From: Winnie Tsang [wtsang@bcwwa.org]
Sent: April-30-10 12:02 PM
To: Living Water Smart ENV:EX
Cc: Daisy Foster; 'Colwyn Sunderland'; wtsang@bcwwa.org
Subject: BCWWA Water Act Modernization Discussion Paper Feedback
Attachments: BCWWA Water Act Modernization.pdf

Importance: High

April 30, 2010

Parliamentary Secretary for Water Supply and Allocation
Water Act Modernization Submission
Ministry of Environment, Water Stewardship Division
PO Box 9362, Stn Prov Govt
Victoria, BC V8W 9M2

Re: BCWWA Response to Government on Water Act Modernization

The British Columbia Water and Waste Association (BCWWA) is an organization of approximately 4,200 members involved in all aspects of water and waste services in British Columbia. BCWWA provides leadership by facilitating the sharing of knowledge among practitioners on all matters water and waste related and provides a voice for the water and waste community in BC.

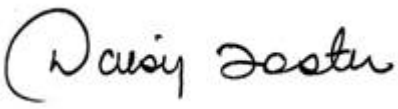
In response to the BC Provincial Government's call for input on modernization of the Water Act, BCWWA undertook a comprehensive and extensive process to prepare and develop a formal submission. In addition to a member survey which generated more than 200 responses, a committee was formed consisting of BCWWA Board members, committee chairs and subject matter experts.

Enclosed is the formal response of the BC Water and Waste Association to the Water Act Modernization.

Please do not hesitate to contact us at 604-433-4389 or dfoster@bcwwa.org if you have any questions or require further information.

Sincerely,

Colwyn Sunderland
President



Daisy Foster
CEO

Modernizing BC's
Water Act

Responding to current realities.
Setting the future course.

Water Act Modernization submission to

Parliamentary Secretary for
Water Supply and Allocation

BCWWA
BRITISH COLUMBIA WATER & WASTE ASSOCIATION

April 30th, 2010

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SYNOPSIS of BCWWA RECOMMENDATIONS

The British Columbia Water & Waste Association (BCWWA) was established in 1973 to serve the water and waste community in BC and Yukon. Its mission today is two-fold — to safeguard public health and the environment through the sharing of skills, knowledge, education and experience, and to provide a voice for the water and waste community.

Our collective voice is strong in its response to the province's call for input regarding the modernization of BC's *Water Act*. More than 200 members representing a broad cross-section of the BCWWA's water and waste community responded to a recent survey that gauged opinion about the existing act and gathered suggestions for updating it. Findings were subsequently reviewed and analyzed by an adhoc committee including BCWWA board members and industry experts. The resulting messages are reflected in the text of this document, and outline BCWWA's recommendations for responding to current realities and for setting the future course for water management in BC.

OVERARCHING RECOMMENDATIONS

1. BCWWA recommends the province abandon the First-in-Time, First-in-Right (FITFIR) approach to water allocation, and replace it with surface water and groundwater allocation decisions based on the relative **value** of water for various uses. To ensure consistency throughout the province, the new *Water Act* should outline the water allocation planning **process** needed to effectively determine the value of water in each watershed/aquifer.
2. BCWWA recommends that surface water and groundwater be considered and managed together as one resource and where applicable on a watershed basis.
3. BCWWA recommends the province retain full responsibility for administration of the *Water Act* (centralized approach), but adopt a more comprehensive consultative approach for water management decisions at the regional level.

4. BCWWA recommends that, through appropriate legislation, priority streams and aquifers be protected from individually or cumulatively significant adverse impacts of upland development or land use, in terms of both water quality and quantity.
5. BCWWA recommends that the province invest its resources for surface water and groundwater management in priority areas first (including known areas as shown in Figure 4F of the *Water Act* Modernization Technical Background Report), based on specific factors such as scarcity or contamination.
6. BCWWA favours outcome-based policies, but for stream health and allocation decisions, recognizes the need for supporting criteria, guidelines, and in some cases, enforceable standards and prescriptive regulations that can be easily updated as better information becomes available.
7. BCWWA recommends increasing resources for administration of the *Water Act*, including water quantity and quality monitoring and reporting, with costs recovered through increased fees for consumptive use licences only.

GOAL-SPECIFIC RECOMMENDATIONS

Protecting Stream Health and Aquatic Environments

1. Expand the scope of stream health provisions in the *Water Act* to include groundwater
2. Coordinate and simplify provincial stream protection regulations
3. Consider environmental flows in all water allocation decisions
4. Recognize, in appropriate legislation, the cumulative impacts of land use on surface water and groundwater quality and quantity, including return flows

Improving Water Governance Arrangements

1. Coordinate and simplify water governance legislation
2. Maintain provincial authority over water (centralized approach), but introduce a comprehensive consultative approach for water management at the regional level, with increased focus on priority areas

3. Create a “front counter” for water to provide an effective interface between government and water users
4. Recover the full cost of administering the *Water Act* by increasing fees for consumptive use licences only

Introducing More Flexibility and Efficiency in the Water Allocation System

1. Abandon the practice of First in Time, First in Right (FITFIR) for all new water licences, and phase out FITFIR for existing licences over time
2. Allocate water based on the relative value of water for various uses within a watershed or aquifer as determined by key stakeholders and other water users
3. Invest resources for surface water and groundwater management in priority areas first, based on specific factors such as scarcity or contamination.
4. Strengthen accountability requirements for existing licenses
5. Promote water-use efficiency through codes for infrastructure and practice
6. Establish certain permitted uses supported by provincial regulation and regional flexibility

Regulating Groundwater Extraction and Use

1. Consider and manage surface water and groundwater together as one resource
2. Implement Phase II of the Groundwater Protection Regulation
3. Require registration for all wells
4. Require licensing of high-volume wells, and of other wells in priority areas as determined by a water management plan

PRINCIPLES UNDERLYING THE *WATER ACT*

As outlined in the discussion paper, the following principles are intended to respond to current water management realities and to reflect modern expectations for stream health and water security. BCWWA supports these principles, as indicated by the findings of a recent member survey (level of support shown in percentages at right).

