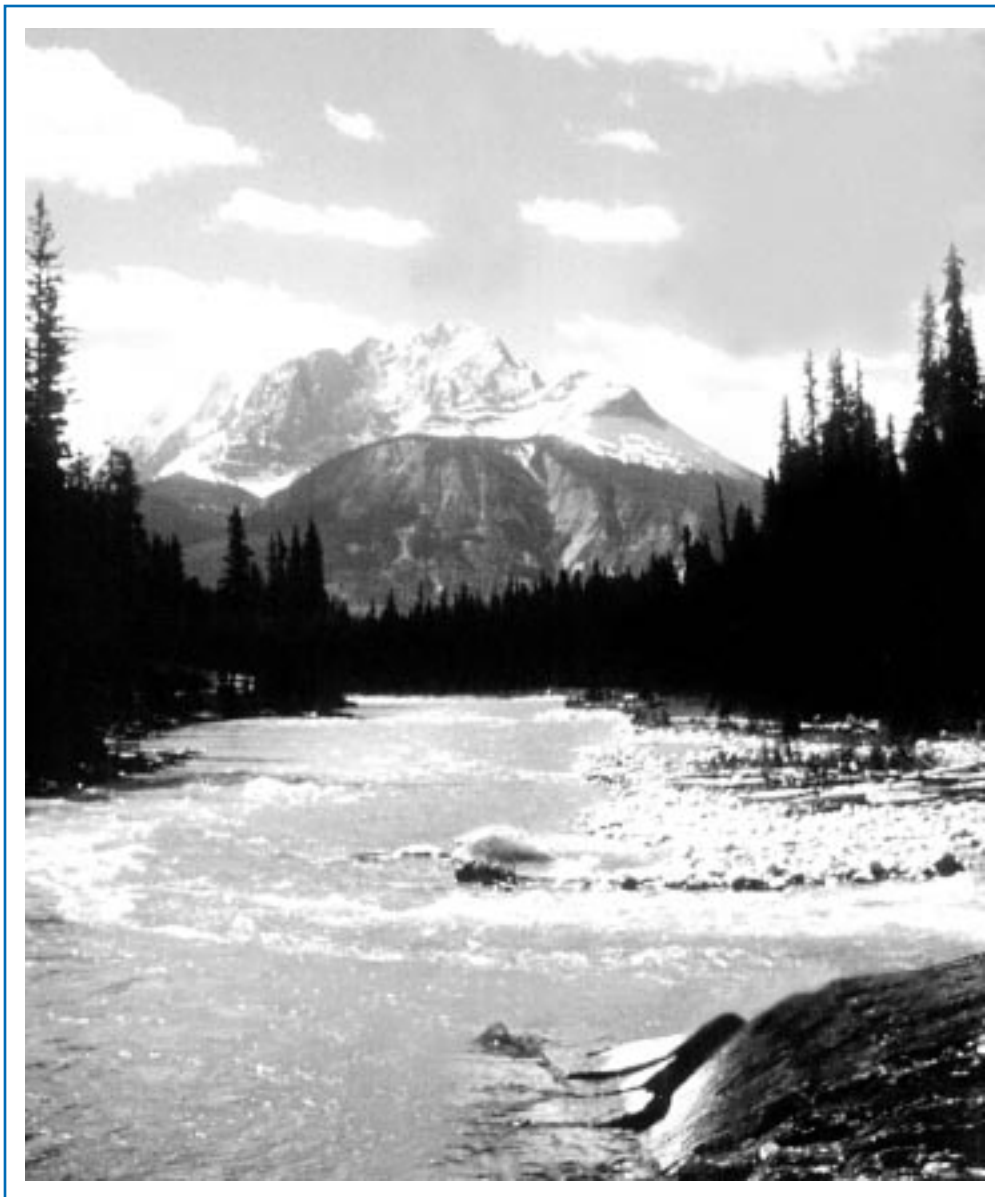


WATER USE PLAN ***guidelines***



BRITISH
COLUMBIA



WATER USE PLAN GUIDELINES

Province of British Columbia

December 1998

ACKNOWLEDGEMENTS

The Province wishes to thank all those who commented on the draft Guidelines, including First Nations, environmental groups, community organizations, and individual citizens.

Appreciation is also extended to the staff of the federal Department of Fisheries and Oceans, BC Hydro, Ministry of Employment and Investment, Ministry of Fisheries and Crown Corporation Secretariat for contributing to the preparation of the Guidelines, and to Ellen Battle and Donna Moreau for writing and designing this document.

TABLE OF CONTENTS

page	1	SUMMARY
	6	1.0 PREAMBLE
	8	2.0 WATER USE PLANNING
	8	2.1 Water use plans defined
	9	2.2 Purpose of the guidelines
	9	2.3 Application of the guidelines
	9	2.4 Revisions to the guidelines
	10	3.0 BOUNDARIES OF THE PLANNING PROCESS
	10	3.1 <i>Water Act</i>
	11	3.2 <i>Fisheries Act</i> and Fish Habitat Management Policy
	12	3.3 Other legislation
	13	3.4 Constitutionally protected treaty rights and aboriginal rights and title
	14	3.5 The role of consultation
	15	3.6 Time scope of WUPs
	16	4.0 WUP PROCESS
	16	4.1 Initiation and announcement
	18	4.2 Plan development
	31	4.3 Decision
	35	4.4 Monitoring, compliance, and review
	37	GLOSSARY/ACRONYMS
	41	APPENDIX A: RELEVANT LEGISLATION
	41	A.1 WUPs under the <i>Water Act</i>
	42	A.2 Inquiry and WUP initiation
	43	A.3 <i>Water Act</i> adjudication
	46	A.4 <i>Fisheries Act</i> and Fish Habitat Management Policy
	47	A.5 <i>Fish Protection Act</i>
	47	A.6 Environmental assessment legislation
	49	APPENDIX B: PUBLIC CONSULTATION
	49	B.1 Objectives
	49	B.2 Principles
	50	B.3 Techniques

page	51	APPENDIX C: TRADEOFF ANALYSIS
	51	C.1 Objectives
	51	C.2 Principles
	52	C.3 Process
	52	C.4 Techniques
	54	C.5 Risk and uncertainty
	55	APPENDIX D: SAMPLE WUP TABLE OF CONTENTS
		FIGURES
	17	Figure 1: WUP Process: Overview
	19	Figure 2: WUP Process: Plan Development
	31	Figure 3: WUP Process: Decision, Appeal, Monitoring, Review

SUMMARY

This document describes a new planning process to enhance water management at hydroelectric power and other water control facilities in British Columbia. The purpose of these guidelines is to:

- 1) instruct holders of water licences (licensees) and applicants for licences (proponents) on the preparation and approval procedures for Water Use Plans (WUPs); and
- 2) inform local governments, First Nations, key interested parties, and the general public on how to participate in plan development.

A WUP is a technical document that defines the detailed operating parameters to be used by facility managers in their day-to-day decisions. Plans are intended to clarify how rights to provincial water resources should be exercised, and to take account of the multiple uses for those resources. WUPs must recognize existing legal and constitutional rights and responsibilities, as set out in legislation and court decisions.

The process for developing plans will be adapted to suit the scale and other circumstances of each facility and operator. This “WUP process” will explicitly seek input from the full range of water use interests relevant to the facility.

The following steps describe the process for initiating, developing, approving, monitoring, and reviewing a water use plan:

Step 1



Initiate a WUP process for the particular facility

- The Comptroller of Water Rights (the “Comptroller”) may require a WUP as a condition of a new water licence, as part of a review of an existing licence (e.g., due to an application for a licence amendment or for an additional licence for the facility), or in response to a perceived water use conflict.
- The licensee may request a WUP process (e.g., where facility operation is to be changed beyond the terms and conditions of existing licences).
- Other interested parties may make a request for a plan, for consideration by the Comptroller.
- Once the WUP process has been initiated, a public announcement will be issued.

Step 2***Scope the water use issues and interests***

The licensee or proponent will meet with regulatory agencies, First Nations, local governments, and key interested parties to:

- identify issues and interests associated with water management;
- review and summarize available information on water use impacts;
- identify gaps in information and the need for further studies to develop a WUP; and
- explore appropriate approaches to consultation.

Step 3***Determine the consultative process to be followed and initiate it***

- The licensee/proponent, in consultation with the Comptroller, will set up a process for involving government agencies, First Nations, key interested parties, and the general public in plan development.
- WUP consultations will be advisory, providing information and facility operating proposals for use in the Comptroller's decision-making (Step 10).

Step 4***Confirm the issues and interests in terms of specific water use objectives***

- Participants in the consultative process (including the licensee/proponent) will define specific water use objectives, along with quantitative and/or descriptive measures for assessing their achievement.
- Every WUP must consider fish and aquatic habitat protection, flood control, beneficial use of the water (e.g., power generation), and First Nations issues; other issues, such as recreation and navigation, may also be taken into account, depending on the facility.

Step 5***Gather additional information on the impacts of water flows on each objective***

- Technical studies will be conducted, and information from other sources (e.g., interested parties) gathered and analyzed, to build on the results of Step 2.
- The draft WUP should document remaining "data gaps" and a research program to fill them.

Step 6



Create operating alternatives for regulating water use to meet different interests

- The participants in the WUP process will define a diverse set of alternative operating regimes to compare the impacts on water use objectives.
- The range of operating alternatives should be forward-looking, recognizing facilities as they exist and the need for operational improvements to balance multiple water uses.

Step 7



Assess the tradeoffs between operating alternatives in terms of the objectives

- Information on water use impacts from Step 5 will be used to frame discussions about choices and tradeoffs among conflicting water uses by participants (including the licensee/proponent) in the consultative process.
- Analytical tools, such as multi-attribute tradeoff analysis, can assist the tradeoff assessment.
- The impact of uncertainty on the ranking of alternatives must be demonstrated.

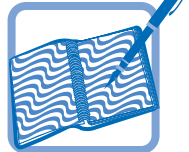
Step 8



Determine and document the areas of consensus and disagreement

- Consensus on an operating alternative for the facility is a goal, but not a requirement of the WUP consultative process.
- A report signed off by the participants and made public will describe the consultative process and its results.
- The consultation report will fully document areas of agreement and contention and, in the case of non-consensus, disagreements and reasons for them.

Step 9



Prepare a draft WUP and submit it to the Comptroller for regulatory review

- The licensee/proponent will draft a concise technical document detailing the operating parameters to meet a proposed operating regime.
- If consensus is achieved in the consultative process, then a signatory page may be added indicating agreement by the licensee/proponent and other participants.
- If no consensus is achieved, the licensee/proponent will select a proposed operating regime.

Step 10



Review the draft plan and issue a provincial decision

- The Comptroller will refer the draft plan for review and comment, along with notice of any licence amendment or application for a licence, to affected and other interested parties as required under the *Water Act*.
- A formal inquiry may be held if some issues have not been adequately addressed or the positions of affected or interested parties not completely defined.
- The Comptroller and licensee/proponent will work together on any modifications to the draft plan necessary for its regulatory approval.
- When sufficient information has been obtained, the Comptroller will make the appropriate licensing decisions and approve the plan.
- Affected parties under the *Water Act* can appeal the Comptroller's authorization of a WUP to the Environmental Appeal Board (EAB).
- If the Comptroller's decision is rejected on appeal, the EAB will either make a decision itself or send the matter back to the Comptroller for further review.

