

PROFESSIONAL RELIANCE REVIEW

The Final Report of the Review of Professional Reliance
in Natural Resource Decision-Making



Independent Report Prepared by: Mark Haddock



May 18, 2018

The Honourable George Heyman
Minister of Environment and Climate Change Strategy
PO Box 9047 Stn Prov Govt
Victoria, BC V8W 9E2

Dear Minister Heyman,

It is my pleasure to present you my report on the Professional Reliance Review in the Natural Resource Sector.

My recommendations have been informed by input from professional associations, government employees, and over 4,600 submissions received (including 1,800 from professionals) as part of government's public engagement on professional reliance.

I would like to thank the five professional organizations who were very generous with their time in support of the review process – the Applied Science Technologists & Technicians of BC, Association of BC Forest Professionals, BC Institute of Agrology, College of Applied Biology and Engineers and Geoscientists of BC.

Likewise, staff from provincial agencies with natural resource and environmental protection mandates were very helpful and I wish to thank them for their valuable assistance.

While staff in your Ministry assisted with me with this work and while – during the course of preparing this report – I was an employee of your Ministry, the report recommendations are my independent advice to the British Columbia government.

Yours sincerely,

A handwritten signature in blue ink that reads "M. Haddock". The signature is written in a cursive, flowing style.

Mark Haddock
Professional Reliance Review Lead

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Executive Summary

1 Executive Summary

In 2001 and 2002 the provincial government conducted a core services review, which involved a major effort to reduce regulations in the natural resource sector, reduce the size of government, and shift towards results-based regulation. As part of this effort, and in some cases integral to it, a system of professional reliance was also introduced. Professional reliance takes different forms across the natural resource sector, but in general terms it is a regulatory model in which government sets the natural resource management objectives or results to be achieved, professionals hired by proponents decide how those objectives or results will be met, and government checks to ensure objectives have been achieved through compliance and enforcement.

Over the last several years, examples have been raised by the Ombudsperson (*Striking a Balance: The Challenges of Using a Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Areas Regulation*, 2014) the Forest Practices Board (*District Managers’ Authority Over Forest Operations*, 2015), and the Auditor General (*An Audit of Compliance and Enforcement of the Mining Sector*, 2016) that highlight significant gaps in professional reliance models of regulation. Various high profile environmental protection and natural resource management issues, including the Mount Polley Tailings Storage Facility breach and the contamination of the Hullcar Aquifer, have drawn public scrutiny and brought to light decreased public confidence in some of the professional reliance regulatory regimes in effect in BC today.

Responding to a clear need to strengthen the professional reliance model, Minister of Environment and Climate Change Strategy George Heyman announced in October 2017 that the provincial government would review professional reliance in the natural resource sector to ensure that the highest professional, technical and ethical standards are being applied to resource development in British Columbia. The overall review includes this independent report as well as a series of government-led public and stakeholder consultations and engagement processes that together provide a comprehensive approach to inform efforts to strengthen professional reliance in the natural resources sector.

Objectives of review

The primary objectives of this review are to make recommendations on:

1. Whether professional organizations¹ that oversee ‘qualified professionals’ employ best practices to protect the public interest;
2. Whether government oversight of professional organizations is adequate; and
3. Conditions governing the involvement of qualified professionals in government’s resource management decisions and the appropriate level of government oversight to assure the public their interests are protected.

¹ In this report, the terms ‘professional regulators’ and ‘professional organizations’ are used interchangeably.

The intent of the recommendations in this review is to strengthen professional reliance by increasing transparency and accountability, ensuring the appropriate use of QPs, and implementing best practices, thereby resulting in improved outcomes from natural resource decisions.

Scope of Review

The scope of the review is described in Section 3 of this report. One major aspect of the review was to examine professional governance issues in the natural resource sector, involving the regulation by professional associations of *agrologists, biologists, engineers, geoscientists, foresters* and *applied science technicians and technologists*. The five organizations and acts within the scope of this review are:

- Applied Science Technologists & Technicians of BC (*Applied Science Technologists and Technicians Act*),
- Association of BC Forest Professionals (*Foresters Act*),
- BC Institute of Agrologists (*Agrologists Act*),
- College of Applied Biology (*College of Applied Biology Act*), and
- Engineers and Geoscientists of BC (*Engineers and Geoscientists Act*).

The provincial government is responsible for the legislation that grants these rights and powers, and has ownership and jurisdiction over natural resources, so it has both a policy interest and oversight responsibility associated with the professions. The issues relating to professional associations are addressed in Section 5.

My review also examined natural resource regulations and how they incorporate and rely on professionals external to government, who are usually employees or consultants to those carrying out resource development activities or activities that are regulated because they affect the environment.

Review Process

The review process is described in Section 4, and involved the following:

- An assistant deputy minister steering committee with 9 members representing 6 ministries and the Oil and Gas Commission;
- An audit working group conducted limited scope audits of the 5 professional associations, which are found in Appendix 9.3;
- A multi-agency regulatory review working group developed criteria, which are found in Appendix 9.6, for evaluating professional reliance issues across 36 types of decisions made under 9 acts;
- Targeted interviews with stakeholders known to have a strong interest in professional reliance issues, including industry associations, environmental organizations and Indigenous governments and communities;
- An engagement process to hear Indigenous governments and communities and public input. A total of 16 submissions or interviews with members of Indigenous government and communities took place, and 41 members of Indigenous governments and

communities contributed their thoughts and ideas through the public engagement surveys. More than 4,600 submissions were received in total. 1,802 professionals participated in the Qualified Professionals Survey, 2,249 individuals participated in the General Public Survey, 279 provided written submissions, and 102 stakeholders posted submissions. A quantitative analysis of the two survey results may be found in Appendix 9.1;

- A review of best practices in the governance of Professional Organizations regulating qualified professionals is included in Appendix 9.4; and
- A jurisdictional/sectoral scan was carried out to gain understanding of professional reliance and professional governance models for other professions in BC, Canada, and abroad and is included in Appendix 9.5.

The review process had two main streams: the *professional governance* stream addressed the first two objectives mentioned above dealing with the regulation of qualified professionals by their professional organizations and government oversight of those organizations. The *regulatory review* stream addressed the third objective and examined how regulations and authorizations utilize professionals. Relying on professionals outside of government is an inevitable and essential aspect of resource management, and is in the public interest. This review and report does not assess the performance of professionals; rather, it highlights governance issues that require strengthening to ensure best practices are being followed.

Professional Governance

The review examined 10 issues in professional governance, including: professional association capacity; council and committee composition; council authority; gatekeeper functions; specialist designations; quality management functions; codes of ethics; public interest; complaints and discipline; and association mandates. In addition, issues relating to government oversight of professional associations were examined and found to be inadequate as currently structured because the 5 associations deal with 4 different ministries to address their regulatory needs, and the ministries lack professional governance expertise. This evaluation is found in Section 6.

Recommendations:

The result of my review produced two major recommendations concerning professional governance that will serve to strengthen and bring best practices to the professions whose expertise is needed for sound management in British Columbia's natural resource sector:

1. That government establish an Office of Professional Regulation and Oversight that would have authority similar to that found in the *Health Professions Act*. The Office would be an agent of government, independent from the natural resource sector ministries, and focused on professional governance issues. Ultimately, the intent of the Office would be to oversee professional legislation, develop best practices for governance, and regulate professional organizations as needed.
2. That government standardize 10 elements of professional governance through umbrella legislation, including a new power to regulate firms, improve council authority to pass certain bylaws, require continuing professional development, clarify

public interest duties, and address codes of ethics, reporting duties and whistleblower protection.

Regulatory Review

The regulatory review and recommendations are found in Sections 7 and 8. Section 7 adopts the 3 main criteria developed by past inter-agency working groups as essential to the success of regulations that incorporate professional reliance: 1) competency; 2) clarity of government's expectations; and 3) accountability. The review identified 24 sub-criteria, which it then applied to the specific acts and regulations reviewed in Section 8.

Recommendations:

Section 77 of my report makes 32 recommendations that can serve to strengthen the existing regulatory regime to:

- improve laws, regulations and authorizations,
- improve Indigenous governments and communities engagement and help meet government's reconciliation objectives,
- increase public confidence in natural resource management,
- improve natural resource information, and
- improve Ministry staffing levels and resources.

Section 8 of my report makes 87 recommendations resulting from the evaluation of numerous regulations and decisions under 9 statutes, including:

- *Environmental Management Act* and 9 regulations that incorporate professional reliance;
- *Forest and Range Practices Act*;
- *Forest Act*;
- *Greenhouse Gas Industrial Reporting and Control Act*;
- *Mines Act*;
- *Oil & Gas Activities Act*;
- *Public Health Act* – Sewerage System Regulation;
- *Riparian Areas Protection Act*; and
- *Water Sustainability Act*.

Evaluations were made by the review team following interviews with subject matter experts who administer the regulations. Detailed, regime-specific recommendations are made concerning many of the acts and regulations. Overall, my review found mixed results, with some regimes addressing professional reliance issues well, some not so well, and others somewhere in between. Most problematic are the *Forest and Range Practices Act* and *Riparian Areas Protection Act* due to the extent to which they restrict government's authority. The *Greenhouse Gas Industrial Reporting and Control Act* and regulations address conflicts of interest and professional independence very well. Solutions to issues identified are not hard to find, as there are many examples of best practices within BC's natural resource legislation.

The following table lists all recommendations (by type) found throughout the report.

Recommendation #	Type of Recommendation	Page #
Professional Governance Recommendations		
Recommendations #1-2	Governance	Pg. 54-56
Recommendations to improve laws, regulations and authorizations		
Recommendations #3-4	Competency	Pg. 61-62
Recommendations #5-7	Guidance and Clarity of Government Expectations	Pg. 62
Recommendations #8-23	Accountability	Pg. 63-70
Recommendations #24-27	Indigenous Governments and Communities Engagement	Pg. 72-73
Recommendations #28-32	Increase Public Confidence	Pg. 73-75
Recommendation #33	Improve Natural Resource Information	Pg. 75-76
Recommendation #34	Improve Ministry Staffing Levels and Resources	Pg. 76-77
Regime Specific Recommendations		
Recommendations #35-41	Agricultural Waste Control	Pg. 80-81
Recommendations #42-43	Contaminated Sites	Pg. 83
Recommendations #44-48	Hazardous Waste	Pg. 84-85
Recommendation # 49	Landfill Gas Management	Pg. 86
Recommendations #50-53	Municipal Wastewater	Pg. 87
Recommendations #54-58	Mushroom Compost Facilities	Pg. 88-89
Recommendations #59-66	Organic Matter Recycling	Pg. 90-91
Recommendations #67-74	Slaughter and Poultry Processing	Pg. 92-94
Recommendations #75-84	Soil Amendments	Pg. 95-96
Recommendations #85-93	<i>Forest and Range Practices Act</i> and Government Actions Regulation	Pg. 109-110
Recommendation #94	Timber Pricing	Pg. 111
Recommendations #95-97	BCTS Forest Professional Oversight Certification	Pg. 113
Recommendation #98	<i>Greenhouse Gas Industrial Reporting and Control Act</i>	Pg. 114
Recommendations #99-102	<i>Mines Act</i>	Pg. 115-116
Recommendations #103-105	Health, Safety and Reclamation Code	Pg. 116
Recommendations #106-107	Drilling and Production Regulation	Pg. 119
Recommendation #108	Oil and Gas Roads Regulation	Pg. 119
Recommendation #109	Delegation Agreement with Agricultural Land Commission	Pg. 120
Recommendations #110-111	Public Health Act - Sewerage System Regulation	Pg. 121
Recommendations #112-115	<i>Riparian Areas Protection Act</i>	Pg. 123-124
Recommendations #116-118	<i>Water Sustainability Act</i>	Pg. 127-128
Recommendations #119-121	Dam Safety Regulation	Pg. 128-129

The Appendices include a public survey summary by R.A. Malatest & Associates Ltd., a list of the stakeholders who provided very thoughtful written submissions to the review, the professional association audits and responses, a report on best practices in professional governance, and the regulatory review criteria.

Introduction

2 Introduction

In 2001 and 2002 the provincial government conducted a core services review, which involved a major effort to reduce regulations in the natural resource sector, reduce the size of government, and shift towards results-based regulation. Two examples of this change are the move from the *Forest Practices Code* to the *Forest and Range Practices Act* with respect to forest management, and the shift from permitting every pollution discharge to regulating low and medium risk pollution discharges by codes of practice under the *Environmental Management Act*.

As part of this effort, and in some cases integral to it, a system of professional reliance was also introduced. Professional reliance takes different forms across the natural resource sector, but in general terms it is a regulatory model in which government sets the natural resource management objectives or results to be achieved, and professionals hired by proponents decide how those objectives or results will be met. Generally, government oversight focuses on monitoring, compliance, and enforcement, rather than reviewing and approving plans or project designs. Some regimes applied this model across their business area, while others applied it to low and medium risk activities. In doing so, government relies on the professionalism and specialized competence of the qualified professional, the professional and ethical codes they are required to follow, and oversight by the professional associations to which they belong. However, this is an over-simplification in some ways because different resource sectors and different ministries vary in their approach. While many speak of the “professional reliance model,” there are actually several different models and approaches.

Structural elements of professional reliance models:

- **Delegated responsibility:** Government delegates responsibility for aspects of regulatory process (i.e. evaluation, planning, and assessments) to qualified professionals.
- **Delegated decision-making:** direct government oversight is reduced and responsibility for decision-making on certain decisions is delegated to qualified professionals and proponents.
- **Results based regulatory model:** qualified professionals use their expertise to determine most appropriate approach to meeting desired outcomes and objectives set by government regulation.
- **Self-regulation:** Professional organizations develop and enforce rules addressing: requirements for training, education, and experience; standards of practice; codes of ethical conduct; and continuing professional development.
- **Compliance and enforcement:** government retains authority to ensure that proponents are in compliance with environmental regulations, and to take compliance and enforcement actions where necessary (e.g. compliance orders, remediation orders, violation tickets, administrative penalties, and prosecution).

Over time, these shifts resulted in a number of changes both within and outside of government. For example, the professional and technical workforce in government was significantly reduced

and budgetary constraints limited government's ability to conduct regulatory compliance assessments and ensure the appropriate oversight of professional work external to government. The rationale for this was that government and industry professionals belonged to the same professional associations and were bound by the same professional codes of ethics and conduct, so review of professional work by government was an unnecessary duplication of effort, resulting in red tape and inhibiting industry competitiveness.

In the forestry context, professional reliance has been defined as:

“the practice of accepting and relying upon the decisions and advice of resource professionals who accept responsibility and can be held accountable for the decisions they make and the advice they give.”

These notions of professional reliance placed considerable expectations on professional associations, which were challenged to support this regulatory shift. Some felt they had to balance their mandate to protect the public interest as self-regulating bodies with providing public assurance that their members would perform well as resource managers. Some experts in professional governance consider these expectations to be excessive, reaching beyond what can reasonably be expected from professional organizations.

In the last several years, examples have been raised by the Ombudsperson (*Striking a Balance: The Challenges of Using a Professional Reliance Model in Environmental Protection – British Columbia's Riparian Areas Regulation*, 2014), the Forest Practices Board (*District Managers' Authority Over Forest Operations*, 2015), and the Auditor General (*An Audit of Compliance and Enforcement of the Mining Sector*, 2016) that highlight significant gaps in professional reliance models of regulation. Various high profile environmental protection and natural resource management issues have drawn public scrutiny and brought to light decreased public confidence in some of the professional reliance regulatory regimes in effect in BC today.

In his investigation report following the Mount Polley Tailings Storage Facility breach, the Chief Inspector of Mines commented:

“Professional reliance is employed in many applications every day, in all industries. However, it is not well understood or well defined; and when there are failures in the control, the impacts can be substantial...[P]rofessional reliance can lead to mistaken belief, such as faith in the adequacy of site investigation, leading to misplaced faith in design parameters and stability modeling. Professional reliance can also be blinded by the confidence of an authority, or by the assumed accuracy of prior testing.”

These comments point to an important difference in terminology: “reliance” means a state of dependence or trust, whereas “reliable” means consistently good in quality or performance, or able to be trusted.

When the NDP came to power and formed a minority government in 2017, a Confidence and Supply Agreement (CASA) was made with the Green Party Caucus. In this agreement, a commitment was made to “review and address failures in the professional reliance model in BC so that British Columbians' faith in resource development can be restored.” The mandate letter

from Premier Horgan to Minister of Environment and Climate Change Strategy George Heyman identifies as a key priority the need to “review the professional reliance model to ensure the legal rights of First Nations are respected, and the public’s expectation of a strong, transparent process is met.”

Scope of Review

3 Scope of Review

This review has two main aspects: the first is about self-governing professions whose members provide services throughout the province relating to natural resource management and environmental protection. These organizations are created by provincial laws that grant exclusive rights and privileges, such as the right to practice or use a professional title. The legislation gives the organizations powers and duties to establish rules for entrance to the profession, maintaining competency, and establishing standards of practice and professional conduct. Members who do not meet those standards may face sanctions ranging from mild reprimand to loss of membership. Because the provincial government is responsible for the legislation that grants these rights and powers, and has ownership and jurisdiction over natural resources, it has both a policy interest and oversight responsibility associated with the professions.

The five organizations and acts within the scope of this review are:

- Applied Science Technologists & Technicians of BC (*Applied Science Technologists and Technicians Act*),
- Association of BC Forest Professionals (*Foresters Act*),
- BC Institute of Agrologists (*Agrologists Act*),
- College of Applied Biology (*College of Applied Biology Act*), and
- Engineers and Geoscientists of BC (*Engineers and Geoscientists Act*).

The second aspect of the review examines the way in which natural resource management engages and relies upon these professionals. This involves looking at a number of the statutes, regulations, and policies that incorporate professional reliance into resource management and environmental protection decisions.

Outside the scope of this review are a number of issues that are peripheral to professional reliance, but are not within the terms of reference for a number of reasons:

- My review is not a qualitative assessment of natural resource and environmental protection laws. It focuses on the relationships in the administration of those laws between government, professionals and the professional associations.
- There are a number of additional professions that play an important role in resource management and environmental protection, but currently do not have legislation that establishes exclusive right to title or practice. The engagement process received valuable input from associations representing related occupations, which has helped inform the recommendations, but the review is focused on the five professional organizations in the terms of reference.
- There are a number of topics that are currently under separate review processes or initiatives within government which have relevance to professional reliance, including land use planning, environmental assessment, species at risk, old growth forests,

agricultural land, spills regulation, and water sustainability. The conclusions and recommendations of this review may be of assistance to those initiatives.

- Finally, for this review I did not conduct an evaluation of the performance of individual professionals or the degree to which professional advice is reliable. It is a higher-level examination of professional governance and regulatory systems in the spirit of continuous improvement. Considering the iterative four-step management method of “plan-do-check-adjust,” British Columbia has about 15 years of recent experience with the planning and doing steps of professional reliance, and this review is about checking and recommending adjustments where needed.

Review Process

4 Review Process

4.1 Assistant Deputy Minister Steering Committee

This Steering Committee consisted of 9 members representing 6 ministries and the Oil and Gas Commission. The terms of reference for the review indicated that members were responsible for reviewing and approving the project report and recommendations, representing their agency/community interest, and communicating appropriately within their agency/community prior to and after steering committee meetings as necessary. However, given significant time constraints, it was decided that I would be submitting this report to the Minister of Environment and Climate Change Strategy without prior approval from the steering committee, thereby allowing the steering committee (and the ministries they represent) to fully consider the recommendations and formulate a response on behalf of the government of British Columbia.

4.2 Professional Association Audits

A limited scope audit was conducted by an Audit Working Group to assess the enabling legislation, bylaws and policies of the five professional associations mentioned in the terms of reference: BC Institute of Agrologists (BCIA), the Applied Science Technologists & Technicians of BC (ASTTBC), the College of Applied Biology (CAB), the Engineers and Geoscientists of BC (EGBC), and the Association of BC Forest Professionals (ABCFP).

The Audit Working Group consisted of representatives from the Ministry of Environment and Climate Change Strategy, Ministry of Energy, Mines and Petroleum Resources, Ministry of Agriculture, Ministry of Advanced Education, Skills and Training, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, and the Oil and Gas Commission. The members were responsible for developing the questions, conducting interviews with the five associations, and completing the reports found in Appendix 9.3. The Appendix also includes the four association's responses to the audits received by the Audit Working Group. This information was considered by me in the preparation of the final recommendations.

Multi-agency interview teams of four to five members met with representatives of each association between November 20- 24, 2017 to discuss how the association is meeting its obligations and a number of issues relating to professional governance and professional reliance. Questions were provided in advance, and each association provided considerable information and documents before, during and after the interviews.

The issues addressed include: standards of enrollment, including continuing professional development and maintaining competency; codes of ethics; standards of professional conduct; and liability and professional negligence. The interview teams considered the current legislation, bylaws, submissions, documents available on each association's website, and the information from the interviews. The audit reports do not address whether the governing legislation, bylaws or association policies and procedures employ best management practices to protect the public interest, but provide important information for that evaluation.

4.3 Regulatory Review

A Regulatory Review Working Group compiled an extensive list of regulatory regimes that incorporate professional reliance to various degrees. The list was reviewed against the terms of reference, the degree to which they raise professional reliance issues, and the significance of the regulation or activity in terms of application throughout the Province. Thirty-six types of decisions made under nine acts were selected for further assessment.

The Regulatory Review Working Group consisted of representatives from Ministry of Environment and Climate Change Strategy; Ministry of Energy, Mines and Petroleum Resources; Ministry of Agriculture; Ministry of Advanced Education, Skills and Training; Ministry of Forests, Lands, Natural Resource Operations and Rural Development, and; the Oil and Gas Commission. The working group members contributed to the development of the evaluation criteria (found in Appendix 9.6), which were applied to each regime, and several participated in the interviews relating to their Ministry or agency.

Interviews were conducted by a core team of three staff from the Regulatory Review Working Group with subject matter experts identified by the ministries for each regime. The interviews produced information which helped to inform the regime-specific evaluations found in Section 8.

4.4 Targeted Interviews

Targeted interviews were held with select stakeholder groups known to have a strong interest in professional reliance issues, to gain a deeper understanding of their perspectives. This included industry associations, environmental organizations and Indigenous governments and communities. Most stakeholders interviewed also provided written comment to the online submission process. All of the interviews were reviewed by me and considered in the preparation of the final recommendations.

4.5 Engagement Process

4.5.1 Indigenous governments and communities input

The BC government sent letters to all BC First Nation band councils inviting comments and offering to arrange a meeting to hear about their experiences with qualified professionals and professional reliance. A total of 16 submissions or interviews with members of Indigenous governments and communities took place. In addition, 41 members of Indigenous governments and communities contributed their thoughts and ideas through the public engagement surveys which were considered by me in the preparation of the final recommendations.

4.5.2 Public Engagement

There were three ways for the public to participate in the engagement process: 1) citizens and users of qualified professionals could complete an online survey on the govTogetherBC website; 2) professionals were invited through their member association to complete a survey hosted by an external contractor, and; 3) stakeholders were invited to submit formal written submissions to govTogetherBC, which were then posted on its website. Submitters are listed in Appendix 9.2, which includes hyperlinks to their submissions.

More than 4,600 submissions were received in the Professional Reliance engagement. Of those who responded, 1,802 professionals participated in the Qualified Professionals Survey, 2,249 individuals participated in the General Public Survey, 279 provided written submissions, and 102 stakeholders posted submissions.

The external contractor, R.A. Malatest & Associates Ltd., carried out a quantitative analysis of the two survey results combine and completed a summary report, which may be found in Appendix 9.1. Opinions and information provided in the written and posted submissions is also referenced when I prepared my final recommendations.

4.6 Jurisdictional/Sectoral Scan

A jurisdictional and sectoral scan was prepared by an external contractor, which assessed a variety of professional reliance models to consider whether they could provide useful examples for consideration within the BC natural resource sector. Two high level objectives were identified for this scan. The first was to identify alternative regulatory models of professional reliance in other jurisdictions and assess their effectiveness in achieving public trust. The second was to identify alternative models for government oversight of the professional associations that regulate professionals and assess their effectiveness in protecting public trust.

Interviews with representatives from other government oversight bodies, such as from the UK and BC Health professions, helped to provide me with additional information to consider when formulating my final recommendations.

Factors Influencing Professional Reliance

5 Factors Influencing Professional Reliance

Many factors influence the extent of government's reliance on professional information and work products, some legal and some practical.

5.1 Legal factors

Typically, governments reserve the right to make decisions about natural resources that they own or regulate. This remains true for many natural resource and environmental protection statutes and regulations, however, in order to advance professional reliance some have had that discretionary authority removed or limited. Examples include approvals or permits no longer being required, and restrictions on the discretion given to statutory decision makers. This increased government's reliance on professionals hired by proponents.

Reliance on external professionals can also occur through the terms and conditions of authorizations, such as licences and permits, and various orders for remediation, pollution abatement, and pollution prevention.

5.2 Capacity, resources and expertise

In addition to legal factors, government's reliance on external professionals can be highly dependent on the resources and expertise available within government. Even where the legal authority to review professional work exists, if agencies lack sufficient staff or the necessary expertise required to review that work, government becomes more reliant on the quality of what was submitted.

These practical constraints are the result of several factors, including past reductions to the size of the public service following two Core Service Reviews in 2001-02 and 2013-14, Ministry reorganizations, and retirements resulting in loss of expertise that has not be replaced.

All of these factors became quite apparent in the regime-specific interviews with subject matter experts. They are not universal across the natural resource sector, and in some cases there have been recent improvements in response to events such as the Mount Polley Tailings Storage Facility breach, which led to increased resources within the mines and environment ministries (in May 2016, Treasury Board approval for \$2M in contingency funding to address several recommendations from the Auditor General on compliance and enforcement in the mining sector, resulting in about 20 new positions in the Environmental Protection Division of the Ministry of Environment and Climate Change Strategy).

It was beyond the scope of this review to determine the precise extent and impact of these limitations. However, a submission from BC Government Employees Union cites reductions to compliance and enforcement and timber pricing staff, and states that:

Across the dirt ministries between 2001/02 and 2016/17, staffing levels have been reduced by almost one quarter (-23 per cent) or about 1,500 positions.

The Professional Employees Association, which represents certain licensed professionals within government, provided information to the review indicating that it has 25% fewer members than in 1999. The most significant reductions relevant to natural resource management have been to foresters (246 fewer, or 34%), agronomists (52 fewer, or 27%) and geologists (11 fewer, or 22%).

5.3 Policy and culture within agencies and professions

A third factor influencing the extent of reliance is the culture within ministries and professions. This is a significant factor because it affects oversight even where government has legal authority and sufficient resources. It goes to an agency's understanding of its role in regulating resource use, and professionals' understanding of their obligations in relation to clients, employers, professional associations, government and the public interest.

Agency Culture

Professional reliance has been embraced as a *modus operandi* in government for about 15 years, so it is well ensconced in the public servant's psyche. Some newer employees might not have working experience of other modes of administration. But as noted by the earlier quote from the chief inspector of mines, professional reliance is not well understood or defined. It therefore competes with other expectations about the proper role of government as the owner and regulator of resources. Public servants expect that their education and training is valued too, and that they have a duty to apply it in the public interest.

One of the reasons that professional reliance lacks clarity of meaning is that there are many different regulations across the natural resource sector, and there is no single, consistent approach to the discretion of statutory decision makers. Most statutes provide for discretion, so agency culture is relevant to how it is exercised. For some there are no issues; they are doing what they have always done, and professional reliance just means that government relies on professionals to prepare and submit certain plans, designs or reports. For others, professional reliance is interpreted as political direction to defer to the professional's opinion.

In the course of interviews the relevance of agency culture became apparent in that even within a single Ministry's administration of a given regulation there can be differences of opinion concerning the legitimacy of questioning professional work product submitted as part of the regulatory process, or the extent to which it is appropriate to do so. Multiple reorganizations of natural resource ministries have also contributed to differences in understandings of professional reliance, as staff move from one area of responsibility to another with the understanding that there is to be a singular approach to professional reliance, yet multiple statutes and regulations with different approaches to engagement of professionals.

The culture of deference is most pronounced where statutory discretion has been limited. Where there is little authority to question information, deference becomes a legal obligation. This is most present in forestry, but can occur wherever resource managers see their primary duty as advocating or facilitating for a particular industry.

Some shifts to professional reliance were accompanied by messaging that indicated government oversight would be maintained, but focused more on monitoring, compliance and enforcement of development activity rather than front end authorization. However, an agency culture of deference at the authorization stage can also affect attitudes toward compliance and enforcement. It is becoming more common to have professionals hired by proponents undertake monitoring functions, particularly for major projects or higher risk activities, due to agency staffing levels. If the general culture is one of deference to external professionals, then consistency suggests that should also extend to monitoring, compliance and enforcement. A culture of deference may show up as reduced willingness to take enforcement actions, or an emphasis on compliance over enforcement measures, or low administrative penalties that do not achieve deterrence goals.

The main take-away message for this discussion is that agency culture can be just as important as laws and staff resources, so if government wishes to indicate a shift in direction it will be important to communicate that.

Professional Culture

The culture within a profession also influences government's ability to rely on professional work. While professionals are individuals who decide how they wish to practice, those decisions are influenced by peers, work environment, expectations of employers and clients, the rules and messaging from their professional association, and interactions with government staff. Professional associations have a significant influence on culture because their role as regulator essentially defines what constitutes professionalism.

There are different professional cultures operating across the natural resource sector. This review learned of high levels of professionalism in which professionals will readily explain the reasons for their opinion, provide supporting information, and answer questions asked by Ministry officials. There are professional cultures in which this is simply accepted as a norm. But the review also learned of situations in which professionals were much less cooperative when asked to provide information to support their competency, or the rationale for their opinion; some challenged a Ministry's right to request this type of information, believing that government was bound by their position because they were qualified professionals. In situations where government has limited or eliminated its discretionary authority, there may be legal merit to this position, but if so, it demonstrates that some forms of regulation have resulted in a culture that seems contrary to the spirit of professionalism.

5.4 Availability of resource information

Finally, some consulting professionals, Ministry officials and a Crown corporation brought to our attention that the availability of resource information is a factor that increases government's reliance or dependency on proponent-hired professionals. Where resource information is lacking, the quality of baseline data affects the integrity of resource management decisions. Decision-makers are dependent on the inventory effort undertaken by proponent-hired professionals, and even where credible consulting firms are doing the work, the quality and

reliability of information can be limited by the terms of reference and allotted budget of their clients.