1	**BC's water resources are used within sustainable limits.**	**90%**
2	**First Nations' social and cultural practices associated with water are respected and accommodated.**	**50%**
3	**Science informs water resource management and decision-making.**	**83%**
4	**Water resource legislation, policy and decision-making processes as well as management tools are integrated across all levels of government.**	**91%**
5	**Rules and standards for water management are clearly defined, providing a predictable investment climate across the province.**	**86%**
6	**Flexibility is provided to adapt to extreme conditions or unexpected events on a provincial, regional or issue-specific level.**	**85%**
7	**Incentives are created for water conservation that consider the needs of users and investors.**	**79%**
8	**Rights to use water come with responsibilities to be efficient and help protect stream health.**	**95%**

GOALS SHAPING *WATER ACT* MODERNIZATION

The following goals, as outlined in the discussion paper, are intended to engage stakeholders in dialogue about key water management issues, and, ultimately, to shape the scope and vision of *Water Act* modernization. BCWWA responses to the goals are as follows:

GOAL 1: Protecting Stream Health and Aquatic Environments

BCWWA RECOMMENDATIONS

1. Expand the scope of stream health provisions in the *Water Act* to include groundwater

BCWWA believes that the scope of stream health should be expanded to include groundwater, as groundwater and surface water are interconnected. A significant proportion of base flow in streams is fed from aquifers, and water from streams feeds aquifers. Groundwater quality and quantity should be subject to the same protections as that of surface water.

2. Coordinate and simplify provincial stream protection regulations

Existing stream health and aquatic environment legislation — fragmented among many provincial acts and regulations — is confusing and cumbersome. BCWWA recommends this legislation be coordinated and simplified by facilitating a process during which affected ministries and agencies collaborate to identify and implement more streamlined and user-friendly approaches.

3. Consider environmental flows in all water allocation decisions

A modernized *Water Act* should be proactive rather than reactive. To that end, BCWWA recommends that, through appropriate legislation, priority streams and aquifers be protected from individually or cumulatively significant adverse impacts of upland development or land use, in terms of both water quality and quantity. The *Water Act* currently focuses on 'adequate water flows,' protecting habitat and reducing water quality impacts. A new act should make it illegal for any person to pollute a water body or aquifer, and place responsibility for the full cost of remediation on the polluter. Landowners should be responsible for avoiding or mitigating adverse impacts on priority water resources such as increased runoff volume and peak flow rates, reduced base flows and aquifer recharge, and water quality degradation due to use or development of their land. Criteria would be needed to define a priority stream or aquifer.

4. Recognize, in appropriate legislation, the cumulative impacts of land use on surface water and groundwater quality and quantity, including return flows

It is acknowledged that the relationship in provincial statutes and regulations between land use and water resources is complex, and implementing this recommendation may fall outside the scope of *Water Act* modernization. However, there is currently no clear and consistent framework for protecting streams and aquifers from upland development or use. For water quality and quantity to be effectively managed in the interconnected systems of streams and aquifers, either the *Water Act* prohibition of dumping would need to be greatly expanded, or other statutes and regulations would be required. In either case, a high degree of collaboration with other agencies, particularly local governments, would be required to implement measures to reduce land-use impacts on water resources.

BCWWA MEMBERS' VIEWS

Of the 207 BCWWA members who completed the survey, about half answered the stream health and aquatic environment questions. They said "yes" to the following —

Impacts on stream health from land and resource development should be prevented and, where necessary, mitigated	94%
Environmental flows should be considered in all water allocation decisions	90%
The *Water Act* should be amended to require that people who dump harmful substances into streams be held responsible for restoring stream health	85%

GOAL 2: Improving Water Governance Arrangements

BCWWA RECOMMENDATIONS

1. Coordinate and simplify water governance legislation

BCWWA believes that existing water governance legislation is fragmented and, therefore, confusing. With water being governed by more than 50 provincial acts and regulations, even people working within the water industry have difficulty understanding water governance. Hence, the BCWWA believes strongly that water governance in BC should be simpler, better coordinated, and more transparent. BCWWA also proposes that the *Water Act* be made the

overarching go-to legislation on water that references, where appropriate, elements that will remain within other provincial and federal acts and regulations.

2. Maintain provincial authority over water (centralized approach), but introduce a comprehensive consultative approach for water management at the regional level, with increased focus on priority areas

BCWWA believes that ultimate responsibility for water governance should be held by the province (centralized approach), and not delegated to any other government or agency. However, within that framework, we also believe the province could adopt a comprehensive consultative approach for water management at the regional level. This approach should be flexible and adaptable so that the greatest efforts are placed on the highest-priority areas, particularly in times of greatest need (e.g., water scarcity or water quality risks). For example, regional authorities such as the Okanagan Basin Water Board and the Islands Trust could become much more active in supporting the provincial management of water legislation in their areas, particularly during times of scarcity. Given the unique characteristics of each basin, this approach would help key stakeholders focus on challenges specific to their areas. To be effective, this approach must ensure clarity, coordination and consistency among all levels of government for land-use and water-use decisions that reflect best practices. The process must recognize that we live in a changing environment that requires rapid adaptation. Effective consultation will require increased investment in educating water users about the value of water, so they can contribute meaningfully to decision-making processes.

