



# **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



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April 2017

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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

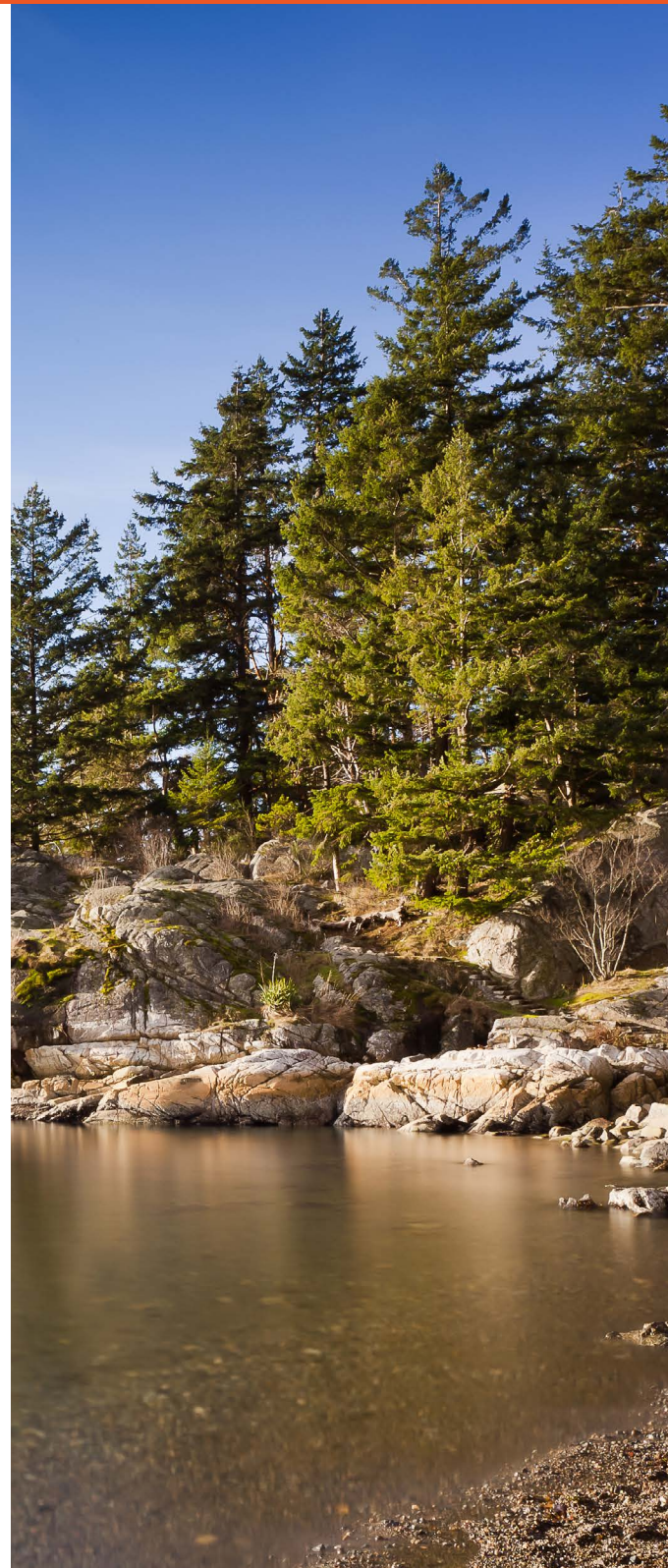
- » Create science-specific communications policies. Implement clear, publicly available policies in all Ministries for scientific personnel to provide guidance for communications with the media, the public, and other researchers.
- » Science communication policies should include a defined timeline for 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<sup>1,2</sup>. 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 provinces<sup>3-7</sup>. Departments with science-based mandates were particularly impacted, with a 25% reduction in provincial staff-scientists and licensed-expert positions in the last decade<sup>8</sup>. 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 professionals<sup>9</sup>. 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*)<sup>5</sup>.