Examples were provided of substandard inventory effort, which sometimes is not easily detected by reviewers if a professional's methodology is not clearly laid out in application materials. It was noted that for some types of information, particularly for species at risk, there are implications to detecting species that could run counter to a client's interest in project approval, giving rise to ethical issues. Some indicated that better arrangements for the timely sharing of data with the federal government would improve this situation for federally listed species at risk. However, this issue goes beyond wildlife and includes water, fish, forests and other resource information as well.

Professional Governance in the Natural Resource Sector

6 Professional Governance in the Natural Resource Sector

6.1 Background

The five professional organizations in this review are diverse in terms of their history, membership and budgets. Most were established before the 1950s, although the College of Applied Biology is the newest having been established by legislation in 2002. The following year government introduced a new *Foresters Act* and *Agrologists Act*, to replace legislation initially passed in 1947. The new legislation expanded the definitions of the practice of forestry and agrology, and changed disciplinary processes and enforcement measures.

Overall, the purpose of these changes was to support government's adoption of professional reliance and a results-based regulatory model by enhancing the accountability of resource professionals. On second reading of the new *Agrologists Act* Minister Hagen stated that it would "protect the public interest in the sustainable use of resources" and ensure that professional organizations were "capable of setting appropriate standards of competence and conduct for their members and enforcing those standards."

On second reading of the new *Foresters Act*, then Minister de Jong indicated "Forest professionals will be held more accountable on the plans they approve. A lack of diligence can lead to sanction of a member of the association, as amendments to the *Foresters Act* provide stronger capacity to sanction poor practices and poor practitioners... With this new *Foresters Act*, the judgment of forest professionals can be relied upon as a cornerstone for the results-based era that this government promised and has now acted upon."

While the improvements to professional legislation were generally welcomed, significant expectations were placed on professional organizations to fill the vacuum left by reductions in government staff, expertise, oversight and decision-making authority. These expectations were incorporated into regulatory drafting, such as this fairly typical definition of who is qualified to perform professional functions under some *Environmental Management Act* regulations:

"qualified professional" means a person who

- (a) is registered in British Columbia with his or her appropriate professional association, acts under that professional association's code of ethics, and is subject to disciplinary action by that professional association, and
- (b) through suitable education, experience, accreditation, and knowledge may be reasonably relied on to provide advice within his or her area of expertise as it relates to this regulation.

Given the overall policy framework, several assumptions are implicit in this approach:

- that government is placing significant reliance on professional codes of ethics to address matters of public interest;

- that government is placing significant faith in the ability of disciplinary processes to address and resolve problems that arise from substandard professional work;
- that professionals will correctly self-determine that they have adequate education, experience, accreditation and knowledge to undertake a given professional function; and
- that if some professionals incorrectly assert their competency, any problems will be adequately resolved by professional organizations through enforcement of scope of practice rules, and mechanisms such as audits, practice reviews, and complaint investigations.

As will be discussed below, the experience of the last fifteen years has demonstrated that there are problems with each of these assumptions for a variety of reasons, including factors outside of the control of professional organizations. While there are opportunities for improvement in professional regulation that will be discussed below, overall the expectations placed on professional organizations have been unreasonably high and unrealistic, and in some cases represent a downloading of responsibilities that properly reside with government.

6.2 Professional governance issues

Professional organizations contribute to quality control in environmental protection and natural resource management in several ways that are distinct from the roles undertaken by government. They serve the public interest by ensuring that those admitted to the profession have basic qualifications to practice (a gatekeeper function), by establishing standards of practice and codes of ethical conduct (a quality management function), and by meting out sanctions for those who do not comply with those standards and codes (an enforcement function).

The Audit Working Group asked each organization detailed questions to gain insights into their operations, focusing on those that are most relevant to professional reliance. The organizations were generous with their time and provision of materials and answers to questions. This informed a high-level, limited scope audit of each organization's compliance with the obligations set out in their enabling legislation. All five organizations were found to be in compliance with the legal requirements assessed. The working group prepared reports describing how the organizations are meeting their obligations, which are found in Appendix 9.3.

In addition to the compliance audit, the review sought understanding of the issues that arise for professional organizations in delivering their mandates from the organizations directly, from their members, and from those who interact with them within and outside of government. The organizations assisted in this by inviting their members to complete surveys. As mentioned in Section 4, Engage BC hosted a public engagement website which invited citizens to participate in a similar survey. Stakeholders were invited to provide submissions which were posted on the govTogetherBC website. A summary of Public and Stakeholder Engagement received between December 1, 2017 and January 19, 2018 is found in Appendix 9.1. In addition, extensive conversations were held with government subject matter experts from four provincial ministries (including the Ministry of Health regarding the development and implementation of the BC

Health Professions Act), the Oil and Gas Commission, Agricultural Land Commission and Forest Practices Board. In depth conversations were held with a Canadian legal expert on professional governance, and the UK Professional Standards Authority (whose research on professional governance has significantly informed this report and recommendations).

This process identified a number of strengths and weaknesses in professional governance, and the discussion below focuses on areas requiring improvement or further evaluation.

6.2.1 Professional association capacity

It should be mentioned at the outset that the professions addressed in this review vary considerably in terms of their membership size, which affects their budgets, staff support, and ability to employ or retain other professional services such as legal advice and representation. Significant capacity differences were apparent even in the associations' ability to engage in this review. The table below sets out current membership, budgets and staff.

Organization	Agrologists (BCIA)	Biologists (CAB)	Foresters (ABCFP)	Applied Science Technologists (ASTTBC)	Engineers & Geoscientists (EGBC)
Members Total	1600	2,35	5,400	10,100	34,000
Members Practicing (Rounded to the nearest 10)	1020 (PAg)	1870 (RPBio, RBTech, ABTech)	4140 (RPF, RTF) 40 (Accredited practitioners)	5210 (AScT, CTech) 2080 (Accredited practitioners)	27230 (PEng, PGeo)
Annual fees (practicing)	\$340 - \$400	\$225 - \$325	\$531 - \$565	\$260 - \$345	\$399
Budget (2017-18)	\$0.6 M	\$0.75 M	\$2.7 M	\$3.5 M	\$16.1 M
Staff (full time equivalent)	3	5	16	18	78

It follows from this that there are major differences in organizational ability to address certain aspects of professional governance. Although they share overlapping areas of practice, specific governance rules and the level of oversight can vary considerably according to the association. There can be good levels of cooperation among the associations, as seen in the joint development of practice guidelines for some topics. However, there remain significant differences in capacity that affect governance ability. It would be helpful if the associations and government could identify ways to pool resources and expertise so that there is a more consistent level of professional governance in the natural resources sector.

6.2.2 Council & committee composition

Modern trends in professional governance are for councils and key committees to have members of the public who are not members of the profession appointed by government in order to provide an outside perspective that is important for transparency and public confidence.

In 2003 then Ombudsman Howard Kushner wrote:

“Since the late 1980s, government has been appointing public representatives to the boards of all of the self-regulating professions in an attempt to increase accountability and provide some voice for the public viewpoint. The proportion of these to elected board members has increased over time, as has the number of college committees upon which they are required to sit. This ensures that there is public representation on such important committees as the Inquiry Committee, which investigates complaints and decides whether disciplinary measures are necessary, and on disciplinary and appeal panels.”

All of the associations included in this review have provisions that allow for a mix of council members who are elected by members and public members who are appointed by government. However, there are significant differences in how many public members are appointed, the proportion of council that they represent, who appoints them, and whether it is required or optional. Where a specified number of public members are required by legislation, the councils are compliant (EGBC, ASTTBC). Where it is optional, the appointed public members are below the maximum (CAB, ABCFP), and in one case currently there are none (BCIA). It should be noted that the process for associations to include public appointees is lengthy, which can delay public appointments to councils.

Composition of Association Councils

		Elected	Appointed	Appointee
Agrologists	Act	Min.7	Up to 3	Minister
	Actual	11	0	
Biologists	Act	Min.8	Up to 3	Minister
	Actual	10	2	
Engineers and Geoscientists	Act	Min. 11	Must have 4	Cabinet
	Actual	13	4	
Foresters	Act	Up to 11	Up to 2	Cabinet
	Actual	10	1	
Applied Science Technologists	Regs	13	Must have 3	ASTTBC Council
	Actual	13	3	

This level of public participation on association councils is quite modest and is not in step with modern trends. The *Health Professions Act* requires publicly appointed members to “not be less than 1/3 of the total board membership” for all of the health profession colleges in British Columbia. Some jurisdictions, such as the United Kingdom, require parity of membership between lay and professional members for all health professions, to ensure that purely professional concerns are not thought to dominate councils’ work. In Ontario, the College of Nurses of Ontario is moving to parity based on the recommendations of its Leading in Regulatory Governance Task Force.

An even higher percentage of public members is found on the BC Real Estate Council, where all members are appointed by Cabinet and 10 out of 12 council members are from outside the real estate profession. However, natural resource management and environmental protection are highly diverse in terms of the types of expertise and professions required, and this proportion of public members would deprive councils of sufficient subject matter expertise needed for effective governance.

In addition to the composition of councils, it is important for transparency and public confidence that there be public representation on key committees, particularly those relating to complaints and discipline. Some professional legislation or association bylaws do not currently require this, but ABCFP and CAB do. ABCFP Bylaw 13.7 states that at least one member of its complaints resolution committee shall be a lay member (and in May 2018 Council approved the appointment of a second lay member). ABCFP expressed support for increasing the number of public lay members involved in its discipline process. Also, CAB Rule 15.6 states that “the Council shall appoint its Discipline Committee consisting of at least three registered members and to have two non-members, to a maximum of 9 committee members for a renewable term of 3 years to consider the conduct of members or former members; four members constitute a quorum, provided that at least one lay representative is present.”

To ensure that appointed members have the desired qualifications for service to councils and committees there should be a merits-based process based on competencies. Council and committee members are required to govern complex organizations, so there should also be appropriate governance training for all members.

6.2.3 Council authority

Professional Practice Matters

To do their job effectively and in the public interest, councils require authority to make rules dealing with practice standards, ethics, continuing education, and related issues. The legislation across the five natural resource professions is inconsistent and in some cases outdated. Many practice and public interest matters require ratification by 2/3 of the membership, and there have been situations in which members voted against bylaws deemed important to the council. In 2015, EGBC requested a legislative change to this bylaw ratification requirement to allow council to pass bylaws relating to professional practice and public safety. Governance of the association would still require member ratification. Government has not yet agreed to EGBC’s request.

The *Foresters Act* distinguishes between council bylaws and resolutions. Bylaws require ratification by 2/3 of the membership, while resolutions do not. However, the bylaw making power includes professional practice and public interest matters, such as standards and codes of ethics and conduct.

The *College of Applied Biology Act* and *Agrologists Act* give their councils broader authority, but the annual fee requires ratification by a majority of members, and a number of rules may be disallowed by member referendum.

The *Applied Science Technologists and Technicians Act* provides that council make may regulations that take effect upon enactment, but are automatically revoked unless they are approved by 75% of the members before the next annual general meeting.

The EGBC request for legislative changes to council's authority seems to be well founded and supported by the relevant ministries. Rather than just responding to this one proactive request, it is recommended that council authority for all five natural resource professions be reviewed. Given the significant overlap in professional functions when it comes to resource management itself, there does not seem to be justification for five different sets of rules concerning council authority. All should incorporate best practices for modern professional governance. It makes little sense to allow members of some professions to veto some types of council rules regarding matters such as practice standards, codes of ethics, continuing professional development and annual fees. Member ability to veto fee increases can hamstring an organization and render it incapable of effectively delivering its public interest mandate, particularly for smaller professions.

These inconsistencies may be due in part to the fact that four different ministries administer these statutes, and some do not seem to have dedicated policy strength in professional governance matters because the requests for legislative change from associations is *ad hoc* and infrequent. Section 6.6 recommends changes to this arrangement to improve government's ability to recognize opportunities and respond to requests for legislative change in order to ensure that best practices are identified and implemented.

Corporate Regulation

Presently, the professional organizations in this review only have jurisdiction over individual members. An emerging development in professional governance is to authorize professional organizations to regulate the firms or corporate structures that employ those members, due to recognition that those organizations significantly influence the work environment and decisions of professionals.

Corporate regulation was recommended thirty years ago by the Closkey Commission of Inquiry into the 1988 collapse of a supermarket roof at Station Square Mall in Burnaby. EGBC reviewed those recommendations and has been calling for this authority since 1991. In the intervening decades the provincial government has declined to implement this recommendation, so calls for reform waned.

Following the Mount Polley Tailings Storage Facility breach in 2014, EGBC and the Ministry of Energy, Mines and Petroleum Resources have revisited this issue. A 2016 report by the EGBC Advisory Task Force on Corporate Governance provides the following rationale for regulating corporate practice:

“...an organization's policies and procedures can encourage and promote adherence to the association's Code of Ethics and Quality Management Bylaws, or they could do the opposite and prioritize other objectives above professional practice standards. Where corporate practices or objectives conflict with APEGBC's Code of Ethics and Bylaws, individual professionals may be put in a difficult position. Moreover, individual

professionals have little support or recourse because organizations are not regulated by APEGBC.”

During the course of this review other professionals provided information confirming that these issues are relevant to their profession as well.

There can be considerable pressure placed on individual professionals in their work environment, stemming from a consulting firm’s desire to please its clients, or an employee’s desire to please his or her employer. Disagreements over professional opinion have resulted in: 1) professionals being given direction to change their opinion or how it is expressed in a professional document; 2) a supervisor modifying and signing the professional’s document; and 3) termination of employment where a professional refused to change his or her opinion. Differences of professional opinion can be expected, of course, and this review did not investigate the merits of any individual cases. However, at minimum they confirm that some professionals agree with the conclusion of EGBC that individual’s “have little support or recourse” in these situations “because organizations are not regulated.”

British Columbia has fallen behind other jurisdictions on this issue. A jurisdictional scan prepared by EGBC found that:

“Regulation of corporate practice is a common tool used by governments across Canada and the US to protect the public interest with respect to the practice of the profession. Every province and territory in Canada regulates engineering and geoscience organizations under a mandatory legislated authority except BC and Quebec. Every state in the Northwest United States except Oregon regulates engineering organizations.”

Other professions have identified the same need and are taking steps in this direction. In 2012 the *Legal Profession Act* was amended to enable Law Society regulation of law firms, and in December 2017 the Law Society of BC decided to implement a pilot project that will implement those provisions.

Past attempts to introduce corporate regulation have faltered over disputes as to which organizations to include. Which entities provide professionals services and work products? It is fairly clear that consulting firms should be included, but what about forestry, mining, and oil and gas companies that directly employ professionals, where the same considerations and rationale seem to apply? Should corporate or firm regulation apply to public bodies such as municipalities, Crown corporations and ministries?

There are important issues to sort out in the scope and implementation of corporate regulation by professional associations, but it is seen as a necessary reform measure in many fields of professional regulation, and the rationale has strong relevance to the natural resource professions.

6.2.4 Gatekeeper functions

Few issues were identified concerning the primary gatekeeper function that associations have in establishing entrance requirements for admission into a profession. It was generally considered

that associations are doing a good job of setting standards for admission and testing new applicants.

However, one issue that arose is the effect of labour mobility agreements, such as the New West Partnership Trade Agreement (NWPTA) between BC and the prairie provinces, and the Canadian Free Trade Agreement (CFTA). Under these agreements, workers certified for an occupation by a regulatory authority of a participating province must be recognized as qualified to practice that occupation by the other participating provinces. Conditions may be imposed on those workers provided that no material additional training, education, experience, or examinations are required as part of that registration procedure. There is some discretion to restrict labour mobility if it can be demonstrated through evidence that the restriction is based on a “legitimate objective,” which includes protection of the environment. Nevertheless, some BC professional organizations feel that they are obliged to accept out-of-province applicants that would not meet admission requirements within BC, or are reluctant to test their ability to restrict and risk potentially costly litigation.

CAB indicated that BC residents who could not meet its admission requirements received certification in a province with lower entrance standards, then sought recognition in BC under NWPTA. ASTTBC informed the review that residents of BC have gone to Alberta or Ontario for certification and then transferred into BC. The association also stated that for one such technical specialty they have instituted practice assessment reviews within six months for all applicants in or out of province to assure compliance with standards of practice. BCIA cited challenges determining occupational equivalency due to different definitions of the practice of agrology across Canada. The BC *Labour Mobility Act* defines “BC equivalent occupation” as being “the same as” or “substantially similar to” the occupation in other provinces.

In terms of what this can mean for resource management, the review was informed that some out-of-province consultants lacked basic knowledge of BC’s biogeoclimatic ecosystem classification system and the Conservation Data Centre’s database of wildlife and ecosystems, resulting in clearly substandard work.

This review did not assess how often this issue arises, but it demonstrates that there is some risk in linking who is a “qualified professional” to mere membership in a professional association and an individual’s self-declaration that they have the necessary knowledge and experience. Professional membership may be a necessary condition, but it is not a sufficient condition for many functions requiring expertise. While it is important for professional organizations to understand their ability to address deficiencies when dealing with applications from out-of-province, it should be recognized that there are limits to relying on registration alone to address qualifications. This is another reason to reconsider how qualifications are addressed in natural resource legislation, regulations and authorizations. It also argues for greater oversight of the quality and acceptance of some types of professional work product, such as where there is considerable latitude for discretion and the work requires understanding of BC-specific information and classification systems.

6.2.5 Specialist designations

Every profession has a range of practice areas. Some individuals are qualified to practice within multiple areas, and some focus on one or two and develop a deeper level of expertise. The professional organizations in this review have developed specialist designations that can be a positive contribution to resource management because they help identify who within a profession is qualified to undertake certain professional assignments. For example, EGBC provides for designated structural engineers, signifying professional engineers who meet the requirements to create and manage the design of a building's primary structural system. Establishment of this designation was recommended by a 1988 Commission of Inquiry into the collapse of a supermarket roof at Station Square Mall in Burnaby.

ABCFP accredits timber cruisers and timber evaluators, which are specialist designations that allow for limited scope of practice authorizations for those who are not licensed to practice all aspects of professional forestry. ASTTBC has many specialist accreditations for applied science technologists, which are aligned with educational programs offered by post-secondary educational programs. CAB and BCIA do not have specialist designations.

Specialist designations can serve a useful role because they signify particular expertise within a profession. Greater use of specialist designations might help resolve challenges with overly broad qualifications based on membership alone. However, some professional associations indicate that specialist designations carry a significant administrative and cost burden for them. This is a topic that merits further discussion and evaluation. In the meantime, government will have to rely on regulatory mechanisms to ensure that professionals are qualified for the tasks they undertake.

6.2.6 Quality management functions

Professional organizations contribute to quality management in a number of ways, including by:

- developing practice standards and guidelines,
- providing continuing professional development programs,
- conducting audits and practice reviews of members.

Practice Standards and Guidelines

A key tool that professional organizations have to address the quality of professional services is the authority to establish standards of practice. James Casey, Q.C., a Canadian legal expert on professional governance, describes the utility of practice guidelines this way:

“Every professional needs clear guidance with respect to the objectives and expected standards of the work they perform. When a professional regulator determines that a performance problem exists or potentially exists with respect to its members practicing in certain areas, a typical regulatory response is to examine whether the expectations on those members are clear. If not, a regulator will often take steps to clarify expectations for its members practicing in that area. Regulators have a variety of ways in which to clarify expectations. Some will establish formal standards of practice while others will issue policies or other types of professional guidance. Whatever the format of such

documents, the objective is the same: attempt to raise performance by the members by clarifying expectations and providing advice to the profession on how to address issues that arise.”

The associations involved in this review acknowledge the importance of practice guidelines to advancing professionalism. EGBC has a formal policy on the development of professional practice guidelines, and the most comprehensive set of guidelines of the associations involved in this review. Many of its guidelines are developed in cooperation with others where there are overlaps in professional practice. For example, EGBC and ABCFP have jointly developed guidelines to assist their members on higher risk areas of practice where issues have arisen. Examples include guidelines addressing terrain stability, forest roads, and stream crossings.

ABCPF has recommended that the association, resource users and government “should collaborate on the development of more specific guidance in areas of professional practice where public concerns warrant more careful and consistent application.”

Of the five professions, three informed the review about guidelines currently under development and future guidelines that are planned, namely EGBC, ABCFP and ASTTBC. CAB has less experience and capacity producing guidelines, but has developed two in conjunction with others: one on species at risk (with ABCFP) and one on riparian areas assessment (with EGBC).

BCIA indicated that it has been holding off developing professional practice standards while seeking “right to practice” for its members, as this might change the existing 38 areas of practice. However, this is not a persuasive reason to not develop practice standards because s.18 of the *Agrologists Act* gives council the authority to pass bylaws establishing standards of professional conduct and competence, and others with right to title do so.

Sometimes an oversight body such as the Forest Practices Board or Ombudsperson identifies the desirability of practice guidelines, after carrying out investigations or audits that identify common issues and divergent professional practices that would benefit from guidance and standard methodology. One recent example is the July 2017 practice guidelines on riparian assessments, which was developed by CAB and EGBC with input from the other associations, in response to recommendations from the Ombudsperson. This effort was supported both financially and expertly by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

However, recently the same Ministry has not had the resources to support the development of guidelines for visual quality to support forest practices legislation as recommended by the Forest Practices Board, so ABCFP is taking the initiative to do so. While oversight bodies provide a useful service by identifying the need for guidelines, they often do so after a pattern of problems has been identified in the field. It would be preferable for government and the associations to proactively identify and prioritize the development of further standards and guidelines according to need and risk.

Practice guidelines can raise the level of professional performance by setting a standard of practice that establishes a bar for due diligence. However, there is room for improvement across the natural resource professions in developing practice standards or guidelines, communicating expectations to members, and enforcing standards. For example, in a recent special investigation into road construction on steep slopes the Forest Practices Board found that only 7 out of 26 road segments fully met the professional practice standards.

There are many examples of government ministries providing their own guidance, with input from professionals. However, there can be added value when standards have the status of professional practice guidelines that are enforceable as standards of professional conduct through disciplinary processes.

The availability of resources to develop guidelines has been a limiting factor for both associations and government. Although some topics may be more suited to development by professional associations, and others more suited to government, many believe this is an area of shared responsibility that should improve performance and outcomes if backed by adequate education, oversight and enforcement.

Continuing Professional Development

It is well accepted that professionals need to stay current with developing technology, practices and laws in order to perform effectively. Professionals need to adapt to new challenges, and maintain competence throughout their careers. In the words of one council member, "no professional can expect to be licensed for life." Many professions therefore have mandatory continuing professional development (CPD) requirements.

Among the natural resource professions in this review, CPD is clearly mandatory for agrologists, biologists and applied science technologists. Designated structural engineers are the only members of EGBC that have mandatory CPD.

Foresters voted against mandatory CPD over a decade ago. In 2011 the *Foresters Act* was amended to allow the ABCFP council to pass resolutions requiring continuing education that are not subject to member ratification, but the council has not done so to date. The ABCFP advised the review that "Research has shown that imposing a certain number of CPD hours on members is not effective" because members may choose courses "based on meeting hours requirements rather than those which are directed at improving their competence in targeted areas." The association requires members to complete an annual self-assessment declaration indicating that they have created a professional development plan to address the continuing development objectives will work toward achieving them.

EGBC informed the review that it considers CPD to be a priority, however, members have twice voted against CPD requirements. In 2009, members voted 57.7% in favour, but the Act requires 2/3 of the votes cast for bylaws to be ratified. More recently, in 2015 a proposed CPD bylaw received only 44% support. EGBC is therefore seeking an amendment to its legislation to forego the need for member ratification of council bylaws that address professional governance issues.

CAB has mandatory CPD requirements, and annual reporting must be declared when renewing membership. The College Rules require 100 hours of professional development over three years. CAB has a complex points system with a very broad list of eligible CPD activities across four categories: professional practice, continuing education, service to the community and profession, and service to the College. Examples of service includes serving as a judge at science fairs, giving presentations for school children and time spent serving on Council committees.

Agrologists are expected to perform 125 hours of professional development over a three year period. BCIA professional development policy is very similar to that of CAB in its broad list of eligible activities in the areas of professional practice, continuing education, professional contributions and professional service.

Given that there are overlapping areas of practice among the natural resource sector, there is a strong argument for a more consistent approach to continuing professional development across the five professions in this review. Best practices in professional governance are that CPD should be mandatory, with explicit requirements for continuing education to ensure that eligible courses and activities align with the objective of maintaining competency.

Audits and Practice Reviews

All of the professional associations reviewed have audit or practice review programs that review a member's practice. They can be random or selective, and carried out by an assigned auditor or a peer. There is variability in association capacities to deliver them. There are also differences in how they may be triggered, the scope of the audit or practice review, and what is done following adverse findings.

Audits and practice reviews can play a useful role in assuring the quality of professional services. However, there are limits to what should be assumed from the existence of these programs for the purposes of professional reliance. They typically apply to only a very small percentage of the membership each year. Depending on design and scope, they may not delve deeply enough into a member's practice to identify some of the key issues that have arisen in professional reliance. There can also be differences in terms of remedies or outcomes from adverse findings.

While audits and practice reviews play an important function in a professional association's overall quality management, they are limited as a tool for addressing the main problems identified in this professional reliance review. However, there is value in standardizing the auditing and practice review processes across the professional, and ensuring that professional legislation provides broad discretion to associations in determining when to trigger an audit or practice review, and broad remedial powers to address issues of concern uncovered in the audit or practice review.

6.2.7 Codes of ethics

As described above, some regulations have placed considerable reliance on codes of ethics and the abilities of associations to enforce them. Many definitions of "qualified professional" are

based simply on belonging to an organization that has a code of ethics and being subject to disciplinary action. Yet it is surprising how different the codes of ethics are from one profession to another.

There are shared themes addressing common issues such as practising within one's competency, avoiding conflicts of interest, and being honest. Each of them has some positive qualities that others do not address (the EGBC and ASTTBC codes are almost identical).

In professional regulation there tend to be three types of codes for ethical conduct: 1) aspirational codes that set out high level principles to guide action; 2) prescriptive codes of conduct that identify how a professional ought to act in situations that typically arise in a given area of practice; and 3) hybrids of these two, incorporating both aspirational principles and more precise rules of conduct.

Aspirational codes have the advantage of addressing ethical principles at a high enough level they apply broadly across professional practice. They focus on principles, rather than rules. This has become a preferred approach for some professions. They can look very good on paper, but the challenge is in applying them to specific situations, both for the professional and the association trying to decide whether or not the principle has been met. Where there is debate about how apply the principle and confusion about the burden of proof, some committee members may decide that the benefit of the doubt goes to the accused member.

Another difficulty with aspirational codes is that they are sometimes expressed in language that deters findings of non-compliance. For example, discipline committees may be reluctant to find that a member has failed to comply with the code of ethics if it seems to connote that the member was dishonest, incompetent or unethical. In egregious situations they will do so, but in situations where the conduct is better characterized as negligent or subpar, those labels seem draconian.

Prescriptive codes of conduct have the advantage of making it more clear what is required of the professional in a given instance. They are expressed more as rules the professional must follow in a given instance. They are seen by some as legalistic, but they have the advantage of being definitive. In essence, they apply higher level principles to common situations and impose rules that represent what the regulator considers to be appropriate professional conduct. There will still be areas of grey for practitioners, but it is much reduced.

One disadvantage of detailed codes of conduct is that professionals can focus on the prescriptive rules and lose sight of the higher level principles. This is mostly an issue where codes of conduct only provide detailed rules and fail to address the principles behind them. Another potential problem is that detailed codes may not address all of the situations that can arise in professional practice, leaving no principled way to evaluate conduct. Best practice is therefore a hybrid approach that incorporates both aspirational principles and more detailed codes of conduct.

Against this backdrop, the codes of ethics relevant to this review seem to be high level and aspirational. Some associations have published interpretive guides to assist members in applying the principles, which is helpful, but it is difficult to be comprehensive and nuanced.

Some practices issues that arise frequently are not well addressed in the current codes of ethics. There is room for improvement in developing both principles and more specific rules of conduct for issues such as:

- Conflicts of interest,
- Professional independence,
- Contingency fee agreements,
- Reporting duties, and
- Public interest.

Codes of ethics and conduct are critical to the public interest mandate of the professions, and are a key provision in the social contract between the association and the public. They should not be subject to rejection by a vote of the membership. Because of their central importance to maintaining the public interest, both the professions and government should have a role in their development and approval.

6.2.8 Public interest

It is well accepted that professional regulators exist to serve the public interest. The 1991 report of the British Columbia Royal Commission on Health Care and Costs commented on the role of professions in society:

“The purpose of regulating members of a profession is to protect the public from preventable harm. The privilege of self-regulation is granted to a profession by the provincial legislature. It is a social contract between the profession and the public. It is the property of the public the profession claims to serve. (D-28, Vol.2)”

In May 2003 former Ombudsman Kushner tabled a special report in the Legislature entitled “Acting in the Public Interest? Self-Governance in the Health Professions: the Ombudsman’s Perspective.” The report states:

“Designation as a health profession requires that the governing body regulate its members in the public interest at all times. This is a significant responsibility that is delegated by the government to the colleges of self-regulating professions, which carry out this responsibility on behalf of the government. However, even though this authority is delegated, the government is ultimately responsible for ensuring that colleges effectively regulate their members in order to protect public health and safety.

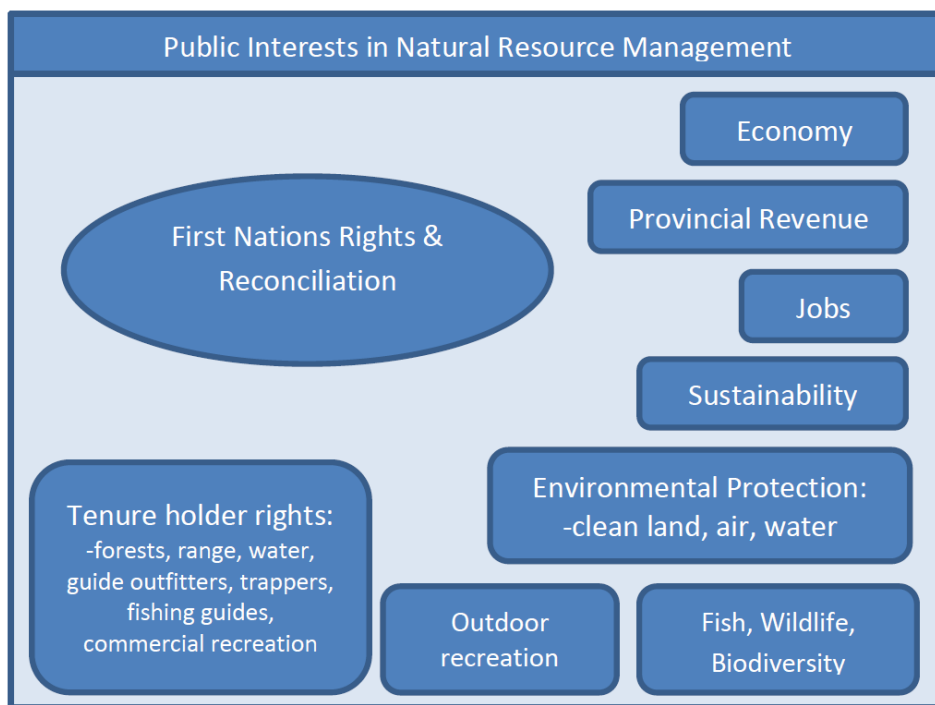
...the professions do not appear to have fully accepted or understood what it means to act in the public interest. They still believe, perhaps because it is the members who elect the governors and pay for the colleges’ operations, that the colleges are primarily there to protect the interests of the members.”