3. Create a "front counter" for water to provide an effective interface between government and water users

BCWWA supports the creation of a "front counter" for water to provide an effective interface between government and water users. This front counter would be the go-to place for information about water governance in BC, and provide referrals to other ministries and agencies where specific expertise resides.

4. Recover the full cost of administering the *Water Act* by increasing fees for consumptive use licences only

BCWWA understands that these changes in water governance will require a large investment in human and financial resources, at both the provincial and regional levels. The cost of these investments should be covered by appropriate increases in fees for all consumptive water licenses. To that end, the BCWWA supports increased license fees and a more aggressive, user-pay approach to water pricing.

BCWWA MEMBERS' VIEWS

About 60% of survey respondents answered the water governance questions. They have encountered the following water governance challenges —

A lack of coordination between different government agencies	72%
Inconsistent and overlapping enforcement of regulations	63%
Inconsistencies in water legislation and the longevity of water policies and priorities	60%
Difficulty influencing land- and water-use decisions to protect water quality	60%

More than half of respondents believe there is a lack of adequate water management legislation and regulations, and a lack of transparency in decision-making for water-use plans and licences. To address these concerns, members support —

Better coordination across all levels of government and with all major watershed stakeholders	87%
Better definitions of authority, roles and accountability at all levels	78%
Increased flexibility to respond promptly to changing needs and values	75%

Regarding provincial responsibility, members want the following —

Increased responsibility at all levels	50%
Current levels of responsibility at all levels	20%
Lower levels of responsibility at all levels	15%

Members who support increased provincial responsibility identified four priority areas —

Compliance and enforcement	77%
Drought and flood response plans and policies	74%
Integrated regulations of connected groundwater and streamwater	74%
Allocation planning and licensing of both groundwater and surface water	68%

Regarding the "shared approach" to water governance, members support the following —

Regional visioning and watershed planning	89%
Watershed restoration plans and policies	85%
Public education and outreach activities	85%
Drought and flood response planning	83%
Formal opportunities to influence land-use and resource-management planning	81%
Watershed health reporting	80%
Compliance and enforcement	77%
Water allocation planning and licensing	76%
Oversight over transfer or extension of water rights	69%

GOAL 3: Introducing More Flexibility and Efficiency in the Water Allocation System

BCWWA RECOMMENDATIONS

1. Abandon the practice of First in Time, First in Right (FITFIR) for all new water licences, and phase out FITFIR for existing licences over time

First in Time, First in Right water allocation is a product of a time in history when North American resources seemed boundless compared to the populations that relied on them. BCWWA believes the FITFIR is no longer appropriate in BC because it does not provide the flexibility to respond to changing circumstances — including climate change and changes in stream flows caused by land-use changes — and because streams are already over-allocated in several areas of BC. All existing water licences should be subject to a fixed renewal date. The renewal of a licence would provide an opportunity to amend the licence, where appropriate, based on a priority-of-use framework that reflects input from key stakeholders and other water users.

2. Allocate water based on water-specific values at a water and aquifer level

BCWWA recommends the integrated allocation and regulation of surface water and groundwater based on relative value (priority of use), as determined by key stakeholders and other water users. Relative value is determined by comparing the needs of various uses and users, and ranges from the spiritual importance expressed by First Nations, to the stream flows required by fish, to the economic benefits expected by hydro-electric producers. The future allocation of water should be based on an established hierarchy of water values within each watershed/aquifer. A robust, province-wide framework is needed to clearly define the valuation process, and to set bounds on the range of valued uses. Dialogue among watershed/aquifer stakeholders and other water users would explore allocation issues specific to their area. Discussion would focus on the value of water in the region, equitable distribution of water uses, long-term monitoring and management strategies, and the tools needed to support the resulting water allocation plan. These plans, required initially in priority areas, would also set terms on **all** water licences, which would guarantee opportunities for review and amendment of all licences over time.

For short-term water scarcity, BCWWA supports a shared (proportional reduction) approach that recognizes and rewards water efficiency. For long-term shortages, the association supports a collaborative, community-driven approach that goes beyond supply and demand side management. Allocation should be based on priority of use within a framework established by the province, in consultation with local government and other stakeholders. The priority-of-use hierarchy currently established in the *Water Act* (for licenses having the same date: domestic, waterworks, mineral trading, irrigation, mining, industrial, power, hydraulicking, storage, conservation, conveying and land improvement) requires revision. In priority areas and aquifers, environmental flow should be the top priority.

Neither the discussion paper nor the technical background report explicitly addresses the issue of managing water during times of scarcity. Many jurisdictions have adopted or are contemplating a "water market" to allow for either temporary or permanent transfer of water rights. BCWWA

believes that such a tool might have a place in BC. However, careful consideration is needed to ensure that economic priorities don't trump the social and environmental priorities of watersheds and aquifers. To determine the suitability of this approach in BC, BCWWA suggests the province conduct research to answer the following questions: Who is using which licences and how? How much of their allocated water are licensees actually using? Should licences be temporarily or permanently transferable? If so, to whom and for what use? And for what period of time? Answers to these questions could be used to develop market-based solutions during water scarcity, particularly in drought-prone areas.

