

Water Security Agency



Annual Report for 2018-19

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Letters of Transmittal



The Honourable Dustin Duncan

*Minister Responsible for
Saskatchewan Water Security
Agency*

His Honour, the Honourable W. Thomas Molloy, Lieutenant Governor of Saskatchewan

May it Please Your Honour:

I respectfully submit the Annual Report of the Water Security Agency for the fiscal year ending March 31, 2019.

The fiscal year showed strong results on many of the initiatives, strategies and commitments within the *25 Year Saskatchewan Water Security Plan*, which sets out the Government's agenda to ensure water supplies will support economic growth, quality of life, and environmental well-being, now and into the future, while honouring government's accountability and expenditure management commitments.

The progress on implementing the new Agricultural Water Management strategy stands as a particularly noteworthy achievement.

A record 1,507 quarters were brought into regulatory compliance in 2018-19, 92 per cent of which occurred through approvals as opposed to closures. That's more than double the last fiscal year and represents a 10-fold annual increase since 2014-15.

To further the training and resources needed to implement the Strategy, Premier Moe announced \$5 million in funding to the Saskatchewan Conservation and Development Authority in March, which was followed by a subsequent federal/provincial commitment of \$1.3 million through the BRACE (Building Regional Adaptation Capacity and Expertise) program. WSA plans workshops for up to 2,500 producers to help them incorporate climate change and mitigation strategies into their water management projects.

The transition of previously federally owned water infrastructure in southwest Saskatchewan to Water Security Agency continued with three more dams and two canals added to be transferred to the province and the transition date extended to March 31, 2021. Once completed, WSA will oversee a provincial system of conveyance channels and 72 dams. This will allow WSA to look holistically at water management across the province for the benefit of our economy, our environment and our recreational facilities users.

WSA will continue its strong core commitment to ensuring the safety of drinking water supplies that are critical to protecting public health and will maintain its rigorous commitment to inspections, monitoring, reporting, education and compliance for all regulated works in Saskatchewan.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dustin Duncan', written over a light blue horizontal line.

Dustin Duncan
Minister Responsible for the Water Security Agency

ADDENDUM

This report, including the transmittal letter, was prepared before the recent decease of His Honour, the Honourable Thomas Molloy, OC, QC, on July 2, 2019. As the office of the Lieutenant Governor is vacant at the time of transmittal, no change has been made to the transmittal letter.

Letters of Transmittal



The Honourable Dustin Duncan,
Minister Responsible for the Water Security Agency

Dear Minister:

I have the honour of submitting the Annual Report for the Water Security Agency for the fiscal year ending March 31, 2019.

Management is responsible for the financial and administrative management of the Water Security Agency and for preparing this report in accordance with the Government's systems of planning, measuring and reporting. All key actions and associated economic or fiscal implications in this report are, to the best of my knowledge, accurate, complete and reliable.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. E. Ross'. The signature is stylized with large, sweeping letters.

Susan E. Ross, President and Chief Executive Officer
Water Security Agency

Response to Government Direction

Response to Government Direction:

Saskatchewan's Vision

".. to be the best place in Canada – to live, to work, to start a business, to get an education, to raise a family and to build a life."

Sustaining growth and opportunities for Saskatchewan people

Meeting the challenges of growth

Securing a better quality of life for all Saskatchewan people

Delivering responsive and responsible government

Saskatchewan's vision and four goals provide the framework for organizations to align their programs and services and to meet the needs of Saskatchewan's citizens.

All organizations will report on progress in their 2018-19 annual reports.

Agency Overview

The Water Security Agency (WSA) is a unique organization in Canada – bringing together all of government’s core water management responsibilities in one place. WSA manages the province’s water supply, protects water quality, ensures safe drinking water and effective treatment of wastewater, owns and operates 72 dams and related water supply channels, helps to reduce flood and drought damage, protects aquatic habitat and provides information about water. The Water Security Agency represents Saskatchewan on transboundary water issues.

The *Saskatchewan 25 Year Water Security Plan* guides the actions of WSA, ensuring a sustainable approach to water use that will protect the quality and quantity of water now and for the future. WSA reports to the Minister Responsible for the Saskatchewan Water Security Agency, who also serves as a one-person Board of Directors.

Mandate Statement

The Water Security Agency is responsible for managing water supply, protecting water quality, ensuring safe drinking water, managing dams and water supply channels, reducing flood and drought damage and providing information on water. The Agency works to integrate all aspects of provincial water management to ensure water supplies support economic growth, quality of life and environmental well-being.

Mission Statement

We strive to provide exceptional service and ensure that water management supports growth, a healthy environment and a high quality of life for Saskatchewan people.

Service Delivery System

Within the Water Security Agency in 2018-19, services were provided by 223.33 full-time-equivalent employees.

Water Quality and Safe Drinking Water

The Water Security Agency leads the ongoing planning, implementation and reporting associated with drinking water and wastewater governance and management in the province. WSA regulates compliance in relation to 813 waterworks and 611 sewage works as well as 275 liquid domestic waste haulers. WSA also works with the Saskatchewan Operator Certification Board to ensure that more than 1,425 water and sewage works operators in Saskatchewan are maintaining their certificates and have appropriate continuing education.

WSA monitors water quality at 24 primary surface water quality stations, as well as other locations in Saskatchewan and manages the provincial water quality database, which includes drinking water quality. WSA also manages the SaskH2o.ca website, which presents drinking water-related information including surface water quality, drinking water quality, guidelines, standards, and inspections of regulated water and sewage works.

Maintaining and Investing in Water Infrastructure

By the end of 2018-19, the Water Security Agency’s portfolio included 72 dams and roughly 240 kilometres of conveyance channels, plus ancillary works. Each year, WSA makes significant investments in the rehabilitation and upgrading of this infrastructure. For 2018-19, that investment was \$8.7 million. On March 31, 2017, WSA accepted ownership and operation of 20 dams previously owned and operated by Agriculture and Agri-Food Canada (AAFC). WSA accepted ownership of three additional dams and two canals from AAFC on March 1, 2019. To facilitate the transfer, the original transfer agreement was amended with all the former federal assets and 23 dams being operated by AAFC until March 31, 2021. WSA maintains a dam safety program in general accordance with the Canadian Dam Association, Dam Safety Guidelines. This program evaluates the ongoing performance and condition of its 72 dams and develops and maintains emergency action plans at several high consequence structures.

Agricultural Water Management

In 2015, the Water Security Agency introduced a new approach to Agricultural Water Management. Over a period of time, all drainage works will need an approval regardless of when they were built. Approved drainage allows landowners to manage water while addressing the impacts on neighbours and the environment. The joint application approach means that landowners can

operate their drainage works for the term of the approval, and with appropriate land control, they can sell their land with the drainage approval transferring with the title. The Water Security Agency has been working with agricultural, environmental and local watershed groups as well as the Saskatchewan Conservation and Development Authority to help implement the new approval process. New regulations, legislation and policies have been implemented to support responsible agricultural drainage.

Water Supply

WSA provides hydrology services including flood forecasting, operation planning, sustainable water allocation and low-risk building development. WSA operates a hydrometric network of 283 stations in association with the Government of Canada to collect data on stream flows and lake levels. In addition to surface water monitoring, WSA operates the provincial ground water monitoring network and conducts regional ground water mapping and resource assessment. This data helps us provide information to citizens and industry to help locate water supplies. In certain areas of the province, WSA represents Saskatchewan on transboundary water issues through membership in organizations like the Prairie Provinces Water Board, the International Joint Commission and others.

Sustainable Water Allocation

All major surface and ground water allocations require approval by the Water Security Agency to ensure sustainable water use. Water is not owned privately in Saskatchewan. It is allocated for use and ownership is retained by the Crown. WSA acts in the public interest to ensure access security for the public and industry. This includes municipal, industrial, irrigation and intensive livestock use.

Reducing Flood Damage

WSA determines the flood vulnerability of proposed subdivisions by applying the one in 500 flood frequency, which is the provincial regulatory flood return interval standard. A flood return interval is defined as the likelihood of a certain magnitude flood event occurring annually, which by Saskatchewan standard means a .2 per cent chance annually, or a one in 500 year chance of a certain magnitude flood event occurring. The Emergency Flood Damage Reduction Program (EFDRP) has been offered each year since 2011 and assists citizens with implementing measures to prevent or reduce damages due to imminent flooding. The program transitions yearly into the Flood Damage Reduction Program (FDRP) that supports non-structural and structural mitigation measures leading to municipal risk assessment, flood mapping, mitigation planning or structural works to mitigate long-term flood damage recurrence.

Public Partnerships

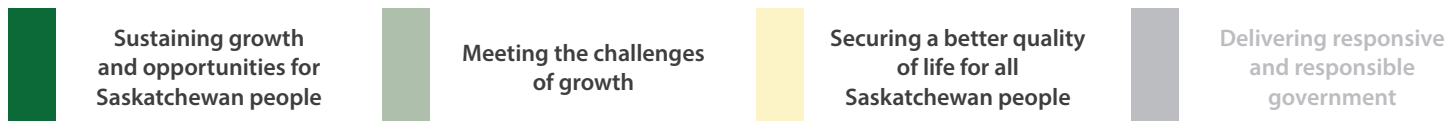
Effective water management and source water protection depends on public understanding, support and participation. The Water Security Agency works with community representatives to develop watershed protection plans. Plans include initiatives to help landowners improve watershed health through restoration of riparian areas, protection of grasslands and wetlands and encouragement of management practices that benefit fish and wildlife. Watershed stewardship groups lead implementation of watershed protection plans with financial and technical support from WSA.

Enforcement

Fair and effective water management may occasionally require enforcement. Ministry of Environment conservation officers provide support to the Water Security Agency for enforcement work through a contractual agreement.

Progress in 2018-19

Government Goals



Strategic priorities relate to the *Saskatchewan Plan for Growth* vision of “Building the Infrastructure for Growth,” “Growth with Purpose: Building a Better Quality of Life for Saskatchewan People” and “Advancing Saskatchewan’s Natural Resources and Agricultural Advantage.”

Organization Goal

Beneficial Water Management – The Water Security Agency manages water resources to benefit the people of Saskatchewan.

This means:

- ⇒ Drinking water is safe
- ⇒ Benefits from water and water management are achieved
- ⇒ Risks to water availability, water quality and habitat are mitigated
- ⇒ Dam safety, flooding and hydrological drought risks are mitigated

Strategy

Effectively transition and manage the transferred federal dams and associated business impacts.

Key Actions and Results

- ⇒ Transition federal structures to WSA control. Collect and integrate into WSA operations knowledge of structures from federal government staff.
 - ↳ The federal dam transition is proceeding with the continuing resolution of legal concerns and knowledge transfer to WSA. In early 2019, by mutual agreement, the federal government added an additional two canals and three dams and extended the formal transition date by an additional year to March 31, 2021. New legal capacity is helping address land title transfers, water supply agreements/rights licences and land use agreements.
- ⇒ Manage business and capacity impacts associated with the acquisition of federal structures. These structures represent a 47 per cent increase in the number of total dams the WSA is responsible to maintain and operate.
 - ↳ An additional 24.5 full-time equivalents (FTEs) were scheduled to be added in 2018-19, 16 of which were filled and five are in the staffing process. The additional 3.5 FTE are being delayed to better accommodate future business and vision needs.

Strategy

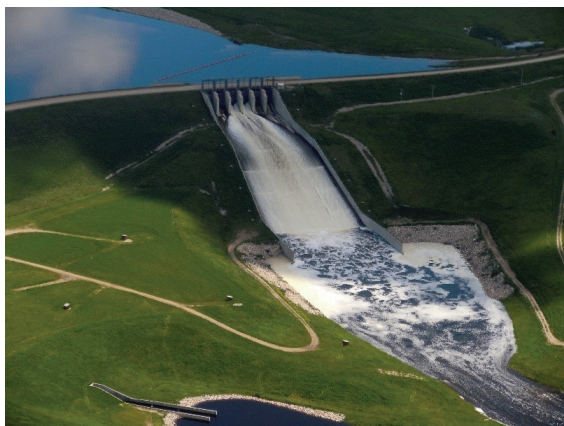
Conduct priority rehabilitation work on WSA dams.

Key Actions

- ⇒ Commence upgrades to Grant Devine and Rafferty dams.
 - ↳ WSA is applying for funding to the federal Disaster Mitigation and Adaptation Fund for capital work associated with the Grant Devine Dam. The organization is updating conceptual work originally prepared in 2010 for options to rehabilitate the spillway and accommodate the Inflow Design Flood (IDF). The Rafferty Dam and Lafleche spillway projects have been deferred. Technical work to establish a new tailwater rating curve using the IDF and conceptual designs for the rehabilitation of the under spillway drainage collection system continues.

- ⇒ Continue work on Buffalo Pound Dam.
 - ↳ Maintenance includes the south, middle and north gates. New stop logs were fabricated and installed, and rehabilitation occurred on the south and middle gates, which are now fully commissioned. The north gate is scheduled for rehabilitation during the summer and fall of 2019. Once the gates are fully functional, other issues will need to be addressed in forthcoming years.
- ⇒ Continue renewal work on other WSA dams as per the 10-Year Rolling Infrastructure Rehabilitation Plan.
 - ↳ Work was completed early in the fiscal year on the Duncairn Low Level Outlet (LLO) rehabilitation and spillway gate maintenance, as well as Admiral and Downie Lake Dam riparian outlet gate replacement. Other major projects experienced some delays and challenges. Planned M1 rehabilitation work commenced in the fourth quarter due to procurement delays. The control structure replacement at Crooked Lake will not occur until land control is secured. Construction work at La Ronge and Theodore Dams were deferred to allow for further evaluation and design work. Gouverneur and Altawan Dam riparian outlet gate replacement will be retendered, with work expected in 2020. WSA continues to refine and evolve its procurement practices to continue to advance the 10-year Rolling Infrastructure Rehabilitation Plan.

Saskatchewan's Provincial Dam Network – Vital to our Saskatchewan way of Life – Feature Story



Dams are an extremely important part of Saskatchewan's infrastructure—equal to bridges, roads and other major elements of infrastructure. Our province's most precious resource serves several functions, including water supply for domestic, agricultural, industrial, and community use and adding to our quality of life with recreational opportunities and aesthetic value.

As the regulator of all water control structures in Saskatchewan, the Water Security Agency (WSA) understands the benefits it serves everyone in our province.

WSA recently acquired 23 dams and two significant canals from Agriculture and Agri-Food Canada as part of the federal dam transfer. These dams and canals primarily reside in the Southwest portion of our province, where water management is critical to support agriculture and irrigation needs.

