

PROFESSIONAL RELIANCE REVIEW

Submission from the Professional Employees Association
January 18, 2018



BC's Union for Professionals

INTRODUCTION

The Professional Employees Association (PEA) is a union that represents licensed professionals in BC's public service. Consistent with the findings of the Environmental Law Centre and numerous concerns raised by the Auditor General, Forest Practices Board and Ombudsperson, the PEA believes that professional reliance in BC has resulted in an inadequate regulatory framework for managing natural resources. Without changes to this framework the social license and corresponding public support for responsible natural resource development will remain threatened, risks to public safety and environmental harm will continue to increase and the stewardship of publicly owned resources will remain compromised.

FEWER LICENSED PROFESSIONALS IN THE PUBLIC SERVICE

Government Licensed Professionals have specialized scientific knowledge, training and experience. In many instances, they have significant post-secondary education beyond a bachelor's degree. They can develop new science and apply science-based professional judgement to develop solutions. In particular, with high-risk situations or issues reflecting complex, competing values, we believe it is critical to have professional experts employed by the province who can assess various natural resource-based proposals and identify implications for the public and the environment. Government professionals bring an unbiased view to their work; this may contrast significantly with pressures that can be placed on outside professionals that work for the companies extracting BC natural resources.

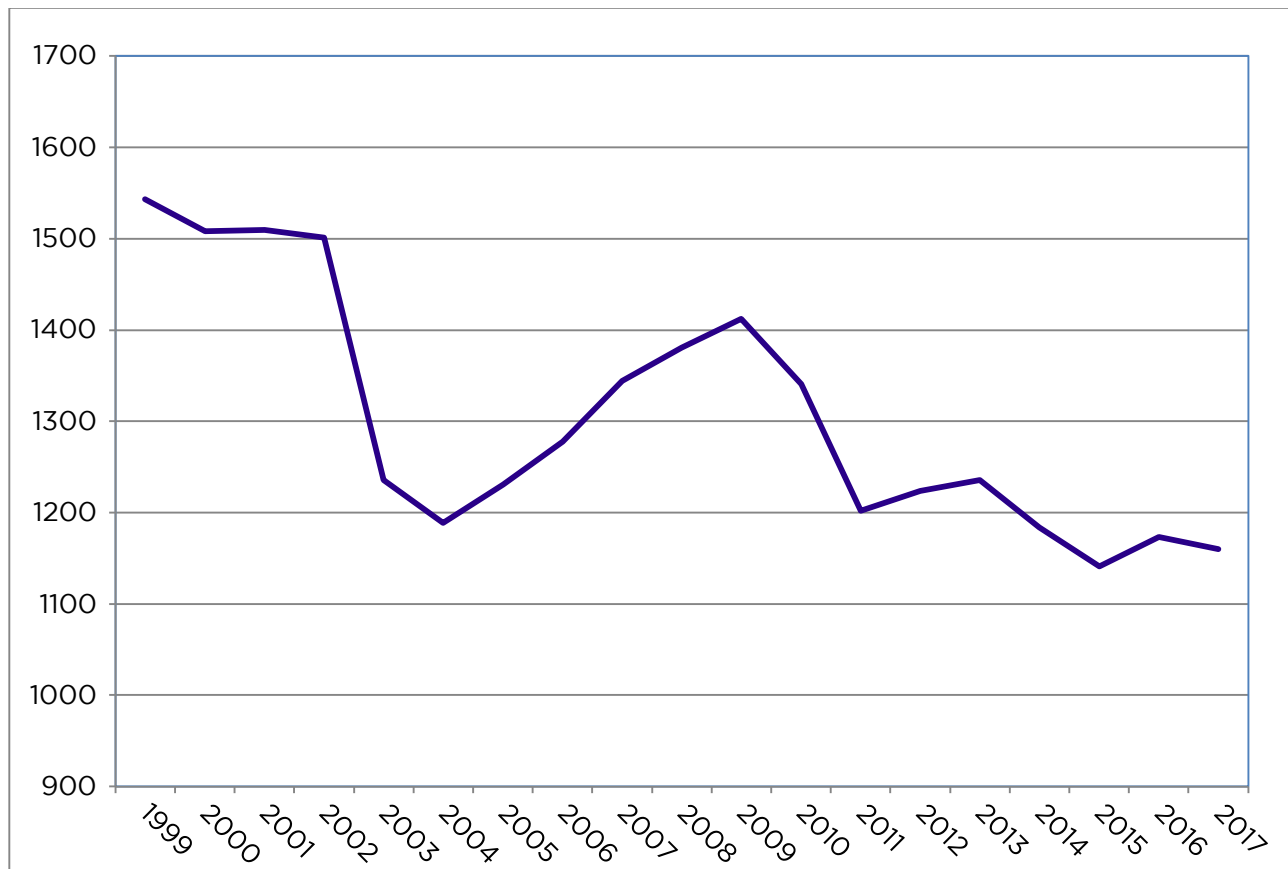
Our members have provided examples of where outside professionals' submissions and work is substandard, which has also been documented by various BC watchdog agencies. We believe that the views and work of some of the professionals working for private sector companies are sometimes unduly influenced by their employers' overarching priority to maximize profits and correspondingly, minimize the costs of resource extraction.

The government's reduction of licensed professionals has been accomplished by dramatic job cuts, attrition and in some cases by hiring non-professionals in jobs previously occupied by professionals. There has been a loss of scientific expertise. There are too few staff with enough experience and education to properly provide diligence relating to the work of outside qualified professionals (QPs) hired by industry. This has fettered the government's ability to effectively balance various values relating to resource development in BC. The end result is harm to the environment, the public and poor management of publicly owned natural resources.

The introduction of BC's professional reliance regime in the early 2000s corresponded with a significant and ongoing downsizing of public service

government licensed professionals, represented by the PEA, by 25 per cent since 1999.

TOTAL NUMBER OF LICENSED PROFESSIONALS IN BC PUBLIC SERVICE



Note: Member totals based on PEA union dues reports provided by the BC Public Service Agency

The PEA raised public awareness about these cuts (see Appendix A) and their harmful impacts, including warning about possible disasters in the spring of 2014, just prior to the Mount Polley disaster. These professional government staff reductions were revisited in 2017 (see Appendix B) and are as follows:

BC PUBLIC SERVICE LICENSED PROFESSIONAL JOB REDUCTIONS

PROFESSION	2009	2014	2015	2016	2017	CHANGE (2009 - 2017)	CHANGE (2014 - 2017)
Agrologist	190	149	143	139	138	-27%	-4%
Engineer	232	226	214	212	226	-3%	No change
Forester	722	539	505	486	476	-34%	-12%
Geologist	49	30	35	35	38	-22%	27%
LSO Other	-	134	142	185	187	-	40%
Petroleum Geologist	-	9	9	8	8	-	-11%
Pharmacist	16	20	19	19	21	31%	5%
Psychologist	60	66	62	55	59	-2%	-11%
Veterinarian	16	11	12	13	13	-19%	18%
FOR ALL POSITIONS	1285	1184	1141	1152	1166	-9%	-1.5%

Note: Member totals based on PEA union dues reports provided by the Public Service Agency

TOO FEW GOVERNMENT PROFESSIONALS RISKS DISASTERS

The PEA agrees with BC's Auditor General, who in response to the Mount Polley disaster released a 2016 Audit of the Mining industry and stated, "MEM (Ministry of Energy and Mines) performed no geo-technical inspections for a number of years, even though their policy requires a minimum of an annual inspection."¹ In the report, the Auditor General concluded, "We found over a decade of neglect in compliance and enforcement activities with the Ministry of Energy and Mines and significant deficiencies with the Ministry of Environment's activities. Overall, we concluded that compliance and enforcement activities of the two ministries are inadequate to protect the province from significant environmental risks."² In the Audit, the Auditor General pointed out that mining inspectors' positions were cut by 50 per cent from 2001 to 2006 and in 2011 there were only two mining inspectors for all of BC. The Auditor General recommended that, "To do their work effectively, regulatory

¹ May 2016: An Audit of Compliance and Enforcement in the Mining Sector, p.9

² May 2016: An Audit of Compliance and Enforcement in the Mining Sector, p.11

authorities need access to the physical, technical and financial resources they require to meet their mandate and scope of work. Management should, therefore, aim to attract and retain qualified and experienced program staff by offering reasonable remuneration and professional development opportunities.”³ As noted above, even after the Mount Polley disaster there are still significantly fewer engineers and geologists working for the province of BC.

TOO FEW PROFESSIONALS TO ASSESS RISKS TO THE ENVIRONMENT

The BC Office of the Ombudsperson’s 2014 report “Striking a Balance: The Challenges of Using A Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Area Regulation,” examined how professional reliance had impacted regulation and oversight of BC’s riparian areas, which are streams and other inland waters and surrounding vegetation. At the report’s outset, the Ombudsperson points out that an important role for Government is to balance competing interests-development of natural resources and protecting the environment. The Ombudsperson also states, “The role of public servants in this professional reliance model is to monitor compliance of these professionals (i.e., *professionals not working for government*) with statutory or regulatory compliance.”⁴ The Ombudsperson found that, “this monitoring is not a priority in most regions” and the Ministry of Forests, Lands and Natural Resource Operations (FLNRO) was not conducting the minimum number of site visits required by their own policy.

Many PEA members are gravely distressed over the fact that they no longer are enabled to provide a “boots on the ground” presence in our forests, lands and waterways, meaning that much more than riparian areas are being neglected and ignored. Sadly, the Ombudsperson’s recommendation that all assessment reports provided by professionals working for resources companies be reviewed by Ministry staff was firmly rejected by the government of the day, regardless of the fact this had previously been the policy in the Ministry.⁵ It is perhaps obvious that with such significant cuts to professional staff, the level of oversight recommended by the Ombudsperson would be impossible.