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<sup>10,11</sup>, it is the professional reliance approach that is the source of concern<sup>5</sup>. While previously, provincial staff were largely responsible for regulatory oversight activities, now many non-government professionals fill these roles<sup>12</sup>. 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,

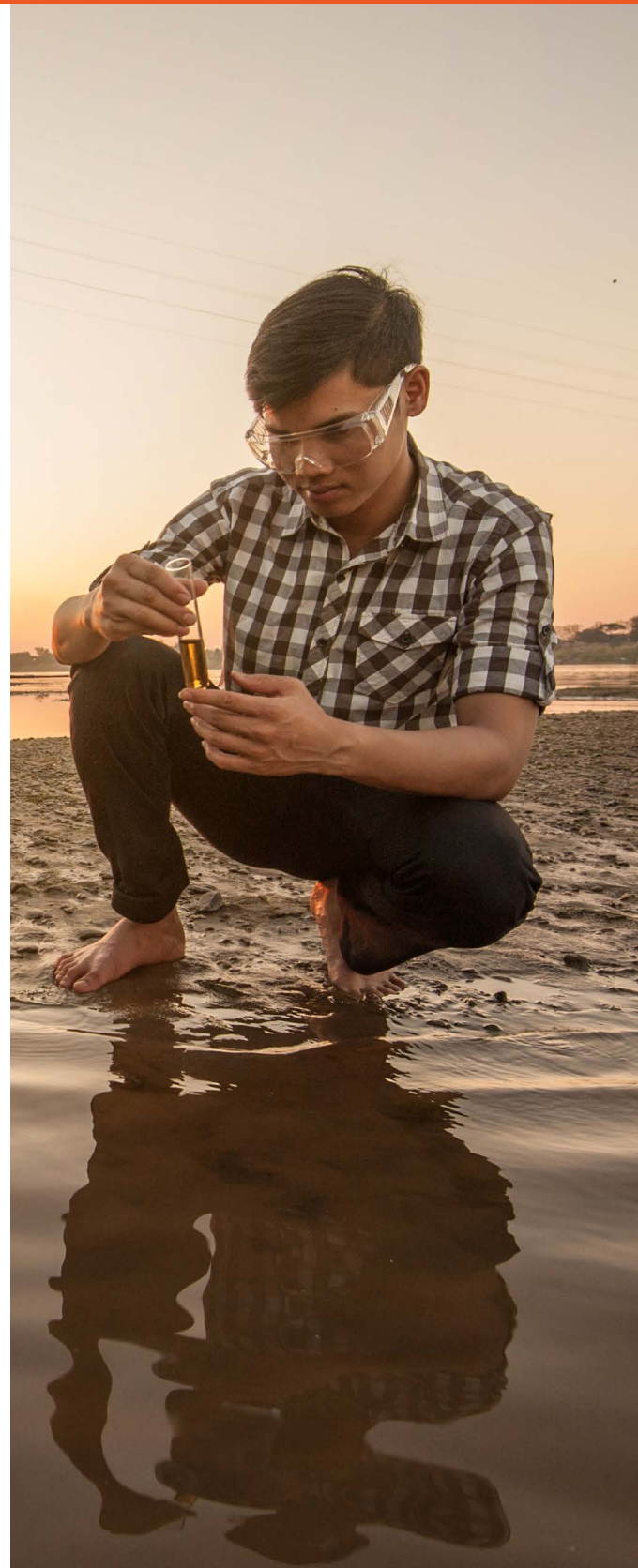
near Williams Lake, experienced a breach within the perimeter of the tailings dam that resulted in the release of 25 million cubic meters of wastewater and tailings. The Auditor General (2016) attributes this incident to a lack of compliance and enforcement culture within the Ministry of Energy and Mines, 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)<sup>10</sup>. 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<sup>8,9</sup>. It is expected that professionals be competent, accountable, independent, and show integrity<sup>8,9</sup>.





# 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*<sup>2</sup>, 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 level<sup>1</sup>, 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 agreements<sup>13</sup>.

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<sup>14,15</sup> and the Professional Institute of the Public Service of Canada<sup>2</sup>, 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, psychologists<sup>7</sup>. 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.