WSA is working with the federal government to ensure essential transition of

infrastructure and knowledge through an agreement that has recently been extended to March 2021.

The federal dams have increased the provincial dam portfolio from 49 to 72 dams. This significant growth in infrastructure has required WSA to grow internal processes and capacities.

The four-year transition period with the federal government, in conjunction to the internal growth within WSA, are essential to ensuring the safe, efficient and critical operation of the dams and canals to best serve the patrons of Saskatchewan.

Water management infrastructure, including dams and conveyance works, remains an important water supply tool for municipalities and producers across Saskatchewan. WSA will hire additional staff over the coming year to help facilitate the ongoing expansion from the federal dam transfer.

Strategy

Mitigate the variability risks in water resource management (droughts, floods, climate change).

Key Actions and Results

- ⇒ Assess flow forecasting needs and identify and implement new forecasting tools and systems.
 - ↳ WSA commenced building four different hydrological models for the Moose Jaw River and Swift Current Creek basins to assess each model's suitability for flow forecasting. By year end, completed work included construction of two of four models for both the Moose Jaw River and Swift Current Creek basins, collection of LiDAR and cross section surveys of the Qu'Appelle River for hydraulic model construction, as well as training and initial work building simulation models for key reservoirs in the province. WSA is optimistic that functioning systems will be in place for key basins (Souris, Qu'Appelle, Swift Current) in 2021. A prioritized list of basins for future hydrologic models will be developed in 2019-20.
- ⇒ Develop and implement a wetland conservation strategy.
 - ↳ The Agricultural Water Management Provincial Advisory Committee (AWMPAC) was comprised of interested stakeholders from the producer, municipal and environmental communities to provide guidance on the development of the wetlands impact mitigation strategy. Policy discussion and analysis is continuing by WSA with

feedback from AWMPAC on this topic. As a variety of different perspectives are represented, this work is taking additional time and is occurring while drainage approvals are consuming considerable resources in the organization.

- ⇒ The provincial wetland conservation strategy will follow the completion of the wetland impact mitigation policy. Further policy evolution is anticipated in 2019-20.
- ⇒ Complete the Qu'Appelle Water Quality Study.
 - ⇒ The draft report has been completed. Nutrient loading from non-point sources such as runoff and bed/bank erosion is occurring. (Point source nutrient loading is also a reality, despite upgrades to the sewage treatment plants in Regina and Moose Jaw.) A communications strategy is under consideration, along with developing a framework for projects needed to complete site-specific water quality objectives. WSA is continuing monitoring of the efficiency of the Regina Wastewater Treatment facility and its impact on the Qu'Appelle water system.

Strategy

Implement the Agricultural Water Management Strategy.

Key Actions

- ⇒ Advance implementation of the Agricultural Water Management Strategy (the Strategy) through qualified persons training, network approvals and compliance activities.
 - ⇒ A record 1,507 quarter sections achieved compliance in 2018-19 under the Strategy, easily surpassing the projected target of 1,050 quarter sections. 1,381 of these were secured through approvals as opposed to just 126 closures through the request for assistance process. WSA continues to facilitate this process through dedicated Qualified Persons (QP) training and support.
 - ⇒ In March 2019, the province announced it was investing \$5 million in the Saskatchewan Conservation and Development Association to help advance the Strategy through the formation of conservation and development areas and watershed associations; governance support and funding; project development; QP, engineering, legal and mediation support and LiDAR programming.
 - ⇒ In April 2019, WSA and the federal government announced a combined investment of an additional \$1.3 million in advancing the Strategy and improving climate resilience. This funding is being delivered through the Building Regional Adaptation Capacity and Expertise Program (BRACE). Through the funding, over the next two years, WSA will offer educational workshops for up to 2,500 producers on the Strategy. The workshops will help producers incorporate climate change and mitigation strategies into the design of their agriculture water management projects. Complimenting this will be additional funding for WSA to increase its QP training program to build additional capacity in every region of the province. The final component of the new funding will allow communities at high risk to develop drought response plans through addressing existing hazards and vulnerabilities, as well as future climate change projections.
 - ⇒ These initiatives will strongly support the objective of obtaining further approvals through the Strategy.
- ⇒ Continue to build the provincial wetland and drainage inventory.
 - ⇒ An additional 23,516 square kilometres of wetland and drainage inventory was completed in 2018-19, bringing the cumulative drainage inventory to 101,116 square kilometres or about 41.6 per cent of Saskatchewan's agricultural lands. A funding agreement with Ducks Unlimited was significant in replacing terminated funding from Environment and Climate Change in facilitating this work.
- ⇒ Continue engagement with the Agricultural Water Management Policy Advisory Committee to support effective implementation of the Agricultural Water Management Strategy.
 - ⇒ The committee was established and held several meetings throughout 2018-19. Valuable feedback was received that assisted with evolution of drainage and impact mitigation policies. The technical advisory committee to support the work of the continuing implementation of the Agricultural Water Management Strategy will be formed in 2019-20.
- ⇒ Effectively communicate with and educate the public on the Strategy.
 - ⇒ WSA has been conducting polling and focus group research and preparing for the release of a comprehensive communications strategy, including a dedicated drainage website, a paid advertising campaign and supporting communications vehicles to assist with education and compliance. Media releases, fact sheets, presentations and newsletter articles were all completed during 2018-19 to support the Strategy which has transitioned from just talking about the new policy approach to providing actual details of the process and highlighting completed drainage networks. The roll-out of the broader comprehensive campaign will occur in 2019-20.

Producers are recognizing the value in organized and responsible drainage – Feature Story



Four years ago, the Water Security Agency introduced the Agriculture Water Management Strategy, empowering landowners to take responsibility for designing, constructing and operating drainage works, while taking the necessary actions to minimize the impacts of drainage.

2018-19 was evidence that more landowners are recognizing the increased value of sustainable drainage for their land and farming operations. Saskatchewan producers had a record 1,507 quarter sections come into compliance, more than doubling 2017-18 numbers and a tenfold increase from 2014-15 when the legislation was introduced. More than 90 per cent (1,381) were approvals that occurred through voluntary compliance, with only eight per cent (126) coming via voluntary closures.

Furthermore, since launching the Agricultural Water Management Strategy in 2015, approximately 380,000 acres of land has received approval for agricultural water management projects, which supports sustainable agricultural production in Saskatchewan.

Near the community of Glenavon, 47 landowners signed a joint application to co-ordinate water management in the area, including more than 17,000 acres (across 113 quarter sections) through the Vipond Creek Project. The Water Security Agency worked with many partners to advance the project in response to local landowner interest arising from the nearby Dry Lake Network project approved in 2017.

“It has been great to work with the Water Security Agency to get the drainage in our area approved with a coordinated plan,” area farmer and Chair of the Chester Conservation and Development Area Authority Jon Elton said. “It is already going a long way to resolving a number of issues and concerns that have affected many producers in our community for a long time.”

The project includes 55 flow control structures to reduce downstream peak flows and flooding potential within the Moose Mountain Creek Watershed. Two major wetland restoration projects totaling more than 50 acres will also minimize downstream flooding, maximize water quality and optimize wildlife habitat benefits. Additionally, drainage channels will be vegetated to reduce erosion potential. The Rural Municipality of Chester will control and upgrade a major wetland project on Vipond Creek to ensure a strong measure of flow control to prevent future washouts of a critical municipal road.

“The Rural Municipality of Chester was pleased to be part of this project,” Chester Reeve Merrill Wozniak said. “We look forward to seeing its benefits come to fruition in the future.”

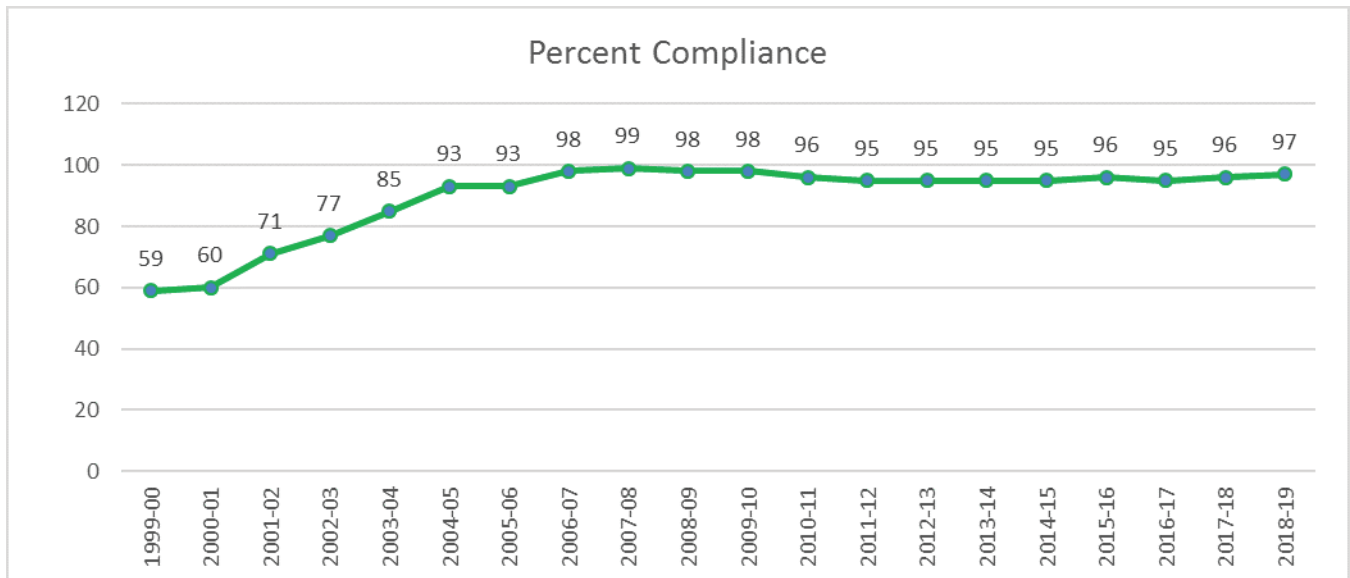
The Upper Souris Watershed Association served as the Qualified Person for the project, which involved working with all agricultural landowners and other partners to build support, co-ordinate and finalize the project application for WSA approval.

This project shows us the value of responsible agricultural water management to minimize conflict between landowners, while enabling appropriate drainage to continue using an efficient risk-based regulatory system.

Performance Measures

Drinking water quality standards compliance rate

This measure indicates average compliance with disinfection and bacteriological standards on WSA's regulated municipal drinking waterworks. High compliance rates are a good indication of drinking water safety.



The drinking water quality compliance indicator is an average of compliance with disinfection and bacteriological standards, both of which measure compliance with drinking water quality standards. This indicator looks at both the results of bacteriological water quality monitoring and the level of disinfectant present in drinking water and, is a good predictor of the safety of drinking water.

Compliance with drinking water quality standards for disinfection and bacteriological quality is important as microbial contamination in water supplies can quickly result in significant illness. Proper disinfection is an important way to ensure safe drinking water and prevent the outbreak of waterborne diseases. The indicator reports on the actions of WSA in addressing risks to the health of people and the environment and key actions related to ensuring safe and sustainable drinking water. The accuracy of this indicator is fully dependent on accurate testing and reporting by regulated waterworks operators.

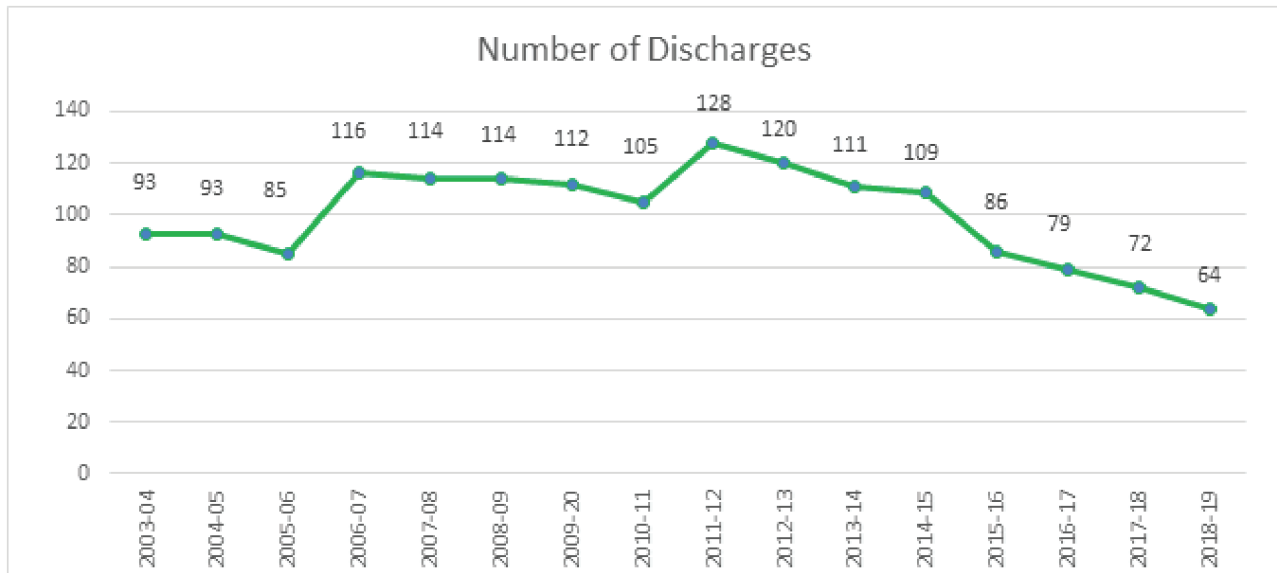
The drinking water quality compliance indicator has been very good for the past few years and has remained relatively stable; with an average compliance rate of 95 per cent for the past five years. Ongoing inspection and education awareness initiatives with waterworks owners and operators are planned to sustain good performance in achieving water that is safe from bacteriological threats and meets disinfection standards.

Key risks to achieving this measure include:

- ⇒ an inability of waterworks owners or operators to comply with standards and operator certification requirements (such as a lack of staff, understanding, overall planning capacity or financial resources);
- ⇒ catastrophic events that affect drinking water quality (such as major flooding or equipment failure); and new/evolving standards that change the base requirements.

Number of sewage effluent discharges that represent a risk to source waters

A decreasing number of sewage effluent discharges that represent a risk to source waters are a direct indication of a reduction in the potential for source water contamination due to poor wastewater treatment, overloaded systems or systems with failing infrastructure.



As of March 31, 2019, approximately 64 wastewater systems were identified as having a discharge that may reach a surface water body and represent a risk to source waters under certain conditions. This is a reduction of eight systems since the previous fiscal year and likely results from greater regulatory focus on wastewater treatment system conditions and improvements in recent times.

