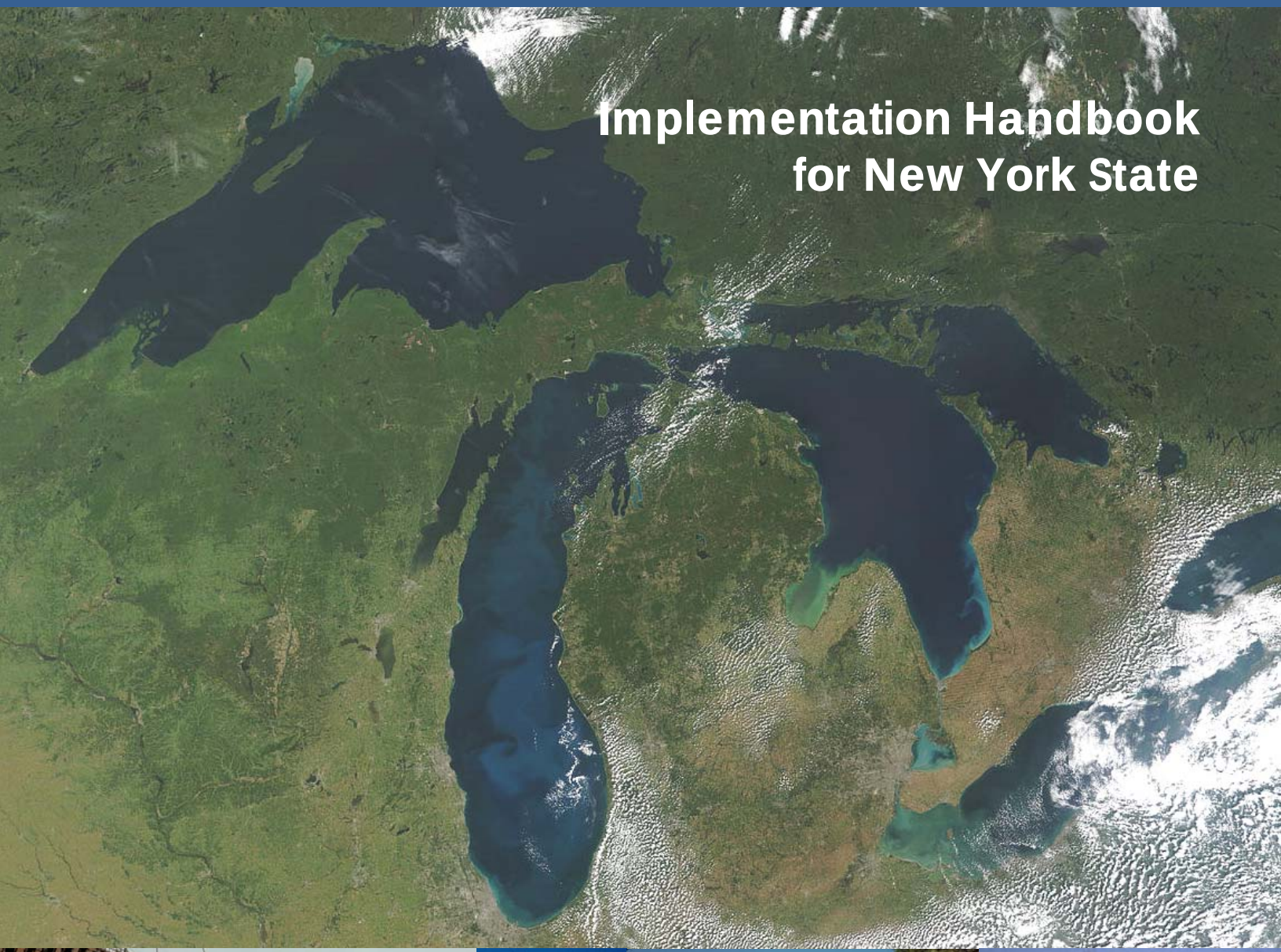
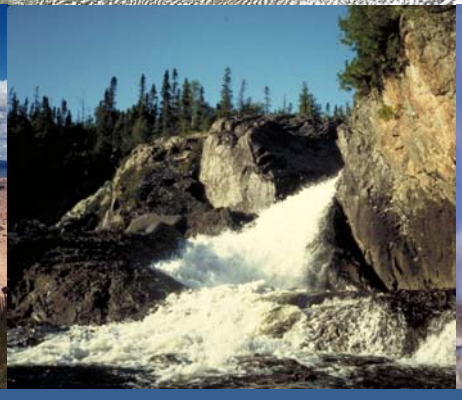
The Great Lakes - St Lawrence River Basin Water Resources Compact



Implementation Handbook for New York State



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Executive Summary

The *Great Lakes - St Lawrence River Basin Water Resources Compact* (Compact) is an agreement to improve the management of water resources in the Great Lakes and its tributaries (Basin). The Compact is one of two documents known as the *Annex Implementing Agreements*, developed by the eight US states and two Canadian provinces that contain the Basin. The *Great Lakes - St Lawrence River Basin Sustainable Water Resources Agreement* (International Agreement) is the agreement between the states and provinces that commits them to adopting parallel water regulations on either side of the international border; while the Compact is designed to be a formal commitment by the eight US Great Lakes states to uphold the International Agreement. Implementing legislation must be adopted by each Great Lakes state, and the US Congress for the Compact to come into effect.

The Great Lakes represent 21% of the world's surface freshwater and 95% of the United States' supply and are an invaluable economic and ecological resource to the region.[i] The driving force behind the Compact was the fear of water being moved outside of the Basin to water starved areas in the United States and abroad. The International Agreement and Compact aim to address these concerns over water diversions as well as scientific uncertainties such as the impacts of climate change.

The two major withdrawal types that are regulated under the Compact are diversions and consumptive use:

- Diversions are transfers of water out of the Basin into another watershed or between the Great Lakes (intra-Basin diversions). Major intra-Basin diversions are for municipal drinking water, cooling of nuclear power plants, and irrigation. The primary purpose for inter-basin diversions is for shipment of cargo.

- Consumptive use is the portion of water withdrawn from the Basin that is not returned to the Basin because it is incorporated into products, lost due to evaporation or through other processes. The highest consumptive use of water in the Basin is agriculture, followed closely by municipalities.

The Compact places strict limits on water use and imposes new management tools in an attempt to minimize future threats from diversions and consumptive uses. First, the Compact prohibits all new or increased diversions from the Basin. It is possible under the Compact to obtain an exception to the diversion limits, particularly for local public water supply use and intra-basin transfers. Second, the Compact mandates the creation of a database to track changes in lake levels reported both through federal water level gauges and intake flow meters. Finally, the

Compact mandates the creation of a comprehensive water management strategy for all water users.

While all Basin states will be responsible for the implementation of the Compact, this report focuses on New York State. The implementation of this program will occur in the New York State Department of Environmental Conservation. The Great Lakes Program within this department manages the majority of the mandates outlined in the Compact, thus the transition to implement the Compact in this locale is relatively simple. The program will require the hiring of two additional staff: a program assistant and a data permit specialist as well as the promotion of the current program coordinator within the Great Lakes Program. Subsequent additions to this office include the creation a six-person water quantity committee under the current program-wide advisory committee. This subcommittee will advise on water quantity issues within the state.

Within the first year of the program, the goals are threefold:

1. Create an operational database with water quantity information.

2. Establish water efficiency goals for New York.

3. Clarify and correct all the Compact's water permitting procedures.

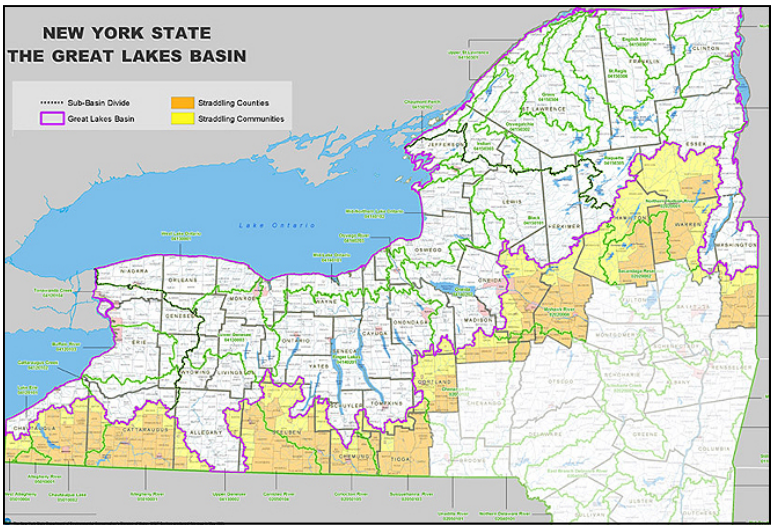
The cost of the program for the first year is estimated at $260,000. The majority of these expenses will go toward personnel salaries. Other costs include: contracting of the database, travel for the advisory committee, office equipment and overhead.

Measuring the success of implementing the Compact is essential for future protection of the Basin. NYSDEC's evaluation will assess progress against implementation and budget allocation milestones. The use of feedback will be central to this evaluation and will be reported through each program assessment. A series of forms and reporting mechanisms were designed for this purpose and are included in this report.

The Great Lakes Basin is an important asset to New York State, the Basin states and the United States as a whole. The Compact is an attempt to mandate the sustainable usage of its waters to protect it in the face of growing water stress in the Basin and the world.

Introduction

The *Great Lakes - St Lawrence River Basin Water Resources Compact* (Compact) is an agreement designed to improve management of water resources in the Great Lakes - St Lawrence River Basin (Basin). It was developed to address concerns regarding water supply, due to scientific uncertainty and unchecked use. The Compact provides several solutions to these problems, which generally fall into two categories of management and regulation. This report is a continuation of past work by the Great Lakes Workshop Group. Our previous report focused on the scientific background to water quantity issues in the Basin.



The Great Lakes Basin within New York State

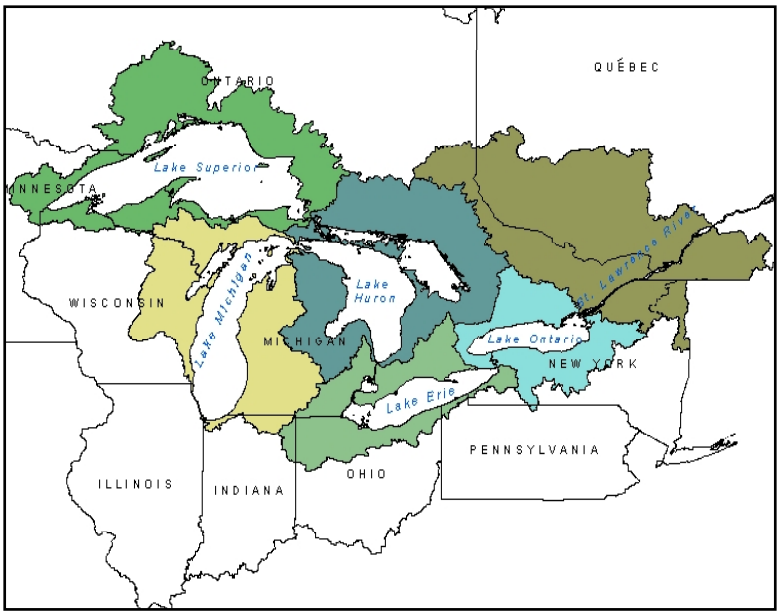
This report focuses on first year implementation of the Compact in New York State. It includes:

- An overview of the physical attributes of the Basin and the water quantity challenges it faces;
- An outline of the legislative goals and mandates of the Compact and a description of the political context that the Compact exists in; and
- A plan for implementing the Compact in New York State.

This report works from the assumption that the Compact has been enacted in New York State and come into effect in the United States. In this context, we propose a blueprint for the first year of a Great Lakes Program that would implement the Compact within the New York State Department of Environmental Conservation (NYSDEC). The program plan includes: the program structure, organizational charts, budget plan, an implementation calendar, and performance management processes. This report is designed as a handbook for implementing the Compact in New York State and could potentially be applied to other state jurisdictions in the Basin. The appendices contain supplemental information including, but not limited to an explanation of key acronyms, abbreviations, and definitions.

The Great Lakes and St Lawrence River Basin

The Great Lakes - St Lawrence River Basin is a complex freshwater system, which contains 21% of the world freshwater supply and 84% of North America's freshwater supply. The Basin comprises the watersheds of the five Great Lakes: Lake Superior, Lake Huron, Lake Michigan, Lake Erie, Lake Ontario, and the section of the St Lawrence River upstream from Trois Rivières, Québec. The Basin falls within the jurisdiction of eight US states (Minnesota, Wisconsin, Illinois, Michigan, Indiana, Ohio, Pennsylvania and New York) and two Canadian provinces (Ontario and Québec). New York State contains parts of the Lake Ontario, Lake Erie and St Lawrence watersheds.



The Great Lakes - St Lawrence Basin, as defined in the Compact

Water Supply

Natural movement of the water flows through the Great Lakes to the St Lawrence Seaway and out to the Atlantic Ocean.[ii] Lake Superior, as the largest and deepest of the lakes, has the longest retention time (based on volume of water and mean rate of outflow). Lake Superior flows into Lake Huron via the St Mary's River. Lakes Michigan and Huron are at the same elevation and are a complete hydrological system connected by the five-mile wide Strait of Mackinac. The St Clair River connects Lake Huron and Lake Erie, while the Niagara River and Welland Canal connect Lake Erie with Lake Ontario. Finally, Ontario feeds the St Lawrence Seaway, which flows out to the Atlantic Ocean. In total, there are approximately 6 quadrillion gallons of water throughout the Basin.[iii]

Water Quantity Concerns

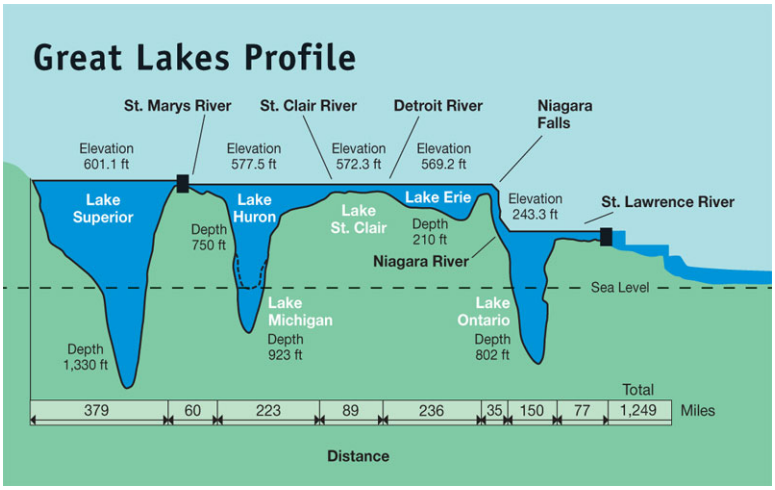
The Basin is vulnerable to changes in lake levels. It faces widespread depletion of its water resources due to both increased water demand and scientific uncertainties including climate change. As increased amounts of water are removed from the basin, lake levels may decline. Lowered lake levels can adversely affect basin ecosystems, local economies, and drinking water supplies of many communities.

High Levels of Water Demand

A major concern for the Great Lakes region is the high level of demand for water resources from within and outside the Basin.

Relatively minor changes to water levels can cause problems for commercial industries, municipalities and Basin ecosystems. Consequences of lower water levels include, but are not limited to:

- Reduction of cargo loads on commercial ships. For cargo ships, a one-inch drop in water level accounts for a decrease in cargo weight of between 50 and 270 tons to maintain a safe buffer between the ship and the lake bottom.[v]
- Loss of the use of docks, water intakes and other manmade structures that depend on relatively constant water levels.[vi] Low water levels could eventually require municipalities to incur expensive replacement or infrastructure costs.
- An increase in pollution concentration, which harms domestic water supplies and negatively affects the health of plant and wildlife within the Great Lakes ecosystem.[vii]



Section elevation of the Great Lakes.