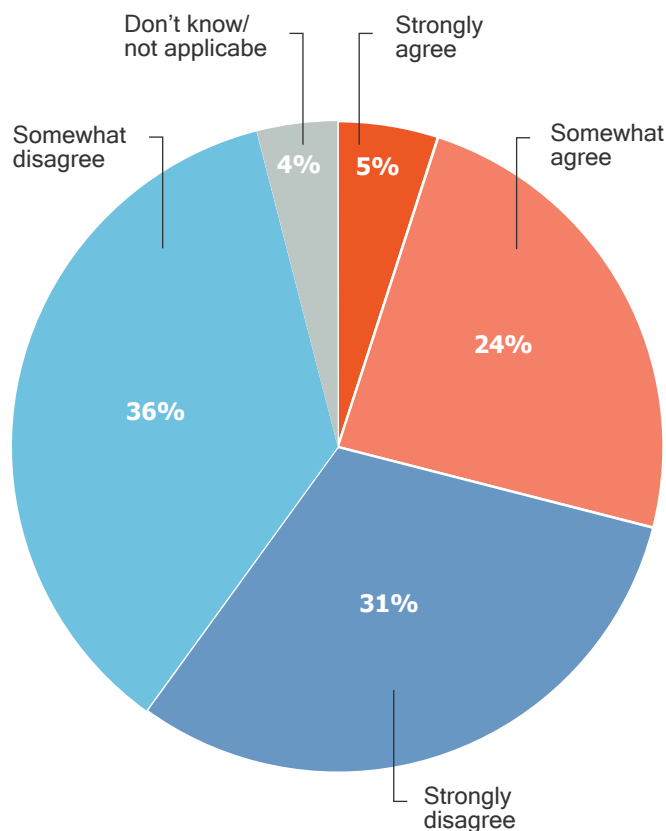
The survey responses show that resource capacity and scientific independence are the most pressing scientific integrity issues within the BC government.

| 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

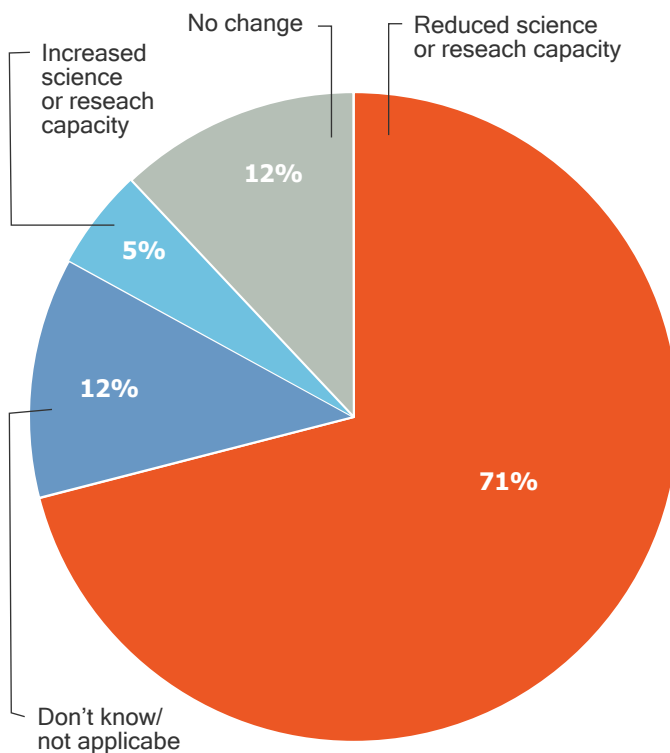
The main challenge for scientific integrity in BC throughout most ministries is research capacity.

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 Range<sup>16</sup>, 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 BC<sup>5</sup>. 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 appropriate<sup>17</sup>. 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 approach<sup>5</sup>.