Step 11



Review the authorized WUP and Issue a federal decision

- The federal Department of Fisheries and Oceans (DFO) will review the authorized plan and provide advice and authorizations, as appropriate.
- If DFO disagrees with the WUP, it may exercise other regulatory options at its disposal.

Step 12



Monitor compliance with the authorized WUP

- The plan will specify monitoring programs and reports for preparation by the licensee to enable provincial and federal regulatory authorities (e.g., the Comptroller and DFO) to assess compliance with the authorized WUP.
- The licensee is accountable for meeting the WUP operating parameters, but not for achieving objectives for other uses of water.

Step 13***Review the plan on a periodic and ongoing basis***

- The WUP should specify a scheduled review period and key “triggering” issues that will be particular to the facility and its water use impacts.
- A WUP can be reviewed by the Comptroller at any time (see Step 1), but the extent of the review will depend on the water use conflicts, non-compliance issues, etc., in question.

The need for water use planning

Minister's announcement

The WUP process

1.0 PREAMBLE

British Columbia enjoys a rich endowment of bountiful, high-quality water resources. This endowment, and the many diverse uses it affords British Columbians, only strengthens the need for wise and prudent resource management.

In recent years, declining or endangered fish stocks have emerged as a pressing issue, along with concern about aquatic habitat and, consequently, water management. The relationship between fish and power generation at hydroelectric facilities has received considerable attention. Environmental and other interest groups have been calling for greater protection of fish resources. For the most part, federal and provincial governments are now taking a stronger stance on the management of fish habitat, particularly at power facilities around the province.

The fish and aquatic habitat issues epitomize evolving public priorities with respect to water resource management. At the same time, the public has become more concerned about flood control, recreational, and other implications of regulating water.

In November 1996, the Ministers of Employment and Investment and Environment, Lands and Parks announced the creation of a “water use planning” (WUP) process meant to revisit provincial water management in light of changing public values and environmental needs.

These guidelines set out the steps and components of a new process to better manage British Columbia's water. The development of water use plans (WUPs) for power and other water control facilities¹ will be carried out as part of the licensing procedures of the B.C. *Water Act*.

Water use plans will be prepared through a collaborative effort involving the existing or prospective licensee, government agencies, First Nations, other key interested parties, and the general public. Draft plans will be submitted to the Comptroller of Water Rights for regulatory review and approval. As much as possible, the goal of the WUP process will be to achieve consensus on a set of operating rules for each facility that satisfies the full range of water use interests at stake, while respecting legislative and other boundaries.

notes

¹ Works are as defined in the *Water Act* and include facilities for: “diverting, storing, measuring, conserving, conveying, retarding, confining or using water;” and “producing, measuring, transmitting or using electricity.”

Flexibility of the process

The WUP process is designed to be sufficiently flexible to meet the needs of different facilities and owners/operators. It is not intended to be unduly onerous for small operators, or for facilities with few or minor water use conflicts. While it is expected that the steps in these guidelines will be followed, the approach to and extent of effort at each step will be adapted to suit the particular circumstances of each facility and operator.

Structure of the guidelines

The remainder of this document defines water use plans (Section 2.0); describes the boundaries of the planning process (Section 3.0); and explains step-by-step the development, approval, monitoring, and review of a water use plan (Section 4.0).

WUPs and water licences**What is a WUP?****How will plans be used?****2.0 WATER USE PLANNING**

Water use plans are meant to clarify how rights to provincial water resources should be exercised, and to recognize other social and environmental values associated with those resources. WUPs will specify the operating conditions relating to water licences issued under the *Water Act*. Licences grant a right to construct and operate works, and to store, divert, or use a specified maximum amount of water for particular purposes.

2.1 Water use plans defined

A WUP is a document which, when authorized through the *Water Act* process, will define the operating parameters to be imposed on specific works or water control facilities.² These parameters will be designed to recognize multiple water use objectives. Key objectives from the provincial government's perspective are the protection of fish and aquatic habitat, flood control, power generation, and First Nations issues. However, the plan may also need to consider other uses, including industrial and municipal development, drinking water supply, recreation and tourism, forestry, irrigation, navigation, and other cultural and heritage values.

Managers of water control facilities will apply the parameters contained in WUPs (e.g., through operating orders for hydroelectric power facilities) to determine day-to-day facility operating decisions, and to plan and implement actions in response to emergency events, such as floods. Regulatory officials will make use of WUPs to monitor operations and provide regulatory direction.

WUPs will address issues related to the operation of facilities as they currently exist, and incremental changes to operations to accommodate other water uses. These plans are not equivalent to the comprehensive watershed management plans that are being produced through other processes in the province. Furthermore, WUPs will not address issues such as treaty entitlements and historic grievances from facility construction.

notes

² For the purposes of these guidelines, the terms “works,” “water control facilities,” and “facilities” are used interchangeably.

Who should read this document?**2.2 Purpose of the guidelines**

These guidelines are intended to provide information and guidance for help in the preparation of WUPs by licensees (holders of water licences) or applicants for licences (proponents). Their purpose is to:

- instruct licensees and proponents on the process for preparing plans and the procedures for receiving regulatory approval; and
- inform other relevant parties, including First Nations, agencies, interest groups, and the general public, on how to take part in the development of WUPs.

2.3 Application of the guidelines**Where are WUPs needed?**

The Comptroller of Water Rights or other appropriate authority under the *Water Act* (hereinafter the “Comptroller”)³ may require that a WUP be prepared for any existing licence. Expected priorities for the completion of plans are power developments, municipal water systems, and larger-scale industrial operations. However, WUPs may also be required for other water control facilities where there is an undesirable effect on fish, aquatic habitat, or other important values.

While WUPs for existing licences may be required as needs are identified, proponents seeking new licences⁴ for larger-scale operations (industrial, agricultural, municipal, or other facilities), or for works located on particularly valuable or sensitive streams, should anticipate that plans may be required as a condition of their licences.

2.4 Revisions to the guidelines**Will the process evolve?**

As a new process, water use planning is likely to evolve over time, as licensees/proponents and other interested parties learn more about its practical application. In particular, valuable experience will be gained with methodological issues, such as the scoping of water use interests, data analysis, and the assessment of water use tradeoffs. Therefore, the guidelines may undergo future revision.

³ Under the Act, the Water Comptroller and the Regional Water Manager are authorized to issue and amend licences; as well, they share with the Engineer the right to regulate works and to determine the beneficial use of water. Depending on the circumstances, one or more of these officials has the power to initiate the development of a WUP. In these guidelines, the three levels of authority are referred to collectively as the “Comptroller.”

⁴ New licences includes those for an expansion to existing licensed rights.

3.0 BOUNDARIES OF THE PLANNING PROCESS

The WUP process recognizes existing legal and constitutional rights and responsibilities. These include existing rights and responsibilities under current licences; constitutionally protected treaty rights, aboriginal rights and title; conservation of fish habitat; and protection of human health and safety through flood control.

WUPs are not meant to fetter the discretion of either the Comptroller or the Minister of Fisheries and Oceans to exercise regulatory options conferred by statute. The primary objective of government agency participation in plan development is to ensure facility operating parameters that satisfy the regulatory requirements.

3.1 *Water Act*⁵

WUPs will be developed within the context of the *Water Act*, under which provincial water licences are issued. The Act governs the construction, operation, and maintenance of works to ensure the beneficial use of the water resource.⁶ A WUP for a particular water control facility will be prepared as part of the licensing process, with the end result being an order to operate the works consistent with the plan.

The *Water Act* confers on the Comptroller certain powers and responsibilities with respect to flood control, public safety, and the environment. The exercise of this authority has evolved over time and must consider the rights of the licensee, as well as the public interest.

Section 31 of the Act, for example, allows the Comptroller to order an inquiry to resolve a water use conflict at specific works. Wherever possible, the intent will be to conduct such an inquiry in a less formal manner, by having the licensee or proponent develop a draft WUP in accordance with these guidelines.

When a WUP is required for existing licensed works, the outcome of the planning process may be to recommend one or more of the following:

Regulatory authority is unchanged

WUPs in the licensing process

Inquiry by the Comptroller

notes

⁵ Appendix A provides more background on the *Water Act* and other legislation discussed below.

⁶ Section 39(1) of the *Water Act* allows the Comptroller or other designated authority to determine what constitutes the beneficial use of water, with the assistance of other experts as required.

Diminishment of water rights

- a better definition of how water rights will be exercised over a range of conditions;
- a modification to operations to bring the facility into compliance with regulatory requirements;
- an amendment of the licence(s) to reflect the existing operations;
- a voluntary change to operations resulting in a diminishment of water rights; and
- a reduction of licensed rights to reflect the extent to which the licensee has made beneficial use of the water.

If rights are voluntarily diminished and there are financial impacts on the licensee, compensation for losses will be an important consideration in the making of such changes.

3.2 Fisheries Act and Fish Habitat Management Policy

Water control facilities are subject to the federal *Fisheries Act*, which governs the protection of fish and fish habitat in Canada. The Act empowers the Department of Fisheries and Oceans (DFO) to set requirements for minimum water flows, the construction of fishways, fish guards or screens, pollution prevention, fish habitat protection, and other matters.

DFO orders to protect fish

For example, under Section 22(3) of the *Fisheries Act*, DFO can issue an order to ensure the availability of sufficient water flow from water control structures for the safety of fish and spawning grounds. In addition, Section 35(1) ensures that fish habitat is not harmfully altered, disrupted, or destroyed unless authorized by the Minister of Fisheries and Oceans under Section 35(2). Such an authorization will trigger a review under the *Canadian Environmental Assessment Act* (CEAA).

Net gain policy for fish habitat

DFO's *Policy for the Management of Fish Habitat* identifies a long-term policy objective of achieving an overall net gain in the productive capacity of fish habitat.⁷ This objective is to be realized through active conservation, restoration, and development of fish habitat. In addition, integrated resource planning with all resource sectors (forestry, mining, hydro generation, etc.) is recognized as a means to ensure that the fisheries resource is maintained in Canada. The WUP process provides a mechanism for achieving the net gain policy objective at individual facilities throughout British Columbia.

⁷ Canada, Department of Fisheries and Oceans, *The Department of Fisheries and Oceans Policy for the Management of Fish Habitat*, October 1986.

Other initiatives to be addressed

3.3 Other legislation

As in the case of most provincial processes, WUPs may have implications for other legislation, and vice versa. Examples of other acts, planning processes, and international agreements to be taken into account when preparing WUPs include:

Provincial

B.C. Environmental Assessment Act (BCEAA)

Fish Protection Act

*Water Protection Act*⁸

Park Act

Wildlife Act

B.C. Utilities Commission Act

Conservation and Heritage Act

Forest Practices Code

Land and Resource Management Plans (LRMPs)

Liquid Waste Management Plans

Federal

Canadian Environmental Assessment Act

Navigable Waters Protection Act

International Rivers Improvement Act

Columbia River Treaty

Boundaries Water Treaty

Environmental Assessment

Plans for new water control projects will be subject to the BCEAA, and to the CEAA in cases where joint federal-provincial environmental reviews are required. These provincial and federal processes are harmonized, with the notion of one project/one assessment, but two distinct decision-making processes on completion.

