

Organizational Review and Institutional  
Development Consultancy  
(National Integrated Water Resources  
Authority of Belize)

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**organizational structure and staffing requirement**

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**4/15/2013**

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## Foreword

This report is submitted as fulfillment of Deliverable 3

**“Draft organizational structure, staff job descriptions.”**

under the

GCCA Belize: Enhancing Belize’s Resilience to Adapt to the Effects of Climate Change  
Organizational Review and Institutional Development Consultancy  
(National Integrated Water Resources Authority of Belize)

The report addresses the scope of work as per the revised Work Plan and Schedule Deliverables.

It specifically addresses

Description of services

**S/he will provide technical support in reviewing/assessing the existing structures which contribute to water resources management and is expected to propose a practical/ workable organizational structure for NIRWA, complementing job descriptions of proposed staff/ positions,...**

WORKPLAN AS PER SCOPE OF WORK

**iv. Present the proposed organizational structure ...;**

The Operations charter will be presented along with Deliverable 4 **“Draft decree on NIWRA’s mandate, roles, functions and estimated budgetary needs”**. The Components of Deliverable 4 are integral to the **Draft Operations Charter**.

### **Required Output**

The required output as approved for Deliverable 3 is:

***“Draft organizational structure and staffing requirement.”***

### **The Report**

Section 1 attempts to discuss the current legal aspects consequent of the NIWRA .

Section 2 discusses the legally defined Management of the Authority and presents the proposed Organizational Structures.

Section 3 discusses the Authority’s Staffing requirement necessary to fulfill the functions as mandated in the NIWRA.

Section 4 presents the recommended job descriptions for the proposed staffing requirement.

## 1 The Authority Legal Framework

The NIWRA is the result of numerous attempts to prepare legislation to improve and streamline the functions pertaining to water resources management. During the preparation of the NIWRA the Water Industry Act (WIA) was legislated and the Minister of Natural Resources and the Environment was charged with the implementation of the Water Resources functions contained within the WIA. At that time the Minister of Natural Resources was responsible for the Environment, Forestry, the National Meteorological Service, the Geology and Petroleum Department, the Hydrology Unit, and the Protected Areas Conservation Trust. All these institutions are water stakeholders that were under the responsibility of a single Minister; however with the recent post election redistribution of portfolios has strewn the water stakeholders over many ministries.

The majority of the Authority's functions (1-4, and 7-10) was under the Water Industry Act and a few were administered, under authority from the responsible Minister, by the Department of the Environment. New provisions (5 & 6) for the control and protection of groundwater and control of well drilling were added. The scattering of the water stakeholders presents a logistical challenge, since many certifications previously required by departments of the Ministry of Natural Resources will now require the attention of other Ministries<sup>1</sup>. This may results in delays for approvals; nevertheless the Minister with responsibility for water resources can act independently if the circumstances required him to do so<sup>2</sup>.

The NIWRA is a comprehensive law that is relatively easy to implement. It details the respective roles, responsibilities, and powers of other governmental institutions, and considers the public interest while protecting the reasonable interests of individuals. The NIWRA also contain administrative procedures necessary for the coordinated, equitable, and efficient control and administration of all aspects of water resources problems, as well as for conflicts that may arise from them. This water law also details enforcement procedures and provides penalties for noncompliance.

The NIWRA explicitly addresses the previously vaguely stated water resources aspects such as water ownership and rights, licensing, and abstractions, water use priorities and allocations, and in-stream and environmental uses, protection of quality, prevention of pollution, and penalties for unlicensed water operations and undesirable effluent discharges.

The NIWRA provides specific directions for the following aspects of water resources management.

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<sup>1</sup> NIWRA subsection 51.(b), 52.(4), 74.(1),

<sup>2</sup> NIWRA subsection 51. (d)

**Table 1: Management Aspects in the NIWRA**

<b>WATER RESOURCES ASPECT</b>	<b>NIWRA</b>	<b>RESPONSIBLE DIVISION</b>
Water Resources Administration	PART II	
National Policy and Licensing	PART III	
Abstraction and Use of Water	PART V	
Control of Water Abstraction And Use	PART VIII	
Control and Protection of Ground Water	PART VI	
Control of Well Drilling	PART VI	
Gathering Grounds (Recharge Areas)	PART VII	
Water Pollution	PART X	
Control of Pollution	PART IX	
Control of Water Quality and Reservation	PART XI	
Enforcement and Penalties	PART XIV	

## **2 The Authority Management Framework**

The NIWRA attempts to combine diverse elements into a harmonious single water resources management institution. The approach to integrate all water resources systems into a single organization is most desirable however such integration poses the greatest challenge to success.

*While the NIWRA provides a mechanism for the preparation of regulations for the administration of the water resources sector, it failed to take into account the existing and future administrative and technical capacities required to implement it.*

The proposed Organizational Structure attempts to address the legal responsibilities contained in the NIWRA. It includes provisions for the monitoring, assessment and reporting, on the status water resources. It also proposes the integration of the water resources information into the preparation of national development plans. The introduction of the water rights and ownership required the development of a new division to deal with the transparency, equity and the proper management of water allocations.