3. Invest resources for surface water and groundwater management in priority areas first, based on specific factors such as scarcity or contamination

BCWWA recommends the province invest its resources for surface water and groundwater management in priority areas first (including known areas as shown in Figure 4F of the Technical Background Report), based on specific factors such as scarcity or contamination.

4. Strengthen accountability requirements for existing licences

BCWWA recommends the province strengthen accountability requirements for existing licensees, particularly the requirement to accurately measure and report actual surface water and groundwater use and groundwater levels in regulated wells.

5. Promote water-use efficiency through codes for infrastructure and practice

BCWWA recommends the promotion of efficient water use primarily through codes for infrastructure and practice, supported by economic incentives, and enabled by regional flexibility in the application of regulation for efficient administration.

6. Establish certain permitted uses supported by provincial regulation and regional flexibility

BCWWA recommends the province establish certain permitted uses (not requiring a license), subject to provincial regulation with regional flexibility based on risk or through water allocation plans.

BCWWA MEMBERS' VIEWS

About half of respondents answered the water allocation questions. Their support is as follows —

Improve decision times and enforcement by measuring and reporting of actual water use when demonstrating compliance with licence conditions	87%
Integrate surface water and groundwater through surface water allocation and groundwater regulation based on priority of use (vs. 15% support for FITFIR)	85%
Encourage administrative efficiency by defining permitted uses, but allowing flexible application of regulations across the province based on risk or through water-use plans (favoured more than 2:1 over uniform province-wide regulation, or voluntary or mandatory self-registration of withdrawals)	83%
Abandon FITFIR for new licences	82%
Address long-term scarcity through collaborative planning with community engagement (vs. 29% support for mandatory Water Management Plans as per Section 4 of the *Water Act.*	71%
Encourage water efficiency by establishing and enforcing codes for efficient infrastructure and practices (favoured more than 2:1 over tying licences to efficient practices or reviewing rules for transferring or apportioning existing rights)	52%
Improve decision times and enforcement through the self registration of wells	51%
Address temporary water scarcity through proportional reduction in use by all users (vs. 2% support for FITFIR)	49%
Abolish FITFIR for existing licenses	44%

GOAL 4: Regulating Groundwater Extraction and Use

BCWWA RECOMMENDATIONS

1. Consider and manage surface water and groundwater together as one resource

Surface water and groundwater are inextricably linked. Aquifers provide base flows for streams, and surface water bodies recharge aquifers. Both quality and quantity of surface water and groundwater are connected, yet only surface water is truly regulated and managed in BC. With current knowledge and information systems, groundwater can also be cost-effectively measured and managed together with surface water as part of an integrated hydrologic cycle.

2. Implement Phase II of the Groundwater Protection Regulation

BCWWA recommends the Water Stewardship Division be adequately resourced to complete the development of the Phase II Regulation that is required for effective monitoring and enforcement.

3. Require registration for all wells

BCWWA believes that all wells should be registered with the province, including the provision of a provincial identification plate and the filing of well drilling logs and testing data in the MoE WELLS Database. Submission of well data is currently voluntary, and only about half of the wells in BC are currently identified in the database.

4. Require licensing of high-volume wells, and of other wells in priority areas as determined by a water management plan

BCWWA recommends that the extraction regulation threshold for large withdrawals be no more than Option B outlined in the discussion paper (250/100m^3/day), and that conservative temporary thresholds are required until sufficient data is available for science-informed regulation. BCWWA further recommends that operators of licensed wells be required to measure and report actual water use and groundwater levels.

In priority areas (including known areas as shown in Figure 4F of the technical background report), the criteria for licensing of wells should be informed by a water management plan. In certain areas (e.g. several areas of the Gulf Islands), even individual domestic wells have significant impacts on groundwater quality and quantity due to small aquifer sizes and significant risks of saltwater intrusion due to poor well siting or over-extraction. In such cases, licensing requirements should be considered for all wells, regardless of size and use.

Groundwater reserves are being oversubscribed in some areas of BC (e.g., Hopington Aquifer), and groundwater is being contaminated by point and non-point sources of pollution (e.g.,

Abbotsford Aquifer). BCWWA believes that to conserve and protect groundwater from these impacts, we must first record, monitor, analyze and report their impacts. To that end, BCWWA recommends expanded research that will guide the development of appropriate science-informed plans, policies, programs, projects and partnerships.

BCWWA MEMBERS' VIEWS

Just less than half of survey respondents answered the groundwater questions. Respondents support the following options —

Protect groundwater from contamination	98%
Introduce amendments to prevent adverse impacts on aquifers or groundwater recharge zones	89%
Regulate groundwater extraction and use, at least in priority areas, for all large wells	82%
Require reporting of well levels for regulated groundwater users	77%
Set thresholds for large groundwater withdrawals at 250/100m^3/day or less	66%

Respondents preferred the following options for determining priority groundwater extraction and use areas —

Areas with known quality concerns (e.g., declining groundwater level, conflicts with other groundwater users, aquifers or water resources impacted by salt water intrusion)	74%
All groundwater users are regulated in priority areas except for small-scale extraction and use for domestic purposes (e.g., 2-3m^3/day)	73%
Significant population relies on groundwater for drinking	68%

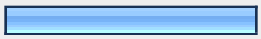
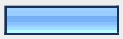
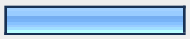
IN CLOSING…

BCWWA supports the province's efforts to modernize BC's *Water Act*, and appreciates the opportunity to contribute to the discussion. Board members and industry experts are keen to continue informing the modernization process. Please contact us to further explain or expand on our comments, and keep us abreast of the process as it unfolds.