## 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)

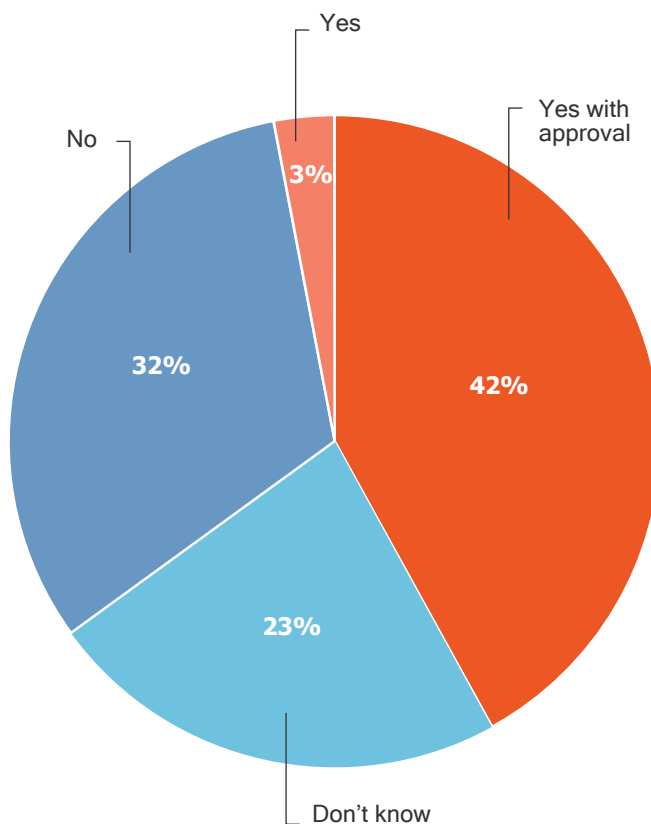
*"The Bridge group has lost several key policy development staff due to retirement/the private sector. Now essentially all expertise with respect to policy development is found in the private sector, and if the current trend of losing experienced staff and backfilling with very inexperienced staff continues, 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 public<sup>5</sup>, likely compromising human health and safety.

# Findings on Communication

Are you able to speak with the media?

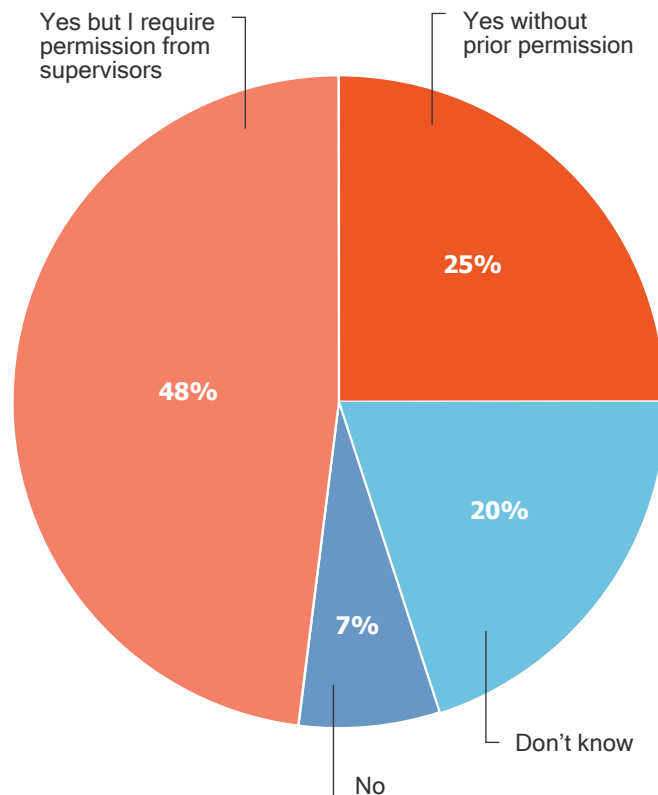


In April 2011, the former Public Affairs Bureau was reorganized and given a new name, Government Communications and Public Engagement (GCPE). This agency is tasked with overseeing media communications for all Ministries of the government, including speech writing, news releases, media relations, and strategic communications advice and planning<sup>18</sup>.

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 public<sup>19</sup>. 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.

