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滿足我們生存的基本需要。
Serving our essential human needs.



水質

WATER QUALITY

水是生命之源
Water's Life

- 加強對自來水的信心
Strengthening Confidence in Tap Water
- 水質監察計劃
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Water Quality Data

為維持向香港市民提供安全衛生的優質食水的主要目標，我們非常著重改善原水和食水的水質，一直在這方面努力不懈。



To sustain our principal goal of serving the people of Hong Kong with safe and wholesome water of the highest possible quality, we place great importance on our continuing effort to improve the quality of both raw water and drinking water.

水質 WATER QUALITY

加強對自來水的信心

香港是世界上享用最安全和優質食水的地區之一。本署供應的食水在化學及細菌學方面，均符合「世界衛生組織」的飲用水水質指引，適合直接飲用。然而，在某些情況下，如果樓宇內部水管系統欠缺妥善維修，可能會影響輸送至客戶水龍頭的食水水質，因而令食水變黃。

為加強市民對直接飲用自來水的信心，我們已制定和實施一套周全的計劃，重點是鼓勵樓宇業主或其代理人妥善維修內部水管系統。經「水質事務諮詢委員會」同意後，我們在二零零二年七月展開自願性質的「食水系統優質

維修認可計劃」。這項計劃旨在對有關樓宇業主或其代理人妥善維修內部水管系統給予認可及鼓勵。符合認可資格的申請者，會獲頒發認可證書，有效期為一年。

我們已推行廣泛的宣傳計劃，通過報章、電視、電台、巡迴展覽，以及在巴士、電車、巴士站、機場及地下鐵路、九廣鐵路和輕便鐵路車站展示的廣告，宣傳上述計劃及妥善維修樓宇內部水管系統的重要性。此外，我們亦與區議會、各區民政事務處、酒店、學校及物業管理處合辦有關這項計劃的宣傳活動。

公眾對計劃的反應令人鼓舞，截至二零零三年三月底，我們已根據這項計劃頒發了逾190張證書。

有關自來水水質的客戶意見調查

年內，我們聘請獨立顧問公司進行意見調查，以了解住宅客戶對自來水水質的意見。這項調查是本署改善大廈水質的策略的其中一項工作，所得結果顯示，逾九成客戶對家中的自來水水質感到滿意，再者，他們大都支持和願意分擔為大廈內部水管系統進行妥善保養和維修的費用。

水質監察計劃

為確保水質完全符合「世界衛生組織」的指引，本署在測試和監察整個供水系統及濾水過程的水質方面，實施了一套全面而周密的計劃，其中包括進行物理學、化學、生物學及細菌學的化驗。我們也定期在一些選點，以及從配水系統隨機選出的地點抽取水樣本，交由專業人員按嚴格的品質控制標準，採用先進的儀器進行化驗。年內，我們在集水區、進水口、接收東江水的抽水站、水塘、濾水廠、配水庫、分配系統及客戶水龍頭處，抽取了超過17萬個水樣本化驗。



署長於「食水系統優質維修認可計劃」證書頒發典禮上致歡迎詞。
Director making a welcoming speech at the Certificate Presentation Ceremony of the Fresh Water Plumbing Quality Maintenance Recognition Scheme.

STRENGTHENING CONFIDENCE IN TAP WATER

Hong Kong's water is of the safest quality and among the best in the world. The fresh water supplied by WSD conforms both chemically and bacteriologically to the World Health Organization (WHO) Guidelines for Drinking-water Quality (1993) and is fit for direct consumption. However, it is affected in some instances by the inadequate maintenance of internal plumbing systems before it reaches customers' taps and this can cause discolouration of the water.

To strengthen public confidence in drinking water from their taps, we have put into effect a comprehensive programme that focuses on encouraging building owners or their agents to take good care of the internal plumbing systems. With the endorsement of the Advisory Committee on the Quality of Water Supplies, a voluntary Fresh Water Plumbing Quality Maintenance Recognition Scheme was launched in July 2002. This scheme aims to give recognition to responsible building owners or their agents for proper maintenance of their internal plumbing systems. Successful applicants will be awarded a Certificate of Compliance valid for one year.