The BCWWA Board of Directors would like to acknowledge the 207 BCWWA members who contributed to the development of this document by responding to the Internet survey. Special thanks also go to the editorial committee that developed this submission on a tight timeline: Steve Brubacher, Crystal Campbell, Len Clarkson, Jennifer Crosby, Don Dobson, Daisy Foster, Bruce Ingimundson, Chris Johnston, Jim Mattison, Ted Molyneux, Julian Noel, Mike Nolan, Denny Ross-Smith, Colwyn Sunderland, and writer Joanne de Vries.

APPENDIX

Water Act Modernization

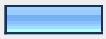
1. Where do you live and work?		Response Percent	Response Count
BC Rockies		5.0%	10
Cariboo-Chilcotin-Coast		1.5%	3
Lower Mainland		**38.3%**	**77**
Northern BC		4.5%	9
Sunshine Coast		2.5%	5
Thompson-Okanagan		16.9%	34
Vancouver Island		27.4%	55
Yukon		1.0%	2
Other Canada		3.0%	6
USA		0.0%	0
International		0.0%	0
	answered question		**201**
	skipped question		**6**

2. What is your field of service or area of interest? (Select all that apply).

	Response Percent	Response Count
Asset Management	20.3%	41
Cross Connection Control / Backflow Prevention	43.1%	87
Decentralized Wastewater	8.9%	18
Desalination	3.5%	7
Drinking Water	**68.8%**	**139**
Environmental Protection	31.2%	63
First Nations	10.9%	22
Ground Water	38.6%	78
Hazardous / Toxic Waste	9.4%	19
Infrastructure	38.1%	77
Irrigation	15.3%	31
Laboratory / Analysis	11.4%	23
Legislation / Regulation	16.8%	34
Public Awareness	21.8%	44
Residuals / Biosolids	8.4%	17
Safety	18.3%	37
SCADA & IT	17.3%	35
Small Water Systems	35.1%	71
Wastewater Collection & Treatment	42.1%	85
Water Conservation	36.6%	74
Water Quality	50.0%	101
Water Supply & Treatment	50.0%	101
Watershed Management	24.3%	49

Other (please specify)		7.9%	16
		answered question	**202**
		skipped question	**5**

3. Which category / industry sector are you employed in?

		Response Percent	Response Count
Federal Government		2.0%	4
Provincial Government		4.0%	8
Regional/Local Government / Public Utility		**38.6%**	**78**
Private Utility		7.9%	16
Manufacturing / Supply		7.4%	15
Consulting		14.4%	29
Contracting		9.9%	20
Educational Institute		2.0%	4
Industrial		3.0%	6
Research / Laboratory		0.5%	1
Student		3.0%	6
Retired		2.0%	4
Other (please specify)		5.4%	11
		answered question	**202**
		skipped question	**5**

4. Which of the following most closely describes your position?

	Response Percent	Response Count
Senior Government	0.5%	1
Local Government Administration	5.0%	10
Management	25.5%	51
Marketing / Sales	3.5%	7
Engineer / Technologist	20.0%	40
Operator	**26.5%**	**53**
Scientist / Academic	2.0%	4
CCC Tester	11.0%	22
Educator	1.5%	3
Student	3.0%	6
Retired	1.5%	3
	answered question	**200**
	skipped question	**7**

5. Do you support the strengthening of the objective "Environmental flow needs are considered in all water allocation decisions to protect stream health"?

	Response Percent	Response Count
Strongly support	44.4%	79
Support	**46.1%**	**82**
Neutral	7.3%	13
Disagree	2.2%	4
Strongly disagree	0.0%	0
	answered question	**178**
	skipped question	**29**

6. Mitigating the impacts of development on stream health:

	Yes	No	Response Count
Do you support more emphasis on mitigating the impacts of development (urbanization, agriculture, forestry, etc) to protect and maintain stream health?	**96.0% (167)**	4.0% (7)	174
This should include requirements for hydrologic maintenance of flows (volume reduction, rate control) to minimize erosion and stream/habitat instability and maintain baseflows and reduce degradation of water quality.	**93.4% (156)**	6.6% (11)	167
This should also include the requirement for appropriate riparian habitat restoration.	**94.6% (159)**	5.4% (9)	168
		answered question	**174**
		skipped question	**33**

7. Do you support an amendment to the Water Act to support a requirement for the person/people responsible for dumping any substance/material into a stream to restore stream health?