Physical Features of the Great Lakes[iv]

Lake	Surface Area	Capacity	Length	Maximum Depth
Superior	31,700 mi^2	2,900 mi^3	350 mi	1,332 ft
Michigan	22,300 mi^2	1,180 mi^3	307 mi	925 ft
Huron	22,300 mi^2	850 mi^3	206 mi	750 ft
Erie	9,910 mi^2	116 mi^3	241 mi	210 ft
Ontario	7,340 mi^2	393 mi^3	193 mi	802 ft

These measurements come from the International Great Lakes Datum 1955 (IGLD 1985) , the results of a joint committee from Canada and the United States tasked with collecting data and determining the physical features of the Great Lakes.

- Decreased acreage of wetlands throughout the Basin. Wetlands are very important habitats in the Great Lakes because they serve as flood control as well as habitat for native species.[viii]

Scientific Uncertainty

There is scientific uncertainty about the causes and impacts of declining lake levels. Lake and groundwater recharge within the Basin is not well understood, nor are the current and future impacts of climate change and water withdrawals.

For example, climate change is expected to impact lake levels, yet research has been unable to provide a definitive answer as to what the effect will be. Climate change may lead to incremental water temperature increases, which in turn increases the evapotranspiration rate leading to a decline in lake levels. Another possibility is that climate change might increase precipitation over the Basin, buffering lake levels.

Although the future effects of climate change are uncertain, other factors affecting lake levels are more certain. Currently, energy, industry, and public supply account for the majority of Basin withdrawals , while irrigation, public supply, and industry account for the majority of consumptive uses. The population of each of the eight Great Lake States is projected to increase on average by 9.8%.[xi] With an increase in population, water withdrawals and water consumption within the Basin are also likely to increase. Furthermore, as the Basin population grows so will the Basin economy. Additional sources of energy will be needed, as will growth of industry and agriculture in order to meet the growing needs of the region.

Historic Lake Level Features of the Great Lakes[ix]

Lake	Record High	Record Low	Long Term Average (1918-2006)	Low Water Indicator IGLD 1985	Ordinary High Water Mark IGLD 1985	Average Lake Levels November 2007
Superior	**Oct 1986** 603.22 ft	**Apr 1926** 599.32 ft	601.6 ft	601.1 ft	602.0 ft	601.0 ft
Michigan/Huron	**Oct 1986** 582.2 ft	**Mar 1964** 575.9 ft	578.8 ft	577.5 ft	580.8 ft	576.7 ft
Erie	**Jun 1986** 574.13 ft	**Feb 1936** 568.03 ft	571.2 ft	569.2 ft	572.8 ft	570.2 ft
Ontario	**Jun 1952** 248.49 ft	**Dec 1934** 241.86 ft	245.2 ft	243.3 ft	246.8 ft	243.8 ft

The International Great Lakes Datum 1985 (IGLD 1985) is an updated version of the IGLD 1955 in order to reflect changes in lake elevation levels.

Case Study 1: Lake Mead, Arizona and Nevada[x]

The Great Lakes - St Lawrence River Basin is not the only region facing water quantity issues. The IPCC identified the entire American Southwest region, fed by the Colorado River, as a problem zone facing water shortages ranging from modest to catastrophic and in the absence of serious water availability innovations, the region is facing a crisis.

Reservoirs throughout the region are extremely low. Lake Mead, which provides water for Arizona, California, Nevada, and Northern Mexico, is so low that current drainage pipes may soon be rendered useless. Lake Powell, which supports Lake Mead, is at about 50% capacity, and is relied upon by a number of additional states including Colorado, Utah, Wyoming, New Mexico, Arizona, Nevada and California. As water becomes increasingly scarce, the restrictions will impact municipalities, industries and agriculture.

The water in the Colorado River has been heavily regulated since the 1920's. However, when these early water regulations were enacted, scientists and legislators did not consider the potential for drought. The region is now facing a severe, extended drought. The community is concerned about uncertainty surrounding further climate change impacts on the region. A warming trend will likely decrease the snowmelt that feeds the Colorado River and increase evaporation.

An effort to prevent serious conflict in the region has lawmakers and politicians scrambling to secure their water resources. For the fast-growing, desert city of Las Vegas, money is less of a constraint than for many other communities, which leads policy analysts to contemplate a number of expensive infrastructure projects. A deeper intake pipe is being built in Lake Mead to allow water to be withdrawn as water levels decrease. A desalinization plant and further engineering solutions are other potential options under consideration.

Prolonged drought and climate change may be two sides of the same coin, and even growth restrictions cannot provide sustainable water resources for much of America. States are already looking for inexpensive alternatives and new sources of water. The changes occurring in recent years highlight the need for water inventory management and new legislation to protect, conserve, and manage current water resources.

The Compact

The *Great Lakes - St Lawrence River Basin Water Resources Compact* is the United States effort to implement the 2005 *Great Lakes Sustainable Water Resources Agreement* (International Agreement)[xii], which was signed by all of the Great Lakes Governors and Premiers as an international agreement between Canada and the United States. In order for the United States to participate in this agreement, each US state must ratify legislation authorizing the US Compact, which then Congress must also ratify. In New York, State Assembly Bill A07266 amends the existing environmental conservation law to enact the Compact. New York State Assembly Bill A07266 has passed the two State chambers, but has yet to be signed into law by the Governor. A summary of the Bill follows.

Political Context of the Compact

How did the Compact come about?

Water disputes in the Great Lakes extend back to the 1800s, but the current push to create the Great Lakes Compact can be traced to a 1998 proposal by a Canadian company, the Nova Group, to ship water to Asia via tanker from Lake Superior.[xiii] Prior proposals had been floated before, but it was the Nova Group's successful application for a permit from the Government of Ontario that pushed contemporary efforts into high gear.

Although Canada and the United States had various treaties and agreements relating to the Great Lakes, there was no legal protection against this diversion. The realization that the lakes were vulnerable to diversion and export galvanized regional actors, including business groups, municipalities, local and regional environmental groups, and residents.

In late 1998, the Canadian Government successfully pressured the Nova Group into withdrawing their permit.[xiv] Following this incident, the American and Canadian Governments asked the International Joint Commission (IJC) to draw up a report on Great Lakes water use, including exports and diversions (Please see *Great Lakes Treaties and Agreements since 1900* for a description of the IJC). Their resulting report recommended that major, new consumptive uses should not be permitted unless strict conservation measures were implemented, and the cumulative impacts of subsequent, similar projects were considered.

In 2001, the *Great Lakes Charter Annex* was signed, a non-binding series of directives that committed the Great Lakes Governors and Premiers to develop a water management system that "protects, conserves, restores and improves the Waters and Water-Dependant Natural Resources of the Great Lakes Basin."[xvi] Three

An Act to Amend the Environmental Conservation Law, to Enact the Great Lakes - St Lawrence River Basin Water Resources Compact

Summary of Bill A07266

An Act to Amend the Environmental Conservation Law, to Enact the Great Lakes - St Lawrence River Basin Water Resources Compact

Section 1 of the Bill sets out the terms of the Compact. It contains nine articles, which generally define the responsibilities of both the individual States and the larger body created by the Compact, the Great Lakes - St Lawrence River Basin Resources Council (Council).

The first three articles of the Compact focus on defining terms and purposes, as well as identifying the role, authority, and responsibility of the Council.

Article 4 sets out the Compact's restrictions and conditions for basin water withdrawals, diversions, transfers, and consumption. Specifically, new or increased diversions are prohibited, with limited and conditional exemptions for municipal water supply to straddling communities, communities within a straddling county and intra-basin diversions. In order to receive an exemption, an applicant must submit a proposal to the State. This proposal is subject to the State's approval, and under certain circumstances the Council's as well.

In addition to the diversion issue, the State must develop a program for the management and regulation of withdrawals and consumptive uses within five years of the Compact's effective date. The state will have to set threshold levels for regulation. If it fails to do so within ten years of the effective date, a level of 100,000 gallons of water per day average or more over a 90–day period will be implemented by default.

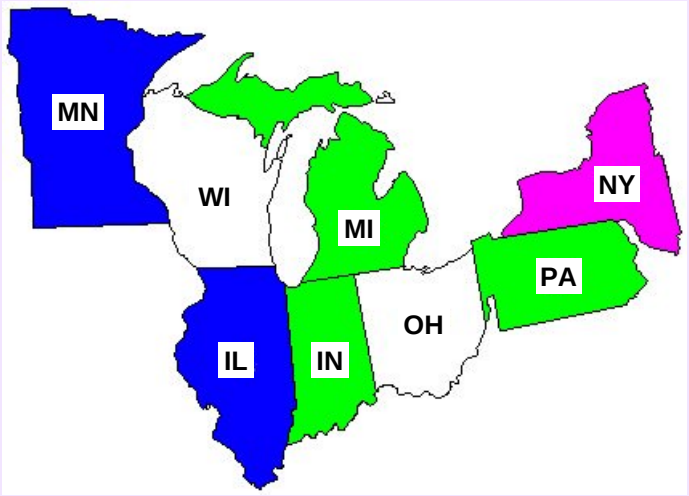
Article 5, requires the State to consult with federally recognized tribes regarding water resource management within tribal lands.

Article 6 focuses on the Council's responsibilities, including the coordination of public meetings and the publishing of minutes as a public record. It also stipulates public notification of all exemption applications and access to related reports and decisions.

Articles 7-9 specify management tools for resolving conflicts and maintaining the rights of the States for voting and decision-making. In the light of this section, within New York State, the Department of Environmental Conservation (NYSDEC) will be empowered to devise its own rules and regulations for implementation of and compliance with the Compact. The Department is responsible for submitting any proposed legislative action it deems necessary to the Governor and the Legislature. NYSDEC must also provide these parties with reports on the activities and programs of the Council which may relate to New York State.

years later, negotiations resulted in two documents: the International Agreement, which details the commitments made between the Great Lakes Governors and Premiers to protect the waters of the Great Lakes, and the Compact, designed to formally commit the eight United States Great Lakes States to the terms of the International Agreement.

Status of the Compact 2007[xv]



Legislative Status

Active Bill
Passed Two Chambers
Enacted into law

IL Illinois enacted the Compact into law on August 17, 2007.

IN Indiana has an active bill, Senate Bill 0045, to enact the Compact, but there has yet to be any further progress.

MI Michigan has three active bills, House Bill 4336, House Bill 4343, Senate bill 212, but there has yet to be any further progress.

MN Minnesota enacted the Compact into law on February 20, 2007.

NY New York state assembly has passed the Compact in both the House and the Senate. However, Governor Elliot Spitzer has not yet signed the bill.

OH Ohio does not have an active bill.

PA Pennsylvania has an active bill, House Bill 1705, to enact the Compact, but there has yet to be any further progress.

WI Wisconsin does not have an active bill.

Who are the supporters and opponents of the Compact?

At the state and regional level, concerns over the lack of legal protections for the Great Lakes and their overall health have proved to be a powerful motivator for proponents of the Compact. These include: shipping companies dependent on the Lakes for transport, cities and towns who depend on the lakes for drinking water, industry and agriculture who consume water to make products, and residents of all kinds who fish, boat, swim and relax along the shore.

Towns and cities within the Basin that depend on the Great Lakes for municipal water have also been strong supporters of the Compact. However, communities that either straddle or lie just outside the Basin are in a different position — straddling communities were able to successfully argue for qualified exemptions to the prohibition on diversions (see Case Study 2 on the situation of Waukesha, Wisconsin), but in most cases the Compact will prevent them from accessing water from the Great Lakes.

A range of environmental groups including local grassroots organizations, regional groups, and national non-governmental organizations (NGOs) have been strong supporters of the Compact because of the many environmental benefits expected from the agreement.[xvii] Although certain groups have also criticized various exceptions in the Compact, including the bottled water exception, and urged for stricter standards. Some environmental groups are now concerned that the Compact is too little, too late,[xxiv] but on the whole there is strong support.

The biggest ongoing opposition to the Compact is from state lawmakers who are concerned about issues of sovereignty and development. Efforts in Ohio to pass ratifying legislation were stalled by state senator Tim Grendell (R-Cleveland) who is concerned that the Compact declares the Great Lakes waters a public trust[xxv] and has been organizing other opponents to the Compact in the region. There has also been some opposition along those same lines from conservative interest groups.[xxvi]

The Compact Approach to Water Quantity Concerns

The major concerns regarding water quantity are the high levels of demand for water both within and outside of the Basin and scientific uncertainty surrounding the precise causes and impacts of declining water levels.

Great Lakes Treaties and Agreements since 1900

International Waterways Commission (IWC), 1905
"Created to advise the governments of both countries about levels and flows in the Great Lakes… [the IWC's] limited advisory powers proved inadequate for problems related to pollution and environmental damage. One of its first recommendations was for a stronger institution with the authority for study of broader boundary water issues and the power to make binding decisions." [xviii]

Boundary Water Treaty and International Joint Commission (IJC), 1909
Borne of a recommendation by the IWC, this treaty is an international agreement between Canada and the US that aims to "resolve disputes and to prevent future ones, primarily those concerning water quantity and water quality along the boundary…" between the two nations. The treaty created the IJC, still in existence today. The IJC is made up of six members, three appointed by Canada and the US respectively, and is responsible "for arbitrating disputes involving diversions and construction projects that affect the level and flow of boundary waters (does not include tributary or groundwater)." [xix]

Great Lakes Commission (GLC) and Great Lakes Basin Compact, 1955 and 1968
Signed by the Basin States in 1955, this compact was an effort to coordinate development and improve the "welfare" of the Lakes, and established the GLC. Although the GLC began to meet the following year and has played an important advisory role ever since, the compact was not ratified by the US Congress until 1968, when it was amended so as to make it totally optional and nonbinding.[xx]

Great Lakes Charter, 1985
Signed by the Basin States, Ontario, and Québec, this non-binding charter recommends consultation on any diversion of water from the Lakes greater than 5 million gallons per day. It also calls for creation of a regional water database and water management plan, but has not been consistently adhered to.[xxi]

US Water Resources Development Act and Amendment, 1986 and 2000; Great Lakes Charter Annex, 2001
Passed by the US Congress, this act and subsequent amendment require the unanimous consent of all Basin State governors for any proposed diversion or exportation of water from the Lakes. Agreed to by the Basin State governors and premiers of Ontario and Québec, the Annex outlines principles on which these decisions regarding diversions/exportations should be made.[xxii]

Great Lakes - St Lawrence River Basin Water Resources Agreement and Compact, 2005 ***(Pending)***
Signed by the Basin State governors and the premiers of Ontario and Québec, this agreement strictly limits future diversions and export of water from the Lakes. The compact is the US portion of this agreement and must be ratified by each of the eight Basin State legislatures and the US Congress.[xxiii]

How does the Compact address the problem of high levels of water demand?

To address the issues associated with future demands upon the Basin's water resources, the Compact regulates water use in a number of ways. Specifically, the Compact:

- Prohibits all new or increased diversions out of the Basin;
- Requires Party States to set threshold levels for the regulation of new or increased withdrawals within the Basin.

The prohibition on diversions prevents water from being transferred out of the Basin into another watershed, or from one Great Lake watershed into that of another. The Compact does contain **limited, conditional exceptions** for straddling communities, communities within a straddling county, and intra-basin transfers. In order to qualify for an exception, a proposal must meet certain criteria. In particular:

- Diverted water must be used solely for public supply purposes and all water, minus an amount for consumptive use, must be returned as natural or treated wastewater,
- Exceptions often require regional review and in some cases approval from the Compact Council.

The Compact's definition of a diversion excludes water that is used to produce or manufacture products that will subsequently be transferred out of the Basin. In practice, this allows agricultural and beverage products, which incorporate significant amounts of water, to be produced within the Basin and shipped nationally and/ or internationally.

In addition to prohibiting diversions, the Compact also requires Party States to **manage and regulate new and increased withdrawals and consumptive uses**. The Party States must set threshold levels to ensure that withdrawals do not result in significant impacts to the waters and water dependent natural resources within the Compact. This requirement must be met within ten years of the Compact or a default threshold will be applied.

