Managing Climate Change Risks: An Independent Audit Released 02/18

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Prepared by: Thomas White, Climate Action Secretariat PAC Meeting Plan¹ [12/06/18]

1st APPA Update [25/02/19] **Prepared by: Johanna Wolf, Climate Action Secretariat**

2nd APPA Update [28/02/20] Prepared by: Rebecca Westley, Environment & Climate Change

Strategy (ENV) with input from: Agriculture (AGRI); Emergency Management BC (EMBC); Forests, Lands, Natural Resource Operations & Rural Development (FLNRORD); Municipal Affairs & Housing (MAH); Transportation & Infrastructure (TRAN).

Reviewed by: Bobbi Plecas, Deputy Minister, Climate Change, ENV

Reviewed by: Mark Zacharias, Deputy Minister, ENV

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¹ The audited organization will be required to present their initial action plan at this meeting (i.e. First three columns completed for each OAG recommendation included in the audit report) Please provide your email response to:

Rec. # Accepted? Yes / No ²	OAG Recommendations	Actions Planned & Target Date(s) ³	Assessment of Progress to date ⁴ and Actions Taken ⁵ (APPA update)
1 Yes	Undertake a province-wide risk assessment that integrates existing risk assessment work and provides the public with an overview of key risks and priorities.	The Climate Action Secretariat (CAS) is leading a province-wide climate risk assessment that will produce a framework for and a strategic assessment of climate-related risks that can be used to prioritize adaptation responses across government. The assessment enables government to compare different climate-related risks, and compare those with other risks, to develop proportional responses to priority risks, and to identify potential situations where current response capacity may be exceeded. Findings will be consistent with risk disclosure standards, provincial risk management policy, and the framework can be used to iterate the assessment in the future. Target Date: Preliminary Assessment - Complete. Updated Risk Assessment due in 2025 and then every 5 years.	Progress Assessment: Substantially Implemented Actions Taken & Discussion: A Preliminary Strategic Climate Risk Assessment for B.C. was completed and released publicly in July 2019. CAS will continue to work with partners to build on this work to develop scalable climate risk assessment approaches that integrate Indigenous perspectives and provide useful information to inform climate adaptation actions. Amendments to the Climate Change Accountability Act in 2019 require the Minister to publicly report on a determination of climate change risks every five years, and actual and proposed actions to manage those risks annually.
2 Yes	Create an adaptation plan for B.C. that: Clearly outlines government's priorities, roles and responsibilities, and timelines Identifies the necessary resources for implementation Integrates with existing adaptation planning at the ministry level	CAS will develop and publish a provincial adaptation strategy in 2020 that will address the points in the recommendation. Public consultation is scheduled to begin June 2019. Target Date: Fall 2020	Progress Assessment: Partially Implemented Work Underway: The CleanBC plan commits government to develop a Climate Preparedness and Adaptation Strategy to be released in 2020. CAS is engaging with ministry partners, Indigenous communities and organizations, local governments, and others to receive input on strategy development and identify areas for integration with existing adaptation planning. The first phase of public engagement on the strategy occurred November 2019 to January 2020. CAS is preparing a discussion paper for public release in spring 2020 for the second phase of engagement.

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² For each recommendation, the audited organization should state whether they have accepted the recommendation and plan to implement it fully by typing either "Yes" or "No" under the number of the recommendation.

³ Target date is the date that audited organization expects to have "fully or substantially implemented" the recommendation. If several actions are planned to implement one recommendation, indicate target dates for each if they are different.

⁴The Select Standing Committee on Public Accounts (PAC) will request that the audited organization provide a yearly update (i.e completed "Assessment of Progress and Actions Taken" column) until all recommendations are fully implemented or otherwise addressed to the satisfaction of the PAC. This is for the APPA update.

⁵ This action plan and the subsequent updates have not been audited by the OAG. However, at a future date that Office may undertake work to determine whether the entity has implemented the recommendations. The results of that work will be reported in a separate report prepared by the OAG.