Growth in Saskatchewan communities is also placing additional pressure on sewage infrastructure as some communities were at treatment and/or storage capacity. On an annual basis, WSA staff review the quality of effluent from each regulated sewage works. Reduction of ammonia and chlorine residual emissions within treated wastewater effluent, sewage works capacity or other treatment capability issues typically involve significant planning, investment and construction. Therefore, it can be expected that reductions in the number of works that represent a risk to source waters will be a time-consuming process. Work to resolve problematic wastewater systems will continue for the foreseeable future.

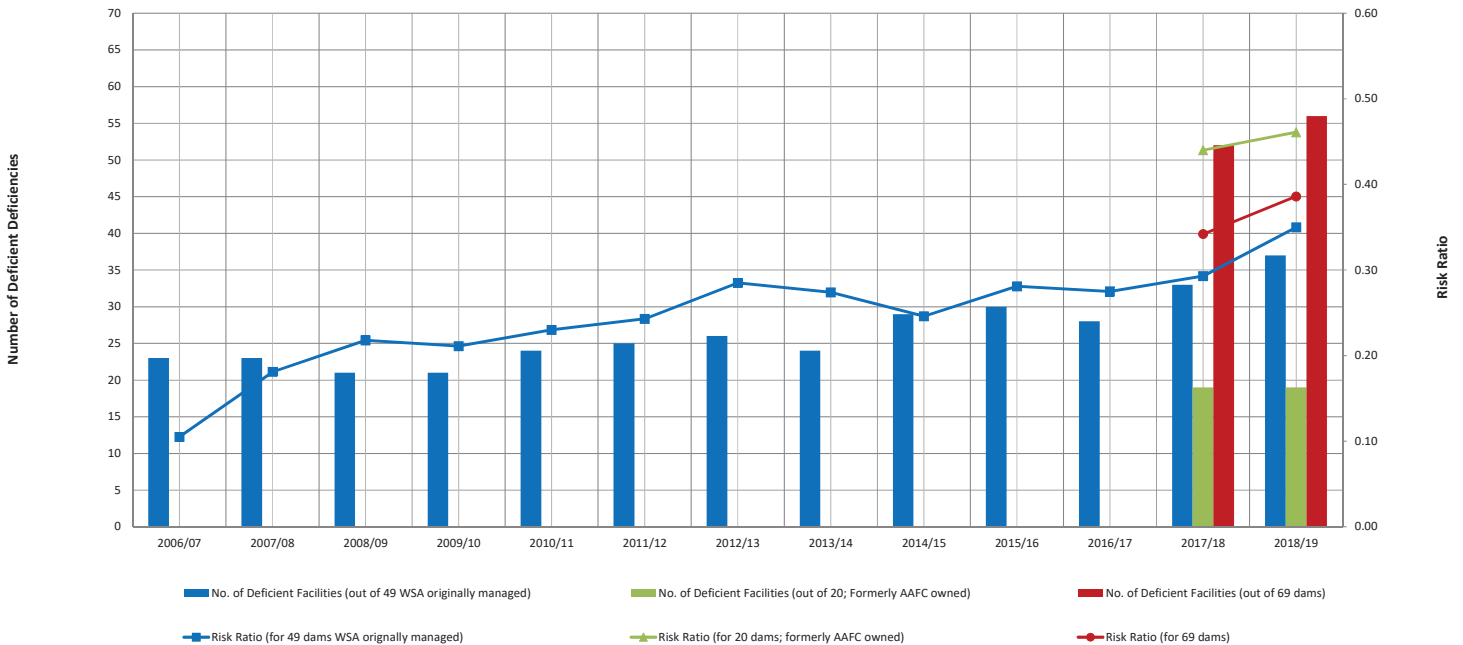
Risk associated with WSA dams

The overall risk associated with WSA dam infrastructure. Work completed as part of the Ten Year Rolling Infrastructure Rehabilitation Plan reduces overall risk.

Risk associated with WSA dams and number of WSA dams requiring upgrades.

- ⇒ The 10-Year Water Management Infrastructure Renewal Plan is intended to decrease these risks. The first measure indicates the overall risk associated with WSA dam infrastructure, while the second quantifies the number of WSA dams requiring upgrades to meet the provisions of the Dam Safety Guidelines (2013) published by the Canadian Dam Association.

Annual Deficient Dams and Risk Ratio



Number of Deficient Dams

This measure quantifies the number of Water Security Agency dams which require upgrades to meet the provisions of the Dam Safety Guidelines (2013) published by the Canadian Dam Association. Like all provincial governments and major utilities across Canada, WSA manages its works in general accordance with these guidelines. For 2018-19, WSA was responsible for the operation and maintenance of 69 dams. On March 31, 2017, the Agency accepted ownership and operation of 20 more dams from the federal government. These dams are included in the risk measure calculated for 2017-18 and moving forward.

Depending upon the dam, a failure could have significant economic, environmental and safety consequences. This measure does not indicate the severity of the identified deficiencies. This measure is useful in gauging progress made over time to reduce the number of deficient dams.

The Failure Probability of a Water Security Agency dam is assessed in terms of:

- (a) hydrology/hydraulic,
- (b) geotechnical, and
- (c) structural/electrical/mechanical condition rating factors.

These three rating factors vary from 0 (adequate) to 9 (grossly inadequate) for a maximum possible Failure Probability of 27.

A dam having at least one condition rating factor of three or greater is deemed to be a deficient dam. The information used to determine Failure Probability values comes from a variety of sources including: annual inspections, internal and external dam safety reviews, design and assessment studies, issues identification by site staff/project operators, and review of dam performance monitoring data.

The number of deficient dams increased from 52 in 2017-18 to 56 in 2018-19. An additional four dams, including Avonlea Dam, Blackstrap North Dam, Teepee Creek Dam, and Round Lake Dam changed status to deficient owing to ongoing and gradually worsening deficiencies.

Risk Ratio

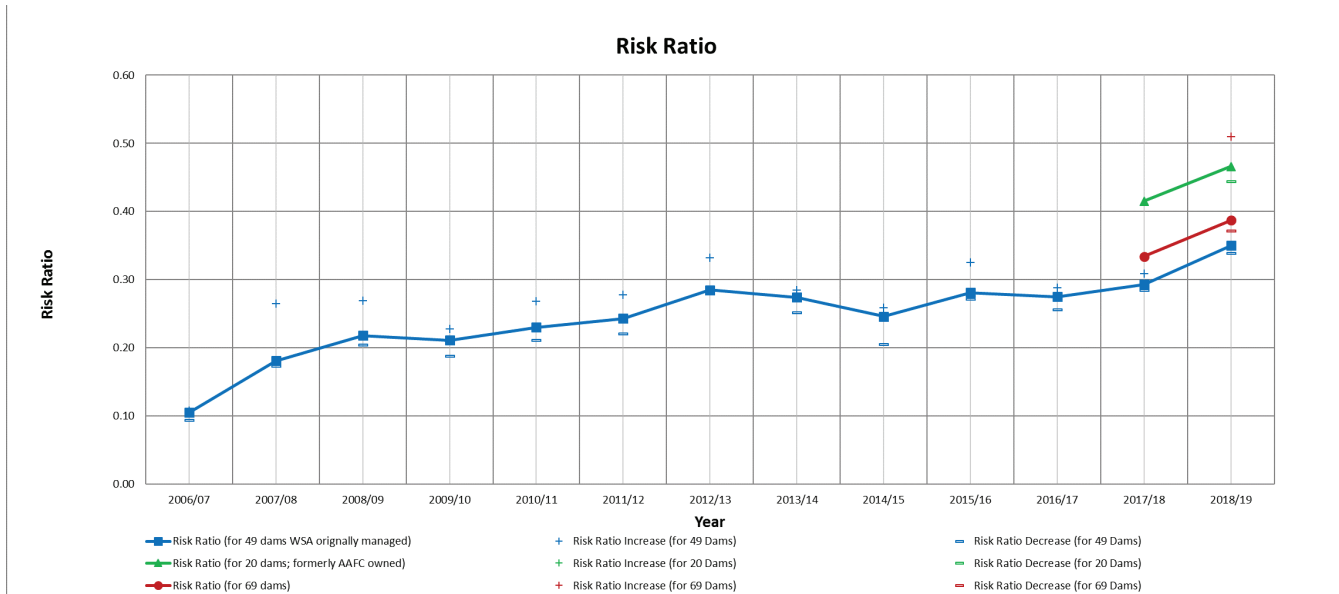
This measure is a qualitative measure of the relative risk for each dam by considering both the likelihood and the consequences of a dam failure. It is a measure of the safety of the dams and of progress in upgrading the dams to acceptable standards. A higher score indicates increased risk. WSA uses the ratio of the assessed current risk to the total possible risk to establish targets and measure progress in reducing risk associated with its dams. Risk, defined as the probability of a failure multiplied by the consequences of a failure, has been assessed in relative values. The Assessed Current Risk is determined by multiplying the Failure Rating and the Consequence Rating for each structure.

The annual change in the Risk Ratio is also shown. A reduction in the Risk Ratio is an indicator of annual progress with capital projects and an increase in the Risk Ratio is an indication of the continued vigilance required.

The information used to determine Failure Probability values comes from a variety of sources including: annual inspections; internal and external dam safety reviews; design and assessment studies; issue identification by site staff/project operators; and review of dam performance monitoring data. Consequence ratings are assessed for each structure and based upon an estimation of life safety, economic damages, and restoration costs in the case of a failure. A lower ratio indicates safer infrastructure, with a ratio of zero indicating no current assessed risk.

Numerically the risk ratio can be expressed as:

$$\Rightarrow \text{Risk Ratio} = \text{Sum of Assessed Current Risk} / \text{Sum of Total Possible Risk.}$$



The risk ratio increased to 0.387 in 2018-19 from 0.334 in 2017-18 due to increases in the failure probabilities at 28 of WSA's dams due to internal inspections, assessments or continued deterioration. There were five dams with failure probabilities that decreased due to repairs or rehabilitation work completed. Work plans for 2019-20 will continue to look at a number of key issues at WSA's dams.

Number of quarter sections brought into compliance in the Agricultural Water Management Strategy

This measure is an indicator of progress in implementing the Agricultural Water Management Strategy. A drainage approval allows works on a quarter section, or several quarter sections, to operate with impact mitigation measures and practices in place.

Number of drainage approvals issued:

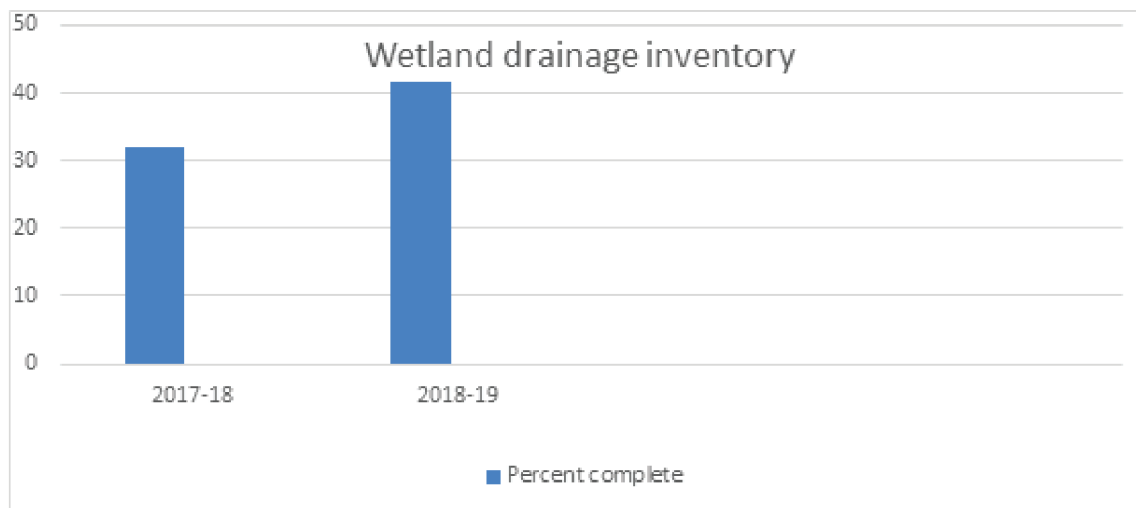
- ⇒ This measure is an indicator of progress in implementing the new approach to drainage. An approval allows for a network of drainage works to operate with impact mitigation measures and practices in place. As the new approach to drainage matures, an increasing number of approvals will be issued.
- ⇒ The Agricultural Water Management Strategy has made significant progress over the last year:
 - ↳ At the end of the 2018-19 fiscal year, 1,507 quarters (241,000 acres) of land have been brought into compliance through either approvals or closures.
 - ↳ The 1,507 quarters of land achieved compliance through approvals or closures in 2018-19 is broken down to: 181 Approvals to Operate covering 1381 quarter sections of land, and 126 quarter sections of land brought into compliance by closure through the Request for Assistance process.

Year	RFAs/Formal Complaints Resulting in Closure	Drainage Approvals 1/4 sections	Total Compliance 1/4 sections
2014/2015	14	133	147
2015/2016	16	110	126
2016/2017	84	244	328
2017/2018	61	651	712
2018/2019	126	1381	1507
Total	301	2519	2820

Percentage of wetland and drainage inventory completed

This measure indicates progress on completing the wetland and drainage inventory. The inventory supports the technical and mitigation activities completed within the Agricultural Water Management Strategy.

The measurement is calculated based on the current area of inventory covered compared to the agricultural area of Saskatchewan (234,000 kilometres). In 2018/19, WSA surpassed its target to increase coverage to 36 per cent (86,100 km) by achieving a year end number of 43 per cent (101,116 km).



Government Goals



Strategic priorities relate to the 25 Year Saskatchewan Water Security Plan goal of “Effective Government and Engagement” and the Government of Saskatchewan principle of “Citizen First” governance.

Organization Goal

People and process excellence – The Water Security Agency strives to achieve excellence in everything it does. This means:

- ⇒ Citizens understand and endorse our actions
- ⇒ Citizens are satisfied with our service
- ⇒ We seek to continuously improve our results

Strategy

Renew legislative framework and long-term water management direction.

Key Actions

- ⇒ Consult on water policy direction and develop new legislation, regulations and 25 Year Water Security Plan.
 - ↳ Limited progress was made in 2018-19 related to either the development of new WSA legislation or the renewal of the *Saskatchewan 25 Year Water Security Plan*.

Strategy

Improve the effectiveness of our communications and front-line services by understanding citizen needs and modernizing how we deliver programs and services.