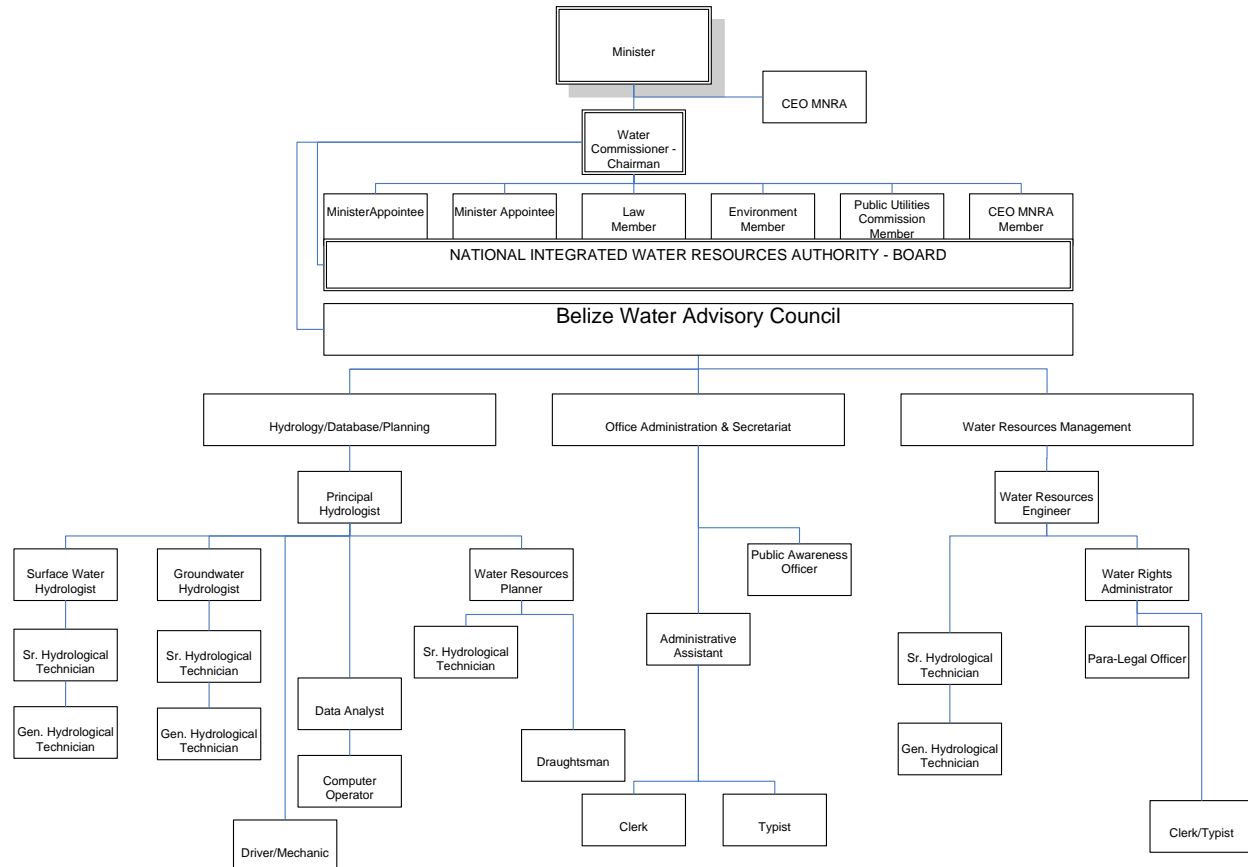
### **2.1 The Authority's Management Divisions**

It is recommended that in addition to the Board, the following three (3) main management divisions and the Belize Water Advisory Council be established under the Authority.

- 1. Administrative & Secretariat**
- 2. Hydrology/Database/Planning Division**
- 3. Water Resources Management Division**
- 4. Belize Water Advisory Council**

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The Divisions' functions, roles, and responsibilities are detailed in the “*Technical report outlining findings of the assessment and recommendations for enhance the functioning of water resource management entities*”, submitted under this consultancy.



**Figure 1: Proposed Organizational Structure for the NIWRA**

**2.1.1 The Board**

The powers of the Board are detailed in subsection 6. (1) of the NIWRA. The Minister is charged with the nomination of the Executive Chairman, with the proposed title, “The Water Commissioner”. The Chief Executive Officer of the Ministry of Natural Resources is the ex officio Deputy Chairperson (NIWRA subsection 6.(2) (a) & (f)).

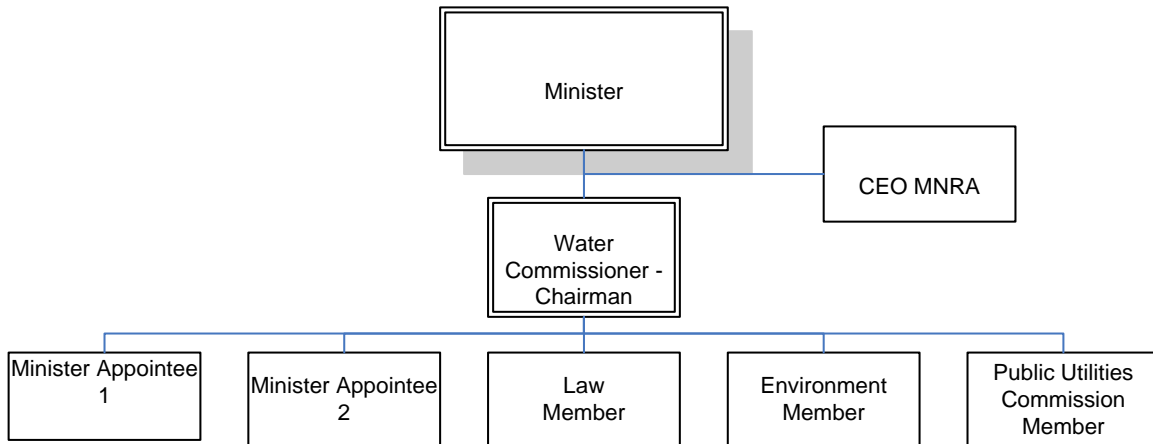


Figure 2: The NIWRA Board

The Board is the ultimate responsible body within the Authority, and is charged with the responsibilities of Function 8, that is, issuing orders, rules and regulations, grant, refuse, amend, suspend or revoke licences, establish and manage technical standards and procedures, and monitor compliance. Nevertheless, the Board is expected to rely on the advice of the technical staff, Belize Water Advisory Council, and the Board members' individual expertise and experience in its deliberations and decision making.

### 2.1.2 The Belize Water Advisory Council

The National Integrated Water Resources Authority is bolstered by the National Water Policy, the NIWRA, and the Water Resources Strategy and Plan. Oftentimes, water resources management emphasis is on the law, and aspects of resource management such as allocation and pricing, or administration of licences and permits. The technical aspects may receive only passing reference, resulting in misinformed Decisions and Orders that can expose the Authority to costly litigation.

*The Belize Water Advisory Council is not mandated by the NIWRA*; however it provides a mechanism for additional technical inputs that can help to overcome the residual inter-Ministries/Departments coordination challenges and opportunities to alleviate local turf protection issues.

The proposed composition of the Council will be drawn from the institutions the Authority is required to coordinate with. With the Minister's approval The Public Health Bureau, The Department of the Environment, The Department of Agriculture, National Emergency Management Organization, the Forest Department and the Public Utilities Commission will form the core membership of the Council. Other members from the remaining institutions may be co-opted as the issues dictate.

### 2.1.3 The Administrative Division

This division will conduct the responsibilities under Functions 6 and 7, and the day to day operations of the Authority contained in PARTs XII and XIV of the NIWRA.