How does the Compact address the problem of scientific uncertainty?

To address the scientific uncertainties associated with climate change, lack of data, and the long term impacts of water use, the Compact requires the Party States to **cooperatively monitor and improve water use within the Basin**. The Compact prescribes three water resource management tools: a resources inventory, conservation and efficiency programs, and an assessment of cumulative impacts.

Case Study 2: Waukesha, Wisconsin[xxvii]

Waukesha, Wisconsin is a city located just 15 miles outside of the Great Lakes hydrologic basin. Historically, Waukesha was known for having very fresh spring water. In 1892, a group of armed, angry Waukesha citizens defended their waters from a group that planed to pipe water from out of Waukesha to serve people in Chicago. More recently, groundwater levels have dropped more than 500 hundred feet in municipal wells, and contaminants such as radium have emerged, forcing the city to either treat the water to remove the radium or find an alternative, uncontaminated supply. Currently, Waukesha proposes to divert 20 million gallons per day from the Great Lakes to fulfill their water needs.

There are two main issues that are preventing Waukesha from doing this under the Great Lakes Compact of 2005. The first complication is that the Compact requires applicants to explore all other water options first. There is a known aquifer west of the city that has the potential to be a water source as well. Waukesha claims that this option would also incur political difficulties. The second complication lies in the issue of return-flow. The Compact states that the diverted water should be returned to the Great Lakes Basin, which Waukesha claims would be prohibitively expensive. They also claim that sending their effluent to Milwaukee Metropolitan Sewerage District (MMSD) would overload their capacity. However, MMSD denies this claim and says they haven't asked them to use their infrastructure yet. The city of Waukesha also claims that a wetland downstream of their effluent discharge is dependent on this water.

This is a complex situation, both scientifically and politically, which exemplifies the way water disputes in the Great Lakes Basin will be carried out if the Compact becomes fully ratified. Waukesha has the difficulty of being one of the first straddling communities to come in conflict with the Compact, which includes the fear that a dangerous precedent allowing outside diversions will be set.

Each state is required to develop and maintain its own **water resources inventory**. This inventory must include data regarding use of resources, including the location, type, and quantity of withdrawals, diversions, and consumptive uses. Each state must also develop a common database for this information, which will facilitate the exchange of data with other states and provinces.

The Council must identify Basin-wide **water conservation and efficiency objectives** based on goals as defined by the Compact. Each state must develop **water conservation and efficiency goals** consistent with those of the Council, and implement a program for all Basin water users. Each state shall annually assess its program's efficacy, and report findings to the Council/Regional Body.

The Party States in cooperation with the Provinces must collectively conduct **periodic assessments of the cumulative impacts** of withdrawals, diversions, and consumptive uses from the waters of the Basin. These assessments shall use the most current and appropriate guidelines, consider the impacts of climate change as well as other significant threats to basin waters, and contribute to an adaptive management approach for the Basin.

Compact Requirements in New York State

- Develop and maintain a water resources inventory documenting the State's consumption, withdrawal and diversion of water resources from the Basin;
- Develop a register of persons who withdraw amounts of 100,000 gallons or greater per day;
- Annually report the monthly volumes withdrawn from the Basin;
- Develop a set of water conservation and efficiency goals within two years of the effective date of the Compact;
- Develop water conservation and efficiency programs to achieve these goals;
- Conduct periodic assessments of the cumulative impacts of withdrawals, diversions and consumptive uses from the waters of the Basin;
- Participate in the regional and council review process for proposals subject to review under the Compact.

Overall Implementation Plan

This section lays out the plan for implementing the Compact in New York State for the first year after it comes into force, assuming a start date of January 1st, 2008.

Proposed Program Design

In order to implement the Compact's mandates within the state of New York, a number of program design options were examined. We divided the necessary implementation functions into three areas:

1. Inventory and Assessment,

2. Monitoring and Permitting, and

3. Advisory Role.

We determined that the **New York State Department of Environmental Conservation** would retain responsibility for the bulk of the Compact's implementation. This was considered the most feasible and efficient option for all three areas, because much of the work required by the Compact already falls within NYSDEC's purview.

Design options were considered for each area of implementation. These options were assessed on the bases of initial start-up costs, societal effects, and feasibility; and were rated on a scale from low to high.

The development of a water resource inventory would be administered by NYSDEC, but will also involve federal agencies, municipalities, and external contractors.

It should be noted that an advisory body is not mandated by the Compact, but we determined it would be appropriate to form a committee to advise NYSDEC on the formulation of the water conservation and efficiency goals mandated in the Compact.

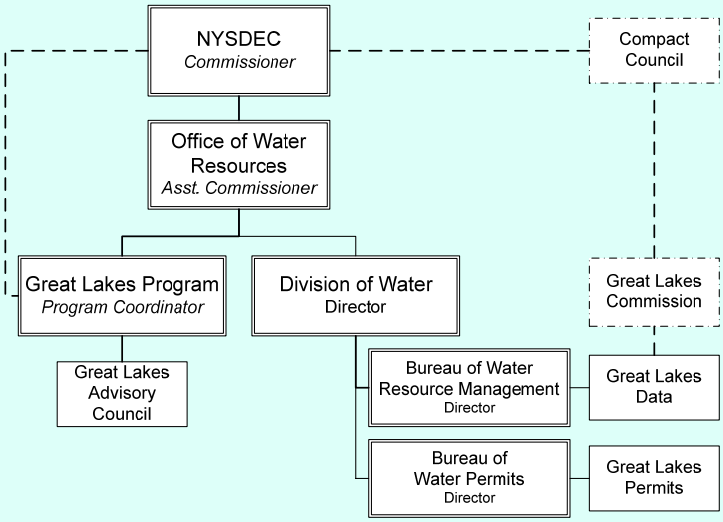
To fulfil the advisory role, we propose to set up a **Water Quantity Subcommittee** under the structure of the existing Great Lakes Advisory Council already existing in New York State. We intend for the Water Quantity Subcommittee to be comprised of a diverse set of members, which includes: community stakeholders, industry representatives, and academic leaders.

For the first year after approving the Compact, implementation will be defined by setting up the **Great Lakes Program office**, allocating resources, creating a standardized and complete database of withdrawals and consumption, creating a Subcommittee of the Great Lakes Council and gathering the necessary information for establishing a headquarters for water resource management and conservation.

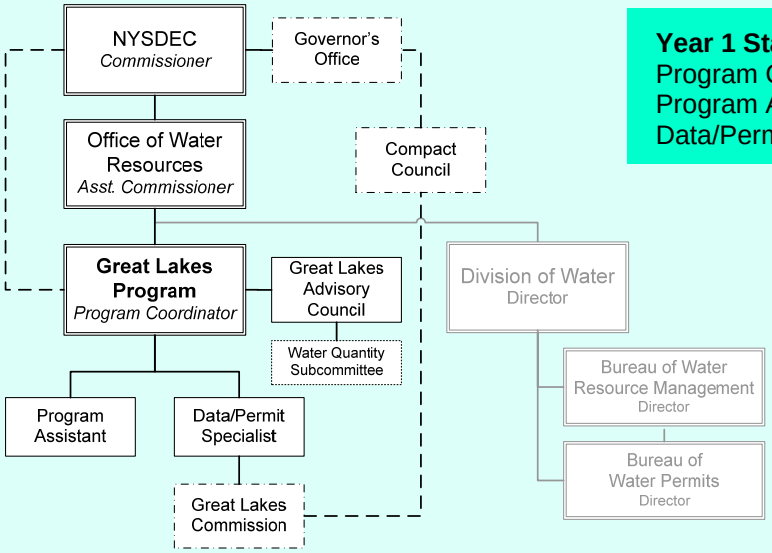
Organizational Staffing Plan

It is proposed that NYSDEC formalize the Great Lakes Program as a distinct office and devote three staff members to implement the Compact Requirements and to address their existing program requirements. The main goal of the organizational staffing plan is to ensure there will be minimal duplication of services and that all mandates of the Compact are carried out.

Existing Structure



Revised Structure



Year 1 Staff Requirements

Program Coordinator	1 FTE
Program Assistant	1 FTE
Data/Permit Specialist	1 FTE

Program Coordinator

Overview

The appointment of the Program Coordinator should mark the beginning of the implementation phase for the Compact. We recommend this position be a transfer of function from the current role of Great Lakes Program Coordinator. This position will entail an increased supervisory function, so we would seek approval to upgrade the transferred position. The Program Coordinator will be responsible for the following:

- Supervising the reorganization of the Great Lakes Program, and hiring two Full Time Equivalent (FTE) positions to assist him/her with fulfilling the Compact agenda;
- Serving as a liaison to the Commissioner of the NYSDEC;
- Overseeing the administration of the Great Lakes Advisory Council and its newly created Water Quantity Subcommittee.

Tasks and Deliverables

Program Coordinator	Time Frame	Deliverable
Coordinate Great Lakes Program organization	1st Quarter	1st Quarterly Progress Report
Verify Staffing and Job Descriptions	1st Quarter	1st Quarterly Progress Report
Recruit 2 new positions: Program Assistant, Data/Permit Specialist	1st Quarter	Employee Contracts
Create Sub-committee for Great Lakes Advisory	1st Quarter	Confirmed Committee
Manage the Great Lakes Program Office	Daily, All Quarters	N/A
Serve as Liason to the Commisioner of NYDEC	Ongoing, All Quarters	N/A
Oversee and submit Quarterly Progress Reports	Quarterly, All Quarters	Quarterly Progress Reports
Convene Advisory Committee Meetings	Biannual	Meetings Held
Attend Compact Council Meetings	Biannual	Meeting Attendance
Convene Great Lakes Program Meetings	Monthly	Meetings Held
Create Plan for Auditing and Assessment Department	4th Quarter	Auditing and Assessment Plan
Prepare Budget Plan for next Fiscal Year	4th Quarter	Budget Plan

Program Assistant

Overview

The Program Assistant should be hired as soon as possible, no later than March 1st, 2008. The Program Assistant will be responsible for:

- Assisting with the management of the Great Lakes Program Office;
- Office functions including daily record keeping, budget analysis, performance evaluations and managing external contracts;
- Co-ordinating and attending the Advisory Council and Subcommittee meetings and all monthly Great Lakes Program Office meetings;
- Tracking deadlines for the Advisory Council meeting dates in order to arrange all travel plans for Council members;
- Helping to organize performance reviews and budget analysis for the quarterly reports to be sent to the DEC Commissioner and Assistant Commissioner for the Commission Quarterly meetings.

Tasks and Deliverables

Program Assistant	Time Frame	Deliverable
Establish permitting guidelines to comply with Compact	2nd Quarter	Quarterly Progress Report
Coordinate and respond to data requests (Compact Council and ad hoc requests)	Ongoing, All Quarters	N/A
Assist Program Coordinator	Ongoing, All Quarters	N/A
Setup and Attend Advisory Council Meetings	Biannual	Meetings Held and Minutes
Setup and Attend Great Lake Program Office meetings	Monthly, All Quarters	Meetings Held and Minutes
Oversee outside contracts with necessary organizations	Ongoing, All Quarters	Assesment Report and Recommendation

Data/Permit Specialist

Overview

The Data/Permit Specialist should be hired as soon as possible, and no later than March 1st. 2008. The Data/ Permit Specialist will be responsible for:

- Performing or overseeing tasks associated with the water inventory database and the permit database;
- Producing monthly assessment reports regarding the water inventory;
- Producing quarterly permit reports;
- Drafting an annual cumulative report to be submitted to the Compact Council.

It is important that the water resource inventory be completed according to schedule as the majority of the Specialist's ongoing work requires the database as a prerequisite.

Tasks and Deliverables

Data/Permit Specialist	Time Frame	Deliverable
Request contract proposals for USGS, NOAA and Environment Canada for database creation	2nd Quarter	Request for Proposals Released
Evaluate proposals	2nd Quarter	Assessment Report and Recommendation
Contract agency for database creation	2nd Quarter	Contract
Supervise database creation process	2nd, 3rd and 4th Quarters	Quarterly Progress Report
Establish/formalize NYSDEC standards and procedures for data collection	2nd Quarter	Assessment Report and Recommendation
Obtain and incorporate data from permit requests and water inventory into database	Daily, All Quarters	N/A
Create monthly reports	Monthly, All Quarters	Monthly Reports
Identify additional sites where monitoring is required within 1st year	2nd Quarter	Assessment Report and Recommendation
Submit annual report on monthly volumes to Compact	End of Fiscal Year	Annual Report
Process permits	Ongoing, All Quarters	Quarterly Progress Report
Compile exemption requests for submission to Compact Council	Ongoing, All Quarters	Exemptions Submissions
Attend Advisory Committee meetings	Biannual	Meeting Attendance
Attend Great Lakes Program Meetings	Monthly, All Quarters	Meeting Attendance

Advisory Council Subcommittee

Overview

The Advisory Council is already in existence, but our recommendation is that a subcommittee be created to the Advisory Council to review and advise on water management goals and objectives. Additionally, the full council is required to attend bi-annual meetings for the purpose of discussing and advising on water quantity and other related issues.

Tasks and Deliverables

Advisory Council and Sub-Committee	Time Frame	Deliverable
Constitute and meet (first meeting within 6 months)	Biannual	Meetings Held and Minutes
Review and advise on development water management goals and objectives	As Necessary	Assessment Report and Recommendation
Oversee development of water conservation and efficiency programs	4th Quarter, through 2nd Year	Program Report
Advise on cumulative assessment process, approve guidelines for auditing and assessment position	4th Quarter, through 2nd Year	Assessment Report and Recommendation
Discuss and advise on quantity related issues as they	As Necessary	N/A
Recommendations to Governor (prior to Compact Council meetings)	Biannual	Recommendation Reports

Contracting Agencies

In order to implement the requirements of the Compact it is likely that NYSDEC will contract external agencies for particular tasks. The Great Lakes Program office will compile a list of task where external agencies are likely to be needed to assist in meeting the requirements of the Compact. For example, if NYSDEC decides it needs to better identify large users within municipalities, it may be necessary to contract with an external agency. While contracting agencies will be necessary throughout this process, the following outlines where contractors will be used for the first year and which ones will be required after year one.

Year One

Contract 1 - Database Creation

- Create data repository to input data required for the water resource inventory

- Formal contract to produce a professional output that will be consistent and compatible with other states to exchange data.

Contract 2 - Data Gathering

Exploratory contact with a number of organizations to determine what data is being collected already and what can be compiled in the database. These organizations will include National Oceanic and Atmospheric Administration (NOAA), Army Corp of Engineers (USACE), Environment Canada, and Great Lakes Research Consortium.

Years Two - Five

Contract 3 - New Data

Formal contracts with identified organizations to acquire new data that has been identified as necessary from the Data Gathering contracts and any new requirements set forth by NYSDEC. Such organizations may include United States Geological Survey (USGS), USACE, and Environment Canada.