These reports addressed reforms to the regulation of health professionals, but are relevant to all professions. However, there are contextual differences to consider. Some professions primarily

provide services to individuals, involving doctor-patient or lawyer-client relationships. In exchange for the exclusive right to practice in a self-regulated profession, these professionals also have duties to the profession as a whole and to the public interest in well-functioning health care and justice systems.

The situation facing professionals engaged in natural resource management and environmental protection is arguably more complex, because in addition to the professional-client/employer relationship, the operating context includes government interests in public land and resources, Indigenous governments and communities with constitutional rights, other Crown tenure holders with legal rights, private land owners, and the many interests of the general public. The fact that about 94% of British Columbia is public land enhances this aspect. It follows that there are many public interests, and conversations about professional reliance reflect most of them.

There are two sets of public interests that require distinction for this discussion: the first is the cluster of public interests concerning natural resource management *per se*, and the second is the public interest in the regulation of the professionals who engage in resource management. While these are conceptually distinct, they are also mutually dependent to a certain degree. However, as the owner of land and resources, with legislative responsibility for both the resources and the professions, the Province has the primary supervisory role.



When the full suite of public interests in natural resource management is considered, it becomes apparent that the public interest regulated by professional organizations is both different and narrower. Their primary role is to ensure that professionals are competent to practice, that they comply with laws and codes of ethics, and generally uphold the standards of the profession. While most have broad authority to develop standards of conduct, they are creatures of statute that must operate within the limits of their delegated authority. They do not drive legal and policy

objectives, but add value to them if they establish practice rules that help professionals meet those objectives.

Not only do many public interests fall outside of the expertise of a given profession, there is a strong public expectation that their interests be decided by those who are democratically accountable. The general public does not elect the councils of professional organizations. Indigenous governments and communities expect to address their interests through government to government relationships. The professional organizations involved in this review made it clear that they too consider that government has an essential role in these matters.

This does not suggest that there is no role for professional regulation of the broader public interest. The more that government does to make known its management objectives and desired results in law and policy, the more clarity there is for professional organizations and their members to determine what constitutes professional and ethical conduct in a given context. In its submission to this review the Forest Practices Board commented:

“In the absence of suitable government direction, professionals cannot be expected to guess at government objectives or balance public values... The full suite of government objectives has not been established, leaving, in some areas, a vacuum in government policy, which licensees and their professionals should not be expected to fill.”

This important issue is an area requiring improvement for both government and professional organizations. Government objectives should be more fully developed and made known, particularly for broad-ranging resource development activities, and professional legislation and codes of ethics could also be improved to better address those broader public interests, and incorporated into enforcement efforts such as audits and complaint investigations.

6.2.9 Complaints and discipline

A key premise in government’s adoption of professional reliance was that poor professional performance would be addressed through complaint and disciplinary processes. A professional association’s ability to enforce its practice standards and code of ethics is critical to its effectiveness as a regulator, and to public confidence.

Former Ombudsman Stephen Owen, Q.C. commented that “The way that a professional association deals with complaints from the public about the actions of its members is the litmus test of self-regulation.”

All of the associations have comprehensive complaints and disciplinary processes. There are differences in terminology, committee structures and processes. The table below shows what may be disciplined based on their legislation:

What may be disciplined?	ABC FP	ASTTBC	BCIA	CAB	EGBC
Incompetent practice	✓	✓	✓	✓	✓
Conduct unbecoming	✓		✓	✓	
Misconduct		✓	✓	✓	✓
Contravention of Act, bylaw	✓	✓	✓	✓	✓

Negligence					✓
Incapacity		✓			

Associations rely on volunteer members to participate on the committees involved in review of complaints and discipline, and there are some differences in how appointments are made.

There are strongly held differences of opinion on whether disciplinary processes are working as expected. Professional associations are confident that they are fulfilling their responsibilities diligently and proportionally, while many government employees, professionals, and members of the public do not have confidence that the system is working as intended.

Reviewing the merits of complaint and disciplinary decisions would require detailed assessment of the evidence and arguments of the parties involved in numerous complaint investigations, and in some cases access to confidential information, which was well beyond the scope and capacity of this review. However, canvassing the types of concerns heard may assist the professional associations and future review efforts to ensure best practices are followed in complaint and disciplinary processes.

Limitations

One obvious limitation of reliance on disciplinary systems is that they cannot address the resource management or environmental protection issue in the field. Professional associations only have jurisdiction over their members. If the underlying concern is with adverse impacts that result from the professional's work, investigation and discipline by an association won't solve that problem. It might influence that individual's future performance, but not the impacts of past work. Government needs to ensure that it has the ability to address field level issues proactively and reactively.

Another significant limitation for government reliance on disciplinary processes is that there is considerable reluctance to make complaints about professionals. Many professionals informed the review that they see work they believe to be negligent, but do not wish to file a complaint with associations about peers because it has both personal and business implications, especially in smaller communities in rural BC. Even if associations are able to offer confidentiality, some feel that their identity would be easy to determine because often only a few individuals know about the situation, and some associations expect them to have "professional conversations" first. These do happen, but if the issue is not resolved it will often end there. This is particularly true for consulting professionals who depend on future work in small and specialized communities of practice.

Professionals within government also stated that they are reluctant to file complaints for a variety of reasons, including the above, plus uncertainty about Ministry policy, senior management support, and in some cases negative signals from initial conversations with association staff as to whether a complaint would likely result in a sanction. One example of the latter involved a concern that a professional allegedly made a false statement that a prescribed methodology was followed, but the Ministry official was advised that this type of issue would not likely lead to a sanction unless there was also significant adverse environmental impact.

The challenge here is that professional peers and Ministry officials are likely in the best position to learn of problems, so if they are reluctant to use complaint mechanisms the associations may not become aware of many issues that give rise to a lack of confidence in the overall regulatory system.

For some professionals, the personal and reputational stakes are less high where they can make a submission to a statutory decision maker who has a process for considering public input before granting an approval.

Process Concerns

There are some concerns about the first level of association review, i.e. complaints that are not referred to conduct review and disciplinary committees. Some reasons simply state that the complaint was dismissed on grounds of insufficient evidence. Complainants want to understand why their complaint is being dismissed, especially if that occurs before investigation.

Some complainants and government staff lack confidence in the thoroughness of investigations. For example, associations will ask the member to respond to a complaint about them, and if the response seems exculpatory the investigation could end before those with detailed knowledge of the situation had been interviewed. Some claimed knowledge that would have rebutted the member's response had they been asked.

An opposite concern was also raised about the level of effort expected of government staff to provide detailed written answers to a lengthy list of questions and provide supporting documentation to substantiate a complaint. Some staff felt too much investigative effort was being delegated back to them, requiring a large investment of time and effort without having confidence that a meaningful result would follow. However, sometimes government has the best evidence concerning a matter, so a high level of cooperation is necessary for the association to carry out its mandate diligently. This issue might be a matter of finding mutually efficient investigative techniques.

Members of the public expressed the opinion that they felt the processes lacked transparency and complainant engagement, and after filing a complaint they would not hear much until being informed of the conclusion.

Finally, another process concern identified was the length of time it takes to get a decision.

Substantive Concerns

The most common concern expressed related to complaint and disciplinary outcomes. Many commented that in their opinion associations lack a track record of professionals being held to account. One area of disagreement is over the threshold for finding a member's conduct to be unprofessional and warranting sanction. The concerns included the thresholds for misconduct, ethical breaches, and incompetent or negligent practice. They did not seem to include "conduct unbecoming" a professional.

Of these concerns, the most common disagreement was over what the threshold should be for incompetent or negligent practice. Government and some professionals believe there are instances in which work product that most professionals would consider to be clearly deficient or substandard does not result in an adverse finding because the association thresholds require a high degree of egregiousness and perhaps intentionality before a member will be sanctioned.

Competence and intention are completely different issues; in natural resource management, determining the professional's intent when undertaking field practices could be quite difficult and speculative. To use a forestry example, timber cruise plots are sometimes the basis for determining stumpage revenue due to the Province for Crown timber, so there is a detailed methodology for how to conduct them. While there is a known statistical margin of error, if the cruise methodology is not followed and timber volume estimates are significantly below the actual amount logged, there can be significant consequences to provincial revenue. Competent practice is a separate issue from whether a forester deliberately intended to underestimate volume; which may be almost unknowable because the practices are carried out in isolated settings. Deliberate intent would be an issue going to the degree of sanction required in the circumstances, not whether the practice was competent.

Another explanation for differing expectations may be due to the fact that negligence has different meanings. In the civil law, negligence is a breach of a duty and standard of care, provable on the balance of probabilities (i.e. more likely than not). In criminal law, negligence is doing, or omitting to do, something that is one's legal duty, and showing wanton or reckless disregard for the lives or safety of other persons. The criminal burden of proof is beyond a reasonable doubt. There seems to be disagreement over what the threshold should be for *professional* negligence. Some ministries expect professionals to meet the civil law standard, evident in policy documents such as the Ministry of Environment's 2008 "Guidance for Responding to Unsatisfactory Performance by Qualified Professionals" which uses criteria from the tort of negligence. Under this view, failure to exercise reasonable care can be negligent. Some Ministry staff reported that when contacting a professional association with concerns about a member the focus of questioning was whether the activity recommended by the professional constituted a regulatory offence, suggesting that the association uses a much higher threshold.

In addition to the threshold issue, concerns were expressed that inadequate consideration is given to public interest issues, compared to the weight placed on the member's reputational interest. Related to this is a sense that the "public interest" that associations enforce is narrower than the public interest in sound resource management decisions.

Powers and Sanctions

EGBC brought to the review team's attention that its legislation provides for interim suspension powers for the Discipline committee but not for the Investigation Committee, which would allow the association to protect the public earlier in the complaints process, such as where a member's fitness to practice is an issue or where early evidence clearly shows high risk to the public. This is a reasonable request that is addressed in the *Health Professions Act* and should be available across the professions.

Concern was expressed from government, professionals and the public, that when complaints are upheld in some cases the sanctions seem weak and do not send a strong enough signal to members of the profession. Requirements to take a remedial course or undergo practice review may be appropriate, but are not seen as a sufficient response to meet the goals of deterrence in some situations – for both an individual and the profession.

Transparency

The need for transparency in complaint and disciplinary processes is perhaps more important than disagreements over the outcome. If a decision is explained well, readers may come to accept the validity of other factors that influenced the decision. Concern was expressed about the adequacy of the information and reasons provided in discipline case digests, leaving even knowledgeable members wondering about key findings of fact and the rationale for the decision.

The review noted that there are many decisions that meet reporting standards well, and do not give rise to these concerns. However, reporting content seems inconsistent across the professions, and even within a profession there can be quite a variable approach to reporting. We did not determine what factors account for these differences, but conclude that there is room for improvement and greater consistency in reporting standards across the professions.

The BC Institute of Agrologists has not publicly posted any complaint and investigation summary or disciplinary decisions. BCIA indicated that it has not had any Discipline Committee decisions in about a decade: however, some associations also publish complaint and investigation summaries of cases that do not get referred to a discipline committee. BCIA's answer to a question on this cited its policy of strict adherence to privacy laws, but also acknowledged authority to publish. The same privacy laws apply to all five of the professions in that they are all listed in Schedule 3 of the *Freedom of Information and Protection of Privacy Act*, which applies to governing bodies of professions and occupations.

Conclusions

Concerns heard in this review about complaint and disciplinary processes have been reported here due to the profile they have been given in regulatory approaches to professional reliance, including definitions of “qualified professional” that are premised on professionals acting consistently with their organization’s code of ethics and “subject to disciplinary action by that organization.” Some Ministry officials indicated that they no longer consider using association complaint processes as a result of the issues discussed above.

These issues merit further review. There may be several factors that account for the concerns identified, including:

- The capacity of associations to administer complaint and disciplinary processes, particularly for the smaller organizations with few dedicated staff;
- The availability of training for the variety of skills required for effective disciplinary process. This is a complex field, requiring investigative, analytical, hearing, and decision writing skills, as well as an understanding of procedural fairness obligations;

- The complexity of public interest factors in the natural resource management context, which makes them somewhat unique when compared to disciplinary issues in other professions; and
- Access to legal advice for the smaller organizations; while they recognize the need for and do seek legal counsel, some budgets are so small that a single complaint file could easily consume the budget for this service.

Effective disciplinary systems are a cornerstone of professional governance, but they also have limitations. They should not be expected to bear the full weight of government's expectations for quality assurance in natural resource management and environmental protection. There are inherent limits in systems focused on disciplining individual professionals, plus many external factors that affect results and outcomes, that are less present in other areas of professional governance. Government should therefore ensure that it has other regulatory tools to meet quality assurance expectations.

6.2.10 Association mandates and advocacy

Across professional sectors jurisdictions, there have been changes in professional governance in recent decades as governments identify and respond to public interest issues. One area of change has addressed the mandate of professional associations. In some cases, governments have taken over governance of professionals, while in others they have adjusted mandates. The main call for greater clarity over mandate involves the role of associations as *regulators* of their members versus as *advocates* for their members or the sector they practice in.

This issue has arisen in other sectors in British Columbia, where it has been determined that coupling self-regulation with advocacy creates conflicts of mandate that hinder effective performance of both roles. There are several professions in BC that clearly separate these roles by having two distinct organizations: one that regulates the profession to promote compliance with bylaws, codes of ethics and conduct, and another that advocates on the policy issues that arise in professional practice. For example, this has long been the case for the legal profession, where the Law Society regulates members and the Canadian Bar Association—BC Branch and others provide venues for discussion and education on practice issues, including commenting on proposed changes to laws and court rules. In the health sector, the College of Physicians and Surgeons regulates doctors, while the Doctors of BC (formerly BC Medical Association) advocates “to promote a social, economic, and political climate in which members can provide the citizens of BC with the highest standard of health care, while achieving maximum professional satisfaction and fair economic reward.”

Among the professions in this review, the biologists have deliberately separated the regulation functions of the College of Applied Biology from the advocacy role of the Association of Professional Biologists (APB). The association states that it advocates “for advancements in the application, practice and understanding of biological sciences.” In 2017 it carried out a survey of members to identify advocacy priorities, and made this comment about the *College of Applied Biology Act*:

“The legislation limits the type of advocacy the College can undertake. It cannot be seen to be putting member interest over public interest. That focus on advocacy for the profession is one of the key differences that separates the CAB and the APB.”

The APB correctly notes that not all advocacy is the same. Attending career education events for young people and advocating the merits of becoming an engineer, geoscientist, forester, biologist, agronomist or technologist is not a concern.

Only one regulator has an explicit legislative mandate that includes advocacy. The *Foresters Act* states that an object of the association is “to *advocate for* and uphold principles of stewardship of forests, forest lands, forest resources and forest ecosystems,” whereas other professional legislation just references upholding the principles of the profession.

The *Engineers and Geoscientists Act* includes the object “to uphold and protect the interests of its members and licensees,” subject to its duty “to uphold and protect the public interest.” This is unusual, and could introduce a tension with its mandate as a regulator of those members and licensees.

There are sound reasons for separating these mandates, going to both clarity of mission and avoidance of potential conflicts. For example, if government has taken a regulatory or policy approach that is controversial within a profession, it is difficult for the same organization to both advocate against that approach and regulate member compliance with it. There is always room for reasonable debate within a profession about resource management policy, and if a professional regulator aligns itself with one particular side it can create a conflict with its primary mandate. Discussions about professional reliance sometimes blur the merits of a particular approach to regulating an industry with the separate issue of whether professionals are doing a good job in the provision of professional services. Regulators should not confuse these two, because their job is to oversee professional performance. They should strive to exercise their mandate in a manner that is conducive to high levels of professional excellence. The delegated authority of regulators bears some resemblance to statutory decision makers, administrative tribunals and judges who must base their decisions objectively on the evidence, laws and rules as they are.

Finally, there are also practical reasons for mandate clarity given the small size and capacity issues facing some natural resource professions. It is unrealistic to think that they can effectively isolate regulatory functions from advocacy functions.

In conclusion, the association mandates in the current professional legislation are generally appropriate, but there should be greater consistency in the “duty and object” clauses to centre mandates on the regulation of members to avoid actual or potential conflicts with advocacy positions and representation of members. Having a venue for advocacy is important for professionals, because they have unique insights into the issues they face daily dealing with laws, codes and industry practices; however, someone other than the professional regulator should play this role.

6.3 Government Oversight of Professional Associations

Some of the issues facing professional governance in the natural resources sector today may be due in part to inconsistent oversight within government. Currently, four separate ministries are responsible for administering the legislation for five professional organizations.

Ministry Responsible for Professional Legislation	
<i>Agrologists Act</i>	Ministry of Agriculture
<i>Applied Science Technologists and Technicians Act</i>	Ministry of Advanced Education, Skills and Training
<i>College of Applied Biology Act</i>	Ministry of Environment and Climate Change Strategy
<i>Engineers and Geoscientists Act</i>	Ministry of Advanced Education, Skills and Training
<i>Foresters Act</i>	Ministry of Forests, Lands, Natural Resource Operations & Rural Development

For the agrologists, biologists, and foresters, Ministry responsibility is based on shared subject-matter expertise with the profession. The Ministry of Advanced Education, Skills and Training which is responsible for legislation governing engineers, geoscientists, and science technologists oversees other professional legislation as well, but does not have natural resource management expertise.

Both subject matter and professional governance expertise are important; however, when dealing with legislation establishing the basic structure and elements of professional regulation, professional governance expertise is most important. Subject matter expertise becomes more important for the operational aspects of association mandates, such as practice standards and disciplinary decisions.

Most of the ministries have infrequent engagement with the professional legislation they oversee, and lack staff specifically dedicated to professional governance issues. Associations approach the Ministry responsible for their legislation when they identify a need for reform, and the Ministry evaluates the request and makes a decision on whether to recommend amending the legislation. The inconsistencies in the legislation are not surprising perhaps given that four different ministries undertake the reviews in response to five association requests.

The ASTTBC recommended that legislation for natural resource professions be administered by a single oversight body and that professional regulators report through one Ministry, as this would “result in closer ties between government and the associations, help to formalize the links between the professions and provide better Government oversight.” The associations would continue to interact with other ministries as needed for issues relating to fields of practice.

Other professional associations in this review have commented on the need for greater understanding and awareness of the governance issues they deal with. Given the breadth of

professional practice, some feel government should develop clear policy on topics such as when it is important to government that a professional be independent from the proponent. There is a sense that successful reliance on professionals is a shared responsibility.

6.4 Other Sectors and Jurisdictions

Some of the issues noted in this review have also arisen in other professional sectors in BC, such as the health and real estate professions. Of particular relevance to this review is regulation of the health professions which has undergone significant changes over the last three decades. In 1991, the British Columbia Royal Commission on Health Care and Costs identified a lengthy list of inconsistencies across the health professions, and recommended a single, unifying statute. This eventually led to 2002 reforms to the *Health Professions Act* to improve governance and accountability, which included powers to intervene where required in the public interest.

Today there are two bodies with oversight mandates for the health professions: one is within the health Ministry, and the other is an administrative tribunal. The Professional Regulation and Oversight division of the Ministry of Health develops and implements strategies for the regulation and oversight of health care workers to ensure the consistent provision of quality, safe, care for all British Columbians. They monitor the performance of regulatory and oversight mechanisms on an ongoing basis and introduce legislative, regulatory, and policy changes to ensure the mechanisms effectively protect British Columbians.

The Health Professions Review Board is an administrative tribunal that provides independent review of certain decisions made by the colleges of designated health professions regarding the registration of their members and the timeliness and disposition of complaints. The Review Board also develops and publishes guidelines and recommendations for the purpose of assisting colleges to establish and employ registration, inquiry and discipline procedures that are transparent, objective, impartial and fair.

This review also considered professional regulation in other Canadian provinces and the United Kingdom. The main issues identified as trends and best practices in professional governance are:

- **Umbrella legislation and consistency:** many jurisdictions are addressing similar issues due to a plethora of self-governing professions with inconsistent rules and performance. The governance issues are common across related professions, so umbrella legislation serves the goal of achieving greater consistency in process and practice requirements. This has been most developed in the health professions because of the large number of individual colleges;
- **Council and committee composition:** more public appointments are the norm, with a 50-50% split between members and public appointees in the UK health professions, and which has been adopted by the College of Nurses of Ontario (to be implemented in 2020). This extends to committees as well as councils.

- **Appointments vs. Elections:** some are moving away from member elections for a number of reasons: 1) to avoid the sense that an elected councillor must represent the members who elected him or her, which the Ontario nurses describe as setting up a “conflict of expectations;” 2) to ensure that associations have the range of necessary expertise to properly function as a regulator through competency screening or merits-based appointment process; 3) to ensure diversity on councils and committees, particularly where an association is comprised of diverse types of practice with regional differences; 4) to prevent councils from being dominated by one perspective; 5) to avoid electoral campaigns against initiatives and decisions that are necessary for effective governance; 6) to support succession planning; and 7) to have consistency with the merits-based appointment process for public appointees.

Discussions on the merits of elections versus appointments sometimes note that member participation is typically quite low. For the Ontario nurses, it was about 15%: which is similar to the 2017 EGBC election in which 17.4% of registered members and limited licensees returned ballots. For some BC resource professions, council members are acclaimed. Where merits-based appointment systems are in place, nominating committees can still serve a significant role in the application and screening of candidates.

- **Advocacy vs. Regulation:** for the reasons discussed earlier, there is a move toward greater separation of advocacy functions from the business of regulating professionals to avoid conflicts of mandate.
- **Terminology:** increasing attention is being paid to the terminology used in professional legislation to make roles clear. For some, “associations” with dues-paying “members” who vote can be seen as similar to clubs and societies. The term “regulator” is sometimes preferred to association, and “registrant” to member, to distinguish from other common uses of these terms.

6.5 Conclusions

The five professions in this review vary considerably in terms of size, resources, legislation, bylaws, codes of ethics and the ways in which the professional services of their members engage with resource management and environmental protection. Nevertheless, there are common issues that they face in terms of meeting government and public expectations as regulators.

At the same time, the ministries currently overseeing the legislation for these professions lack resources and expertise on professional governance, resulting in challenges when it comes to responding to requests for legislative reform. A greater understanding of governance issues and best practices within government is needed to inform government’s expectations of the associations. This would serve two purposes. First, it would help government calibrate its expectations of what reasonably can be achieved through professional regulation. Second, it would help identify opportunities for improvement to ensure that this sector is served by the best

governance practices. This would be of particular benefit for smaller associations who could use the expert help.

The ABCFP noted in its submission that “It is impractical to assume that all decisions, approvals, assessments, and other resource management activities can be done by government-employed professionals.” There is broad agreement with this, which suggests that BC will be well served by ensuring that professional governance in the natural resources and environmental protection sectors is as good as it can be. Reliable expert advice from professionals can reduce government’s regulatory costs.

That there are areas for improvement is not surprising, as this has been the conclusion in other professional sectors in BC, across Canada and internationally. Reforms to regulation of the health professions serve as useful models to draw from, as they have addressed very similar issues and have benefited from extensive study, investigation and inquiry. However, they need not be adopted in their entirety; some modification to the particular circumstances of the natural resources sector is warranted.

Of particular note in BC is the oversight provided by the Ministry of Health’s Professional Regulation and Oversight division and the Health Professions Review Board. Aspects of each mandate will be recommended, but delivered by a single independent office dedicated to professional regulation and oversight. However, it should be recognized that professional governance is an evolving field, and regulation of the health professions is adapting to circumstances also. Best practices from the Professional Standards Authority of the United Kingdom are also relevant considerations due to its contribution to the development of governance standards since 2002.

One major difference from the health professions regulation is that this review did not identify the need at this time to establish an administrative tribunal to hear formal appeals from decisions of the professional associations. Without passing judgment on its utility to the health professions, which are more numerous and have more members, this would be costly and presently unnecessary due to the lower volume of complaints coming to the resource professions. Those who are the subject of determinations and orders by an association currently have a legal right of appeal (ABCFP, BCIA, CAB, EGBC), or presumably judicial review (ASTTBC), to the Supreme Court. The court is well equipped to address most issues that are likely to arise due to judicial familiarity with professional governance in the legal profession and its supervisory role through administrative law. Providing the oversight body with standing to appeal to the Supreme Court would ensure that the public interest in regulator decisions will be represented. In addition, the body should have additional legal tools to address problems without resort to litigation. As with the *Health Professions Act*, some of these tools are important to have in the toolbox, even if they are seldom used.

If the recommendations below are accepted, it will be important that this work be carried out in close collaboration with the professional associations. This could occur as a matter of policy or through a formal council of professional associations referenced in legislation (as occurred between 1992 and 2002 with the Health Professions Council under the *Health Professions Act*).

While these reforms are proposed to improve professional governance, it is important to recognize that there are limits to what can be achieved through this alone. Sustainable resource management and environmental protection objectives require improvements to direct regulation of activities, and these will be addressed in Sections 7 and 8 of this report.

6.6 Professional Governance Recommendations

R1. Establish an independent Office of Professional Regulation and Oversight:

Consider establishing an Office of Professional Regulation and Oversight (the “Office”), which would be an agent of government focused on professional organization governance issues and independent from natural resource sector ministries. The Office would have the mandate and authority to do the following:

1. Administer the professional legislation for the five professional organizations, and possible new entrants;
2. Develop and administer a merits-based process for appointments to professional councils and committees;
3. Research and develop best practices for professional governance in the natural resources sector, working collaboratively with the professional organizations. The following topics warrant attention, but are not intended to be an exhaustive list:
 - a. Amount of evidence needed for complaints to proceed to investigations;
 - b. Best practices for investigations;
 - c. Best practices for codes of conduct;
 - d. The appropriateness of contingency fee arrangements (e.g. where professional compensation is dependent on a regulatory outcome, such as project approval);
 - e. Guidance on the thresholds for incompetent or negligent practice;
 - f. Guidance on evaluating the public interest aspect of professional work;
 - g. Best practices on reporting complaint outcomes, including transparency and privacy issues such as the adequacy of reasons and naming of individuals;
 - h. Guidance on determining appropriate sanctions;
 - i. Guidance on how professional organizations can address competency issues for professionals seeking registration under labour mobility agreements, such as the New West Partnership Trade Agreement and Canadian Free Trade Agreement.
4. Develop governance and other necessary training for council and committee members of professional organizations;

5. Investigate and audit professional organizations on its own initiative, or in response to public complaints and ministerial, Cabinet or Legislative Assembly requests (similar to the provisions in section 10(3) of the *Ombudsperson Act* and section 18.1 of the *Health Professions Act*). This authority should include a power to obtain information and compel witnesses, and make recommendations (similar to those of the Forest Practices Board and Ombudsperson (s.23(2) of the *Ombudsperson Act* and s.131(3) of the *Forest and Range Practices Act*);
6. Provide directives to professional organizations following an investigation, audit or inquiry, if an organization has not satisfactorily responded to recommendations of the Office within a specified time frame (similar to the directives power in section 18.2 of the *Health Professions Act*);
7. Appoint a public administrator to take over some or all of the duties of a professional organization if necessary in the public interest (similar to that found in section 18.3 of the BC *Health Professions Act*);
8. Appeal certain professional organization decisions (e.g. registration and disciplinary decisions) to the BC Supreme Court, and join other appeal proceedings as a third party to represent the public interest (similar to the Forest Practices Board standing to appeal or join appeals in ss.82(2) and 83 of the *Forest and Range Practices Act*);
9. Report regularly to the legislature on the performance of professional organizations and professional governance issues, with recommendations for legislative reform where needed;
10. Administer lists or rosters of practitioners who are not registrants of a professional organization where these are desirable to ensure that only qualified persons undertake certain functions, and where a professional organization or Ministry does not have the desire or capacity to do so;
11. Investigate and recommend to Cabinet whether to designate new natural resource professions under the Act (similar to s.9 and other provisions in Part 2 of the *Health Professions Act* – this could allow for other professions, such as professional chemists, landscape architects, surveyors, etc. to come under the Act); and
12. Amalgamate professional organizations (similar to Part 2.01 of the *Health Professions Act*), where desirable to avoid duplication or achieve economies of scale.

R2. Legislate critical elements of professional governance

The critical elements of professional governance recognized as best practices should be legislated to achieve greater consistency across the professions. These include:

- Standardizing the requirements for council and committees necessary for regulation of the professions, and clearly specifying their mandates. These might include registration,

continuing professional development, practice audits, and complaints and discipline committees. A professional organization could choose to have additional committees.

- Standardizing the appointment process for council and key committees such as complaints and discipline. This would include:
 - Specifying that no less than 50% of council and committee members must be appointed following a merits-based process from the professional organization's register (or via a hybrid merits-based qualification/election process);
 - Specifying that up to 50% of council and committee members must be appointed following a merits-based process from the public, to ensure the profession is aided by outside perspectives and expertise. Appointed public members should not include those serving on the councils or committees of related resource professions;
 - Clarifying the main duties of council and committee members, and specifying a procedure for individual acknowledgement of those duties prior to taking office (this could be in the form of a formal, witnessed affirmation or pledge, similar to s.17.11 of the *Health Professions Act*, but excluding the registrar);
- Enabling professional organizations to regulate firms as well as individuals;
- Giving councils the authority to adopt professional practice bylaws, subject to review by the Office of Professional Regulation and Oversight;
- Ensuring that professional organization duties and objects are focused on regulation of the profession and the public interest, and do not include advocacy or representation of member interests;
- Requiring continuing professional development (e.g. training and skills development);
- Standardizing codes of ethics, while allowing for profession councils to develop more detailed, profession-specific codes of conduct that are consistent;
- Improving and standardizing the public interest duties of professional organizations and registrants;
- Improving the reporting duties of professionals who become aware of unprofessional conduct, and extending those duties to firms and employers (similar to s.57 of the *Alberta Health Professions Act*. See also ss.32.2 to 32.4 of the *BC Health Professions Act* for examples relevant to the health sector).
- Providing whistleblower protection to those who report unprofessional or negligent conduct.