An intensive publicity programme was also launched to promote the



[水質事務諮詢委員會]主席方鏗先生於新聞發報會上向傳媒解釋有關「食水系統優質維修認可計劃」的詳情。

Mr Kenneth H Fang, Chairman of ACQWS, explaining the details of Fresh Water Plumbing Quality Maintenance Recognition Scheme at a press conference.

scheme and the importance of good maintenance of plumbing systems in buildings through newspapers, TV, radio, roving exhibitions, advertisements on buses, trams, at bus stops, airport, and stations of MTR, KCRC and LRT. Moreover, publicity activities for the scheme have been organized with District Councils, district offices, hotels, schools and property management offices.

The public response has been encouraging and more than 190 certificates have been awarded under the scheme up to the end of March 2003.



在地鐵站內的「食水系統優質維修認可計劃」廣告。

Advertisement on Fresh Water Plumbing Quality Maintenance Recognition Scheme in a Mass Transit Railway Station.

水質 WATER QUALITY

設備先進的化驗室

本署兩間化驗室獲頒發 ISO / IEC 17025/1999 標準的認可證書，足證本署的水質測試水準良好。本署化驗室採用先進的測試儀器，包括氣相色譜儀及高效液相色譜儀連同各類相關的檢測器、電感偶合等離子質譜儀等，並運用最新技術，測定食水中的微量污染物數量。

水質事務諮詢委員會

「水質事務諮詢委員會」在二零零零年四月成立，旨在喚起市民注意水質和鼓勵他們參與水質監察事宜。委員會由方鏗先生和水務署署長分別出任正副主席，其餘 17 名委員包括政府人員、學者、專業人士及地區和環保團體代表。年內，委員會曾舉行兩次會議，討論大廈水質、公布水質數據、開拓長遠食水資源的策略等事宜。

考察東江供水系統

為消除市民對東江水水質的疑慮，委員會委員在二零零二年十月第三度前往廣東省，考察東深供水改造工程及其他消滅污染措施的進展，實地了解及研究有關情況。委員對所取得的進展極為滿意，並對廣東省當局為改善原水水質所作出的努力大表讚賞。



水務署化驗室內的先進測試儀器。
Advanced testing equipment in WSD laboratory.



「水質事務諮詢委員會」成員。
Members of the Advisory Committee on the Quality of Water Supplies.

CUSTOMER SURVEY ON TAP WATER QUALITY

As part of our strategy to improve water quality in buildings, we engaged an independent consultant in the year to conduct a survey of the views of domestic customers on the quality of tap water and this showed that more than 90 per cent of our customers are satisfied with the quality of tap water at home. In addition, most of them support and are willing to pay a fair share of the cost for the proper maintenance of plumbing systems in their buildings.

QUALITY MONITORING PROGRAMME

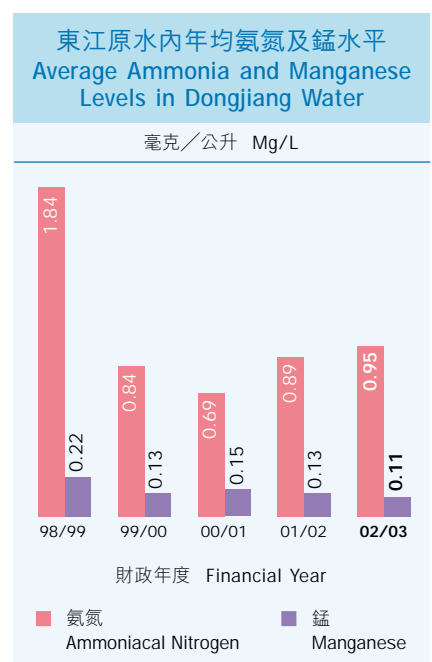
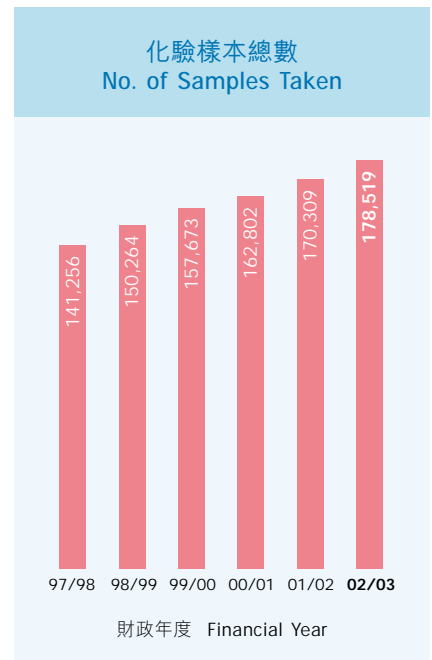
For full compliance with WHO guidelines, we put in place a comprehensive and stringent programme of tests and monitoring throughout the supply system and treatment process covering physical, chemical, biological and bacteriological analyses. Samples are regularly taken from selected points and at random locations throughout the distribution system for analyses by professional staff with the use of advanced equipment under strict quality control. Some 178 000 samples were taken in the year for examination from catchments, intakes, pumping stations receiving Dongjiang water, impounding and service reservoirs, water treatment works, distribution systems and customers' taps.

