

Polar Bears and the use of Thermal Cameras

I've seen a lot of references about Polar Bears being virtually undetectable by thermal cameras. Just google it! There are some rather misleading articles also on some well-respected sites such as BBC wildlife and National Geographic and presumably others have just reported/copied information and spread it without any other checks or investigation or back up or further clear explanation. A bit more searching and I found a research project reported on by WWF where they use thermal imaging from aircraft successfully to find and identify Polar Bears and Seals on the ice/snow etc. This seemed a little contradictory and confusing. Knowing that many other mammal watchers and birders etc, as well as myself, use modern readily available thermal cameras I was intrigued as I was about to travel to the Arctic.

I was privileged to travel into the pack ice to over 82 degrees north in July this year from Svalbard on a commercial expedition ship. I hesitated whether taking a thermal would be of any use as one of the main reasons was clearly to try and see Polar Bear. Having used my thermal camera extensively for a few years in various environments and conditions, common sense seemed to suggest there would be a reasonable contrast between any mammals and birds registering on the thermal image against the background, particularly snow and ice irrespective of how well insulated they were. I knew that would be a little more difficult on the Svalbard mainland against rocks etc in summer sun.

I decided to try it out on my trip which was a 9-night circumnavigation of Svalbard and also travelling into the pack ice further north.

I can only go on my own experience with seeing five Polar Bears in various situations. The results were that all those I looked at through the thermal (4 out of the 5 seen) registered very well in my Pulsar Helion 2. Whilst four were found relatively easily at distance with just binoculars one was found with my thermal camera on the edge of a fog bank in the pack ice, well before it was visible to anyone with binoculars. In conclusion, whilst the use of a thermal camera on these trips is not really required, a thermal camera could certainly be useful in some situations if you are travelling to this part of the world, albeit in relatively limited circumstances. Mist and fog can be a regular occurrence in some areas of Svalbard as well as in the pack ice at times and certainly that would be when it could come into it's own.

Polar Bears are certainly not invisible to thermal cameras and in my experience and the conditions and circumstances at the time, show up well. I also noted all Seals and Arctic Fox also showed up quite well albeit you don't really need a thermal to find them. I did find well camouflaged Ptarmigan on the main island which I wouldn't have without the thermal and possibly Arctic Fox at distance or if stationery may go undetected but thermal should easily pick them up.

The image here was taken through a Pulsar Helion thermal camera and I have also included a crop of the same photo. All I have done to the image is applied some denoise.

A further summary report of the trip in July 2025 I will post separately listing the mammals seen, some photos and a few notes on birds.