It is recognized that some of these will take time to implement, and may be best developed through the Office of Professional Regulation and Oversight, working collaboratively with the professional associations.

Regulatory Review

7 Regulatory Review

Most natural resource legislation is based on a system of authorizations (e.g., through a licence or permit) or rules for carrying out activities found in regulations, or a combination of both. Proponents who wish to obtain an authorization or undertake an activity frequently have to retain professionals. This part of the Professional Reliance Review considers the criteria for effective engagement and oversight of professionals by government rather than their professional associations.

In 2012, the Qualified Persons Cross-Ministry Working Group identified three broad requirements for effective regulation:

- **Competency:** A professional's competence has to be backed by appropriate education, training, and experience.
- **Clarity of expectations:** Clear guidance is needed as to the objectives, standards, guidelines, and protocols that are relevant to the work professionals undertake. Clear expectations also support quality assurance, and standards, guidelines, and protocols can be used to monitor or audit performance.
- **Accountability:** To help ensure acceptable performance, there have to be clear mechanisms for accountability, with consequences if performance is unacceptable. This can be achieved through complaint resolution, compliance and enforcement actions by government, monitoring, or independent audits that assesses individual competence in a given field.

The Regulatory Review Working Group described in Section 5.3 adopted these principles and developed criteria for applying them across the natural resources sector. These will be discussed below.

7.1 Best Practices for Effective Professional Reliance

Professionals are engaged in natural resource management through many mechanisms, including requirements in statutes, regulations, and authorizations (e.g., permits, licences, approvals). Reliance on professionals is also common in orders relating to compliance and remediation, such as pollution prevention and abatement orders. The discussion in this section is relevant to all of these.

The considerations listed below should be addressed whenever regulations, authorizations or orders are being drafted to rely on external professionals. It is expected that they may not all be relevant to each and every situation, but a checklist approach should ensure that best practices have been considered.

7.1.1 Competency

Qualifications: Does the regulation, authorization, or order identify the qualifications needed for the professional task? Do the eligibility requirements align with the expertise needed to undertake the professional task?

Competency Assessment: If the expertise required is fairly specialized within a given profession, is there an adequate means of assessing competency by government and/or those who retain the professionals? How will international credentials be recognized in competency assessments?

Training: Is or should there be specialized training and education available? Is it required in order to undertake this professional task?

Gatekeeper Function: Is or should there be a gatekeeper function to ensure that only professionals with the appropriate education, training, and experience undertake the work? Examples of gatekeeper functions are many, and include rosters (such as the roster of approved professionals for contaminated sites, specialized practice designations (such as structural engineers, accredited timber cruisers, etc.), or agency maintained lists of pre-qualified professionals (such as the Ministry of Transportation and Infrastructure's Registration, Identification, Selection and Performance, or RISP process). Are there means to limit or restrict the task being undertaken by those who lack appropriate education, training, and experience?

7.1.2 Clarity of Expectations

Management Objectives: Does the regulation, authorization, or order adequately specify the desired results, outcomes, or management objectives?

Methods and Standards: Has government provided adequate information or requirements concerning the methodology and standards professionals are to use when carrying out the task? Has government developed or contributed to formal professional development/outreach on the methodology or standards?

Guidance: Is there a need for guidance from ministries, or professional standards of practice or practice guidelines? Is available guidance consistent across the professions eligible to carry out the function? Is there a practical and effective means of addressing professional work that does not follow guidelines or practice standards?

Certifications: Is there a formal procedure for professional certification that inculcates a sense of personal responsibility and accountability? This may be addressed in a regulatory requirement, attestation document or assurance statement. At a basic level, it can include the professional signing a document and affixing a seal. Is it clear what this means and is it sufficient for the circumstances? Or if the matter is complex, should government require the professional to endorse specific statements concerning their procedure or professional opinion?

Multi-disciplinary Situations: If the task requires multiple disciplines, is each professional's role clearly identified?

7.1.3 Accountability

Documentation & Rationale: Are there rules concerning professional reports, supporting documentation, and provision of a rationale for the professional's decisions or recommendations?

Currency: If field conditions change over time, does the professional work have an expiry date?

Adherence: Are there controls in place to ensure that recommendations by professionals are adhered to? Do the circumstances suggest that a permit holder should provide notice and justification for not following the professional's advice?

Conflict of Interest: Does government have the ability to address conflicts of interest arising from a professional's duty to their client, self-interest, and the public interest? Given the context, should the regulation, authorization, or order explicitly address this and require disclosure to the Ministry?

Independence: Is there a need for the professional to be independent from the proponent? Are controls in place or needed to ensure that there is no undue influence by the client/employer on the professional's expert opinion? Is there a means to address expert shopping? If professional independence is important in the context, is it sufficiently addressed in a regulation, authorization, or order?

Monitoring: Are external professionals required to carry out environmental monitoring? If so, is it woven into a plan-do-check-adjust framework effectively? Are monitoring results reported to government and available to the public?

Government Responsiveness: If government has a limited time frame in which to respond to applications, registrations or notice of work, is there an effective means of addressing deficiencies in information? Are there sufficient resources to meet the timing expectations?

Knowledgeable Owner: At a minimum, can government act as a 'knowledgeable owner' of the natural resources? Does it have access to sufficient expertise to evaluate the professional's work?

Reporting: Are there clear rules in place to ensure that enforcement agencies are made aware of incidents involving public land and resources? Do professionals have a duty to report incidents or non-compliance to government or to professional associations? Is that realistic or desirable in the context?

Performance Audits: Does government or an external group (such as the Contaminated Sites Approved Professionals Society) carry out audits of the professional work systematically to provide a reasonable level of assurance of compliance and quality control?

Authority to Approve and Intervene: Is there an effective means of dealing with inadequate work, preferably before problems arise? Can government proactively intervene where work is inadequate, or could have an adverse effect on other resource users or the environment? Can remediation be ordered where adverse impacts have already occurred? If authorization is required, can it be declined, withdrawn, or suspended?

Liability Risk: Is professional liability insurance required in the circumstances? If so, is it addressed appropriately through errors and omissions insurance, or performance bonds, or

other mechanisms? Or is it adequately addressed in an authorization to the professional's client or employer?

Cumulative Effects: Does the professional work have to take into account the cumulative effects or landscape level context if there are multiple operators, or if surrounding conditions should be a factor in decisions about the resource management activity? Does government have the ability to consider cumulative effects when making a decision?

Public Availability: Is the professional documentation provided to government routinely or on request? Where disclosure is legally permissible, is the documentation readily available to Indigenous governments and communities, stakeholders, and the public?

Complaints: Is there a known and effective means to address and resolve complaints from third parties who may be adversely affected by the professional's work?

7.2 Recommendations

7.2.1 Recommendations to improve laws, regulations and authorizations

The Regulatory Review considered best practices for professional involvement in the natural resources sector based on interviews with Ministry subject matter experts, stakeholder interviews and submissions, and a review of over thirty types of resource management decisions. This section makes recommendations of a broad nature that apply across the natural resources sector. More detailed recommendations will be made for the specific regulatory regimes in Section 9.

Competency

R3. Review regulations and authorizations to ensure that competency requirements are aligned with the professional task or function.

Many regulations include overly broad definitions of "qualified professional" given the nature of the task. Sometimes they assume that any member of any profession that has a code of ethics will be competent, and rely on an individual's self-declaration of competency. This has been problematic for both government and proponents.

R4. Government and professional organizations should collaborate to develop ways and means of addressing the need for specialized expertise within a profession.

Some regulations assume that any member of a given profession can undertake a task, while others specify that suitable qualifications or experience in a given field is expected but self-declared by individuals without any way of confirming their qualifications or experience. There are several options for addressing this, including: 1) specialist designations within a profession; 2) certification by government agencies (e.g., timber scalers, pesticide applicators); 3) specifying credentials in the regulation or authorization; 4) providing for Ministry approval of the professional qualifications prior to work commencing; and 5) a roster-type system, which can range from Ministry-based systems such as the Ministry of Transportation and Infrastructure's

electronic Registration, Identification, Selection and Performance evaluation (eRISP) system to the more elaborate approved professionals system for contaminated sites managed by the Contaminated Sites Approved Professionals Society.

Guidance and Clarity of Government Expectations

R5. Review regulations and authorizations to ensure that government's resource management objectives are adequately expressed and made known to professionals.

The review found that several regulations do provide adequate guidance to professionals in the form of objectives or results to be achieved. However, there are some that do not, leaving too much room for individual discretion. The need for clear objectives is more pronounced for broadly based resource activities such as forestry.

R6. Government and professional organizations should collaborate to identify opportunities and prioritize needs for developing guidance to professionals through practice standards and guidelines.

The review found many excellent examples of this type of guidance, and identified some areas where these were in need of updating or development. Government should also consider incorporating or referencing these standards and guidelines in regulations, authorizations and orders where appropriate, to clarify expectations and enhance enforcement.

R7. Government should provide greater guidance concerning activities that require multi-disciplinary expertise.

Natural resource management is complex and many situations call for more than one type of expertise to inform sound decision-making. However, some regulations are silent as to government's expectations, which can result in professionals straying from their scope of practice into subjects that are the purview of other professionals. Broad practice definitions across the natural resource professions, coupled with broad and imprecise definitions of qualified professionals in many regulations has resulted in questionable opinions from professionals who are actually unqualified even though they might meet the generic legal requirements of the definition of qualified professional in the regulation.

The expertise needed for sound professional opinion is often influenced by site-specific factors; regulations and authorizations therefore need the flexibility to allow statutory decision makers to tailor the needs of multi-disciplinary expertise to the setting and circumstances. This could be achieved by a general power to allow a decision maker to specify particular expertise required in certain circumstances. For example, section 10 of the *Mines Act* allows for permit terms and conditions respecting the use of qualified professionals.

Accountability

R8. Restore and clarify government authority to make resource management and environmental protection decisions.

Some legislation unduly restricts government authority over natural resources, and limits statutory decision makers when approving resource development activity (e.g. *Riparian Areas Protection Act* and *Forest and Range Practices Act*). Some Codes of Practice under the *Environmental Management Act* should be more explicit concerning situations where the director is not satisfied with the adequacy of professional work accompanying a notification or registration for regulated activity. For example, there are situations in which a director may request more information, but it isn't always clear whether the registration takes effect regardless. This will be discussed further in Section 8.

R9. Ensure that regulations and authorizations include authority to obtain and question information provided by qualified professionals (or a proponent), so agencies can carry out their regulatory role appropriately.

Interviews with Ministry subject matter experts identified many situations in which substandard professional work product was submitted as part of an application or registration, but there is inconsistent authority for requiring professionals to provide supporting information to assess whether management objectives or legal requirements will be met. Some professionals challenge government's authority to request information (e.g. asking for qualifications, rationale, etc.) or resist providing it (sometimes claiming client confidentiality, or that the information is proprietary). If there is not adequate authority to require information from professionals and make resource management decisions, government loses its ability to prevent harm from occurring, and is left only with enforcement tools after harm has occurred.

R10. Ensure that government has authority to address problems when they arise.

The regulatory focus of resource agencies is often directed towards front end approval of an activity. Approvals are frequently based on a qualified professional's prediction of impacts. Sometimes unintended impacts occur, and government needs to have authority to address them. Currently this authority is inconsistent: sometimes adequate authority exists, but sometimes it is restricted or limited, or shifts an undue burden of proof onto government. Sometimes government's ability to modify authorizations is only available with proponent approval, or upon a triggering event such as a proponent request for amendments.

R11. Review regulations, authorizations, Ministry policies and professional codes of ethics to ensure that conflicts of interest are properly disclosed and addressed.

Conflicts of interest were identified as a major issue in this review by government, professionals, Indigenous governments and communities, and stakeholders. It is a complex topic because any regulatory system that relies on information and judgment from professionals employed or retained by proponents raises a potential conflict between the private interest of the

professional, the professional's client or employer, and the public interest. In a 2017 decision, the BC Supreme Court noted:

“The scheme of the *EMA* relies on the integrity of the work product from Qualified Professionals. An important element in assessing any technical or scientific opinion is knowing whether the professional producing the opinion has any reason to be biased. The existence of a financial benefit to the Qualified Professional from a particular outcome is a clear example of a reasonable apprehension of bias in the person preparing the opinion.”

Shawnigan Residents Association (2017 BCSC 107 (CanLII), para.154)

Sometimes these potential conflicts are understood and accepted as low risk, while other times they are not. Although professions generally acknowledge a public interest duty, it is not necessarily the same public interest that government agencies strive to meet. Codes of ethics tend to be better at regulating conflicts between the professional and client/employer than the broader public interest, which some professional organizations consider to be within government's purview (see Section 7.2.8).

This recommendation calls for review by multiple parties; government ministries should identify the situations where conflicts could be problematic and identify legislative, regulatory, policy and procedural reforms to address them (e.g., develop disclosure statements that address areas of risk). Professional organizations likewise could review codes of ethics to identify improvements. Navigation of this important issue could be a priority for the proposed Office of Professional Regulation and Oversight.

R12. Identify ways to promote and ensure professional independence.

Independence of professionals was identified as an important issue in this review. This is a more significant issue in the natural resource professions compared to some other professions where the relationships are primarily between the professional and client or patient. In natural resource management, additional parties have significant roles: government as owner of public resources, Indigenous governments and communities, and others who may have rights to natural resources in the same area, or business or personal interests that could be impacted. Professional organizations have identified this as an issue, noting that final decisions are often made not by their members, but by the licensee or permit holder who is the professional's employer or client. Ministry personnel interviewed noted that it is sometimes difficult to distinguish between professional opinion and proponent opinion, as professionals frequently act as advocates for their clients or employer in some sectors.

Some natural resource sectors already provide for this, for example, regulations under the *Greenhouse Gas Industrial Reporting and Control Act* have the most fulsome provisions, with explicit definitions and requirements for independent peer reviewers, assessment of threats to independence, and avoidance of actual or potential conflicts of interest.

The *Mines Act* allows an inspector to require “at the owner's expense an independent study prepared by an engineer or other licensed professional acceptable to the inspector” (s.18). The

Health, Safety and Reclamation Code for Mines in British Columbia requires that dam safety reviews be prepared by an independent Professional Engineer (s.10.5.4). Some authorizations under the *Water Sustainability Act* also require independent engineers and independent environmental monitors.

Where independence is important, it is not enough just to use the term. It needs to be clear what government's expectations for independence are in the context. The BC Securities Commission utilizes *National Instrument 43-101 – Standards of Disclosure for Mineral Projects*, which defines independence and specifies when it is required for reports that will be relied on by investors. The Commission also has guidance on how to apply the independence requirements.

Consideration might be given to a stand-alone regulation that addresses independence that could be referenced by acts, regulations, authorizations and orders where needed to improve consistency across the natural resources sector. This could be similar to the manner in which administrative tribunal practice and procedures are addressed in their enabling legislation by reference to the *Administrative Tribunals Act*.

R13. Expand requirements for proponent adherence to professional advice.

Closely related in the principle of independence is the expectation that professional advice will be followed by those undertaking the resource activity. Several regulations address this by requiring “as-built” drawings or certifications of conformance by the professional. Interviews with Ministry officials indicate that some proponents and professionals provide these even when they are not required, but most agree that they are a good idea. There may be some situations in which this is not needed due to the extra cost and low risk of an activity carried out by small operators. Where this is the case, government should consider an enforceable reporting requirement to indicate when professional design or advice has not been followed.

R14. Consider alternatives to proponent selection of professional experts.

There may be situations which call for novel approaches to the selection of professionals, to garner broad confidence in their independence, objectivity and neutrality. There are many forms this could take, depending on the situation. The types of situations might include:

- Major projects where the need for government, Indigenous governments and communities, and public confidence in the professional work is very high (or for a discrete issue relating to a project)
- High risk to public safety or environment
- Government liability concerns
- Overriding public interest aspects to the activity
- High likelihood of irresolvable conflicts of interest
- Where a professional is providing a monitoring or enforcement role
- Activities that have a strong history of professionals acting as advocates for clients, rather than providing objective professional advice.

There is sometimes a high level of distrust among Indigenous governments and communities of the professionals retained by proponents, particularly if they are perceived as advocates for a controversial major project. This is enhanced if the Indigenous government or community has or retains its own professionals who raise significant objection to the quality of the professional work product, the validity of professional opinion, or proponent limitations on the terms of reference for a study or the budget to carry it out. There are also inefficiencies to three levels of professional review: one by the proponent, another by government, and a third by professionals retained by Indigenous governments and communities. This might be inevitable in some situations in order to ensure that each party has the right to consult those professionals it has confidence in. But it can also foster an adversarial approach that sets up a poor dynamic for ongoing relationships if the project is approved based on information that is not trusted.

There is merit in exploring opportunities for other approaches, drawing from other fields and jurisdictions. Some proponents already consult with Indigenous governments and communities on the choice of professionals retained for their expert services; this may be more common for some types of expertise than others, such as archaeologists who evaluate cultural heritage values. This issue takes on heightened relevance where the professional field is subject to greater levels of data interpretation and discretionary judgment.

It is common in labour relations settings to seek joint agreement on the selection of a mediator or arbitrator. Courts contend with this issue as well when it comes to expert opinion evidence, and rules now require expert witnesses to certify that they are aware that their duty is to assist the court and is not to be an advocate for any party. Rules also allow for the appointment of joint experts agreed to by the parties, and for the court to appoint its own expert. The circumstances that led to these rule changes in 2009 are not dissimilar to those raised by Indigenous governments and communities and faced by statutory decision makers in the natural resources sector, namely, that the hiring of experts by parties too often led to a battle of the experts who were acting as advocates.

Some government decisions are already informed by external professionals who are chosen by the Province. For example, land managers considering the fair market value of Crown land for disposition select appraisers from a pre-qualified roster based primarily on qualifications and quality of service and work product. Appraisals must be ordered from individual professionals that the agency has confidence in, rather than firms. While proposed purchasers may retain their own appraiser, only appraisals ordered, reviewed and accepted by the agency may form the basis for negotiations (see Land Procedure – Appraisals, Assistant Deputy Minister Tenures, Competitiveness and Innovation, Ministry of Forests, Lands and Natural Resource Operations, approved May 26, 2011).

Who retains the expert, and the terms of the retainer agreement, are also worth considering as an alternative to the conventional “proponent choice” model currently in place.

R15. Improve and standardize requirements for professional documentation and rationale.

An important aspect of professional accountability is documentation of the evidence and rationale for professional judgment. Requirements for documentation are mixed across natural resource regulations: sometimes professional documents must be kept at a place of business for a period of time, and sometimes they are submitted to government. Some ministries expressed concern about possible liability attached to having professional documents submitted to government without the staff or financial resources to review them.

Sometimes the professional's rationale is not required or transparent. Some regimes address this very well, particularly for major projects. It is flagged here as an important area for improvement. Public access to professional documentation and rationale is often important to transparency and public confidence as well, and will be addressed below.

R16. Expand the use of professional certifications and assurance statements.

Several regulations and authorizations, as well as professional practice standards, require professionals to sign and seal their work product. The Engineers and Geoscientists of BC have developed recent policy on this that helps promote professionalism. However, signature and seal alone is sometimes not sufficient; certifications and assurance statements are used to provide greater assurance concerning compliance with important methodology, standards or design principles. These are useful tools that enhance confidence and reliability, particularly if coupled with enforcement mechanisms.

There is merit in expanding the use of certifications and assurance statements, and ensuring that the statements contain sufficient detail to provide assurance of important elements of the professional work. This would deter against unnoticed "fine print" caveats or limitations on professional opinion noted by some Ministry officials.

Distinctions should be made for work that is prepared, overseen, or reviewed by the professional. For complex matters, the roles of each professional responsible for the work product should be clearly identified, bearing the signature and seal of each. This is already practiced by many consulting professionals practicing in certain fields, but should be made an explicit requirement to improve transparency more broadly.

R17. Introduce requirements to ensure that professional work is current and relevant.

Environmental conditions change over time, due to both natural and human causes. Sometimes there can be a lag time between the professional work and actual operations that call into question the original professional opinion. Where this is the case, consideration should be given to placing an expiry date on the professional work. This was recommended by the Ombudsperson for riparian area development, but has broader application across the natural resources sector.

R18. Develop auditing programs for professional work product.

Government should not overly rely on random audits and practice reviews carried out by professional organizations because they are usually confidential and do not necessarily have

the scope or depth to provide assurance of the issues important to government resource managers. Some professional organizations also struggle with the capacity to conduct audits.

Some ministries have auditing programs in place that function well (e.g., contaminated sites, riparian areas), but others lack resources to do so. Some existing audit programs are narrowly limited in scope to compliance issues (e.g., checking to ensure that a professional signed the report) and do not address the substantive content and quality of the professional work. The desirability of audit programs should be informed by a risk management approach. This may be one area in which an independent review body (such as a Natural Resource Practices Board) could make an important and cost-effective contribution (see Recommendation 31).

R19. Consider requiring professional liability insurance.

Professionals in the natural resource sector are not normally required to carry professional liability insurance, although it is usually recommended by their governing professional organizations. Government seems to rely instead on insurance and security requirements placed on proponents through authorizations. While it is beyond the scope of this review to assess the adequacy of those mechanisms, government should consider whether there are circumstances in which professionals whose work is relied upon should carry professional liability insurance due to the level of risk and the degree of reliance.

R20. Improve accountability through new liability mechanisms.

In developing professional reliance approaches, government relied extensively on the expectation that the main accountability mechanism for professionals would be through enforcement of codes of ethics and bylaws by professional organizations. The challenges with that assumption were discussed in section 7.2.9 of this report, and include reluctance to complain to professional associations, dissatisfaction with outcomes and the thresholds for negligent work, and capacity limitations smaller organizations face. Professional regulation remains very important, but government should not overly rely on this single mechanism.

Government should consider greater use of liability mechanisms in legislation and regulations that require the use of professionals. Some regimes do this already, for example, by having a contravention or offence provision that prohibits false statements by any person, including professionals (for example, see s.120 (16) and (17) of the *Environmental Management Act*). For example, an engineer was convicted of contravening a requirement of a protocol in relation to a contaminated site, and was thereafter subject to an EGBC investigation but resigned before it concluded.

Greater use of regulatory liability mechanisms could improve professional independence, as the professional would be deterred from yielding to proponent pressure if they could be held personally liable for a contravention or offence, with the potential sanctions of violation tickets, administrative penalties or prosecution.

One argument against this approach is that it would duplicate or supplant the role of professional associations. This would be the case if the contravention concerned non-

compliance with professional bylaws or codes of ethics; however, the assumption behind this recommendation is that the liability would attach to the professional tasks identified in a regulation, authorization, or order. Enforcement of professional bylaws remains within the purview of the associations.

R21. Strengthen monitoring programs and consider new partnerships to enhance monitoring efforts.

Monitoring has long been identified as an essential pillar of professional reliance regimes. It is through monitoring that government can assess whether its intended objectives or results have been achieved. Interviews with Ministry subject matter experts identified significant gaps in monitoring programs. Even where point source monitoring obligations are imposed in an authorization, government often has little capacity to review submitted reports.

Environmental monitoring of ambient conditions is also a gap. The Forest Practices Board has recently reported on four key gaps in forestry related monitoring.

In his 2015 report *Getting the Balance Right: Improving Wildlife Habitat Management in British Columbia*, Mike Morris, MLA, then Parliamentary Secretary to the Minister of Forests, Lands and Natural Resource Operations commented:

Many tenure and non-tenure holders as well as First Nations across the province have decades of intimate knowledge of the particular spatial area that their tenures cover, often spatial areas where they have fished, hunted, and resided. These unique individuals possess knowledge that will enhance the ability of government to accurately assess habitat, wildlife populations, and environmental changes associated to resource development and natural disturbances like forest fires and flooding.

Indigenous governments and communities have a strong interest in local monitoring programs: they have and continue to develop guardianship programs, and some ministries have begun to work cooperatively with indigenous communities in northern BC through the Natural Resource Sector Aboriginal Liaison Program. In addition, there are many skilled, dedicated, and well-networked “streamkeeper” and naturalist groups throughout the province already conducting some types of monitoring. Currently these groups tend to work more closely with local governments, but there is interest in a closer relationship with provincial ministries as well. Skills training is available through community colleges and technology institutes. Indigenous governments and communities have the added advantage of being based locally, whereas government offices are sometimes quite distant, making monitoring program delivery difficult.

R22. Improve opportunities for addressing third party concerns and dispute resolution.

Currently, where government lacks decision-making authority over resource management, it also lacks authority to resolve disputes locally. British Columbia has significant expertise in alternative dispute resolution, but tends not to apply it to natural resource management. There are some situations in which proponents themselves wish government would step in and help resolve disputes with stakeholders.

R23. Reinforce the importance of compliance and enforcement.

As with monitoring, compliance and enforcement has been portrayed as a “pillar” of professional reliance. Compliance and enforcement (C & E) is a significant topic in its own right, and may warrant a separate review process. Interviews with Ministry subject matter experts point to significant capacity issues for some business areas and recent improvements to capacity in others (such as mining related C & E, following measures implemented after the Mount Polley Tailings Storage Facility breach).

In addition to addressing C & E capacity, consideration should be given to greater use of more efficient systems, such as requiring permit holders to electronically submit monitoring data in a format that will support the use of compliance software technology for compliance assessments.

Further review could also consider embedding legal support within C & E branches, to ensure that they receive legal services for investigations and decisions on enforcement actions.

7.2.2 Recommendations to support Indigenous governments and community engagement

Representatives of Indigenous governments and communities who provided submissions or were interviewed as part of the Professional Reliance Review emphasized the importance of decision-making at a higher level and in a larger context than this review, such as government-to-government relations concerning the United Nations Declaration on the Rights of Indigenous Peoples, land use planning, environmental assessment, and major project review. Other reviews, such as the Environmental Assessment Revitalization Process, will be addressing these important issues. However, those who engaged with this review were very familiar with professional reliance issues due to the number of consultations they receive, and expressed strongly held views on several issues, including the following:

- Some Indigenous governments and communities believe that their involvement in natural resource management decisions comes much too late in the process. That is, the regulatory system is driven by applications to carry out certain activities or projects in their territory, without the benefit of prior government-to-government discussion over their land use vision and objectives. Indigenous governments and communities have views on the spatial and temporal scale of development activities, but sometimes the application (or notification) triggers strict timelines for government to respond, overriding the opportunity for that larger discussion.
- A sense that the professional reliance model has removed or greatly diminished government decision-making and oversight of natural resource developments, even though the courts have made it clear that the legal responsibility for consultation and accommodation concerning Aboriginal rights rests with the Crown and cannot be delegated to third party proponents. One Indigenous government described professional reliance as creating “a profound and inherent conflict of interest in that environmental management, monitoring and decision-making are largely conducted by contractors hired by the proponent,” which undermines Crown consultation and accommodation

duties, even where the Indigenous government Province agreed to joint stewardship principles in land and resource management plans and have a shared decision-making agreement. The concerns were attributed in part to reductions in Ministry staff and expertise, which inevitably increases reliance on proponent information;

- A closely related concern is that professionals frequently act as advocates for their clients, and acquire the proponent's bias in favour of project approval, which is inconsistent with Indigenous government and community expectations for government to government discussions concerning consultation and accommodation of Aboriginal interests. While court rulings allow government to delegate procedural aspects of the Crown's consultation duty, the concern is that the Province has become so reliant on proponent-hired professionals that the consultation process is overwhelmed by those whose main objective is project approval rather than maintaining the honour of the Crown;
- Some expressed the view that the current approach to professional reliance inevitably results in proponent bias in two additional ways: 1) that it allows for "expert shopping" by proponents who get to choose which professionals decisions will be based upon, and 2) that the nature of the client relationship and professional duties of confidentiality allows proponents to select which information, and which project options, go forward to government for project approval. That is, the process is not sufficiently transparent, so more optimal options may not be considered by decision-makers;
- A sense that professionals with little connection to their territory have a much more significant role in resource management outcomes than the Indigenous governments and communities themselves;
- That traditional ecological knowledge and the nation's history in an area is discounted as a factor in resource decision-making;
- Some indicated that their traditional uses and cultural features of land seem to be dismissed as unimportant compared to resource development;
- That archaeological information important to a nation is not consistently treated as confidential across ministries;
- That some professionals lack an understanding of Indigenous governments and communities' perspectives, and seemed there to "tick off a box" to meet an obligation. For example, very short conversations were being documented as consultation, and although this may be consistent with policy guidance, it was not seen as conducive to building trust;
- That while they had very positive relationships with some professionals, they had negative experiences with others, but no say in who a proponent chooses for projects in their territory;

- A related concern was small, local consulting firms with good levels of awareness and relationship being purchased by larger, more distant firms, whose client-centered focus significantly changes the relationship and trust that is important to Indigenous governments and communities;
- That some engagements with professionals resulted in volumes of raw data for a single project that the Indigenous governments and communities had difficulty understanding. In addition, the time frames for response are often very unrealistic given the volume of information provided for large projects, and the number of projects in some territories;
- That the cumulative effect of many such engagements raised significant capacity issues, and that even where funding has been made available it is insufficient. It also raised questions about government's oversight of the cumulative effects throughout a territory, given the number of agencies and industrial activities involved and the project-specific nature of decision-making;
- That the regulatory focus is approval of a proposed project or activity, and that inadequate attention is paid to monitoring and compliance and enforcement once a project is operational; and
- For major projects that could be quite impactful to Aboriginal rights and land use, some First Nations expressed interest in working with the Province to identify a short list of professionals or consulting firms that have both the qualifications and trust for a given project, from which the proponent could choose. Another suggestion was changing the nature of the contractual arrangement, with the professionals being retained by a neutral party but paid for by the proponent.

In addition to the above, some Indigenous governments and communities raised issues that are shared by other stakeholders and addressed elsewhere in this report.

Recommendations:

R24. Modernize land use planning in partnership with Indigenous governments and communities.

Government has committed to modernizing land use planning, as set out in Minister Donaldson's mandate letter from Premier Horgan. At the time of writing, the Ministry of Forests, Lands, Natural Resource Operations and Rural Development is in the early stages of planning how to deliver this mandate. These efforts should consider how to modernize land use planning in partnership with Indigenous governments and communities, so that land use objectives are developed that can inform resource managers and professionals advising resource companies.

The intent would be to develop a land use vision that incorporates Aboriginal rights and interests more proactively in order to inform resource development, rather than the current system that is often reactive to the applications placed before statutory decision makers. There are already good examples to draw from in BC, and the intent of this recommendation is to learn from and apply them more broadly, in a manner that is attuned to Indigenous governments and

communities interests as well as those of stakeholders. This will likely require flexibility to accommodate local preferences for spatial scale and planning process, subject to priorities and resources.