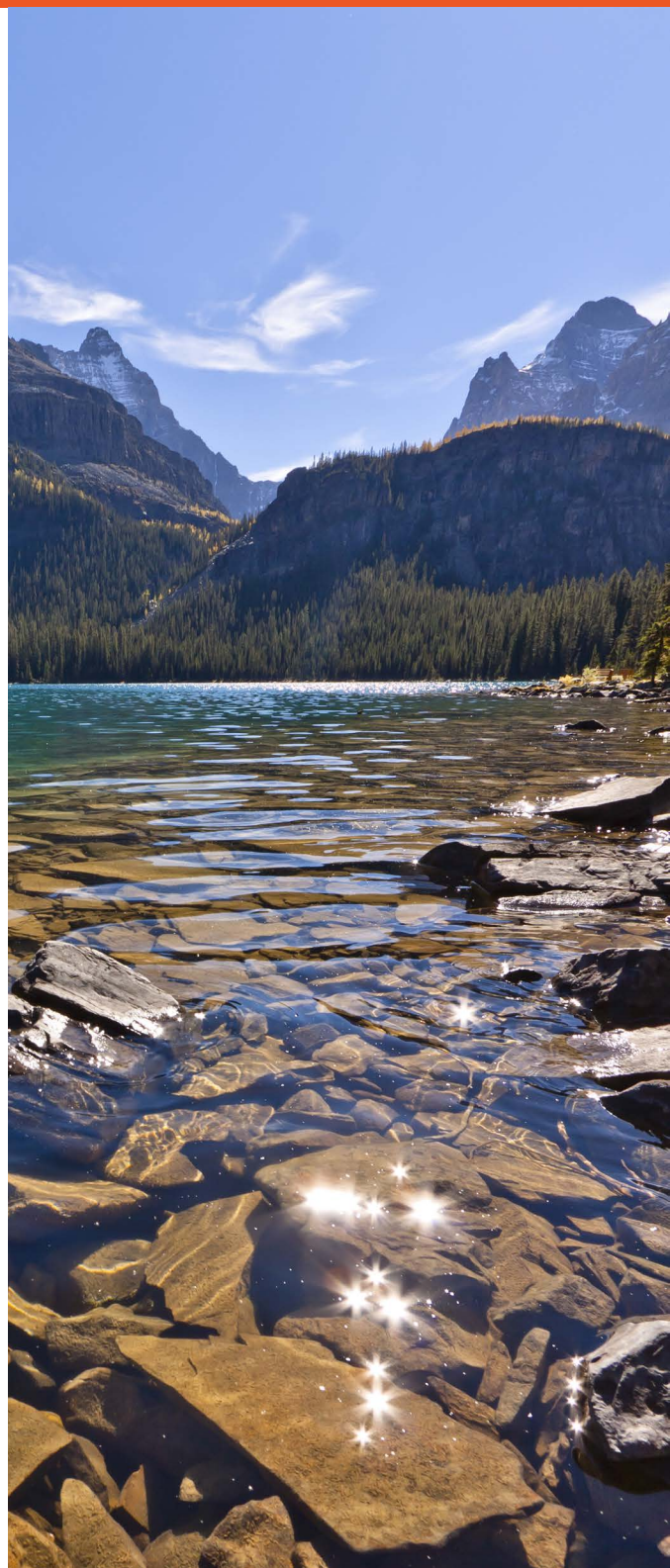
The ability of scientists to communicate with their colleagues at non-governmental organizations is crucial for robust government science. Speaking regularly and collaborating without interference or bureaucracy allows government scientists to remain on the cutting edge of their field and acquire the 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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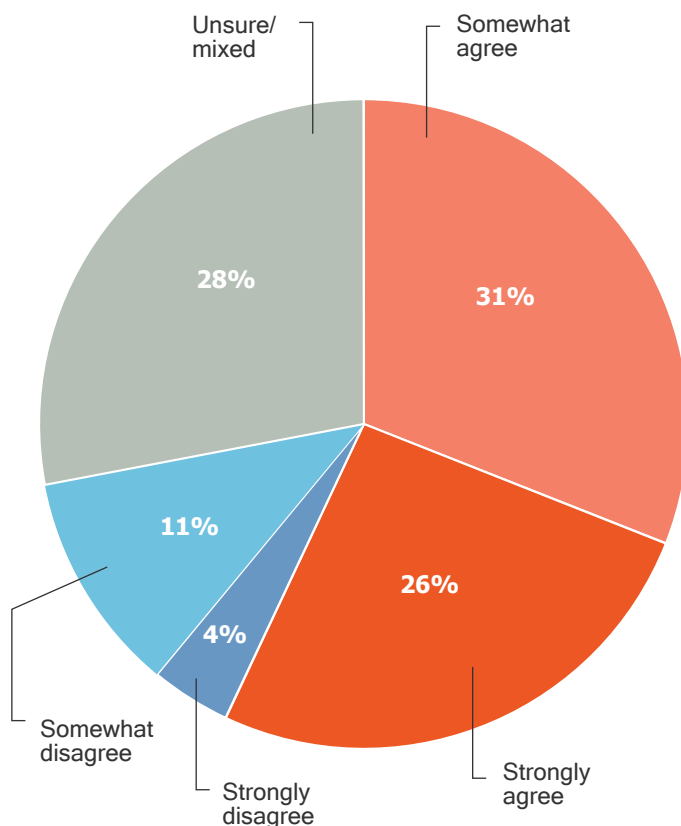
## Ongoing Challenges with Freedom of Information Requests

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 BC<sup>20</sup>, 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 individuals<sup>21-27</sup>.



