293** – Planetary nebula - Aquarius; $\text{mag}_v=7.6$; RA: 22h 29m 39s Dec: $-20^\circ 50' 14''$

NGC7293 is located in the Fall constellation of Aquarius - 'The Water Bearer', and is known as the 'Helix Nebula'. It is one of the nearest planetary nebula at about 650 light years distant, and about 10,600 years old, and about 2.9 light-years in size. NGC7293 was discovered by German astronomer Karl Ludwig Harding in 1824, at the Göttingen Observatory, located in Göttingen, Lower Saxony, Germany.

Visually, due to its large dim ring-shape size, (about half the apparent diameter of the Moon), the Helix is best observed with wide-field, small aperture telescopes.

Visual Sketch:

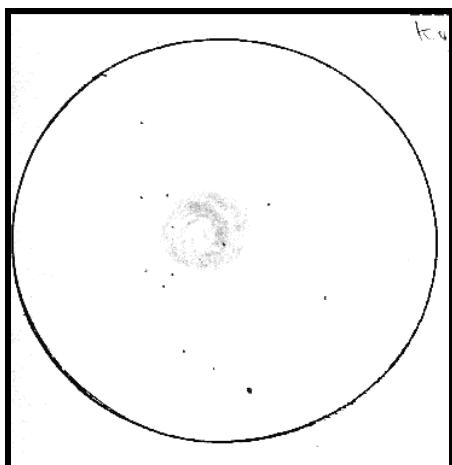
09/08/1991 dark country farm south of Pgh, PA..

Using a 8" f4.5 Dob Reflector (Coulter red-tube) 16mm eyepiece & UHC filter (57x).

Video-Capture:

09/07/2015 from Cherry Springs State Park at the Black Forest Star Party,

Using an 80mm Refractor f5.5 on a GEM mount, with an analog video-camera & IR filter @ 60 seconds, unguided single exposure.



West is to the left.



Visually, the planetary nebula is very large and dim. Overall a ring-shaped mottled look with a lighter center with several embedded stars, in a rich star-field.

EAA Observation:

12/12/2023 from the Calhoun County Dark-Sky park in WV.

Using a 8" SCT optical tube @ f6.3 on a GEM mount, with a CMOS/USB color camera and narrowband filter @ 300-second guided exposure livestacked for 1 hour.

08/25/2025 from ORAS Observatory, PA.

Using a SeeStar S30, 60 second exposure, with the NB filter, stacked for 41 minutes.



 Seestar S30

79°W,41°N/2025-08-25 02:09

41min.