LEADING-EDGE LABORATORIES

In recognition of our testing capability, two WSD laboratories have attained the Certificate of Accreditation in accordance with ISO/IEC standard 17025/1999. Our laboratories make use of leading-edge technologies in sample testing and analysis. Advanced testing equipment in use includes Gas Chromatographs, High Performance Liquid Chromatographs coupled with various detectors, and the Inductively Coupled Plasma-Mass Spectrometer for the quantitation of water contaminants at trace levels with state-of-the-art techniques.

ADVISORY COMMITTEE ON THE QUALITY OF WATER SUPPLIES

Aimed at promotion of public interest and participation in water quality issues, the Advisory Committee on the Quality of Water Supplies (ACQWS) was established in April 2000 with Mr Kenneth H Fang as Chairman and Director of Water Supplies as Vice Chairman. The remaining 17 committee members comprise government officials, academics and professionals, and members from local districts and green groups. During the year, two committee meetings were held to discuss various issues such as quality of water in buildings, publication of water quality data and strategy for long-term fresh water resources.



水質 WATER QUALITY

密封式輸水管道

二零零三年一月落成啟用的密封式輸水管道第一段，是東深供水改造工程的重要一環，可避開供水途中約七成的污染物。我們察覺到，水質自二零零三年一月以來已大為改善，預料當密封式輸水管道工程在二零零三年六月全部完成時，水質會進一步改善。我們會以東江流域和幹流的水質保護為焦點，繼續監察餘下改善工程的進展。

水塘原水

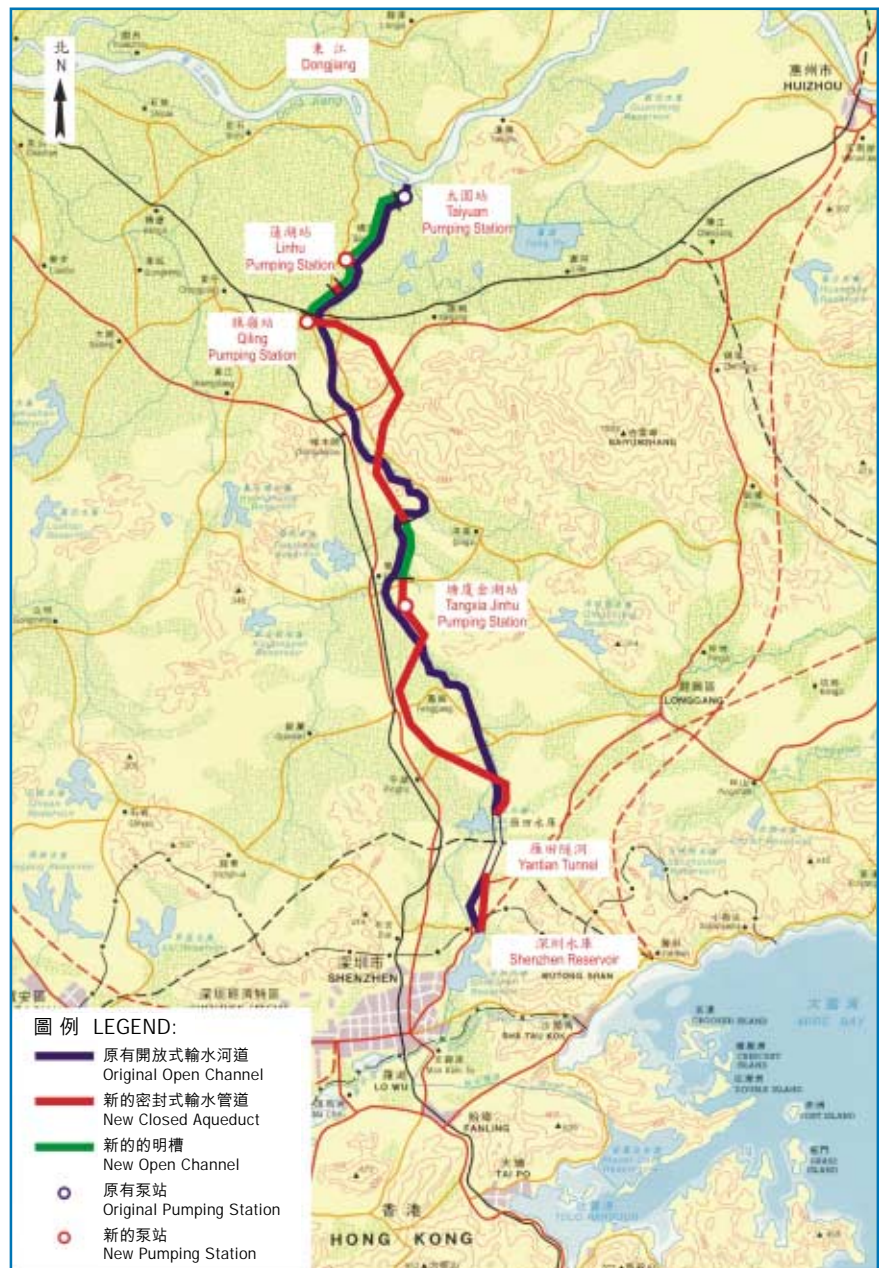
在水塘養殖魚苗是維持水中生態平衡，以及確保水塘水質良好的一項有效措施，因此，我們定期把各類魚苗放入水塘養殖。年內，約有25萬尾鯪魚、鯪魚及大頭魚苗放養於船灣淡水湖、大欖涌、城門、下城門、香港仔等各水塘。