³ May 2016: An Audit of Compliance and Enforcement in the Mining Sector, p.45

⁴ 2014 report: Striking a Balance: The Challenges of Using A Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Area Regulation, p.7.

⁵ 2014 report: Striking a Balance: The Challenges of Using A Professional Reliance Model in Environmental Protection – British Columbia’s Riparian Area Regulation, p.13.

THE STATE OF GOVERNMENT SCIENCE IN BC

The importance of ensuring the use of scientific facts in public policy decision making cannot be overstated. Good public policy that achieves environmentally sustainable economic development requires that government decisions reflect scientific research and facts and also requires there is sufficient capacity to provide that within BC's public service. This is not what has been happening in BC over the last two decades.

A 2017 report by Evidence for Democracy, "Oversight at Risk: The state of government science in British Columbia" reflected survey findings and interviews of PEA members (see Appendix C). The report concludes, "The main challenge for scientific integrity in BC is the cutbacks to capacity within the public service, which impedes the government's ability to fulfill their responsibility for regulatory oversight."

Other key findings from the report are:

- 68 per cent of PEA members surveyed believe that there are insufficient resources to effectively fill their branch or ministerial mandate.
- 71 per cent agree that cutbacks in the number of PEA licensed professionals have undermined their ability to produce scientific/expert reports and documents.
- 59 per cent thinking capacity reductions have negatively impacted environment research and regulation.
- 57 per cent believe professional reliance compromises their Ministry's ability to use the best available evidence in decision-making.

The study point out that, *"Lack of capacity is a particularly pressing issue in the Ministry of Forests, Lands, and Natural Resource Operation (FLNRO) and the Ministry of Energy and Mines (MEM)."*

The report includes quotes from PEA members that illustrate key findings, for example, a policy-maker in FLNRO notes that, *"The reduction in staff and financial resources has caused us to not be able to conduct the scientific work that would best support changes in policy. Instead, policy is most often developed as a result of political pressure from select interest groups, in particular, forest industry stakeholders."*

Other quotes provide more context about the impacts of professional reliance and cuts to capacity:

- *"The Bridge group has lost several key policy development staff due to retirement/the private sector. Now essentially all expertise concerning policy development is found in the private sector, and if the current trend of losing experienced staff and backfilling with very inexperienced staff continues, the government will not have the ability to completely understand the technical policies being developed that they utilize in everyday work."*
- In the report, one forester working in FLNRO reported, "[t]he government rarely or perhaps never suppresses scientific findings. They do however by way of lack of funding suppress research and data collection which are necessary for proper science-based management."
- A scientist at FLNRO wrote, "Technical reports (the key piece of documentation for the decision on a water license application) are in a number of cases prepared by external professionals hired by the applicants. I have seen first-hand that such reports, endorsed by the government decision makers, contain factual errors that would affect a regulatory decision. Decisions and objectives are fettered to the industry interests due to government/industry working groups. The industry-sympathetic administration does not always permit us to assess evidence, and even when we have evidence, it does not easily accommodate providing direction to industry or changes in policy that may negatively impact (even in a small way) existing mainstream industry and their interests."
- A PEA member from the Ministry of Environment commented that, "Lobby groups are always the reason why any policy, law or program is changed. If there is an environmental need or staff recommended need to change a policy, law or program it won't be changed unless the item is politically palatable."

MORE EXAMPLES OF HOW PROFESSIONAL RELIANCE IS FAILING

PEA members have been providing concerns about failures in professional reliance for a number of years.

A few illustrative examples follow:

- One member who has worked both as a consultant professional for resource companies seeking approvals from government and also more recently as a professional working for government indicates, *“I began my career as a consultant, and for the most part, feel that as professionals we were allowed by our clients to do what we needed to do to act as objective scientists. We took on jobs and wrote reports. There were some cases through where more powerful clients told us what our recommendations should be, intentionally “filtered” information from the regulators, and used our credentials and their power over us to obtain the best result possible for their company. As a regulator, I have now seen this practice continue. It is not everyone; it is only a small number of companies and professionals that will get away with whatever they think they can get away with. In these cases, it is CRITICAL that the regulators have at least as good an understanding of the science that is being relayed as the people writing the reports. I have seen many cases where companies try to pass off non-professional work, drafts, and work that is clearly, from a professional standpoint, inaccurate or not up to standards of practice.”*
- PEA members working as Dam Safety officers indicate that public safety continues to be at risk because of workload, lack of government staff professional expertise and because work submitted by outside professionals is not adequate.
- Hydrologists who ensure our water supplies are safe and that we are not threatened with landslides and other environmental issues continue to raise concerns about public safety because of poor consultant data provided by resource companies and lack of government resources to appropriately assess and monitor what is happening on the ground.
- Another government professional working in the regulation of mining points out *“Private sector professionals who are charged with assessing the environment impacts of development projects are generally private consultants compensated with an hourly rate. Mining companies have an incentive to hire the consultant that can help obtain an approval for the project at the lowest possible cost. If a project is not approved, the consultant will be perceived to have failed. Likewise, if the consultant proposes a high standard*

of technical work or data collection to assess impacts (with a higher price tag), the consultant will be perceived to be over charging their client.”

- Various concerns about the impact of professional reliance also come from some of the few remaining foresters who have “a boots on the ground” perspective. They note the loss of landscape biodiversity, in particular BC’s declining moose population, and report that there is a lack of compliance with timber harvesting guidance provided by BC’s Chief Forester. They raise concerns about how lack of monitoring of timber stands by government threatens future sustainability. It is also noteworthy the Auditor General raised alarms about this same issue in a 2012 report⁶ that looked at how Government was managing BC’s publicly owned forests. The report, concluded, “trends indicate that the future availability of timber will be even smaller and less diverse, putting revenue opportunities at risk.”

REVIEW OF PROFESSIONAL RELIANCE

We applaud the government’s recognition that professional reliance must be examined and that this review is underway.

The PEA recommends that the government:

- 1. Restore government professional staff capacity and expertise, so there is science-based expertise in natural resource policy making and enforcement.**

There are 25 per cent fewer science professionals in BC’s public service since the implementation of professional reliance. The PEA understands that in fact, professional reliance was in response to publicly communicated government objectives from the early 2000s to reduce BC’s public sector by a third. In other words, BC’s regulatory framework for natural resources was watered down because of the then government’s decision to impose public service job cuts.

Professional reliance has been accompanied by the dismantling of BC’s Forest Service and has meant that almost all science-based research done by the province has been discontinued. Today, government professionals developing legislation and policy must in many cases rely on the science provided by industry without any independent verification. Positions previously encumbered by professionals with specialized scientific knowledge have also

⁶ 2012 report: An Audit of the Ministry of Forests, Lands and Natural Resource Operations’ Management of Timber

mostly disappeared. Government managers who oversee the work of professionals and are in some instances making decisions on government's behalf, often have no science-based background – they are square pegs in round holes. Under the previous government, ongoing "staffing freezes" encouraged the contracting out of professional jobs. The net result is that government must now rely on outside contractors to assist with policy development and other work and often pays double or triple the cost of having a government professional do that work.

Steps must be taken to rebuild professional capacity and institutional knowledge through appropriate knowledge transfer and professional development, and most importantly beginning to restore the number of professionals in the public service to ensure appropriate oversight. The government should cease contracting out services where those can be more economically provided by government professionals and should put greater emphasis on ensuring the managers of science-based professionals have needed knowledge and expertise.

Over the years, the PEA has encouraged the Government to restore its capacity to be a "knowledgeable owner." Much of BC's natural resources are publicly owned and in order to steward those appropriately, the government must have sufficient knowledge to know what needs to be asked, what needs to be done, what qualifications are required to do the work, where significant risks lie and what the results of its regulatory approach are. The government is risking public safety and resource revenue for public services when they fail to be a knowledgeable owner, which has clearly been the case for many years.

Professional reliance weakens the government's role as a knowledgeable owner by putting decision making into the hands of resource proponents. The key to addressing the fact that 68 per cent of government professionals currently believe that there are insufficient resources to effectively fill their ministry mandate is to add more resources to enable government decisions that reflect unbiased, science-based, professional staff advice. Adding additional professional staff resources is also necessary to restore meaningful public consultation about how natural resources are utilized.

2. Ensure that BC's laws are clear, enforceable and enforced.

Under professional reliance, the laws that private professionals interpret are often vague and difficult to enforce. The various statutes that relate to professional reliance must set clear, verifiable and measurable standards and create clear consequences for non-compliance. Those laws also must ensure

that the government and not outside professionals retain decision making authority for matters that would have a significant impact on public health, safety or the environment. Government must also retain decision making authority by restricting professional reliance to areas where there is limited discretion needed, few complexities and variables and low public conflict potential. There is also a need to restore regulations that provide guidance to independent professionals and allow government to approve and monitor outside professionals' work.

The government must ensure that government ministries charged with compliance and enforcement have the needed professional staff, resources and training that enable them to detect and prosecute law breakers.

3. Implement discrete whistleblower legislation and an administrative process that protects government staff and citizens who bring forward good faith allegations against those not following the law or regulations.

BC has little legal protection for government employees who raise issues of non-compliance in the public domain. Employees doing so may be disciplined or terminated and there are documented incidents in this regard. Laws putting in place protection for employees and citizens bringing forth good faith allegations against companies and outside professionals not following public laws and policies would ensure greater public trust and government accountability. BC's auditor general has also confirmed the need for whistleblower protection in 2012.⁷

"We point out that while our audit process offers whistleblowers anonymity, it does not prevent them facing potential reprisals should those individuals be identified inside their organization. We see the need to protect whistleblowers and the lack of protection currently provided concerns us."

Again, we commend the government for recognizing the many calls to action from various stakeholders about professional reliance. We look forward to an enhanced professional staff presence in the public service and ultimately, a regulatory framework that promotes science-based decision making that will enable sustainable natural resource development in BC.