While there are some differences between the WUP and B.C. Environmental Assessment processes in terms of their scope⁹ and consultative requirements, whenever feasible information gathering and consultations for both processes will proceed in parallel if an application is being considered under the BCEAA. It is expected that the proponent will take full advantage of the synergies between the two processes to ensure that they are conducted as efficiently as possible, with minimal duplication and conflict.

⁸ Among its provisions, the *Water Protection Act* prohibits any bulk water removals from the province. All WUPs will comply with this legislation.

⁹ For example, where the project involves an addition to an existing water control facility and meets the size threshold for provincial environmental assessment, BCEAA applies only to the project's incremental capacity, whereas a WUP process considers the entire facility.

3.4 Constitutionally protected treaty rights and aboriginal rights and title

Important legal context

Existing aboriginal and treaty rights are protected under Section 35 of Canada's Constitution. These rights continue to be interpreted by case law, and are site- and fact-specific.

For example, the Supreme Court of Canada ruled on *Delgamuukw* in December 1997 and established new law respecting aboriginal title. Prior to this ruling, the Province's approach to avoiding infringement of aboriginal rights was outlined in a policy framework¹⁰ which responded to earlier Supreme Court Decisions, such as the *Sparrow* (1990), *Van der Peet* (1996), *N.T.C. Smokehouse* (1996), and *Gladstone* (1996) fisheries cases.

In September 1998, the Province released operational guidelines for undertaking consultations in view of the potential for the existence of aboriginal title.¹¹ These guidelines confirm that the earlier policy framework respecting aboriginal rights is still in effect. Aboriginal rights to hunt and fish, for example, may exist regardless of whether a case can be made to prove exclusive use and occupation for aboriginal title.

Past versus current infringement

While WUPs are not expected to lead to new infringements of aboriginal rights or title, it is possible that the facility's original construction may have infringed on these rights in the past. Any claims of past infringement are best resolved by negotiation among relevant parties outside of the WUP process. It is also possible that previous operation of a facility may have infringed on aboriginal rights. Opportunities may exist to reduce the impacts from current operations, and these matters would be appropriately considered through water use planning.

One of the Province's intentions in developing WUPs is to address First Nations issues. To ensure that existing aboriginal and treaty rights are recognized, the WUP process will include consultation with First Nations potentially having rights in the facility area. In the event of any new issues or any periodic review and decisions to amend a WUP, the consultation process will be engaged.

notes

¹⁰ Province of British Columbia, *Crown Land Activities and Aboriginal Rights Policy Framework*, January 1997 (revised).

¹¹ B.C. Ministry of Aboriginal Affairs, *The Post-Delgamuukw Consultation Guidelines*, September 1998.

It should be noted that the WUP process may be revised as a result of further legal developments on aboriginal issues, including the question of title. As well, the Province anticipates other changes in the consideration of First Nations issues as experience is gained with water use planning.

3.5 The role of consultation

The scope of consultation

WUPs assist in the management of water resources to provide benefits across a variety of cultural, economic, environmental, safety, and social objectives. As a result, a range of water uses and interests needs to be identified and considered. The WUP consultative process (see Section 4.2, Step 3) is crucial to ensuring that this diversity is captured in the development of each plan.

These guidelines call for consultation to be flexible to meet local circumstances and needs. Overall, however, the goal is to provide an opportunity for interested parties to participate in plan development in a meaningful manner. All interested parties, including the licensee/proponent, are all expected to contribute to the process in good faith.

Responsibilities of participants

Participants in WUP processes are given the responsibility of:

- articulating their interests in water management;
- listening to and learning about other water use interests;
- developing an information base for discussion and review;
- exploring the implications of a range of operating alternatives; and
- seeking compromises across water uses.

Each process will strive for, but not require, consensus on all aspects of a water use plan. Consultations are intended to encourage more open and accessible water management decisions. The consultative process should foster an atmosphere of shared resource stewardship among the interested parties. This may lead in the long term to a better understanding and acceptance of, as well as support for, resource decisions.

Advisory nature of the process

WUPs are forward-looking

WUP consultations will include methods for communicating key messages to the general public, and for receiving public feedback into the process. These methods may include open houses, focus groups, and town hall meetings.¹² In addition, the WUP process must incorporate appropriate strategies for consulting with First Nations whose treaty rights and/or aboriginal rights (including title) may be affected by the facility. First Nations consultations will follow the prevailing guidelines established by the Province¹³ (see Section 3.4).

Decision-making authority for provincial water management lies with the Comptroller. The Comptroller's review and approval will consider the output of the consultations for each plan, as well as broader provincial priorities and legislative requirements. The consultative process is therefore advisory, aimed at improving the basis for, and transparency of, decision-making.

3.6 Time scope of WUPs

WUPs will focus on existing water uses at water control facilities around the province. At the same time, plans will be forward-looking, to the extent that participants will bring to the table their "vision" of how existing uses will be affected in the future.

Plans are expected to include adaptive management provisions to gather new information as WUPs are implemented. There will also be periodic plan reviews to incorporate this information and address new issues, such as emerging water use conflicts. The review period will vary with the facility and the complexity of issues at stake.

notes

¹² See Appendix B for more discussion on public consultation.

¹³ See Ministry of Aboriginal Affairs, *supra* Note 11.

4.0 WUP PROCESS

Figure 1 provides an overview of the WUP process from plan initiation and announcement, through development to regulatory approval, monitoring and compliance, and plan review.

The WUP process is meant to be sufficiently flexible to accommodate the needs of different water control facilities and participants. At the same time, consultative discussions will be structured to identify and explore a range of alternative operating regimes, and to seek compromises across interests while remaining within regulatory and other boundaries.

The length of the process will vary by facility, depending on the complexity of issues, which will affect the time required for data collection, analysis, and discussion among the participants.

4.1 Initiation and announcement

The Comptroller initiates a WUP process for the particular facility.

A WUP process may be initiated by the Comptroller as a result of:

- 1) a water use conflict which has come to the Comptroller's attention;
- 2) the Comptroller's review of the licence and exercise of the licensee's rights, either:
 - (a) in response to
 - (i) the consideration of a licence amendment, or
 - (ii) an application for an additional licence for the facility; or
 - (b) as part of the Comptroller's regular duties and responsibilities to make (i) routine compliance monitoring of water use activities and inspections of facilities, or (ii) a determination of the beneficial use of water;
- 3) an application for a licence for a new facility; or
- 4) a request by the licensee (e.g., where facility operation is to be changed beyond the terms and conditions of existing licences).

In determining when and where a plan is required, the Comptroller should consider information on the impacts of facility operation from federal and provincial agencies; First Nations; local government; and other licensees, landowners, or persons with special knowledge of the stream or area.

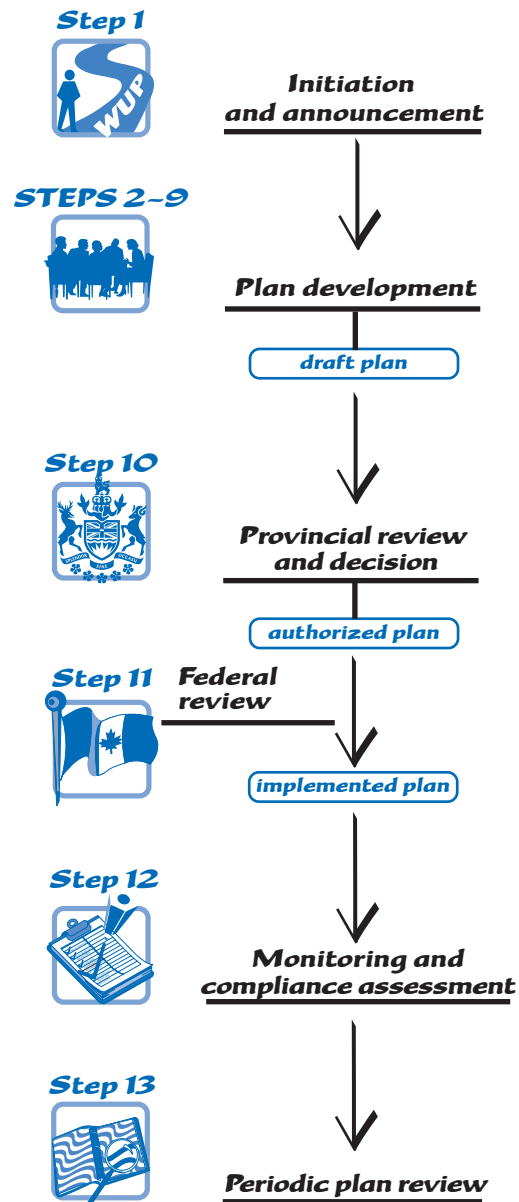
Once a process has been initiated, the licensee/proponent will issue a public announcement, in consultation with the Comptroller. The Comptroller will ensure that interested parties are provided with information on individual WUP processes.



Triggers for a plan

Announcement of the process

FIGURE 1
WUP Process: Overview



STEPS 2–9

Responsibility for plan development

Balance in the process

4.2 Plan development

Figure 2 illustrates the steps involved in preparing a draft WUP from the preliminary design and scoping phase through to completion of the draft document.

Ultimately, the licensee or proponent is responsible for plan development.¹⁴ However, the onus is also on the licensee/proponent to work with other participants and the Comptroller to design and implement the plan's preparation.

The planning process is designed to be inclusive and transparent, with a balance of players to ensure that no one participant unduly dominates it. Participants can disagree with the final draft plan and register their dissatisfaction in the consultation report (see Step 8). In this case, the Comptroller may decide to conduct an inquiry in which interested parties can express their concerns through an oral hearing. If the plan is approved against their objections, then these parties have legal recourse through an appeal mechanism (see Step 10). Notwithstanding, full participation of various interests in water use planning is expected to ensure an effective and efficient process. The process will work best if participants take part in good faith and do not opt out in anticipation of further inquiry or appeal.

As a further balancing force, the Comptroller will monitor the WUP process to ensure that it is consistent with consultative obligations under the *Water Act*.

notes

¹⁴ In this respect, WUPs are comparable to the Environmental Assessment Process, which places final responsibility on the project proponent.

STEPS 2-9**FIGURE 2****WUP Process: Plan Development****Preliminary work:
Determining issues and process**

- Step 2 – Scope water issues and interests
- Step 3 – Determine consultative process
- Step 4 – Define water use issues and objectives

**Gathering information**

- Step 5 – Collect data on water use impacts

**Creating and evaluating alternatives**

- Step 6 – Create operating alternatives
- Step 7 – Assess tradeoffs between alternatives
- Step 8 – Determine and document areas of consensus and disagreement
- Prepare consultation report

**Documenting**

- Step 9 – Licensee prepares draft WUP

**draft WUP and
consultation report**

Step 2

Identifying issues and interests

Consultative needs and wishes

The licensee or proponent scopes the water use issues and interests with regulatory agencies and key interested parties.

Meetings will be held between the licensee/proponent and agencies¹⁵ and key interested parties to scope the water use issues and interests appropriate to the facility. For this initial scoping, the licensee or proponent will collect, review, and summarize available technical data from various sources relating to water flows and their impacts¹⁶ on flood control, fish and aquatic ecosystems, and other water use issues. The data review will help identify gaps in information and the need for further technical studies to be undertaken during the plan's development.