# Findings on Independence

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

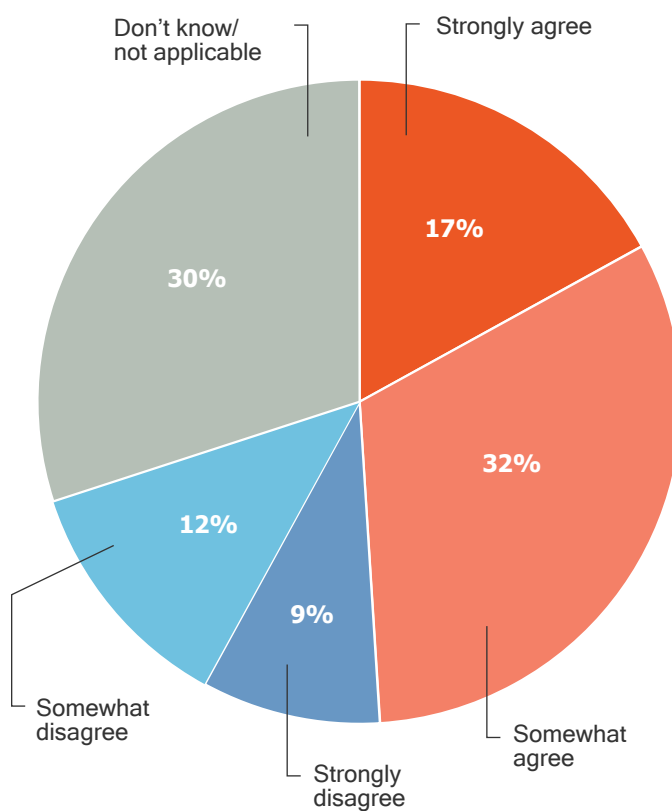


Government scientists are concerned that external pressures are influencing government research. As one scientist working in FLNRO reported, “[t]he government rarely or perhaps never suppresses scientific findings. They do however by way of lack of funding suppress research and data collection which 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<sup>5,7</sup>.

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.**

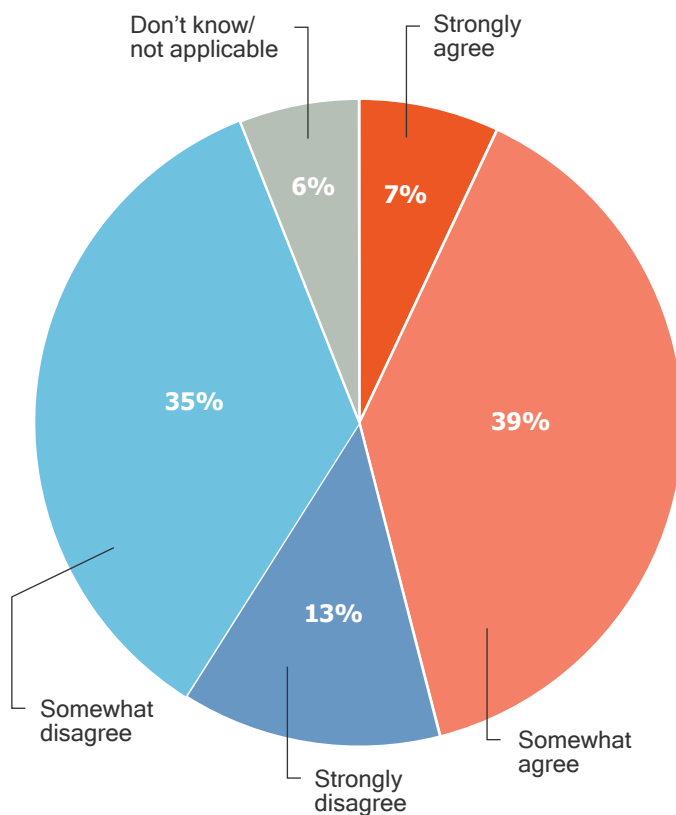
This can result in decisions made using insufficient or incorrect evidence. The same scientist continues “I have seen first-hand that such reports, endorsed by the government decision makers, contain factual errors that would affect a regulatory decision.”

