

EXECUTIVE SUMMARY

This manual arose out of a perceived need to provide recommendations for the way in which data and information relating to water quality can best be communicated to various target audiences. Improving this communication allows the full value to be realised of the generally considerable investment in data acquisition. This manual is aimed primarily at people responsible for such communication in both the public and private sectors. The manual is introductory, not exhaustive.

It is inevitable that a degree of subjectivity exists in some aspects of a manual such as this. Nevertheless, applying the recommendations will improve standardisation and hence the general effectiveness of communication nationally. On the other hand, when the recommendations are obviously inappropriate in special circumstances, alternative approaches should of course be used.

A wide variety of situations are covered in this manual. Accordingly, a number of mechanisms are provided for finding information in the manual. Besides the usual contents page and lists of tables and figures, a one page “Manual Roadmap” is also given. Chapter 2 (How to Use this Manual) presents a series of specific questions and references to associated chapters. It also presents two tables that can be used to identify appropriate communication media (billboards, brochures, etc.) and tools (charts, graphs, etc.). These tables are also the basis of a simple spreadsheet facility that allows the media and tools to be established interactively.

Chapter 3 (General Recommendations) provides suggestions that apply to many media and tools. Appropriate communication principles (such as keeping it simple, keeping it standard, etc.) are presented. Because such a wide variety of languages exist in South Africa, some basic recommendations are given for good English writing style. This is augmented with a series of formatting recommendations relating to such issues as use of acronyms, expressing units and writing numbers. The important concepts of accuracy and precision are also presented with advice on when and how to round numbers sensibly. Finally some suggestions are made regarding importing images into documents.

Chapter 4 (Data categories) describes three fundamentally different categories of data. Each represents a different degree of value addition to the primary data. The categories are:

1. **Minimal integrative processing.** This essentially amounts to presenting the primary (“raw”) data of any number of water quality variables.
2. **Intermediate integrative processing.** This typically involves presenting basic summary statistics of the primary data for individual water quality variables.
3. **Highly integrative processing.** This involves calculating aggregated values from the primary data of many water quality variables, often called indices (or indicators).

Examples, characteristics, advantages and disadvantages, and dos and don’ts are presented for each.

Chapter 5 (Communication Tools) describes a series of tools (charts, diagrams, graphs, icons, maps, photographs, short stories and tables). Examples, characteristics, advantages and disadvantages, and practical and aesthetic dos and don’ts are presented for each.

Chapter 6 (Communication Media) describes a series of media (billboards, brochures, emails, exhibitions, newspapers, popular articles, posters, radio, technical reports, television,

verbal presentations, water accounts, and web sites). Advantages and disadvantages, dos and don'ts, and references to further information are presented.

Chapter 7 (Scenario-specific Recommendations) provides suggestions on what data categories and communication media and tools are best used for a variety of well-defined water quality data communication scenarios. These include catchment assessment, national state of water resources, state of drinking water, performance monitoring of resource quality objectives, and compliance monitoring. In each case the context, target users and general communication message are defined.

Chapter 8 (Understanding a water quality communication) acknowledges (a) that there are many scientific disciplines required for effective communication of water quality data and information and

(b) that those receiving such communications do not always possess such multi-disciplinary expertise. Accordingly, this chapter captures information that can be provided to those receiving

such communications to help them understand basic concepts so that they can better understand

the communication they receive. Basics are provided on water quality guidelines, chemistry, biotoxicology, microbiology, statistics and graph interpretation.