

Chapter 8 – CONCLUDING REMARKS

Using military observers in the field to evaluate camouflaged targets is the preferred method. However, it is also the most time consuming, labor intensive, logistically difficult and expensive procedure to use. In order to provide a reasonable alternative, the procedures outlined in these guidelines describe an approach to improve the reliability and repeatability of visual trials.

The content of these guidelines contains the collective knowledge of SCI-095 gathered over the span of the four years of the task group and provide a framework for the user to conduct an assessment. These guidelines address a typical situation where comparison between different camouflage treatments is desired, as opposed to determination of an absolute range. The statistical analysis procedures presented in these guidelines are a minimal set of descriptive statistics that produce acceptable results. More exhaustive analytical techniques exist and are left to the user to investigate.

The observer detection data presented in this report are fictitious and have been defined to adhere to the proposed guidelines and efficiently demonstrate the recommended statistical analysis procedures. While fictitious, the data have been based on past trials conducted by the participating nations in SCI-095. As such, the values listed as observer detection ranges are typical and representative of the detection ranges that would be expected for similar camouflage assessment trials.

Results from past trials (field observer, traditional photosimulation and digital photosimulation) have been found to be largely independent of observer characteristics. Generally, observer background (military trade or occupation), age, gender and target detection experience do not have a significant impact on the detection ranges obtained in trials. There is some evidence that employing very young observers (relatively new recruits) with associated limited experience at viewing military targets in field conditions can produce shorter detection ranges. Likewise, specialized military personnel trained in target detection, such as reconnaissance troops, can obtain longer detection ranges. However, these trends have not been found to be consistent. In general, any mature military person should be suitable as an observer for a camouflage assessment trial.

The use of a practice imagery series is very important in a photosimulation trial. It overcomes any potential learning effect on observers, allowing unbiased results to be obtained for the imagery of interest. Consistent use of the same warm-up imagery provides a mechanism to confirm that different trials have been conducted in the same consistent manner and that it is valid to compare detection results between these trials that may have been conducted at different times and/or in different geographic regions. Use of the Coyote imagery series, described here, and included in a separate folder in the digital version of these guidelines, has yielded a median detection range of 950 meters with a 95 percent confidence interval of 850 – 1067 meters for fifteen observers. Future photosimulation trials employing this imagery series should expect to obtain similar results.

Based on a comparative digital photosimulation trial conducted by SCI-095 in 2004 and similar trials carried out over the previous four years, it can be stated conclusively that following the procedures recommended in this report and paying careful attention to the experimental set-up will produce consistent, reproducible target detection results that can be compared across different observer trials.

CONCLUDING REMARKS