⁷ 2012 report: Summary Report: Results of Completed Projects and Other Matters. p.9.

PROFESSIONAL RELIANCE REVIEW

APPENDICES

A: ENDANGERED EXPERTS REPORT, 2014

B: AN UPDATE ON THE CUTBACKS IN GOVERNMENT LICENSED
SCIENCE OFFICERS REPORT, 2017

C: OVERSIGHT AT RISK REPORT, 2017



REVIEW AND ASSESSMENT OF THE IMPACTS OF THE PROVINCE OF BRITISH COLUMBIA'S CUTBACKS IN GOVERNMENT LICENSED SCIENCE OFFICERS

March 2014



REVIEW AND ASSESSMENT OF THE IMPACTS OF THE PROVINCE OF BRITISH COLUMBIA'S CUTBACKS IN GOVERNMENT LICENSED SCIENCE OFFICERS

A report by the Professional Employees Association

March 2014

Overview

The Professional Employees Association is a labour union representing approximately 2,500 British Columbia professionals in nine chapters. One of its chapters is for Government Licensed Science Officers employed by the provincial government. As of February 2014, this chapter had 1153 members – a decrease of 15 percent since 2009.

[Government Licensed Science Officers](#) include foresters, engineers, agrologists, geoscientists, veterinarians, psychologists, physiotherapists and pharmacists. They provide the provincial government with advice, guidance, research, monitoring and review services to help ensure the efficient and effective management, utilization and oversight of B.C.'s natural resources, infrastructure, food and water resources and some aspects of health care services.

Over the past several years, the number of Government Licensed Science Officers employed by the government has declined sharply due to staff cutbacks and an unwillingness to replace people who retire or resign. Between 2009 and 2014, the number of Government Licensed Science Officers in government service dropped by 15 per cent.

This is an important issue because natural resources are the backbone of the B.C. economy and neglecting their management and monitoring is a threat to the current and future well-being of all British Columbians.

As a result of the reduced number of Government Licensed Science Officers, much of the work they were doing has been cut back, discontinued or contracted out to the private sector. The implications for the people of B.C. could include:

- Loss of resource revenue due to reduced oversight;
- The degradation of forest resources due to inadequate monitoring and inspection;
- Public safety threats if infrastructure like bridges and water supply facilities are not regularly inspected and monitored;
- Threats to the environment if development impacts are not properly assessed;
- Bad decision-making by technical staff due to little or no professional guidance and advice, and;
- Irretrievable loss of ongoing research data due to lack of staff to do the work.

The purpose of this [report](#) is to draw public attention to the implications for all British Columbians of the decline in the number of Government Licensed Science Officers serving their interests and helping protect their natural resources and infrastructure assets. It is not intended to be a definitive study, but rather a snapshot from the perspective of Government Licensed Science Officers themselves to highlight a serious and growing problem.

Declining numbers

Between 2009 and 2014 there was a significant decline in the number of Government Licensed Science Officers employed by the provincial government as illustrated by the following table:

	2009	2014	% decline	% increase
Foresters	722	529	27	-
Agrologists	190	147	23	-
Geoscientists	49	44	10	-
Engineers	232	216	7	-
Psychologists	60	57	5	-
Veterinarians	16	11	31	-
Pharmacists	16	20	-	25
Physiotherapists	3	4	-	33
Other	71	125	-	76
Total	1,359	1,153	15	-

- Data sourced from BC Government Union-Check Off Lists provided to the Professional Employees Association.
- The “Licensed Science Officer – Other” category may include small numbers of foresters and agrologists, but they do not make up for the losses in the forester and agrologist categories.

The broader implications of the declining number of Government Licensed Science Officers

- **The degradation of forest resources due to inadequate monitoring and inspection.**

A [report](#) by the B.C. Auditor General in February 2012 concluded that the Ministry of Forests, Lands and Natural Resource Operations did not have the capacity to gather enough information to know what’s happening on the ground in B.C.’s forests.

The report noted that the province’s forests contribute to employment, tourism and recreational opportunities, and generate significant revenue for government to finance public services. But current forest management practices that allow private companies to hire forest professionals to oversee and report on their activities are questionable. Forest companies must submit forest stewardship plans to Government to harvest timber. These plans stipulate how the companies will address reforestation and other values. With legislative changes in 2004, these plans are now developed by private sector companies with only minimal oversight from Government Licensed Science Officers.

“We found ministry reports pointing to concerns within individual components of the oversight framework, particularly in the areas of forest stewardship plans, compliance and enforcement and effectiveness evaluations.

“We found two reports that reviewed the utility of forest stewardship plans, both of which identified a number of weaknesses in the plans. A Forest Practices Board report looking at the initial plans found that they generally stated vague and non-measurable commitments that could restrict the ministry’s ability to enforce or hold licensees

accountable.

“Similarly, in 2009 the ministry evaluated a sample of forest stewardship plans to determine what the plan holders intended to achieve in relation to their restocking obligations. It determined that the plans proposed few innovations in forest practices, as they were generally very similar to the default standards provided by the ministry. The findings of our own review of 15 recent forest stewardship plans were similar to those in these two reports.”

The AG’s report also noted that a key component of the timber supply review is assessing the forest inventory, which involves identifying the vegetation and land-based attributes of a timber supply area. This includes aerial imagery and ground sampling to ensure that the ministry has sufficient information to support well-informed decisions.

“We found cases where the ministry lacks the information needed to accurately categorize the attributes of a forested area. In particular, the ministry has limited information on areas affected by pests, diseases, wildfires and other natural disturbances. This is because only small portions of the affected areas are ground surveyed to the extent needed to inform decision-making and assist in timber supply reviews.”

The AG concluded that the ministry’s reliance on industry to update forest inventory information was not working properly because reports required modification when mapping or silviculture data was missing or did not meet the ministry data quality specifications.

“The effect of these deficiencies is that until these records are corrected, they will not be used to update the forest cover inventory, limiting the completeness of the information and its overall usefulness for monitoring and decision-making purposes. Again, this means the Chief Forester has to try to estimate the effect of the disturbances rather than rely on a more valid, updated inventory.”

The AG also found that the government relies on forest professionals hired by industry to make stewardship recommendations to government. But internal ministry reports indicated concerns with this practice, particularly with forest stewardship, compliance and enforcement and effectiveness evaluations.

This lack of proper stewardship has significant financial implications for British Columbians. The government takes in half a billion dollars annually from forestry and this revenue pays for public services. In addition, our forest product exports are worth close to \$10 billion annually and the total value of BC’s timber supply is estimated to be a quarter of a trillion dollars. It makes sense to invest in the proper science to maintain this revenue stream and the biodiversity to make it sustainable.

- **A threat to public safety if infrastructure including bridges and water supply facilities are not regularly inspected and monitored.**

Bridge overload assessment: Government Engineers assess requests for industry vehicles to

cross Ministry of Transport (MoT) bridges. Often, these vehicles are carrying heavy equipment such as hydroelectric transformers and machinery for the oil and gas, mining and construction industries. The extraordinary weight of these vehicles means the loads must be assessed to ensure that it's safe for them to use public bridges. Overload requests have increased from 11 in 1989 to an estimated 1,000 in 2012. Five different consulting companies have been retained to evaluate overload requests. They were paid approximately \$3.1-million in 2012 at an hourly rate well above what the government paid its own engineers before the work was outsourced.

Unsafe resource bridges: In a report just released, the Forest Practices Board looked at bridges built on resource roads in B.C. since January 2010. The Forest Practices Board is B.C.'s independent watchdog for sound forest and range practices, reporting its findings and recommendations directly to the public and government. The special investigation focused on safety, protection of the environment and planning. Of the 216 bridges examined, 19 were not safe and another 13 were flagged because of serious safety concerns. Only 60 per cent of the 213 bridges inspected had complete plans and on 73 there was no sign-off by a professional engineer to verify that they were planned and built properly. The government has outsourced responsibility for sign-off and safety of B.C. resource bridges to independent companies.

"This report is a wake-up call to those who are not complying with the law or the professional practice guidelines. Due to the potentially significant consequences, there are no corners to cut when it comes to bridge design, planning and construction. The public and government expect and deserve high safety, environmental and professional standards, but those standards are not currently being met."

- **Threats to the environment if development impacts are not properly assessed.**

Overseeing hydroelectric projects: Environmental and engineering professionals ensure that potential environmental impacts are properly managed in the construction and operation of hydroelectric projects. Historically, this work was done by Government Licensed Science Officers. However, changes in the regulatory approach in the past decade allow the licensees to hire consultants to monitor the construction. Reduction in the number of Government Licensed Science Officers over the same period has forced the government to rely heavily on outside consultants to ensure regulatory compliance. The effectiveness varies with the individual consultant's understanding of government and public interests. This also raises the possibility of a conflict of interest and undermines public confidence in the process.

- **Bad decision-making by technical staff due to little or no guidance and advice.**

Reviewing reports of external Professional: In the past decade, many technical reports used as the basis for regulatory decisions have been prepared by external consultants and paid for by the regulated parties. The technical content of many of these reports may not have been critically reviewed in detail by experienced and knowledgeable Government Licensed Science Officers. In fact, a significant number of the reports that were reviewed included conclusions that were inappropriate due to incorrect or biased analyses. It is difficult to establish the cause of these errors. They may have been due to resource constraints (time and budget) or may have been deliberate due to a conflict of interest. Had they not been identified and corrected, many of these errors would have resulted in regulatory decisions that favored the regulated party and

adversely impacted the environment. Without a sufficient number of experienced and knowledgeable Government Licensed Science Officers to critically review consultant reports, the management and use of B.C.'s natural resources could be compromised.