Contract 4 - Technical Assistance & Education

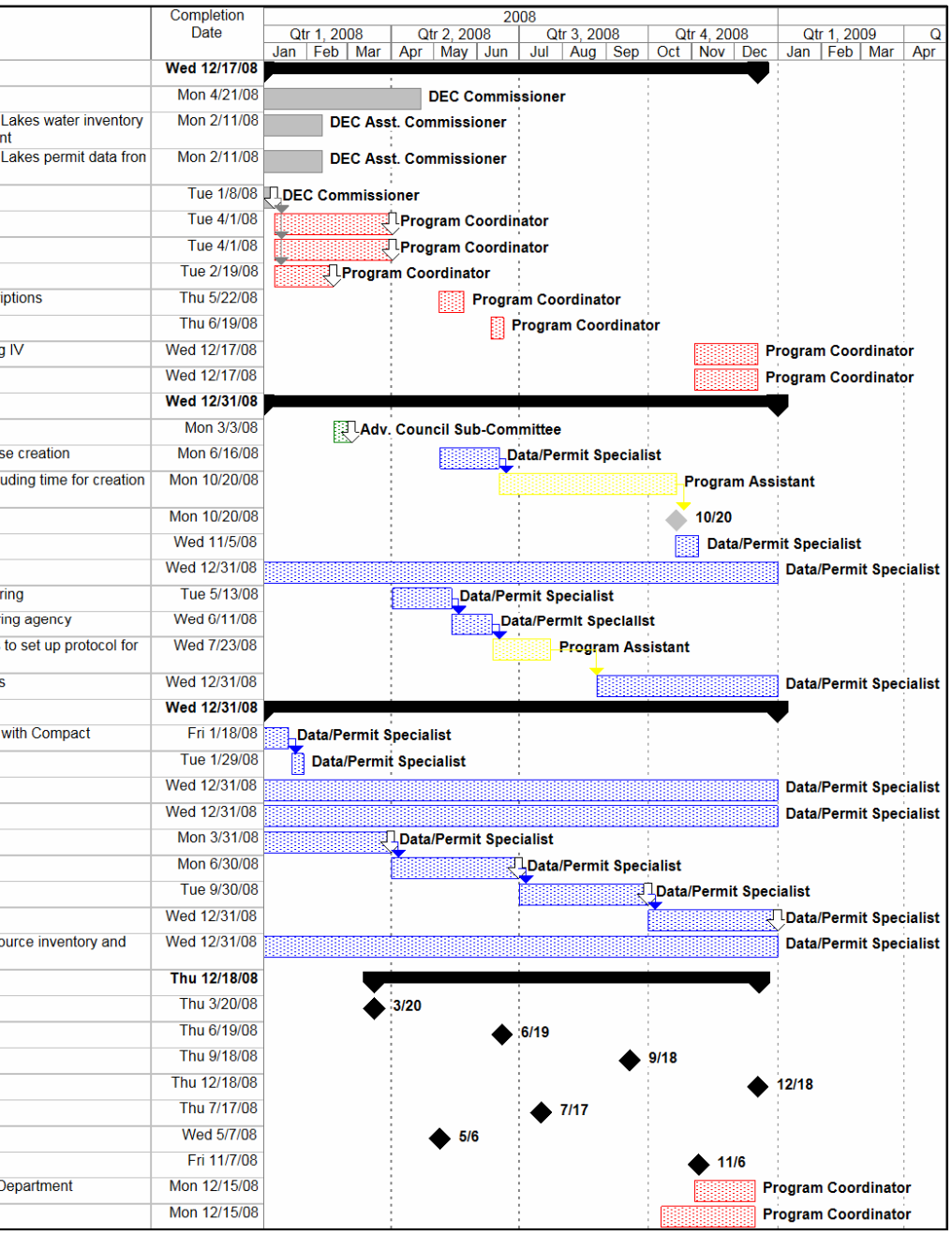
Assist with the development of water management plans and conservation programs, as well as assistance in developing a framework for cumulative impact assessments. Formal contracts may be with agencies such as the New York State Regional Planning Councils and the Great Lakes Information Network.

Master Calendar

The purpose of the Master Calendar is to integrate NYSDEC's Great Lakes Program design as described in this report into an operational plan for the first year. The complete Master Calendar for year one is included in Appendix V. A simplified outline of the Master Calendar follows.

Master Calendar

Task Objective	Completion Date
Office Setup	**Wed 12/17/08**
Restructure old organization	Mon 4/21/08
Create plan for transition of existing Great Lakes water inventory data from Bureau of Resource Management	Mon 2/11/08
Create plan for transition of existing Great Lakes permit data fron Bureau of Water Permits	Mon 2/11/08
Appoint Program Coordinator	Tue 1/8/08
Hire Program Assistant	Tue 4/1/08
Hire Data/Permit Specialist	Tue 4/1/08
Determine members of Sub-Committee	Tue 2/19/08
Verify Staffing Plan and Update Job Descriptions	Thu 5/22/08
Review Budget Plan for DEC Meeting II	Thu 6/19/08
Performance Assessment for DEC Meeting IV	Wed 12/17/08
Budget Assemssment for DEC Meeting IV	Wed 12/17/08
Database Creation	**Wed 12/31/08**
Establish database parameters	Mon 3/3/08
Request for Contract proposals for database creation	Mon 6/16/08
Contract agency for database creation including time for creation	Mon 10/20/08
Final Database	Mon 10/20/08
Integrate database with new parameters	Wed 11/5/08
Gather data from internal sources	Wed 12/31/08
Identify additional sites for external monitoring	Tue 5/13/08
Request for Proposals for external monitoring agency	Wed 6/11/08
Contract external monitoring organizations to set up protocol for receiving external data	Wed 7/23/08
Integrate data from all new monitoring sites	Wed 12/31/08
Permitting	**Wed 12/31/08**
Establish permitting procedures to comply with Compact	Fri 1/18/08
Integrate current permitting procedures	Tue 1/29/08
Process existing requests	Wed 12/31/08
Compile exemption requests	Wed 12/31/08
Create quarterly Permit Report I	Mon 3/31/08
Create quarterly Permit Report II	Mon 6/30/08
Create quarterly Permit Report III	Tue 9/30/08
Create quarterly Permit Report IV	Wed 12/31/08
Update database with data from water resource inventory and permit reports	Wed 12/31/08
Advisory Council	**Thu 12/18/08**
DEC Commission Quarterly Meeting I	Thu 3/20/08
DEC Commission Quarterly Meeting II	Thu 6/19/08
DEC Commission Quarterly Meeting III	Thu 9/18/08
DEC Commission Quarterly Meeting IV	Thu 12/18/08
Great Lakes Govenors Council Meeting	Thu 7/17/08
Advisory Council Meeting I	Wed 5/7/08
Advisory Council Meeting II	Fri 11/7/08
Create plan for Auditing and Assessment Department	Mon 12/15/08
Prepare Budget Plan for next Fiscal Year	Mon 12/15/08



Performance Management and Evaluation

To assess the successful implementation of the Great Lakes Compact, NYSDEC will be evaluating progress with specific measurements or indicators of performance, which will be compiled into reports according to the schedule outlined below. These reports will also be useful for verifying the status of implementation steps, making sure milestones are reached, and identifying problem sources.

The central objective of the performance management plan is to ensure progress towards the conservation and management goals of the Compact, through regular evaluation, reporting of results, analysis of evaluation data and the incorporation of adjustments to the program. During the first year of the program, performance assessment will be focused on achieving milestones that will set a foundation for the implementation of the Compact in years to come.

Milestone progress against program calendar

For the first year of implementation, project activities have been divided into three program assessment sections:

1. Water Resource Inventory and Database Management;
2. Consumptive use and Permitting;
3. Advisory Council and Subcommittee.

Each section includes a list of activities outlined in Section VI: Implementation by Functional Area, which align with the master calendar and have specific ways of being monitored. For each of these specific tasks, there is an output specified and a person responsible for ensuring that the milestone is reached successfully. This assessment plan will serve as a "check list", with progress assessed and evaluated every quarter.

Considering that most assessment throughout the first year will be operational, the inputs needed to achieve a structured and reliable assessment are the resources used for evaluating each activity or milestone, i.e. the person responsible, the time and the money used for having reports and something to evaluate. See Section VI for complete tables of performance management for first year.

The objective of any performance management is to constantly evaluate the operation methods, structure and specific results to be able to change any flaw or detect opportunities, and constantly improve Standard Operational Procedures. It's important to ensure that feedback and

assessment results be incorporated into activities going forward. There should also be room to react to new activities as needed. After each evaluation there may be a need to reallocate resources, recruit more people or restructure the organization. See Appendix VI *Performance Assessment and Correction Methods* for a detailed description of feedback implementation for each section of the Program.

Resource allocation

Once the program is operational there will be continuous evaluations against the budget, that will help each responsible party explain all milestones in the development of a certain goal, specify changes needed, quantify actual costs versus budgeted costs and make any additional comments of performance. For this type of evaluation, the individuals in charge will report every six months on progress with the a resource allocation assessment form (see sample below).

General Compact conservation and management objectives.

Finally, all of these specific activities must fit into an inclusive performance evaluation that aligns all progress with the general goals of the Compact. The Compact requires parties to commit within two years to water conservation goals. The activities performed during the first year outlined above each belong to a program assessment section; the following

Name of Project	**Progress Achieved v Planned Milestones**	
Example *Database creation and contracting*	• *To develop a RFP brief by July 3rd* • *To evaluate RFP and award external supplier by August 7th*	**Achieved:** *RFPs were released by July 3rd and a deadline set of August 2nd* **Not Achieved:** *RFP deadline was extended to allow modifications to submissions.*
Activity: *To contract out the creation of a water resource inventory database*	**Notes** • *During the RFP process we realized that a significant design element missing from the RFP brief, proponents were given an additional week to incorporate change* • *Due to the extended deadline for receiving tender submissions, the contractor milestones will have to be amended*	**Proposed Changes** *Where necessary, amend contractor milestones to accommodate one week deadline extension.* *Fast-track evaluation period, so that offer to preferred contractor is made within one week of submission deadline*

	Total budget allocation for the Project	**Total expenditure at end of last six months**		**Planned allocation in this six months**		**Actual expenditure in this six months**	
		Operating	**Capital**	**Operating**	**Capital**	**Operating**	**Capital**
NYSGL Protection Fund	$ -,---	$ -,---	$ -,---	$Y	$Z	$Y	$Z
NYSDEC Fund Allocation	$ -,---	$ -,---	$ -,---	$Y	$Z	$Y	$Z
Total Program	$ -,---	$ -,---	$ -,---	$Y	$Z	$Y	$Z

Sample form for resource allocation assessment

table relates the activities to the Compact goals. To assess the measurements outlined in the table below, the Advisory Council will review every six months the progress against which it will be able to modify its original plans.

A Performance Management System and a Management Innovation Process are critical to ensure the adequate and successful implementation of any program. The Great Lakes - St Lawrence River Basin Compact is an ambitious program that must be assessed meticulously to establish a complete database of consumption and withdrawals to achieve full control of water management in the lakes. This program is specific to New York State, but similar activities and planning will be developed in all states that are parties to the Compact. The aim in the first year is set up the structures necessary to implement the Compact and to serve as a basis for the future development of the water resource management programs.

Specific Activities	Time Frame	Program Assessment Section
Goal: Measures that promote efficient use of Water.		
Office Setup, Resource allocation and Employment	First Year	Office Setup
Great Lakes Advisory Council Creation	First Year	Office Setup
Water efficiency goals by Council	First Year	Efficiency Programs
Goal: Identification of best management practices and state of the art conservation and efficiency technology.		
Database creation - best practice	First Year	Database creation and contracting
Permit process	First Year	Monitor Consumptive Use and Permitting
Goal: Application of sound planning principles.		
NYSDEC standard enforcement	First Year	Database Management
Permitting guidelines	First Year	Monitor Consumptive Use and Permitting
Goal: Demand-side and Supply-side measures or incentives.		
Measure progress Consumption tendencies	Second Year	Monitor Consumptive Use and Permitting
Goal: Development, transfer and application of science and research.		
Data requests by various institutions	Second Year	Database Management
Exemptions request approach	Second Year	Monitor Consumptive Use and Permitting
Identify all monitoring sites	Second Year	Monitor Consumptive Use and Permitting

General Compact conservation and management goals related to program assessment.

Proposed Budget

The line item budget for the Great Lakes Program correlates fiscal year funding with the first year actions of the Compact implementation plan. This budget is based on organizational staffing plan requirements and program costs. Pay grade levels and corresponding salary levels were estimated based on openings for equivalent positions outlined by the NYSDEC.[xxviii] As all new hires are based on a partial full-time equivalent (FTE), benefits are proposed at approximately 0.2 FTE. Other Than Personnel Service (OTPS) expenses, which include supplies, travel, and other expenses were estimated based on a percentage of the total personnel budget and market price. These budget projections are based on limited data and extrapolations from similar program budgets.

The Total Operation cost for the Compact is estimated to be approximately $260,000. To contribute to these costs we expect to tap into two potential revenue sources to offset the costs for the Great Lakes Compact Program:

1. Permitees are responsible for payment of the annual regulatory fee. On average the department currently receives one permit request per month. So the program may be able to rely on average $2,000 from permits for revenue, although

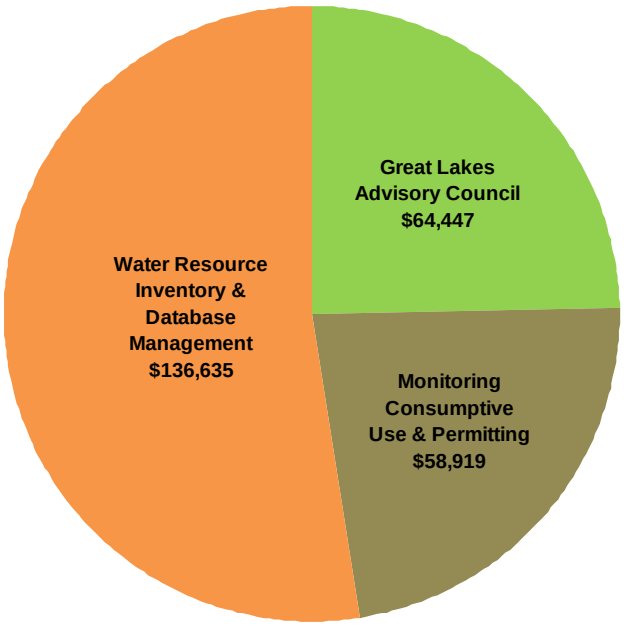
Line-Item Budget	
Personnel Service	
Salaries	$ 142,858.00
Fringe Benefits	$ 34,493.00
Total Personal Service	*$ 177,351.00*
Other than Personnel Service (OTPS)	
Travel	$ 6,800.00
Overhead	$ 8,867.55
Meeting Expense	$ 1,000.00
Supplies	$ 3,600.00
Database Development	$ 2,000.00
Contracting	$ 48,000.00
Contingency	$ 12,380.93
Total OTPS	*$ 82,648.48*
Total Operation Costs	**$ 259,999.48**

Potential Revenues	
Permits	$ 2,000.00
New York State Great Lakes Protection Fund	$ 50,000.00
Total Potential Revenues	**$ 52,000.00**

this varies according to the number of permit applications.

2. The Great Lakes Advisory Council (GLAC) coordinates the review and dispersal of the New York Great Lakes Protection Fund, a fund designated for research and protection programs. It is proposed that 25% of this fund be committed towards quantity specific projects and be dispersed at the discretion of the GLAC subcommittee. For budgeting purposes the total amount of funding is estimated at approximately $200,000, so the Great Lakes Program may get about $50,000 for the first year as potential revenue.

The line item budget below shows the breakdown of the entire program by personnel and other than personnel services. Nearly 68% of the total costs will be used for personnel expenses. This reflects the implementation's strong reliance on human resources in the first year. Moreover, the pie chart shows the distribution of operational costs. It is important to note that the Water Resource Inventory & Database Management receives the highest level of funding in the first year, at about 52% of total operation costs. This is due to the additional contracting costs incurred for database creation. Monitoring Consumptive Use & Permitting is allocated 23% of the line-item budget, while the GLAC is allocated 25%.

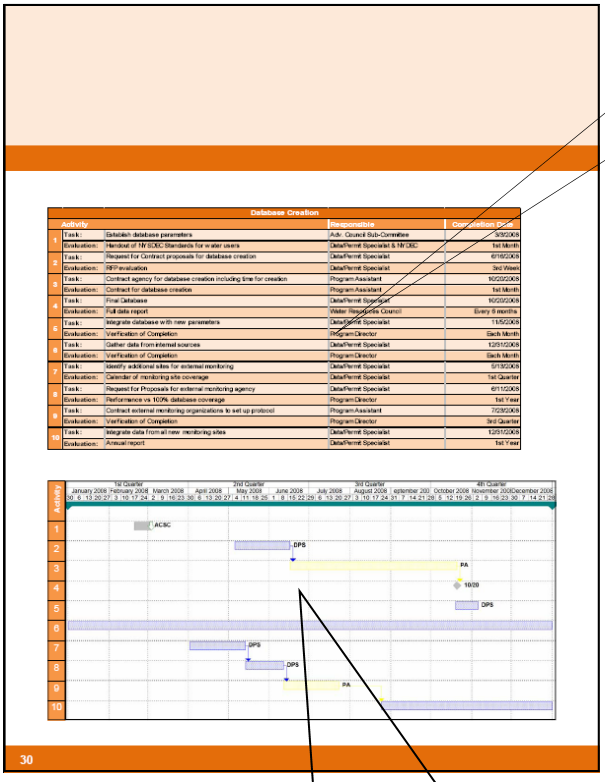


Budget allocation by functional area.