The Comptroller will have an important role in assisting in the identification of the range of interests to be consulted, including parties with affected rights under the *Water Act*. As part of the discussions with agencies, the Comptroller, and others, the licensee/proponent will also review options for a consultative process to reflect local needs and circumstances (Step 3). In particular, early discussions with First Nations will be essential to ensure that appropriate consultative approaches are used and that WUP-related First Nations issues are identified in advance.

notes

¹⁵ The licensee or proponent will request the participation of interested provincial and federal agencies in the WUP process.

¹⁶ Throughout these guidelines, the impacts of water flows refer to the consequences both downstream and upstream of water control facilities.

Step 3**Goals of the consultative process*****The licensee/proponent determines the consultative process to be followed and initiates it.***

Using the suggestions from Step 2, the licensee/proponent, in consultation with the Comptroller, will define a consultative process for involving regulatory agencies and other interested parties in plan development.¹⁷

The purpose of the consultative process is to ensure that the most comprehensive and accurate information on water use impacts is available to all parties and ultimately to the Comptroller, as decision-maker on water allocation. The process will work best if participants take part in good faith, and do not opt out in anticipation of a future inquiry by the Comptroller or an appeal of the Comptroller's decision (Step 10). It is expected that the full participation of the various interests will ensure an effective and efficient process.

All interested parties have the opportunity to be involved in the WUP process. This involvement should be meaningful, flexible, and inclusive. The consultative techniques, such as focused stakeholder meetings or open houses, will be determined by the licensee/proponent, with advice from the Comptroller and information from the scoping exercise. These techniques will be tailored to the specific needs and circumstances of each process.

The roles of the participants

The roles of the participants are as follows:

The **licensee** or **proponent** will manage plan development (Steps 2 through 8); and will prepare and submit the draft WUP. In addition, the licensee/proponent will take part in the consultative process and provide technical information. The licensee/proponent may retain facilitators to assist in managing the consultative process.

Provincial and federal agencies, such as DFO, the Ministry of Environment, Lands and Parks (MELP), BC Fisheries (BCF), Ministry of Employment and Investment (MEI), and Ministry of Forests (MOF), will also take part in WUP processes. In particular, they will supply technical information and represent regulatory interests in certain water uses (e.g., flood control, fisheries, power generation) or in other regulatory/policy areas that may be affected by WUPs. In addition, these agencies will provide information and advice to the Comptroller, as needed, during the review of a draft plan.

Local governments have the opportunity to participate in plan development, representing local interests in the environmental, economic, and social impacts of different water uses.

¹⁷ Appendix B outlines some principles and techniques for the consultative process.

First Nations will be able to make representations of their constitutionally protected treaty rights and aboriginal rights and title and engage in consultation as appropriate (See Section 3.4). They can also bring to the table their broader interests in the environmental, economic, and social impacts of alternative water uses.

Affected interests under the *Water Act*, including other licensees, applicants for licences, and property owners, will be notified when a WUP is initiated in their area, and may participate in the process. As well, they will have an opportunity to review the draft plan through a referral from the Comptroller.

Other interested parties, such as recreational organizations, conservation groups, and ratepayer associations, may represent their particular interests in WUP processes. Their involvement may include helping to scope issues and interests, providing information on water use impacts, and taking part in focused stakeholder meetings.

The **general public**, with its broader interests in water management, will be able to learn about a WUP process and have input into plan development through open houses and other consultations.

In practice, the consultative process is likely to change over time, adapting to the specific needs and interests of those involved. Changes of this kind can make consultation much more effective. However, the Comptroller should be kept informed of any ongoing modifications to the process. Such close interaction is in the best interest of the licensee/proponent, since a satisfactory WUP process will help fulfill the Comptroller's statutory obligations for consultation and, so, will work to expedite regulatory approval.

***The Comptroller's
involvement***

Step 4

**Defining water use
objectives**

Defining measures

The licensee or proponent, together with the other participants, confirms the issues and interests in terms of specific water use objectives.

Once the consultative process is underway, a key step will be to confirm with the participants the results of Steps 2 and 3, and to identify any significant omissions from either the initial scoping of issues and interests or the process design. This will provide an opportunity to introduce concerns and information from a broader range of interested parties than those involved in Steps 2 and 3.

Next, the participants will define the objectives corresponding to the issues and interests identified. Essentially, objectives refer to “what matters” when comparing alternative operating regimes for the facility on the basis of their water use impacts. The task of defining objectives will include the selection of “measures” to assess how well the objectives are achieved.¹⁸ While the objectives and measures may be refined in subsequent steps (e.g., Step 5), it is important to reach agreement on them as early as possible in the plan’s development.

Every plan must consider the issues of fish and aquatic habitat protection, flood control, the beneficial use of water by the licensee (e.g., power generation), and First Nations issues. Other values, such as agriculture, wildlife, and recreation and tourism, may also need to be addressed, depending on the facility.

notes

¹⁸ To illustrate the distinctions intended here, a fundamental issue that needs to be addressed at a number of facilities are impacts on fisheries. An accompanying objective for fisheries is protection of fish habitat. Measures of this objective include the amount, type, and quality of habitat. Measures refer to ways for assessing the achievement of objectives in both quantitative and qualitative (descriptive) terms.

Step 5

Information exchange is key

Different types of information

The licensee/proponent gathers additional information on the impacts of water flows on each objective.

The preliminary discussions between the licensee or proponent and key parties (Step 2) will already have provided some basic information on the impacts of water flows and their timing. An important input into the WUP consultative process will be technical studies to refine and supplement these initial estimates of water flow impacts. The identification of both immediate and future information and research needs will involve participants.

Both the existing information from Step 2 and the results of the technical studies will be used to inform participants in the consultative process (including the licensee/proponent) on the flood control, fisheries, power generation, and other important interests in the water resource, and on the relationships between these interests and facility operations. Likewise, technical information provided by other parties on the effect of water flows on interests such as recreation and cultural values will help educate all participants with respect to these impacts.

Information will not be limited to the results of technical and quantitative studies, but will also include anecdotal and qualitative information, including judgements on the tradeoffs between water use objectives (see Step 7). That is, information will likely take different forms (e.g., traditional ecological knowledge) and will come from different sources. Expertise derives from experience with a water use, as well as from technical or professional training.

It will be important for participants to consider all information provided to a WUP process, and for that information (and analysis based on it) to be open to scrutiny by agency and outside experts. For example, understanding the impacts on First Nations water uses may call for Traditional Use Studies and/or aboriginal impact assessments. WUP processes are encouraged to include cross-cultural training for all participants to ensure that these and other First Nations information sources are understood prior to proceeding with the process.

Information should be provided on the advantages and disadvantages of a range of operating alternatives (Step 6) as early as possible in the WUP process. All parties should have full access to this information.

Filling the data gaps

There are likely to be gaps in the data required to assess the impacts of different flow regimes on water uses. Rather than serving as an obstacle to plan development, the information gaps should be documented and a research program for further data acquisition should be included in the draft WUP. The research program should consider the costs of additional data gathering and the expected value of the information to be acquired with respect to water use decisions. WUPs may include provisions for adaptive management, whereby new information on water use impacts will be analyzed and adapted for incorporation into future plan reviews and revisions.¹⁹

notes

¹⁹ The extent of the information gaps or uncertainty may, in turn, influence the length of the WUP review period (Step 14).

Step 6

***Consider a range of
alternatives***

The licensee/proponent, along with the other parties, creates operating alternatives for regulating water use to meet different interests.

The consultative process should lead to the development of a meaningful set of alternative operating regimes with which to evaluate and compare the impacts on different water uses.²⁰ Where possible, the options should be sufficiently distinct that they demonstrate varying degrees of tradeoff among alternative water uses, in moving from one operating regime to the next. Tradeoffs refer to how much of a negative impact on one water use objective (e.g., power generation) must be accepted to achieve a positive impact on another objective (e.g., recreational enjoyment).

The alternatives should reflect a variety of choices of operating conditions consistent with the multiple water uses at the facility. For example, in the case of a hydroelectric power facility, these could range from a “status quo” (no change in operations) option to a “no-dam” (dam removal) option. Generally, the alternatives should be forward-looking, recognizing that facilities are in place and that the focus of WUPs is on improvements to operations to reflect different uses.

notes

²⁰ The focus of a WUP is to determine how water could be allocated to accommodate different uses. However, there may be opportunities to undertake physical works as a substitute for changes in flow. If such works are technically feasible and cost-effective, they should be considered as part of the facility’s operating alternatives.

Step 7**Assessing water use choices**

The licensee/proponent, together with the other participants, assesses the tradeoffs between operating alternatives in terms of the objectives.

The operating alternatives will be evaluated and compared through technical analyses and discussions among the participants in the consultative process. Information from Step 5 will be used to assess the water use impacts of each alternative that, in turn, will help frame the discussions on tradeoffs between alternatives (the tradeoff assessment). By having the various parties involved in the consultative process, it should be ensured that regulatory, policy, and other public interests are properly represented in the tradeoff assessment.

Tradeoffs occur within the bounds set by legislation, regulations, policy, constitutional rights, and funding constraints. Tradeoffs will also recognize facilities as they exist and seek operational improvements²¹ to balance the water uses.

A group of tools defined herein as “tradeoff analysis” can assist in structuring the comparison of operating alternatives. There are a number of analytical tools, such as social benefit-cost analysis (BCA) and multi-attribute tradeoff analysis (MATA), that fall under the umbrella of multiple account evaluation (MAE) techniques.²² MATA, for example, elicits actual value judgements from people on their willingness to trade off one objective for another. The choice of methodology will depend on the specifics of the consultative process, the scale of facility, and the number and complexity of the water use issues.

Water resource management faces considerable uncertainty, particularly with respect to the various impacts (e.g., on fisheries and aquatic ecosystems) of different flow regimes. Uncertainty is a reality for most public policy decisions; it can never be totally eliminated. The analysis of tradeoffs must explicitly incorporate uncertainty and show how it affects the options and proposals that ultimately emerge from the WUP process.²³

The treatment of uncertainty**notes**

²¹ See Note 20.

²² MAE is specifically designed to consider the multiple interests and objectives inherent in resource decisions. See Crown Corporations Secretariat, *Multiple Account Evaluation Guidelines*, October 1993.

²³ Appendix C contains more discussion on tradeoff analysis and the treatment of uncertainty and risk.

Step 8



Consensus in a WUP process

Preparing the consultation report

Participants sign off on the report

The participants determine and document the areas of consensus and disagreement, and prepare a consultation report.

The discussions on water use impacts and tradeoffs for operating alternatives will lead to areas of consensus and disagreement among participants in the consultative process. Consensus is defined as a decision which participants can accept, without having to agree to all details of the operating regime. Consensus is not a requirement of the WUP process. However, if agreement is not achieved, parties should explain how their interests are adversely affected and how the plan currently under discussion could be altered to meet those interests.

Where the process identifies a preferred operating option (consensus), there should be documentation of the areas of agreement, as well as issues of contention, and the underlying tradeoffs between alternative water uses. Where no preferred operating alternative is identified (non-consensus), the documentation should record that consensus was not reached, indicate differences of opinion, and explain the reasons for disagreement.

The entire consultative process should be documented in a separate report from the draft WUP (Step 9). The consultation report will describe the consultative techniques, water use interests and objectives, technical information, operating alternatives, impact and tradeoff assessments, discussions and negotiations, and areas of consensus and disagreement. This report should be a product of the participants in the process (including the licensee/proponent), and should be prepared jointly by them.²⁴ A brief summary of the consultations and their results should then be included in, or appended to, the draft plan.