- **Irretrievable loss of ongoing research data due to lack of staff to do the work.**

Gathering data is essential to accurate long-term planning: The efficient and sustainable use of B.C.'s natural resources depends on careful and accurate planning. In the forest sector in particular, data gathered on the ground by Government Licensed Science Officers in years past provided the basis for timber resource management, the control of pests and the health of the forests. The reduction in the number of Government Licensed Science Officers means much of that data is no longer being collected, leaving big gaps in long-term trend analysis that government is now trying to plug by what amounts to guess work based on aerial imaging of some – but not all – forest lands.

- **Loss of public confidence in the overview and assessment process if private sector proponents of resource development projects are not independently monitored.**

The development of the LNG sector needs more, not fewer Government Licensed Science Officers: B.C. is on the verge of what the government believes will be some of the biggest natural resource development projects the province has ever seen. They could be worth hundreds of billions of dollars over the next few decades. While these projects have the potential for significant benefit for British Columbians, they could become major liabilities if oversight, regulation and stewardship are left almost exclusively to the proponents and their own consultants. Now more than ever, B.C. needs Government Licensed Science Officers to ensure that the LNG sector is developed in a way that provides the maximum possible protection to the environment and is in line with the needs and wishes of the communities in the north.

Conclusion

Government Licensed Science Officers are professionally trained and accredited experts and scientists. They are the first-line stewards of B.C.'s natural resources and primary protectors of the safety of public infrastructure facilities. The PEA believes there are now not enough experts working for the province to adequately look after the interests of British Columbians - and the situation is getting worse.

AN UPDATE ON THE CUTBACKS IN GOVERNMENT LICENSED SCIENCE OFFICERS

November 2017

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BC's Union for Professionals



OVERVIEW

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Overall the province has a decrease of one and a half per cent in the number of science officers since 2014, with some science officers continuing to see a year over year decline. This follows a 11.2 per cent decrease from 2009 to 2014 and a nine per cent decrease from 2009 to 2017.

The number of licensed foresters employed by the province has decreased by 12 per cent since 2014. In addition to the forestry sector generating half a billion dollars annually for the government, our forest product exports are worth close to \$10 billion annually. The total value of BC's timber supply is estimated to be a quarter of a trillion dollars. It makes sense to invest in the proper science to maintain this revenue stream and the biodiversity to make it sustainable. Foresters also play a vital part in managing and safeguarding BC's forests. In light of the devastating forest fires that have hit BC this summer, effective forest management is required now more than ever.

A report by Evidence for Democracy (E4D) released in April of this year, which surveyed the Government Licensed Science Officers, found that that the cutbacks impede the government's ability to fulfil its responsibility for regulatory oversight.

The E4D researchers stated that since 2001, BC's public service has been reduced to the smallest per capita in Canada. Departments with science-based mandates have been particularly hard hit with a 25 per cent reduction in staff-scientist and government licensed science officer positions in the past decade. E4D found that 71 per cent of BC government scientists surveyed believe that cutbacks have negatively impacted their ability to produce expert reports and documents and 68 per cent feel that there are now insufficient resources to fulfill their branch or ministerial mandate effectively.


DECLINING NUMBERS

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Psychologist	60	66	62	55	59	-2%	-11%
Veterinarian	16	11	12	13	13	-19%	18%
ALL	1285	1184	1141	1152	1166	-9%	-1.5%

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CONCLUSION

Government Licensed Science Officers are professionally trained and accredited experts and scientists. They are the first-line stewards of BC's natural resources and primary protectors of the safety of public infrastructure facilities. The PEA believes that the compounding decreases will substantially threaten public safety and stewardship of BC's natural resources.



OVERSIGHT AT RISK

THE STATE OF GOVERNMENT SCIENCE IN BRITISH COLUMBIA

**AN ASSESSMENT OF RESEARCH CAPACITY, COMMUNICATION
AND INDEPENDENCE IN BRITISH COLUMBIA PROVINCIAL
MINISTRIES AND DEPARTMENTS**

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ED Evidence for
Democracy

Oversight at Risk

The state of government science in British Columbia

AN ASSESSMENT OF RESEARCH CAPACITY, COMMUNICATION
AND INDEPENDENCE IN BRITISH COLUMBIA PROVINCIAL
MINISTRIES AND DEPARTMENTS

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on behalf of Evidence for Democracy.

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Evidence for Democracy is the leading fact-driven, non-partisan, not-for-profit organization promoting the transparent use of evidence in government decision-making in Canada. Through research, education and issue campaigns, Evidence for Democracy engages and empowers the science community while cultivating public and political demand for evidence-based decision-making.



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Executive Summary

KEY FINDINGS

- » We received survey responses from 403 government scientists (a 35% response rate) in 10 provincial ministries on 64 questions related to communication, independence and capacity for scientific research within the government.
- » The main challenge for provincial scientific integrity in BC is cutbacks to capacity within the public service, which impedes the government's ability to fulfill their responsibility for regulatory oversight.
- » A majority of government scientists (71%) surveyed said they have witnessed a decrease in research capacity in their ministry and/or branch over the course of their tenure in the BC government.
 - » 68% of government scientists surveyed believe that there are insufficient resources to effectively fill their branch or ministerial mandate
 - » 71% think that capacity changes negatively impact their ability to produce scientific/expert reports and documents
 - » 59% think that capacity changes negatively impact environmental research/regulation
- » Many government scientists report that they cannot speak to the media about their research (32%); others say they can if they obtain approval first (42%). Only 3% of government scientists said they can speak to directly to media without seeking approval.
- » Of scientists who have been approached by the media, 47% were always able to share their research findings, 41% were permitted to respond on some occasions but not others, and 12% were not permitted to respond on any occasion.
- » The BC government supports scientific collaboration, with a majority of scientists responding that they are able to give public or academic talks on their Ministry-related research (73%), and able to collaborate with other researchers (81%).
- » Scientists are concerned about the potential effects of research and decision-making being increasingly outsourced to external professionals. Scientists point to risks of conflicts of interest, which arise when these professionals are employed by the same industry the government is required to regulate.
 - » 57% of government scientists surveyed believe that the government's increased reliance on external rather than Ministry staff is compromising their Ministry's ability to use the best available evidence in decision-making
- » Around half (49%) of government scientists surveyed across Ministries believe that political interference is compromising their ministry's ability to develop laws, policies and programs based on scientific evidence.

OUR RECOMMENDATIONS TO STRENGTHEN SCIENTIFIC INTEGRITY IN BC

Capacity

- » Increase public service research capacity. Survey responses from the Ministries of Agriculture, Environment and Forests, Lands and Natural Resource Operations suggest that without more capacity, these Ministries and their branches are unable to complete research to achieve their mandates.
- » Increase transparency and accountability around the use of external professionals. Create improved policies and processes to ensure that government scientists have clear guidelines for adequately overseeing and analyzing the tasks outsourced to external professionals.
- » Retain government oversight for the work of external professionals. Functions such as creating policies and programs, monitoring, auditing and ensuring compliance need to be completed on schedule and be adequately monitored and reported on by the government.
- » Improve succession planning and internal staff knowledge transfer. Create branch- and Ministry- level plans for succession to ensure the maintenance and continual improvement of data and expertise in the government over time.

Communication

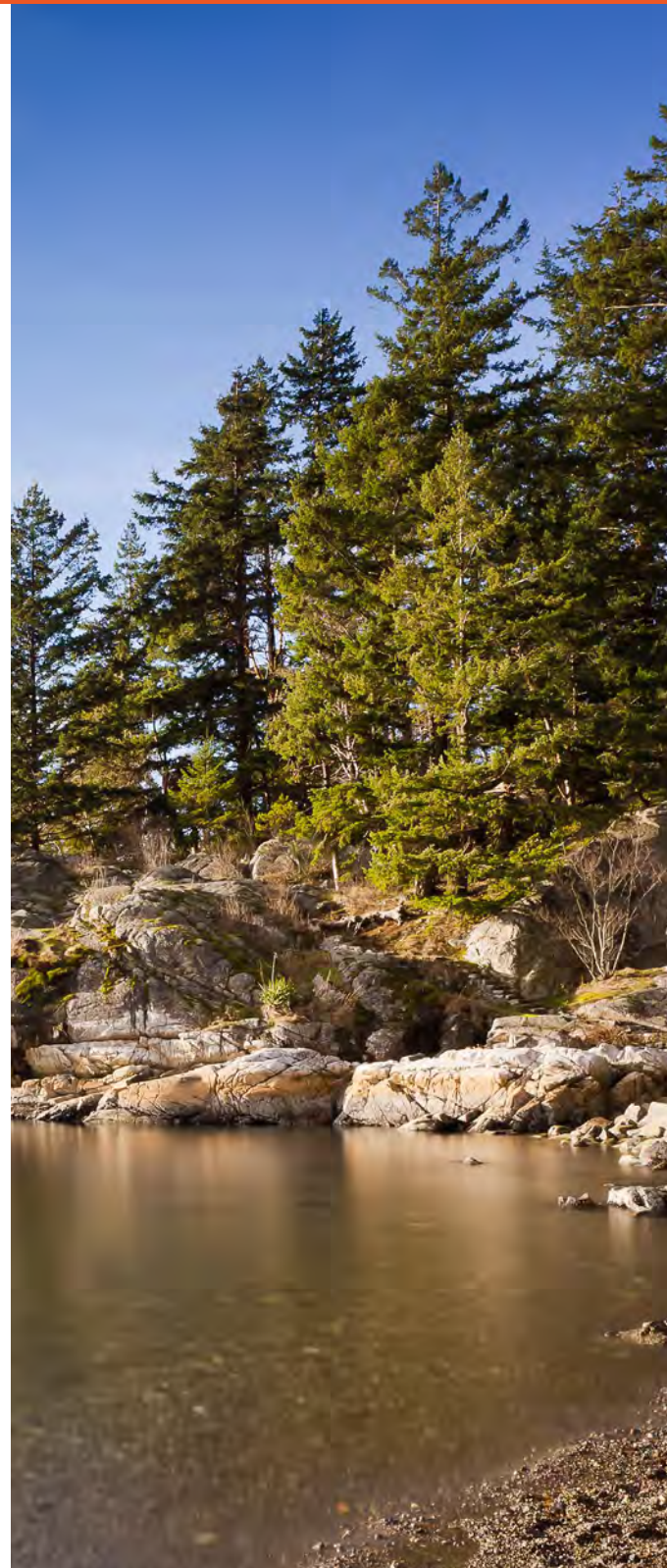
- » Create science-specific communications policies. Implement clear, publicly available policies in all Ministries for scientific personnel to provide guidance for communications with the media, the public, and other researchers.
- » Science communication policies should include a defined timeline for effective access to government researchers (for example, media requests must be responded to within two working days).