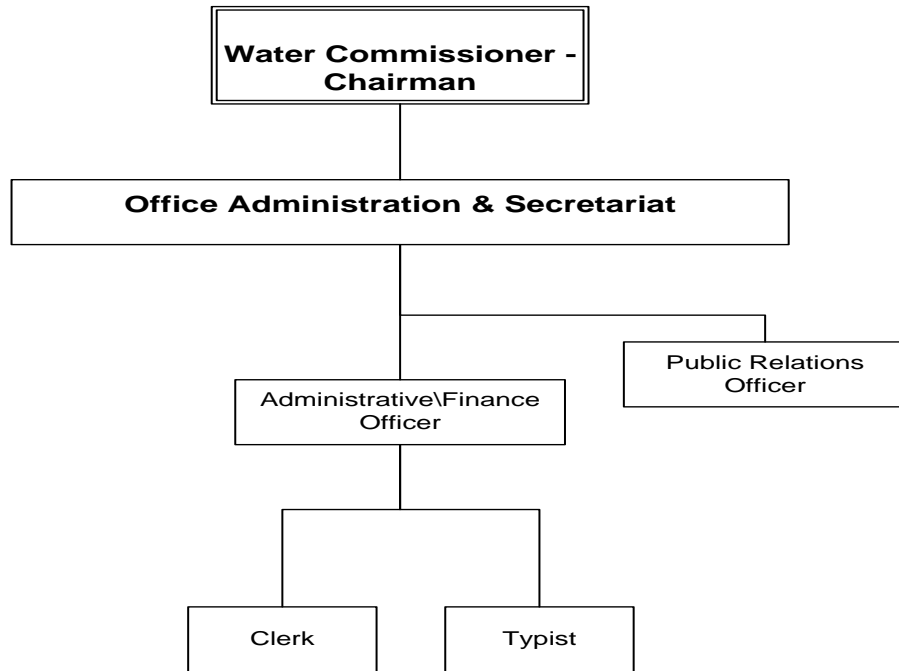


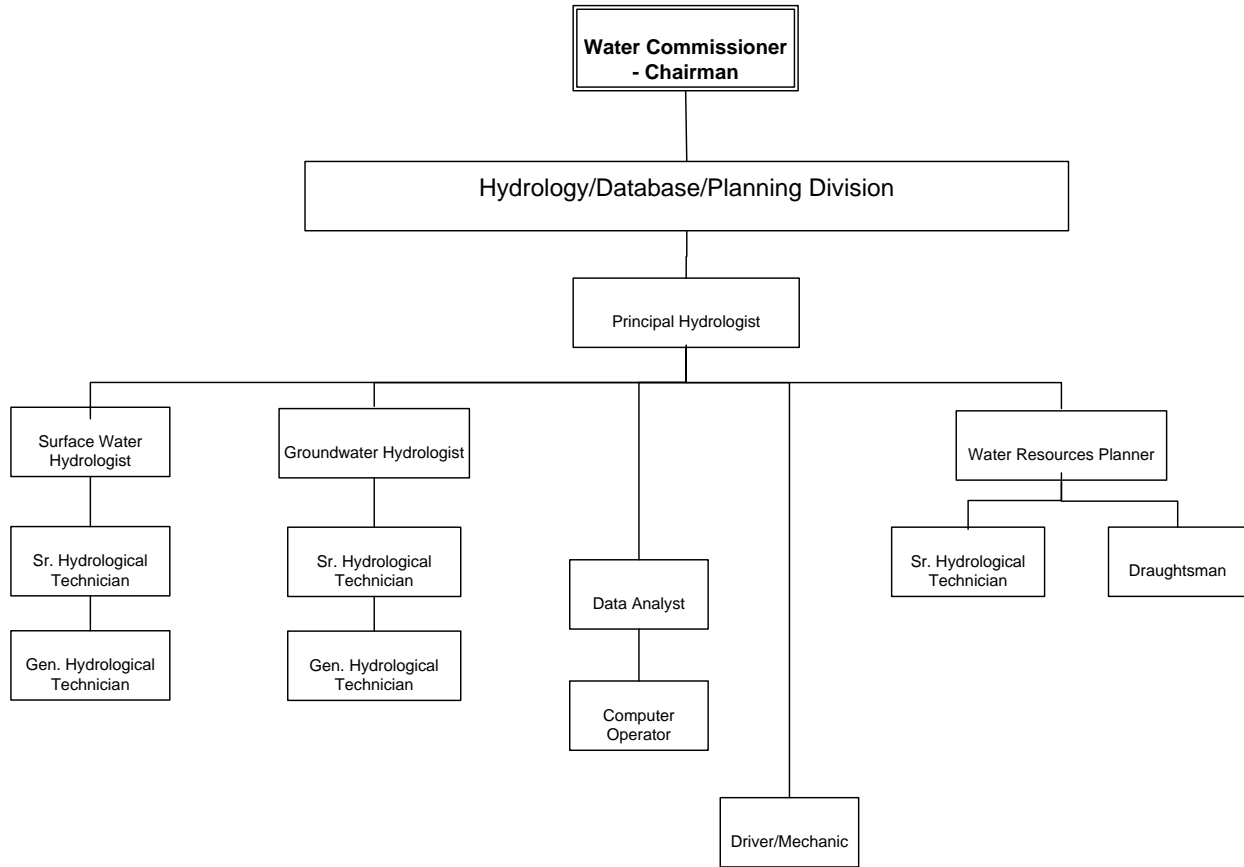
Figure 3: Office Administration and Secretariat

It will provide support to the Board and the Belize Water Advisory Council. In addition the Administrative Division will provide full support to the Public Awareness Programme.

### 2.1.4 The Hydrology, Database and Planning Division

This Division will be directly responsible for Functions 1, 2, and 5, and partially responsible for Function 4.