Key Actions

- ⇒ Improve digital access to water management information for citizens and clients.
 - ↳ Data is now available online for surface water quality for primary stations for the 1970-2011 time period. This convenient searchable database of 24 primary water stations located across Saskatchewan allows users to search for variables such as ammonia, magnesium, nitrate, phosphorus and total dissolved solids by a user selected time period. The next phase of this project will look at publishing the remainder of primary data from 2012-to-current and developing an interactive map with links to primary data.
- ⇒ Improve public understanding of the Agricultural Water Management Strategy.
 - ↳ WSA conducted polling and focus group research on the Agricultural Water Management Strategy to get a better understanding of the level of producer awareness and support for new drainage policies, and is also developing a dedicated one-stop website where the producing community can get all necessary information relative to obtaining drainage approvals. These initiatives will be supported in 2019-20 through the development and implementation of a comprehensive communications strategy.
- ⇒ Identify and track service standards for all front-line services.
 - ↳ To better understand customer perceptions and formally gather this information, WSA will be implementing a standard one number call-in line with dedicated staff in 2019-20. This work will help WSA centralize information gathering as well as institute a formal process for identifying and tracking service standards.
- ⇒ Improve our programs and services through client and stakeholder feedback.
 - ↳ Research information was gathered in 2018-19 relative to drainage policies and the Agricultural Water Management Strategy, which will inform program design and communication. WSA hopes to formally pilot one of the program offerings in 2019-20 and then extend the model and learnings to other program and service offerings in future years.
- ⇒ Implement online application processes for Drainage Approvals, Aquatic Habitat Protection Permits and Water Rights Licenses.
 - ↳ WSA has completed work on testing, user manuals and operations user training relative to the product portal update to support online drainage approvals and related new drainage fees. The GIS Drainage mapping application has also been deployed with demos and training ongoing. The implementation of online application processes for Aquatic Habitat Protection Permits and Water Rights Licensing is part of a larger data application/management strategy, which will fall within a service management software solution. Online Drainage and Drainage mapping are ready to go live online and awaiting go ahead for deployment into production.
- ⇒ Renew the partnership with Environment Canada to manage the hydrometric network.
 - ↳ Due to other pressing priorities, discussion of this partnership has been moved to a future time by mutual agreement of both Environment Canada and Water Security Agency.
- ⇒ Continue our partnership with Environment Canada for administration of the federal *Wastewater System Effluent Regulations*.
 - ↳ This five-year agreement began on July 23, 2015 and WSA is now working with Environment and Climate Change Canada (ECCC) and other provincial counterparts to develop a progress report. Currently, the federal regulations cover 65 wastewater systems in Saskatchewan. WSA meets with ECCC to discuss ongoing activities such as inspections, compliance, enforcement and reporting of those facilities covered under the agreement. WSA staff worked with system owners and operators to ensure data was collected and reported in 2018 and communities not complying with the requirements are referred to ECCC for follow up. During the year, WSA worked with ECCC to bring the city of Lloydminster into compliance with federal regulations as well as the province's requirements for treated effluent discharge.
 - ↳ WSA is in discussing with ECCC to complete renewal of the federal-provincial agreement for administration of the Wastewater System Effluent Regulations (WSER).

Performance Measures

Front-line service client satisfaction

This measure indicates average client satisfaction across all services that WSA provides to citizens. Understanding how citizens feel about the services we provide is important in identifying improvement opportunities.

- ⇒ WSA will conduct more comprehensive research in 2019-20 to measure client satisfaction and pursue future improvement opportunities.

2018-19 Financial Overview

Water Security Agency operations resulted in a \$61.016 million surplus this year. WSA had budgeted for a surplus of \$22.826 million. Revenues were \$36.337 million, or 46 per cent over budget. Expenses for regular operations were \$53.989 million, or \$1.853 million below budget.

Revenues above budget resulted from Water Security Agency receiving \$34.6 million from Agriculture and Agri-Food Canada for the transfer of five water management structures and a one-time payment attributed to unanticipated risk associated with Reservoir Lands and other related infrastructure transferred to Water Security Agency March 2017.

Expenses under budget resulted from delays in anticipated work at transferred federal infrastructure, from lower than budgeted compliance and enforcement costs, and lower than budgeted Emergency Flood Damage Reduction Program costs. Staff vacancies and restraint measures throughout the Water Security Agency resulted in a reduction in salary costs as well as reduced program activities and related costs.

WSA invested \$10.482 million in tangible capital assets during the year. The approved capital budget was \$43.5 million. A large part of the under expenditure in capital was due to procurement and land control issues. This combined with the funds received from Agriculture and Agri-Food Canada resulted in much of the increase in cash of \$54.235 million.

Management's Responsibility for the Financial Statements

The accompanying financial statements are the responsibility of management of WSA. Management maintains a system of accounting and administrative controls to ensure that accurate and reliable financial statements are prepared and to obtain reasonable assurance that transactions are authorized, assets are safeguarded, and financial records are maintained.

These statements have been prepared in accordance with Canadian public sector accounting standards, using management's best estimates and judgement where appropriate.

WSA's external auditor, MNP LLP, expresses an independent opinion on these statements. Its report provides the scope of its audit and states its opinion.

The Water Security Agency Board has approved these financial statements. The Annual Report, which includes these financial statements, is tabled in the Legislative Assembly.



Susan E. Ross
President and Chief Executive Officer



Marjorie Simington
General Counsel and Acting Vice President, Corporate Services

WATER SECURITY AGENCY

FINANCIAL STATEMENTS

March 31, 2019

INDEPENDENT AUDITOR'S REPORT

To the Members of the Legislative Assembly of Saskatchewan:

Opinion

We have audited the financial statements of Water Security Agency (the "Organization"), which comprise the statement of financial position as at March 31, 2019, and the statements of operations and accumulated surplus, changes in net financial assets and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Organization as at March 31, 2019, and the results of its operations, its remeasurement gains and losses and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organization in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Matter

The financial statements of the Organization for the year ended March 31, 2018 were audited by Deloitte LLP of Regina, SK, Canada. Deloitte LLP expressed an unmodified opinion on those statements on May 22, 2018

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organization's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organization or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organization's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, and for the purpose of expressing an opinion on the effectiveness of the

- Organization's internal control in accordance with COSO's internal control framework, for the Provincial Auditor.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
 - Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organization to cease to continue as a going concern.
 - Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Regina, Saskatchewan

May 29, 2019

MNP LLP

Chartered Professional Accountants

WATER SECURITY AGENCY**STATEMENT OF FINANCIAL POSITION**

AS AT MARCH 31, 2019

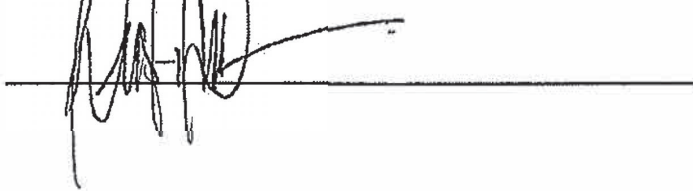
(\$ thousands)

	<u>2019</u>	<u>2018</u>
FINANCIAL ASSETS		
Cash	\$ 127,409	\$ 73,174
Accounts receivable	7,657	7,676
	<u>135,066</u>	<u>80,850</u>
LIABILITIES		
Accounts payable and accrued liabilities	6,618	7,461
Deferred revenue (Note 6)	-	392
Employee future benefits (Note 7)	970	930
Long-term debt (Note 8)	31,589	37,114
	<u>39,177</u>	<u>45,897</u>
NET FINANCIAL ASSETS	<u>95,889</u>	<u>34,953</u>
NON-FINANCIAL ASSETS		
Tangible capital assets (Note 9)	382,114	381,717
Prepaid expenses and supplies	476	793
	<u>382,590</u>	<u>382,510</u>
ACCUMULATED SURPLUS	<u>\$ 478,479</u>	<u>\$ 417,463</u>

Commitments and Contingencies (Note 13)
 Contractual Rights (Note 15)

See accompanying notes

On behalf of the Board:



WATER SECURITY AGENCY
STATEMENT OF OPERATIONS AND ACCUMULATED SURPLUS
 FOR THE YEAR ENDED MARCH 31, 2019
 (\$ thousands)

	<u>2019</u>		<u>2018</u>
	<u>Budget</u>	<u>Actual</u>	<u>Actual</u>
	<u>(Note 15)</u>		
REVENUE			
Government of Saskatchewan			
- General Revenue Fund	\$ 52,604	\$ 52,604	\$ 17,660
Federal government transfer funds (Note 4)	-	34,600	-
Transfer of assets from federal government	-	416	-
Water revenue	25,046	24,082	25,017
Contract revenue (Schedule 1)	168	393	460
Other	850	2,910	2,329
	<u>78,668</u>	<u>115,005</u>	<u>45,466</u>
EXPENSES (Schedule 2)			
Corporate services	8,482	7,857	7,303
Legal, regulatory and Aboriginal affairs	1,260	1,261	1,118
Water use and licensing	968	1,608	919
Special projects	525	883	580
Integrated water services administration	1,362	698	652
Agriculture water management	1,142	5,438	199
Regional services	4,905	4,576	4,438
Watershed services	1,790	1,075	1,097
Technical and interjurisdictional services	1,169	1,226	910
Infrastructure management - engineering and dam safety	9,162	9,391	4,423
Hydrology and groundwater services	4,654	3,603	2,930
Drinking water and wastewater management	5,965	4,490	4,052
Water quality services	3,068	2,510	3,000
Flood relief projects (Note 10)	3,082	1,224	2,153
Interest	1,098	1,056	1,218
Amortization of tangible capital assets	7,210	7,093	7,660
	<u>55,842</u>	<u>53,989</u>	<u>42,652</u>
Operating surplus for the year	<u>22,826</u>	<u>61,016</u>	<u>2,814</u>
Accumulated operating surplus - beginning of the year	<u>417,463</u>	<u>417,463</u>	<u>414,649</u>
Accumulated operating surplus - end of the year	<u>\$ 440,289</u>	<u>\$ 478,479</u>	<u>\$ 417,463</u>

See accompanying notes

WATER SECURITY AGENCY
STATEMENT OF CHANGE IN NET FINANCIAL ASSETS
 FOR THE YEAR ENDED MARCH 31, 2019
 (\$ thousands)

	<u>2019</u>		<u>2018</u>
	<u>Budget</u>	<u>Actual</u>	<u>Actual</u>
	(Note 15)		
Surplus for the year	\$22,826	\$61,016	\$ 2,814
Acquisition of tangible capital assets	(43,555)	(10,064)	(18,885)
Transfer of assets from federal government	-	(416)	-
Amortization of tangible capital assets	7,210	7,093	7,660
Impairment loss of tangible capital assets	-	2,992	-
Gain on sale of tangible capital assets	-	-	(39)
Proceeds on sale of tangible capital assets	-	-	55
	<u>(13,519)</u>	<u>60,621</u>	<u>(8,395)</u>
Net use (acquisition) of prepaid expenses	-	317	(573)
Increase (Decrease) in net financial assets	(13,519)	60,936	(8,968)
Net financial assets – beginning of year	<u>34,953</u>	<u>34,953</u>	<u>43,921</u>
Net financial assets – end of year	<u>\$ 21,434</u>	<u>\$ 95,889</u>	<u>\$ 34,953</u>

See accompanying notes

WATER SECURITY AGENCY**STATEMENT OF CASHFLOWS**

FOR THE YEAR ENDED MARCH 31, 2019

(\$ thousands)

	<u>2019</u>	<u>2018</u>
CASH PROVIDED BY (USED IN)		
OPERATING ACTIVITIES:		
Surplus for the year	\$ 61,016	\$ 2,814
Items not affecting cash:		
Amortization of tangible capital assets	7,093	7,660
Impairment loss of tangible capital assets	2,992	-
Gain on sale of tangible capital assets	-	(39)
Recognition of deferred revenue	(392)	-
Transfer of assets from federal government	(416)	-
Net change in non-cash balances relating to operations:		
Accounts receivable	19	2,774
Prepaid expenses	317	(573)
Accounts payable and accrued liabilities	(841)	145
Employee future benefits	40	(40)
	<u>69,828</u>	<u>12,741</u>
CAPITAL ACTIVITIES:		
Acquisition of tangible capital assets	(10,064)	(18,885)
Proceeds on sale of tangible capital assets	-	55
	<u>(10,064)</u>	<u>(18,830)</u>
FINANCING ACTIVITIES:		
Principal portion of loan repaid in year	(5,525)	(5,362)
Increase (Decrease) in cash, during the year	54,235	(11,451)
Cash – beginning of year	73,174	84,625
Cash – end of year	<u>\$127,409</u>	<u>\$ 73,174</u>

See accompanying notes

WATER SECURITY AGENCY
 NOTES TO THE FINANCIAL STATEMENTS
 MARCH 31, 2019
 (\$ THOUSANDS)

1. STATUS OF THE WATER SECURITY AGENCY

The Water Security Agency (WSA) was originally established as the Saskatchewan Watershed Authority on October 1, 2002 and was continued under **The Water Security Agency Act**, on October 1, 2012. It is a Treasury Board Crown corporation within the meaning of **The Crown Corporations Act, 1993**.

WSA is mandated to integrate all aspects of provincial water management to ensure water supplies support economic growth, quality of life and environmental wellbeing. WSA supports protection of drinking water, flood and drought response, and management of water supplies, water quality and aquatic habitat. WSA owns and operates provincial dams and water supply channels.

2. SIGNIFICANT ACCOUNTING POLICIES

These financial statements have been prepared in accordance with Canadian public sector accounting standards. The following accounting standards are considered to be significant:

Tangible Capital Assets

Tangible capital assets are recorded at cost. Internally provided engineering and technical services are capitalized at charge out rates designed to recover salaries, benefits and overhead. The objective of this policy is to recognize the approximate value of design, supervision and administrative services rendered by WSA employees on construction projects. WSA capitalizes interest expense on debt relating to specific construction projects. Amortization of assets under development commences once they are operational and available for use. Water infrastructure assets include land and earthen dams, which are not amortized as they do not degrade over time, if adequately maintained.

Charges for amortization are calculated at the following annual rates:

Asset Category	Depreciation Basis	Depreciation Rate
Leasehold improvements	Straight-line	Term of lease
Buildings	Straight-line	20 to 60 years dependent on threshold
Mobile equipment	Diminishing balance	15 to 30 percent dependent on threshold
Maintenance equipment	Straight-line	5 years
Office equipment	Straight-line	2 to 10 years dependent on threshold
Water infrastructure	Straight-line	20 to 60 years dependent of classification

In fiscal 2017-18, to conform to the accounting policies of the Province of Saskatchewan, a change has been made in the calculation of asset amortization from amortizing only those assets purchased or completed in the first six months of the year to amortizing all assets purchased or completed during the year. Formerly no depreciation was taken on assets disposed of during the first six months of the year, this has now changed to no depreciation being taken on any assets

2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Tangible Capital Assets (continued)

disposed of during the year.