R25. Develop means to address capacity to engage in resource management processes.

Government and industry groups should collaborate with Indigenous governments and communities to devise ways and means to improve the capacity of Indigenous governments and communities to engage in resource management. While this is no doubt happening to a certain extent, it is a perennial challenge and issue for Indigenous governments and communities.

R26. Consider engaging Indigenous governments and communities in compliance and enforcement.

Government should consult with Indigenous governments and communities to identify opportunities for direct engagement in compliance and enforcement activities. This relates to Recommendation #21, but in addition to monitoring, some Indigenous governments and communities have also indicated interest in compliance and enforcement training and duties.

R27. Consider incorporating Aboriginal interests more directly into regulations.

Government should work with Indigenous governments and communities to consider whether to incorporate Aboriginal interests, information and perspectives more directly into regulations. Currently, legal obligations are acknowledged and inform policy and procedures, and are sometimes referenced in authorizations, but seem to hover somewhere outside of the regulatory regimes themselves. Greater incorporation directly into natural resource laws and authorizations might be warranted, but requires consultation and legal advice.

7.2.3 Recommendations to increase public confidence

Many of the reforms recommended above should increase public confidence in natural resource management. The following recommendations are additional:

R28. Make natural resource information more consistently available.

In *Striking a Balance: The Challenges of Using a Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Areas Regulation*, the Ombudsperson highlighted the importance of resource information being available to the public:

The provision of adequate public information is central to the democratic principles of openness and transparency. Information is a cornerstone of administrative fairness as it allows the public to know and understand whether programs are being operated in a fair and reasonable manner. Public information about environmental protection programs allows the public to have confidence that the government is meeting its obligations as a steward of the environment and our province’s natural resources, and contributes to a more informed public discussion.

Many ministries have made recent advances in the disclosure of information and documentation such as tenures, authorizations, permits, and compliance determinations, but the practice is not yet consistent across the natural resource ministries.

The Ministry of Environment and Climate Change Strategy publicly reports enforcement actions taken by the Ministry of Environment and Climate Change Strategy, the Environmental Assessment Office, the Agricultural Land Commission, and parts of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. The actions are reported online in a journal style publication and are uploaded to the searchable Natural Resource Compliance and Enforcement Database. Enforcement actions include orders, administrative sanctions, administrative penalties, tickets, court convictions, and restorative justice forums. While work is underway to include more compliance and enforcement actions of natural resource ministries and agencies, basic legal and policy issues should be consistent across the natural resource sector. Greater standardization of investigation information would help increase transparency, such as ensuring that all enforcement personnel collect date of birth information to allow for reporting that complies with the *Youth Criminal Justice Act*.

However, professional documents and monitoring reports are not generally available online. The availability of authorizations is inconsistent, but they are subject to requests under the *Freedom of Information and Protection of Privacy Act* (FIPPA). These can be time-consuming for ministries to process, and costly for applicants. Proactively addressing disclosure issues through regulation or the application process can save time, costs, and increase transparency.

One of the reasons for inconsistent availability of information is that ministries seem to have differing opinions on what they are authorized to make available. Some have addressed areas of uncertainty through legislation. For example, the *Ministry of Environment Act* authorizes disclosure of information relating to administrative penalties and other sanctions (s.6.1). The *Water Sustainability Regulation* requires applications under the Act to include consents respecting personal information.

There may be merit in having a stand-alone “Public Right to Know” regulation that could be incorporated by reference into other regulations, authorizations, and orders. Similar provisions should apply to all resource ministries, and resolve any questions about authority to publish. It could also address some claims that information that should be in the public domain is proprietary or subject to copyright.

R29. Include the public in processes that address natural resource management objectives and land use.

Current decision-making processes are mostly project-specific, and the traditional review and comment paradigm often invites reactive rather than proactive responses. This sets up a poor dynamic for both the public and proponent. Other initiatives currently underway could help for some aspects of resource management (e.g., initiatives addressing land use planning, species at risk, old growth forests, and environmental assessment).

R30. Improve public notification systems.

Public notification requirements seem to underutilize modern means of communications, tending to rely on advertisements in the legal sections of newspapers and the BC Gazette (e.g., Public Notification Regulation (EMA), s.6; Forest Planning and Practices Regulation (FPPR), s.20). Some proponents and tenure holders do more than this by making information available

on websites. However, some jurisdictions invite interested members of the public to sign up for web-based notification tools and email lists, which notify them every time a document is filed, correspondence exchanged, or approvals granted. This goes a long way to achieving transparency and increasing public confidence in management decision-making processes.

R31. Establish an independent review body for natural resource practices and decisions.

There is strong public support for an arm's length review body that can review professional performance, investigate public complaints, audit practices on-the-ground, and contribute to continuous improvement of regulations (similar to the Forest Practices Board, which borrows from the *Ombudsperson Act* and *Auditor General Act*). The Forest Practices Board fulfills this function for forest and range practices, but does not have a mandate under any other natural resource or environmental protection statute. An independent review body such as a Natural Resource Practices Board or a Commissioner for Environment and Sustainability (formerly under the *Auditor General Act* but repealed in 2001) could be a cost-efficient means to augment the capacity for independent audits of performance, and make recommendations to industry professionals and government agencies not only with respect to legal compliance but also with respect to the actual effectiveness of the practices and agency oversight in meeting objectives set by government (see Dr. Bruce Fraser submission, *Reforming the Professional Reliance Model*, December 14, 2017).

R32. Standardize standing rules for appeal tribunals to allow for greater public access to remedies.

While aggrieved citizens have standing under the *Environmental Management Act*, only proponents or those who are the subject of determinations have standing before other resource tribunals such as the Forest Appeals Commission and Oil and Gas Appeals Tribunal.

7.2.4 Recommendation to improve natural resource information

R33. Identify opportunities to improve the quality of natural resource information to help improve professional reliance outcomes.

The review noted that a number of disputes concern the quality of resource information presented in professional work product. These fell into several categories:

- There is often little baseline data on resources to inform resource management decisions.
- While BC has made a significant investment in inventory standards developed by the Resources Information Standards Committee (RISC), sometimes these standards are not required to be followed by proponents, or are required but not followed. The norm should be that these standards are required to be followed.
- Government staff commented that there can be considerable differences between professional reports on similar topics in terms of the quality of information and therefore analysis. Sometimes this is due to the professional's personal standards and abilities, but sometimes it is due to restrictions in the retainer agreement between the professional

and his or her client, limiting the budget and therefore level of effort. Government is usually not aware of these limitations, and they may not be disclosed in the professional's report, but can significantly affect decision-making.

- The situation may be more problematic for resource values that are transient or require effort to locate, such as species at risk. The level of effort made, and the timing of inventory efforts, can significantly affect the conclusions drawn. This is why the standards were developed. It is also a problematic area because the presence of fish in a stream, or species at risk, can result in greater restrictions or even non-approval of the project proposed by the professional's client, giving rise to conflicts of interest.
- The ABCFP offered the perspective that "detailed and accurate knowledge of the number and types of trees, and the growth and health of our forests is needed by forest professionals to best manage the resource, as well as by the public to maintain its confidence in the overall state of the forest resource and its ongoing sustainability." It recommends that:

"Government should increase its investment in inventories, LIDAR, Growth and Yield data and modelling. The data should be managed and made public through a government led Provincial Growth and Yield Cooperative, so it can be shared with all resource users and the public to ensure transparent understanding of facts about our resource and inform complex management of multiple resource industries."

The more that the Province can do to prioritize and maintain important resource information, the less opportunity there will be for issues such as professional competence, sampling bias, conflicts of interest, and proponent restrictions on professionals to adversely affect sound resource management decision-making.

7.2.5 Recommendation to improve Ministry staffing levels and resources

R34. Identify opportunities to improve Ministry staffing levels and resources to enhance government oversight.

The third question posed to this review was whether there is an appropriate level of government oversight to assure the public their interests are protected. While the review focused on the legal and policy aspects discussed above, there is a practical aspect that cannot be avoided. In the course of the review it became very clear that staffing levels due to past cuts make it very difficult for some ministries, or some business areas within ministries, to meet basic levels of oversight. For example, regulations and authorizations can require permit holders to submit annual reports or monitoring reports, but some business areas do not have the staff necessary to review them.

This issue links to others, such as transparency, because agencies expressed concern about making submitted reports available to the public when they themselves do not have capacity to review them. Some even expressed concern about possible liability issues resulting from receiving information from proponents but being unable to review it or act on it. This was cited as a reason for not requiring the submission of documentation verifying that requirements have been met. This is not universally the case, but was frequently mentioned in interviews.

The chief inspector of mines made a related observation in his review of the Mount Polley Tailings Storage Facility breach:

“The Regulator must maintain sufficient technical capacity to conduct appropriate oversight of the professional opinions on which it relies.”

This is sometimes referred to as the “knowledgeable owner” concept. While many specific examples of needs were provided, it was beyond the scope of this review to assess or prioritize them. The BC Government Employees Union and Professional Employees Association made submissions to the review that reflect their understanding of where past cuts were made.

Regime Specific Evaluations

8 Regime Specific Evaluations

The Professional Reliance Review looked at nine statutes governing natural resources: the *Environmental Management Act*, *Forest Act*, *Forest and Range Practices Act*, *Greenhouse Gas Industrial Reporting and Control Act*, *Health Act*, *Mines Act*, *Oil and Gas Activities Act*, *Riparian Areas Protection Act*, and *Water Sustainability Act*. It also examined numerous regulations under this legislation. Most of the legislation adequately addresses government's authority to make resource management decisions, although minor amendments might be warranted to support other recommendations.

Two notable exceptions are the *Riparian Areas Protection Act* and *Forest and Range Practices Act*, both of which restrict government authority over public resources. These issues are well known and have been examined in detail by the Ombudsperson, Forest Practices Board, and case law.

The Regulatory Review Working Group developed a list of regulations and decisions across the natural resource sector that incorporate professional reliance to varying degrees. A short list was developed for evaluation in consultation with subject matter experts in the ministries who administer these regimes. Interviews were held in which the criteria and best practices discussed in Section 8 were used to evaluate the regime, identify issues and discuss solutions.

This section highlights the issues identified and proposes regime-specific recommendations. However, these likely do not address all of the issues, and Ministry staff may have additional ideas on how to apply the best practices to their areas of specialization. Also, some of the issues addressed in Section 8 apply broadly across the natural resource sector and may not be specifically mentioned here (e.g., conflict of interest, professional independence, monitoring, compliance and enforcement).

8.1 *Environmental Management Act*

8.1.1 Agricultural waste control

Agricultural activities and operations are regulated under the Agricultural Waste Control Regulation (AWCR), which describes practices for using, storing and managing agricultural wastes and by-products, such as manure and composted materials. Currently there are no requirements for use of qualified professionals, but the AWCR is being amended and use of professionals is under consideration (for example, to develop nutrient management plans for farming operations in areas of concern).

Program Statistics:

Registrations: There are currently 74 active registrations.

Staff: New registrations are processed by the Express Transactions team. There was 1 new registration in 2017.

Expertise: There are 2 Ministry staff who are considered the 'subject

matter experts' and are accessible to applicants if needed.

Recommendations:

The Agricultural Waste Control Regulation has been the subject of several proposals for revision since 2012, the latest being an Intentions Paper published in November 2017. This review considered the current and proposed regulation through a professional reliance lens.

R35. Qualifications of Professionals: When drafting the new regulation, consider aligning the competency requirements with the various tasks that require professionals. The current regulation requires reports to be prepared by “a person with professional qualifications in the field of environmental assessment and licensed to practice in British Columbia,” but seems imprecise given the types of expertise needed for the tasks set out (see ss.7, 10, 16, 29), and the multidisciplinary nature of environmental assessments. There is no professional accreditation for environmental assessment in BC, so the focus should be on the specific professional function.

The 2017 Intentions Paper indicates that professionals will be engaged in new ways, such as the preparation of nutrient management plans, and the design and testing of manure storage structures. The competency requirements for the professionals undertaking these different tasks will also require consideration. For example, it should not be assumed that all agrologists will have the necessary expertise for preparing nutrient management plans since the 2003 expansion of the definition of agrology in the *Agrologists Act*. There are likely to be situations in which multidisciplinary expertise is required (e.g., agrology, hydrogeology, geoscience). Ensure that the definition of qualified professional aligns with the specific types of expertise required for the professional tasks, to avoid self-declaration of competency and improve enforceability.

R36. Objectives of Professional Tasks: Ensure that the environmental protection objectives relating to nutrient management plans and manure storage structures are clear in the regulation. This will orient the professional to the design and planning considerations, and may assist in dealing with substandard designs and plans. For nutrient management plans, several of these objectives are identified on page 10 of the Intentions Paper.

R37. Documentation of Professional Work: Consider specifying sign-off requirements in the regulation; a prescribed form could be developed and included as a Schedule to the regulation. It should be detailed enough to ensure that the plan will meet the objectives of the regulation and has followed the prescribed methodology.

Consider requiring documentation of the professional’s rationale for how she/he decided that the objectives will be met. Without that information being recorded, enforcement personnel might be hampered in doing their work effectively.

R38. Methodology & Guidance: Given that the requirement for nutrient management plans would be a new aspect of the regulation, consider incorporating methodology into the regulation, and developing guidance for professionals and farmers concerning the standards for preparing these plans. Based on past experience with riparian areas

regulation, a requirement to follow an accepted methodology will level the playing field, help with enforceability, and increase the likelihood that environmental protection objectives will be met.

- R39. Filing of Nutrient Management Plans:** The Intentions Paper proposes tracking and verification requirements for high risk areas, including submission of information, including nutrient management plans, from individual operations. The importance of this was affirmed in this review. If nutrient management plans and related documents are not submitted to government, neighbouring landowners, aquifer users and those seeking other land applications will not have routine access to them, and there will not be a record that is releasable under the *Freedom of Information and Protection of Privacy Act* (FIPPA). This was identified by Ministry staff as an issue that arose under the Organic Matter Recycling Regulation respecting the Hullcar aquifer.
- R40. Authority to Address Deficiencies:** The regulation should ensure that there is authority to address deficient professional work. Agricultural waste regulation has hitherto placed the onus on government to prove pollution in order to justify remedial measures, but that can be a difficult and costly undertaking. Given that the regulatory focus is already on high risk areas, conditions and activities, a more precautionary approach would be to provide authority to anticipate and prevent problems before they arise, to avoid unnecessary disputes over the threshold for pollution as defined in the *Environmental Management Act* has been met.
- R41. Require Qualified Professional Independence in High Risk Situations:** The Intentions Paper mentions that independent verification of nutrient management plans may be required based on “evidence of negative impact, or potential negative impact.”

8.1.2 Contaminated Sites

Contaminated sites are areas of land in which the soil, underlying groundwater or sediment contains a hazardous waste or substance in an amount or concentration that exceeds provincial environmental quality standards. Many sites in the province became contaminated during past industrial or commercial activities that resulted in chemicals or toxic materials being spilled or deposited on land. Contaminants pose a threat to human health, the environment, and safety. A site is contaminated if it is unsuitable for specific uses. The *Environmental Management Act* (EMA) and Contaminated Sites Regulation (CSR) address all stages of management from site identification, through evaluation of remediation options to the confirmation and monitoring of remediation performance.

Approved Professionals (APs), acting for the site owner, may complete a site profile to identify a potentially contaminated site. Based on the information provided, a site profile could trigger a site investigation, which identifies the presence of contamination by substances in soil, surface water, groundwater, vapour, and sediment. The investigation results are evaluated against environmental quality standards in the Contaminated Sites Regulation, and site remediation may be required.

The contaminated sites regime is a unique model of professional reliance in that APs must be accredited by an independent society – the Contaminated Sites Approved Professionals (CSAP) Society. The Society credentials its members and recommends they be appointed to the Ministry’s Roster of Approved Professionals. APs include professional biologists, chemists, geoscientists, agronomists, and engineers.

Based on the recommendation of an AP, the government may issue a Contaminated Sites Legal Instrument (e.g., a Certificate of Compliance) without review. Applications for many services related to low and moderate risk sites must be made by an Approved Professional.

The CSAP Society is overseen by a Board of Directors comprised of elected directors-at-large and representatives from three professional organizations (currently EGBC, CAB and BCIA), as well as appointed directors from industry groups, local governments, the Ministry of Environment, and a lay representative. The CSAP Society randomly selects submissions for performance assessment audits, and conducts performance reviews to ensure that APs are meeting regulatory requirements. Guidelines for random performance assessment of submissions by APs establish a frequency for both numerical and risk-based instruments is to ensure that 1 in every 8 submissions is reviewed. Non-random assessments are conducted when deemed necessary, such as when specified as a remedial measure outcome of a previous assessment, or if requested by the Ministry or the Society’s board.

The regulation of APs in the contaminated sites regime is well thought out, and generally meets the best practices set out in Section 8, providing that the regulation of professionals by the CSAP Society is transparent to government, professional associations, and the public.

Program Statistics:

The Ministry’s Land Remediation Section (LRS) administers and oversees the contaminated sites regulatory framework. LRS staff make numerous statutory decisions and issue legal instruments and letters to communicate those decisions. For the 2-year period April 1, 2015 to March 31, 2017, LRS issued the following:

- 301 Certificates of Compliance
- 59 Final Determinations
- 5 Contaminated Soil Relocation Agreements
- 2 Approvals in Principle
- 214 Investigation Required Decisions (Site Profile)
- 256 Release Decisions (Site Profile)

Staff: LRS has approximately 28 positions responsible for administration of the contaminated sites regime province-wide; approximately 20 of these positions are identified as qualified environmental professionals.

Expertise: LRS staff includes qualified and licensed individuals in the

areas of hydrogeology (geoscience), toxicology and engineering.

Recommendations:

- R42. Improve transparency between the Ministry and the Contaminated Sites Approved Professional (CSAP) Society:** Ensure that the Ministry has authority to obtain information on the performance of approved professionals, and that the CSAP Society is authorized to provide it. Also, consider adding the CSAP Society to Schedule 2 or 3 of the *Freedom of Information and Protection of Privacy Act*.
- R43. Review independence requirements for approved professionals:** Approved professionals may make recommendations to the Ministry concerning contaminated sites in which they have had prior involvement. This is a non-arm's length review known as "self-review" and involves providing recommendations on sites where investigations, plans, assessments or other work has been performed by the AP or under the AP's direct supervision. The CSAP Society acknowledges that arm's length review provides for a higher degree of objectivity, but allows self-review if done according to Schedule A of the Society Rules. The schedule addresses 19 scenarios. It is recommended that these rules be reviewed to ensure that they incorporate best practices and are consistent with government's expectations for the independence of professional work.

8.1.3 Hazardous Waste

The Hazardous Waste Regulation (HWR) addresses the handling, storage, transportation, treatment and disposal of hazardous wastes. Hazardous wastes are wastes that could harm human health or the environment if not properly handled or disposed of. Hazardous wastes includes a broad range of materials such as manufacturing residues, biomedical wastes, heavy metals, waste pesticides, oils, paints and solvents. The HWR sets out detailed requirements including: registration of hazardous waste generators and facilities; requirements for storage and transportation including licensing of carriers; requirements for storage, treatment and disposal facilities; and additional requirements for specific types of hazardous wastes. A role for qualified professionals is not specified within the HWR but, through director requirements, qualified professionals are involved in developing and certifying monitoring programs contained in facility operational plans, as well as contributing to contingency plans and closure plans.

The Hazardous Waste Regulation is one of the oldest regulations under the *Environmental Management Act*. While it has been amended from time to time, it was originally passed in 1988, prior to the policy shift to professional reliance in the early 2000s. The owners of hazardous waste facilities have obligations that should be performed by professionals. The regulation could be improved by identifying appropriate roles and accountabilities for professionals.

A number of additional issues led Ministry staff to conclude a decade ago that the hazardous waste regime should undergo a review process. A lengthy discussion paper was developed in 2008 that identified numerous topics warranting reform, including the use of professionals. The

paper confirmed the need for “immediate and substantive revisions,” but efforts stalled thereafter. Ministry staff confirm that these issues remain relevant.

Program Statistics:

Registrations/Permits: approximately 403.

Staff: Approximately 5- 6 staff oversee and administer this regime provincially, not including compliance staff.

Expertise: The Ministry has the necessary expertise, but there are only two subject matter experts currently. There used to be more subject matter experts overseeing the hazardous waste program, however, it has been reduced in numbers in recent years.

Recommendations:

R44. Initiate a Review Process: The 2008 Intentions Paper provided many valid reasons for carrying out a major review and redrafting of the Hazardous Waste Regulation, but reform efforts stalled and should be recommenced. There have been high profile incidents involving significant environmental and public safety risks that have been costly to government, affirming the need for review. In addition to addressing the use of professionals, the intentions paper identified a need to improve standards, plan content requirements, strengthen accountability of all involved in the regime, improve oversight and enforcement, reduce complexity, and harmonize with other jurisdictions. The review process should consider issues that have arisen since 2008, including the professional reliance issues addressed in this review.

R45. Incorporate professionals into the Hazardous Waste Regulation, and align competency requirements with the qualified professional tasks: The 2008 Intentions Paper indicated Ministry intent to adopt the generic definition of “qualified professional” used in other EMA regulations. For the reasons indicated elsewhere in this report, more nuanced requirements tailored to the specific professional tasks are recommended. The hazardous waste regime is complex due to the different types of activities and operators that it regulates, so the competencies needed will vary.

R46. Address need for independent professionals: The 2008 Intentions Paper identified the importance of independent professionals being incorporated into the regime, rather than relying solely on professionals retained or employed by waste facility operators. This is an important recognition. However, the paper was developed at a time when the Ministry was unlikely to receive political support for additional staff needed to effectively implement this complex regime, so it proposed extensive reliance on independent professionals outside of government. For example, the paper proposed very few government approvals for important planning documents, suggesting instead that government would rely on review by independent professionals. The details of the proposal are limited in the paper, so it is not possible to assess its merits. However, if government decides to reinstate the regulatory review process, it should also provide an early indication of its willingness to improve Ministry resources to provide effective oversight of hazardous waste

management, so staff will know how to approach regulatory design issues, such as the accountability of independent professionals to government. The experience of the contaminated sites regime is that the resources needed to oversee a system utilizing independent professionals can be quite significant.

R47. Improve government authority: The regulation currently regulates hazardous waste facilities through siting requirements, operational requirements and performance standards. While these are an effective means of regulating, there does not appear to be a means of disallowing a facility, unless it is large enough to require an environmental assessment certificate. A challenge with the current approach is that the regulation has to comprehensively address all possible requirements and circumstances. This can be difficult, particularly for siting issues, such as if a facility is proposed for a location that poses unique risks or public concern. Consider improving government authority to address issues that may not be captured in the siting, operational or performance requirements. If a proposed facility is reviewable under the *Environmental Assessment Act* there are means to address issues in the terms and conditions of environmental assessment certificates, but this option is not available for projects that are below the thresholds in the Reviewable Projects Regulation unless the minister designates the project as a reviewable project under section 6. Options might include a power to prohibit a facility, to require a permit, and authority to amend plans and specify additional operational or performance conditions.

R48. Improve auditing, monitoring and reporting requirements: The 2008 Intentions Paper addressed possible changes to reporting requirements; Ministry staff indicated that auditing and monitoring requirements should also be strengthened. These are particularly important for the hazardous waste regime because of the various roles of waste generators, transporters, receivers and facility operators. The integrity of the regime depends on strong checks and balances being in place, but also adequate Ministry oversight. Some oversight capacity has weakened due to lack of resources, for example, the Ministry has not been able to compile information from the manifests submitted to government, which is essential to oversight and the integrity of the system.

8.1.4 Landfill Gas Management

The Landfill Gas Management Regulation applies to landfills that accept municipal solid waste on or after January 1st, 2009. A regulated landfill site has 100,000 tonnes or more of municipal solid waste in place or receives 10,000 or more tonnes of municipal solid waste in any calendar year. Regulated parties are required to submit assessment reports showing annual landfill gas production and to install landfill gas management systems if the regulated threshold is exceeded. A qualified professional is required to complete the assessment report and certify that the assessment meets the regulatory requirements. A qualified professional must also prepare facility designs. Reports and facility design plans must be submitted to the Ministry and are deemed accepted after 60 days if no further information is requested. The Director has the ability to ask for additional information during the 60 day review period and require an additional assessment at any time.

Program Statistics:

Authorizations: No specific authorizations required under this regulation.

Staff: No staff in regional operations specifically assigned to oversee this regulation.

Expertise: Ministry staff from the Clean Communities section are available to provide support and technical advice if needed.

Recommendations:

The Landfill Gas Management Regulation seems well designed and addresses most of the best practices discussed in Section 8 of this report. It incorporates clear management objectives and professional accountability. One recommendation is offered for consideration:

R49. Qualifications of Professionals: The current definition of qualified professional is similar to the broad, generic definition adopted elsewhere in EMA regulations, but was somewhat modified when the regulation was drafted in 2008 due to regional staff concerns about the standard definition being overly broad. Consider revising the definition of qualified professional to align with the specific types of expertise required for the professional tasks, avoid self-declaration of competency, and improve enforceability.

8.1.5 Municipal Wastewater

The Municipal Wastewater Regulation (MWR) sets authorization standards and requirements to discharge domestic sewage, wastewater or municipal liquid waste and to use reclaimed water in British Columbia. The MWR applies to all discharges of domestic sewage except those addressed by the Sewerage System Regulation of the *Public Health Act* and discharges from individual single-family or duplex dwellings. Municipal wastewater includes treated municipal wastewater contributions from holding tanks in recreational vehicles, boats, houseboats; commercial, institutional and industrial sources; inflow and infiltration; septic tank pumpage; holding tank solids; and sludge from wastewater facilities.

Qualified professionals are required to do the following:

- design wastewater treatment facilities;
- conduct environmental impact studies and recommend additional municipal effluent quality requirements as needed, as well as recommend an environmental monitoring program;
- prepare an operating plan for the wastewater facility; and
- certify that an assurance plan, if provided, is adequate.

Qualified professionals are also required to certify that all of the above meet the requirements of the regulation.

Program Statistics:**Permits:** 671 active permits**Registrations:** 309 active registrations**Staff:** 10**Expertise:** Staff rely on subject matter experts to help them review and assess incoming applications. There can be difficulty in accessing hydrogeologists and biologists because their technical expertise isn't used as frequently in the review of applications, and many have moved to other ministries.**Recommendations:**

R50. Qualifications of Professionals: Consider revising the definition of qualified professional to align with the specific types of expertise required for the professional tasks, and to avoid unwarranted self-declaration of competency and improve enforceability. The current definition of qualified professional is similar to the broad, generic definition adopted elsewhere in EMA regulations, but adds that a qualified professional “means an applied scientist or technologist specializing in a particular applied science or technology, including agrolgy, biology, chemistry, engineering, geology or hydrogeology.” This introduces confusion to the definition because it blends professional designations (normally associated with ASTTBC members) with academic fields of study, including some that do not presently have professional legislation.

Consideration should also be given to the multi-disciplinary nature of some professional tasks, depending on the type of wastewater treatment system and its location. It is likely difficult to anticipate these, so one option may be to provide the director with authority to specify additional expertise when necessary. Staff indicate that use of the wrong professionals is not a common problem, but there have been occasions.

R51. Improve Objectives and Content Requirements: The regulation is generally quite good in providing the objectives or parameters for professional design work; however, the objectives and content requirements for environmental impact studies could be improved (applies mostly to ss.19, 21, as ss.98, 106 require that the terms of reference for an enhanced EIS must be established in consultation with a director).

R52. Standardize Reporting Requirements: The regulation has good monitoring requirements, but consideration should be given to developing a standardized reporting system that could flag issues for Ministry staff to help focus reviews. Consider also requiring professionals to be engaged in monitoring activities.

R53. Enhance Ministry Expertise: Government generally has the necessary expertise to administer this regulation, but many relevant experts (e.g., hydrogeologists, biologists) now reside in the Ministry of Forests, Land, Natural Resource Operations and Rural Development, and can be more difficult to access for staff in the Ministry of Environment and Climate Change Strategy.

8.1.6 Mushroom Compost Facilities

The Mushroom Compost Facility Regulation (MCFR) applies to mushroom compost facility operators that are producing a mushroom growing substrate (compost). The regulation sets out requirements for air emissions, the solid or liquid wastes from the composting process, and for storage.

Facilities must register with the Ministry and are required to submit a pollution prevention plan as part of registration requirements. The pollution prevention plan must be prepared by a professional agrologist or professional engineer and take into consideration all sources of air contaminants and solid and liquid wastes from the facility. This means that the plan must identify and explain how the emissions of air contaminants from the composting process and goody water storage, and how the liquid waste will be managed to prevent pollution.

Facility design and construction must be supervised by a professional engineer and meet the requirements set out in the regulation. Designs must be submitted to the Ministry prior to construction.

Program Statistics:

Registrations: There are currently 5 active registrations.

Staff: New registrations are processed by the express transaction group when needed (last two registrations were 2015 and 2010).

Expertise: There are 2 Ministry staff that are considered the 'subject matter experts' and are accessible to applicants if needed.

Recommendations:

R54. Qualifications of Professionals: Consider refining the professional competency requirements in s.2 of the Schedule to align with the specific types of expertise required for the professional tasks relating to air emissions and liquid and solid wastes, including understanding of pollution prevention and odour abatement technology.

R55. Objectives and Plan Content Requirements: Consider clarifying the intended results or objectives and improving the content requirements for pollution prevention plans, in order to better guide the professionals preparing these plans. Alternatively, consider adopting the requirements for other types of composting facilities, such as requirements for operating plans that address odour and leachate management.

Consider also providing greater detail concerning the intended results or objectives for the design of compost facilities in s.3 of the Schedule. For example, s.3(1)(g) states that the design objective for air emission collection and treatment system is to "reduce air contaminants to a concentration that will not cause pollution," which is helpful but could be improved to address odour objectives specifically. Section 3(1)(h) does not specify the management objective for leachate and goody water systems, or make it clear whether effluent discharges require separate authorization.

R56. Director Authority: Consider improving director's authority respecting pollution prevention plans and facility design, which is currently limited to a 45-day window following notification. Given the odour management and safety issues that have arisen in the past, consider greater director authority to address problems when they arise.

R57. Authorization: Consider reintroducing a permit requirement for mushroom compost facilities to gain greater authority over siting and technology management issues (this would address #56 above).

R58. Professional Assurance Statements and Reporting: Consider requiring more detailed professional assurance statements for plans and designs, and for the operational and annual reviews and evaluations required in s.4 of the Schedule. Consider also a duty to report non-compliance events and public complaints about facility operations.