The consultation report is an essential record of the water use issues and interests identified for a particular facility and the analysis of tradeoffs associated with operating alternatives. This record will ensure that the Comptroller has complete and accurate information from participants for use in decision-making. The report will also describe the differences between participant perspectives. Participants will have the opportunity to sign off on the consultation report, and the document will be made public.

²⁴ Alternatively, participants may choose to have the licensee/proponent or a facilitator/neutral recorder prepare the report, which they will then review and comment on.



Preparing the draft plan

The licensee or proponent prepares a draft WUP and submits it for regulatory review.

The licensee/proponent will draft the plan, including a proposed operating regime and the specific operating parameters associated with that proposal. The draft WUP will be distributed for comment to participants in the consultative process; however the plan's ownership rests with the licensee or proponent. If consensus is reached in the consultative process, then a signatory page may be added to the draft plan indicating agreement by the licensee/proponent and interested parties. If no consensus is achieved, then the licensee/proponent is responsible for selecting which operating regime to propose.

In the case of no consensus, the recommended operating alternative will still be subject to review by the Comptroller, as final decision-maker, with the support of agencies and others. Areas of disagreement will be documented in the consultation report and appended to the draft WUP. Furthermore, the Comptroller will consult with interested parties during the review process and may order an inquiry if there are outstanding issues to be resolved (see Step 10).

Contents of the draft WUP

The draft plan is the core “deliverable” of the WUP process – a concise technical document detailing the parameters to meet a proposed operating regime. These operating parameters provide the basis for the actual constraints within which the facility owner/manager must make daily decisions.

The draft WUP should describe how the operating parameters are intended to help meet the range of objectives for other water uses acknowledged by the consultative process. It should also contain several other key items, including measures for monitoring compliance, notification procedures for spills and emergencies, monitoring studies and reports, and issues and timing for plan review.²⁵ The licensee/proponent will not be required to disclose any confidential business-related information in the plan or supporting material.

notes

²⁵ Appendix D presents a sample table of contents for use in drafting WUPs.

Contents of the submission

The submission to the Comptroller should include:

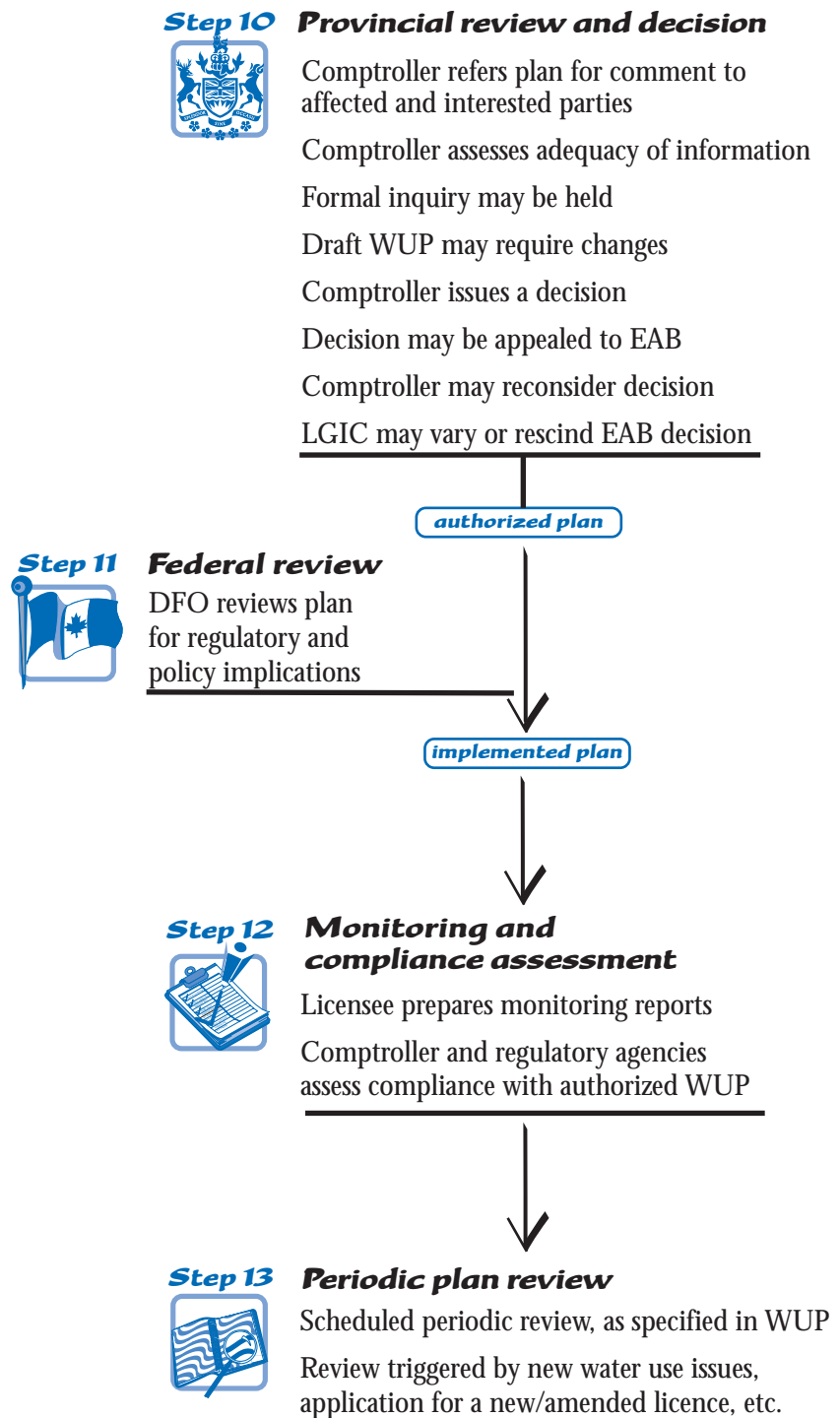
- a covering letter setting out the reasons for selection of the recommended operating alternative and explaining any significant differences from participant perspectives;
- the draft WUP and consultation report; and
- any applications for new or additional water licences, or for amendments to existing licences, not already submitted and required by the licensee/proponent to ensure compliance with the *Water Act*.

4.3 Decision

Figure 3 shows the steps for deciding on and authorizing a draft WUP, and monitoring an authorized plan for compliance.

FIGURE 3

WUP Process: Decision, Appeal, Monitoring, Review



Step 10



Referral of the draft WUP

The Comptroller reviews the draft plan and issues a decision.

The Comptroller has a statutory obligation to refer the draft plan for review and comment, along with notice of any amendment to an existing water licence or application for a licence, to parties who may be affected by a decision under the *Water Act*:

- 1) A licensee, riparian owner, or applicant for a licence whose rights may be affected, or an owner whose property may be physically affected by an applicant's works, will be given the opportunity to file an objection within a prescribed period of time.
- 2) Any person, agency, or minister of the Crown whose input is considered advisable (including First Nations, DFO and, if required, a senior-level government policy committee)²⁶ will be requested to comment and provide information on the draft plan within a prescribed time period.

Opportunity for comment

Other interested parties not included in (1) and (2) will be provided a copy of the draft plan for comment, as appropriate, as well as notice of licence amendments and applications.

The referral process is meant to give parties a chance to present directly to the decision-maker specific concerns that they consider to be inadequately addressed in the draft plan. The Comptroller will consider the information from these referrals, the consultation report, and the draft WUP to determine if all issues have been addressed, and whether any conflicts remain.

In the case of First Nations, the Comptroller's statutory obligation is distinct from the legal obligation to consult on matters affecting treaty rights and aboriginal rights and title (see Section 3.4). One of the objectives of the latter will be to assess support for the draft WUP, which will be an important consideration for the Comptroller during the review.

Modifications to the draft plan

As part of the review process, the Comptroller may require modifications to the draft plan. The Comptroller and the licensee/proponent will work together on any changes, and affected and other interested parties will be kept informed of them. However, this review should not be interpreted as a continuation of the consultative process described above under Plan Development (Section 4.2). For most WUPs, it is expected that Steps 2 through 8

²⁶ This senior-level government policy committee may be called upon for individual WUP processes where there are matters of public interest at stake (e.g., key resource policy conflicts). Depending on the specific facility and water use issues, the committee may be drawn from DFO, MELP, BCF, MEI, CCS, MOF, Treasury Board, Ministry of Municipal Affairs, Ministry of Aboriginal Affairs, and other relevant agencies.

**Oral hearing by the
Comptroller**

will provide sufficient information for the Comptroller to make the appropriate licensing decisions and authorize the plan. That is, if properly designed and implemented, the WUP process should contribute substantially to, but not replace, the Comptroller's consultative requirements.

However, if the Comptroller's review shows that some issues have not been adequately addressed, or the positions of affected and interested parties not completely defined, an oral hearing may be ordered. Following the hearing, the Comptroller will make the appropriate decision based on all the available information. In this way, parties can ensure that their concerns have been fully considered, and that the resulting WUP that is approved by the Comptroller is comprehensive in nature.

The authorized plan

The outcome of the review process will be a plan authorized by the Comptroller. Authorization may accompany the issue of a new licence or an amendment to an existing licence, or may occur as a regulatory order of an engineer under the *Water Act*, as appropriate. The Comptroller's decision will form the provincial government's endorsement of the plan, unless it is changed by appeal.

Appeal to the EAB

The Comptroller's order to approve a WUP, or to refuse a licence application, can be appealed to the provincial Environmental Appeal Board (EAB). It has been the Board's practice to accept appeals only from the party receiving the order, other licensees or proponents, riparian owners, and property owners physically affected by the works or their operation. Any decision by the EAB deemed not to be in the public interest can be varied or rescinded by the Lieutenant-Governor-in-Council (LGIC).

The result of an appeal will be either to confirm or reject the Comptroller's decision. In the case of a rejection, the EAB will either make a decision itself or send the matter back to the Comptroller for further consideration and review.

Step 11**Federal review*****DFO reviews the authorized WUP and issues a decision.***

Like provincial agencies, DFO is expected to be a full participant in plan development, committed to the consultative process and the pursuit of consensus on an operating alternative. It will review the WUP authorized under the *Water Act* and provide advice and authorizations, as appropriate. If DFO disagrees with the authorized plan, then it has other regulatory options at its disposal, including an action under Section 22(3) of the *Fisheries Act*.

Step 12**Licensee accountability****4.4 Monitoring, compliance, and review**

The Comptroller and regulatory agencies monitor and assess compliance with the authorized WUP.

The Comptroller's authorization causes a plan to be implemented. The WUP must lay out specific measures with which to assess compliance. Compliance assessment will then proceed by means of regular reviews of monitoring reports prepared by the licensee, as set out in the authorized plan. Compliance will be subject to the oversight of the Comptroller and regulatory agencies.

The licensee is responsible for operating the facility within the parameters contained in the plan. These operating parameters are set, in part, to achieve other resource use objectives, as determined from the consultative process. However, while the parameters themselves are clear-cut, their impacts on other water uses are uncertain, so that they may or may not achieve anticipated results. By operating within the parameters, the licensee hopes to attain the objectives for other uses of water, but cannot be certain of, or held accountable for doing so.