Revenue Recognition

Government transfers are recognized as revenue in the period during which the transfer is authorized and eligibility criteria are met, except when and to the extent that the transfer stipulations give rise to an obligation that meets the definition of a liability.

Contractual revenue received by WSA for specific purposes is recognized as revenue in the year in which the related expenses are incurred. Water revenue is recognized as revenue in the year it is consumed. Other revenue includes licenses, fees, permits, and interest income which are recognized in the year they are earned.

Grants to Clients

Grants provided to clients for a variety of programs are recorded as an expense to WSA, when any eligibility criteria have been met and final approval for the grant payment is made. Where WSA enters into contractual agreements for project construction under various assistance programs, expenses are accounted for on an accrual basis.

Employee Future Benefits

WSA administers a benefit relating to a retirement allowance which is paid to eligible employees upon retirement. WSA has adopted the accrual method of accounting for this benefit whereby the cost of providing the benefits is recorded when the related services of employees are performed.

WSA's employees participate in the Public Employees' Pension Plan which is a multi-employer contribution plan. WSA's contributions to the pension plan are expensed as incurred.

Measurement Uncertainty

The preparation of financial statements in conformity with Canadian public sector accounting standards requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and reported amounts of revenues and expenditures during the reporting period. Significant areas requiring the use of management estimates relate to the useful lives of assets for amortization periods and employee future benefits.

Remeasurement Gains and Losses

These financial statements do not include a Statement of Remeasurement Gains and Losses as WSA has had no gains or losses due to remeasurement.

WATER SECURITY AGENCY
NOTES TO THE FINANCIAL STATEMENTS
MARCH 31, 2019
(\$ THOUSANDS)

3. FINANCIAL INSTRUMENTS

WSA's financial assets consist of cash and accounts receivable. Financial liabilities consist of accounts payable and accrued liabilities, employee future benefits, deferred revenue and long-term debt.

All financial instruments are initially recognized at fair value. The fair value of a financial instrument is the amount of consideration that would be agreed upon in an arm's-length transaction between knowledgeable, willing parties who are under no compulsion to act. The carrying amounts of these instruments approximates fair value due to their short-term nature.

Credit risk

WSA is exposed to credit risk from the potential non-payment of accounts receivable. The carrying amount of accounts receivable represents WSAs maximum credit exposure. The allowance for doubtful accounts is \$183 (2018 - \$nil).

Liquidity risk

Liquidity risk is the risk that WSA will not be able to meet its financial obligations as they become due. WSA monitors its cash balances and cash flows from operations to meet its requirements.

Interest rate risk

WSA is exposed to interest rate risk on its fixed rate long-term debt. The fixed rate instruments subject WSA to a fair value risk due to interest rate fluctuations in the market.

4. FEDERAL GOVERNMENT TRANSFER

In 2017, WSA early adopted Public Sector Accounting Standard 3430 regarding recognition of assets and liabilities in restructuring transactions, as WSA received the transfer of twenty water management structures from Agriculture and Agri-Food Canada ("AAFC") (a Federal Government agency).

In 2019, WSA received an additional transfer of five water management structures. This standard has been applied prospectively therefore the recording of similar transactions in prior years has not been adjusted.

Federal water infrastructure assets were recorded as Tangible Capital Assets, recognized at AAFC's carrying amount. The carrying amounts at the time of transfer to WSA, totaling \$28,762 in 2017 and \$416 in 2019. This amount was recognized as revenue at March 31, 2017 and March 31, 2019.

The *Saskatchewan Natural Resources Act* transferred control of natural resources in Saskatchewan from Canada to the Province of Saskatchewan. AAFC's long-term initiative is to transfer the administration and control of water management infrastructure held by AAFC to the Water Security Agency, the Crown corporation, responsible for water management and water management infrastructure in the Province of Saskatchewan.

WATER SECURITY AGENCY
 NOTES TO THE FINANCIAL STATEMENTS
 MARCH 31, 2019
 (\$ THOUSANDS)

4. FEDERAL GOVERNMENT TRANSFER (CONTINUED)

On March 31, 2017, twenty water management structures (dams, canals, associated infrastructure land, headworks, and buildings) were transferred to WSA under the Federal Dam Transfer Agreement (the "Agreement").

Upon further assessment of the twenty management structures by AAFC and WSA, an amendment was made to the Agreement, in which WSA received additional funding in the form of a one-time payment of \$14,600, attributed to unanticipated risks associated with Reservoir Lands and other related infrastructure transferred under the Agreement. This \$14,600 amount has been recognized as revenue in the 2018-19 fiscal year.

On March 29, 2019, five additional water management structures (dams, canals, associated infrastructure land, headworks, and buildings) were transferred by AAFC to WSA under the Federal Canal Transfer Agreement (the "Canals Agreement").

WSA received one-time funding from AAFC in the sum of \$20,000 for the future operation, maintenance and upgrade of these structures. This \$20,000 amount has been recognized as revenue in the 2018-19 fiscal year.

5. NEW STANDARDS AND AMENDMENTS TO STANDARDS

Several new standards and amendments to standards which may impact the Agency are not yet effective for the year ended March 31, 2019 and have not been applied in preparing these financial statements.

The following new standards and amendments to standards are effective for financial statements on or after April 1, 2019:

New and Amended Standards	Effective Date
PS 3280 Asset Retirement Obligations	April 1, 2021
PS 3400 Revenue	April 1, 2022

The extent of the impact on adoption of these standards is not known at this time.

6. DEFERRED REVENUE

	<u>2019</u>	<u>2018</u>
Balance, beginning of year	\$392	\$392
Fees collected	-	392
Recognition of prior year deferred revenue	(392)	(392)
Balance, end of year	\$ -	\$392

WATER SECURITY AGENCY
NOTES TO THE FINANCIAL STATEMENTS
MARCH 31, 2019
(\$ THOUSANDS)

7. EMPLOYEE FUTURE BENEFIT

The amount related to the defined benefit retiring allowance are as follows:

	<u>2019</u>	<u>2018</u>
Accrued benefit liability	\$970	\$930
Benefits paid during the year	100	154
Net expense	\$140	\$115

The significant actuarial assumptions adopted in measuring WSA's accrued benefit liability at March 31, 2019 are:

	<u>2019</u>	<u>2018</u>
Discount rate	2.60%	2.90%
Inflation rate	2.25%	2.25%
Salary increase	2.50%	2.00%
Average remaining service life	10.9 years	11.3 years

For 2018 and 2019, the mortality assumption is based on the 2014 Canadian Pensioner Mortality Table (CPM2014) using the CPM improvement Scale B, for the private sector without size adjustment factors.

8. LONG TERM DEBT

<u>Financial Institution</u>	<u>Maturity Date</u>	<u>Fiscal Year Acquired</u>	<u>Interest Rate</u>	<u>2019</u>	<u>2018</u>
Conexus Credit Union	31-Mar-21	2010-11	3.98%	\$629	\$926
Bank of Montreal	31-Mar-22	2011-12	3.40%	1,384	1,814
TD Commercial Banking	1-Nov-22	2012-13	2.65%	2,663	3,335
National Bank of Canada	28-Nov-23	2013-14	3.51%	4,649	5,550
Bank of Montreal	31-Dec-24	2014-15	3.03%	9,381	10,888
TD Commercial Banking	12-Dec-25	2015-16	2.69%	12,883	14,601
Total Debt				\$31,589	\$37,114

All long-term debt is borrowed over a 10-year loan period. Long-term debt repayments are as follows:

2020	\$5,696
2021	5,871
2022	5,718
2023	5,143
2024	4,418
Thereafter	4,743
Total	\$31,589

WATER SECURITY AGENCY
NOTES TO THE FINANCIAL STATEMENTS
MARCH 31, 2019
(\$ THOUSANDS)

8. TANGIBLE CAPITAL ASSETS

Cost	Land	Building & leasehold improvements	Maintenance equipment	Office equipment	Water infrastructure	Total
Balance beginning of year	\$5,155	\$1,858	\$4,458	\$2,330	\$501,555	\$515,356
Additions	-	94	1,007	295	9,086	10,482
Disposals	-	-	-	-	-	-
Write-downs	-	-	-	(20)	(2,992)	(3,012)
Balance end of year	\$5,155	\$1,952	\$5,465	\$2,605	\$507,649	\$522,826

Accumulated Amortization	Land	Building & leasehold improvements	Maintenance equipment	Office equipment	Water infrastructure	Total
Balance beginning of year	\$ -	\$1,564	\$3,742	\$2,030	\$126,303	\$133,639
Amortization	-	114	462	231	6,286	7,093
Disposals	-	-	-	-	-	-
Write-downs	-	-	-	(20)	-	(20)
Balance end of year	\$ -	\$1,678	\$4,204	\$2,241	\$132,589	\$140,712

Net Book Value	Land	Building & leasehold improvements	Maintenance equipment	Office equipment	Water infrastructure	Total
Balance March 31, 2018	\$5,155	\$294	\$716	\$300	\$375,252	\$381,717
Balance March 31, 2019	\$5,155	\$274	\$1,261	\$364	\$375,060	\$382,114

Included in tangible capital assets are assets under construction worth \$6,047 (2018- \$8,404)

9. FLOOD RELIEF PROJECTS

In 2011, an "Emergency Flood Damage Reduction Program" (EFDRP) was implemented by the Province to provide, on a cost-shared basis, funding to assist individuals and communities with flood preparation.

Since 2018, from April 1 to July 31 every year, the program functions as the emergency flood damage reduction program since most flooding occurs as a result of spring melt or as a result of more severe summer storms. Annually, after August 1 until March 31, the program reverts to the "Flood Damage Reduction Program" (FDRP) focused on a cost-share basis funding for implementing proactive flood damage prevention or reduction measures for urban municipalities and rural municipalities that face risk of suffering recurrent flood damage in the future.

WATER SECURITY AGENCY
 NOTES TO THE FINANCIAL STATEMENTS
 MARCH 31, 2019
 (\$ THOUSANDS)

9. FLOOD RELIEF PROJECTS (CONTINUED)

WSA is reimbursed by Aboriginal Affairs and Northern Development Canada (AANDC) for assistance provided to First Nations to combat flood damage. WSA is also leading the work, on behalf of the Province, related to long-term solutions to flooding at Fishing and Waldsea Lakes.

WSA recognized the following expenses for flood relief initiatives:

	<u>2019</u>	<u>2018</u>
Emergency Flood Damage Reduction Program	\$221	\$1,075
Flood Damage Reduction Program	495	-
Fishing & Waldsea Lakes	508	1,074
Aboriginal Affairs & Northern Development Canada	-	4
Total	\$1,224	\$2,153

10. RELATED PARTIES TRANSACTIONS

Included in these financial statements are transactions with various Saskatchewan Crown corporations, ministries, agencies, boards and commissions related to WSA by virtue of common control by the Government of Saskatchewan, as well as key management personnel and their close family members (collectively referred to as “related parties”). Related party transactions with WSA are in the normal course of operations and are recorded at fair market value.

Routine operating transactions with related parties are settled at prevailing market prices under normal trade terms. These transactions and amounts outstanding at year end, are as follows:

	<u>2019</u>	<u>2018</u>
General Revenue Fund	\$52,604	\$17,660
Water, contract and other revenue	21,219	22,304
Purchases	5,905	5,685
Accounts receivable	5,687	5,282
Accounts payable	365	482

Details of amounts and transactions due to and from related parties and the terms of settlement are described separately in these financial statements and the notes thereto.

WATER SECURITY AGENCY
 NOTES TO THE FINANCIAL STATEMENTS
 MARCH 31, 2019
 (\$ THOUSANDS)

11. GRANTS TO CLIENTS

Included in expenses are grants or assistance provided to various persons and organizations to carry out a variety of programs administered by WSA. Particulars of these grants, by program, are as follows:

	<u>2019</u>	<u>2018</u>
Flood control & Drainage	\$302	\$402
Emergency Flood Damage Reduction Program	150	721
Flood Damage Reduction Program	316	-
Watershed Implementation and Projects	5,847	849
Stewardship – Water Quality	95	138
Total	\$6,710	\$2,110

12. COMMITMENTS AND CONTINGENCIES

Contractual Commitments

As of March 31, 2019, WSA has outstanding commitments of \$15,082 (2018 - \$4,746) for construction contracts, consulting agreements, software licensing, watershed funding agreements and other services. Within various contractual agreements, WSA has committed to provide in-kind services. If contracts were terminated, WSA's only liability would be for actual costs incurred to date.

Leases

WSA has entered into various operating lease agreements with the following minimum lease payments:

2020	\$1,913
2021	1,543
2022	1,253
Until 2029	4,140

Litigation

WSA is party to twenty one lawsuits (2018 - twelve), related to various water management issues. The outcome of these lawsuits cannot be determined therefore no amounts have been allowed for settlement in these statements.

13. PENSION PLAN

WSA's employees participated in the Public Employees' Pension Plan (the Plan), which is a defined contribution pension plan. WSA's contributions to the Plan included making regular payments into the Plan. The total amount paid into the Plan for 2019 was \$1,391 (2018 - \$1,253).

WATER SECURITY AGENCY
 NOTES TO THE FINANCIAL STATEMENTS
 MARCH 31, 2019
 (\$ THOUSANDS)

14. BUDGET FIGURES

The budget figures are presented for comparison purposes. WSA's Board of Directors approved the 2018-19 budget on April 9, 2018.

15. CONTRACTUAL RIGHTS

WSA is party to certain contractual rights which are expected to provide future economic benefits to the organization. Haying, grazing, and cultivation permits are agreements with local farmers to use WSA titled land. Rates for the permits are determined using the Ministry of Agriculture's rates that are determined annually.

An agreement with the Government of Canada to administer and enforce wastewater systems and effluent regulations and to reduce duplication resulting from comparable federal and provincial legislation with respect to wastewater in Saskatchewan.

An agreement with Agriculture and Agri-Food Canada provides for revenues from water supply to irrigators around dams transferred to WSA at March 31, 2017.

There are two funding agreements in place with Natural Resource Canada for Building Regional Adaptation Capacity and Expertise (BRACE).

Expected revenues from these contractual rights are as follows:

	<u>Terms</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Haying, Grazing, and Cultivation Agriculture Permits	1, 3, or 5 years	\$250	\$250	\$235
Government of Canada	1 year	28		-
Agriculture and Agri-Food Canada	3 years	250	250	-
Natural Resources Canada – BRACE Funding	3 years	65	60	-
Natural Resources Canada – BRACE Funding	4 years	200	226	2

16. COMPARATIVE INFORMATION

WSA has adjusted certain amounts reported previously to conform with the current year's presentation.