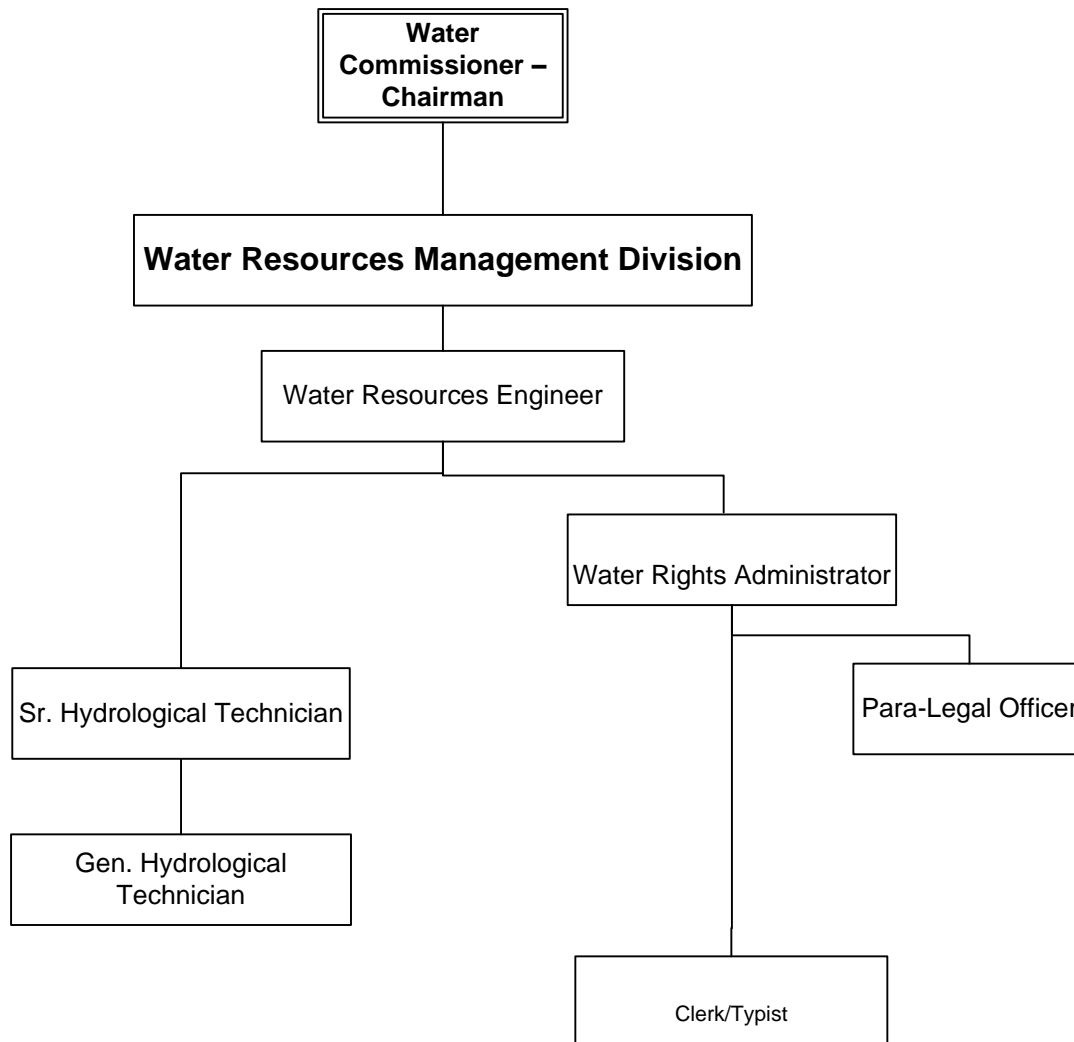


**Figure 4: Hydrology/Database/Planning Division Organizational Structure**

This Division will be responsible for water resources assessments, surface and groundwater resources, the management of the Authority's Database and water resources planning. The preparation and revision of the Master Plan and Water Quality Control Plans will also be the responsibilities of this Division. The implementation of the permitting procedures for well drilling operations, including licencing of well drilling operations, well drillers, and the monitoring of operations in the underground water sub-sector will form part of the responsibilities of this Division.

#### **2.1.5 Water Resources Management Division**

This Division will be directly responsible for Function 3 and, and partially responsible for Function 4.



**Figure 5: Water Resources Management Division Organizational Structure**

This Division has the responsibility for the introduction of the new water rights regime, to ensure that priority uses are not eroded and the equitable and transparent allocation of water rights. The Division will be required to maintain a registers of holders of water rights and permits for effluent discharges. The Division will be required to manage abstraction rates to ensure safe yield from aquifers and maintenance of ecosystem needs in surface water systems. Analyses of licensees' abstraction and discharge reports for compliance with the regulations will as be a part of this division's responsibilities. The review of applicants' certificates from the Ministry of Agriculture and the Department of the Environment as well as the preparation of contingency plans for responses to likely contamination scenarios will also be the responsibilities of this Division.

### 3 The Authority Staffing Requirement

Most organizations consider their most important resource to be their staff. This is true and managers of successful water resources management institutions know this well. As the role and functions of these Institutions evolve, the staffing requirements and management style of the Authority may need to change as well. The Hydrology Unit will be vested in the Authority and considering the imminent increase in functions and responsibilities more skilled staff will be required.

#### 3.1 The Authority Staff Requirements and Expertise

The Authority's success will depend on the Water Commissioner's innovation in securing funding for staff and operations. Oftentimes the staff is available but there are no resources for them to complete their tasks, or vice versa.

At full complement the Authority will need total of 24 staff members. Table 8 below details the level of competence that will be required. A minimum of seven (7) BSc., 1 CPA, nine (9) Officers at the Associate Level and six (6) at the Secondary School level.

The staff of the Hydrology Unit accounts for the data analyst, two (2) General Technicians, therefore additional staff requirement. A minimum of seven (7) Bachelor of Science (BSc.), 1 Administrator/ Accountant (AA), seven (7) Officers at the Associate Level (AS) and five (5) at the Secondary School level (HS) and two licenced Driver/Mechanic (DP).

*Table 2: The Authority Staff Requirements and Expertise*

Administrative Division			Hydrology/Database/Planning Division			Water Resources Management Division		
			1	BSc.	Principal Hydrologist	1	BSc.	Water Resources Engineer
			1	BSc.	Surface Water Hydrologist	1	BSc.	Water Rights Administrator
1	BSc	Public Awareness Officer	1	BSc.	Water Resources Planner			
1	AA	Administrator/Finance	1	BSc.	Hydro-geologist			
			3	AS	Senior Hydrological Technician	1	AS	Senior Hydrological Technician
	AS	Clerk	1	AS	Data Analyst	1	AS	Paralegal Officer
			1	AS	Draughtsman			
	HS	Reception/Clerk	2	HS	General Technician	1	HS	General Hydrological Technician
			1	AS	Computer Operator			
1	AS	Clerk/Receptionist				1	HS	Clerk/Typist
1	HS	Clerk						
1	DP	Driver Mechanic	1	DP	Driver Mechanic			
<b>5</b>			<b>13</b>			<b>6</b>		

### 3.1.1 Details of Staff BASIC Qualifications

The qualifications for the Authority's staff should at a minimum be:

- a) Principal Hydrologist should possess a BSc. in Hydrology and Water Resources Management preferably at the MSc. Level;
- b) The Surface Water Hydrologist and Water Resources Engineer should possess a minimum of BSc. Hydrology and Water Resources Management;
- c) The Hydro-geologist should possess a minimum of BSc. in Hydrogeology or Geology;
- d) The Water Planner and the Water Rights Administrator should possess a minimum BSc. in Water Resources Management;
- e) The Administrative/Finance Officer should possess training in human resources management and management of financial accounts;
- f) The Public Awareness Officer should be trained in Public outreach and possess excellent communication skills and command of the English language;
- g) The Senior Hydrological Technician should possess a Higher Technician Certificate or comparable qualifications;
- h) The General Hydrological Technician should possess a General Technician Certificate or comparable qualifications;
- i) The Data Analyst should possess an Associate degree and competency in data analyses or statistics;
- j) The Paralegal Officer should be certified in paralegal studies;
- k) The Computer Operator should have competency in computer operations;
- l) The Draughtsman should have competency in CAD and GIS;
- m) The Clerks should be proficient in clerical studies;
- n) The Driver/Mechanic should possess a Driver's Permit and clean Police Record.

## 4 Job Descriptions

### 4.1 POSITION: Principal Hydrologist

Reports to: Water Commissioner

Supervises: Hydrology/Database/Planning Division Staff

#### Job Description:

The Principal Hydrologist is directly responsible for the management of the Hydrology/Database/Planning Division. He/She ensures that at all times the Division operates in a professional manner and meets the expressed required quality standards and is responsible for the implementation of the National Master Water Plan and Water Quality Plan. The principal Hydrologist monitors the progress of and adjusts the implementation of the National Water Master Plan. She/He is responsible for the management of the Authority's database, information on the national water resource and is tasked with minimizing costs by maintaining an effective and efficient operation and recovering costs at a level consistent with long term stability.

#### Typical tasks

- Monitors progress of the implementation of the National Water Resources Master Plan and Water Quality Control Plan;
- Prepare an inventory and identify present and anticipated waters in the area;
- Prepare an inventory and identify present and anticipated discharges of waste into any waters in the area, on the ground or into the ground;
- Prepare an inventory controlled land uses;
- Identify environmental and scenic values to be protected;
- Formulate annual and quarterly programmes;
- Lead and administer survey team operations;
- Obtain resources;
- Carry out specific water resources investigations;
- Train and develop staff;
- Maintain technical and managerial skills;
- Encourage quality commitment;
- Review and maintain Units work systems.

#### Qualifications:

A Master of Science degree in Environmental Hydrology and Water Resources Management or its equivalent is required. Qualifications in project management will be an asset. Strong first degree in watershed management, eco-hydrology, civil engineering and hydraulic engineering will also be considered. **Familiarity with the NIWRA is compulsory.**

#### Salary Scale

Pay scale 23 34,428 \* 1,392 - 60,876

#### Knowledge and skills required

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- Proficiency in the English language;
- Ability to supervise personnel;
- Good negotiating and bargaining skills.

## 4.2 Position: Surface Water Hydrologist

Reports to: Principal Hydrologist

Supervises: Surface Water Unit Staff

### Job Description:

The Surface Water Hydrologist will coordinate the activities of the Surface Water Unit with those of the Groundwater and Water Planning Units to ensure coherent management of the Hydrology/Database/Planning Division. He/She will use detailed data sources, computer modelling packages and other resources to collect, analyse and interpret data for the safe, sustainable and environmentally sound management of Belize's surface water resources. She/He assists the Principal Hydrologist with the management of the Division and is directly responsible for the daily operations of Surface Water Unit and the supervision of the Unit staff. He advises the Principal Hydrologist on hydrological aspects related to engineering solutions such as planning, designing, operating and maintaining engineering structures.

### Qualifications:

A minimum of Bachelor's of Science degree, preferably a Master of Science degree, in Environmental Hydrology and Water Resources Management or its equivalent is required. Qualifications in watershed management, eco-hydrology, civil engineering and hydraulic engineering will also be considered. **Familiarity with the NIWRA is compulsory.**

### Typical Tasks:

- Review and recommend revision of Master Water Plans
- Review and recommend revision of Water Quality Plans
- Prepare inventory of current and future waste discharges
- supervising the collection, processing and evaluation of data for water resource planning and management;
- overseeing data collection on-site by hydrometrists and other staff;
- computer modelling to assess the most effective methods of managing available water;
- analyzing the effect of changes in the environmental and land use on water flow;
- planning responses to and assessing the impacts of droughts and floods,
- hydrological modelling for the development of flood forecasting and drought management strategy;
- applying hydrological and statistical techniques to water resource modelling and analysis;
- evaluation of drought and water resource plans produced by water companies;
- dealing with enquiries from external bodies and individuals, such as water regulators, consultants and researchers;
- assessing the relationship between rainfall, run off features for the catchment;
- investigating factors affecting the quality of surface water;
- calculating and auditing water resource systems and analyzing this data;
- providing project management maintenance and installation new river flow gauges;
- liaising with specialists, consultants and clients;
- keeping up to date with new research and techniques in all areas of hydrology;

Salary Scale

Pay scale 24 33,912 \* 1,320 - 58,992

Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in hydrometeorology;
- Good knowledge of the instruments used in hydrology and meteorology;
- Ability to supervise personnel;
- Knowledge of computer operations;
- Swimming;
- Driving vehicles;
- Using topographical instruments.



Position: **Hydro-Geologist**

Reports to: Principal Hydrologist

Supervises: Ground Water Unit Staff

Job Description:

The Hydro-Geologist will coordinate the activities of the Groundwater Unit with those of the Surface Water and Water Planning Units to ensure coherent management of the Hydrology/Database/Planning Division. He/She will use detailed data sources, computer modelling packages and other resources to collect, analyse and interpret data for the safe, sustainable and environmentally sound management of Belize's ground water resources. She/He assists the Principal Hydrologist with the management of the Division and is directly responsible for the daily operations of Ground Water Unit and the supervision of the Unit staff. He advises the Principal Hydrologist on hydro-geological aspects related to engineering solutions such as planning, designing, operating and maintaining engineering structures.