Step 13***Scheduled plan reviews******Adaptive management******Triggering a review******The licensee and Comptroller review the plan on a periodic and ongoing basis.***

The WUP should provide the opportunity for a scheduled periodic review which is oriented to specific priority issues that may arise during the plan's implementation. Both the review period and the "triggering" issues will be particular to the facility, and should be specified in the plan. The length of this review period will depend to a large extent on the certainty of the water use impacts (tending to be shorter where the impacts are more uncertain) and the economics of the facility. The review period should be long enough to provide a reasonable measure of security for facility operations.

Adaptive management provisions to collect and analyze new information for WUPs (see Step 5) are distinct from significant plan reviews.²⁷ For individual WUPs, the licensee may establish specific mechanisms to incorporate revisions to facility operating plans on an ongoing basis, subject to the Comptroller's approval.

Under the *Water Act*, the licensee can always initiate a licence review by filing an application to amend a water licence or to obtain a new licence. In addition, the Comptroller can review a WUP at any time on matters of compliance (see Step 1). If a new water use issue or conflict emerges during the plan's implementation, the Comptroller will determine the extent of the review necessary. In this respect, the original consultation report serves as an important guide in identifying which issues are high priority for the facility.

notes

²⁷ The distinction is that adaptive management procedures collect and analyze the new data, which will then be incorporated into the next plan review.

GLOSSARY/ACRONYMS

Applicant:	a person or organization that has filed a licence application under the <i>Water Act</i>
Application:	documentation filed under the <i>Water Act</i> to obtain a new water licence (for either a new facility or an expansion to an existing facility), or an amendment to an existing licence
Authorized plan:	a WUP that has received regulatory approval from the Comptroller
BCEAA:	<i>B.C. Environmental Assessment Act</i>
BCF	BC Fisheries
Benefit-Cost Analysis/BCA:	a valuation technique that compares alternatives in terms of their monetary benefits and costs to society
CCS:	Crown Corporations Secretariat
CEAA:	<i>Canadian Environmental Assessment Act</i>
Comptroller:	the Comptroller of Water Rights or other designated decision-making authority under the <i>Water Act</i> responsible for reviewing and approving water licences and WUPs
Consultation report:	a report documenting the WUP process, including consultative techniques, water use interests and objectives, operating alternatives, tradeoff assessment, discussions and negotiations, and areas of consensus and disagreement
DFO:	Department of Fisheries and Oceans Canada
Draft plan:	a draft WUP document submitted by the licensee/proponent to the Comptroller for review and approval
EAB:	Environmental Appeal Board
Facility/water control facility/works:	works for diverting, storing, confining, or otherwise controlling water, or for generating electric power
Interested party:	a person or organization with an interest/stake in a particular water use or uses (e.g., recreation, fish, aesthetics, power generation)
LGIC:	Lieutenant-Governor-in-Council
Licensee:	the holder of a provincial water licence
MEI	Ministry of Employment and Investment
MELP	Ministry of Environment, Lands and Parks
MOF	Ministry of Forests

Measure:	a way of assessing the attainment of a water use objective in either quantitative or descriptive terms
Multi-Attribute Tradeoff Analysis/MATA:	a valuation technique that uses a structured process to elicit value judgements from interested parties on the tradeoffs between alternatives
Multiple Account Evaluation/MAE:	a tool for systematically assessing and documenting the impacts of alternatives over a range of interests and objectives
Multiple use resource:	a resource that serves more than one user at the same time (e.g., recreation, navigation)
Objective:	a desired outcome of the use or management of a water resource and, hence, a basis for comparing the impacts of alternative uses (e.g., the protection of aquatic habitat, tourism development, minimized power costs)
Operating alternative:	an alternative operating regime or set of operating parameters for a facility
Operating parameters:	the technical constraints on facility operations that describe maximum, minimum, and target levels for reservoir elevation, water flows, rates of flow/diversion, etc.
Proponent:	an applicant for a water licence for a new facility
Project Approval Certificate/PAC:	the general approval issued for a project under the BCEAA process
Tradeoff:	a choice made between competing water uses; how much of one water use (e.g., power generation) an interested party is willing to exchange for another water use (e.g., fish protection).
Tradeoff analysis:	a set of analytical techniques, including BCA and MATA, which can be used to structure the tradeoff assessment
Tradeoff assessment:	an evaluation of the tradeoffs between operating alternatives in terms of different water use objectives
Value:	the subjective valuation or relative importance that a water use interest attaches to a specific water use
Values elicitation:	a structured exploration of the values which interested parties place on alternative water use objectives
Water licence/licence:	a licence issued under the <i>Water Act</i> which grants rights to a provincial water resource and sets conditions on the use of those rights

Water use:	a particular use for a water resource, such as aquatic habitat, recreation, or power generation
Water use impact:	the impact of a water control facility on another water use downstream or upstream of the facility
WUP/consultative process:	the specific process designed to involve the range of water use interests in plan development
Water use plan/WUP:	a document approved under the <i>Water Act</i> that defines the operating parameters to be imposed on a specific water control facility

notes

APPENDIX A: RELEVANT LEGISLATION

Water use plans are subject to both provincial and federal legislation, as summarized in Section 3.0 of these guidelines. Particularly important is the B.C. *Water Act*, under which water licences are issued and WUPs will be prepared and authorized. This appendix presents highlights of the *Water Act*, federal *Fisheries Act* and Fish Habitat Management Policy, provincial *Fish Protection Act*, and federal and provincial environmental assessment legislation.

A.1 WUPs under the Water Act

What is the Water Act?

The *Water Act* of British Columbia is the means by which the Province authorizes the construction, maintenance, and operation of works that store, divert, or provide for the use of surface water. Water licences grant rights on streams that define where works may be located; what their components may be; how much water may be stored, diverted, or used, and when; where the water may be used and for what purpose(s); and what particular conditions are relevant to the exercise of these rights.

Under the Act, the Comptroller of Water Rights or other designated authority²⁸ may regulate the storage, diversion, or use of water, as authorized by a water licence. The need to regulate is influenced by various flow conditions, from high-water levels to temporary water shortages or drought conditions. This regulatory authority is exercised so as to protect the prior rights of other licensees, and to provide for the protection of environmental values (e.g., fishery flows and habitat) and other provincial interests (e.g., flood protection or recreational benefits).

Where facilities are large in scale, their operation is complex, and the affected interests are significant and diverse, the Comptroller will require considerable information from the licensee and other parties in order to regulate effectively.

The WUP process is designed as a tool to enable the licensee to better understand the impacts from operation of the works, and to have direct involvement in the development of a plan that accommodates a range of needs or uses for the water resource. This plan can then be used by the Comptroller to regulate the storage, diversion, or use of water. By conforming to the conditions of the authorized plan, the licensee can operate in confidence knowing the environmental and other interests have been appropriately considered.

The role of WUPs

²⁸ For these guidelines, the Comptroller of Water Rights, Regional Water Managers, and Engineers have been grouped under the title “Comptroller.”

Launching an inquiry

The next two sections outline the *Water Act* process and how WUPs fit into it. Many of the stages of this overarching process correspond to steps in the WUP process itself, as described earlier in these guidelines.

A.2 Inquiry and WUP initiation

The Comptroller may find it necessary to start an inquiry under the *Water Act*, in order to resolve a water use conflict, ensure that a licence reflects actual practice, or review compliance with a WUP, with respect to:

- 1) an existing licence;
- 2) authorized works;
- 3) operation of the works;
- 4) beneficial use of the water;
- 5) regulation of the storage, diversion, rate of diversion, or use of water;
- 6) an application to amend a licence or the determination that a licence requires amendment; or
- 7) an application for a licence for either: (1) a new facility and storage, diversion, or use of water, or (2) the expansion of an existing facility and increased storage, diversion, or use of water.

Section 31 of the *Water Act* provides that:

If it appears to the comptroller, deputy comptroller or engineer (which includes a regional water manager) that the proper determination of a matter within his or her jurisdiction necessitates a public or other inquiry, he or she may hold that inquiry, and for that purpose has all the powers and jurisdiction of a justice under the Offence Act.

Wherever possible, the Comptroller will conduct the inquiry in a less formal manner by having the licensee or applicant for a licence develop a draft WUP in accordance with these guidelines. The licensee or proponent will be required to give notice of initiation of the WUP process to all parties that the Comptroller considers appropriate.

The outcome of the WUP process will be:

- 1) a consultation report;
- 2) a draft plan; and

- 3) one or more applications to:
 - a) amend the terms of an existing licence;
 - b) incorporate the provisions of a WUP; and/or
 - c) acquire additional rights.²⁹

If the process has produced a draft plan based on consensus among the participants, the Comptroller should be able to proceed with the adjudication of any applications in accordance with routine procedures. If the draft WUP is not a consensus document, or if new issues arise during the adjudication process, the Comptroller may find it necessary to complete a more formal inquiry.

A.3 Water Act adjudication

At the provincial level, approval of a WUP will require a review and decision by the Comptroller. This process will involve an application for a new water licence or licence amendment, notification of the application, an investigation, a decision, and the possibility of appeal.

Application

The Comptroller's decision will arise from applications for a:

New licence application

- 1) New water licence
An application for a licence may be filed (Section 10 of the *Water Act* and Part 2, Section 2 of the Water Regulation) by a qualified applicant (Section 7 of the Act), in order to acquire:
 - a) a new right to construct works and store, divert, or use water; or
 - b) an additional right to enlarge the capacity of works or store, divert, or use more water than is authorized under an existing licence or licences.

Licence amendment application

- 2) Water licence amendment
At the request of the licensee or another party, or on the initiative of the Comptroller, a licence may be amended (Section 18) or replaced with a substituting licence. Amendments could be designed to:
 - authorize changes to the works;
 - correct an error in the licence, which might include the clarification of certain provisions;
 - authorize the use of water for another purpose;

²⁹ Note that an application may be filed at any time. Indeed, by filing an application at or near the beginning of the WUP process, the adjudication process may identify objectors and issues early on which can be easily incorporated into plan development. In addition, the adjudication process may be streamlined once a draft WUP is submitted to the Comptroller.

Affected parties must be notified

Forms of notification

- extend the term of the licence;
- increase or reduce the quantity of water authorized to be stored or diverted, if it appears to have been erroneously estimated; or
- make some other change with the consent of the licensee.

Notice

Notification of an application is a statutory obligation which ensures that parties having rights under the *Water Act* will be informed of an application and will have an opportunity to file a formal objection (Section 11 of the Act).

The Water Regulation (Part 2, Section 3) provides direction for the giving of notice. While this provision is specific to applications for new licences, the requirements for giving notice can be more generally applied to other matters considered under the *Water Act*.

The notice requirements allow the Comptroller at any time to give, or require an applicant or licensee to give, notice of an application or other matter by any of the following means:

- a) posting a signed copy of the application in a secure manner at specific locations;
- b) giving notice in writing of the particulars of an application, where:
 - 1) a licensee or applicant will not be protected by the precedence of the licence or application;
 - 2) the rights of a riparian owner (a landowner whose property is adjacent to, and in contact with the stream) may be prejudiced by the application; or
 - 3) private property will be physically affected (e.g., by flooding or the construction, maintenance, or operation of works); or
- c) publishing notice in a newspaper approved by the Comptroller or Regional Water Manager (e.g., the local daily newspaper, *Vancouver Sun* or *Province*).