Independence

- » Give government researchers the right to have last review of materials and documents that make use of their work. This helps ensure that science is not being purposefully or accidentally misrepresented in reports or communications materials.
- » Protect against conflicts of interest. Bolster the compliance and enforcement of laws protecting BC's environment, through increased technical training for enforcement officers, clear allocation of roles and responsibilities for government and professionals working in compliance, and allocating adequate staff and financial resources to diligently perform compliance and enforcement duties.

Introduction

Public science is a critical component of a healthy and prosperous nation. Science conducted by the public service, for the benefit of the public, stands as the safeguard for the health, welfare, and sustainable prosperity of Canadians. In recent history, federal public science in Canada has come under heavy scrutiny for restricting the ability of its scientists to carry out their mandate^{1,2}. However, much of the science and monitoring in Canada is done by provincial ministries and departments. Given increasing concerns in British Columbia about provincial scientific integrity, we seek to formally evaluate research capacity, communication and independence in the B.C. government.



Government science in BC: outsourcing and downsizing

Since the Liberals were voted in to power in BC in 2001, the public service has been dramatically reduced to make it the smallest public sector per capita of all Canada's provinces³⁻⁷. Departments with science-based mandates were particularly impacted, with a 25% reduction in provincial staff-scientists and licensed-expert positions in the last decade⁸. In some cases, employees have learned to do more with fewer resources. However, much of the science-based tasks that were done in-house by government staff have been transitioned to external professionals⁹. This new era of outsourcing both research, oversight and decision-making activities that were formerly done by government is known as 'professional reliance'.

In an attempt to ensure that high quality standards for provincial science integrity are maintained in this new structure, the BC government revised legislation for self-governing professionals, such as foresters and agrologists, and legislation was passed to establish a new college for biologists (under *The College of Applied Biology Act 2004*)⁵.

However, despite these efforts, shifting responsibility from provincial staff to external professionals has had several major impacts, with the most criticized being its impact on accountability. While the professionals themselves maintain high standards for integrity and accountability^{10,11}, it is the professional reliance approach that is the source of concern⁵. While previously, provincial staff were largely responsible for regulatory oversight activities, now many non-government professionals fill these roles¹². Often these professionals are employed by the same industry the government is mandated to regulate. Additionally, there are concerns that scientists still employed with the government don't have adequate capacity to fulfill their integral duties.

Little attention has been paid to how this outsourcing is impacting communication to the public regarding health, environmental sustainability and other areas of public interest.

Mt. Polley copper and gold mine,

near Williams Lake, experienced a breach within the perimeter of the tailings dam that resulted in the release of 25 million cubic meters of wastewater and tailings. The Auditor General (2016) attributes this incident to a lack of compliance and enforcement culture within the Ministry of Energy and Mines, as well as too few resources allocated to compliance and enforcement in both the Ministry of Energy and Mines as well as the Ministry of Environment. The Auditor General also implicated overreliance on external qualified professionals, and subsequent lack of oversight. These factors, along with too few annual inspections by both Ministries, were identified as safety concerns with the dam. Eventually, these regulatory failures culminated into the perfect storm: the breach flooded the nearby community and environment with toxic waste, causing unprecedented damage to the local environment and long-term impacts on health and drinking water.

Through the transfer of environmental decision-making from the government to independent contractors, policies must be in place to uphold the same measures of accountability that we demand of the government.

What makes a professional qualified in BC?

BC's Qualified Persons Cross-Ministry Working Group defines professional reliance as "the practice of accepting and relying upon the decisions and advice of professionals who accept responsibility and can be held accountable for the decisions they make and the advice they give." Qualified professionals can either be self-regulating (belonging to an association which establishes, enforces and adjudicates standards) or accredited practitioners (passed a set test to obtain a government license for practice)¹⁰. Licensed professionals are employees of the BC Government who are registered and licensed under various legislative Acts. Under the current professional reliance approach, duties of qualified professionals include training, designing, developing programs, reporting and verifying compliance, and many others^{8,9}. It is expected that professionals be competent, accountable, independent, and show integrity^{8,9}.



Science integrity in Canada and British Columbia

Science integrity has three critical pillars: capacity, communication, and independence. Scientists must be provided with the capacity (including funding, resources, and personnel) to perform research that helps solve complex, real-world problems. For this research to be broadly applied, they must also be able to openly share their work and findings with colleagues, media, and the public. An informed public is better able to hold their government accountable for making decisions based on the best available evidence, and understands the value of the knowledge generated by their tax dollars.

Scientific independence is essential for the work produced by government scientists to be free from influence of political and industry pressures. Accountability measures throughout the government should ensure that government scientists' findings contribute to decisions that best serve the public health, well-being and the environment. Maintaining a research ecosystem where scientists are adequately supported, able to speak freely to the press and public, and transparent in data collection and analysis is crucial to the integrity of the science produced by a governmental department.

In 2013, the Professional Institute of the Public Service of Canada published *The Big Chill*², which found that many federal scientists felt that they were unable to speak freely about their research, and had seen political interference in research that affected human and environmental health and safety. The next year, Evidence for Democracy evaluated science communication policies at the federal level¹, and found that federal policies around scientific communication

that were largely prohibitive of scientific freedom of speech. Conditions in Canada have significantly changed on the federal level since the publication of those reports: 'unmuzzling scientists' was a major election issue in 2015, and in late 2016, PIPSC successfully bargained with the Government of Canada to enshrine the right of federal scientists to speak freely about their science and research within collective agreements¹³.

There are increasing concerns that issues like those seen in the federal government in recent years are also affecting provincial government science. There has been little prior investigation into whether British Columbians can easily access the research their tax dollars have paid to generate and to what extent government scientists are affected by political forces. The science that safeguards our food, health care, transportation, and environment are all covered at least in part by provincial governments, and so it is important to understand what role science integrity has in decision-making processes at the provincial level.

Adapting methods from the Union of Concerned Scientists^{14,15} and the Professional Institute of the Public Service of Canada², we set out to investigate practices related to provincial scientific integrity in British Columbia. We gathered information about provincial science integrity policies and practices using both a survey of government scientists and from supplemental literature. Our 64-question survey was circulated to 1159 government scientists in November 2016 (see [Appendix 1](#) for a full list of survey questions). These sources help us to contextualize the feedback we received from survey respondents.

Three pillars of science integrity

- 1. CAPACITY:** Do policies ensure that government scientists have enough capacity to fulfill their public mandates based on cutting-edge, evidence-driven science and research? This includes having sufficient time, personnel and funds to carry out their work; ensuring that knowledge and resources are carried into the future through adequately training new employees and succession planning; and ensuring the government scientists are paid competitively to attract qualified science experts to the public sector.
- 2. COMMUNICATION:** Do policies and practices ensure that government science is communicated openly and in the public interest? Scientists should be free to communicate their research findings with the public, the media, their peers and throughout all levels of government. Scientists should be allowed and encouraged to attend professional conferences to exchange ideas and stay up-to-date with cutting-edge research. Government scientists from different branches and Ministries should be encouraged to collaborate on areas of mutual responsibility.
- 3. INDEPENDENCE:** Do policies and practices allow scientists to serve the public, free from political or corporate interference? Science should be free from political or industry interference and government scientists should have the right to review reports and communication pieces that make use of their work to ensure they are scientifically sound. Scientists should be encouraged to develop research that supports policy-making, and to offer scientific criticisms on policy approaches without fear of recourse. Scientists should understand and operate with a strict Code of Ethics.

Who was included in the survey?

Government scientists in BC are represented by two labour unions: the Professional Employees Association (PEA) and the BC Government and Service Employees' Union (BCGEU). PEA represents scientists in a number of fields including foresters, engineers, agrologists, geoscientists, geologists, veterinarians, psychologists⁷. Biologists in BC are represented by BCGEU. These unions work to advocate for the rights of its members through collective bargaining. Our survey was distributed to PEA members that are employed by the provincial government. Our request to distribute the survey to BCGEU was denied.

Results

The survey response rate is 35%. The results are considered accurate +/- 3.94%, 19 times out of 20. Because scientists who have concerns about scientific integrity are more likely to respond to the survey, we acknowledge that the results may show confirmation bias.

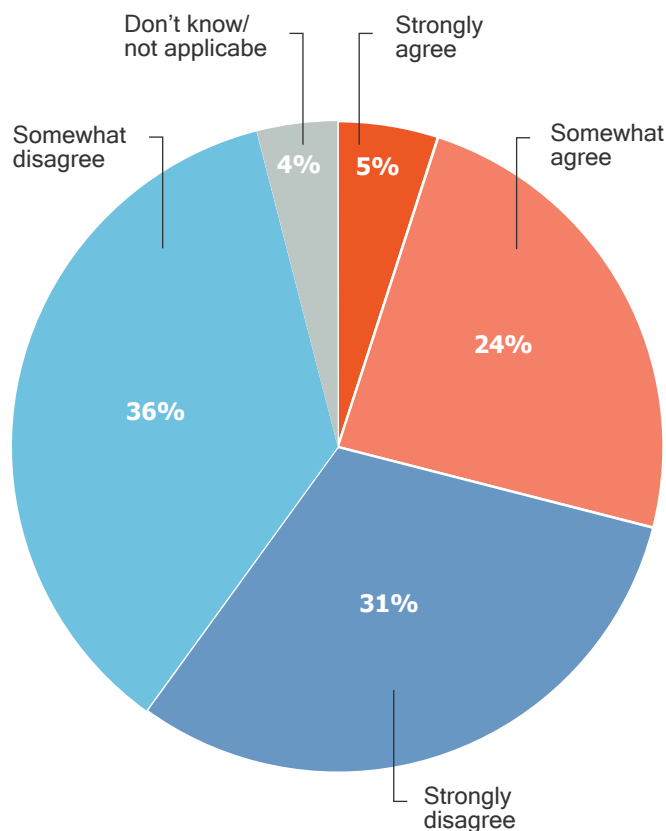
Additionally, since only PEA members participated, the survey does not represent the total scientific public service in BC.