Qualifications:

A minimum of a Bachelor's of Science degree, preferably a Master of Science degree, in Environmental Hydrology and Water Resources Management with specialization in hydrogeology or its equivalent is required. Qualifications in geology, environmental science, science or engineering, geochemistry, engineering, will also be considered. **Familiarity with the NIWRA is compulsory.**

Typical Tasks:

- supervising the collection, processing and evaluation of data for water resource planning and management;
- overseeing data collection on-site by hydrometrists and other staff;
- computer modelling to assess the most effective methods of managing available groundwater;
- analyzing the effect of changes in the water demand, environmental and land use on groundwater flow;
- planning responses to and assessing the impacts of droughts and floods,
- hydrological modelling for the development of drought forecasting and management strategy;
- applying hydro-geological and statistical techniques to groundwater modelling and analyses;
- evaluation of drought and groundwater resource plans produced by water companies;
- dealing with enquiries from external bodies and individuals, such as water regulators, consultants and researchers;
- assessing the relationship between rainfall, runoff, and recharge features for the groundwater provinces;
- investigating factors affecting the quality of groundwater;
- calculating and auditing water resource systems and analyzing this data;

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- providing project management maintenance and installation existing and groundwater monitoring gauges;
- liaising with specialists, consultants and clients;
- keeping up to date with new research and techniques in all areas of hydro-geology.

Salary Scale

Pay scale 24 33,912 \* 1,320 - 58,992

Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in hydrometeorology;
- Good knowledge of the instruments used in hydrology and meteorology;
- Ability to supervise personnel;
- Knowledge of computer operations;
- Swimming;
- Driving vehicles;
- Using topographical instruments.

### 4.3 Position: Water Resources Planner

Reports to: Principal Hydrologist

Supervises: Senior Hydrological Technician and Draughtsman

#### Job Description:

The Water Resources Planner will coordinate the activities of the Water Resources Planning Unit with those of the Surface Water and Groundwater Units to ensure coherent management of the Hydrology/Database/Planning Division. He/She will use detailed data sources, computer modelling packages and other resources to collect, analyse and interpret data for the safe, sustainable and environmentally sound management of Belize's ground water resources. She/He assists the Principal Hydrologist with the management of the Division and is directly responsible for the daily operations of Water Resources Planning Unit and the supervision of the Unit staff. He advises the Principal Hydrologist on water demand and availability, and water supply options such as new wells, construction of dams on a river, reservoirs, desalination, and watershed transfers, etc.

#### Typical tasks

The Water Resource Planner:

- undertakes complex planning, data gathering, and research assignments;
- interprets data about projected water delivery, use and storage, conservation, and population trends;
- investigates existing long-term water supplies and alternatives, such as conservation programs and transfer agreements; and
- prepares detailed reports and presentations.

#### Qualifications:

A minimum of a Bachelor's of Science degree, preferably a Master of Science degree, in Environmental Hydrology and Water Resources Management or its equivalent is required. Qualifications in environmental or civil engineering, urban planning, public policy, public administration, economics, physical or natural sciences with special training or experience in natural resource management and water issues will be considered. **Familiarity with the NIWRA is compulsory.**

#### Salary Scale

Pay scale 24 33,912 \* 1,320 - 58,992

#### Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in hydrometeorology;
- Ability to supervise personnel;
- Knowledge of computer operations.

#### 4.4 Position: Water Resources Engineer

Reports to: Water Commissioner

Supervises: Division Staff

##### Job Description

The Water Resources Engineer coordinates the operations of the Water Resources Management Division with the Hydrology/Database/Planning Division of the Authority. He/She manages Belize's water rights, all permitting processes for abstractions and effluent discharges and maintains the water prioritization of water uses as detailed in the NIWRA. Ensures that applications for permits comply with the permitting procedures. Reviews and makes recommendations on issuance and cancellation of water rights, abstraction and discharge permits. Monitors the collection of fees and charges and compares with approved revenue stream. She/He advises the Water Commissioner on revisions of the Water Resources Regulations, Tariffs and Fees, National Master Water Plan, and Water Quality Control Plan.

##### Typical tasks

- Review and recommend revision of Master Water Plans;
- Review and recommend revision of Water Quality Plans;
- Review and revise water resources management Regulations;
- Design and revise certification procedures for permits;
- Ensures that water allocations are not oversubscribed;
- Review and recommend revisions of tariffs, fees and charges;
- Design likely contamination scenarios;
- Designs responses to contamination scenarios;
- Vets and approves applications for water allocations;
- Prepare monthly and Annual Reports.

##### Qualifications

Bachelor of Science degree in water resources management, water resource engineering, hydrology, civil engineering, or closely related field required. Experience in the planning, development, conservation, administration, and management of water resources will be considered. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale

Pay scale 24 33,912 \* 1,320 - 58,992

##### Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in calculation of flows;
- Good interpersonal skills;
- Team leader.

#### 4.5 Position: Water Rights Administrator

Reports to: Water Commissioner

Supervises: Division Staff

##### Job Description

Responsible for implementation and monitoring of all regulation procedures, rule making, and other activities of the Authority, collaborating public and private institutions that may affect Belize's water resources. Monitoring and enforcing penalties for noncompliance with the National Water Master Plan, Water Quality Control Plan, Water Quality Standards, and Effluent Limitation Regulations.

##### Typical tasks

- Maintains adequate documentation for all water rights to ensure that requirements are satisfied;
- Compiles forms, documents, applications, plot plans, surveys, and maps with respect to chain of water right;
- Determine priority water use for allocation applications;
- Update register of water rights holders;
- Update register of abstraction permits;
- Update register of effluent discharge permits;
- Monthly inventory of abstractions;
- Monthly inventory of effluent discharges;
- Maintenance of abstraction and discharge accounts;
- Monthly compliance assessment of effluent quality;
- Report potential threats of contamination and pollution;
- Report potential threat of over abstractions.

##### Qualifications

Bachelor Science degree in water resource engineering, hydrology, planning, geography, civil engineering, or closely related field is required. Knowledge of water rights laws and regulations pertaining to water resource development, administration and management. Experience in water rights, water allocation procedures will be an asset. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale

Pay Scale 23 32,784 \* 1320 – 57,864

##### Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in calculation of flows;
- Good interpersonal skills;
- Team player.

#### 4.6 Position: Para-Legal Officer

Reports to: Water Resources Engineer

##### Job Description:

Assists with legal procedures, reviews and drafts legal documents and conducts legal research on behalf of the Authority and the Water Commissioner. She/He performs various routine and ad hoc computer operations using specific software including use of online legal research programs. Assists with court matters and issues pertaining to the Authority and collaborating public institutions.

##### Typical tasks

- Attend meetings with public and private institutions;
- Attend meetings with municipalities and attorneys;
- prepare summary reports;
- research compile, analyze and report information from primary and secondary legal resources;
- Works with water rights holders to determine chain of title for property to which water rights were adjudicated.