Persons receiving notice have 30 days within which to file an objection.

The Water Regulation also provides discretion for the Comptroller to give notice to any person, agency, or minister of the Crown whose input is considered advisable. This input will generally be sought through a referral, which is a less formal written process. The referral provides an opportunity for other agencies or interests to submit information or concerns that should

Consultation with First Nations

be considered by the Comptroller in an adjudication. The customary period for response to a referral is 30 to 60 days.

In addition, there is a legal obligation on the Comptroller to determine if the granting of a licence or licence amendment will infringe on aboriginal rights. Through direct consultation with a First Nation, which may require the exchange of detailed information, impacts on traditional activities will be assessed. The time period for proper consultation could be in the order of 4 to 6 months or longer, depending on the circumstances.

Investigation

Steps of an investigation

The investigation of an application may involve most or all of the following steps:

- 1) review of the particulars of the application and all information submitted in support of it (including a draft WUP and consultation report) to ensure that the applicant's proposal is clear and complete;
- 2) review of any objections, responses to referrals, and results of consultations;
- 3) review of all other information on record with the Comptroller (i.e., licences, files, maps, other data);
- 4) site inspection by engineering or technical staff to gather first hand observations on the source of water, status of land, location of works, and other pertinent information;
- 5) technical evaluation of the availability of water, impacts on other water uses, and issues related to the location, design, construction, maintenance, and operation of works;
- 6) a formal hearing or inquiry to resolve conflicts in information or in the views of interested parties; and
- 7) completion of a report that summarizes all the available information, provides an analysis of the application, and contains recommendations for consideration by the decision-maker.

Decision

Issuing of the decision

Unless an application for a licence, licence amendment, or other matter is refused, the Comptroller's decision will take the form of a conditional licence, a final licence, or an order (Sections 12, 14, 18, or 39 of the *Water Act*). A cover letter will be attached outlining the reasons for the decision and providing other information for the licensee's benefit. All persons objecting to any application, amendment, or other matter will receive a letter advising on the outcome of their objection. Other interested parties will receive a copy of the decision.

Opportunity for appeal

Appeal

Section 40 of the *Water Act* provides for the Comptroller's decision to be appealed to the Environmental Appeal Board (EAB). It has been the Board's practice to accept appeals from the party receiving the order, other licensees, applicants for licences, and landowners physically affected by the works or their operation. Any decision by the EAB can be varied or rescinded by the Lieutenant-Governor-in-Council, if it is deemed not to be in the public interest.

The WUP process and an application review may involve other interested parties. If these parties are unable to establish standing before the EAB, they may seek a judicial review in cases where they are dissatisfied with the Comptroller's decision.

What is the Fisheries Act?

A.4 Fisheries Act and Fish Habitat Management Policy

Under the Constitution, the federal government has jurisdiction over all fisheries in Canada. Canadian fisheries are regulated by the *Fisheries Act*, from which the federal Minister of Fisheries and Oceans and DFO derive their authority for protecting fish and fish habitat.

Key provisions of the Act include Section 22(3) relating to sufficient water flows for fish protection and Section 35 relating to harmful impacts on fish habitat:

Section 22(3): Sufficient water for river-bed below dam.

The owner or occupier of any obstruction shall permit the escape into the river-bed below the obstruction such quantity of water, at all times, as will, in the opinion of the Minister, be sufficient for the safety of fish and for the flooding of the spawning grounds to such depth, as will, in the opinion of the Minister, be necessary for the safety of the ova deposited thereon.

Section 35(1): Harmful alteration, etc., of fish habitat.

No person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat.

Section 35(2): Alteration, etc., authorized.

No person contravenes subsection (1) by causing the alteration, disruption or destruction of fish habitat by any means or under any conditions authorized by the Minister or under regulations made by the Governor-in-Council under this Act.

Federal policy framework

In 1986, DFO released a new federal policy for managing fish habitat in Canada.³⁰ Its *Policy for the Management of Fish Habitat* identifies a long-term objective of achieving an overall net

³⁰ Canada, Department of Fisheries and Oceans, *The Department of Fisheries and Oceans Policy for the Management of Fish Habitat*, October 1986.

What is the Fish Protection Act?

gain in the productive capacity of fish habitat. This objective is to be realized through active conservation, restoration, and development of fish habitat. In addition, integrated resource planning with all resource sectors (forestry, mining, hydro generation, etc.) is recognized as a means to ensure that the fisheries resource is maintained. The WUP process provides a mechanism for achieving the net gain policy objective at individual facilities throughout British Columbia.

A.5 Fish Protection Act

The Province's new *Fish Protection Act* is a comprehensive piece of legislation designed to ensure the protection of fish stocks and habitat, particularly on "sensitive streams" where fish are most threatened. For streams so designated, recovery plans will be developed with stakeholder involvement. Other provisions of the legislation include:

- no new bank-to-bank dams on provincially significant rivers;
- improved water licensing procedures and the granting of licences to conservation groups;
- better riparian protection for urban streams; and
- tax incentives for landowners to use conservation covenants for fish habitat protection.

As part of the *Fish Protection Act*, amendments to the *Water Act* are currently under consideration. Regulations will be prepared under both statutes to ensure consistency with the requirements of WUP processes.

A.6 Environmental assessment legislation

Provincial environmental reviews

The *British Columbia Environmental Assessment Act* (BCEAA) and associated regulations came into effect in June 1995. BCEAA applies to all new power plant and water management containment/diversion projects, as well as to modifications to existing facilities, above certain size thresholds. Under the legislation, the actions of project proponents are regulated through the terms and conditions of a Project Approval Certificate (PAC). The PAC provides the general terms of reference and approval-in-principle for construction, operation, and abandonment; permits and licences provide the details of these activities over the project life. The Act does not apply to the operation of existing facilities.

Federal environmental reviews

The *Canadian Environmental Assessment Act* (CEAA) replaced the federal Environmental Assessment and Review Process Guidelines Order in January 1995. CEAA requires that all federal authorities conduct an environmental assessment prior to exercising a power, duty, or function. The Act applies to projects for which the Canadian Government has decision-making authority, as a proponent, land manager, regulator, or source of funding. That is, it applies where the project is proposed by a federal department, federal land interests are disposed of (through sale, lease, or the transfer of control) to enable the project, or federal regulatory powers or duties are exercised. As in BCEAA, there are project size thresholds that further refine where CEAA is applicable.

If an application is under BCEAA review, and the requirement for a WUP has also been specified for the project, then information gathering and consultations for the two processes should be harmonized to the fullest extent possible.

APPENDIX B: PUBLIC CONSULTATION

Sections 3.5 and 4.2 (Step 3) of these guidelines outline a consultative process for involving government agencies, First Nations, other interested parties, and the general public in the development of water use plans. This appendix provides some background on the objectives, principles, and techniques for public consultation as it applies to WUPs.

B.1 Objectives

The objectives of public consultation in the preparation of WUPs are to:

- allow for the various interests in water resources to be properly articulated, as input into decisions about resource management;
- ensure that local and regional water use concerns are appropriately balanced with provincial priorities for water management;
- develop a collective information base on water use impacts to assist in decision-making;
- explore alternative operating regimes for facilities and seek creative compromises across water uses; and
- contribute to the documentation of how the proposed operating regime was selected.

B.2 Principles

The WUP consultative process should be designed to encourage:

- *inclusion and representation* – the involvement of a range of interests in the water resource, including local and regional interests, with a goal of balanced and effective representation;
- *flexible, meaningful consultation* – the selection of consultative approaches that are suited to the particular water resource issues and participants, and that ensure meaningful public input at different stages of plan development;
- *two-way communication and mutual respect* – discussions and information exchange that lead to understanding and negotiation, as well as joint responsibility, with a respect for the diverse perspectives and knowledge of different interests;

What should the consultations do?

Criteria for the process

- *early and ongoing consultation* – the opportunity to share in the initial scoping of issues, plan development, and follow-up (implementation and review), with a commitment to participate in the WUP process in good faith.

The process should also meet legal requirements for consultation as set out in the *Water Act* (see Appendix A).

B.3 Techniques

Methods for consultation

Consultative techniques for WUPs may encompass both focused and broad-based public consultation:

- *stakeholder committee processes* – a series of structured meetings bringing together representatives of interests to explore issues and work towards broad agreement on a decision;
- *open houses* – informal drop-in sessions for the public to receive information through displays and presentations;
- *public/town hall meetings* – more formal sessions allowing the public to hear presentations, ask questions, and provide feedback;
- *site visits* – opportunities for the public to visit a particular facility, in order to learn about it and observe in person issues of concern; and
- *other techniques* – survey questionnaires, interviews, focus groups, and other methods for informing and receiving input from the public.

Further information on consultative techniques can be obtained from the B.C. Environmental Assessment Office's *Guide to the British Columbia Environmental Assessment Process*³¹

³¹ Province of British Columbia, Environmental Assessment Office, Appendix II: *Achieving Effective Public Participation in the Environmental Assessment Process*, June 1995.

APPENDIX C: TRADEOFF ANALYSIS

What is tradeoff analysis?

“Tradeoff analysis” is defined in these guidelines as an array of analytical techniques that can be used to compare alternative operating regimes for water control facilities on the basis of multiple water use objectives. The analysis is intended to help structure the tradeoff discussions among participants in individual WUP processes, with the goal of finding compromises across water uses.

What the analysis should do

C.1 Objectives

The purpose of tradeoff analysis in preparing water use plans is to:

- frame the WUP consultative discussions to identify and explore the implications of a range of facility operating alternatives;
- demonstrate in concrete terms how different allocations of water affect different interests;
- provide participants in the WUP process and ultimately decision-makers with summary information on the water use impacts of operating options; and
- contribute to the documentation of how decisions are made (i.e., background information for the Comptroller’s “paper trail”).

Criteria for the analysis

C.2 Principles

To be useful for the WUP discussions, the tradeoff analysis should be conducted in a way that is:

- *flexible and adaptive* – suiting the scope and nature of the specific water use interests and issues, and accommodating different kinds and new sources of information;
- *inclusive and integrative* – bringing together information and points of view from a variety of expertise and experience, and exploring a range of operating alternatives and water use objectives;
- *practical and incremental* – recognizing the legislative, policy, and other limits on tradeoffs, and seeking incremental operational improvements to balance competing water uses; and
- *documented and accountable* – contributing to clear documentation of the WUP process, including differences between participant perspectives, and providing concise, understandable information to assist decision-makers.

Steps in the analysis**C.3 Process**

The process required for a typical tradeoff analysis parallels the steps for WUP development (see Section 4.2 of these guidelines):

- 1) Define the objectives of the water use interests, and measures for assessing their attainment.
- 2) Gather the information needed to make meaningful comparisons of the impacts associated with each objective.
- 3) Define a range of distinct operating alternatives for the facility.
- 4) Evaluate the tradeoffs between the alternatives in terms of the objectives/measures.
- 5) Assess the impact of risk and uncertainty on the evaluation of operating alternatives.
- 6) Document the analysis and results, for input into the WUP consultation report.

C.4 Techniques

There are a number of analytical tools that can be applied at different stages in the WUP tradeoff analysis. The choice of tool will depend on the circumstances of the particular facility and WUP process. A proper tradeoff assessment requires that the analytical technique not create a bias in favour of water uses which are more easily quantified (e.g., power generation and costs) over those which are harder to measure (e.g., aquatic habitat). That is, the methodology should be able to incorporate both quantitative and qualitative (descriptive) information on water use impacts.