WATER SECURITY AGENCY

Schedule 1 - Contract Revenue

Year Ended March 31, 2019

(\$ thousands)

	<u>2019</u>	<u>2018</u>
Aboriginal Affairs and Northern Development Canada	\$ -	\$ (131)
Canadian Wildlife Service	95	138
Ducks Unlimited	50	100
Environment Canada	28	93
International Joint Commission - Souris River	188	-
Natural Resources Canada - BRACE	32	-
Saskatchewan Ministry of Environment - Fish & Wildlife	-	10
Saskatchewan Wildlife Federation	-	250
	<u>\$ 393</u>	<u>\$ 460</u>

WATER SECURITY AGENCY

Schedule 2 - Expenses by Program
 Year Ended March 31, 2019
 (\$ thousands)

	Corporate services	Legal, regulatory and Aboriginal affairs	Water use and licensing	Special projects	Integrated water services administration	Agricultural water management	Regional services	Watershed services	Technical and interjurisdictional services	Infrastructure management - engineering and dam safety	Hydrology and groundwater services	Drinking water and wastewater management	Water quality services	Flood Relief Projects	Interest & Amortization	2019 Total	2018 Total
Salaries and benefits	\$ 4,426	\$ 848	\$ 1,511	\$ 283	\$ 273	\$ -	\$ 3,725	\$ 219	\$ 345	\$ 4,159	\$ 2,435	\$ 3,601	\$ 1,485	\$ -	\$ -	\$ 23,310	\$ 20,590
Travel and other staff cost	572	34	56	25	17	11	222	4	29	292	203	275	123	4	-	1,867	1,745
Professional services	451	276	14	179	291	226	-	66	-	1,304	167	115	524	202	-	3,815	2,751
Office supplies	1,314	11	16	2	5	20	83	2	63	62	25	43	24	-	-	1,670	1,321
Materials	7	1	-	-	-	0	8	-	-	94	33	14	22	1	-	180	153
Contractual services	29	45	-	5	-	14	3	-	155	3,928	875	260	-	-	-	5,314	1,792
Utilities and rent	816	-	-	-	-	10	396	-	419	451	60	137	331	-	-	2,620	2,405
Cash grants	-	-	-	27	113	5,000	189	820	-	-	-	-	95	466	-	6,710	2,110
Salary allocations	(502)	38	(12)	352	(13)	108	(168)	(41)	215	(612)	(245)	(2)	(162)	72	-	(972)	(931)
Other expenses	746	8	23	10	12	49	118	5	-	(287)	50	47	68	479	8,149	9,477	10,717
Total	\$ 7,859	\$ 1,261	\$ 1,608	\$ 883	\$ 698	\$ 5,438	\$ 4,576	\$ 1,075	\$ 1,226	\$ 9,391	\$ 3,603	\$ 4,490	\$ 2,510	\$ 1,224	\$ 8,149	\$ 53,991	\$ 42,652

For More Information

Please visit www.wsask.ca or SaskH2O.ca.

Inquiries 306-694-3900

Email: comm@wsask.ca

Appendix A

25 Year Saskatchewan Water Security Plan Report for 2018-19

Action Number	Action Description
1.1a	<p>Promote adoption of best conservation and efficiency practices and technology through education, regulations, water licence conditions and new programming</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA is developing a new water allocation policy that will provide guidance on water licensing conditions around efficient water use.</p>
1.1b	<p>Investigate pricing strategies as a means of promoting water conservation</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: It is anticipated that this work will be incorporated into the ongoing development of an allocation policy, which could be initiated in 2019/20.</p>
1.1c	<p>Work with partners to promote research and development of innovative technology that improves the efficient use of water</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: This action was abandoned in Spring 2015.</p>
1.2a	<p>Evaluate existing water supplies and future demands for the next 25 years and beyond to determine the need for new infrastructure across the province</p> <p>Completion Target Year: 2016 and Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: A number of specific projects associated with this action have been completed via the Strategic Integration Unit; however, reassignment of WSA resources has left the action as Dormant/Pending. Therefore, WSA will revisit the purpose and utility of this action as part of a 25 Year Water Security Plan renewal.</p>
1.2b	<p>Investigate alternative measures to increase the delivery of water from Lake Diefenbaker to Buffalo Pound Lake, including evaluation of the feasibility of the Qu'Appelle South Irrigation Project</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2014-15.</p>
1.2c	<p>Examine alternative ways of instituting the concept of "user-pay" with respect to the development of additional provincially owned, multi-purpose water supply infrastructure</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2014-15.</p>

Action Number	Action Description
1.3a	<p>Develop a modern system of water allocation, including a new allocation policy and regulations</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Work on allocation policy in support of new legislation could begin in 2020/21 with an affirmative response to the call for legislation.</p>
1.3b	<p>Review existing water rights licences and assess current water use</p> <p>Completion Target Year: 2014 (priority)/2016 (other)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: All existing industrial, municipal, and “other” surface water files have been reviewed. A review of irrigation files, with the exception of the southwest region, has been completed. A prioritized review of SW irrigation files is ongoing and being carried out in conjunction with a number of programs to divest provincial and federal irrigation assets, transfer community pastures, and a review of backflood irrigation projects that may require drainage approvals.</p>
1.3c(a)	<p>By watershed, determine the existing use of water, level of protection of environmental flows, how much water is available for future allocation, and identify areas where water scarcity may be a factor</p> <p>Completion Target Year: 2014 (priority)/2016 (other)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Water use data is collected and compiled annually with the ability to report use by watershed as well as by sector. Development of standard reporting products for use in internal and external communication is ongoing with the Communications Unit.</p>
1.3c(b)	<p>By watershed, determine the use of water, level of protection of environmental flows, how much water is available for future allocation, and identify areas where water scarcity may be a factor</p> <p>Completion Target Year: 2014 (priority)/2016 (other)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Some work was completed on future water availability for allocation in selected priority watersheds. This was done by the Strategic Integration Unit; however, that work ceased when the work unit was dissolved. Responsibility for assessing protection of environmental flows and scarcity has never been assigned.</p>
1.4a	<p>Work with Canada to continue to assess and seek funding support for further irrigation opportunities</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: The Canadian Agricultural Partnership began on April 1, 2018 and provides irrigation programming for new irrigation development and environmental efficiency programs. The program was accessed and funds were paid out for both the development and environmental efficiency programs. As of April 30, 2019, there has been \$65,629.87 paid for new irrigation development for a total of 263 acres. In addition, \$314,654.72 has been paid out to support existing irrigators adopt irrigation environmental efficiency programs. The total paid out for the irrigation portion of the CAP program is \$380,284.59.</p>
1.4b	<p>Develop an irrigation strategy that prioritizes opportunities for infill and new irrigation projects for development and assess the need for irrigation infrastructure rehabilitation</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: Completed in 2014. The Ministry of Agriculture hosted an irrigation stakeholder meeting in November 2015 to obtain industry feedback. The Ministry plans to keep the irrigation strategy current through ongoing dialogue with the irrigation industry and incorporating revisions, where possible, while maintaining strategy ownership.</p>

Action Number	Action Description
1.4c	<p>Work with Canada to transfer ownership of federal irrigation projects to local patrons</p> <p>Completion Target Year: 2019</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: Discussions with federal-provincial governments on the transfer of the ownership of federal irrigation projects to local patrons continue. The federal government extended its self-imposed deadline of March 31, 2017, by two years to focus on the transfer of federal dams.</p>
1.4d	<p>Develop new criteria for allocation licensing based on best practices and new technologies to sustainably support irrigation</p> <p>Completion Target Year: 2017</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: Completed in 2018. New irrigation water licenses are being issued by Water Security Agency based on actual usage requirements and availability in consultation with the Ministry. Irrigation districts water licenses will be similarly updated by Water Security Agency in the future.</p>
1.5a	<p>Continue work with research partners on climate change impacts to identify possibilities for adaptation</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA continues to work with researchers on gaining greater understanding on the climate conditions affecting water quality and aquatic habitats in the province. In 2017-18, new work started on acquisition of weekly time series water flow information for major streams in southern Saskatchewan including the following rivers: South Sask River, North Sask River, Qu'Appelle River, and Souris River. This work is expected to be completed in 2019-20. WSA is also contributing to research and adaptation efforts to prepare and adapt for hydrological drought and flooding through the NRCan Building Regional Adaptation Capacity and Expertise (BRACE) program and floodplain mapping programming respectively.</p>
1.6a	<p>Develop detailed aquifer maps</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Rather than focusing on maps, the agency is focusing on describing and understanding individual aquifers (i.e., characteristics, flow dynamics, etc.) as opposed to mapping the spatial extent and distribution of the groundwater resources.</p>
1.6b	<p>Analyze the water supply situation in the major rivers</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: A number of specific projects associated with this action have been completed via the Strategic Integration Unit; however, reassignment of WSA resources has left the action as dormant/pending. Therefore, WSA will revisit the purpose and utility of this action as part of a 25 Year Water Security Plan renewal.</p>
1.6c	<p>Determine the existing water use by sector and delineated by the major basin</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2013-14.</p>
1.6d	<p>Examine projected water demand by sector within major basins to the year 2060</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2013-14.</p>

Action Number	Action Description
1.6e	<p>Identify environmental flows to support the aquatic ecosystem</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Survey results shared with Southwest region and implications for water management discussed.</p>
1.7a	<p>Determine economic value of water in alternative uses</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. A final report has been received and will be incorporated into the development of an allocation policy.</p>
1.7b	<p>Assess how the economic value of water could be used in allocation decision making</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Final report has been received and will be incorporated into the development of allocation policy.</p>
2.1a	<p>Review and update the province's approach to safe drinking water, including consideration of the 2002 Laing Report and the 2002 Safe Drinking Water Strategy</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Two-thirds complete. Awaiting related meeting and feedback from Saskatchewan Health. Further review and analysis also intended.</p>
2.1b	<p>Investigate and encourage opportunities for regional water treatment plants and distribution pipelines to increase access to, and protection of, high quality drinking water</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The Agency is working with SaskWater, Government Relations, SaskBuilds and Economy to develop background information on economic feasibility of regional drinking and wastewater systems based on a Strategic Utility Pilot, which was completed with Government partners via a contract with McNair Business Consulting previously.</p>
2.1c	<p>Evaluate the financial needs of communities for operation, maintenance and renewal of water infrastructure</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. During 2015, Water Security Agency required 188 municipalities to do assessments of their waterworks. The assessment included examination of the financial viability of drinking water systems including: annual operation and maintenance costs of the municipal waterworks, an estimate of the capital replacement costs of any major system components that are expected to require replacement within the next 10 years, approximate cost estimates for anticipated non-routine maintenance, upgrades or expansions, and recommendations of appropriate water rates to meet future costs. Waterworks system assessment on smaller systems were completed in previous years. A Strategic Utility Pilot was also completed with Government partners via a contract with McNair Business Consulting to develop a strategic approach to regional utility development and evaluate the feasibility and financial factors influencing the development of regional systems was completed.</p>

Action Number	Action Description
2.1d	<p>Develop a strategy to encourage communities to renew drinking water infrastructure</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: The province has committed to be a funding partner under the federal New Building Canada Fund and Clean Water and Wastewater Fund. In 2018-19 Saskatchewan announced federal and provincial funding for 20 projects that have a municipal drinking water component with total project costs of \$88.0 million. Both programs are fully allocated. Drinking water infrastructure renewal will also be supported through the federal Gas Tax Fund. Municipalities are also able to utilize unconditional Municipal Revenue Sharing funds for infrastructure projects at their discretion. Priority northern municipal water projects continue to be addressed with project management support from SaskWater. The Northern Water and Sewer Program provided funding to upgrade water and sewer systems in northern communities. Northern water and wastewater projects are also receiving funding under the New Building Canada Fund and Clean Water and Wastewater Fund.</p>
2.1e	<p>Assess, with federal and First Nations governments, opportunities for the province to provide infrastructure, including connections to regional water systems, and technical and inspection services on reserves on a cost-recovery basis</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Information and assessment of the option for provision of drinking water via regional infrastructure is performed during meetings, public events and interaction with First Nations, as well as during general educational efforts on safe drinking water. WSA will be evaluating the provision of inspection services as regulations are developed pursuant to <i>The Safe Drinking Water for First Nations Act</i>.</p>
2.2a	<p>Review and rationalize the regulatory regime applying to semi-public systems</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Some consideration of this is being incorporated into the review for item 2.1. Anticipate progress over 2019-20 fiscal year. Also awaiting related meeting and feedback from Saskatchewan Health.</p>
2.2b	<p>Support research on water treatment technologies for point of use/point of entry (POE) water systems</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Final report on the Coteau Hills Rural Water Pipeline was received. Trial POE system failed to meet turbidity requirements. Currently considering what other options are feasible for provision of potable water to those served by raw water pipelines and small communities. WSA met with SARM in 2018-19 to discuss another POE trial or options for provision of safe water such as hygienic designation or trials of POE systems. Expect ongoing work in 2019-20.</p>
2.3a	<p>Implement an effective education and information strategy to raise awareness of drinking water safety issues, including information on proper well management, system operation and maintenance, water quality testing, and identification of and solutions for groundwater quality problems</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: During 2018-19, eleven factsheets and 23 publications related to drinking and wastewater management were updated in 2018-19. A factsheet on Molybdenum as it applies to Surface Water Quality Objectives was developed. Guidance documents for use by WSA staff were also developed. Two training workshops for water and wastewater operators were presented by WSA staff in conjunction with the Saskatchewan Water and Wastewater Operator's Association.</p>