##### Qualifications:

An Associate Degree in Pre-Law, Political Science, or a closely related major and experience assisting with legal procedures, drafting legal documents and/or conducting legal research. Comprehensive knowledge of water rights laws and regulations pertaining to water resource development, administration, and management as detailed in the NIWRA. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale

Pay scale 21 30,768 \* 1,320 - 55,848

##### Knowledge and skills required

- Proficiency in the English language
- Good interpersonal skills;
- Ability to conduct multiple tasks;
- A self starter.

#### 4.7 Position: Public Relations Officer

Reports to: Water Commissioner

##### Job Description

Public relations Officer uses all forms of media and communication to build, maintain and manage the reputation of the Authority. He/She communicates the work of the Authority to public in order to establish and maintain goodwill and understanding of the responsibilities and obligations contained in the NIWRA, the National Master Water Plan, the Water Quality Control Plan, and the permitting procedures for water rights, water allocation and effluent discharges. The Public relations officer promotes water conservation and proper water use. She/He monitors publicity and conduct research to find out the concerns and expectations of all water stakeholders and report and explain the findings to the Authority.

##### Typical tasks

- planning publicity strategies and campaigns
- writing and producing presentations and press releases
- dealing with enquiries from the public, the press, and related organisations
- organising promotional events such as press conferences, open days, exhibitions, tours and visits
- speaking publicly at interviews, press conferences and presentations
- providing clients with information about new promotional opportunities and current public relations campaigns progress
- analysing media coverage
- commissioning or undertaking relevant market research
- liaising with clients, managerial and journalistic staff about budgets, timescales and objectives
- designing, writing and/or producing presentations, press releases, articles, leaflets, 'in-house' journals, reports, publicity brochures, information for web sites and promotional videos.

##### Qualifications:

A degree in business or media studies is preferred. Training in English, management, marketing or behavioural sciences may be considered. Work experience in public relations, marketing, fundraising, events promotion, or journalism trades will be considered. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale

Pay scale 16 24,360 \* 1,056 - 44,424

##### Knowledge and skills required

- excellent communication skills both orally and in writing
- excellent inter-personal skills
- good IT skills
- presentation skills
- initiative

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- ability to prioritise and plan effectively
- awareness of different media agendas
- creativity.



#### **4.8 Position: Administrative/Finance Officer**

Reports to: Water Commissioner

##### **Job Description**

Provides support to the Board of the Authority and the Advisory Council. Supports operations of the Authority and its Divisions/Units by supervising staff; planning, organizing, and implementing administrative systems. Tracks budget expenses, staffing levels and performance, monitors organizational behaviours and communication processes, recommend disciplinary measures for employees, advice on the Promotion Processes.

##### **Administrative Manager Job Duties:**

- Maintains administrative staff by recruiting, orienting, and training employees; maintaining a safe and secure work environment; developing personal growth opportunities.
- Accomplishes staff results by communicating job expectations; planning, monitoring, and appraising job results; counseling, and recommend disciplining of employees; initiating, coordinating, and enforcing systems, policies, and procedures.
- Provides supplies by identifying needs for reception, switchboard, mailroom, and kitchen; establishing policies, procedures, and work schedules.
- Provides communication systems by identifying needs; evaluating options; maintaining equipment; approving invoices.
- Purchases printed materials and forms by obtaining requirements; negotiating price, quality, and delivery; approving invoices.
- Completes special projects by organizing and coordinating information and requirements; planning, arranging, and meeting schedules; monitoring results.
- Provides historical reference by developing and utilizing filing and retrieval systems.
- Improves program and service quality by devising new applications; updating procedures; evaluating system results with users.
- Achieves financial objectives by anticipating requirements; submitting information for budget preparation; scheduling expenditures; monitoring costs; analyzing variances.
- Maintains continuity among corporate, division, and local work teams by documenting and communicating actions, irregularities, and continuing needs.
- Maintains professional and technical knowledge by attending educational workshops; benchmarking professional standards; reviewing professional publications; establishing personal networks.
- Contributes to team effort by accomplishing related results as needed.

##### **Salary Scale**

Pay scale 15 23,976 \* 960 – 42,416

#### 4.9 Position: Draughtsman\GIS Specialist

Reports to: Principal Hydrologist

Supervises: Senior Hydrological Technician and Draughtsman

##### Job Description

The Draughtsman\GIS Specialist will use Geographic Information System (GIS) solutions to provide decision support to the Authority for a variety of water resources and environmental engineering projects. He/She will develop and maintain spatial databases, conduct in-depth analysis of spatial data, imagery analysis and interpretation, for hydrological modelling at the catchment and aquifer levels. She/He will use the Hydrologic Engineering Center of the United States Army Corps of Engineers water resources models and the United States Environmental Protection Agency AQUATOX water quality models to provide support to the Division operations. He/She should be able to bridge the gap between technical and non-technical staff and demonstrate ability to take on multiple projects simultaneously, be a self-starter with the desire and ability to take the lead on assigned tasks.

##### Typical tasks

- Data operations for the maintenance of the spatial database;
- Build river channel models using HECRAS;
- Build aquifer models using ESRI tools;
- Conduct routine and scenario runoff analyses;
- Run HECRAS for flood forecasting;
- Run AQUATOX model for monitoring and assessment of water quality;
- Generation and production of catchment, rainfall, runoff analyses results maps;
- Provide graphics for all reports and presentations.

##### Qualifications

A minimum of a Bachelor of Science in geography, planning, computer science or a related scientific field with a strong emphasis in GIS is required. Specialization in hydrology and water resources and knowledge of the HEC water resources and USEPA AQUATOX models will be assets. The position also requires strong computer skills and knowledge of relational databases. Software experience in the use of ESRI ArcMap, ArcCatalog, ArcToolbox ArcSDE, ArcIMS, ArcGIS Server, Spatial and 3D Analyst, and computer-aided design (CAD) software (AutoCAD, Microstation), GPS platforms will be favourably considered. Some travel will likely be required.

**Familiarity with the NIWRA is compulsory.**

##### Salary Scale

Pay scale 18 27,528 \* 1,200 - 50,328

##### Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in hydrometeorology;
- Good interpersonal skills;
- Team leader.

#### 4.10 Position: Senior Hydrological Technician

Reports to: Divisional Hydrologist

Supervises: General Hydrological Technicians and Hydrological Observers.