Implementation by Functional Area

This section contains an implementation overview for each functional area involved in fulfilling New York State's commitments under the Compact. For each area, a description of activities, calendar, task and evaluation table and resource allocation (where relevant) are provided in an at-a-glance format.

Task and evaluation table – This table lists the tasks that need to be completed for each functional section, indicating how each task will be evaluated, the staff member responsible and the expected completion date.



Database Creation

	Activity		Responsible	Completion Date
1	Task:	Establish database parameters	Adv. Council Sub-Committee	3/30/2009
	Evaluation:	Handout of 7# SDEC Standards for water users	Data/Permit Specialist & 7#SDEC	1st Month
2	Task:	Request for Contract proposals for database creation	Data/Permit Specialist	6/16/2009
	Evaluation:	RFP evaluation	Data/Permit Specialist	3rd Week
3	Task:	Contract agency for database creation including time for creation	Program Assistant	10/20/2009
	Evaluation:	Contract for database creation	Program Assistant	1st Month
4	Task:	Final Database	Data/Permit Specialist	10/20/2009
	Evaluation:	Full data report	Water Resources Council	Every 6 months
5	Task:	Integrate database with new parameters	Data/Permit Specialist	11/5/2009
	Evaluation:	Verification of Completion	Program Director	Each Month
6	Task:	Gather data from internet sources	Data/Permit Specialist	12/31/2009
	Evaluation:	Verification of Completion	Program Director	Each Month
7	Task:	Identify additional sites for external monitoring	Data/Permit Specialist	5/13/2009
	Evaluation:	Calendar of monitoring site coverage	Data/Permit Specialist	1st Quarter
8	Task:	Request for Proposals for external monitoring agency	Data/Permit Specialist	4/11/2009
	Evaluation:	Performance vs. 100% database coverage	Program Director	1st Year
9	Task:	Contract external monitoring organizations to set up protocol	Program Assistant	7/29/2009
	Evaluation:	Verification of Completion	Program Director	3rd Quarter
10	Task:	Integrate data from all new monitoring sites	Data/Permit Specialist	12/31/2009
	Evaluation:	Annual report	Data/Permit Specialist	1st Year

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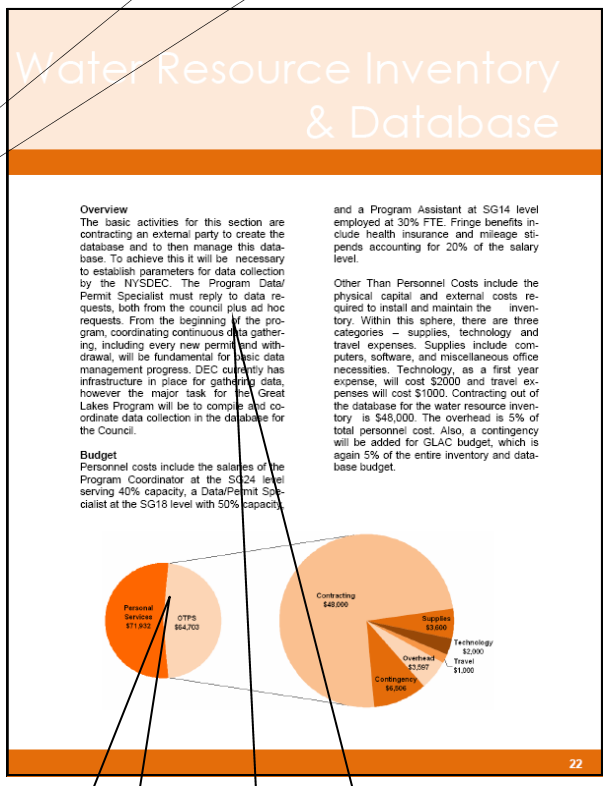

Water Resource Inventory & Database

Overview
The basic activities for this section are contracting an external party to create the database and to then manage this database. To achieve this it will be necessary to establish parameters for data collection by the NYSDEC. The Program Data/Permit Specialist must reply to data requests, both from the council plus ad hoc requests. From the beginning of the program, coordinating continuous data gathering, including every new permit and withdrawal, will be fundamental for basic data management progress. DEC currently has infrastructure in place for gathering data, however the major task for the Great Lakes Program will be to compile and coordinate data collection in the database for the Council.

Budget
Personnel costs include the salaries of the Program Coordinator at the SG24 level serving 40% capacity, a Data/Permit Specialist at the SG18 level with 50% capacity, and a Program Assistant at SG14 level employed at 30% FTE. Fringe benefits include health insurance and mileage stipends accounting for 20% of the salary level.

Other Than Personnel Costs include the physical capital and external costs required to install and maintain the inventory. Within this sphere, there are three categories – supplies, technology and travel expenses. Supplies include computers, software, and miscellaneous office necessities. Technology, as a first year expense, will cost $2000 and travel expenses will cost $1000. Contracting out of the database for the water resource inventory is $48,000. The overhead is 5% of total personnel cost. Also, a contingency will be added for GLAC budget, which is again 5% of the entire inventory and database budget.

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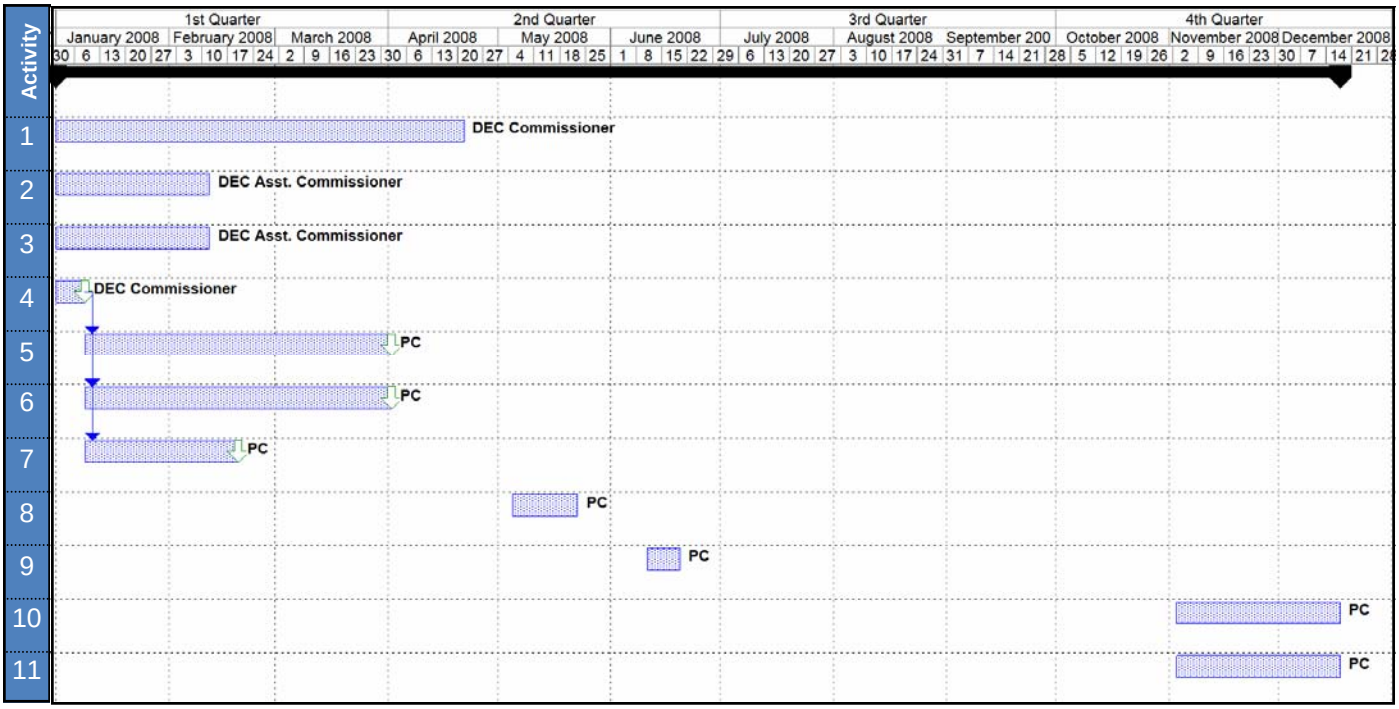
Calendar – The calendar aligns with the task and evaluation table, showing graphically when tasks should be undertaken, dependencies between tasks, major milestones and deadlines.

Overview – This section describes the main activities and budget components for each functional area in the first year of implementation.

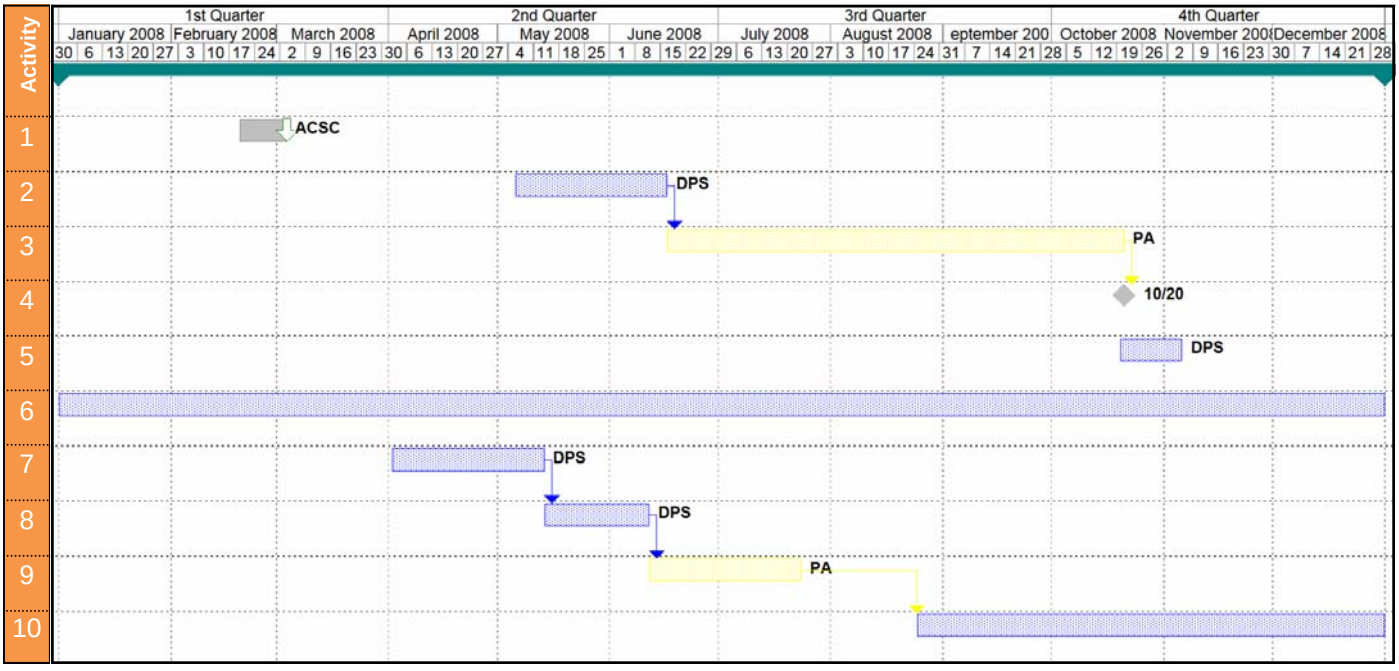
Resource Allocation – The pie charts show the amount in dollars and expenditure percentages for each functional area. Other Than Personnel Service costs are broken out into a more detailed pie chart.

Office Setup

Office Setup				
Activity			Responsible	Completion Date
1	Task:	Restructure old organization	DEC Commissioner	12/17/2008
	Evaluation:	New office structure map	Office of Water Resources	1st Month
2	Task:	Create plan for transition from Bureau of Resource Management	DEC Asst. Commissioner	4/21/2008
	Evaluation:	Letter confirming transfer and communication arrangements	Head of Bureau of Resource Mgmt	1st Quarter
3	Task:	Create plan for transition of permit data from Bureau of Water Permits	DEC Asst. Commissioner	2/11/2008
	Evaluation:	Letter confirming transfer and communication arrangements	Head of Bureau of Resource Mgmt	1st Quarter
4	Task:	Appoint Program Coordinator	DEC Commissioner	2/11/2008
	Evaluation:	Verification of Completion	Program Director	1st Quarter
5	Task:	Hire Program Assistant	Program Coordinator	1/8/2008
	Evaluation:	Employee Contracts	Program Director	2nd Month
6	Task:	Hire Data/Permit Specialist	Program Coordinator	4/1/2008
	Evaluation:	Employee Contracts	Program Director	2nd Month
7	Task:	Determine members of Sub-Committee	Program Coordinator	2/19/2008
	Evaluation:	Official Subcommittee approved by Council	Program Director	1st Month
8	Task:	Verify Staffing Plan and Update Job Descriptions	Program Coordinator	5/22/2008
	Evaluation:	Verification of Completion	Program Director	Each Month
9	Task:	Review Budget Plan for DEC Meeting II	Program Coordinator	6/19/2008
	Evaluation:	Verification of Completion	Program Director	2nd Quarter
10	Task:	Performance Assessment for DEC Meeting IV	Program Coordinator	12/17/2008
	Evaluation:	Verification of Completion	Program Director	4th Quarter
11	Task:	Budget Assessment for DEC Meeting IV	Program Coordinator	12/17/2008
	Evaluation:	Verification of Completion	Program Director	4th Quarter



Database Creation				
	Activity		Responsible	Completion Date
1	**Task:**	Establish database parameters	Adv. Council Sub-Committee	3/3/2008
	Evaluation:	Handout of NYSDEC Standards for water users	Data/Permit Specialist & NYDEC	1st Month
2	**Task:**	Request for Contract proposals for database creation	Data/Permit Specialist	6/16/2008
	Evaluation:	RFP evaluation	Data/Permit Specialist	3rd Week
3	**Task:**	Contract agency for database creation including time for creation	Program Assistant	10/20/2008
	Evaluation:	Contract for database creation	Program Assistant	1st Month
4	**Task:**	Final Database	Data/Permit Specialist	10/20/2008
	Evaluation:	Full data report	Water Resources Council	Every 6 months
5	**Task:**	Integrate database with new parameters	Data/Permit Specialist	11/5/2008
	Evaluation:	Verification of Completion	Program Director	Each Month
6	**Task:**	Gather data from internal sources	Data/Permit Specialist	12/31/2008
	Evaluation:	Verification of Completion	Program Director	Each Month
7	**Task:**	Identify additional sites for external monitoring	Data/Permit Specialist	5/13/2008
	Evaluation:	Calendar of monitoring site coverage	Data/Permit Specialist	1st Quarter
8	**Task:**	Request for Proposals for external monitoring agency	Data/Permit Specialist	6/11/2008
	Evaluation:	Performance vs 100% database coverage	Program Director	1st Year
9	**Task:**	Contract external monitoring organizations to set up protocol	Program Assistant	7/23/2008
	Evaluation:	Verification of Completion	Program Director	3rd Quarter
10	**Task:**	Integrate data from all new monitoring sites	Data/Permit Specialist	12/31/2008
	Evaluation:	Annual report	Data/Permit Specialist	1st Year



Water Resource Inventory & Database

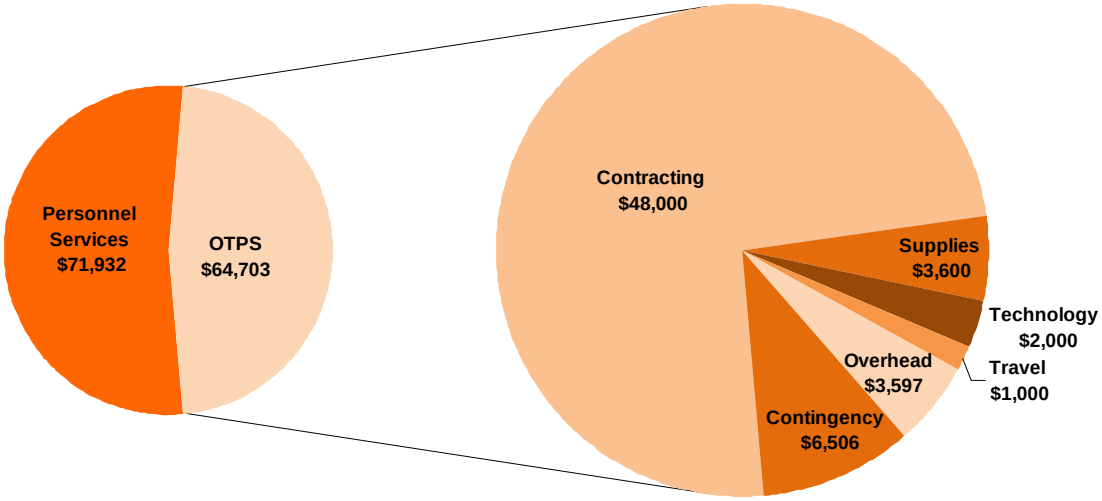
Overview

The basic activities for this section are contracting an external party to create the database and then managing this database. To achieve this it will be necessary to establish parameters for data collection by the NYSDEC. The Program Data/Permit Specialist must reply to data requests, both from the council plus ad hoc requests. From the beginning of the program, coordinating continuous data gathering and including every new permit and withdrawal, will be fundamental for basic data management progress. DEC currently has infrastructure in place for gathering data, however the major task for the Great Lakes Program will be to compile and coordinate data collection in the database for the Council.