8.1.7 Organic Matter Recycling

The Organic Matter Recycling Regulation (OMRR) governs the production, quality, composting, and land application of certain types of organic matter to ensure the protection of human health and the environment. The OMRR incorporates professional reliance by requiring qualified professionals to do the following:

- Prepare a plan for the land application of any biosolids or class B compost, that is protective of human health, the environment, soil quality, and drinking water sources;
- Certify that a discharger (i.e., landowners) has carried out the land application in accordance with the plan;
- Complete an environmental impact study for proposed composting facilities that will have an annual production capacity of 20,000 tonnes or more, or for facilities that process food waste or biosolids and produce 5,000 tonnes or greater per year of finished compost;
- Prepare plans and specifications for the construction and operation of composting facilities (odour management plan, leachate management plan, construction, operation and closure plan);
- Certify that a composting facility has been constructed in accordance with the qualified professional's plans and specifications.

Notice of land applications must be provided to the Ministry 30 days in advance of the proposed application. Notice of compost facility operation must be provided to the Ministry 90 days in advance of commencing operation. Compost facilities that process food waste or biosolids and produce 5,000 tonnes or greater per year of finished compost require a permit or operational certificate under an approved waste management plan from the Ministry.

The OMRR is currently being reviewed for amendment.

Program Statistics:

Permits: There are some registrants that have permits as a requirement of the regulation for effluent discharge from larger compost facilities (about 8 in the province) and/or from a pre-2002 requirement.

Registrations: 175 active registrations

Staff: There is 1 staff person who processes the OMRR notifications; other staff have assisted with compost facility permits.

Recommendations:

R59. Qualifications of Professionals: Consider revising the definition of qualified professional to align with the specific types of expertise required for the professional tasks, and to avoid unwarranted self-declaration of competency and improve enforceability. The current definition of qualified professional is the broad, generic definition adopted elsewhere in EMA regulations.

R60. Objectives and Plan Content Requirements: Consider improving the content requirements and the intended results or objectives for land application plans, and the operating plans, odour management plans and leachate management for composting facilities. More detailed requirements would help QPs better understand government's objectives and intended results, and could improve enforceability. The content requirements and objectives for environmental impact studies (EIS) could also be more explicit to inform and guide the qualified professionals who prepare them.

R61. Improve Government Authority: If government wishes to continue regulating land applications of managed organic matter primarily through notifications rather than approvals, consider improving the authority of the director and medical health officer (MHO), and the information that must be included with the notification. Currently, the onus is on a director or MHO to request further information within 30 days of the discharger's notification. This is a weak means of addressing poor quality professional work, and can lead to inefficient cycles of information requests. It is also problematic in that a director or MHO will not necessarily have the ability to review all necessary information before land application occurs since their request for information does not stop the clock.

Consider improving the authority to intervene if problems arise after the 30-day notification period. Currently, the director and medical health officer have authority within the 30-day window, but after that seem limited to EMA remedies that are contingent on evidence of pollution.

For composting facilities, consider amending s.23 to require that the director be satisfied with the environmental impact study, rather than simply requesting more information. Consider also providing a director with authority to require a permit where warranted, or specifying additional conditions that would trigger a permit requirement (s.3.1).

For compost facilities, qualified professional involvement is generally at start-up and construction. The director should have authority to require updating of operating plans and

specifications, leachate management plans, and odour management plans if changing environmental conditions warrant, rather than the single opportunity to require more information within 90 days of original start-up. Presently, only certain modifications to production capacity trigger an updating of these plans.

- R62. Documentation of Professional Work:** Consider requiring that professional documents be submitted to the director, and made available to Indigenous governments and communities and the public. The 2016 Intentions Paper indicated that several improvements will be made to these aspects of the OMRR.
- R63. Guidance for Professionals:** Government developed detailed best management practices for both land applications (2008) and compost facilities (2004), but these require updating. Consider also improving the comprehensive guidance on land application plan content and preparation. Current guidance regarding compost facility plans and specifications is not sufficient, resulting in inability to evaluate the quality of submitted plans against an appropriate.
- R64. Professional Assurance Statements:** Consider requiring professional assurance statements, rather than just the signature currently required for land application plans (s.5). Assurance statements could also be required for environmental impact studies (s.23), and sampling and analyses (Sch.5). The assurance statements could be submitted to the director.
- R65. Reporting Requirement:** Consider an obligation to report non-compliance events given the extent of professional reliance in this regulation.
- R66. Improve Odour Management Provisions:** Compost facilities have been controversial due to odour issues. For those that do not require permits under s.3.1, the Public Notification Regulation does not apply, so there is no means of addressing these concerns outside of local government processes (which may not have access to odour management expertise). There are no odour management or siting standards in the regulation or Act. While odour management plans must be prepared by a qualified professional (s.24(2)(d)), they are not provided to third parties, and do not require director approval. These potential impacts are therefore highly dependent on the professional. There should be more effective means to address public and neighbouring landowner concerns: options could include requiring a permit in situations likely to give rise to odour issues; director authority to approve or require changes to odour management plans following a public engagement process; community setback requirements for composting facilities; and a right of appeal to the Environmental Appeal Board, or some other mechanism to address complaints.

8.1.8 Slaughter and Poultry Processing

The *Code of Practice for the Slaughter and Poultry Processing Industries* applies to operators that slaughter and sell poultry or red meat for human consumption and produce wastes that may be discharged to the environment. The Code allows solid or semi-solid wastes to be disposed

of by landfilling, incinerating, or composting and land applying the compost product. A qualified professional is required to:

- design wastewater disposal systems;
- design nutrient management plans for beneficial use of treated wastewater for irrigation;
- evaluate a proposed landfill and design a groundwater monitoring and assessment plan.

Registration is required (with some exceptions) for all slaughter and poultry processing operations. The Ministry must be notified 30 days prior to land application of compost product.

Program Statistics:

Registrations: There are currently 41 active registrations.

Program Statistics:

Staff: New registrations are processed by the Express Transactions team. There were 4 new registrations in 2017.

Expertise: There are 2 Ministry staff that are considered the 'subject matter experts' and are accessible to applicants if needed.

Recommendations:

R67. Establish Threshold for Registrations: This Code of Practice allows for exemptions from permitting requirements through s.4 of the Waste Discharge Regulation for all registered slaughter and poultry processing industries without consideration of the size of the operation. Ministry experience is that the Code does not effectively regulate large operations, especially for wastewater treatment issues. There should be some limits to application of the Code based on factors such as effluent discharge rates. Operations that exceed a threshold should require a permit, or be regulated similarly to treatment systems under the Municipal Wastewater Regulation.

R68. Qualifications of Professionals: Consider revising the definition of qualified professional to align with the specific types of expertise required for the various professional tasks in the Code, and to avoid unwarranted self-declaration of competency and improve enforceability. Expertise normally requires engineers and agrologists with specialized knowledge and experience. Technicians may be qualified for small scale systems that are within the competence of Registered Onsite Wastewater Practitioners (ROWPs). Some qualified professionals meeting the current legal definition lack the necessary qualifications, which has led to professional association complaints and disciplinary processes, and significant field-level problems that can be difficult and costly to rectify, some involving bankruptcies.

Consider means of addressing situations where multi-disciplinary expertise is needed. Ministry experience has been that a hydrogeologist may be required in addition to an engineer experienced in wastewater treatment design. Consider whether to tailor this to

the professional functions in the Code, or by providing directors with discretionary authority to specify the expertise required according to site-specific circumstances.

- R69. Improve Objectives and Standards:** The Code should specify water quality discharge standards for wastewater design systems. It requires qualified professionals to design Category B systems (and Category A systems where domestic sewage is involved), but is silent on the standards the professional is expected to design to.

Consider improving the objectives, standards, and content requirements for nutrient management plans, landfill design, and groundwater monitoring and assessment plans (for nutrient management plans, see proposed reforms to the Agricultural Waste Control Regulation, and note the disparities with sections 8(3) and 26 of this Code of Practice).

Consider whether objectives should address higher risk areas (e.g., vulnerable aquifers) where cumulative effect or loading issues arise. This regime assumes that an unlimited number of operations will be acceptable so long as the Code is followed, but fails to address some issues where the receiving environment is vulnerable and the number and size of operations is high. Improperly treated effluent could impact groundwater, groundwater wells and surrounding waterbodies with biochemical oxygen demand and nutrients (nitrates, phosphates).

Improving the standards and objective should also help with enforceability of this Code.

- R70. Submission and Documentation of Professional Work:** The Code currently requires notifications of certain activities, but the notification content is very basic (ss.14, 28, 29). Although a director may require more information within a 30-day window, such limited content makes it difficult to respond to. Consider requiring electronic filing of professional documentation such as nutrient management plans (s.8), groundwater monitoring and assessment plans (10(2)) and landfill closure plans (14(2)). Note that s.10(2)(e) used to require that a copy of the qualified professional's groundwater assessment and monitoring plan be submitted to the director, but was repealed in 2007 due to reduced staff capacity to review them.

Section 3 of the Code requires that records and plans be retained for 10 years and made available within 2 days of request by an officer. Issues have arisen where records were requested and found to have very limited, inadequate information. Without submission of documents to the Ministry there may be no way of knowing about non-compliance until records are actually requested. This has been a problem in the past, where records produced by a qualified professional were dated 6 months *after* the actual installation of the wastewater treatment system. Routine production of records would enhance qualified professional and operator accountability and lead to early identification of problems. No requirement to submit system designs also makes inspections and audits difficult.

- R71. Certification/Assurance Statement:** Consider requiring qualified professional certifications or assurance statements for wastewater disposal systems, nutrient management plans, groundwater monitoring and assessment plans, and landfill closure plans. This could include qualified professional assurance that wastewater disposal

system was built according to design, and that plans have been complied with. There might be a threshold for these requirements in terms of risk or size of operation.

- R72. Improve government authority:** A director has limited ability to intervene when professional work is substandard. Where notification is required, the information provided is very limited, and where notification is not required (e.g., design and operation of wastewater discharge facilities) the only authority is the exercise of enforcement powers after the fact. Consider greater authority to assess and respond to professional work products.
- R73. Improve Monitoring:** Monitoring is currently required for groundwater and incinerator stacks, but no discharge or emission standards are specified, and monitoring results must only be kept on file. There are no reporting requirements for monitoring results. Consider also monitoring requirements for other activities, such as land applications (e.g. for consistency with requirements for soil amendments).
- R74. Introduce Reporting Requirement:** Consider an obligation to report non-compliance events given the extent of professional reliance in this Code. The lack of a reporting obligation has led to problems in the past where a wastewater discharge system performed poorly due to design problems, yet there was no obligation to report. The Ministry learned of problems from a federal agency that happened to be on site. A non-compliance reporting obligation could identify problems earlier, before environmental or health issues exacerbate.

8.1.9 Soil Amendments

The Code of Practice for Soil Amendments (COPSA) governs the land application of industrial by-products such as fly ash, residuals from liquid waste treatment at pulp mills, lime mud, residuals from water treatment processes, or wood residue. A qualified professional is required to carry out annual sampling and analysis of soil amendments to ensure they meet specified standards. A qualified professional is required to prepare and sign a land application plan if more than 5 m³ of soil amendments will be applied to an application site in a year. The qualified professional is required to certify that a discharger has carried out the land application in accordance with the plan. Notice of land applications must be provided to the Ministry 30 days in advance of the application.

Program Statistics:

Notifications: There are currently 29 active notifications.

Staff: There is 1-2 express transaction staff that process new notifications.

Expertise: There are 2 Ministry staff that are considered the 'subject matter experts' and are accessible to applicants if needed.

Recommendations:

- R75. Qualifications of Professionals:** Consider revising the definition of qualified professional to align with the specific types of expertise required for the professional tasks, and to avoid unwarranted self-declaration of competency and improve enforceability. The current definition of qualified professional is the broad, generic definition adopted elsewhere in EMA regulations.
- R76. Improve Objectives for Land Application Plans (LAPs):** COPSA is prescriptive regarding the standards that the soil amendments must be met, which is helpful in guiding professionals and dischargers. However, the content requirements for LAPs are quite basic, and the management objectives for a LAP should be more explicit in order to inform the professionals preparing them. Chapter 11 of the Best Management Practices (2008) has more detail on LAP objectives that could be incorporated into the Code. Section 8 could be more clear about LAP objectives, for example, in s. 8(2)(b)(ix). Also, while s.8(4)(a)-(c) specify objectives for LAPs, (d) and (e) do not.
- R77. Documentation of Professional Work:** Consider requiring electronic filing of documentation such as the soil amendment sampling and analysis (s.11), land application plans (s.8) and monitoring results where required (s.8(4)). COPSA currently just requires basic notification of land applications 30 days in advance, with insufficient information for Ministry staff to determine whether it is appropriate or whether to request additional information within that narrow window. Currently, land application plans must be retained and made available on request (s.12). The LAP should include the qualified professional's rationale, indicating how the qualified professional determined that the objectives will be met.
- R78. Certification/Assurance Statement:** Consider amending Schedule 1 of the Code to require the use of a professional seal, and to incorporate an assurance statement that is relevant to COPSA objectives.
- R79. Adherence to Professional Work:** Section 10 requires professional certification that an application followed the LAP, which is a good practice; however, consider requiring the land discharger to operate under the supervision of a qualified professional to ensure that the certification is based on direct knowledge.
- R80. Improve Monitoring:** Land application plans must include a monitoring process if applications are proposed to exceed soil conditioning or crop nutrient requirements (s.8(4)(e)). However, there are no standard monitoring protocols, nor does the Code specify actions in response to monitoring results. Consider improving these to provide greater guidance for qualified professionals and dischargers.
- R81. Siting Issues:** Consider improving the ability to address inappropriate locations for soil amendments. COPSA is based on notification, and does not require any approval. A director may require site-specific conditions within 30 days of notification, but this assumes that all possible locations are suitable. Currently, a medical health officer may prohibit certain land applications within the 30-day window if notified under s.9(2) because the site has an agricultural use or is in a watershed.

R82. Improve government authority: If government wishes to keep this activity in a code of practice rather than requiring permits, consider improving the authority to intervene if problems arise after the 30-day notification period. Currently, the director and medical health officer have authority within the 30-day window but afterwards require evidence of pollution.

R83. Introduce reporting requirement: Consider an obligation to report non-compliance events given the extent of professional reliance in this Code.

R84. Conflicts of interest: Consider addressing the potential for conflicts of interest because some qualified professionals are retained by both the facility producing the soil amendments and the landowner where soil amendments are applied.

8.2 Forest and Range Practices Act

The *Forest and Range Practices Act* (FRPA) is a somewhat unique approach to professional reliance; rather than directly relying on professionals, it places obligations on tenure holders (who have licences under the *Forest Act* and *Range Act*) and relies on professional legislation and professional associations to address the issues relating to the delivery of professional services.

Government's reliance on forest tenure holders is much higher than in other natural resource legislation, primarily due to four factors:

- Limitations on the information submitted to government;
- Limitations on the discretionary authority of decision makers when approving plans and making orders;
- Elimination of approvals for cutblocks and forest roads; and
- The extent to which a tenure holder retains professional services for its operations, and accepts the opinions and recommendations of those professionals.

Some of these issues have been identified in previous reviews, and based on stakeholder submissions to this review, have reduced public confidence in government's oversight of forest management. The Forest Practices Board considers professional accountability to government to be a key condition for the public interest. In its submission the Board stated:

“One of the key conditions that must govern the involvement of professionals in government's resource management decisions is that government must reserve to itself the right to act when necessary to protect the public interest. The Forest Practices Board has seen situations where forestry development was putting environmental and community values at risk, yet district managers could do little to affect the development and protect the public interest. The Board has also encountered situations where conflicts between resource users could have been avoided if district managers had the authority to intervene to ensure operations would meet local management objectives and respect tenured interests.”

The ABCFP made a similar comment:

“Government has the authority and responsibility to determine what Crown resources will

be utilized by whom and how. In instances where government is concerned that there are health and safety issues, environmental issues or third party impacts that are difficult to balance, government should retain the authority to determine how resources are utilized and give clear, timely direction to professionals and resource users.”

Forestry is a broadly based activity across the province, requiring diverse skill sets across all five of the professions in this review. While many of the other regulations in this review are focused on particular facilities or sites, forestry occurs across a broad geographic range in many different ecosystems. This adds considerably to the complexity of regulating forest management and the role of professionals. It is beyond the scope of this review to comprehensively assess all aspects of professional engagement in forestry; however, certain comments can be made concerning effectiveness criteria to help inform government direction and future, more detailed evaluation.

Competency Issues

FRPA does not identify professional tasks and functions in the manner of most other natural resource legislation, relying instead on professional legislation and tenure holder decisions on which professionals services are needed and when. The types of expertise that can be needed are diverse, because FRPA manages for 11 resource values, including: soils, visual quality, timber, forage and associated plant communities, water, fish, wildlife, biodiversity, recreation resources, resource features, and cultural heritage resources.

Specialized assessments from the Forest Practices Code that preceded FRPA are no longer required, but are frequently carried out by licensees voluntarily as part of their due diligence (e.g., terrain stability, visual quality, karst, riparian, hydrological, wildlife, cultural heritage). While a case could be made for district manager authority to require them in certain instances, the issue here is that they be done by professionals who have the proper skills and specialized expertise. It has been suggested that there should be clearer requirements as to government’s expectations.

A recent special investigation of road construction in steep terrain by the Forest Practices Board found that there was no terrain specialist involvement in 20% of the cases, which increased the potential for road failure and consequent environmental damage. This result was surprising given that ABCFP and EGBC have jointly developed practice guidelines for roads.

A 2014 investigation into karst management by the Board found that there are no qualification standards for individuals completing karst assessments, and found that the assessments were not consistent with respect to mapping, terminology and detail, indicating a significant difference in how the inventory standards and guidelines are being interpreted.

Given the breadth of professional expertise required for forest management, government should consider whether the current *laissez faire* approach to the use of professionals is adequate. There are many management situations that call out for specialized expertise, so why should the regulatory regime remain silent as to identifying those situations and the qualifications needed? For example, there is no mention of when a biologist is required, even though there

are government objectives for fish, wildlife and biological diversity. There may be merit in developing rosters of qualified professionals for some areas of specialization.

Clarity of Expectations

Management Objectives: A common theme in forestry-related discussions about professional reliance is the need for government to provide clear objectives to guide professionals. This has been emphasized by the Auditor General, Forest Practices Board, and ABCFP. This is not only a sound management principle, but is already built into the architecture of FRPA because “objectives set by government” are the premise for forest stewardship planning. Government objectives were identified as an essential “pillar” of FRPA.

Objectives are set out in regulations under FRPA, or established under the *Land Act* or *Haida Gwaii Reconciliation Act*. Objectives for the 11 FRPA resource values are found in the *Forest Planning and Practices Regulation* (FPPR), but are considered by some to be too general and qualified to inform professionals. For example, the objective for wildlife trees is:

The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.

Some input received from professionals questioned whether the 11 FRPA values represent the full suite of objectives that should be managed for. They ask, for example, whether there should be specific objectives to protect communities from risk of wildfire, because strategies to manage that risk on provincial Crown land surrounding the communities are not necessarily carried out by tenure holders if the activity is not economic or does not meet their business needs.

Objectives are also found in orders made under the Government Actions Regulation for non-timber values; these are normally more detailed and will be discussed below in more detail.

Finally, objectives from land use plans (such as land and resource management plans, or LRMPs) can be incorporated into orders under the *Land Act*. The content of these objectives depends on the land use plan order; sometimes they are very detailed and provide considerable guidance for professionals, while other times they are quite general and considered out of date due to changed conditions since they were originally made about two decades ago. Some of the more detailed objectives are the legal means for delivering major land use agreements between government and Indigenous governments and communities, such as the Great Bear Rainforest Order. However, in other areas, mountain pine beetle infestations, wildfires, or industrial development not considered during the original planning make some of the older plans outdated. Several areas of the province do not have land use plans, so this also leads to gaps in objectives.

With few exceptions, in recent years the provincial government withdrew support for land use planning and reassigned Ministry staff to other duties. This meant that areas without land use plans would not get them, and areas with old plans or changed circumstances would not have them updated. Interviews with Ministry staff suggest that planning was discouraged and seen as contrary to professional reliance because it would be telling the forest industry professionals

what to do rather than relying on them. Some in industry felt that the expectations on them were unrealistically high, and some tasks were more suited to the landowner than the tenure holder.

Minister Donaldson's mandate letter from Premier Horgan places a priority on working "with the Minister of Indigenous Relations, First Nations and communities to modernize land-use planning and sustainably manage B.C.'s ecosystems, rivers, lakes, watersheds, forests and old growth," and this could be an opportunity to develop objectives that can help guide professionals.

Guidance and Standards: Another way to make government expectations clear is to provide guidance to professionals. As mentioned in Section 7, professional associations also do this through practice standards and guidelines, and this can be an area of mutual benefit. The Ministry has developed quite a lot of guidance for certain topics, and staff suggest that there is opportunity for more to fill some current gaps and update others.

The Ministry developed a considerable number of guidebooks to accompany the Forest Practices Code, and these remain on its website because much of the information remains relevant and useful. They often contain outdated procedures relating to that legal regime, but also good science and methodology that some staff believe could be updated fairly easily.

Where appropriate, guidelines and standards (or aspects of them) should be incorporated by reference into permits and regulations, which some staff believe could enhance outcomes and support compliance and enforcement efforts.

Accountability

Professional accountability and government authority: FRPA places high levels of dependence on industry professionals due to the limited information that is submitted to government, limits on the discretionary authority of decision makers when approving forest stewardship plans, and the elimination of approvals for cutblocks and forest roads. This structure eliminates the Ministry's ability to resolve conflicts between the industry and other resource users in advance, other than through persuasion (sometimes referred to as "professional discussions"). It rests accountability on compliance and enforcement efforts, which is reactive rather than proactive.

Examples include the following:

Forest stewardship plans: FSPs are the only operational plan approved by government, yet they do not identify where logging and road building will occur. Instead, they must identify "forest development units" (FDU) within which these activities will take place. There is no maximum size for a FDU, so many are very large geographic areas, for example, one plan for a large portion of southern BC contains only 4 forest development units. In its 2015 special investigation entitled *Forest Stewardship Plans: Are They Meeting Expectations?*, the Forest Practices Board found that the average FDU was 1260 square kilometres, while the largest was over 71,000 square kilometres (about twice the size of Vancouver Island). It is not possible for decision makers to know where forest activities will occur, so in essence they are just approving a set of rules that the applicant proposes to follow, referred to as results and strategies.

FRPA requires that results and strategies in a FSP must be measurable or verifiable. In its 2015 investigation the Forest Practices Board randomly selected 15% of FSPs (43 in total) and found that “All sampled FSPs included a professional forester’s signature and seal, yet had significant problems with measurability or verifiability, making some results, strategies or measures difficult or impossible to enforce.” The chief forester and district managers have since provided guidance and letters of expectation to try to improve performance, but these are not requirements.

When considering proposed FSPs for approval, district managers have limited discretion. Section 16 of FRPA requires the plans to be approved if they meet content requirements. FSPs must specify results or strategies intended to meet government objectives, but are not required to provide the operational information necessary to determine how professionals will interpret and apply those objectives to actual operations. This is a significant issue because it involves the application of professional judgment on issues where there is broad latitude for opinion, not just the application of technical expertise.

Because FSPs are the only plans that have a public review and comment period, these content limitations also affect review by Indigenous governments and communities, stakeholders, rights holders and the public. Many find FSPs too legalistic and difficult to understand. The Forest Practices Board’s investigation reported:

“The Board finds that FSPs are inadequate as the sole avenue for public review and comment regarding operational forest planning. They do not provide the type of information that the public wishes to see and they are difficult to understand. Cases of overlapping FSPs that may have different results, strategies and measures, can be confusing to the public. The length of time between opportunities for full review and comment is also contrary to principles of effective public consultation.”

For these reasons, neither the content of FSPs nor the approval process provide adequate accountability to government or the public concerning the exercise of professional judgment involved in applying objectives set by government to forestry operations.

Site plans: site plans must be prepared for cutblocks and roads before the start of timber harvesting or road construction. These plans do contain important information indicating how professionals are interpreting government objectives and applying them to operations on the ground. However, they are not submitted to or approved by government. This means that professionals are not accountable to government in advance of proposed development activity. Tenure holders may be held accountable after the fact if they fail to ensure that the intended results specified in the plan are achieved and the strategies described in the plan are carried out.

Site plans must be made available to the public at the tenure holder’s place of business. However, the Forest Practices Board has found that:

“Although certain site plans may be made available, licensees are not required to consider comments on them and relevant site plans may not be ready at the time the FSP is available for review. The interested public may also find that site plans are difficult to access because:

1. There is no requirement to advertise the availability of site plans.
2. There is usually no obligation to inform interested parties of the availability of site plans.
3. In cases of overlapping tenures, interested parties may need to visit several licensees' offices to see all applicable site plans.
4. Only site plans for historic and currently permitted activities are required to be available—site plans for activities planned in the near future need not be available.
5. Licensee offices may be very distant.”

Cutting permits: a cutting permit (CP) is required in most tenure documents before timber harvesting may occur. It is the legal instrument that grants the right to cut. However, the Ministry does not use CP approval as an opportunity for assessing whether government objectives or FSP results or strategies will be met. Ministry policy dictates that a cutting permit application may not be declined unless the cutting permit would adversely impact aboriginal rights or title in a manner that cannot be justified or accommodated (which is a constitutional obligation). This is made clear in the Cutting Permit and Road Tenure Administration Manual, which states:

- The CP is not a tool for planning or enforcement of planning. The development of the *Forest and Range Practices Act* clearly envisioned having only one plan and without any second level plan or “back door” planning tool.
- The CP is not intended to be an enforcement tool for forest practices issues.
- The existence or content of a site plan is not a consideration during the issuance of a cutting permit or road tenure.

The Manual makes a distinction between *issuance* and *approval*: an approval is where a statutory decision maker *accepts* a licensee's document. By contrast, a CP or Road Permit (RP) is *issued* if the licensee satisfies the application requirements. The application is checked to see if it fulfills the statutory requirements but it is not *approved*.

This policy has led district managers to consider themselves obliged to issue cutting permits where their professional opinion is that the harvesting might not be consistent with government objectives and may even contravene FRPA. In some circumstances, the Ministry considers that the only option is to let the logging or road construction happen and then follow with a compliance and enforcement action, which is an unusual approach. An exception to this is the minister's intervention power in ss.77 and 77.1 of FRPA, which is available for catastrophic impacts on public health or safety; substantial non-conformance or significant delays with stocking requirements; and fundamental and adverse alterations of an ecosystem; and unjustifiable infringement of an aboriginal right.

Section 81.1 of the *Forest Act* was passed in 2007 to require that applications be refused if a cutting permit or road permit would compromise government objectives; however, government has never passed a regulation needed to implement this provision. The Forest Practice Board recommended that this be done in its 2015 report entitled *District Managers' Authority over Forest Operations*. The Ministry responded that it would investigate the issue and identify opportunities to strengthen the legislation as part of its annual FRPA continuous improvement strategy.

Road permits: an RP is required to construct or use and maintain a road on Crown land (other than a forest service road). If a person has the right to harvest timber under a tenure agreement, the road permit must be granted if the location of the proposed road is identified in a prescribed manner. As with cutting permits, policy is that road permits must be *issued* if basic requirements are met, and any non-compliance with FRPA is a separate issue that must be left to enforcement staff after the fact. The Manual states:

“FLNR staff should not be using the road tenure issuance process to ensure that proposed road construction is consistent with the FRPA requirements. It is up to the road tenure holder to ensure FRPA requirements are met before construction or harvesting begins. Any non-compliance with FRPA requirements will be enforced under FRPA by C&E staff.”

As mentioned earlier, in a recent special investigation into road construction on steep slopes the Forest Practices Board found that only 7 out of 26 road segments fully met the professional practice standards. Some Ministry staff expressed frustration with this compliance rate, and the fact that they learn of this through Forest Practices Board investigations. Some believe that greater scrutiny of road permit applications could catch problems in advance of construction.

These provisions have been discussed in some detail because they are not well understood by British Columbians. Many people assume that government would only grant permission for logging and road building after being satisfied that government’s own legal objectives will be met. That is true for most natural resource management decisions in BC, but not for forestry. Government no longer requires or receives the information needed to make that assessment, and has limited its own authority – in some cases by constraining statutory decision makers, and in others by no longer approving site level operational plans. Policies requiring cutting permits and road permits to be issued have cemented in this lack of authority, so that even when a permit is needed to obtain the right to harvest timber or construct road, decision makers cannot consider compliance with government’s own objectives. Non-compliance is left to after-the-fact enforcement action, assuming that the results and strategies in FSPs have been written in enforceable language.

Given these laws and policies, it is perhaps not surprising that some Ministry staff indicated that their understanding of agency policy is that industry professional work is not to be questioned. Some queried whether it is ever appropriate to challenge an external professional’s opinion, and some have been challenged by licensee professionals on whether government has legal authority to question them. This suggests that FRPA has bred a culture of deference that was absent from other natural resource ministries, including environment, mining, and oil and gas agencies.

If government wishes to change this dynamic, it will need to address the legal, policy and cultural aspects. It will also have to decide how to introduce greater oversight. In its 2013 bulletin on professional reliance, the Forest Practices Board recommended:

The forest management framework includes weak or unclear objectives and priorities for specific resource values at appropriate scales, the lack of a process to coordinate

multiple licensee activities across a landscape, and an imbalance in decision-making power between conflicting resource users.

...there ought to be an impartial decision-maker or arbiter, who can independently weigh and balance all of the priorities, risks and benefits of proceeding with the forest management activities. Such an independent decision-maker would increase public confidence and provide transparency of process and decision rationale. In the Board's view, professional advice cannot totally replace the power of an impartial decision-maker, either in reality or perception. Where objectives are not clear, or where competing interests and values are in play, it is not realistic to expect professionals working for licensees to define the public interest.

Many consider that district managers should be the independent decision maker, as they are close to the field level issues, are the statutory decision makers for forest stewardship plans, and formerly used to have greater decision-making authority. In 2015 the Board recommended giving greater discretion to district managers to act in the public interest (*District Managers' Authority Over Forest Operations*, December 2015). It stated that the benefits of doing so include:

- reduced risks to public health and safety;
- increased public confidence in forest management;
- a level playing field for licensees operating on Crown land;
- better management of cumulative effects; and
- reduced economic costs resulting from landslides, excessive sedimentation and overharvesting.

However, interviews conducted during this review revealed that some district managers do not want this authority. The information received was contradictory on this point, suggesting that there are strong differences of opinion within the Ministry.