##### Job Description:

The Senior Hydrological Technician assists the Unit Hydrologist in the execution of the regular operations program of the Division. He/She is the general supervisor of field and office operations and will be required to supervise junior staff in hydrometric measurements or the installation of hydrometric equipment. She/He may be required to supervise the updating of the database and data analyses, and be able to compute and interpret collected field data. The Senior Technician will from time to time be a team member for special hydrological investigations.

##### Typical tasks

- Assess, compute and correct data obtained from instruments used in hydrometeorology;
- Revise and compute hydro-meteorological data and stream gauging in all rivers in Belize;
- Routine collection of data for flood forecasts;
- Operate topographical instruments;
- To prepare inventories of equipment, instruments and materials and stores;
- Calibrate and program monitoring equipment
- To analyse samples of sediment to determine the concentration and the size distribution of fluvial sediments;
- Conduct field monitoring of water quality;
- To compute the daily discharge in spillways and other hydraulic structures;
- To archive data obtained from the primary processing of hydro-meteorological records.

##### Knowledge and skills required

- Proficiency in the English language
- Good knowledge of techniques used in hydrometeorology;
- Good knowledge of the instruments used in hydrology and meteorology;
- Ability to supervise personnel;
- Knowledge of computer operations;
- Swimming;
- Driving vehicles;
- Using topographical instruments.

##### Qualifications:

Senior Hydrological Technician's Certificate from the Caribbean Institute for Meteorology & Hydrology in Barbados in Operational Hydrology or its equivalent in Water Resources from a recognized Institution. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale:

Pay scale 10 17,292. \* 828 - 33,024.

#### 4.11 Position: Data Analyst

Reports to: Principal Hydrologist

Supervises: Computer Operator

##### Job Description

The Data Analyst is responsible for the maintenance of the hydrological database. She/He liaises with the hydrological technicians on the quality and completeness of the collected data. He/She conducts primary screening of data and validates inputted data and conducts basic statistical analyses for the tracking and detection of hydrological phenomenon. The data analyst prepare monthly and draft annual statistical reports and responds to all data requests.

##### Typical tasks

- Manages the Hydrological database;
- Supervise and assists (when necessary) with data entry;
- Validates input data;
- General statistical analysis of hydrological data;
- Prepare and publishes monthly hydrological statistics;
- Routine collection of data for flood forecasts;
- Responds to requests for hydrological information;
- Conduct training of observers and assist in field operations;
- Performs analyses for publication of hydrological information;
- Prepare draft Water Resources Annual Reports

##### Qualifications:

General Hydrological Technician certificate from the Caribbean Institute for Meteorology & Hydrology in Barbados or its equivalent in Water Resources from a recognized Institution.  
**Familiarity with the NIWRA is compulsory.**

##### Salary Scale:

Pay scale 8 16,644 \* 804 – 31,920

##### Knowledge and skills required

- Proficiency in the English language
- Excellent knowledge of computer operations;
- Good knowledge of techniques used in hydrometeorology;
- Ability to supervise personnel;
- Driving vehicles.

#### 4.12 Position: General Hydrological Technician

Reports to: Divisional Hydrologist

##### Job Descriptions

General Technicians assist the Senior Technician with hydrometric measurements and the installation of hydrological equipment countrywide. General Technicians assist the Data Analyst with data entry and preparation of data request responses.

##### Typical tasks

- To collect and process data, carry out field measurements, surveys, investigations and other works related to the operations of the Unit.
- Routine collection of data for flood forecasts;
- To install and maintain hydrological/hydrogeological equipment in working conditions.
- To undertake data processing operations on computer.
- To organise and supervise the work of observers associated with the collection of data and maintenance of hydrological/hydrogeological gauging stations.
- To change recording media and interpret records in wells, gauging stations and rain gauges.
- To take readings of water meters connected to pumping stations.
- To assist the Senior Hydrological Technicians in the performance of their duties.
- To perform word processing and other basic ICT functions

##### Qualifications:

General Hydrological Technician's certificate from the Caribbean Institute for Meteorology and Hydrology in Barbados, or its equivalent in Water Resources from a recognized Institution is required. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale:

Pay scale 8 16,644 \* 804 – 31,920

##### Knowledge and skills required

- Proficiency in the English language;
- Excellent knowledge of computer operations;
- Good knowledge of techniques used in hydrometeorology;
- Swimming;
- Driving vehicles.

#### 4.13 Position: Computer Operator

Reports to: Data Analyst

##### Job Description

The Computer Operator ensures that the hydrological and the spatial databases are up to date and available for validation. He/She assists in the collection of data for flood forecasting and archives paper copies of data and maintains an inventory of all electronic media.

##### Typical Tasks

- Primary data screening;
- Input stage data;
- Input flow data;
- Input water quality data;
- Input spatial data;
- Filing of data returns;
- Routine collection of data for flood forecasts;
- Monthly update of data inventory (paper and electronic media);
- Notify supervisor or computer maintenance technicians of equipment malfunctions.

##### Qualifications:

An Associate Degree in Information Technology or equivalent in Computer Science. Knowledge and competence in computer operations, networking, word processing and worksheets is required. **Familiarity with the NIWRA is compulsory.**

##### Salary Scale:

Pay scale 8 16,644 \* 804 – 31,920

##### Knowledge and skills required

- Proficiency in the English language
- Excellent knowledge of computer operations;
- Ability to work as a member of a team.

*Terms of Reference*  
*For*  
*The Belize Water Advisory Council*

- (1) *The Belize Water Advisory Council* shall advise the Minister and the Board
- (a) on matters of general policy relating to the management, development, conservation and use of the water resources of Belize;
  - (b) on matters of general policy relating to national development and use of the water resources of Belize;
  - (c) on any issue connected to the Master Plan and Water Quality Control Plans, including any amendments which may be proposed from time to time in relation to any of those Plans;
  - (d) on matters relating to the private sector and water resources; and
  - (e) on such other matters related to the water resources of Belize as the Minister may refer to it.
- (2) The Minister and the Board are not bound to seek or to act in accordance with the advice of **the Belize Water Advisory Council**.

Membership of the Council

1. The Board shall comprise of five (5) members
2. No member of the Council shall belong to any of the institutions represented on the existing Board;
3. The members shall be appointed by the Minister responsible for Water Resources Management
4. The following shall be members of the Council:
  - a. The Chief Agricultural Officer
  - b. The Chief Executive Officer for the Ministry of Economic Development
  - c. The Chief Executive Officer the Ministry of Rural Development
  - d. The President of the Belize Chamber of Commerce
  - e. A person appearing to the Minister to be representative of the Environmental Community.