The survey responses show that resource capacity and scientific independence are the most pressing scientific integrity issues within the BC government.

MINISTRY	NUMBER OF PEA MEMBERS	Survey Response Rate (%)
All	1159	35
Aboriginal Relations and Reconciliation	10	10
Agriculture	83	39
Children and Family Development	50	34
Energy and Mines	61	41
Environment	81	43
Forests, Lands, and Natural Resource Operations	739	34
Health	16	13
Jobs, Tourism, and Skills Training	1	100
Natural Gas Development	8	75
Transportation and Infrastructure	100	27

Findings on Capacity

Does your ministry allocate sufficient resources to effectively fulfill its mandate?



A significant majority of government scientists (71%) said they have witnessed a decrease in research capacity in their ministry

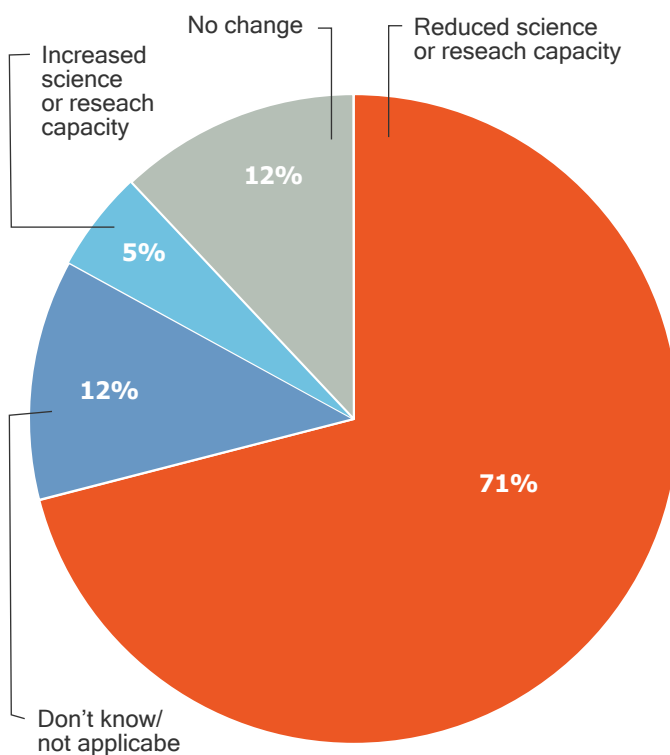
The main challenge for scientific integrity in BC throughout most ministries is research capacity.

A significant majority of government scientists (71%) said they have witnessed a decrease in research capacity in their ministry and/or branch over the course of their tenure in the BC government, and nearly two-thirds believe that this has a negative effect on their branch or ministry's ability to develop policies, laws and programs based on scientific evidence.

While the vast majority (84%) of respondents said their ministry has a clear mandate to serve the public good, most do not believe that their ministry is operating effectively. Reductions in Government Licensed Science Officers (GLSOs); which includes foresters, engineers, agrologists, geoscientists, geologists, veterinarians, psychologists, physiotherapists and pharmacists; have been so dramatic that 68% of government scientists believe that there are insufficient resources or personnel for research, development and scientific oversight to effectively fill their branch or ministerial mandate.

Lack of capacity is a particularly pressing issue for the Ministry of Forests, Lands and Natural Resource Operations (FLNRO) and the Ministry of Energy and Mines. Though many scientists (29%) in Energy and Mines reported an increase in capacity over their tenure at the ministry, a majority (72%) believe that there are still insufficient resources to do their work effectively.

How would you characterize changes in science or research capacity in your branch or division during your tenure with the government?



“The reduction in staff and financial resources has caused us to not be able to conduct the scientific work that would best support changes in policy. Instead policy is most often developed as a result of political pressure from select interest groups, in particular forest industry stakeholders.

A policy-maker in FLNRO notes that “The reduction in staff and financial resources has caused us to not be able to conduct the scientific work that would best support changes in policy. Instead policy is most often developed as a result of political pressure from select interest groups, in particular forest industry stakeholders.” This echoes a report by the [former] Ministry of Forests and Range¹⁶, that cautioned that the government may be going too far in outsourcing roles to non-government professionals, stating “recommendations to statutory decision-makers are being made by employees operating outside of their scope of practice”.

The government’s increased dependence on external professionals also raises concerns about integrity of data, institutional knowledge, and training. While government employees have a legal obligation to keep and store records and data under the *Document Disposal Act*, the *Freedom of Information and Protection of Privacy Act*, and the Operational Records Classification System policies, external professionals are not always required to maintain records. Rules around records keeping are unique to each professional association, and not all associations require the maintenance of data and records within their legislations and bylaws. For example, foresters, agrologists, biologists and science technicians do not have to maintain data and records in BC⁵. Within the government, the maintenance of data through time relies on capacity. Cutbacks in government staff, especially with the retirement and non-replacement of senior experts, can result in

irretrievable losses of information if succession planning is not completed properly.

A scientist at the Ministry of Agriculture noted “I have been with the Ministry for four years and in that time, we have had many retirements. These positions are often not filled and even if they are filled, there is little consideration for overlap with the existing professionals.” Reduced human resources may result in high workloads that leave little time for professional development, leaving government scientists lagging behind advances in their field. Digital infrastructure and data analysts also require more support. A Ministry of Health scientist reports that “Recent move of data analysis staff from our division to a centralized Ministry division has made it extremely difficult to get access to data from relevant Ministry administrative databases (e.g. PharmaNet and MSP).”

Research capacity is not only the ability for scientists to carry out their work, but also the ability of a ministry to be transparent and accountable (principally by responding to information requests on behalf of the media and public in a timely manner), enforce permits and legislation under its mandate, and demonstrate statutory compliance where appropriate¹⁷. External qualified professionals are also concerned about being relied upon to fulfill the government’s mandate. A 2014 report by the University of Victoria’s Environmental Law Centre documented cases where professionals themselves showed concerns regarding a lack of checks and balances in the current professional reliance approach⁵.



Government scientists on capacity changes:

71% think that capacity changes negatively impact their ability to produce scientific/expert reports and document

59% think that capacity changes negatively impact environmental research/regulation

33% think that capacity changes in government negatively impact public health & safety

63% think that capacity changes negatively impact the availability of scientific advice from other branches/ministries that is required for their work

Succession Planning:

Several survey respondents noted that as senior scientists retire or leave the public service, considerable institutional knowledge is being lost. It will be much more difficult to build new capacity years from now than to maintain and expand capacity while expertise is still available.

"I have been with the Ministry for four years and in that time, we have had many retirements. These positions are often not filled and even if they are filled, there is little consideration for overlap with the existing professional. Often, the external professionals are people who retired from the Ministry." (Agriculture, position not disclosed)

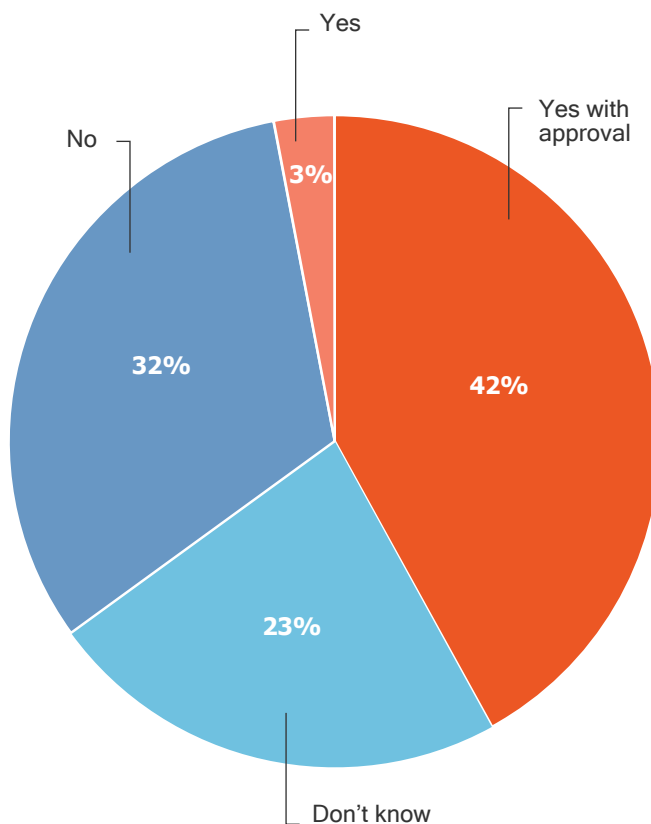
"The Bridge group has lost several key policy development staff due to retirement/the private sector. Now essentially all expertise with respect to policy development is found in the private sector, and if the current trend of losing experienced staff and backfilling with very inexperienced staff continues, the government will not have the ability to completely understand the technical policy's being developed that they utilize in everyday work." (Transportation and Infrastructure, bridge engineer in training)

Coal mining in Elk Valley

has resulted in high levels of selenium in the water system, posing risks to humans and wildlife. Though the Ministry of Environment has been monitoring increasing trends of selenium for 20 years, it has only recently tried to control the pollution. Ongoing approval of permits in the area will allow selenium levels to continue to exceed B.C.'s water quality guidelines. These risks have not been disclosed to legislators and the public⁵, likely compromising human health and safety.