The following are examples of tools that can assist in identifying and describing the impacts of operating alternatives on water use objectives:

- a) *Benefit-Cost Analysis (BCA)/Monetization* – BCA is a technique which compares alternatives in terms of their net benefits (benefits minus costs) to society. It places an emphasis on impacts that can be ‘monetized,’ or expressed in dollar values. This analytical tool is not well equipped to incorporate intangible goods, such as environmental degradation, that are difficult or even impossible to quantify in monetary terms.³³ As such, monetization is only one tool, albeit a useful one, for assessing the impacts of operating alternatives on certain water use objectives, including power costs, property values, and tourism revenues.

Examples of methodologies

³³ Typically, BCA compares the dollar net benefits of alternatives and then adjusts this comparison for a qualitative assessment of non-monetizable impacts. The challenge for such adjustments is that they must be transparent and well-documented for decision-makers, as opposed to being embedded in the analysis.

- b) *Multiple Account Evaluation (MAE)* – Standard MAE is a tool for systematically assessing and documenting the impacts on a range of water use interests and objectives. Compared to BCA, it has the advantage of expressing impacts in their “natural” units of measurement – that is, in quantitative (physical units or dollar values) or qualitative (descriptive) terms. MAE has been used extensively in electricity resource planning, land use planning, and other provincial applications to summarize information on the impacts of planning and project alternatives on environmental, social, and economic objectives.

Various other tools build on standard MAE to explore how people's values with respect to water use objectives would result in tradeoffs between the objectives. Techniques for assessing the relative values that stakeholders place on different objectives and alternatives (the values elicitation) include:

- c) *Threshold/Critical Value Analysis* – These tools explore the implications of imposing generic or arbitrary values on the tradeoffs between objectives. Typically, they posit sensitivity ranges (i.e., upper and lower bounds) on what the relative values could be, and then determine how the assumed tradeoff values would affect the assessment of alternatives. Threshold and critical value analysis can be easily accommodated in an MAE framework.
- d) *Multi-Attribute Tradeoff Analysis (MATA)* – As a further extension of MAE, MATA goes beyond threshold and critical value analysis to estimate actual relative values held by individuals and groups with a stake in the decision. A structured process is used to elicit value judgements from interested parties on what they believe the tradeoffs between objectives to be (e.g., what reduction in recreational values would be acceptable to save a fish spawning ground). There are numerous techniques for conducting MATA, including rating-and-weighting schemes, pairwise comparisons, and conjoint analysis, each of which varies in its complexity, ability to handle different kinds of information, and other characteristics. The choice of technique will depend on the specific water use application.

All of the tools mentioned above are consistent with the Province's *Multiple Account Evaluation Guidelines*.³⁴

³⁴ Crown Corporations Secretariat, *Multiple Account Evaluation Guidelines*, February 1993.

C.5 Risk and uncertainty

A key component of the tradeoff analysis, as well the entire WUP information-gathering process, is the assessment of uncertainty and risk. Many sources of uncertainty exist with respect to the environmental, economic, and social impacts of facility operations. The WUP tradeoff assessment must explicitly address uncertainty and show its implications for the facility operating alternative ultimately proposed in the draft plan.

Methods of uncertainty analysis

Techniques for analyzing risk and uncertainty include: ³⁵

- *sensitivity analysis* – examines the effect of changing one value or assumption in the analysis;
- *scenario analysis* – considers the combined effect of changing several variables, as embodied in alternative scenarios or futures;
- *Monte Carlo simulation* – uses statistical techniques to attach probabilities to key assumptions and generate a distribution of possible outcomes; and
- *provisions for adaptive management* – specify activities, such as research and monitoring, that build learning and adaptation into decision-making on an ongoing basis.

notes

³⁵ See CCS, *ibid*; and Tim McDaniels, *Improving the Practical Application of Multiple Accounts Analysis Within British Columbia's Land and Resource Management Planning Process*, Report Prepared for the B.C. Ministry of Environment, Lands and Parks, May 1996.

APPENDIX D: SAMPLE WUP TABLE OF CONTENTS

The following is a sample table of contents, using a hydro-electric facility as an example, for use in drafting water use plans. In practice, the specifics of the water control facility and WUP process may call for a different document format (including appropriate subheadings); however, the example provided below outlines the key information expected from a draft plan.

Summary

1.0 Purpose

A suggested opening line for the WUP is as follows:

The construction and operation of [name of facility] on the [name of stream] is authorized under the Water Act, and the terms and conditions for the beneficial use of water for [name of purpose(s) under the Act] is set out in this document.

Report also summarizes the relevant supporting information used in developing the conditions.

2.0 Location of Facility

2.1 Communities and transportation links

Describe the facility's geographic location, nearby towns and cities, transportation modes for reaching the facility (car, four-wheel drive vehicle, helicopter, etc.), and explicit directions for getting there.

2.2 Drainage basin

Describe the facility's location on the river system and general characteristics of the basin (characteristics governing runoff are described in Section 6.1 below).

3.0 Water Licences

3.1 Licences for facility

Briefly describe the water licences applicable to the facility, including a table outlining:

- licence and file numbers;
- dates of issue and precedence;
- maximum quantity of water which may be diverted;
- purpose(s) for which the licence has been issued; and
- total quantity of water for each purpose.

A copy of each licence for the facility should be attached in an appendix.

3.2 Other licences

Briefly describe all existing water licences upstream of the facility, as well as those downstream directly affected by it (same information as in 3.1 above).

Information on other licences is available in tabular form from MELP's Water Management Branch.

4.0 Water Reserves

Describe any orders-in-council that reserve water on the stream and their effect on the diversion of water at the facility.

A copy of each reserve should be attached in an appendix.

5.0 Works Authorized Under Licences

5.1 Existing works

Describe the overall physical characteristics of the existing facility in terms of the dam, reservoir, intake and control gates, spillway and control gates, turbines, generators, switchgear, and transmission lines to the grid.

Sufficient detail should be provided to give a quick and easy understanding of the overall works (further detail on specific components is provided in later sections).

Information may be presented through tables, figures, photographs, and other appropriate visual formats.

5.2 New works

For WUPs developed from an application for a new licence (i.e., a licence for a new facility or for additional water at an existing facility), describe the new works to be constructed.

In the case of new works at an existing facility, describe the resulting changes to total facility operations.

If the new works have been reviewed under other legislation (e.g., the B.C. *Environmental Assessment Act*), briefly describe the process and summarize the main features of any approval granted.

A copy of the permit(s) or approval(s) issued under other legislation should be attached in an appendix.

6.0 Availability of Water

6.1 Runoff distribution

Describe the physical geography of the river basin, as it relates to the factors affecting the amount and distribution of water that is available at the facility's reservoir.

Describe other facilities (power or other) that regulate the inflow of water.

Describe extreme events (flood and drought), as appropriate.

Sufficient detail should be included to provide a hydrologist with a good understanding of how the river system works.

6.2 Inflow forecasting

Describe all weather and streamflow gauges that are available for providing information to forecast water inflow for both floods and droughts.

Explain the methodology and process for maintaining the gauges and distributing the information obtained.

Describe the forecast model, its reliability, and any plans for improvement.

7.0 Operating Conditions for Facility

7.1 Total demand for water

Describe the licensee's/proponent's historical and projected total demand for water – defined in terms of maximum, minimum, and average annual demand.

Total demand extends beyond the specific facility, where the licensee/proponent has more than one facility.

Describe the actual distribution of total demand by month, week or day, as well as critical peak periods, as appropriate to the system.

For large complicated systems, it may be more appropriate to include this information in a separate document that can be referenced in the WUPs for a number of facilities.

7.2 Demand for water at facility

Describe the demand for water at the specific facility, in terms of comparable information to Section 7.1 above.

7.3 Operation of works for diversion and use of water

Describe the facility operating parameters that constrain operation of the water diversion works.

Specify the parameters themselves, the methodology for determining them, and the location of devices for measuring their achievement.

This section is the crux of the water use plan.

7.4 Operation of storage works

Provide comparable information for storage works to Section 7.3 above.

7.5 Operation, maintenance, and surveillance plan

Describe an operating, maintenance, and surveillance plan for the facility.

The Public Safety Section of MELP's Water Management Branch requires such a plan for all licensed dams.

Where a plan has already been prepared for a facility, it should be outlined in the WUP document and updated, as required (excerpts or the entire plan may be included in an appendix to the WUP).

8.0 Water Management Implications**8.1 Other licensed use of water**

Describe actions to be taken to protect the rights of licences senior to those authorizing the facility.

Identify any junior licences that may affect the facility's operation.

Actions are primarily related to the availability of water and the location and type of flow measurement to be undertaken.

8.2 Riparian rights

Describe riparian rights associated with the reservoir and stream below the facility, and actions to be taken to protect those rights.

8.3 Fishery flow

Describe the results of technical analyses of water flows required to ensure fish and fish habitat protection, and actions for implementing those results.

Sufficient detail should be included to provide an expert biologist with a good understanding of the fishery implications.

8.4 Wildlife habitat

Describe the wildlife habitat to be considered in the operation of the storage and diversion works, and actions for ensuring its protection.

Sufficient detail should be provided to allow a wildlife biologist an expert biologist a good understanding of the wildlife implications.

8.5 Flood control

Describe the function of the reservoir and works for flood control.

Information provided should include: the magnitude and duration of the flood to be contained; operating parameters during peak flooding periods; the extent of land to be flooded by a total facility discharge during a containment flood; local bylaws and regulations that may be affected by such a discharge (and any associated conflicts); and the relationship between total discharge and the potential damage from flooding of identified lands.

8.6 Recreation

Describe recreational activities and facilities on the reservoir and below the facility, and associated requirements for water levels or flows.

8.7 Water quality

Describe any impacts of facility operation on the quality of water in the reservoir or in the stream below the facility, and actions to mitigate the impacts.

8.8 Other potential use of water

Describe any plans instituted under other legislation related to land development in the watershed above the facility, or to development aimed at taking water below it.

Describe other key water use impacts (e.g., industrial, municipal, irrigation, residential).

8.9 First Nations considerations

Describe traditional aboriginal activities in the watershed above the facility and in the riparian zone of the stream below it.

8.10 Roads, bridges, and ferries

Describe the effects on roads, bridges, and ferries of operation of the works.

Identify the constraints imposed by these transportation links and steps to be implemented when events (e.g., floods) cause the constraints to be exceeded.

9.O Programs for Additional Information

Describe programs for filling information gaps to refine the facility operating parameters and the assessment of other water management implications.

Indicate the purpose of the research programs, data to be collected, methods of analysis, formats for presenting results, and criteria for assessing whether adequate information has been collected.

10.O Records and Reports

Describe the procedures and documentation for collecting data to monitor compliance with the facility operating parameters.

Specify the format and frequency for submitting compliance information, as well as the assignment of responsibility for ensuring security and integrity of the data.

11.O Plan Review

Describe the scheduled review period and triggering issues for the WUP.

12.O Notification Procedures

Describe the procedures for notifying key individuals in the licensee's organization, MELP's Water Management Branch, and other agencies and interested groups during floods or other emergency events.