Action Number	Action Description
2.3b	<p>Encourage testing of private water supplies, including testing for heavy metals</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. WSA's rural water quality program has essentially ended - this was the primary avenue by which this initiative was delivered; however, through the SaskH2O website, information of water quality and testing for private wells is provided in an ongoing manner.</p>
2.3c	<p>Provide water testing and treatment advice in at risk locations during emergency events such as flooding that pose a high risk of drinking water contamination</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Generally when emergency conditions exist that threaten water supplies, WSA fulfills this ongoing role, although there were no significant events in 2018-19. For example, during the Husky Energy oil spill into the North Saskatchewan River, WSA conducted water quality sampling, provided advice to affected municipalities as to when to close intakes, and provided advice and direction on use of alternative sources while intakes were closed. WSA reviewed water quality data collected by WSA and Husky, as well as Husky's HHRA report to determine when intakes could be redeployed. Also WSA altered affected municipal Permits to Operate monitoring schedules to ensure water quality information was provided to consumers.</p>
3.1a	<p>Evaluate the status of existing municipal wastewater facilities to determine needs for upgrades</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. WSA completed a technical assessment of the status and capacity of all regulated wastewater systems in Saskatchewan in 2015-16. Also completed evaluation of risk assessments for wastewater systems subject to the Wastewater System Effluent Regulations and the Canadian Council of Ministers of the Environment Canada-Wide Strategy for Municipal Wastewater Effluents. Tracked the status of municipal wastewater facility for compliance with standards as a means to direct needed upgrading priorities. Work intended by the 25 year plan is complete, however WSA is tracking progress on upgrades to wastewater treatment systems given the WSER, MWW and regulatory implications/requirements. Work to implement wastewater systems subject to provincial requirements and the federal Wastewater System Effluent Regulations was undertaken in 2018-19 and will continue in future years.</p>
3.1b	<p>Develop an agreement with Environment Canada (now ECCC) for coordinated implementation of the Canadian Council of Ministers of the Environment Municipal Waste Water Effluent Canada-Wide Strategy and the federal Wastewater System Effluent Regulations</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. As of July 2015, an agreement was in place with Environment Canada for WSA to deliver the Wastewater System Effluent Regulations in Saskatchewan. Two coordination committee meetings were held with Environment Canada and implementation under the agreement will continue. WSA initiated discussion of renewal of the administration agreement with Environment and Climate Change Canada in late 2018-19.</p>

Action Number	Action Description
3.1c	<p>Develop a strategy to encourage the renewal of municipal wastewater treatment infrastructure to ensure protection of water quality in receiving water bodies</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: The province has committed to being a funding partner under the federal New Building Canada Fund and Clean Water and Wastewater Fund. In 2017-18, Saskatchewan announced provincial funding for 38 projects that have a municipal wastewater component with total project costs of \$54.8 million. Wastewater infrastructure renewal will also be supported through the federal Gas Tax Fund. Municipalities are also able to utilize unconditional Municipal Revenue Sharing funds for infrastructure projects, at their discretion. Priority northern municipal water projects continue to be addressed with project management support from SaskWater. The Northern Water and Sewer Program provided funding to upgrade water and sewer systems in northern communities. Northern water and wastewater projects are also receiving funding under the New Building Canada Fund and Clean Water and Wastewater Fund.</p>
3.1d	<p>Develop coordinated policies to reduce risk of water contamination that may result from residential wastewater management in high density rural developments and cottage subdivisions</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Progress has been made in policy discussions with Government Relations with regard to application of needs for proper communal wastewater treatment systems in communal settings. Requirements for engineered communal sewage works are now being included through subdivision-based developments.</p>
3.1e	<p>Define water quality objectives, including nutrient-related objectives, for surface water bodies and watercourses in the province, beginning with the highest priority systems and including work on key transboundary sites</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Water Quality Objectives developed and implemented Prairie Provinces Water Board (PPWB) interprovincial sites at six locations on the AB/SK border and six locations on the MB/SK border. Work is ongoing through the Qu'Appelle Basin nutrient loading study to better understand and define the levels of nutrients entering that priority watercourse. WSA has implemented more stringent effluent nutrient quality criteria for upgraded sewage works. 2018-19 and 2019-20: work underway to better define surface water quality nutrient objectives, particularly on the Qu'Appelle River. Further review of PPWB objectives for certain parameters, as well as excursion reporting, will get underway in 2019-20.</p>
3.1f	<p>Implement a recreational lake water quality monitoring program for swimming areas at lakes across the province</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Ministry of Health</p> <p>Update: Completed. Base program is now considered to be implemented and will be delivered annually.</p>
3.1g	<p>Provide information and encourage the implementation of beneficial land and water management practices to reduce non-point sources of nutrients and other contaminants to surface and groundwater</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Provided coordination of WSA support to field delivery of Ministry of Agriculture (MOA)-led Canadian Agricultural Partnership (CAP), water-related programming through WSA technologists for the first year of the program. Coordinated WSA policy & technical input into MOA-led development of the balance of the five-year program. Provided grant administration, technical advice, training, performance monitoring and reporting services to 11 Watershed Stewardship Groups as primary delivery model for CAP.</p>

Action Number	Action Description
3.1h	<p>Complete the Boreal Watershed Initiative</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Ministry of Environment</p> <p>Update: In 2015-16, the Ministry of Environment concluded the five-year study assessing the health of watersheds in northern Saskatchewan. The Ministry of Environment finalized a comprehensive report in 2016-17 summarizing the findings with some 45 technical reports and associated geospatial databases. All technical reports and databases are available at the attached link below or on digital media upon request. A few manuscripts from this report are still pending publication within the peer-reviewed literature.</p> <p>https://publications.saskatchewan.ca/#/products/86547</p> <p>Launched in 2011, the ministry's Boreal Watershed Initiative provides a baseline assessment on the health of Saskatchewan's northern watersheds. Saskatchewan's Boreal region contains some of the largest and highest quality freshwater resources on Earth. The quality and availability of this natural freshwater reservoir is dependent upon the integrity of these watersheds.</p> <p>This study provides an understanding of the state of the environment and potential changes we may be seeing on the landscape. Researchers and consultants can use these results to identify regional environmental responses to multiple land uses by industry and others.</p>
3.1i	<p>Define a strategy to reduce the contamination risk posed to groundwater sources by abandoned water wells</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2013-14. Through the five-year Canadian Agricultural Partnership (CAP), funding by federal and provincial governments is available to support water development and environmental programming. This includes the Farm and Ranch Water Infrastructure Program (FRWIP) which supports improved public safety and the reduction of potential groundwater contamination through rural well decommissioning. Through FRWIP, well decommissioning projects are eligible for a rebate of 90 per cent of eligible costs to a maximum payment of \$150,000 per project.</p>
3.1j	<p>Negotiate with Canada a new commitment to continue the Environmental Farm Plan Program, with a focus on nutrient management and protection of water supplies</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: Completed in 2013-14.</p>
3.2a	<p>Prepare a new provincial wetland policy that includes an assessment of the status of wetlands in the province and identification of conservation priorities, including a strategy to retain and restore wetlands</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Work on this file has been delayed until the Wetland Loss Mitigation Policy is developed within the Agricultural Water Management Strategy. The Wetland Loss Mitigation Policy is one part of the overall provincial wetland policy.</p>
3.3a	<p>Establish site-specific objectives for environmental flows in priority surface water systems</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Qu'Appelle discussions complete. Cypress Hills/Mountain Sucker discussions complete.</p>

Action Number	Action Description
3.3b	<p>Prepare an aquatic alien species strategy to identify and address significant threats to biodiversity and ecosystem health</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Ministry of Environment</p> <p>Update: The Ministry of Environment developed a draft Aquatic Invasive Species (AIS) Strategy in consultation with other government agencies and NGOs in early 2017. The Government of Saskatchewan has implemented several actions to prevent aquatic invasive species from entering our province and doing harm to waters they invade.</p> <p>Prevention is of the utmost importance. The government has focused on public awareness through education and targeted signage about the Clean, Drain, Dry program, roadside boat inspections, decontaminations and regular monitoring of Saskatchewan's busy waterbodies.</p> <p>Saskatchewan also partners with provincial organizations, Canada Border Services Agency, and provincial governments in British Columbia, Alberta, Manitoba and the Yukon to coordinate prevention on a regional basis.</p> <p>To date, no invasive mussels have been found within Saskatchewan.</p>
3.3c	<p>Develop protocols with the Department of Fisheries and Oceans to ensure the ongoing protection of fish habitat under the new federal Fisheries Act</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Coordination of Aquatic Habitat Protection Permitting process with Fisheries and Oceans Canada's (DFO) new approach has been achieved. Provincial-federal issues are dealt with through the Saskatchewan Fisheries Advisory Committee.</p>
3.4a	<p>Update the source water protection planning process to achieve resilient, locally appropriate source water protection plans that are informed by science to identify key local threats to source water protection, address drinking water source protection, and identify achievable solutions for implementation</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: A pilot project with five watershed stewardship groups (WSG) to develop a source water protection (SWP) extension program was completed in 2017. Further progress involves completing the community inventory and risk assessment for another three watersheds in 2017-2018, and again for an additional eight watersheds in 2018-2019. Next year's work involves completing provincial coverage as well as involving the remaining four WSGs. As well, SWP planning processes have been delivered in 12 communities since 2014 and that work will continue with more at-risk communities.</p>
3.4b	<p>Work with Saskatchewan Association of Watersheds to more clearly identify the future roles and responsibilities of watershed and aquifer planning groups, including the renewal of source water protection plans</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: As Saskatchewan Association of Watersheds (SAW) experienced governance issues in which member watershed stewardship groups cancelled their membership in 2018-2019, WSA will need to assess the role of SAW as it develops over the coming months in order to progress further on this action.</p>

Action Number	Action Description
3.4c	<p>Evaluate the need to expand source protection planning to additional watersheds or aquifers</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Leadership decision around role of Saskatchewan Association of Watersheds needs to progress further on this action.</p>
3.4d	<p>Assess and renew the approach to implementing source water protection plans to ensure that threats to source water are mitigated into the future</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: A source water protection extension program pilot project report, March 2017, was advanced to executive and direction has been given to proceed with the program (see action 3.4a).</p>
4.1a	<p>Implement the Water Security Agency's 10-year plan for infrastructure rehabilitation and dam safety</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The major initiatives in the 10-year plan have been addressed with the exception of the Crooked Lake Structure replacement, which is behind schedule.</p>
4.1b	<p>Establish legislative requirements for dam safety for both public and private dams and identify long-term strategies for compliance</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The legislative requirements for dam safety for both public and private dams have been identified. The decision was made to approach this without going through legislative renewal. Therefore, no long-term strategies for compliance are in place at this time.</p>
4.1c	<p>Complete emergency preparedness plans for major Water Security Agency dams</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2013-14.</p>
4.2a	<p>Review existing reservoir operating plans and update them on a priority basis</p> <p>Completion Target Year: 2014 (priority)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The template for Reservoir Operating Plans and Reservoir Management Manuals has been completed; however, the priority of order to complete the actual Reservoir Operating Plans will be determined as part of a more comprehensive work plan discussion.</p>
4.2b	<p>Negotiate transfer of federally-owned infrastructure to the province where appropriate to meet provincial interests</p> <p>Completion Target Year: 2017</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Twenty federal dams were transferred as of midnight March 31, 2017.</p>

Action Number	Action Description
5.1a	<p>Develop improved flood forecasting tools</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Based on the Recommendations for Saskatchewan Hydrologic Modelling report, which the Centre for Hydrology at the U of S completed in late 2016, Flood Forecasting and Operations Planning (FFOP) is currently completing a model inter-comparison project, building four hydrologic models for two test basins to assess which model is the best fit for runoff forecasting in Saskatchewan. An additional model will be evaluated by a PhD student at the University of Waterloo. This study is expected to be completed in fall 2019. Work is also underway to build hydraulic models for the Qu'Appelle River and Swift Current Creek and reservoir simulation models for the Qu'Appelle Lakes and Reid Lake. Some models were tested successfully during the 2019 freshet. The unit is also dedicating resources towards the Souris River Plan of Study, which will yield several tools that can be deployed operationally post study to improve forecasting and reservoir management in the basin.</p>
5.1b	<p>Develop a provincial emergency flood response plan that addresses community, individual and local government responsibilities</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: Completed. The all-hazards Provincial Emergency Management Plan is reviewed annually and updated as needed.</p>
5.1c	<p>Develop a strategy to ensure communities and the public have access to flood hazard information and are aware of potential flood risks</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Updating floodplain mapping is on the 2018-19 workplan. WSA is working with Public Safety Canada's - National Disaster Mitigation Program in fiscal year 2019-2020 on a pilot project to provide 21 flood-prone communities with access to modern flood map and model products as the result of intensive risk assessment investigations performed in 2018-2019 and undertaking a rigorous program application process. As well, a Community Flood Vulnerability Assessment Report was published in 2017 performing a risk assessment of 75 communities. This was expanded and refined and considered more sources of information and 23 additional communities in 2018-2019. As of March 2019, the floodplain mapping initiative has identified 98 communities in Saskatchewan susceptible to flooding. Programming to advance floodplain mapping is underway for 2019-20 to address up to 20 of these 98 communities depending on extent of work required and available funds. LiDAR acquisition initiated in April 2019.</p>
5.1d	<p>Undertake a flood risk assessment of municipal drinking water and wastewater infrastructure</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. WSA's Environmental Project Officers have general awareness of the flood risk to drinking water and wastewater infrastructure. As of March 2019, the Floodplain mapping initiative has identified 98 communities in SK susceptible to flooding. Programming to advance flood plain mapping is underway for 2019-20 to address up to 20 of these 98 communities depending on extent of work required and available funds. LiDAR acquisition initiated in April 2019.</p>

Action Number	Action Description
5.1e	<p>Encourage municipalities to map flood risk areas associated with undercapacity of wastewater and storm sewer infrastructure as projected in the Insurance Bureau of Canada's report on impacts associated with climate change</p> <p>Completion Target Year: 2020</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: The province continues to implement a broad disaster mitigation strategy with a focus on flood risk, in part to capture funding under the federal National Disaster Mitigation Program (NDMP). The province assisted Corman Park and Saskatoon in obtaining NDMP flood map funding and continues to assist Prince Albert with an application. The province is also developing a multi-municipal flood mapping application(s) for the final 2018 program intake with the project to be completed in 2020.</p>
5.1f	<p>Implement the flood protection and prevention measures established in The Statements of Provincial Interest Regulations (SPI) into local official community plans and zoning bylaws</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: This is ongoing, and is being implemented as communities renew their official community plans and zoning bylaws. In 2018-19, 42 new planning bylaws were approved with flood prevention and protection measures as contained within SPI. In addition, 978 subdivisions totaling 2,362 sites were approved that meet the flood protection standards contained within The Statements of Provincial Interest Regulations.</p>
5.1g	<p>Pursue negotiations with Canada to develop and implement a new long-term federal-provincial program for flood mitigation as part of an all hazards program</p> <p>Completion Target Year: 2028</p> <p>LEAD AGENCY: Ministry of Government Relations</p> <p>Update: The province continues to work with the Government of Canada in addressing disaster reduction for communities under the National Disaster Mitigation Program (NDMP). In 2015, Saskatchewan was approved for NDMP funding to complete a provincial natural hazard risk assessment to rank our most costly and dangerous natural hazards. This work was completed in fall 2018 by the Saskatchewan Research Council. The province also assisted Corman Park, Saskatoon and Prince Albert access this federal funding. The final NDMP intake concluded in October 2018 and all projects must be completed by March 31, 2020.</p>
5.2a	<p>Assess the range of alternatives and implement strategic actions to manage drainage</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. WSA has implemented The Agricultural Water Management Strategy. As part of the Strategy, new policies and processes are developing and evolving, and efficiencies are being gained. WSA continues to focus efforts in achieving compliance in the vulnerable watersheds and areas with high numbers of complaints.</p>
5.2b	<p>Develop a results-based drainage works approval process and associated enforcement strategy, including the potential use of financial penalties</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA has developed a new drainage works approval process and is continuing to work on the compliance and enforcement strategy. An essential component of the new process is the communication component of the new Strategy, which will help agricultural producers to understand and move towards compliance. This communication component is developed and awaiting release in 2019-20.</p>