Findings on Communication

Are you able to speak with the media?

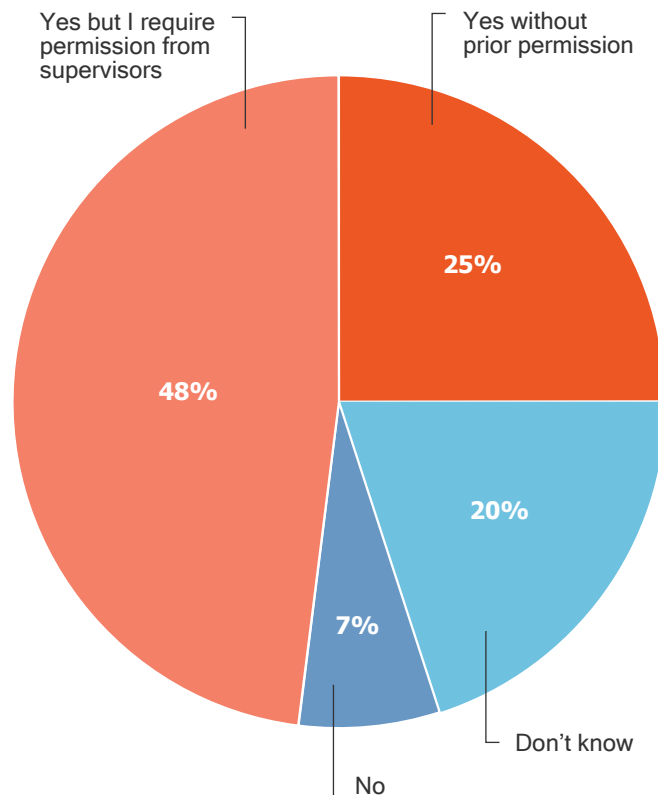


In April 2011, the former Public Affairs Bureau was reorganized and given a new name, Government Communications and Public Engagement (GCPE). This agency is tasked with overseeing media communications for all Ministries of the government, including speech writing, news releases, media relations, and strategic communications advice and planning¹⁸.

Government scientists who were asked a question by the media in the past 4 years (i.e., after GCPE was created) gave mixed results about freedom of communication. Almost half (47%) of scientists were able to share their research findings with the media; however, 41% were permitted to respond on some occasions but not others, and 12% were not permitted to respond on any occasion. The scientists in our survey report having to obtain permission before being able to talk to the media or the public¹⁹. When looking more generally at all of the government scientists who completed our survey—not just those who had been approached by media—32% said they were not able to speak with the media at all, 42% were able to speak if they obtained approval first, and only 3% were able to speak without obtaining approval.

While it is positive that the majority of scientists who have been approached by the media were able to talk about their research, many scientists still feel that they are not allowed to speak to the media or that they must get permission from supervisors or communications staff first.

Are you able to give public or academic talks on your research



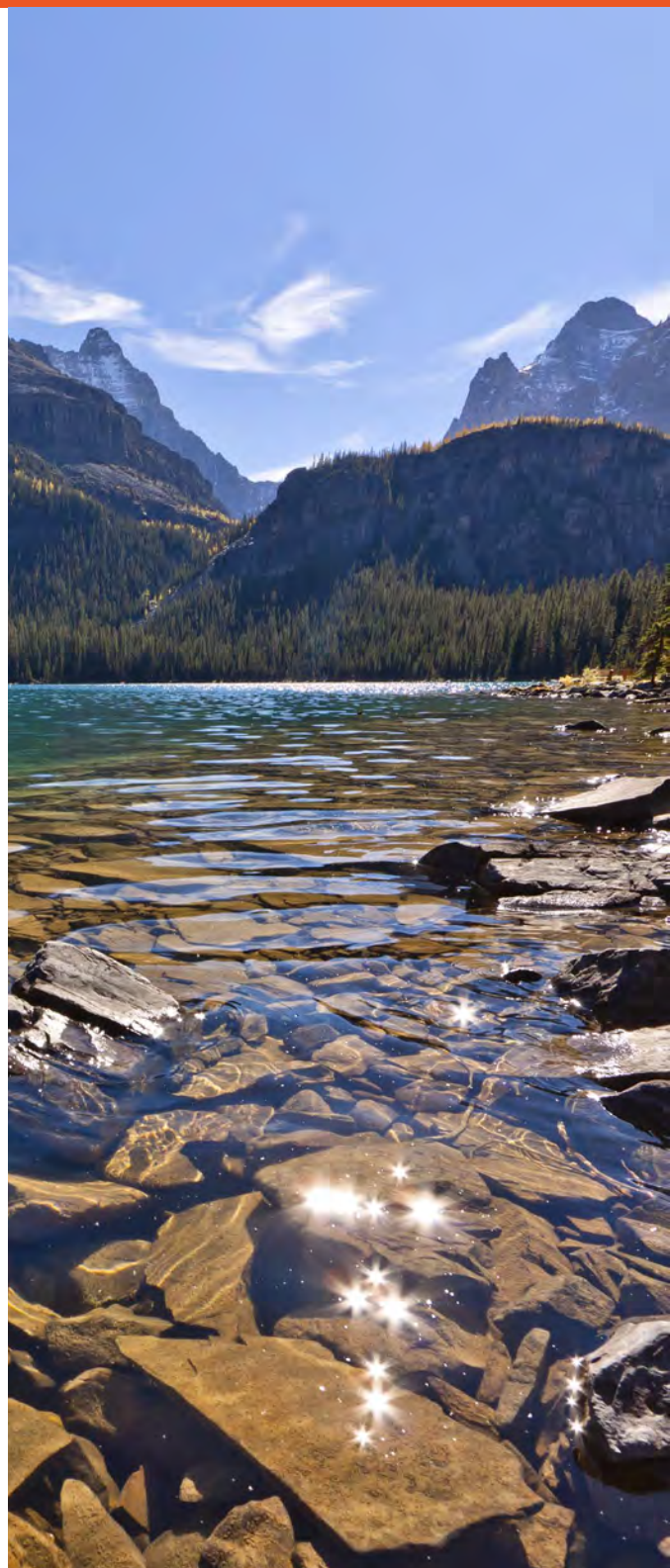
The ability to share and spread knowledge is a critical aspect of scientific work. The BC government should establish clear rules regarding how government scientists are able to speak with media and the public.

The ability of scientists to communicate with their colleagues at non-governmental organizations is crucial for robust government science. Speaking regularly and collaborating without interference or bureaucracy allows government scientists to remain on the cutting edge of their field and acquire the best information available for decision-makers to use in policy-making. The BC public service, encouragingly, seems to support scientific collaboration. Scientists responded that they are mostly (73%) able to give public or academic talks on their Ministry-related research, and overwhelmingly (81%) able to collaborate with other researchers, although most must obtain permission to do so.

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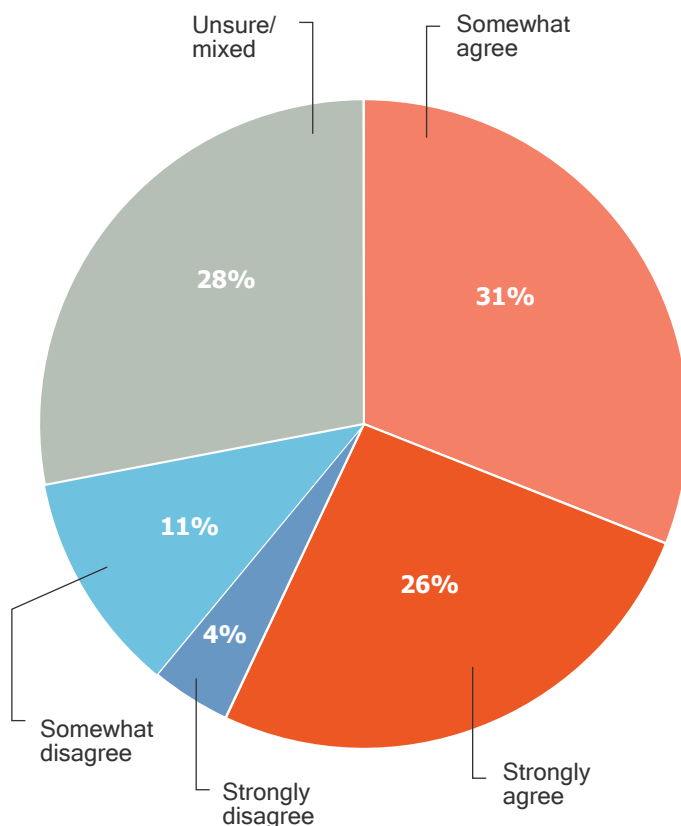
Ongoing Challenges with Freedom of Information Requests

Under the *Freedom of Information and Protection of Privacy Act* (FIPPA) ([RSBC 1996] c. 165), British Columbians can request and obtain copies of records held by the BC Government that are not otherwise made publicly available. The ability to request government records and be returned a response in a timely fashion is a cornerstone of government transparency. For this report, we set out to grade not only the practices related to science integrity in BC, but also the policies that govern the ability of scientists to speak freely to the public and the media. In December 2016, we filed related Freedom of Information requests to 14 provincial Ministries. Despite commitments made by the government to respond to requests in a timely manner, as of the publication date of this report (April 2017), we have still been unable to access records on communication policies for government scientists. Following a report by the former Information and Privacy Commissioner, Elizabeth Denham, which identified the willful destruction of documents requesting information about the investigation of missing and murdered women along the Highway of Tears in northern BC²⁰, the BC Government created the *Information Management Act* and commissioned a legislative committee to review FIPPA. However, slow response times and a common response of ‘no responsive records’ remain a widely-documented frustration on behalf of BC media outlets and individuals²¹⁻²⁷.