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"<sup>28</sup>. Though this incident was later flagged as a non-compliance by BC's Environmental Assessment Officer<sup>28</sup>, 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

**E**valuating 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

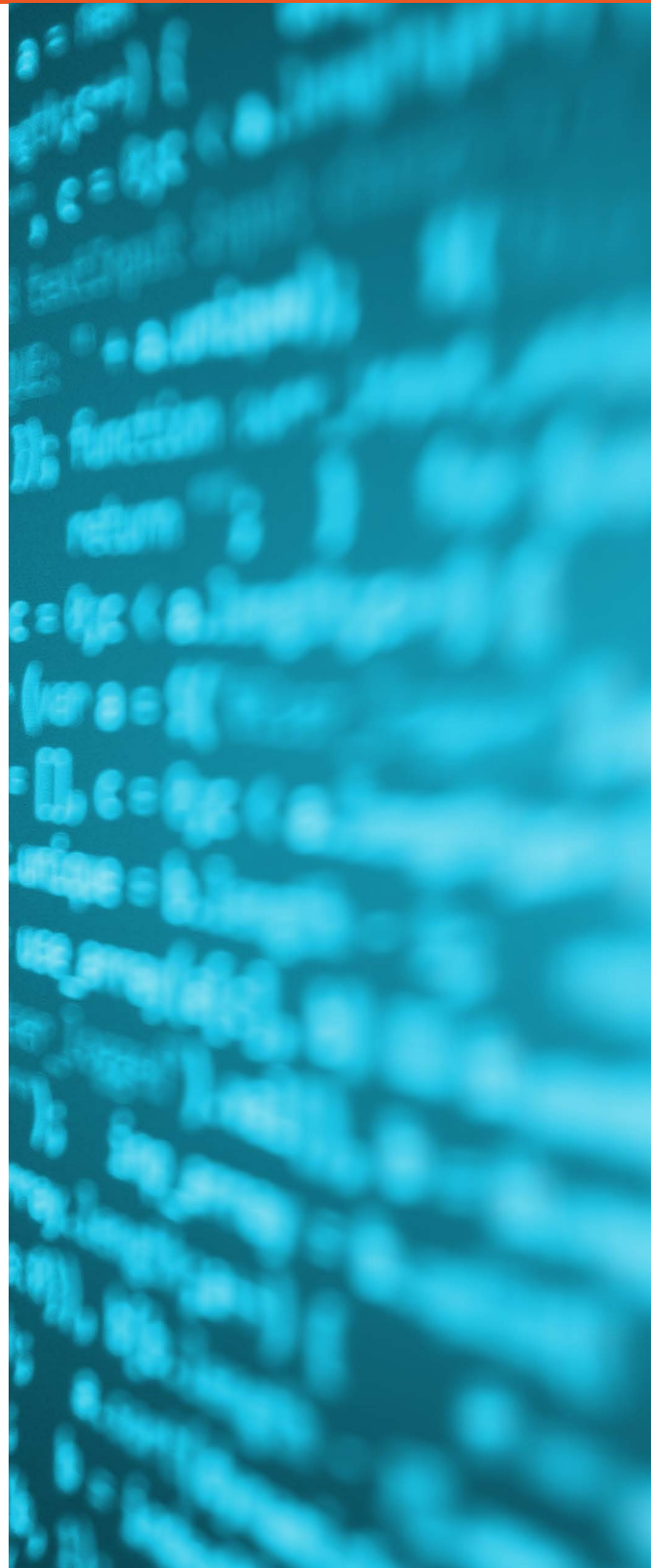
- » Create science-specific communications policies. Implement clear, publicly available policies in all Ministries for scientific personnel to provide guidance for communications with the media, the public, and other researchers.
- » Science communication policies should include a defined timeline for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

## Independence

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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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