保護集水區

目前，集水區集得的雨水量約佔本港原水供應量的兩至三成。我們正密切監察和管制集水區內的發展項目，以保護這種珍貴資源免受污染。

世界衛生組織指引

「世界衛生組織」的飲用水水質指引不時作出修訂，新版本預期於二零零三年年底發表。我們正仔細研究新版本的修訂項目會造成的影響，以便積極籌劃所需行動，應付這方面可能出現的挑戰。



新的密封式輸水管道路線圖。
Layout plan of the new closed aqueduct.

VISIT TO DONGJIANG WATER SUPPLY SYSTEM

To ease public concern about the quality of Dongjiang water, ACQWS members made their third visit to Guangdong Province in October 2002 to study firsthand the progress of the "Dongshen Water Supply Improvement Works" project and other pollution abatement measures. Members were fully satisfied with the progress and expressed high appreciation for the efforts made by the Guangdong authorities in improving raw water quality.



一段密封式輸水管道的外貌。
A section of the closed aqueduct.

CLOSED AQUEDUCT

Commissioned in January 2003, the first section of the closed aqueduct system which is the key component of the "Dongshen Water Supply Improvement Works" project is designed to bypass some 70 per cent of sources of pollution on the supply route. We have seen marked improvement in water quality since January 2003 and expect further improvement when the whole closed aqueduct project is completed in June 2003. We shall continue to monitor the progress of the remaining improvement work, which will focus on water quality protection at the catchment and main stream of Dongjiang.

RAW WATER IN IMPOUNDING RESERVOIRS

As an effective means of maintaining an ecological balance of

the water bodies and ensuring good water quality, various types of fish fry are regularly released in impounding reservoirs. This year some quarter million fish fry of Silver Carp, Mud Carp and Big Head were released in Plover Cove, Tai Lam Chung, Jubilee, Lower Shing Mun and Aberdeen Reservoirs.

PROTECTION OF CATCHMENT AREAS

Catchment areas for local rainfall now provide 20-30 per cent of raw water for our use. This precious resource is protected from pollution through close monitoring and controlling of development activity within the water gathering grounds.

WHO GUIDELINES

The WHO Guidelines for Drinking-water Quality are under constant

"rolling revisions" and a new edition of the Guidelines is expected in late 2003. To plan proactive actions to meet the possible challenges due to the changes in the new edition, we are taking a detailed look at the implications of these changes.

SEMINAR ON "PROTECT OUR WATER FOR OUR FUTURE"

The seminar was held in October 2002 at the City University of Hong Kong and attracted more than 300 enthusiastic participants. Subjects discussed included water supply arrangement and maintenance responsibilities of plumbing systems in buildings, Fresh Water Plumbing Quality Maintenance Recognition Scheme, etc.