Findings on Independence

Is reliance on external professionals compromising the ability of your ministry to use the best evidence or information in decision-making?

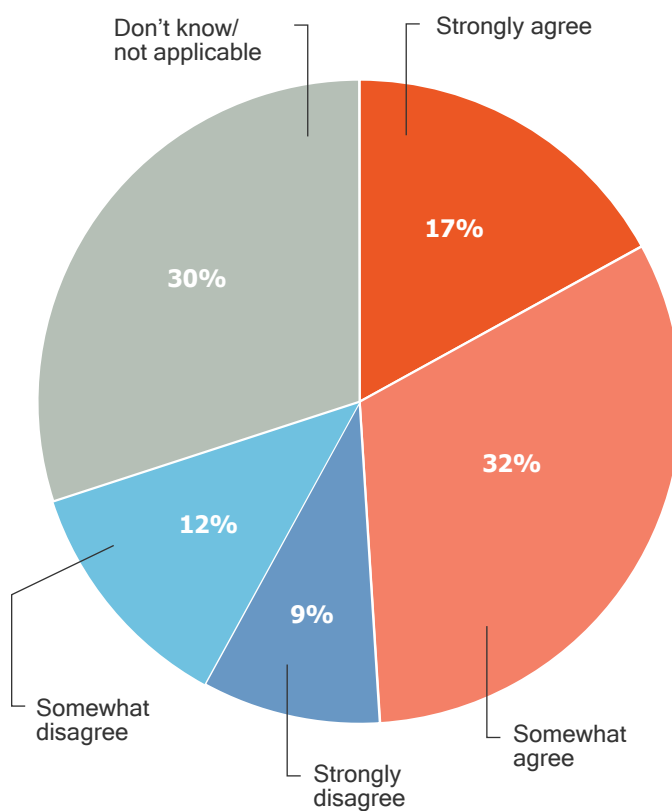


Government scientists are concerned that external pressures are influencing government research. As one scientist working in FLNRO reported, “[t]he government rarely or perhaps never suppresses scientific findings. They do however by way of lack of funding suppress research and data collection which are necessary for proper science based management.”

As capacity is reduced and increasingly large portions of the scientific mandate are outsourced to external professionals, the role of ministry scientists is changing significantly. Both government and external scientists appear to feel that the growing role of professional associations in governance does not adequately or appropriately address the public good^{5,7}.

Relying on external professionals with no public interest mandate can have a negative impact on evidence-based decision making processes. Survey results show that nearly 57% of the government scientists surveyed are concerned that the government’s reliance on external professionals compromises the ability of their Ministry to use the best evidence or information in decision-making; this is particularly prominent in the Ministries of Agriculture, Environment, FLNRO and Transportation and Infrastructure. A scientist at FLNRO wrote “Technical reports (the key piece of documentation for the decision on a water license application) are in a number of cases prepared by external professions hired by the applicants.”

My ministry's ability to develop policy, law, and programs based on scientific or expert evidence has been compromised by political interference



Almost half (48%) of scientists are concerned that decisions and policies are not consistent with the best available scientific knowledge and information.

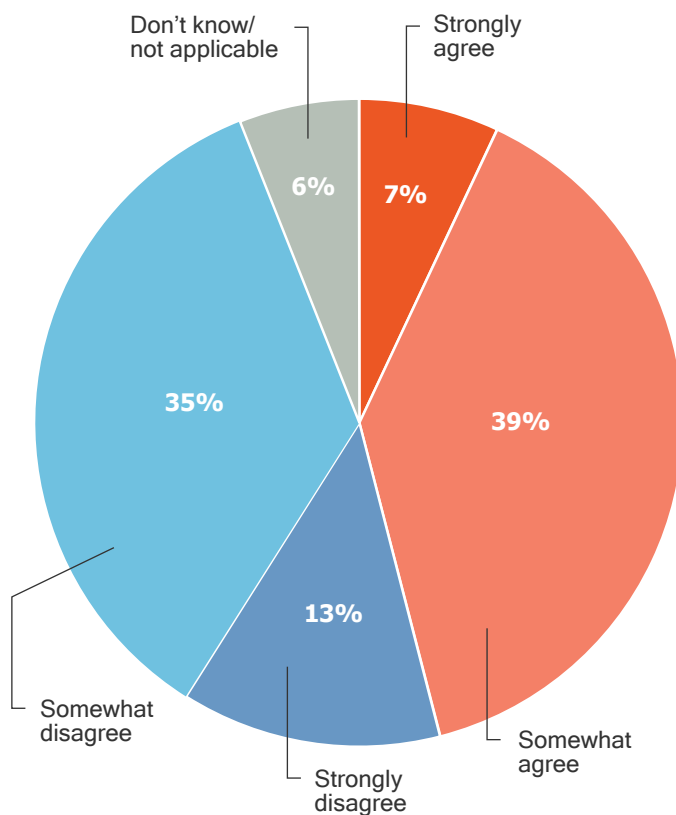
This can result in decisions made using insufficient or incorrect evidence. The same scientist continues “I have seen first-hand that such reports, endorsed by the government decision makers, contain factual errors that would affect a regulatory decision.”

The results from our survey show that around half (49%) of government scientists surveyed across Ministries believe that political interference is compromising their ministry's ability to develop laws, policies and programs based on scientific evidence. Almost half (48%) of scientists are concerned that decisions and policies are not consistent with the best available scientific knowledge and information.

Scientific independence is inextricably linked with departmental capacity: a ministry which has adequate resources to carry out its mandate is less vulnerable to influence from external contractors, political pressure, and stakeholder interests. This is clearly illustrated by a policy planner with FLNRO: “The reduction in staff and financial resources has caused us to not be able to conduct the scientific work that would best support changes in policy. Instead policy is most often developed because of political pressure from select interest groups, in particular forest industry stakeholders.”

Encouragingly, most government scientists (64%) believe that their expertise is actively sought out by government decision-makers on relevant issues. However, this may vary significantly both by ministry and by issue: 35% of scientists don't see their senior leadership clearly supporting science- and evidence-driven positions, even when those positions are not particularly controversial.

Are decisions and policies consistent with the best available scientific knowledge and information?



One example of where decision-making was not consistent with the best available information

happened in May of 2016, when FLNRO acted outside of the regulatory permitting process by allowing BC Hydro an exemption from the BC Wildlife Act to prevent the construction of the Site C dam from falling behind expected timelines. BC Hydro requested a rushed permission to perform amphibian salvage, and received express approval within 4 days of submitting their request outside of the legal permitting process. This move was called 'troubling' by UBC law professor Jocelyn Stacey who says that the Wildlife Act does not allow exemptions from regular permitting. She warns that it "raises a much broader concern that unauthorized "exemptions" may be issued routinely, but [due to a] general lack of transparency with the permitting process, the public is not aware that this is happening and cannot seek recourse from the courts in the form of judicial review"²⁸. Though this incident was later flagged as a non-compliance by BC's Environmental Assessment Officer²⁸, it raises concerns that public officials may sometimes act outside of the law to expedite large, publicly controversial resource projects to a 'point of no return', potentially impacting community health, First Nation's constitutional rights, and the environment.

Controversial Decision-Making

“Decisions and objectives are fettered to the industry interests due to government/industry working groups. The industry-sympathetic administration does not always permit us to assess evidence, and even when we have evidence it does not easily accommodate providing direction to industry or changes in policy that may negatively impact (even in a small way) existing mainstream industry and their interests.”

– Regional Timber Supply Forester, Ministry of Forests, Lands and Natural Resource Operations

“Lobby groups are always the reason why any policy, law or program is changed. If there is an environmental need or staff recommended need to change a policy, law or program it won’t be changed unless the item is politically palatable.”

– Position undisclosed, Ministry of Environment



Recommendations

Evaluating the scientific integrity of BC's provincial government indicates that there are significant issues with government science capacity, communication and independence. Capacity was indicated as the main concern and restoring and expanding capacity should be a top priority for the government.

Mixed responses on communication show there is room for improvement. While many scientists reported being able to talk the media, others felt they were not able to talk about their research. Introducing cohesive policies to clarify guidelines for talking with the press, the public, and peers will improve how comfortable scientists feel about their ability to speak freely and without repercussions.

The independence of government scientists is of significant concern. Although our survey did not reveal reports of overt interference in the scientific process, it did highlight many examples of political and industry influence on research programs.

We identified eight key recommendations for how British Columbia's provincial departments and agencies can improve and strengthen scientific integrity in practices and policies:

Capacity

- » Increase public service research capacity. Survey responses from the Ministries of Agriculture, Environment and Forests, Lands and Natural Resource Operations suggest that without more capacity, these Ministries and their branches are unable to complete research to achieve their mandates.

- » Increase transparency and accountability around the use of external professionals. Create improved policies and processes to ensure that government scientists have clear guidelines for adequately overseeing and analyzing the tasks outsourced to external professionals.
- » Retain government oversight for the work of external professionals. Functions like creating policies and programs, monitoring, auditing and ensuring compliance need to be completed on schedule and be adequately monitored and reported on by the government.
- » Improve succession planning and internal staff knowledge transfer. Create branch- and Ministry- level plans for succession to ensure the maintenance and continual improvement of data and expertise in the government over time.

Communication

- » Create science-specific communications policies. Implement clear, publicly available policies in all Ministries for scientific personnel to provide guidance for communications with the media, the public, and other researchers.
- » Science communication policies should include a defined timeline for effective access to government researchers (for example, media requests must be responded to within two working days).

Independence

Give government researchers the right to have last review of materials and documents that make use of their work. This helps ensure that science is not being purposefully or accidentally misrepresented in reports or communications materials.

Protect against conflicts of interest. Bolster compliance and enforcement through increased technical training for enforcement officers, clear allocation of roles and responsibilities for government and professionals working in compliance, and allocating adequate staff and financial resources to diligently perform compliance and enforcement duties.



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