Preface

The purpose of this book is simple: To help searchers look in the right place to find lost subjects faster. The book's genesis involves more than twenty-five years of search and rescue. In the summer of 1980, I ran my first search as an "incident commander" looking for a lost woodcutter in New Mexico. The lost person scenario was simple; the case was easily solved. After all, it was only a simulation devised for young scouts. A year later, I joined the Appalachian Search & Rescue Conference and was soon out looking for lost dementia subjects—this time for real. I was drawn toward the mystery of where the lost person might be. For some reason, no training berths opened for a twenty-year-old at the National Search and Rescue (SAR) School, then located on Governor's Island. Nevertheless, I got my hands on the training material and started reading. I did not stop until I pretty much read everything that I could find on land search and rescue. While a university student, I began teaching search management for the Commonwealth of Virginia.

Bill Syrotuck was the definitive source at the time for all lost person statistics. He had defined distance from the point last seen using crow's flight distance, was the first to create subject categories, and reported actual incidents. Syrotuck was forced to combine all cases over the age of 65 due to insufficient data and the fact that many forms did not mention Alzheimer's disease back then. (At the time, being considered knowledgeable about Alzheimer's disease pretty much meant you only needed to know how to spell the disorder correctly.) This resulted in mixing together the normal healthy elderly hiker with those who had severe dementia. Mixing the two did not make sense or agree with my observations on actual searches. In Virginia, search teams were more likely to be looking for Alzheimer's-related search subjects than hikers or hunters. I felt that the Syrotuck data could be taken further. I was then a graduate student studying neurobiology. I already had a sense from running searches that a dementia subject would generally be found within the length of my thumb on a 1:24,000 topographic map. One night, during a search I was unable to respond to, the phone rang. The question asked was: "Exactly how long is your thumb again?" After that, everything came together and in 1989 I decided to start a research study.

Without funding (pretty typical for SAR), the enthusiasm of youth, the help of the state, and by hassling other incident commanders, the data slowly started to be collected in Virginia. David Stooksbury (then a graduate student, now the Georgia State Climatologist), also a member of the SAR team, became involved to help with the statistical analysis. We presented at the National Association for Search and Rescue (NASAR) Response '92 conference in Phoenix. Our study was based upon 25 cases, but the results have withstood the test of time. It came as no real surprise that normal healthy elderly behave differently than those with dementia. (The first paper used the term "Dementia of Alzheimer's Type," but it would have been more correct to simply say dementia.)

The need for additional data led to additional papers on dementia based upon 42 and, later, 87 subjects. With more data it was possible to go beyond simple Syrotuck "distance from the place last seen" rings. Information was presented on track offsets, dispersion angle, directionality, subject survival times, mobility, find locations, and differences based upon urban versus wilderness areas. Since all of the data was coming from Virginia, it helped my SAR team, but I questioned whether it was appropriate for other areas of the world. In addition, while the Virginia database held more than 1,000 incidents, it was not growing particularly fast.

In 2001, the US Department of Agriculture attempted to contact me in order to review a grant proposal. Turns out, they were not able to find me. A year later, Jim Donovan, the successful grant applicant, contacted me to help create a large database of lost person behavior. This had always been one of my goals, and the project has been a perfect fit. Jim named the project the International Search & Rescue Incident Database (ISRID) and it stuck. I spent the initial years of the project being a data hound forever pestering those who had data, or entering paper data forms into an electronic format. Serious data cleaning and analysis did not start until 2007.

This book has taken more than a year to write; four years to collect data; represents seven countries; includes 40 sources of data, 16,863 searches that form the basis of all the statistics presented, 50,692 SAR incidents in the full ISRID database; and signifies at least 2 million person-hours spent on search incidents.

I feel confident that everyone associated with search and rescue can benefit from this book. It presents some of the most up-to-date information available. It is also based upon thousands of real cases. For example, in his book Syrotuck reported on 44 cases of lost hikers. The ISRID database contains 3,837 missing hikers. The increased number of cases gives us more confidence in the representativeness of the statistics that describe lost person behavior. Data collection is ongoing and your data could help.

The size of the database also allows us to present additional categories of lost persons. The number of subject categories has grown from the eight presented by Syrotuck to 41 in this book. Nevertheless, I am sure for some future search there will be a need for statistics regarding female elderly light-wind boardsailers. I look forward to the time when searchers chuckle at the meager data presented here.

For the purposes of this book, "lost" is defined from the perspective of the person who reports a person as overdue or missing. The overdue or missing person may not consider himself lost. Or the overdue or missing person may in fact be lost-disoriented or incapable of getting to where he wants to be. The book does not address classic runaways or those who attempt to disappear and change identities. The book is valuable to the process of locating persons in similar circumstances. It is intended to inform search and rescue efforts.

A couple of quick words are needed to explain the layout of the book. The important statistical content is found in Chapter 8 Subject Categories (which takes up more than half the book). The layout allows the reader to turn to the relevant section and quickly find information pertinent to searching. However, it is critical that the reader understands where the results come from and how they should be used. While I have included notes on these issues as I lay out the variables involved in search, the book will be most effectively used by persons trained and experienced in search planning and management.

The information in the appendixes regarding cell phones and investigation will also be highly useful to everyone involved in searches. SAR has its own professional language and it is difficult to avoid some jargon. For this reason a word in italics can be found in the glossary. Abbreviations and acronyms are usually written out the first time and can also be found in the abbreviations list. The book is fairly heavily referenced, but to maintain readability endnotes are used and are located at the end of the book. Research is sometimes looked

at critically, but that should not be viewed as a personal attack, minimize contributions made by an individual or even suggest my word is the final word. I relied on information from other sources if the sources were published in peer reviewed journals or were clearly supported by evidence and argument.

In the book, both English and metric systems of measurement are provided. When miles are used a kilometer conversion is provided; for vertical elevation changes feet are used; and for smaller distances meters are used (looking at the precision of most SAR measurements meters and yards could almost be viewed as equivalent). For the aeronautical and maritime world nautical miles are used where appropriate. Since the English language has not figured out how to best deal with he/she issues, we have decided to use "he" because of the simple fact that most lost subjects are male (80%).

The intended audience for this book is anyone involved in search and rescue. It goes beyond just land or ground SAR and includes information helpful to those involved in aeronautical and maritime SAR. Original research is presented to help look for lost persons on the land, underground, buried under rubble, on water, under water or fallen from the sky. Responsibility for SAR is broad and varied. Therefore, the information will be valuable to law enforcement, fire and rescue, emergency management, community emergency response teams, urban search teams, and of course SAR specialists. In addition, SAR and behavioral science scholars will find the information practical and helpful in understanding the field of search and rescue.

The book's usefulness is not limited to search management. Every searcher in the field applies the final and perhaps most important aspect of search planning—deciding where to actually let the eyes focus out in the field. This book is all about the "*where to look.*" However, it is an incomplete attempt to address the other half of the SAR equation, that is, how to look. Although I make connections between data, results, and their uses, the process of investigation, planning, and management of search are largely omitted. This book is already thick enough. In the end, it will likely be a trained individual who turns to the correct table, prioritizes search areas, directs search resources, and helps make the find.