The next question is where to introduce oversight. The two main options are at the site plan stage or the permit application stage. The Board previously recommended the permit application stage, because section 81.1 of the *Forest Act* was passed by the Legislature in 2007 for that purpose. Implementation would require a regulation, rather than act amendment. Alternatively, some have suggested that permit applications are made by tenure holders late in their operational planning process, so leaving approval to that stage may be too late as significant costs may have been invested in engineering and planning. This suggests that the site plan stage would be a better option.

It should be noted that the site level planning stage was the place for district manager review prior to FRPA. The Social Credit government amended the *Forest Act* in 1987 (*Bill 70 – Forest Amendment Act No. 2, 1987*) to require silviculture prescriptions (which were site plans that addressed more than silviculture issues), and passed the Silviculture Regulation in 1988. A form of site level plan approval was required since that time, until the passage of FRPA.

Program Statistics:**Plans and permits:**

From the Forest Stewardship Plan Tracking System:

- 130 – Active FSPs
- 103 – Amendments approved in the calendar year 2017
- 72 – Extensions approved in the calendar year 2017
- 61 – Active FSPs expire in the calendar year 2018

From the Forest Tenure Administration System (FTA):

- Approximately 14,500 – Site Plans (based on the number of active, multi-year cutting permits in FTA in January 2018)
- Approximately 2,250 - Cutting permits (This is the total number of all unique, active cutting permits at the time the report was made, not what is approved annually. Cutting permits have a four-year term from the time they are issued.)

Staff: There are 23 forest district offices within the province; roughly 10-20+ staff per district oversee and administer these regimes, depending on the size of the district.

Expertise: The Ministry has in-house expertise in relation to Forest Stewardship Plans, Site Plans and Cutting Permits.

Documentation & Rationale:

There are a number of issues concerning the documentation that is filed with government and made available to the public that should be reviewed. The Forest Practices Board has recommended that the professional's rationale should also be provided and available.

Professional Certification & Assurance Statements:

Professional documents prepared by foresters are signed and sealed, but there are no specific certification statements required for FSPs, SPs, CPs or RPs. There is also no certification role for the multi-disciplinary professional sign-off or certification in FSPs, SPs, CPs, or RPs.

EGBC and ABCFP have developed helpful assurance statements for roads and bridges that could be a model for adoption elsewhere. Engineering staff expressed the viewpoint that assurance statements for roads and bridges should be supplemented with additional documentation (e.g., reports, record drawings, design aids used, as-built data, and materials test results). Overall, this is an area for possible improvement to engender a greater sense of professional accountability.

Conflicts of interest & independence:

FRPA does not address these issues and relies on professional codes of ethics. However, there may be specific circumstances in which government should make known its expectations concerning conflict of interest and its expectations for professional independence.

Currency of professional work:

While FSPs have a 5 year term, there have been past issues with multiple extensions, which can prolong problematic FSPs, and deprive the public of an opportunity to comment. In its FSP special investigation the Forest Practices Board noted that some FSPs have effectively been given terms of 10 years or longer, and commented:

“The Board is very concerned that many of these current, problematic FSPs have the potential to be extended without a public review or correction of the problems. In the Board’s view, such extensions should not be permitted for any FSPs that do not meet the approval tests.”

The chief forester and district managers have responded to this by requiring new FSPs, but it would be worthwhile to review the legal and policy provisions concerning the circumstances in which extensions should be granted, and related public right of review and comment.

Adherence to professional work:

FRPA places authority for operational decision-making on licensees rather than professionals. This has given rise to issues when tenure holders do not follow professional advice, in some cases leading to forest management and compliance problems. Government should review whether there are circumstances in which it is particularly important that government be advised that a tenure holder is rejecting professional advice, and consider a reporting mechanism.

Auditing of professional work:

The review was advised that other than forest stewardship plans and permit applications submitted for approval or issuance, the Ministry does not carry out auditing of professional work, but relies on compliance and enforcement to identify problems, as well as professional association audits or practice reviews.

Complaints Resolution:

The discussion above has described known issues with the Ministry’s lack of authority to resolve complaints due to insufficient information in FSPs, and lack of approval mechanism for site plans, cutting permits and road permits. The FRPA system relies on tenure holders to resolve complaints directly. Sometimes this is effective, and sometimes it is not. District managers do their best to resolve outstanding issues through “professional discussions” with licensee professionals, but this is not always successful without clear authority. This has been a major source of frustration for landowners, ranchers and guide outfitters who feel they are adversely affected by forestry operations. The public may file complaints to the Forest Practices Board and the Board must investigate them, but can only make recommendations to government or a tenure holder.

Given the extent of forest practices across the landscape, there is greater opportunity for conflict than for some of the other activities and sectors examined in this review. Improving government authority should improve the Ministry’s ability to resolve complaints provided there is adequate provision of information and opportunities for review and comment prior to final decisions being made.

Monitoring:

The FRPA regime requires tenure holders to establish free growing stands on a portion of the areas harvested, which requires monitoring for a period of time following operations. Outside of this, FRPA does not require tenure holders to monitor other environmental conditions following their operations. The Ministry therefore relies on its Forest and Range Evaluation Program (FREP) to do so.

Monitoring the effectiveness of practice requirements and the achievement of results was one of the pillars of FRPA, and considered essential to the professional reliance regime. Effectiveness monitoring is the primary mechanism to determine if practices are achieving the objectives and, if not, where improvements need to be made. However, in addition to resource challenges faced by the FREP program, it was also challenged by the problems identified above concerning the adequacy and measurability of the objectives for the 11 FRPA values.

In November 2017, the Forest Practices Board issued a *Special Report on the Forest and Range Evaluation Program*, which concluded that FREP is a foundational element of FRPA, but:

FREP is not currently monitoring whether forest and range practices are effectively conserving many FRPA values (e.g., soils, wildlife, plant communities, etc.). FREP needs to include effectiveness monitoring of practice requirements on all FRPA values, at all relevant scales, to inform decision makers and maintain public confidence in FRPA.

The Board offered five recommendations to help FREP achieve its intended program outcomes.

Cumulative effects:

The current structure of FRPA does not adequately address cumulative effects. These are an issue not only with respect to all of the non-forestry activities on the land base, but within FRPA itself there is no obvious ability to address the cumulative effects of multiple licensees operating in the same areas. In its submission to this review the Forest Practices Board commented:

...there is ambiguity about what responsibility individual professionals have when more than one licensee operates on the same landbase. Under the current legislative framework, one licensee may design access and harvesting to achieve certain results, including retention of wildlife habitat, only to have a subsequent licensee undermine these results by harvesting the retention areas. The Board has seen numerous examples of this.

The situations described by the Board occur in part because of the lack of Ministry authority over forest operations discussed above. The Ministry has for many years tried to address these issues by developing a Cumulative Effects Framework. However, implementation of the framework requires greater government authority, greater willingness to use existing tools (such as objectives set by government), and commitment to land use planning. Minister Donaldson's mandate to modernize land use planning would be an ideal opportunity to address cumulative effects. Going forward it will be important for government to provide direction on other aspects of these recommendations, as there are currently differences between the Ministry's approach to cumulative effects and that of the Oil and Gas Commission's Area Based Analysis due to the limitations on government authority in the FRPA regime.

Compliance and enforcement:

Many Ministry staff who engaged in this review process raised concerns about the adequacy of compliance and enforcement (C&E) efforts under FRPA, largely since the expansion of the Ministry's mandate and broadening of C&E mandate to include many additional acts and regulations. There is concern that the mandate expansion has resulted in much less attention being paid to forestry matters and a reduction in forestry expertise.

8.2.1 Forest and Range Practices Act and Government Actions Regulation

The Government Actions Regulation (GAR) is an important feature of the FRPA regime because it allows the minister to make orders (GAR orders) to protect non-timber values, including the following:

- Scenic areas
- Community watersheds
- Fisheries sensitive streams
- Wildlife, including ungulates (moose, caribou, deer, elk), regionally significant species and species at risk
- Resource features, such as karst, recreation sites and trails, and cultural heritage features, and that are the focus of traditional uses by aboriginal people.

The orders identify government's objectives for managing these values, which guide professionals when preparing forestry plans. However, while similar legislation would typically grant the minister broad discretionary authority to make these orders, GAR limits the minister's discretion by requiring strict legal tests to be met before it can be exercised. Section 2 of GAR imposes "limitations on actions" that require the minister to be satisfied that:

- a) the order is consistent with established objectives,
- b) the order would not unduly reduce the supply of timber from British Columbia's forests, and
- c) the benefits to the public derived from the order would outweigh any
 - (i) material adverse impact of the order on the delivered wood costs of a holder of an agreement under the Forest Act that would be affected by the order, and
 - (ii) undue constraint on the ability of a holder of an agreement under the *Forest Act* or the *Range Act* that would be affected by the order to exercise the holder's rights under the agreement.

Ministry staff advised this review that these limitations have hampered considerably the effectiveness of this regulation due to disagreements between government and the forest industry over the legal meaning of these clauses. The Forest Practices Board also found this to be the case in its 2017 complaint investigation report on *Forest Roads and Grizzly Bear Management in the Kettle-Granby Area*.

In his 2015 report entitled *Getting the Balance Right: Improving Wildlife Habitat Management in British Columbia*, Mike Morris, MLA, then Parliamentary Secretary to the Minister of Forests, Lands and Natural Resource Operations commented:

In addition, statements like “without unduly reducing the supply of timber from British Columbia’s forests” is a very subjective “default” term that significantly lowers the threshold protecting our biodiversity. This ambiguity has contributed to a degradation of biodiversity and ultimately, a reduced ability for professionals to meet the spirit and intent of the legislation.

This same clause is also used to qualify all of the non-timber objectives listed in sections 5–10 of the Forest Planning and Practices Regulation.

By way of contrast, the *Oil and Gas Activities Act* also has provisions for government’s environmental objectives and uses many of the very same terms, but gives Cabinet broad authority to make regulations without limitations (see s.103 of the *Oil and Gas Activities Act*, and sections 4–7 of its Environmental Protection and Management Regulation). This more typical drafting approach assumes that Cabinet will balance its desired approach to resource management and environmental protection in its deliberations over how to exercise its executive power, without being subject to the possibility of legal challenges that it didn’t have jurisdiction to make the orders.

The following information was provided by Ministry staff concerning GAR orders to date:

Program Statistics:

GAR Orders: There have been actions to establish a number of GAR orders for purposes of the FRPA regulatory regime, for both terrestrial and aquatic values. The information provided below does not take into account overlap (co-location) among certain designations. It would be inaccurate to add these orders up to get overall impacts since there are a large number of overlapping designations covering different values on the same land base. The land areas reported below also include substantive area that is not part of the Timber Harvesting Land Base. Further, it must not be assumed that every order prohibits timber harvesting within the established land designation. Many designations set desired outcomes for timber harvesting, but do not prevent logging. Government has established:

- 2104 Wildlife Habitat Area polygons over 3,708,577 hectares (including some large Grizzly Bear and Caribou Specified areas)
- 85 Ungulate Winter Ranges over 14,042,152 hectares
- 36 Fisheries Sensitive Watersheds over 865,033 hectares

There have also been actions undertaken to establish lakeshore management zones, and scenic areas for visual quality management. The purpose of these actions was spatial designation of regional land use policy for the purposes of supporting proper function of forest practices legislation.

Staff: Alignment of manager and staff capacity to initiatives using provisions of the GAR varies widely across the province, region to region and into Victoria-based branches of FLNR. Some of this variation depends on the number and complexity of government actions required to deliver Ministry priorities in a Natural Resource District, Ministry Region or Ministry Area. Executive, manager and staff alignments to actions under the GAR could be summarized as follows:

Regional Executive Directors (8 across province)

- Delegated decision maker for orders made under provision of the regulation, other than those delegated authorities in respect of the GAR that remain with the Deputy Minister.

Director, Resource Management (8 across province)

- Oversight of staff teams engaged in projects using the GAR as prioritized by Regional Management Team (RMT) and Branch business planning
- Provides support in strategic policy and procedural issues management, and in advancing proposed actions to decision

Section Heads, for Regional Operations and Branch business units, typically Ecosystems, Wildlife, Fisheries and Resource Stewardship. (Numbers depending on regional initiative and project complexity)

- Leading teams assigned tasks in use of the GAR provisions per priorities in regional and branch business plans

Expertise: It is typical that staff teams' assigned responsibilities for preparing orders under provision of the GAR are comprised of subject matter experts from FLNR Regions, Branches, and species specialists in ENV. These teams often reach out to external experts for technical support and advice. In respect of decision "tests" set out in GAR section 2, the teams must rely on forest sector professionals to provide certain information that must, by regulation, be considered by decision makers.

Recommendations:

R85. Improve forest stewardship plan content by requiring identification of proposed roads and cutblocks and other information to support oversight and transparency (relates to FRPA, s.5 and FPPR, Part 2).

R86. Require submission and approval of site plans: oversight of cutblock and road plans is necessary to determine whether government's objectives and practice requirements will be met because there can be considerable professional judgment involved in applying the requirements of general wildlife measures, land use plan orders, as well as FPPR practice requirements, to areas of operation (relates to FRPA, s.10, 16 and FPPR, Part 3).

R87. Enhance decision maker authority by amending the approval test to include consideration of government's objectives, Indigenous governments and communities' interests, other rights holders (Crown tenure holders and landowners) and the public

interest. Statutory decision makers should be able to reject plans that are unlikely to meet government objectives, that do not contain sufficient information to make that determination, or that present an unacceptable risk to third parties or resource values (relates to FRPA, s.16).

- R88. Improve objectives:** review the list of objectives in Part 2 of the regulation for completeness and phrasing. Many consider the current objectives to be too general and constrained; more detailed factors are listed in Schedule 1 but are not mandatory considerations for professionals (relates to FPPR, Part 2 and Schedule 1).
- R89. Improve minister's authority to make GAR Orders:** review the limitations on the minister's authority to make orders to protect non-timber values. Ministry staff responsible for administering this regulation indicate that the restrictions relating to timber supply, material adverse impact on delivered wood costs, and undue constraints on tenure rights, are confusing and lead to too much debate that inhibits effective implementation of this regulation (relates to GAR, s.2).
- R90. Improve documentation and rationale:** implement Forest Practices Board recommendations that forest plans should include a systematic, transparent and well-documented decision-making process that shows appropriate consideration of the potential impacts of harvesting, silviculture systems and roads to public and third-party interests, including documentation of the professional advice received and how it was considered. In order to build public confidence in the independence and objectivity of professionals, licensees need to be transparent about the way in which professional advice has been used in such situations. The rationale for these decisions should be made public (relates to Recommendation #85 above, and FRPA, s.5 and FPPR, Part 2).
- R91. Clarify professional tasks and qualifications:** given the multidisciplinary nature and forest resource management, the regulation should specify the qualifications required for certain professional tasks. The regime is currently silent on this, relying on professional associations regulation of right to practice and scope of practice.
- R92. Remove compliance certification by professionals:** determining compliance with legal requirements is essentially a government function that should not be delegated (relates to FRPA s.16(1.01),(1.2)).
- R93. Professional Certifications and Assurance Statements:** Consider broader use of professional assurance statements, and requiring them in the regulation itself rather than guidelines.

8.3 Forest Act

8.3.1 Timber Pricing

Provincial revenue from harvesting Crown timber relies on external professionals in several ways, including measurement and grading, and estimation of harvesting and transportation characteristics for calculation of stumpage-rate cost allowances. Recent policy changes have

increased reliance on professionals and deferred auditing of appraisal data to the post-harvest stage.

Particular vulnerability may exist in relation to cutting authorities where stumpage is based on timber cruise estimates of harvested volume rather than scale-based quantification. In the past, there have been known issues with underestimation of timber volume and quality that led to enforcement issues, professional association disciplinary cases and litigation.

Oversight of these policies and procedures depends on government's capacity to carry out audits and compliance and enforcement, which the Ministry acknowledges is very limited. For example, it has argued before the Forest Appeals Commission that:

The professional reliance system that British Columbia has implemented over the past decade requires that licensees take their own steps to guard against misplaced reliance on professionals, rather than consider themselves entitled to rely on the limited capacity of the Ministry to detect errors through audit programs. Professional reliance and industry accountability for quality control go hand in hand.

Program Statistics:

Appraisal data submissions: Approximately 7000 cutting authorities exist at any time in BC (approximately 5500 adjustable rate appraisals and 1500-2000 fixed stumpage rate appraisals). Approximately 1500-2000 new appraisals each year.

Staff: Timber pricing Branch – 30; Timber pricing Area staff – 15x3 areas = 45; 4 x 27 districts = 108

Access to Expertise: In most cases Ministry staff are forest professionals and the experts. Other qualified professionals such as in-house engineers are generally available at all 3 levels of the Ministry.

Recommendation:

R94. Initiate a review of professional reliance in timber pricing and measurement: the review should consider government's risk tolerance, the availability of cruise-based cutting authorities, the adequacy of auditing capacity, and the adequacy of existing sanctions as deterrents to non-compliance.

8.3.2 BCTS Forest Professional Oversight Certification

BC Timber Sales is a stand-alone program within the Ministry of Forests, Lands, Natural Resource Operations and Rural Development that manages about 20 percent of the provincial Crown allowable annual cut, through the issuance of timber sale licences (TSLs) following a competitive bidding process. It has developed a Forest Professional Oversight Certification (FPOC) program, which requires TSL holders to retain a forest professional to:

- oversee their primary forest activities (timber harvesting, road construction, deactivation, and maintenance);
- prepare and submit to the timber sales manager any changes to project plans; and
- to prepare and submit to the timber sales manager, following completion of primary forest activities, a certificate confirming that the completed activities conform to the applicable Forest Stewardship Plan (FSP) results and strategies as per Forest Planning and Practices Regulation section 106.2.

BCTS is currently piloting the certificate component of the FPOC concept across the province. This initiative is partly motivated by a desire to its controls on delivery of stewardship-related outcomes, and partly by issues with the availability of compliance and enforcement staff to inspect timber sales. While there have been some concerns that this might become a substitute for BCTS inspections, program staff indicate that it is designed to add a layer of assurance concerning compliance, and that BCTS will continue to complete inspections and audits.

In some ways this pilot project bears similarity to the use of environmental monitors, and raises similar issues in terms of the amount and timing of the forest professional's field presence, independence from the TSL holder, competency, and the content of the conformance certificate. Presently, the certificate is very basic in that it contains two check boxes to indicate the professional opinion that 1) timber harvesting activities and 2) road construction, maintenance, and deactivation activities were consistent with the intended results and strategies identified by the Timber Sales Manager in the Forest Stewardship Plan. Some FSPs are legally complex in terms of how results and strategies are phrased, containing references to numerous policies and planning documents. Diligent confirmation that these activities fully comply with the FSP could be a complicated task, requiring interpretation of complex provisions and considerable specialized expertise and judgment for some sites. The utility of a simple conformance certificate for complex sites might be limited without understanding the professional's rationale for a sweeping statement confirming consistency with all FSP results and strategies.

Program Statistics:

Certifications: To date approximately 12 TSLs have been advertised as part of the FPOC pilot.

Staff: This is dependent on how many FPOC pilot Timber Sales Licences are being advertised by a BCTS Business Area (BA). To date 1 HQ staff person and approximately 20 BA staff are involved. Training of all BCTS BAs on the FPOC pilot is now complete and the expectation is that all BAs will advertise at least 1 FPOC pilot TSL this fiscal and 2 next fiscal year – this could increase the number of staff involved to 50 staff or more across the Province. There is no maximum number of FPOC TSLs that could be advertised.

Expertise: Staff have access to a HQ-based Stewardship Policy Forester who is the subject matter expert for the FPOC concept, and to Regional and Branch level experts on issues of legislation interpretation, research, and best management practices.

Recommendations:

- R95.** To ensure the certificate has value, consider developing a more detailed conformance certificate which identifies the results and strategies that are relevant to the TSL. A checklist might assist forest professionals in ensuring that they have addressed their minds to the right issues;
- R96.** Depending on the intended purpose of the conformance certificate, consider the need for assurance that the professional is independent and does not have a conflict of interest in relation to the TSL holder;
- R97.** Consider how to address competency issues when assessment of consistency with FSP results or strategies requires specialized expertise, such as meeting visual quality objectives, or perhaps involves expertise from another profession.

8.4 Greenhouse Gas Industrial Reporting and Control Act

The *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA) regulates the greenhouse gas reporting and compliance framework for industrial operations. Large industrial operations that must report their GHG emissions each year to the Province may be required to have their emission reports independently verified. GGIRCA also establishes the regulatory framework and infrastructure for offset units which are required to fulfill the Province's commitment to have carbon neutral government operations under the *Greenhouse Gas Reduction Targets Act*. Applications for offsets must be independently validated and verified.

The Greenhouse Gas Emission Control Regulation and Greenhouse Gas Emission Reporting Regulation were the focus of this review. They rely on external professionals to validate plans for emission offset projects, and to verify project reports and emission reports in order to receive offset units administered by the BC Carbon Registry. Validators are expected to have an understanding of the industry and activity in order to validate project plans, and verifiers are responsible for reviewing the reporting data to ensure accuracy. The professionals are verification bodies and validation bodies that are accredited and in good standing with the International Accreditation Forum. Because this regime involves multiple jurisdictions, it has benefitted from considerable scrutiny and standardization. These regulations meet the best practices criteria for professional reliance in many ways, and while unique, may serve as a useful model for addressing issues such as conflict of interest and professional independence in other natural resource settings.

Program Statistics:

Offset Information:

- In 2017, there were 0 regulated operations (industrial operations with an emission limit and compliance obligation)
- In the past 5 years there have been between approximately 125 reporting operations and 700 reporting facilities (industrial operations with a reporting requirement).

- In 2017, there were 18 offset project issuances which resulted in 3.1 million offset units being issued (each equivalent to 1 tCO₂e).
- In 2017, 622, 748 offset units were retired to fulfill the Province's requirement to have carbon neutral government operations for the 2016 calendar year.

Staff: Approximately 8 full-time equivalents

Expertise: The framework includes validation and verification by third-party and independent accreditation bodies trained in greenhouse gas verification so the day-to-day need to access subject matter experts is met. Where access to subject matter experts is needed (e.g., internal government, consultants or verification bodies) access can be arranged.

Recommendation:

R98. Documentation of Professional Work: Consider requiring validation and verification bodies to submit their detailed reports to government in addition to their statements. This would ensure that the rationales for the verification statements and validation statements are part of the public record.

8.5 Mines Act

The *Mines Act* and the accompanying Health, Safety and Reclamation Code for Mines in British Columbia (the Code) provide the regulatory framework for mining activities in BC.

Proposed major mines, major expansions and upgrades to existing mines, and some large-scale exploration and development projects require approval under the *Mines Act*. The *Mines Act* permitting process, which for major mines is closely integrated with the *Environmental Management Act* (EMA) permitting process, includes geotechnical design and reclamation and closure plans. In addition to *Mines Act* and EMA permits, various other authorizations are required for major mining projects. Depending on the complexity of the proposal, applications are reviewed by either the relevant regional Mine Development Review Committee (MDRC) or project-specific Mine Review Committees (MRCs) led by Major Mine Permitting Office (MMPO). Major mines and expansions (including large-scale industrial mineral and aggregate mines) in B.C. typically require environmental assessment (EA) certificates.

Qualified professionals are hired directly by the proponent to complete the design and assessment work. Applications for *Mines Act* permits must include detailed designs for all project components and phases of mine life. Proponents are expected to provide detailed engineering designs, management plans and monitoring programs. Terms and conditions may be imposed respecting the use of qualified professionals. For active mines, there are various reporting requirements in the Act and Code, which are generally authored by consulting professionals and reviewed by EMPR for approval by the Chief Inspector.

Applications for mineral and coal exploration activities, placer mines, and smaller-scale industrial minerals mines and aggregate pits/quarries are made online through FrontCounterBC. These are called "Notice of Work" (NoW) applications. They are reviewed by the Ministry's

regional offices or regional Mine Development Review Committees (MDRCs), and inspectors make decisions to approve, not approve, or approve with terms and conditions. Inspectors can impose a wide range of permit conditions including use of professionals. The use of qualified professionals for excavation inspection, slope stability, remediation plans, bridge design and inspection is outlined in Part 9 of the Code. A small percentage of regional mines require high level of qualified professional involvement for activities such as wildlife monitoring and mitigation plan.

Program Statistics:

Permits: the following data on NoW permit applications is from 2016:

Type	Notice of Work Applications Received	Notice of Work Applications Processed*
Mineral/Coal (Exploration)	207	177
Mineral/Coal (other)	25	21
Placer	311	304
Sand & Gravel/Quarry	235	206
Total	778	708

*Applications that were approved or rejected.

Staff: There are currently roughly 73 inspectors in the Health, Safety and Permitting Branch. Staffing levels have grown over the past year, and continue to grow (this number is approximate to February 2018).

Expertise: EMPR staff based out of all five regional offices specialize in a variety of disciplines depending on their area of expertise (geochemistry, geotechnical, reclamation, etc.). The EMPR inspectorate includes specialists in all subject matter areas related to the mineral exploration and mining sector, and includes qualified professionals such as professional engineers, geoscientists and agrologists. EMPR staff works closely with subject matter experts at other agencies, including FLNR, MIRR and ENV, on issues related to mines and mineral resources that overlap with their specialty areas. Also, EMPR has the ability to engage subject matter experts from outside government in the event capacity or expertise is unavailable to address an issue.

Recommendations:

Mines Act:

R99. Consider amending “qualified person” definition: The current definition is based on the opinion of the mines manager, and EMPR staff have indicated this has been problematic in the past, particularly for smaller mines.

R100. Clarify chief inspector permit amendment authority: There is some uncertainty about the chief inspector’s authority to impose additional conditions or changes in the existing conditions in a mine permit without an application from the permit holder. This should be

resolved to ensure that the chief inspector has authority to respond to conditions as they arise.

R101. Improve independent study authority: The chief inspector has authority in s.18 of the *Mines Act* to require independent engineering reports for health, safety, accidents or dangerous occurrences. Consider extending this power to environmental damage (which is included in s.7).

R102. Consider incorporating professional requirements into *Mines Act*: Section 10 of the Act allows the chief inspector to impose terms and conditions relating to the use of professionals in the permit. However, to ensure greater consistency in the application of the Act, consider migrating some of the standard professional requirements into the Act itself, while reserving the authority to specify additional requirements in permits for mine-specific requirements. This could include new requirements for use of professionals in matters such as mine reclamation, and permit application requirements (especially for those that are not reviewable projects under the *Environmental Assessment Act*).

Health, Safety and Reclamation Code:

R103. Clarify duty to report safety issues at tailings storage facilities: A new obligation on the engineer of record was added to s.10.1.6 of the Code in response to the Mount Polley Tailings Storage Facility breach, which requires the engineer to report unresolved safety issues in a timely fashion. This is helpful, but could benefit from clarification as to the permissible time frame for discussions between the engineer of record and the mine manager.

R104. Clarify expertise required: S.10.1.8 requires professional engineers to consult with “other qualified professionals” when determining environmental design flood criteria; consider specifying which types of expertise should be consulted. Similarly, s.10.6.7 requires “one or more qualified professionals” to prepare closure plans for a tailings storage facility or dam, but could benefit from greater specificity.

R105. Clarify plan and program objectives: S.10.1.17 has broad objectives for mine, environmental protection, reclamation and closure plans. Greater detail as to the management objectives or results expected for these plans and programs could assist professionals preparing them and improve outcomes. Ministry staff noted that some of these require greater clarification from government in terms of policies concerning issues such as species at risk and cumulative effects. Some of these objectives involve the mandate of other ministries.

8.6 Oil & Gas Activities Act

8.6.1 Oil and Gas Activities Act permitting

The *Oil and Gas Activities Act* regulates a broad range of activities including:

- geophysical exploration;
- the exploration for and development of petroleum and natural gas;

- the production, gathering, processing, storage or disposal of petroleum and natural gas;
- the operation or use of a storage reservoir;
- the construction or operation of a pipeline;
- the construction or operation of a manufacturing plant designed to convert natural gas into other organic compounds;
- the construction or operation of a petroleum refinery;
- the construction or maintenance of a prescribed road.

Some related activities to facilitate oil and gas activity require authorization under the *Environmental Management Act*, *Forest Act*, *Heritage Conservation Act*, *Land Act* and *Water Sustainability Act*.

In addition to oil and gas activities, the Oil and Gas Commission (OGC) has a number of delegated authorities to enhance its ability to operate as a single window regulator for the oil and gas sector. These include designations under the *Water Sustainability Act* and the *Environmental Management Act* as well as a Delegation Agreement under the *Agricultural Land Commission Act*.

Each year the OGC makes approximately 1500 – 2000 decisions on new permits and authorizations and approximately 1000 decisions on amendments.

Qualified professionals are used as needed by proponents to provide technical information and supporting documents for authorization applications (i.e., wildlife mitigation plans).

Program Statistics:

Well permits:

- ~25,300 drilled wells, including those that have been abandoned
- ~ 2,100 wells permitted but not yet drilled
- ~ 5,600 cancelled well permits

Facility permits: 2,100

Pipeline permits: 16,200

Waste Discharge Permits: 150

Staff: There are approximately 30 staff dedicated to engineering oversight of infrastructure design for extraction, gathering, processing and transmission of oil and natural gas. This staff supports and provides recommendations to decision-making.

Expertise: Staff have access to subject matter experts, either via in-house expertise or contracts.

8.6.2 Certificates of Restoration

Regulatory requirements related to site restoration are found in Sections 40 to 43 of OGAA, which are implemented through applications to the Oil and Gas Commission (OGC) for a Certificate of Restoration (CoR). Permit holders voluntarily apply to OGC for a CoR or in some cases can be ordered. There is a two-part application process.

The CoR Part 1 Application process involves site screening and site investigation by a qualified professional to assess the presence and potential impacts of any residual contamination and the effectiveness of remedial actions associated with the activity. Each Part 1 application is adjudicated by a statutory decision maker (SDM) at the OGC who decides whether the risks to the environment from potential contaminants have been adequately mitigated in light of all other site specific factors.

The CoR Part 2 Application Form evaluates the acceptability of surface reclamation allowing the OGC to assess and confirm that all the regulatory requirements are met before certifying an oil and gas site. The Part 2 Application process requires that the site reclamation assessment and reporting is conducted and completed by a qualified reclamation specialist to confirm the effectiveness of the reclamation efforts.

Program Statistics:

Certificates of Restoration:

- Part 1 applications: about 100 per year
- Part 2 applications: about 100 per year

Staff: The Commission has a team of 3 environmental management professionals (engineer/agrologist) that manage the site restoration processes, provide statutory decisions on applications for Certificates of Restoration, and oversee the restoration verification audit program.

Expertise: The statutory decision makers are the subject matter experts.