		Response Percent	Response Count
Yes		**86.0%**	**154**
No		2.8%	5
Not Sure		11.2%	20
		answered question	**179**
		skipped question	**28**

8. Additional comments on 'GOAL ONE: Protect stream health and aquatic environments':		
		Response Count
		20
	answered question	**20**
	skipped question	**187**

9. Have you encountered any of the following issues with how decisions are made in regards to the management of water?				
	Yes	No	Not Sure	Response Count
a. Lack of adequate acts and regulations to deal with the full scope of water management	**51.6% (65)**	29.4% (37)	19.0% (24)	126
b. Lack of coordination between different governmental agencies (within the province and between the province and other agencies)	**71.7% (91)**	16.5% (21)	11.8% (15)	127
c. Some legislation gives trump card to certain agencies	**57.5% (73)**	14.2% (18)	28.3% (36)	127
d. Lack of transparency in process for making decisions on licenses and plans for water use	**52.3% (67)**	19.5% (25)	28.1% (36)	128
e. Opportunity to protect water quality for today and future generations (inability to influence land use and water use decisions)	**60.5% (75)**	21.0% (26)	18.5% (23)	124
f. Inconsistent and overlapping enforcement of regulations	**63.0% (80)**	18.1% (23)	18.9% (24)	127
g. Inconsistency in continuity of water policy and priorities (ie. Decisions change when the politics change)	**59.7% (74)**	16.1% (20)	24.2% (30)	124
			answered question	**129**
			skipped question	**78**

10. What do you think is necessary in order to address the issues that you have encountered?				
	Yes	**No**	**Not Sure**	**Response Count**
Better definition of authority, roles and accountability: within the provincial government	**77.3% (92)**	10.1% (12)	12.6% (15)	119
Better definition of authority, roles and accountability: with other levels of government (First Nations, Federal, local and regional)	**77.9% (95)**	8.2% (10)	13.9% (17)	122
Better definition of authority, roles and accountability: with other agencies (industry, local communities, and other non-governmental organizations)	**75.2% (91)**	11.6% (14)	13.2% (16)	121
Increased flexibility to respond to changing needs and values in a timely fashion	**74.2% (89)**	12.5% (15)	13.3% (16)	120
Improved coordination with neighbouring jurisdictions across all levels of government and those with a major interest in the watershed	**86.7% (104)**	6.7% (8)	6.7% (8)	120
			answered question	**123**
			skipped question	**84**

11. Should the provincial government have more or less responsibility for water management at the:					
	More Responsibility	**Less Responsibility**	**Same Amount**	**Not Sure**	**Response Count**
Provincial Level	**54.7% (64)**	12.0% (14)	23.9% (28)	9.4% (11)	117
Basin Level (ie. Fraser Basin, Columbia Basin, Okanagan Basin, etc.)	**56.1% (64)**	6.1% (7)	17.5% (20)	20.2% (23)	114
SubBasin Level (Regional District or WaterAct District)	**51.7% (60)**	17.2% (20)	16.4% (19)	14.7% (17)	116
Watershed Level (local areas)	**47.5% (56)**	17.8% (21)	22.0% (26)	12.7% (15)	118
				answered question	**119**
				skipped question	**88**

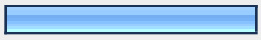
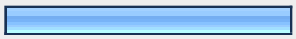
12. What level of involvement / responsibility should the Province have in the following areas:				
	More Provincial responsibility	**Delegate responsibility to another agency**	**Not sure**	**Response Count**
Integration between natural resource agencies and federal government	**65.5% (76)**	10.3% (12)	24.1% (28)	116
Regional visioning and watershed planning	**54.3% (63)**	29.3% (34)	16.4% (19)	116
Using Regional Growth Strategies, Official Community Plans or other land use plans to implement water priorities	**46.6% (54)**	40.5% (47)	12.9% (15)	116
Establish advisory committees for First Nation and stakeholder involvement	**47.8% (55)**	28.7% (33)	23.5% (27)	115
Formal opportunities to influence resource management and land use planning	**54.0% (61)**	24.8% (28)	21.2% (24)	113
Water allocation planning and licensing (includes determination of environmental flow needs)	**66.4% (77)**	19.0% (22)	14.7% (17)	116
Oversight over transfer or extension of water rights	**68.4% (78)**	17.5% (20)	14.0% (16)	114
Planning and licensing groundwater extraction and use	**71.1% (81)**	15.8% (18)	13.2% (15)	114
Integrated regulation of connected groundwater and stream water resources	**74.1% (86)**	13.8% (16)	12.1% (14)	116
Defining 'stream health' and determining environmental flow needs	**64.3% (74)**	25.2% (29)	10.4% (12)	115
Approving changes in and about streams	**54.9% (62)**	26.5% (30)	18.6% (21)	113
Compliance and enforcement	**76.7% (89)**	16.4% (19)	6.9% (8)	116
Drought and flood response (plans and policy)	**73.7% (84)**	20.2% (23)	6.1% (7)	114

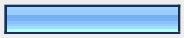
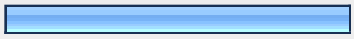
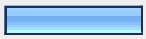
Public education and outreach activities	**53.4% (62)**	39.7% (46)	6.9% (8)	116
Watershed restoration	**55.2% (64)**	38.8% (45)	6.0% (7)	116
Reporting on watershed health	**55.2% (64)**	35.3% (41)	9.5% (11)	116
			answered question	**119**
			skipped question	**88**

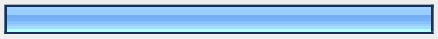
13. Should the Province take a shared approach (ie. working collaboratively with other governments or watershed management group) in the following areas:

	Yes	No	Not Sure	Response Count
Regional visioning and watershed planning	**88.9% (104)**	3.4% (4)	7.7% (9)	117
Formal opportunities to influence resource management and land use planning	**81.2% (95)**	7.7% (9)	11.1% (13)	117
Water allocation planning and licensing (includes determination of environmental flow needs)	**76.1% (89)**	15.4% (18)	8.5% (10)	117
Oversight over transfer or extension of water rights	**68.7% (79)**	19.1% (22)	12.2% (14)	115
Approving changes in and about streams	**76.7% (89)**	17.2% (20)	6.0% (7)	116
Compliance and enforcement	**76.7% (89)**	19.0% (22)	4.3% (5)	116
Drought and flood response (plans and policy)	**82.8% (96)**	12.9% (15)	4.3% (5)	116
Public education and outreach activities	**84.6% (99)**	9.4% (11)	6.0% (7)	117
Watershed restoration (plans and policy)	**85.5% (100)**	10.3% (12)	4.3% (5)	117
Reporting on watershed health	**80.3% (94)**	13.7% (16)	6.0% (7)	117
			answered question	**117**
			skipped question	**90**

14. Additional comments on 'GOAL TWO: Improve water governance arrangements':		
		Response Count
		24
	answered question	**24**
	skipped question	**183**

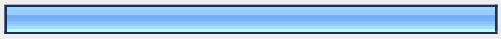
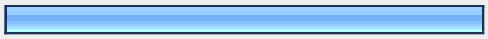
15. The current Water Act is based on the principle of first-in-time, first-in-right. Should this principle:			
		Response Percent	Response Count
Be maintained for all licensing		17.7%	17
Be maintained for existing licenses, but not new licenses		38.5%	37
Or be abolished?		**43.8%**	**42**
	answered question		**96**
	skipped question		**111**

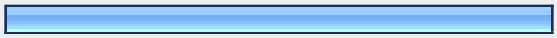
16. In order to encourage water use efficiency, should the Province:		Response Percent	Response Count
Determine actual water needs on the basis of efficient practices and works; or		26.5%	27
Establish codes for efficient infrastructure and practices for different sectors in partnership with the sectors, require compliance with the codes, and use incentives and economic instruments to encourage water efficiency; or		**52.9%**	**54**
Review the rules for the transfer and apportionment of existing water rights?		20.6%	21
	answered question		**102**
	skipped question		**105**

17. In order to encourage administrative efficiency, should the Province:			
		Response Percent	Response Count
Define permitted uses under the Act and regulations that would be applied consistently across the province; or		30.3%	30
Define permitted uses under the Act and regulations, but allow regulations to be applied differently across the province based on risk or through a water use plan; AND		**65.7%**	**65**
Allow voluntary self-registration of the permitted use withdrawal; or		6.1%	6
Require self-registration of permitted use withdrawal?		27.3%	27
	answered question		**99**
	skipped question		**108**

18. In order to provide water users and decision makers with flexibility and to improve efficiency, should the Province provide water licensees and decision-makers with the ability to seek amendments to water licenses' terms and conditions based on:

	Yes	No	Not Sure	Response Count
New information about watershed issues, priorities or changes in supply	**92.9% (92)**	5.1% (5)	2.0% (2)	99
The ability to use water differently	**74.5% (73)**	12.2% (12)	13.3% (13)	98
Incentives to consolidate licenses within a community/watershed to inspire collaborative or shared management of the resource	**85.6% (83)**	9.3% (9)	5.2% (5)	97
Adverse impacts on aquifers or groundwater recharge zones	**88.8% (87)**	9.2% (9)	2.0% (2)	98
Data showing deterioration of stream health because of lack of water	**88.8% (87)**	7.1% (7)	4.1% (4)	98
			answered question	**99**
			skipped question	**108**

19. To improve decision making times and enforcement, should existing water licensees and applicants be responsible for: (select all that apply)			
		Response Percent	Response Count
Providing more detailed information in applications or changes of proposed water use and efficiencies		75.8%	72
Documenting in applications or changes, potential environmental impacts and effects on other users		73.7%	70
Seeking consent from, or consulting with, affected parties when making an application or change		65.3%	62
Measuring and reporting actual water use when demonstrating compliance with water license conditions		**87.4%**	**83**
Reporting well levels for regulated groundwater wells		76.8%	73
Self registering wells, especially where groundwater is in direct hydraulic connection with surface water or in areas of known quantity concerns.		50.5%	48
	answered question		**95**
	skipped question		**112**

20. In order to integrate ground and surface water allocation, should the Province:			
		Response Percent	Response Count
Allocate new surface water rights and regulate groundwater based on a modified first-in-time, first-in-right concept; or		15.7%	14
Allocate new surface water rights, and regulate groundwater, based on priority of use as determined either in the Water Act, or, with community involvement?		**84.3%**	**75**
	answered question		**89**
	skipped question		**118**

21. Which of the following options do you prefer to address temporary water scarcity?			
		Response Percent	Response Count
Discretional - Decision maker has discretion to determine approach on a case-by-case basis balancing effects on water users and the environment		30.6%	30
Sharing - All water users reduce use on a proportional basis depending on water supply forecasts. (Reductions could be influenced by water use efficiencies.)		**49.0%**	**48**
Hierarchy of use - Water use reductions are guided by a hierarchy of uses, e.g. human, stock watering, etc.		18.4%	18
Date of priority - first-in-time, first-in-right		2.0%	2
	answered question		**98**
	skipped question		**109**

22. Which of the following options do you prefer to address long-term water scarcity?			
		Response Percent	Response Count
Mandatory Water Management Plans (section 4 of Water Act)		29.2%	28
Water licensees and other interested parties develop a plan to address long-term scarcity on a watershed basis and provide recommendations for supply side and demand side changes. Approval process to include community involvement.		**70.8%**	**68**
	answered question		**96**
	skipped question		**111**

23. Additional comments on 'GOAL THREE: Introduce more flexibility and efficiency in the water allocation system':		
		Response Count
		8
	answered question	**8**
	skipped question	**199**

24. The Water Act Modernization discussion document outlines the following options for determining priority areas to regulate groundwater extraction and use. Which of the following do you feel are priorities (select all that apply)?