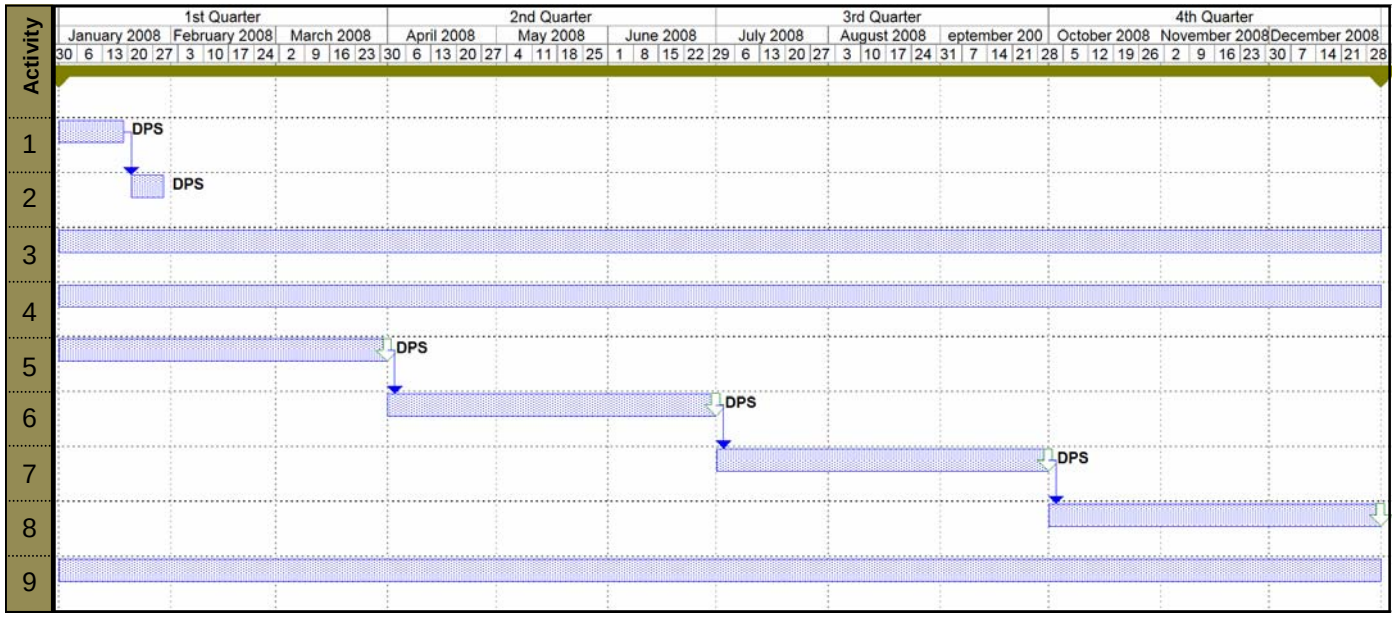
Budget

Personnel costs include the salaries of the Program Coordinator at the SG24 level serving 0.4 FTE, a Data/Permit Specialist at the SG18 level with 0.5 FTE, and a Program Assistant at SG14 level employed at 0.3 FTE. Fringe benefits include health insurance and mileage stipends accounting for 20% of the salary level.

Other Than Personnel Service costs include the physical capital and external costs required to install and maintain the inventory. Within this sphere, there are three categories – supplies, technology and travel expenses. Supplies include computers, software, and miscellaneous office necessities. Technology, as a first year expense, will cost $2,000 and travel expenses will cost $1,000. Contracting out the database for the water resource inventory is anticipated to be $48,000. The overhead represents 5% of total personnel cost. Also, a contingency will be added for GLAC budget, which is again 5% of the entire water resource inventory and database budget.



Monitoring Consumptive Use and Permitting				
	Activity		Responsible	Completion Date
1	**Task:**	Establish permitting procedures to comply with Compact	Data/Permit Specialist	1/18/2008
	Evaluation:	Compact Permitting Procedures document	Program Assistant	1st Quarter
2	**Task:**	Integrate current permitting procedures	Data/Permit Specialist	1/29/2008
	Evaluation:	Verification of Completion	Program Director	1st Quarter
3	**Task:**	Process existing requests	Data/Permit Specialist	12/31/2008
	Evaluation:	Permit Report specifying number and status	Data Permit Specialist	Quarterly Reports
4	**Task:**	Compile exemption requests	Data/Permit Specialist	12/31/2008
	Evaluation:	Compiled file of exemption requests and recommendations	Data Permit Specialist	Quarterly Reports
5	**Task:**	Create quarterly Permit Report I	Data/Permit Specialist	3/31/2008
	Evaluation:	Verification of Completion	Program Director	1st Quarter
6	**Task:**	Create quarterly Permit Report II	Data/Permit Specialist	6/30/2008
	Evaluation:	Verification of Completion	Program Director	2nd Quarter
7	**Task:**	Create quarterly Permit Report III	Data/Permit Specialist	9/30/2008
	Evaluation:	Verification of Completion	Program Director	3rd Quarter
8	**Task:**	Create quarterly Permit Report IV	Data/Permit Specialist	12/31/2008
	Evaluation:	Verification of Completion	Program Director	4th Quarter
9	**Task:**	Update database with data from water resource inventory and permits	Data/Permit Specialist	12/31/2008
	Evaluation:	Status document of each site	Data Permit Specialist	1st Year



Monitoring Consumptive Use & Permitting

Overview

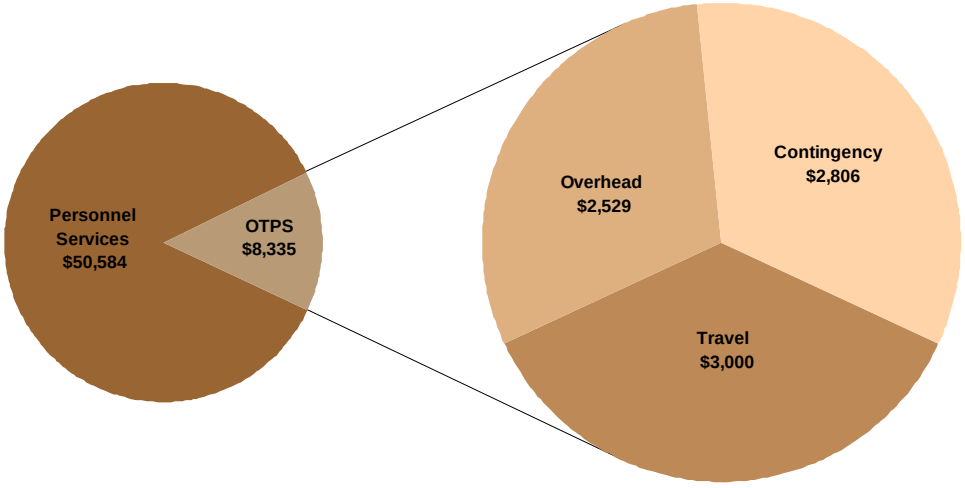
Monitoring water use and permitting will be achieved by establishing guidelines and creating ongoing quarterly reports for revised water use permits, as per the conditions of the Compact. Exemption requests will be submitted to the Council for review and the coordinator will extend the reports to the Governor.

Monitoring consumptive use and permitting are essential components instituted by the Compact that promote sustainable and responsible water usage. This aspect requires a Data/Permit Specialist to collect and compile data and to submit permitting requests.

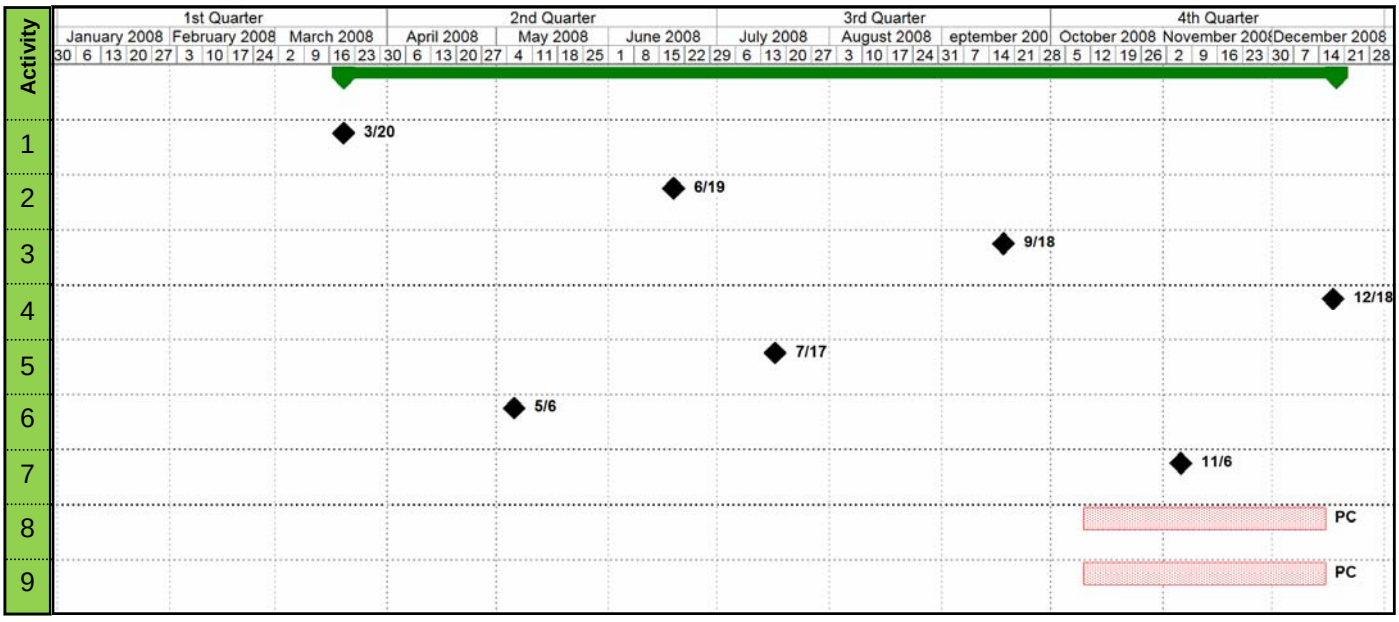
Budget

The budget is divided into Personnel costs and Other Than Personnel Service expenses. The personnel costs are estimated as a 0.5 FTE for the Data/Permit Specialist at the SG18 level and a 0.3 FTE for the Program Coordinator at the SG24 rate. Fringe benefits are appropriated in the same manner as the other components.

Other Than Personnel costs include travel expenses for the Data/Permit Specialist to collect data from other agencies and monitoring costs for the following year. These costs are estimated at $3,000. The overhead represents 5% of total personnel cost. Furthermore, a contingency fund has been added for this budget, which is 5% of the entire monitoring consumptive use and permitting budget.



Advisory Council				
	Activity		Responsible	Completion Date
1	**Task:**	DEC Commission Quarterly Meeting I	NYSDEC	3/20/2008
	Evaluation:	Meeting Minutes	Program Assistant	After meeting
2	**Task:**	DEC Commission Quarterly Meeting II	NYSDEC	6/19/2008
	Evaluation:	Meeting Minutes	Program Assistant	After meeting
3	**Task:**	DEC Commission Quarterly Meeting III	NYSDEC	9/18/2008
	Evaluation:	Meeting Minute & Goals and objectives document	Program Assistant	After meeting
4	**Task:**	DEC Commission Quarterly Meeting IV	NYSDEC	12/18/2008
	Evaluation:	Meeting Minutes	Program Assistant	After meeting
5	**Task:**	Great Lakes Governor's Council Meeting	Great Lakes Governor's Council	7/17/2008
	Evaluation:	Recommendations Report Revised	Program Coordinator	Week after meeting
6	**Task:**	Advisory Council Meeting I	Advisory Council	5/7/2008
	Evaluation:	Conservation & efficiency goals	Program Coordinator	Meeting
7	**Task:**	Advisory Council Meeting II	Advisory Council	11/7/2008
	Evaluation:	Conservation & efficiency goals	Program Coordinator	Meeting
8	**Task:**	Create plan for Auditing and Assessment Department	Program Coordinator	12/15/2008
	Evaluation:	Assessment of Contracting Plan	Program Coordinator	End of first year
9	**Task:**	Prepare Budget Plan for next year	Program Coordinator	12/15/2008
	Evaluation:	Budget Plan	Program Coordinator	2nd Year



Advisory Council & Subcommittee

Overview

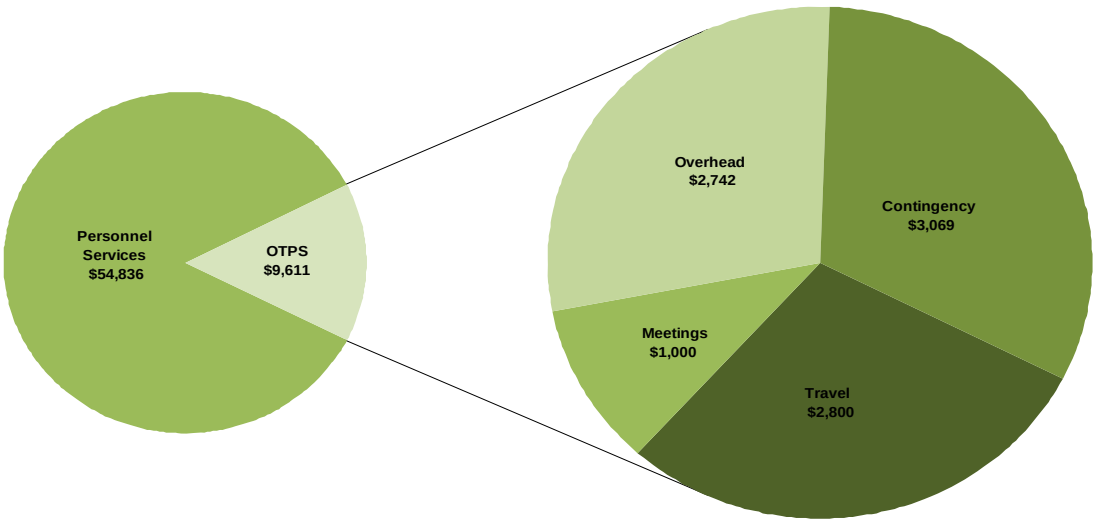
For the functions of the Advisory Council to take place, it is necessary to create and establish the Advisory Subcommittee, hold periodic meetings, ensure the creation of conservation goals, and oversee their completion in accordance with the Compact.

