

The effectiveness of any airborne monitoring regime is dependent on several key factors. One of the most important is the proper and accurate evaluation of the images that are acquired. Timely and accurate analysis and interpretation of any data collected by an aerial inspection regime is fundamental in assessing what is happening on the ground. The information gained must be properly coordinated with other types of data that are available. Aerial data are merely another information source that, when interpreted by an experienced analyst, can be utilized to make better estimates of actual events at a ground-based site.

Aerial Photography

Airborne surveillance using standard aerial photography has been utilized for decades. Aerial photography can range from very simple cost effective methods to relatively complex and expensive modes. The simplest aerial photography available is the use of hand-held 35 mm cameras taken from the window of an aircraft. This type of reconnaissance is relatively inexpensive in terms of cost of equipment required. The only cost is the aircraft operation itself, the 35mm camera and inexpensive film processing. The spatial resolution, that is, the smallest feature discernible on the ground, is relatively high using this method; however, the trade-off is a rather narrow field-of-view (swath width) of the ground surface. Hand-held photography using this method is traditionally accomplished using a low-level fixed wing aircraft or helicopter, and is usually oblique viewing. Photographs taken from an oblique angle do not allow for information that can be utilized readily for accurate mapping purposes. In the event that accurate base maps are required in preparation for a BTWC on-site inspection, this type of photography would not be adequate. The information from the oblique images would be useful for general reconnaissance purposes, however.

In the same realm of this type of aerial camera system, in terms of costs and simplicity, is the video camera. Video camera systems have progressed substantially over the past decade. The advent of charged couple device (CCD) technology has led to