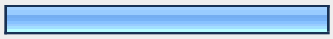
	Response Percent	Response Count
All groundwater users will be regulated in priority areas except for small scale extraction and use of groundwater for domestic purposes (for example 2-3m3/day).	72.7%	64
Heavy groundwater extraction and use (rely on BC Aquifer Classification System);	59.1%	52
Area of known quantity concern e.g., declining groundwater level, conflicts with other groundwater users, aquifers or water resources impacted by salt water intrusion;	**73.9%**	**65**
Groundwater in direct hydraulic connection with surface water in areas of known quantity concern;	52.3%	46
Significant population that is reliant on groundwater for drinking water;	68.2%	60
Trans-boundary aquifers;	37.5%	33
Basins where surface water is at or near the allocation limit.	60.2%	53
	answered question	**88**
	skipped question	**119**

25. Do you feel groundwater should be protected from contamination?

	Response Percent	Response Count
Strongly Agree	**87.8%**	**86**
Agree	10.2%	10
Neutral	1.0%	1
Disagree	0.0%	0
Strongly Disagree	1.0%	1
	answered question	**98**
	skipped question	**109**

26. Thresholds for large groundwater withdrawals: A. The threshold for large could be: _ 500 m3/day for wells drilled in unconsolidated, sand and gravel aquifers or if otherwise determined to be large by a Water Management Plan. _ 100 m3/day for wells drilled into consolidated bedrock aquifers or if otherwise determined to be large by a Water Management Plan. OR B. The threshold for large could be: _ 250 m3/day for wells drilled in unconsolidated, sand and gravel aquifers or if otherwise determined to be large by a Water Management Plan. _ 100 m3/day for wells drilled into consolidated bedrock aquifers or if otherwise determined by a Water Management Plan. Which thresholds do you prefer?

	Response Percent	Response Count
A	27.8%	22
B	**62.0%**	**49**
C: Other (please elaborate)	10.1%	8
	answered question	**79**
	skipped question	**128**

27. The following groundwater-specific objective is proposed for a modernized Water Act: "Groundwater extraction and use is regulated in priority (critical) areas and for all large withdrawals". Please indicate your level of support for the objective proposed.			
		Response Percent	**Response Count**
Strongly Support		38.7%	36
Support		**49.5%**	**46**
Neutral		5.4%	5
Disagree		5.4%	5
Strongly Disagree		1.1%	1
	answered question		**93**
	skipped question		**114**

28. Additional Comments on 'GOAL FOUR: Regulate groundwater extraction and use':		
		Response Count
		13
	answered question	**13**
	skipped question	**194**

29. Water Act Modernization is an opportunity to ensure the principles underlying the Water Act respond to modern expectations, as well as promote stream health and water security. These principles have underpinned the development of this discussion paper and, once finalized through engagement, will help to guide the policy development process. Your views are welcome on the following proposed principles:

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Response Count
BC's water resources are used within sustainable limits.	**62.6% (62)**	28.3% (28)	5.1% (5)	3.0% (3)	1.0% (1)	99
First Nations social and cultural practices associated with water are respected and accommodated.	18.0% (18)	32.0% (32)	**34.0% (34)**	12.0% (12)	4.0% (4)	100
Science informs water resource management and decision making.	38.0% (38)	**45.0% (45)**	13.0% (13)	3.0% (3)	1.0% (1)	100
Water resource legislation, policy and decision making processes as well as management tools are integrated across all levels of government.	**48.0% (48)**	33.0% (33)	14.0% (14)	5.0% (5)	0.0% (0)	100
Rules and standards for water management are clearly defined, providing a predictable investment climate across the province.	**49.0% (49)**	37.0% (37)	10.0% (10)	4.0% (4)	0.0% (0)	100
Flexibility is provided to adapt to extreme conditions or unexpected events on a provincial, regional or issue-specific level.	**42.3% (41)**	**42.3% (41)**	6.2% (6)	8.2% (8)	1.0% (1)	97
Incentives are created for water conservation that consider the needs of users and investors.	**41.4% (41)**	37.4% (37)	13.1% (13)	7.1% (7)	1.0% (1)	99
Rights to use water come with responsibilities to be efficient and help protect stream health.	**63.0% (63)**	32.0% (32)	5.0% (5)	0.0% (0)	0.0% (0)	100
					answered question	**100**
					skipped question	**107**

30. The Water Act Modernization Discussion Paper welcomes additional input on the following topics: - Are there additional opportunities for the modernization of the Water Act to integrate with other federal and provincial legislation? - What are the appropriate criteria for determining at risk or priority watersheds? - How will these proposals specifically affect you or your community? - How can we improve the proposals so your interests are taken into account? - What kinds of collaborative processes would you like to see for future water stewardship? - Will the possible solutions adequately equip future generations to manage water sustainably? - What have we missed? Please feel free to add any comments below, or email wateract@bcwwa.org.

		Response Count
		15
	answered question	**15**
	skipped question	**192**