水質 WATER QUALITY

「齊護食水 共建未來」講座

這個講座在二零零二年十月於香港城市大學舉行，有300多人參加，反應熱烈。席上討論的課題包括樓宇的供水安排和水管系統的保養責任，以及食水系統優質維修認可計劃等。

水質數據

為配合本署保持透明度的政策，我們現時在每年六月和十二月兩次在互聯網上公布水質數據。在木湖抽水站接收點的東江水和食水的水質數據，涵蓋物理參數、對健康有影響的化學參數和細菌數量。

監察賈第蟲及隱孢子蟲

我們繼續密切監察食水中是否有賈第蟲及隱孢子蟲。過去一年，食水中並無發現任何賈第蟲或隱孢子蟲。

聯機水質監察系統

為提高系統的準確程度和效率，我們已為各主要濾水廠的聯機監察系統進行提升工作，以便持續監察主要水質參數，包括混濁度、酸鹼度、剩餘氯及氟化物。此外，我們亦在木湖抽水站設置測量氨含量的聯機分析儀，用以監察供港東江水的水質。本署一個特別工作小組正探討進一步提高聯機監察系統可靠程度的方法。



講者於「齊護食水 共建未來」講座上回答參加者的提問。
Guest speakers answering questions from the floor at "Protect Our Water for Our Future" Seminar.

臭氧化程序

為減低使用氯氣消毒所產生的副產品數量，我們在二零零零年十一月啟用的牛潭尾濾水廠，採用了臭氧及粒狀活性炭生物過濾法進行濾水程序。這種先進的濾水程序證實效果理想，既可令水質達到優良水質，亦可把臭氧消毒所產生的副產品數量（例如溴酸鹽）減至最少。

沖廁用海水

我們定期監察沖廁用海水的水質，確保符合本署的水質指標。同時，我們

正繼續進行為現有的露天海水配水庫加設上蓋工程，以免海藻滋生及防止孩童擅自闖入。有9個上蓋的建造工程已告完成，另有11個上蓋的工程則正在進行。

化驗室資訊管理系統

本署已為新的「化驗室資訊管理系統」進行招標，以配合運作上不斷增加的需求，現正評估所接獲的投標書。新系統將取代本署現有的系統，可更有效率地進行數據管理，使水質資料得以及時發布。



牛潭尾濾水廠內的臭氧生產器。
Ozone gas generators at Ngau Tam Mei Water Treatment Works.



濾水廠內的聯機水質監察儀器。
On-line water quality monitoring equipment in a water treatment works.

WATER QUALITY DATA

In furthering our policy of openness, we now publish water quality data twice a year on the Internet in June and December. The quality data on Dongjiang water received at the Muk Wu Pumping Stations and treated water include physical parameters, chemical parameters of health significance and bacteriological quality.

G & C MONITORING

In our continuing close monitoring for the presence of *Giardia* and *Cryptosporidium* (G&C), none of the parasites was detected in our treated water in 2002/03.

ONLINE WATER QUALITY MONITORING

For improving system accuracy and efficiency, work has been completed on upgrading the on-line monitoring systems in major water treatment works for continuous monitoring of

key water quality parameters including turbidity, pH, chlorine residual and fluoride. In addition, on-line ammonia analysers have been in use to monitor the quality of incoming Dongjiang water at Muk Wu Pumping Stations. A special sub-group is engaged in identifying ways to further improve the reliability of the on-line monitoring systems.

OZONATION PROCESS

To reduce the formation of disinfection by-product due to the use of chlorine, the Ngau Tam Mei Water Treatment Works was put into operation in November 2000 to utilize the ozonation and biological filtration with granulated activated carbon as filter media in the treatment process. This advanced treatment process has proved effective in achieving high water quality standards while the formation of ozonation by-products, such as bromate, has been minimal.

SEA WATER FOR FLUSHING

The quality of sea water for toilet flushing is regularly monitored for compliance with WSD quality objectives. Meanwhile work is continuing to cover existing open salt water service reservoirs to prevent algae growth and unauthorized access by children. Construction of nine covers was completed and 11 more covers in progress.

LABORATORY INFORMATION MANAGEMENT SYSTEM

Tenders for the supply of the new Laboratory Information Management System (LIMS) to meet increasing operational requirements are being evaluated. The new system replaces the existing in-house one, and will result in more efficient data management, and thus timely dissemination of water quality information.