Within the Great Lakes Advisory Council, the newly created subcommittee will be responsible for a variety of activities pertaining to the implementation of the Compact.

Budget

Personnel costs include Program Coordinator and Program Assistant salaries. The Program Coordinator is an SG24 level employee billed at 0.3 FTE. Meanwhile, since the Program Assistant is the primary source of day-to-day activities, he is at an SG14 level and billed at 0.7 FTE. Fringe benefits include health insurance and mileage stipends.

OTPS are generally associated with travel, and meeting expenses. The GLAC meets twice annually and therefore the budget shows that there will be two subcommittee meetings in the first year. Meeting locations vary and all six subcommittee members, as well as the Program Coordinator and Assistant must be considered when estimating expenses. Each person will have a budget not to exceed $350 when planning to attend these meetings. This personal budget will include travel, hotel and food. Each meeting will require a budget that includes costs for the meeting space, catering for attendants and other administrative costs, such as copies and other clerical needs. Also, a contingency for unforeseen expenses has been included to the GLAC budget. The overhead represents 5% of total personnel cost and contingency fund is equal to 5% of the entire budget.



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ii. Manninen and Gauthier 1999
iii. GLWI 2007
iv. United States Environmental Protection Agency 2006
v. Mortsch and Quinn 1996
vi. IJC 2000
vii. Sherry 1986: Abel 1989
viii. Associated Press 2007
ix. International Great Lakes Datum of 1985
x. Gertner 2007
xi. United States Census Bureau 2000
xii. Great Lakes - St Lawrence River Basin Sustainable Water Resources Agreement 2005
xiii. Annin 2006; pp193-195
xiv. Annin, 2006; p196
xv. Council of Great Lakes Governor's 2007
xvi. Annin 2006; pp208-209
xvii. Sierra Club 2007
xviii. US Environmental Protection Agency 2007
xix. US Environmental Protection Agency 2007: IJC 2000: "Great Lakes Culture Program" 2007
xx. Great Lakes Commission 2007
xxi. Great Lakes Annex Water Agreements 2007
xxii. Great Lakes Annex Water Agreements 2007: "Great Lakes Culture Program" 2007
xxiii. Great Lakes Commission 2007
xxiv. Environmental Defence Canada 2007
xxv. US Water News Online 2007
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Appendix I

Acronyms and Abbreviations

Basin	The Great Lakes and St Lawrence Seaway Hydrological Basin
Compact	The Great Lakes - St Lawrence River Basin Water Resources Compact
FTE	Full time equivalent
GLAC	Great Lakes Advisory Council
IGLD (1955)	International Great Lakes Datum 1955
IGLD (1985)	International Great Lakes Datum 1985
IJC	International Joint Commission
MMSD	Milwaukee Metropolitan Sewerage District
NGO	Non Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
NYSDEC	New York State Department of Environmental Conservation
OTPS	Other than personnel services
Party States	Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin
Provinces	Ontario and Québec
SG	State grade
USACE	United States Army Corp of Engineers
USGS	United States Geological Survey

Appendix II

Definitions

(Section numbers refer to the Compact)

Adaptive Management - a Water resources management system that provides a systematic process for evaluation, monitoring and learning from the outcomes of operational programs and adjustment of policies, plans and programs based on experience and the evolution of scientific knowledge concerning Water resources and Water Dependent Natural Resources.

Agreement - the Great Lakes - St Lawrence River Basin Sustainable Water Resources Agreement.

Applicant - a Person who is required to submit a Proposal that is subject to management and regulation under this Compact. **Application** has a corresponding meaning.

Basin or **Great Lakes - St Lawrence River Basin** - the watershed of the Great Lakes and the St Lawrence River upstream from Trois-Rivières, Québec within the jurisdiction of the Parties.

Basin Ecosystem or **Great Lakes - St Lawrence River Basin Ecosystem** - the interacting components of air, land, Water and living organisms, including humankind, within the Basin.

Community within a Straddling County - any incorporated city, town or the equivalent thereof, that is located outside the Basin but wholly within a County that lies partly within the Basin and that is not a Straddling Community.

Compact - the Great Lakes - St Lawrence River Basin Compact.

Consumptive Use - that portion of the Water Withdrawn or withheld from the Basin that is lost or otherwise not returned to the Basin due to evaporation, incorporation into Products, or other processes.

Council - the Great Lakes - St Lawrence River Basin Water Resources Council, created by this Compact.

Council Review - the collective review by the Council members as described in Article 4 of this Compact.

County - the largest territorial division for local government in a State. The County boundaries shall be defined as those boundaries that exist as of December 13, 2005.

Cumulative Impacts - the impact on the Basin Ecosystem that results from incremental effects of all aspects of a Withdrawal, Diversion or Consumptive Use in addition to other past, present, and reasonably foreseeable future Withdrawals, Diversions and Consumptive Uses regardless of who undertakes the other Withdrawals, Diversions and Consumptive Uses. Cumulative Impacts can result from individually minor but collectively significant Withdrawals, Diversions and Consumptive Uses taking place over a period of time.

Decision-Making Standard - the decision-making standard established by Section 4.11 for Proposals subject to management and regulation in Section 4.10.

Diversion - a transfer of water from the Basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer, including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a water course, a tanker ship, tanker truck or rail tanker but does not apply to Water that is used in the Basin or a Great Lake watershed to manufacture or produce a Product that is then transferred out of the Basin or watershed. **Divert** has a corresponding meaning.

Environmentally Sound and Economically Feasible Water Conservation Measures – those measures, methods, technologies or practices for efficient water use and for reduction of water loss and waste or for reducing a Withdrawal, Consumptive Use or Diversion that i) are environmentally sound, ii) reflect best practices applicable to the water use sector, iii) are technically feasible and available, iv) are economically feasible and cost effective based on an analysis that considers direct and avoided economic and environmental costs and v) consider the particular facilities and processes involved, taking into account the environmental impact, age of equipment and facilities involved, the processes employed, energy impacts and other appropriate factors.

Exception - a transfer of Water that is excepted under Section 4.9 from the prohibition against diversions in Section 4.8.

Exception Standard - the standard for Exceptions established in Section 4.9.4.

International Great Lakes Datum 1955 – was a joint US and Canadian committee to collect Great Lakes data. This committee was formed in 1953 to establish a basis for development and acceptance of data dealing with many aspects of the management of the Great Lakes - St Lawrence River system.

International Great Lakes Datum 1985 - due to the constant shifting of the earth's crust, the IGLD 1955 was updated between 1982 and 1988. The IGLD 1985 was also a joint venture between various US and Canadian agencies.

Intra-Basin Transfer - the transfer of Water from the watershed of one of the Great Lakes into the watershed of another Great Lake.

Measures - any legislation, law, regulation, directive, requirement, guideline, program, policy, administrative practice or other procedure.

New or Increased Diversion - a new Diversion, an increase in an existing Diversion, or the alteration of an existing Withdrawal so that it becomes a Diversion.

New or Increased Withdrawal or Consumptive Use - a new Withdrawal or Consumptive Use or an increase in an existing Withdrawal or Consumptive Use.

Originating Party - the Party within whose jurisdiction an Application or registration is made or required.

Party State - a state participating to this Compact.

Person - a human being or a legal person, including a government or a non-governmental organization, including any scientific, professional, business, non-profit, or public interest organization or association that is neither affiliated with, nor under the direction of a government.

Product - something produced in the Basin by human or mechanical effort or through agricultural processes and used in manufacturing, commercial or other processes or intended for intermediate or end use consumers. (i) Water used as part of the packaging of a Product shall be considered to be part of the Product. (ii) Other than water used as part of the packaging of a Product, Water that is used primarily to transport materials in or out of the Basin is not a Product or part of a Product. (iii) Except as provided in (i) above, Water which is transferred as part of a public or private supply is not a Product or part of a Product. (iv) Water in its natural state such as in lakes, rivers, reservoirs, aquifers, or water basins is not a Product.

Proposal - a Withdrawal, Diversion or Consumptive Use of Water that is subject to this Compact.

Province - Ontario or Québec.

Public Water Supply Purposes - water distributed to the public through a physically connected system of treatment, storage and distribution facilities serving a group of largely residential customers that may also serve industrial, commercial, and other institutional operators. Water withdrawn directly from the Basin and not through such a system shall not be considered to be used for Public Water Supply Purposes.

Regional Body - the members of the Council and the Premiers of Ontario and Québec or their designee as established by the Agreement.

Regional Review - the collective review by the Regional Body as described in Article 4 of this Compact.

Source Watershed - the watershed from which a Withdrawal originates. If Water is withdrawn directly from a Great Lake or from the St Lawrence River, then the Source Watershed shall be considered to be the watershed of that Great Lake or the watershed of the St Lawrence River, respectively. If Water is Withdrawn from the watershed of a stream that is a direct tributary to a Great Lake or a direct tributary to the St Lawrence River, then the Source Watershed shall be considered to be the watershed of that Great Lake or the watershed of the St Lawrence River, respectively, with a preference to the direct tributary stream watershed from which it was Withdrawn.

Standard of Review and Decision - the Exception Standard, Decision-Making Standard and reviews as outlined in Article 4 of this Compact.

State - one of the states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio or Wisconsin or the Commonwealth of Pennsylvania.

Straddling Community - any incorporated city, town or the equivalent thereof, wholly within any County that lies partly or completely within the Basin, whose corporate boundary existing as of the effective date of this Compact, is partly within the Basin or partly within two Great Lakes watersheds.

Technical Review - a detailed review conducted to determine whether or not a Proposal that requires Regional Review under this Compact meets the Standard of Review and Decision following procedures and guidelines as set out in this Compact.

Water - ground or surface water contained within the Basin.

Water Dependent Natural Resources - the interacting components of land, Water and living organisms affected by the Waters of the Basin.

Waters of the Basin or Basin Water - the Great Lakes and all streams, rivers, lakes, connecting channels and other bodies of water, including tributary groundwater, within the Basin.

Withdrawal - the taking of water from surface water or groundwater. **Withdraw** has a corresponding meaning.

Appendix III

Additional Electronic Resources for the Great Lakes Basin

- http://www.epa.gov/grtlakes
  The Great Lakes site for the Environmental Protection Agency.

- http://www.epa.gov/glnpo/atlas/glat-ch1.html
  The Great Lakes Atlas, developed by the EPA

- http://www.glc.org
  The Great Lakes Commission. This commission is a bi-national agency that promotes the orderly, integrated and comprehensive development, use and conservation of the water and related natural resources of the Great Lakes basin and St Lawrence River.

- http://www.glerl.noaa.gov
  The National Oceanic and Atmospheric Administration – Great Lakes Environmental Research Laboratory.

- http://www.glrc.us
  Great Lakes Regional Collaboration

- http://www.greatlakes.org
  Alliance for the Great Lakes discusses current event and news, as well as a list of recent publications all about the Great Lakes.

- http://www.ijc.org/php/publications/html/finalreport.html#3
  Protection of the Waters of the Great Lakes. Final Report to the Governments of Canada and the United States at the time of the initial compact.

- http://www.ijc.org/php/publications/pdf/ID1598.pdf
  Report offered by the International Joint Commission's Great Lakes Science Advisory Panel. Addresses emerging threats for the 21st century.

- http://www.lre.usace.army.mil/greatlakes
  US Army Corps of Engineers Great Lakes webpage

- http://www.miseagrant.umich.edu/symposium/papers/DIVERS.pdf
  Diversions and Consumptive Uses of Great Lakes Waters: A Framework for Decision Making. Written by Professors Steven Wright and Jonathan Bulkley of the University of Michigan.

- http://www.mnr.gov.on.ca/mnr/water/greatlakes/Compact.pdf
  Link to the actual Great Lakes Basin Compact provided by the Ontario government.

- http://www.on.ec.gc.ca/greatlakes/Home-WS7E5E6AF1-1_En.htm
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Appendix IV

Recommended Reading

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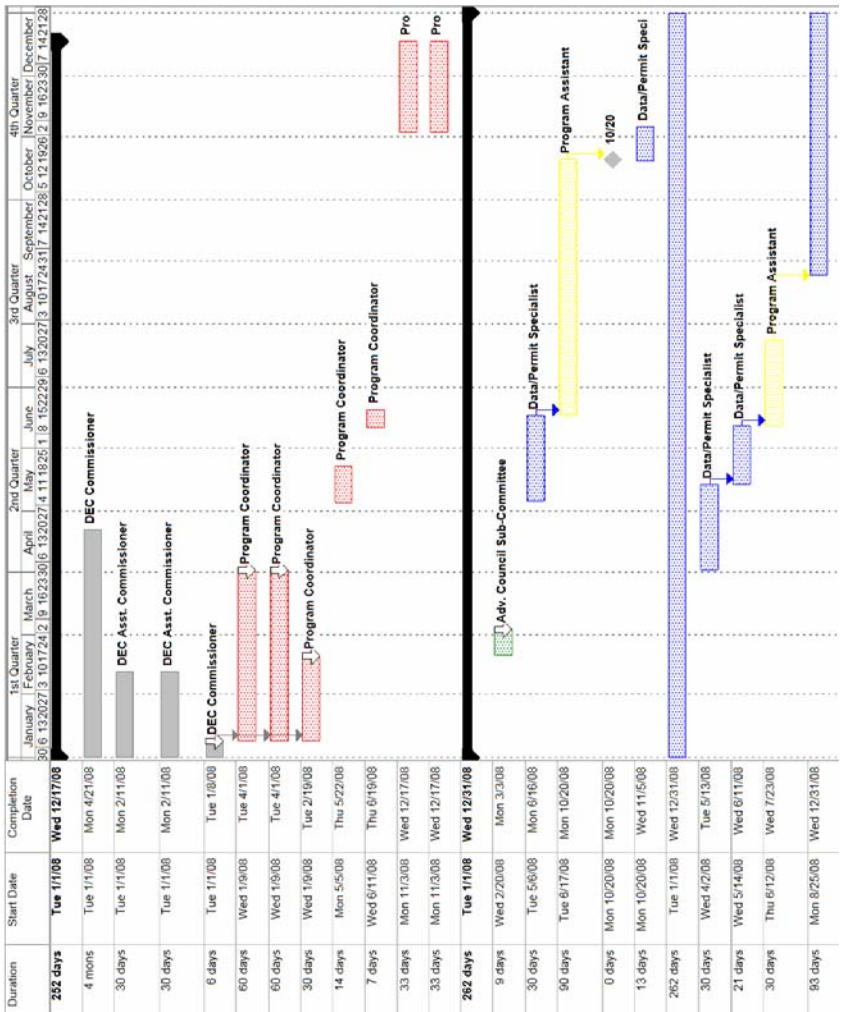
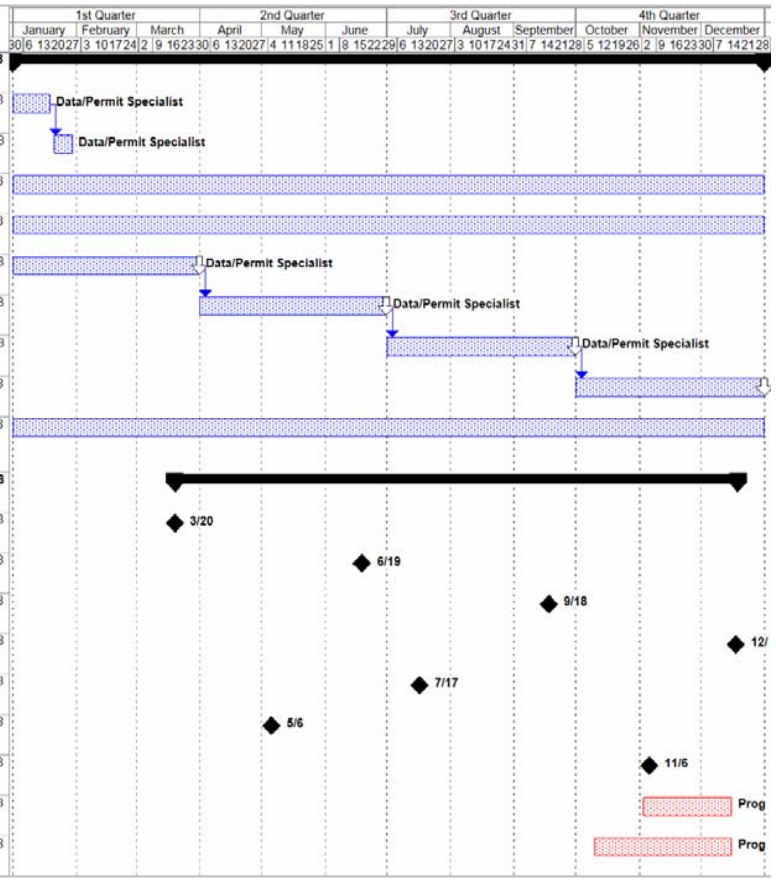
Appendix V

