DANA - Database for Natural Swimming Pools

Why DANA?

Operating public pools with natural water purification requires a high degree of responsibility. The operators are obliged to provide a save bathing environment. This includes primarily an adequate sanitary water quality as well as a high transparency of the water. Furthermore, visitors usually tolerate only small amounts of filamentous algae and biofilms in the bathing area.

To ensure high water quality, operators of public natural swimming pools are required to analyze water samples on a regular basis and to document the results in an operations diary. Additional information of importance for operating the swimming pool also needs to be included in the documentation (e.g., number of visitors, maintenance, particular incidents). To comply with monitoring requirements, it is considered reasonable to introduce a quality management system for the swimming pool. An important part of the quality management system is a centralized data management and the availability of relevant operation data.

What is DANA?

DANA is a web-based databank system for natural swimming pools which offers all the capabilities needed for an effective quality management. Until now more than 30 natural swimming pools from German-speaking countries are registered. Currently DANA is being extended for international use. DANA aims to increase the operational safety of each natural swimming pool in order to support and promote the establishment of swimming pools with natural water purification worldwide.

How does DANA work?

The „International Organization for natural bathing waters" IOB (www.iob-ev.eu) issues licences to those who want to participate in DANA. Designated administrators collect the necessary basic data for each swimming pool and enter these data into DANA. Registered users are then able to enter and extract data of their own swimming pool from any workstation with an internet connection. Data access can be controlled through the use of personalized passwords. This allows stakeholders (operator, administration, health office, architects, external consultants) to inform themselves on the current status of their swimming pool at any time. The Data can be exported in standard formats (tables, graphs) for further analysis.

DANA - die Datenbank für Naturfreibäder

The following groups of data can be imported into the data base:

   Master data of the swimming pool (e.g., size, water volume, number and type of bathing and regeneration areas)

   Operation data (e.g., number of visitors, water circulation, maintenance work)

   Data on sanitary water quality (e.g., *Escherichia coli*, Enterokokken, *Pseudomonas aeruginosa*)

   Data on water ecology (e.g., nutrients, phytoplankton and zooplankton)

   Documents (e.g., technical drawings, action plans, fotos, laboratory reports)

Advantages for the quality assurance of the data:

   Flexible data entry from any internet connected computer workspace.

   Centralized administration of the data in standardized formats and with high data security.

   Consistent documentation of operation data of the swimming pool.

   Availability of data and documents at any internet connected computer workspace offers operation transparency and supports operation safety.

   Stakeholders (operator, administration, health office, architects, external consultants) are able to react quickly in case of problems due to instant data availability.

More benefits from DANA

The data stored for all the natural swimming pools registered in DANA allow comprehensive analyses with regard to specific questions of regional interest. Furthermore, the available data can be used for analyses in studies specifically aimed at optimizing the operation of natural swimming pools (e.g., maintenance, energy efficiency) as well as in research projects. Registered users of DANA can commission specific data analysis via the IOB.