8.6.3 Drilling and Production Regulation

The Drilling and Production Regulation (DPR) includes requirements for the storage of fluids used in hydraulic fracturing operations. Permits holders are authorized to contain saline fluid for hydraulic fracturing in lined in-ground earthen containment ponds and lined above-ground walled storage systems, commonly known as c-rings. Lined containment systems are structures that use engineered synthetic materials as the primary means of containment to prevent fluids from contacting soil and groundwater. These fluids include flowback from hydraulic fracturing operations, produced water, and saline source water. The DPR includes prescribed requirements for above-ground walled storage systems and there may be additional conditions associated with *Land Act* permits. Daily monitoring and annual reporting requirements are also prescribed. In-ground earthen containment ponds must be designed and installed under the supervision of a professional engineer. The OGC requires the designs to be certified by a qualified professional and submitted with a facility permit.

Program Statistics:

Drilling and Production Permits: There are 42 active in-ground sites; 31 have some element of above ground storage. Out of the total, there are 9 owners; over half of the sites belong to one company.

Staff: These permits are a subsection of the OGAA facility permits in the preceding section. Approval processes are similar to other facilities with addition of a SME review from environmental management team.

Expertise: Decision-making staff have access to subject matter experts, either via internal expertise or via external contracts.

The *Oil and Gas Activities Act* provides statutory decision makers at the Oil and Gas Commission with considerable authority to accept or reject professional documents, impose conditions, conduct audits, suspend or cancel permits, issue orders and carry out actions if permit holders fail to comply. Extensive guidance is provided by the OGC to inform professionals of its expectations and application processes. The OGC informed the review that it has 105 staff dedicated to application review and decision-making, and does not seem to be as challenged for resources as some other ministries, although that was not the focus of this review. This is not to say that there are no issues in the administration or implementation of the regime, rather, it affirms that the structure of the regulatory regime incorporates the key oversight elements for work submitted for approval by industry professionals.

Recommendations:**Drilling and Production Regulation**

R106. Qualifications of professionals: The definition of “qualified professional” is more precise than many, but consider revising the definition of qualified professional to align with the specific types of engineering and geoscience expertise required for the professional tasks (found in s.18(2); 44; 51(5); 78(4)).

R107. Consider “as-built” certification: The regulation requires professional engineers to sign, seal and submit all record drawings of production facilities to the commission; these are good requirements, but consider also requiring “as-built” certification to have written confirmation that the facility was built consistent with the engineer’s design.

Oil and Gas Roads Regulation

R108. Improve reporting: Consider requiring periodic submission of bridge and culvert inspections by qualified persons to the commission, and a duty to report non-compliance events.

Delegation Agreement with Agricultural Land Commission

R109. Review definition of “qualified specialist”: Consider refining the broad definition of qualified specialist to align with the skills sets needed for soils expertise and reclamation of oil & gas development sites.

8.7 Public Health Act – Sewerage System Regulation

The Sewerage System Regulation (SSR) under the *Public Health Act* is the governing legislation for construction of onsite sewerage systems with a daily design flow of less than 22,700 litres/day that is typical for single-family systems or buildings on a single parcel of land. The overarching goal of the Sewerage System Regulation is to protect the public from health hazards from discharge of untreated sewerage into the environment.

Under the SSR, authorized persons or homeowners under authorized person’s supervision can construct and/or maintain Type 1 or Type 2 onsite sewerage systems. Authorized persons must meet the training and certification requirements set by the Applied Science Technologists & Technicians of BC (ASTTBC). Authorized persons are required to file sewerage system plans, specifications and maintenance plans with the health authority, along with a “letter of certification” that the system has been built in accordance with the filed plans and specifications. The regulation also stipulates a legal obligation of sewerage system owners to comply with maintenance requirements for their system developed by the authorized person and to keep maintenance records.

Program Statistics:

Registrations: There are approximately 350,000 onsite sewage systems ‘registered’ in BC. Of that, approximately 60,000 were installed under the Sewerage System Regulation, which came into force in 2005, transitioning into an “outcome based,” third party “qualified professional” model. Prior to that, health authorities provided permits under the Sewage Disposal Regulation. Approximately 5000 new system filings are submitted annually with the regional health authorities in BC.

Staff: The five health authorities typically have at least one onsite sewage health officer ‘specialist’ on staff to deal with related issues as well as other supporting health officers to deal with compliance issues on a ‘need-to’ basis, depending on workload, and sewerage system issues in their area. Health authorities also employ administrative staff to receive filings, maintenance plans and letters of certification. In addition, the Ministry of Health (MoH), Health Protection Branch has one specialist that deals with policy supporting the regulation along with other health-related matters on land; one professional engineer (assigned to deal with technical matters in sewage, drinking water and pools); and one director on staff to lead development of policies, all of which support health authority activities related to onsite sewage.

Expertise: Ministry staff typically provide subject matter expertise to Health Authority staff. Furthermore, both Ministry and Health Authority staff have access to subject matter experts who are authorized persons that, from time-to-

time, offer technical advice on matters pro bono. Health Authorities may confer with ASTTBC subject matter experts regarding technical concerns with sewerage system filings.

The Sewerage System Regulation was included in the review due to past problems identified when the regime was in its early years of implementation. Before 2004, domestic sewage systems required approval by a public health authority. The regulation replaced health authority approval with system design and installation by “authorized persons” who may be professionals or technologists who are registered as “registered onsite wastewater practitioners” with ASTTBC.

Some of the past problems included installation of sewage systems on properties that previously would not have been approved by health authorities (resulting in groundwater contamination and health hazards), inadequate setbacks from drinking water sources, under-design by authorized persons lacking appropriate knowledge, and over-design by those who could now design, install and sell the systems to homeowners. These led to numerous complaints to ASTTBC and EGBC in those years.

In 2010 the regulation was amended to address many of the problems, and the system has become more robust through revisions to the Sewerage System Standard Practice Manual and training programs. Ministry officials indicate that there have been very few concerns identified in the last three years, suggesting that the system has improved. Many of the revisions address issues identified as best practices in this review.

The Professional Reliance Review is not proposing amendments to the Sewerage System Regulation at this time, but offers the following suggestions for improvements to the administration of the regime.

Recommendations:

R110. Establish Registry for Documentation: The Ministry of Health or public health authorities should consider creating a central electronic registry for standardized information that must be filed by authorized persons. This would enable health authorities, local governments, professional associations, prospective purchasers, realtors and others to access the records that must be filed under the regulation.

R111. Improve compliance measures and cooperation: Professionals must provide homeowners with a maintenance plan for the sewerage system, and owners must comply with them and keep maintenance records. However, there is little data on compliance with those plans. Local governments pass zoning bylaws and approve building permits that affect the number of types of sewage systems within their jurisdiction, and have bylaw and enforcement capability. Public health matters are an area of concurrent jurisdiction under the *Community Charter*. It would be helpful if the Ministry of Health, health authorities and local governments could collaborate to identify shared roles and responsibilities for this aspect of the sewerage system regime.

8.8 Riparian Areas Protection Act

The Riparian Areas Regulation (RAR) under the *Riparian Areas Protection Act* directs local governments to include provisions in their bylaws to protect riparian fish habitat during residential, commercial and industrial development. The regulation was developed to help ensure healthy fish populations through the protection of streamside protection and enhancement areas. The RAR uses a prescriptive methodology that qualified environmental professionals (QEPs) are required to follow when carrying out a RAR assessment as a condition of local government approval of development permits. The QEP assessment provides assurance that proposed development will not cause harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area (or that streamside protection measures to be implemented are sufficient).

QEPs submit RAR reports to the Province, Fisheries and Oceans Canada (DFO), and local governments through the online RAR notification system. Provincially the regime is administered by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

Program Statistics:

Assessment Reports: There are approximately 4,750 reports in the system and the Ministry is currently receiving an average of 725 reports a year.

Staff: The RAR program is run through a combination of Victoria-based and regional staff. In Victoria there are 3 full-time permanent staff dedicated to RAR (Riparian Management Coordinator, and two RAR Biologists). In Regions, there are two Section Heads and six Ecosystems Biologists who have part-time responsibilities for RAR implementation.

Expertise: Regional staff have access to Victoria RAR staff who are policy and technical experts on RAR interpretation and assessment methods. Victoria staff have access to scientific and technical experts on riparian science, as well as legal advice from solicitors with the Ministry of Attorney General. Victoria RAR staff also provide support and advice to local governments in meeting their obligations in the approval of new residential, commercial, or industrial development.

Professional reliance issues associated with the Riparian Areas Regulation (RAR) were comprehensively addressed by the Office of the Ombudsperson in its 2014 report *Striking a Balance: The Challenges of Using a Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Areas Regulation*. The 25 recommendations in that report are consistent with the evaluation criteria in this review. At the time of its release the former minister agreed with 24 of the recommendations, yet many have not yet been implemented. This review will not repeat those recommendations, but affirms their importance, and will add some nuances and additional considerations.

One of the Ombudsperson's recommendations was to make mandatory successful completion of the training course for all individuals who are eligible to conduct assessments under the RAR and that a list of individuals who have successfully completed the course be publicly available. Ministry audits since the Ombudsperson's report have repeatedly shown that professional discretion is often misused or abused, and that poor performance has been exacerbated since the 2011 *Yanke v. Salmon Arm* decision of the BC Court of Appeal, which found that neither local governments nor the Ministry have the authority to vary streamside protection and enhancement areas established by QEPs under the current provisions of RAR.

Given the long history of issues with poor QEP performance, perhaps emboldened by government inaction since 2011, minor corrections to qualification criteria may not be sufficient to remedy the existing problems. Mere completion of a training course does not ensure that past substandard QEP performance issues will not continue, because it is often driven not by lack of understanding but by advocacy of behalf of their clients.

Recommendations:

R112. Improve accountability to government: Provide provincial authority to reject riparian assessments that do not follow the prescribed methodology, are carried out by unqualified individuals, or where the professional's opinion concerning the streamside protection and enhancement area is not supported by the facts or adequately justified.

R113. Qualifications of professionals: Revise the overly broad definition of "qualified environmental professional" to align with the actual skill sets that are set out in Appendix 2 of the Riparian Areas Regulation Assessment Methods.

R114. Introduce a gatekeeper function: The list recommended by the Ombudsperson should be implemented, regulated not only by successful completion of the training course but also by ongoing performance evaluation. It should be possible to become de-listed.

There are several options for a regulated list, from rosters (such as the contaminated sites system for approved professionals) to the Ministry of Transportation and Infrastructure's (MOTI) RISP (Registration, Identification, Selection and Performance Evaluation) program, which provides for continuing accountability based on performance.

The RISP program involves MOTI's own selection of contractors for Ministry projects based on a scoring system, whereas the current RAR model involves proponent selection of the professional to carry out the riparian assessment. The Ministry has concluded that QEPs "regularly advocate for the developer and recommend smaller riparian setbacks than the RAR methods require." Furthermore, this puts pressure on other professionals to "stay competitive by lowering their professional and environmental standards."

The Ministry has expressed concerns with the resources required to maintain a roster, but there are different models to choose from, some of which are considered low maintenance by those who implement them. For example, a single employee administers MOTI's RISP system, aided by others with subject matter expertise when needed.

R115. Clarify riparian objectives: Clarify riparian objectives where there are known issues, such as differences of interpretation (e.g., terms such as “potential vegetation”). Also, consider ways to incorporate local cumulative effects into the methodology.

8.9 Water Sustainability Act

Most of these regime-specific analyses have been focused on regulations. However, as noted earlier, professional reliance can be incorporated into authorizations and orders as well. The review chose to look at two examples of authorizations under the *Water Sustainability Act* because they raise issues involving the use of external professionals in monitoring and enforcement, which is traditionally a role reserved for government. In moving in this direction the Ministry was motivated by a significant lack of capacity due to downsizing and budget cuts that made its ability to maintain a field presence very difficult, and at the same awareness that new developments in rivers and stream were having significant impacts. To address the lack of capacity, over time conditions were written into licences and approvals requiring proponents to hire monitors to oversee their instream activities. To some, these arrangements are a commendable effort to address environmental concerns in the face of constrained agency resources, while to others they represent a problematic outsourcing of government’s enforcement role.

Government might wish to consider whether these external monitoring and enforcement roles are appropriate. An alternative option would be to ensure there are sufficient in-house compliance and enforcement staff and budgets. There are pros and cons to each approach. One advantage of using external, independent monitors is that they can be retained on an as-needed basis, subject to the amount of development activity in a region, and paid for by the proponent. By being focused on a specific project, they perhaps can be more available to oversee instream development activity for a given project than an employee who has multiple responsibilities. The recommendations below are based on the assumption that the practice of using independent monitors will continue.

In addition to the two authorizations, the review examined two regulations under the *Water Sustainability Act*.

8.9.1 Changes in and about a stream (section 11 approvals)

Under the *Water Sustainability Act* (WSA), "changes in and about a stream" means:

- Any modification to the nature of the stream, including any modification of the land, vegetation and natural environment of a stream or the flow of water in a stream, or
- Any activity or construction within a stream channel that has or may have an impact on a stream or stream channel.

Change Approvals

A change approval is a written authorization to make changes in and about a stream. Change approvals are not required if the changes are associated with construction of works that are authorized in a water licence. Change approvals are granted with terms and conditions

attached. The terms and conditions may relate to the time of year in which a person may undertake the work, or undertake other measures that protect the aquatic ecosystem, the hydraulic integrity of the stream channel and the rights of water users and landowners downstream. In all cases, the statutory decision maker specifies what is needed regarding qualified professional involvement and has significant role and discretion over acceptance of qualified professional work.

Notifications

Notifications are used for low risk changes in and about a stream, specified in Part 3 of the Water Sustainability Regulation that have minimal impact on the environment or third parties. The work must meet the requirements of the Water Sustainability Regulation, including design work by an engineering professional. Where professionals are used, the regulation has appropriate objectives or results specified to guide the work. A person may be asked to provide information such as an assessment of the impact of the authorized changes on the nature of the stream or stream channel and must comply with any conditions set out by a habitat officer in response to a notification.

Program Statistics:

Change approvals under section 11 of the Act

Authorizations: Based on 2017/2018 data and anecdotal input, there are approximately 500 – 600 applications for section 11 change approvals annually in the province.

Staff: Staff involvement includes FrontCounter BC staff and operational staff in FLNR. While the actual work to review and decide an application varies widely, the total provincial workload sums to about 2 full time equivalent staff (FTE) at FrontCounter BC and approximately 12 - 17 FTEs within FLNR. Input from the front line staff indicates that the quality of the application submitted, including from qualified professionals, can vary considerably, which directly affects the amount of government work required. While the majority of professional reports and assessments are good quality, a poor quality submission can take twice as much work to review and adjudicate as a good quality submission.

However, resources to monitor and inspect authorized activities are limited, and for this reason some approvals require the proponent to retain an environmental monitor to oversee operations.

Expertise: In most instances there are qualified staff within FLNR to properly evaluate the proposed changes, including the information required from applicants in the form of professional design or professional assessment.

Notifications under Part 3 of the Water Sustainability Regulation

Notifications: Based on 2017/2018 data and anecdotal input, there are approximately 1500 – 2000 notifications filed annually in BC.

Staff: While the actual work to review the notifications varies (and is actually optional) the total provincial workload sums to 1 FTE at FrontCounterBC and 12 FTE within FLNR.

Expertise: In most instances there are qualified staff within FLNR to properly evaluate the proposed changes, including the information required from applicants in the form of professional design or professional assessment.

Change approvals under section 11 can be for activities such as the removal of significant volumes of gravel from the beds of salmon-bearing rivers, sometimes over several years of operation. Such activities may have high risk of harmful alteration, disruption, or destruction to fish habitat. To manage this risk and due to limitations in the availability of Ministry staff to attend the site during operations, some change approvals require proponents to retain environmental monitors who must be an “appropriately qualified professional.” While the practice varies regionally and according to the type of activity, the expectations of monitors can be quite significant, and amount to the contractual delegation of enforcement-like powers, with considerable discretion to deal with environmental incidents, such as requiring remedial measures, stopping work, and reporting to government. Monitors are expected to be the eyes and ears of the Ministry for a host of regulatory requirements, requiring knowledge of environmental laws in addition to the WSA, and these competencies are left to the proponent to assess.

8.9.2 Hydropower Projects

The *Water Sustainability Act* (WSA) requires water licences for power purposes, which includes large hydropower projects and smaller run of river projects (generally referred to as Independent Power Projects, or IPPs). The water licensing for power purposes framework is used by the Province to regulate the application requirements, including guidance offered to applicants, the review/adjudication of applications, the construction and commissioning of projects, and the on-going operation of commissioned projects. The regulation of hydropower projects is necessary due to the high potential for these projects to have significant impacts to the environment and public safety.

Qualified professionals working under the WSA prepare technical studies, including development plans and technical reports in support of water licence applications and in regulating large hydropower projects. Independent Engineers (IEs) and Independent Environmental Monitors (IEMs) are engaged once a licence has been issued to oversee the construction, commissioning and operation of projects. IEs review studies, plans and project designs with delegated authority to approve or make recommendations to statutory decision makers for approvals. IEMs monitor and report on compliance with regulatory conditions related to construction impacts and have delegated authority to stop construction activities. The tasks required of the IE and IEM are included as conditions of the licence and are paid for by the licensee but are under the direction of the Engineer for the WSA.

Program Statistics:**Licences:**

Power-General water licences:

- current: 248
- applications on file: 464

There are 129 hydropower plants with generation capacity over 500 KW that are currently operating, and another 7 are expected to begin operation in the next 2 years. All but a handful of these plants are under the Power-General category (IPPs, BC Hydro plants, FortisBC plants on the Kootenay, and Columbia Power Corporation plants).

There are another 212 hydropower plants that have been licensed (including Site C) and are either not completed or have operating capacity under 500 KW. Many of these are in the Power-Commercial category. A number of these may never be completed.

Staff: The number of staff in each region varies, and may fluctuate depending on the life-stage of a given project. Typically, staff from FrontCounterBC, Lands, Water, Indigenous advisors, Ecosystems, Headquarters, possibly Executive, and possibly Compliance & Enforcement could come in contact with any given IPP file. Within the water program in each region there is probably on average one person who spends most of their time on IPPs, not including people from other programs who would also get involved with the file.

Expertise: In principle, the Ministry has the needed subject matter experts, subject to their availability based on demand for their services. There can be significant time expenditures in obtaining subject matter expertise.

Recommendations:

R116. Consider need and criteria for independent monitors: Some authorizations require a proponent to retain independent monitors but do not specify the criteria for independence. Some require the monitor's report to be submitted by the proponent well after completion of the activity or works. Monitors are sometimes the same professional who prepared the application acting as an advocate for the proponent, raising conflict of interest concerns. At a minimum, environmental monitors should be independent where circumstances indicate such a conflict exists, and there should be clear criteria for independence. The Ministry should be satisfied in advance that the criteria are met.

R117. Ensure that monitor qualifications and obligations are clear and enforceable: Staff indicated that some monitors have not been present in the field when expected, and that some retained by proponents are relatively junior and inexperienced. Ensure that authorizations are clear concerning competency requirements, field presence obligations, and incident reporting, and consider enforcement mechanisms through the act or regulation if those obligations are not met. The latter could include administrative penalties levied against a professional monitor for non-compliance.

R118. Consider regulating use of independent monitors: Current approaches seem to place the contractual obligations on the proponent, rather than establishing a direct legal relationship between the Province and the monitor. The use of independent monitors has increased under other regimes, and there are common issues emerging. It could be appropriate, economical and beneficial if properly regulated. Consider standardizing monitoring requirements in an “Independent Environmental Monitor” regulation that could be referenced in authorizations issued under various regulations or acts. Consider alternatives to proponent selection of monitor, such as establishing a roster, with Ministry selection by random or according to site-specific criteria (similar to the Ministry of Transportation and Infrastructure’s RISP process). The regulation should establish that the duty of the independent monitor is to the regulator.

8.9.3 Dam Safety Regulation

The Dam Safety Regulation (DSR) under the *Water Sustainability Act* (WSA) sets requirements and best practices for all aspects of dam design, construction, operation, maintenance, removal and decommissioning of dams. The objective of the regulation is to mitigate loss of life and damage to property and the environment from a dam breach by requiring dam owners to inspect their own dams, undertake proper maintenance on them, and ensure that these dams meet ongoing engineering standards. Dam safety reviews must be prepared by an engineering professional for “acceptance” by the government dam safety officer.

Program Statistics:

Authorizations: There are approximately 2000 regulated freshwater dams in BC by FLNR and OGC.

Staff: 16 total (5 – Victoria; 8 – regions; 3 - Oil & Gas Commission)

Expertise: Of the 16 dam safety staff, 5 are professional engineers. Most dam safety officers are not engineers, making it difficult to assess engineering documents such as geotechnical, seismic, hydrotechnical, and dam system safety and design as well as emergency plans and operation manuals.

Recommendations:

R119. Consider improving guidance/methodology: The regulation requires a dam owner to retain an engineering professional who has qualifications and experience in dam safety analysis to determine if a dam is safe. It may be beneficial to reference the EGBC Legislated Dam Safety Review Guidelines for compliance promotion and enforcement purposes. Staff indicated that additional guidance relating to hydrotechnical assessments and seismic assessments would also be beneficial to professionals carrying out dam safety reviews.

R120. Professional Rationale: Consider requiring dam safety reviews to include the professional’s detailed rationale for his or her opinion on dam safety. EGBC Guidelines

require the professional to “Consider whether conclusions and recommendations in the dam safety review report are supported by the appropriate level of analysis and a clear rationale, and that any assumptions made are clearly stated.” However, Ministry staff indicated that often the rationale provided is not appropriately detailed or supported.

R121. Consider a regulatory duty to report: Some professionals have suggested that there should be a regulatory requirement to report unresolved dam safety issues, because they find their professional duty to report “hazardous, illegal or unethical decisions or practices” potentially conflicts with their duties of client loyalty and confidentiality, particularly for grey areas. Some have suggested that disclosure of an engineer’s concerns with the safety of a dam should be automatically made to regulators rather than relying on disclosure by the dam owner or leaving it to an ethics decision by an engineer.

8.9.4 Groundwater Protection Regulation

The Groundwater Protection Regulation (GWPR) regulates activities related to the construction, maintenance and decommissioning of a well to prevent contamination of the groundwater supply and drinking water. The requirements in *Water Sustainability Act* (WSA) and GWPR are intended to protect groundwater quality and artesian flow. All wells under the WSA are regulated, including those that provide water for domestic purposes. Constructing and decommissioning wells, installing well pumps, disinfecting wells, and conducting flow tests are usually restricted activities that can only be performed or supervised by qualified well drillers or well pump installers, or professional engineers and geoscientists. The well driller, professional or other person responsible for constructing a well is required to comply with the provisions of the GWPR related to how the well is constructed and must ensure that the well meets minimum standards. The person must also submit a well construction report to the Province if required.

Program Statistics:

Registrations:

- There are approximately 15 new registrations added annually to the register of qualified well drillers and pump installers in BC.
- Approximately 3 are removed annually from the register.
- It is estimated that over 1500 well records and other reports are submitted annually and the number is expected to grow due to new mandatory requirements introduced with the coming into force of the WSA.

Staff:

- Administration of the registry and intake of the well records requires about 0.5 of a full time equivalent employee (FTE).
- Reviewing and administering alternative specifications under the GWPR requires approximately 0.3 FTE.

Expertise:

- Subject matter expertise within government is adequate.

- Dealing with artesian flow conditions encountered during drilling: a provincial total of 1 FTE approximately for routine small artesian flowing wells. However, during the last 5 years there have been several artesian wells of significance that required extraordinary resources.

Recommendations: none.

The Groundwater Protection Regulation is a newer regulation (2016) that was drafted after many of the issues with professional reliance had come into Ministry and public awareness. This regulation utilizes accredited practitioners through a Ministry-based roster system, and independent professionals.

Well drillers and well pump installers are both accredited and rostered. They become accredited by obtaining a certificate issued by the Province through the Industrial Training Authority, and are then eligible to be placed on a register maintained by the Comptroller of Water Rights. The regulated activities lend themselves to prescriptive practices to protect the supply of groundwater, or clearly defined results. Where alternatives to the standard requirements are proposed they must be approved by an engineer designated under the *Water Sustainability Act*.

Certain activities require a person to retain a professional who has competency in the field of hydrogeology or geotechnical engineering, whose work must be accepted by a WSA engineer and is subject to any terms and conditions the engineer may specify.

The regulation adequately addresses the key criteria – competency, clarity of expectations, and accountability.

Appendices

9 Appendices

9.1 govTogetherBC Survey Summary Report

The summary report of public engagement for the professional reliance review can be found at <https://engage.gov.bc.ca/professionalreliance/>

9.2 Stakeholder Submissions

Written submissions received from stakeholders, Indigenous governments and communities, and citizens may be viewed at <https://engage.gov.bc.ca/professionalreliance/read-stakeholder-submissions/>. Submissions were received from the following:

[AltaGas Ltd.](#)

[Al Walters](#)

[Anthony Britneff](#)

[Anthony Britneff – Development Framework](#)

[Antiquus Archaeological Consultants Ltd](#)

[Apex Property Owners Association](#)

[Association for Mineral Exploration](#)

[Association of Professional Biology](#)

[ASTBC](#)

[Association of BC Forest Professionals](#)

[Association of BC Land Surveyors](#)

[Association of the Chemical Profession of BC](#)

[Association of Consulting Engineering Companies of BC](#)

[BC Coalition for Forestry Reform](#)

[BC Council of Forest Industries and the Coast Forest Products Association 1](#)

[BC Council of Forest Industries and the Coast Forest Products Association 2](#)

[BCIA PRR Release](#)

[BC Nature](#)

[BC Stone Sand and Gravel Association](#)

[BC Trappers Association](#)

[BC Tap Water Alliance](#)

[Bernhard H.J. Juurlink](#)

[Bob Kopp](#)

[Bob McKechnie](#)

[BC Wildlife Federation](#)

[Briony Penn](#)

[Boundary Environmental Alliance](#)

[British Columbia Cattlemen's Association](#)

[British Columbia Society of Landscape Architects](#)

[Bryan Fraser](#)

[BCGEU](#)

[BCGEU Part 2](#)

[Business Council of British Columbia](#)
[Canadian Cave Conservancy](#)
[Cariboo Mountain Outfitters](#)
[Circle M Outfitters](#)
[Clear Coast Consulting](#)
[Coast Mountain Expeditions & Discovery Islands Lodge](#)
[College of Applied Biology](#)
[Contaminated Sites Approved Professional Society](#)
[Cowichan Lake and River Stewardship Society](#)
[Cedarland Forest Products](#)
[David Bowering](#)
[Douglas Channel Watch Society](#)
[Dr. Bruce Fraser](#)
[Dr. Bruce Fraser – Saving Place](#)
[Ecofish Research Ltd.](#)
[Ecojustice](#)
[Engineers & Geoscientist B.C.](#)
[Eureka Peak Lodge & Outfitters Ltd.](#)
[Evidence for Democracy](#)
[Farlyn Campbell](#)
[Federation of BC Woodlot Associations](#)
[Finlay River Outfitters Ltd.](#)
[Forest Practices Board](#)
[FortisBC](#)
[Fred Marshall](#)
[Friends and Residents of the North Fork](#)
[Friends of Carmanah Walbran Part 1](#)
[Friends of Carmanah Walbran Part 2](#)
[Future of Howe Sound Society](#)
[Geoff Chislett, Gerry Fox, Richard Morley and Ray Travers](#)
[Glade Watershed Protection Society](#)
[Halfway River First Nation](#)
[Herb Hammond, Forest Ecologist & Forester Silva Ecosystem Consultants Ltd.](#)
[Independent Contractors and Businesses Association](#)
[Islands Trust Council](#)
[Josette Wier](#)
[Judy Thomas](#)
[Kamloops Area Preservation Association](#)
[Kathleen Ruff](#)
[Lhtako Dene Nation](#)
[Lois and Dave-Schurek](#)
[Managed Forest Council](#)
[Martin Hykin](#)
[Mining Association of British Columbia](#)

[Murray Wilson](#)
[My Sea to Sky](#)
[Nexus Learning Group](#)
[Nickel Plate Nordic Centre](#)
[Northern Confluence](#)
[Northern Health](#)
[Organizing for Change – 45 Signatories](#)
[Paul Griffiths & Carolyn Ramsey](#)
[Peachland Resident's Association](#)
[Peachland Watershed Protection Alliance](#)
[Professional Employees Association](#)
[Randy Murray](#)
[Ray Travers](#)
[Romer Consulting Submission](#)
[Romer Consulting 2](#)
[Save Hullcar Aquifer Team](#)
[Sean Hern](#)
[Shuswap Environmental Action Society](#)
[Sierra Club BC](#)
[Skeena Fisheries Commission](#)
[SkeenaWild Conservation Trust](#)
[Speak Up For Wildlife Foundation](#)
[Stirling Angus](#)
[Stoney Creek Environment Committee](#)
[Swansea Point Community Association](#)
[TimberWest Forest Corporation](#)
[Tolko Industries Ltd.](#)
[Tony Pearse](#)
[Upper Clearwater Referral Group](#)
[Upper Nechako Wilderness Council](#)
[Urban Development Institute](#)
[Vancouver Coastal Health](#)
[Vancouver Fraser Port Authority](#)
[Visual Science](#)
[WA:TER 1](#)
[WA:TER 2](#)
[Watershed Watch Salmon Society](#)
[WaterWealth Project](#)
[Wells Gray Adventures](#)
[Wells Gray Gateway Protection Society](#)
[West Coast Environmental Law](#)
[Western Forest Products Inc.](#)
[Western Forestry Contractors' Association](#)

[Wilderness Committee](#)

[Wildsight](#)

9.3 Association Audit Reports

Audits were conducted for the following professional regulators:

- Applied Science Technologists & Technicians of BC
- Association of BC Forest Professionals
- BC Institute of Agrologists
- College of Applied Biology
- Engineers and Geoscientists of BC

These reports and the professional regulator responses can be found at

<https://engage.gov.bc.ca/professionalreliance/>.

9.4 Best Practices of Professional Organizations

The report “Best Practices of Professional Organizations Regulating Qualified Professionals” was prepared for the review by James Casey. This report can be found at

<https://engage.gov.bc.ca/professionalreliance/>.

9.5 Professional Reliance Jurisdictional Scan

A jurisdictional and sectoral scan was completed by Ecofish Research Ltd. for this review. The final report of this scan can be found at <https://engage.gov.bc.ca/professionalreliance/>.

9.6 Regulatory Review Evaluation Criteria

Evaluation criteria was developed by the Regulatory Review Working Group and was used in the course of completing the review of regulatory regimes. The criteria can be found at

<https://engage.gov.bc.ca/professionalreliance/>.