Master Calendar



Task Objective	Duration	Start Date	Completion Date
Permitting	**262 days**	**Tue 1/1/08**	**Wed 12/31/08**
Establish permitting procedures to comply with Compact	14 days	Tue 1/1/08	Fri 1/18/08
Integrate current permitting procedures	7 days	Mon 1/21/08	Tue 1/29/08
Process existing requests	262 days	Tue 1/1/08	Wed 12/31/08
Compile exemption requests	262 days	Tue 1/1/08	Wed 12/31/08
Create quarterly Permit Report I	65 days	Tue 1/1/08	Mon 3/31/08
Create quarterly Permit Report II	65 days	Tue 4/1/08	Mon 6/30/08
Create quarterly Permit Report III	66 days	Tue 7/1/08	Tue 9/30/08
Create quarterly Permit Report IV	66 days	Wed 10/1/08	Wed 12/31/08
Update database with data from water resource inventory and permit reports	262 days	Tue 1/1/08	Wed 12/31/08
Advisory Council	**196 days**	**Thu 3/20/08**	**Thu 12/18/08**
DEC Commission Quarterly Meeting I	1 day	Thu 3/20/08	Thu 3/20/08
DEC Commission Quarterly Meeting II	1 day	Thu 6/19/08	Thu 6/19/08
DEC Commission Quarterly Meeting III	1 day	Thu 9/18/08	Thu 9/18/08
DEC Commission Quarterly Meeting IV	1 day	Thu 12/18/08	Thu 12/18/08
Great Lakes Govenors Council Meeting	1 day	Thu 7/17/08	Thu 7/17/08
Advisory Council Meeting I	2 days	Tue 5/6/08	Wed 5/7/08
Advisory Council Meeting II	2 days	Thu 11/6/08	Fri 11/7/08
Create plan for Auditing and Assessment Department	31 days	Mon 11/3/08	Mon 12/15/08
Prepare Budget Plan for next Fiscal Year	47 days	Fri 10/10/08	Mon 12/15/08



Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

Appendix VI

Performance Assessment and Correction Methods

Office Setup

Performance assessment: Verify that the office is fully operational by the first two months and all relevant information has been passed from the Bureaus. All lines of communication between DEC and other Great Lakes institutions should be well established.

Correction method: If recruitment is taking too long, more resources may need to be allocated in finding required staff, and if there are problems with the program transition between the Bureaus, support from the Assistant Commissioner of the Office of Water Resources in NYSDEC should be requested.

Water Resource Inventory and Database Management

Database Creation and Contracting
Performance assessment: Performance measure of the database creation will be in reference to the calendar of activities presented by the agency. In one year the aim of having 100% of all registering sites in the database should be met.

Correction method: If contracted milestones are consistently not met, evaluate the performance of the agency, penalize accordingly and evaluate whether or not a new agency should be hired. A review period should be incorporated into the project contract, so that usability considerations can be taken into account and changes made if necessary.

Database Management
Performance assessment: Compilation of reports made every month to the GLSLRB Water Resource Council. The measure of success will be the number of reports versus the number of requested and required reports. Independent verification will occur through spot-checks of water reports conducted by the Bureau of Water Resource Management.

Correction method: If progress is not made and reports are not generated in time, there will be a need to revise coordination agreements. Some potential problems are: insufficient staffing levels, new permits are not being registered or inefficient data gathering. Any of these problems should be addressed immediately and any operational problems should be fixed within the first year.

Monitoring Consumptive Use & Permitting

Performance assessment: Reports created by the Program Assistant will identify all permits and their status.

Correction method: When permit requests have not been reviewed, or take longer than two months to resolve, the assistant will report in quarterly reports specific measures and red flag items for the Director to accelerate the process.

Advisory Council and Subcommittee

Performance assessment: Ensure meetings and report all progress achieved.

Correction method: If meetings are not successfully accomplished, the program organization must be revised; in particular workload capacity will be evaluated, and the Sub-Committee will be involved in any decision-making process.

Finally, the Advisory Council Sub-Committee will advise on appropriate water conservation and efficiency goals and objectives ("the goals") for New York State and provide endorsement and recommendations to the Governor. To measure progress for these tasks the Program Assistant will present a draft of the goals during the first advisory committee meeting, and prepare a final version by the end of the year. This forms an important implementation aspect of the Compact for the first year, as section 4.2 of the Compact requires that:

> "*within two years...each party shall develop its own water conservation and efficiency goals and objectives consistent with the basin-wide goals and objectives, and shall develop and implement a water conservation and efficiency program …based on the party's goals and objectives.*"

If the progress in the goals is not met according to the schedule (which would then delay the program development in the second year), the Program Director must assess what interventions are necessary to put their achievement back on track. If they are not established by the end of the first year there will be an additional meeting called before the 3rd scheduled meeting where the only objective will be to finalize the conservation and efficiency goals.

Appendix VII

Full Position Descriptions

GREAT LAKES PROGRAM
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

POSITION TITLE: **DATA/PERMIT SPECIALIST**

GENERAL DESCRIPTION OF DUTIES

Under general supervision of the Program Coordinator, the purpose of the position is to create a water resource inventory by compiling necessary data, as well as, processing withdrawal permits through departmental coordination and tracking. Employees in this classification compile data and process permits according to established regulations, and provide overall customer service to local municipalities, pertinent businesses and organizations, and the general public. Position performs specific functions requiring specialized knowledge of departmental rules and regulations, and applies acute attention to detail in all processing tasks. Performs related work as directed.

SPECIFIC DUTIES AND RESPONSIBILITIES

- Work with contracting agency to create a database program to input necessary data and ensure compliance with the Compact.
- Enter all data into database, including water resource inventory and any additional water use information as specified.
- Compile a list of potential agencies to obtain possible data from.
- Process and manage all permits for water withdrawal requests.
- Coordinates review/permitting requests for exemptions to the Advisor Council for review and comment.
- Collects associated fees for permits.
- Performs daily accounting, balancing and verification of all transactions processed.
- Answers telephone inquiries regarding permitting requirements, inspections, regulations, and fees.
- Performs general office work including but not limited to: answering phones, making copies, filing, setting up meetings and appointments, etc.

GREAT LAKES PROGRAM
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

POSITION TITLE: **PROGRAM COORDINATOR**

GENERAL DESCRIPTION OF DUTIES

Under general supervision of the Assistant Commissioner of the Office of Water, Resources the purpose of the position is to oversee the implementation and facilitation of several legislations pertaining to the Great Lakes Basin, including:

- The Boundary Waters Treaty of 1909
- The Great Lakes Charter of 1985
- The Great Lakes Basin Compact (1990)
- The Great Lakes – St Lawrence River Basin Water Resource Compact

This employee manages the Great Lakes Program office and all staff contained within. Position performs specific functions requiring management and adherence to departmental rules and regulations, and applies acute attention to detail in processing tasks. Performs related work as directed.

SPECIFIC DUTIES AND RESPONSIBILITIES

- Manages the Great Lakes Program and oversees all staff within.
- Serves as liaison to the Commissioner of NYSDEC to keep them informed to address the Governor, or alternate.
- Assists in the production of Water Management Plans and water conservation goals and strategies.
- Oversees and submits to Commissioner Cumulative Assessment Reports
- Sits on the Advisory Council.

GREAT LAKES PROGRAM
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

POSITION TITLE: **PROGRAM ASSISTANT**

GENERAL DESCRIPTION OF DUTIES

Under general supervision of the Program Coordinator, the purpose of this position is to assist in the implementation and facilitation of several legislations pertaining to the Great Lakes Basin, including:

- The Boundary Waters Treaty of 1909,
- The Great Lakes Charter of 1985
- The Great Lakes Basin Compact (1990)
- The Great Lakes – St Lawrence River Basin Water Resource Compact

This employee helps to manage the Great Lakes Program office. Position performs specific functions to ensure all tasks pertaining to the legislation are carried out and that the office runs smoothly. Adheres to departmental rules and regulations, and applies acute attention to detail in processing tasks. Performs related work as directed by Program Director.

SPECIFIC DUTIES AND RESPONSIBILITIES

- Assists the Program Coordinator with carrying out the functions of the Great Lakes Program Office. Manages the Great Lakes Program and oversees all staff within.
- Collects data from all pertinent resources to create reports (i.e. cumulative assessments) as requested by Coordinator.
- Assists in the production and maintenance of water management plans and water conservation goals and strategies and submits to Commissioner.
- Serves as Executive Secretary to the Advisory Council.
- Handles outside contracts with necessary organizations.
- Organizes education and outreach programs.
- Performs general office work including but not limited to: answering phones, making copies, filing, setting up meetings and appointments, etc.

Appendix VIII

Budget Background and Specifications

The Great Lakes Program and line item budget correlates the funding levels of the fiscal year with the first year actions of the plan. This is based on the organization staffing plan requirements and various programmatic costs. Pay grade levels and corresponding salary levels were estimated based on openings for equivalent positions outlined by the NYSDEC (1). As all new hires are based on a partial full-time equivalents (FTE) benefits are proposed at approximately 0.2 FTE. Other Than Personnel Service (OTPS), which includes supplies, travel, and other expenses were estimated based on a percentage of the total personnel budget and market price. These budget projections are based on limited data and extrapolations from similar program budgets.

Great Lakes Advisory Council						
Personnel						
Job title	***Grade***	***Effective Annual FTE***	***Salary Level***	***Adjusted Salary FTE***	***Adjusted Fringe Benefits***	***Total***
Program Coordinator	SG24	0.3	$61,517	$18,455	$4,152	$ 22,606.80
Program Assistant	SG14	0.7	$36,228	$25,360	$6,869	$ 32,228.70
Personnel Total						**$ 54,835.50**
Other Than Personnel Services (OTPS)						
Travel						$ 2,800.00
Meeting Expense						$ 1,000.00
Overhead						$ 2,741.78
Contingency						$ 3,068.86
OTPS Total						**$ 9,610.64**
Component Total						**$ 64,446.00**

Great Lakes Advisory Council & Subcommittee
Within the Great Lakes Advisory Council (GLAC), the newly created subcommittee will be responsible for a variety of activities pertaining to the implementation of the Compact. The GLAC budget is divided into personal cost and OTP costs. Personnel cost includes the salaries of Program Coordinator and Program Assistant. The Program Coordinator is at SG24 level and only billed 0.3 FTE, while the Program Assistant is at SG14 level, and billed 0.7 FTE, because the assistant is the primary source of day-to-day activities. Fringe benefits include health insurance and mileage stipends.

OTPS are generally associated with travel, and meeting expenses. The GLAC currently meets twice annually and therefore the budget was calculated assuming that there will be two subcommittee meetings in the first year. Since meeting locations vary each time we need to budget for all six subcommittee members as well as the Program Coordinator and the Program Assistant. Each persons travel expenses shall not exceed $350 when planning to attend these meetings. This personal budget

will include travel, hotel and food. Each meeting will require a budget that includes costs for the meeting space, catering for attendants and other administrative costs, such as copies and other clerical needs. Also, a contingency for unforeseen expenses has been included to the GLAC budget. The overhead is 5% of total personnel cost and contingency fund is equal to 5% of the entire budget.

Water Resource Inventory & Database Management						
Personnel						
Job title	***Grade***	***Effective Annual FTE***	***Salary Level***	***Adjusted FTE Salary***	***Adjusted Fringe Benefits***	***Total***
Program Coordinator	SG24	0.4	$ 61,517.00	$ 24,606.80	$ 5,535.60	$ 30,142.40
Data/ Permit Specialist	SG18	0.5	$ 45,113.00	$ 22,556.50	$ 5,420.50	$ 27,977.00
Program Assistant	SG14	0.3	$ 36,228.00	$ 10,868.40	$ 2,943.90	$ 13,812.30
Personnel Total						**$ 71,931.70**
Other Than Personnel Services (OTPS)						
Contracting						$ 48,000.00
Supplies						$ 3,600.00
Technology						$ 2,000.00
Travel						$ 1,000.00
Overhead						$ 3,596.59
Contingency						$ 6,506.41
OTPS Total						**$ 64,703.00**
Component Total						**$ 136,635.00**

Water Resource Inventory & Database Management

The database is largely in existence within current DEC infrastructure, so the major task for the Great Lakes Program is to collect data and coordinate the data base with the Council. The budget is divided into Personnel Cost and Other Than Personnel costs. Personnel costs include the salaries of the Program Coordinator at the SG24 level serving 40% capacity, a Data/Permit Specialist at the SG18 level with 50% capacity, and a Program Assistant at SG14 level employed as 0.3 FTE. Fringe benefits again include health insurance and mileage stipends are around 20% of the salary level.

Other Than Personnel Costs include physical capital and external costs required to install and maintain the inventory. Within this sphere, there are three categories – supplies, technology and travel expenses. Supplies, to include computers, software, and miscellaneous office necessities, are projected to cost $3600. Technology, as a first year expense, will cost $2000 and travel expenses will cost $1000. Besides, contracting out of the database for the water resource inventory will cost $100/hour. Since there are 40 hours/week, and it lasts 12 weeks, so the total cost for contracting is $48,000. The overhead is 5% of total personnel cost. Also, a contingency will be added for GLAC budget, which is again 5% of the entire inventory and database budget.

Monitoring Consumptive Use & Permitting						
Personnel						
Job Title	***Grade***	***Effective Annual FTE***	***Salary Level***	***Adjusted Salary FTE***	***Adjusted Fringe Benefits***	***Total***
Program Coordinator	SG24	0.3	$ 61,517.00	$ 18,455.10	$ 4,151.70	$ 22,606.80
Data/ Permit Specialist	SG18	0.5	$ 45,113.00	$ 22,556.50	$ 5,420.50	$ 27,977.00
Personnel Total						**$ 50,583.80**
Other Than Personnel Services (OTPS)						
Travel						$ 3,000.00
Overhead						$ 2,529.19
Contingency						$ 2,805.65
OTPS Total						**$ 8,334.84**
Component Total						**$ 58,918.64**

Monitoring Consumptive Use & Permitting

Resource monitoring and permitting are essential components instituted by the Compact that promote sustainable and responsible water usage. This aspect requires a Data/Permit Specialist to collect and compile data and to submit permitting requests. The budget is divided into Personnel costs and Other Than Personnel expenses. The personnel costs are estimated as a 0.5 FTE for the Data/ Permit Specialist at the SG18 level and a 0.3 FTE for the Program Coordinator at the SG24 rate. Fringe benefits are appropriated in the same manner as the other components.

Other Than Personnel costs are travel expense for Data/Permit Specialist to collect data from other agencies and plan for the monitoring costs in the next year, so the costs is estimated at $3,000. The overhead is 5% of total personnel cost. Furthermore, another contingency fund has been added for this budget, which is 5% of the entire budget.

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