Action Number	Action Description
5.2c	<p>Develop new strategies to effectively address excessive moisture concerns on agricultural lands, including provision of information and advice on proper drainage design and management and consideration of the benefits of wetland retention and restoration</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The Minister appointed members of the Ag Water Management Policy Advisory Committee to help develop an Agricultural Water Management Impact Mitigation Policy acceptable to agricultural producers and those outside the agricultural community. A set of recommendations related to the wetland impact mitigation policy was delivered by the committee in April 2019 and is being evaluated.</p>
5.3a	<p>Develop a coordinated provincial drought response plan that includes monitoring, preparedness, response, and recovery approaches</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Ministry of Agriculture</p> <p>Update: Completed in 2016. The agricultural drought response plan was completed in the 2015-16 year. Work on a provincial hydrological drought strategy re-initiated in late 2018-19.</p>
5.3b	<p>Develop new regulations for water allocation to help manage water shortages during droughts</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Working on development of water allocation legislation. Water allocation regulations will follow the legislation. A drought strategy needs to be developed.</p>
6.1a	<p>Complete a strategic review of major monitoring programs, including surface water, groundwater and water quality</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. This was completed in 2015-16 Q1 with Weather Innovations launching our precipitation data mapping site. A more collaborative approach with other provincial agencies to establish a Saskatchewan mesonet (a network of automated weather and environmental monitoring stations) is being investigated by the SRC. WSA completed an assessment of water quality monitoring activities at primary network monitoring sites in Saskatchewan in 2018-19.</p>
6.1b	<p>Develop an integrated geographically referenced database to provide government-wide and public access to water-based information</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The public on-line Water Wells application has been upgraded to a location-based platform; however, the development of an integrated geographically referenced database to provide access to all water-based information is behind schedule.</p> <p>We have deployed the first version of the Application for Drainage Application Mapping (ADAM), and have provided a demo to all regional technicians as well as with Manitoba government in a learning session to understand how both agencies are managing drainage.</p> <p>Development of an Information Management Plan for WSA is a pre-requisite for continued work on the above; however, this work is scheduled to commence in 2019-20.</p>

Action Number	Action Description
6.1c	<p>Consolidate precipitation data and information through the development of cooperative agreements and partnerships with government and non-government organizations</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. A cooperative agreement with Weather Innovations Network for rainfall mapping products has been signed.</p>
6.2a	<p>Establish protocols for informing the public during emergencies related to flood, drought, infrastructure failure, and water quality and drinking water concerns</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2014-15. The work completed was directly related to the SaskAlert System which is the Government of Saskatchewan's emergency public alerting program that provides critical information on emergencies in real time. Saskatchewan ministries, crowns and agencies of the Province have the ability to issue alerts for their areas of responsibility when emergency events are occurring that have the potential to affect life and safety.</p>
6.2b	<p>Develop a user-friendly water information portal on the new Water Security Agency web site to make information on water and water management issues widely available</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The wells database is nearly ready to be posted on the WSA's website using Geocortex. The intent is to follow with other data sets.</p>
6.2c	<p>Report on progress in implementing the 25 Year Water Security Plan</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Reported by means of this document.</p>
6.2d	<p>Publish the State of the Watershed Report every five years in an expanded form which can be applied by government in the renewal of the <i>25 Year Saskatchewan Water Security Plan</i> and by the public in decision making</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA will provide material for State of Environment Report, but will no longer publish a State of the Watershed Report.</p>
6.3a	<p>Support the work of the Global Institute for Water Security at the University of Saskatchewan in their assessment of the water supply and quality issues in the South Saskatchewan River</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: The research agenda of the GIWS has changed substantially since the creation of that organization which at the initial time had a significant focus on the South Saskatchewan River Basin. Work on Lake Diefenbaker was determined to be completed after Dr. Jeff Hudson lost a graduate student and the associated contract was altered. WSA does however discuss and collaborate with the GIWS and more recently serving on Global Water Futures research initiative in an advisory and review capacity. WSA anticipates further work to better understand drought, flood and water quality issues across Saskatchewan, as well as learn from ongoing research in the province to help the agency better manage water in the future.</p>

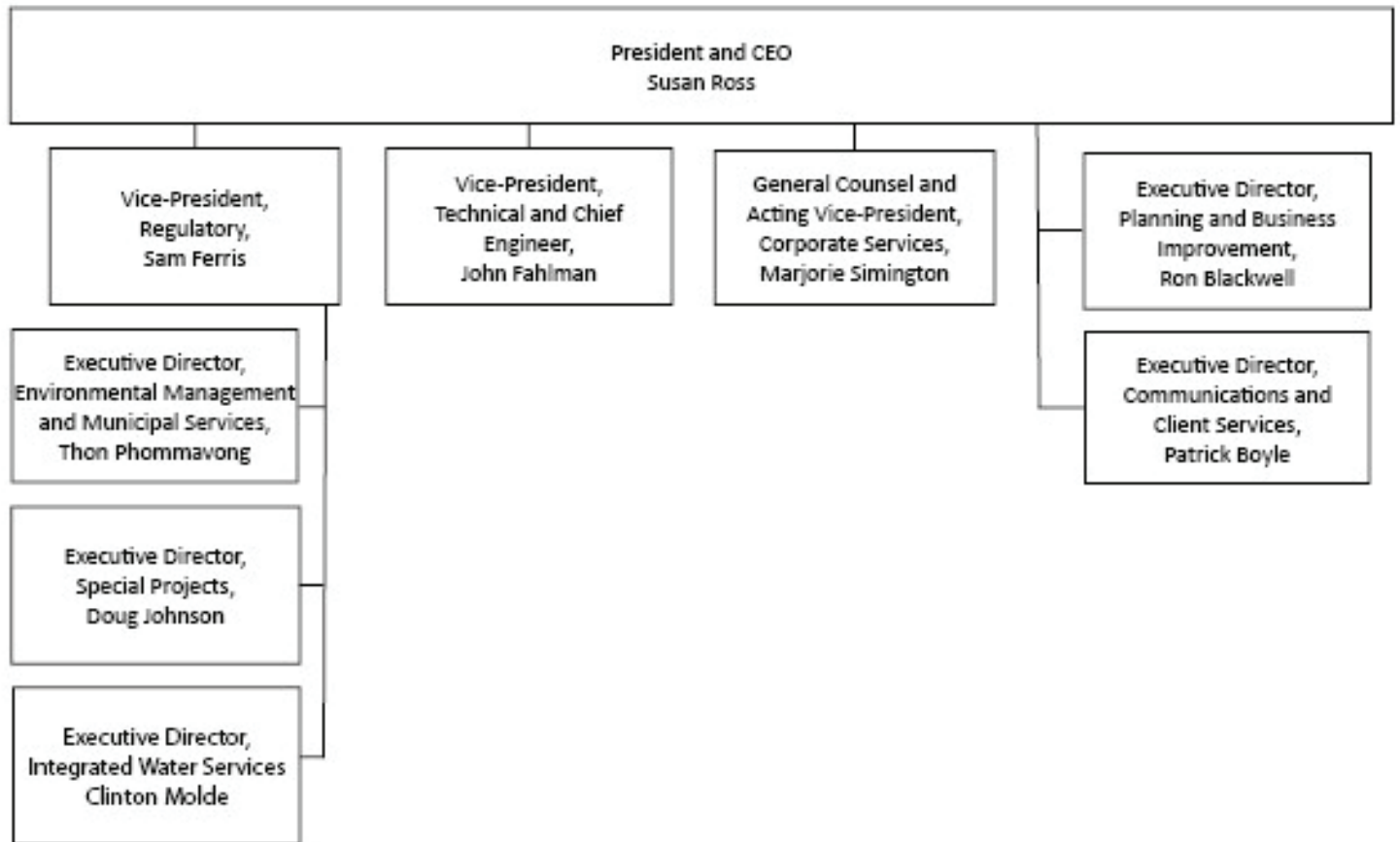
Action Number	Action Description
6.3b	<p>Identify opportunities to collaborate with external academic and research partners on defining and undertaking strategic research initiatives</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Five-year FloodNet flood forecasting improvements project, in collaboration with McMaster University, is now complete. Development of FloodNet2 funding proposals underway, with project to be initiated in 2020-2021 if funding secured. WSA has also engaged in work with the Prairie Adaptation Research Collaborative to better understand future water supply through evaluation of historical tree ring research. Agricultural producer drainage policy focal group sessions underway, in collaboration with Communications and with funding from PHJV.</p> <p>Development underway of project with Baulch and others to address social and biophysical factors related to drainage with support of PHJV. Provided input into funding proposal by Global Institute for Water Security to Lake Winnipeg Basin Fund to assess drainage impacts on nutrients. Phase 2 of GIWS-Strickert social hydrology project in the Qu'Appelle deferred until Winter 2019-2020. Lower Souris Watershed group assessment of factors including drainage affecting Moosomin Reservoir continues. First scoping year of the Ministry of Agriculture Proactive Stewardship Pilot (Targeted Approach) to monitor efficacy of Beneficial Management Practices on spring runoff water quality in Tetreau/Patriotic Creek complete.</p> <p>Providing governance input to prairie drainage research project led by GIWS. Providing input to phase 2 assessment of nutrient BMP efficacy in the Qu'Appelle led by GIWS. Information received from Creed (GIWS) on NSERC funded project to assess drainage impacts on nutrient sequestration, and Davies participating on two graduate student committees. Third year of neonicotinoid monitoring to support Ministry of Agriculture and Grower Groups initiated at BEMLOSS sampling stations.</p>
7.1a	<p>Develop modern and comprehensive water legislation</p> <p>Completion Target Year: 2014</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: No expectation that legislation will be brought forward until fiscal 2021/22.</p>
7.2a	<p>Establish provincial Deputy Ministers' Water Committee</p> <p>Completion Target Year: 2013</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Committee held one meeting.</p>
7.2b	<p>Work with Canada to identify opportunities to improve regulatory and program coordination and collaboration</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA has a protocol agreement with Fisheries and Oceans Canada (DFO) and Environment Canada to discuss issues of concern. WSA has reviewed the existing protocol agreement and has offered to meet with Canada to renew the agreement.</p>
7.3a	<p>Develop improved models for engagement with First Nations and Métis to better understand their perspectives on water and water management and facilitate effective working relationships</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA is moving from a model focused on training staff to a new model based on the success WSA has working with non-aboriginal communities. One key shift is to move from a dialogue centered on adverse impacts to an interest-based and collaborative approach. The second key shift is to do this on a case-by-case basis using a mentoring approach rather than through training.</p>

Action Number	Action Description
7.3b	<p>Where water management decisions may have an adverse impact on the exercise of treaty and aboriginal rights and pursuit of traditional uses, consult with First Nations and Métis in accordance with the First Nations and Métis Consultation Policy Framework</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA continues to consult with First Nation and Métis local governments regarding regulatory approvals or planning initiatives to identify potential adverse impacts to treaty or Aboriginal rights and to seek options for avoiding or mitigating such impacts.</p>
7.4a	<p>Establish the Provincial Water Council with sector-based representation</p> <p>Completion Target Year: Abandoned</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: This action has been abandoned. WSA has developed an engagement strategy which includes regular meetings with major stakeholders instead of a water council.</p>
7.5a	<p>Investigate new approaches to engage the public and local governments on water issues and decisions of importance to them</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. WSA has developed a new engagement strategy.</p>
7.6a	<p>Continue to work with the Prairie Provinces Water Board to evaluate the resiliency of the Master Agreement on Apportionment</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed. Work to continue as ongoing issues arise.</p>
7.6b	<p>In support of the Mackenzie River Basin Board, negotiate bilateral agreements with Alberta and Northwest Territories</p> <p>Completion Target Year: 2016</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Work is on hold pending other priority items.</p>
7.6c	<p>Continue to work with the International Souris River Board of the International Joint Commission (IJC) to establish an enhanced operating plan for Rafferty and Grant Devine (formerly Alameda) reservoirs</p> <p>Completion Target Year: 2015</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Inflow design flood confirmation to come followed by drafting of the reservoir operating plan and solicitation of United States feedback. Cooperating with IJC on moving the study forward.</p>
7.6d	<p>Continue to support the work of the Council of the Federation Water Stewardship Council to use information and experience from other jurisdictions across Canada to address water problems in Saskatchewan</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Completed in 2013-14. Study aquifers around Regina and Estevan area. Develop and maintain models of different basins. Work to continue as ongoing issues arise.</p>

Action Number	Action Description
7.6e	<p>Continue to work with the Canadian Council of Ministers of the Environment to address emerging water issues common to all jurisdictions</p> <p>Completion Target Year: Ongoing</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: WSA continues to participate on the CCME Water Management Committee to address water related issues common to jurisdictions across Canada. Saskatchewan is providing input into prioritization of emerging water issues in order to direct Water Management Committee work over the next several years.</p>
7.7a	<p>Undertake comprehensive water management analyses for priority surface and groundwater systems</p> <p>Completion Target Year: 2014 (priority)/2016 (other)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Refinements and improvements associated with this action item have progressed; however, the work has evolved since the action was originally developed. Therefore, WSA will revisit the purpose and utility of this action as part of a 25 Year Water Security Plan renewal.</p>
7.7b	<p>Implement new watershed modeling and database management systems to allow efficient evaluation of new requests for water and ensure that cumulative effects are considered</p> <p>Completion Target Year: 2014 (priority)/2016 (other)</p> <p>LEAD AGENCY: Water Security Agency</p> <p>Update: Refinements and improvements associated with this action item have progressed; however, the work has evolved since the action was originally developed. Therefore, WSA will revisit the purpose and utility of this action as part of a 25 Year Water Security Plan renewal.</p>

Appendix B

Organizational Structure



Appendix C

Legislation Administered by Water Security Agency

The Water Security Agency Act

The Conservation and Development Act

The Water Power Act

The Watershed Associations Act

Portions of The Environmental Protection Act, 2010

Portions of The Public Health Act, 1994