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		TRAN: has supported and provided education on climate change impacts, adaptation and new ministry policy to various ministry staff groups. Going forward these may be developed for distribution to a wider ministry audience.	 earthquake exercise planned for 2020 (Exercise Coastal Response). The scope and scale of emergencies and disasters is increasing, requiring greater focus on validating plans and procedures for climate change impacts supported through robust training and exercises. EMBC has been able to develop strong relationships with Indigenous knowledge holders who are often willing to share their knowledge with staff. TRAN Climate Change Technical Circular engineering adaptation policy has been revised and redistributed to staff and provided on public ministry website (completed March 2019).
4 Yes	Work with local government and other stakeholders to assess the effectiveness of existing tools and resources for local governments and agricultural producers and act on their findings.	Complete the assessment process underway of Regional Adaptation Strategies (RAS) supported by AGRI's Climate Adaptation Program (2013-2018). Target Date: Complete (*revised from 2019 APPA) Update and refine climate adaptation tools and resources on an ongoing basis as part of the project management and evaluation cycle. Target Date: 2018-2023 For new RAS supported under the Canadian Agricultural Partnership (2018-2023), conduct a similar process to review and assess effectiveness of tools and resources supported under the Program. Target Date: 2022/2023 Prepare a plan to conduct a scan of local government tools, resources, programs and projects on climate adaptation (BC Climate Action Toolkit). Review plan with Green Communities Committee (GCC) (a joint UBCM —Province committee) and obtain endorsement. Target Date: Complete (*revised from 2019 APPA) Continue to work with stakeholders on updating existing materials. Update existing or develop new tools and resources for local government, based on gap analysis conducted in recommendation 15. Target Date: Fall 2020 (*revised from 2019 APPA)	 Progress Assessment: Substantially Implemented Actions Taken & Discussion: AGRI through the BC Agriculture & Food Climate Action Initiative, has assessed progress of the implementation of Regional Adaptation Strategies in Delta, the Peace, the Fraser Valley, the Okanagan, and the Cariboo. This process was done in consultation with local governments, agricultural associations, and producers and assessed the progress of strategies that were identified as high priorities in the original plan and prioritize areas of focus for the future. New Regional Adaptation Strategies for Bulkley-Nechako & Fraser-Fort George, and Kootenay & Boundary were completed in the summer of 2019. AGRI's Climate Change Adaptation Program has funded 18 regional "BC Farm & Ranch Wildfire Preparedness Workshops" since 2018. The workshops are aimed at agricultural producers, wildfire response and emergency personnel, and local government representatives. Locations of workshops held in 2019-20 include McBride, Prince George, 100 Mile House, Keremeos, Merritt, Salmon Arm, Tarrys, and Comox Valley. MAH received financial support and endorsement from the GCC for its plan to update the web-based 'BC Climate Action Toolkit'. The Toolkit is intended to support local government climate action. Work underway: A RAS for Vancouver Island is under development and completion is anticipated for summer 2020. The 'BC Climate Action Toolkit' for local government is scheduled to go live in Fall 2020. The Toolkit reflects the results of consultations and research and includes case study examples of adaptation initiatives that could be undertaken by local governments. Updates will reflect new approaches to reducing GHG emissions and developing more resilient communities. In support of this effort, MAH has been consulting with the Federal government, other provincial ministries and agencies, local governments in taking action to address climate cha
5 Yes	Consider climate change adaptation in its legislation, regulation,	Ministries within the scope of the audit have been considering climate change adaptation in their legislation, regulation, approvals and permitting processes. Ministries are identifying opportunities to incorporate climate change adaptation	Progress Assessment: Partially Implemented Actions Taken & Discussion:

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approvals and permitting processes.

whenever legislation or regulation is being drafted, amended or reviewed. **Target Date: Ongoing**

Specific actions include:

ENV:

- Amendments / Regulation under the Climate Change Accountability Act
 (replacement for the Greenhouse Gas Reduction Targets Act) will enable the
 provincial government to seek information from B.C.'s public sector
 organizations (PSOs) on their adaptation progress. Government will consult
 PSOs to bring forward the program over the next two years. The information
 collected will help the province evaluate progress and inform necessary policy
 and program changes to support adaptation progress in BC's public sector.
 Target Date: 2020-21 (*revised from 2019 APPA)
- CAS is considering ways TRAN's policy on Climate Change and Extreme Weather Event Preparedness and Resilience in Engineering Infrastructure Design can be extended to other provincially funded infrastructure. This would require the PSOs to demonstrate they have considered future climate conditions and extreme weather events in the design of new and retrofitted public infrastructure projects. Target Date: 2020
- Capital projects funded through the Green Infrastructure Fund receiving over \$10 million will be required to complete a climate resilience assessment for the project. CAS worked with Infrastructure Canada (INFC), MAH and TRAN on the design, implementation, and administration of the assessment of climate resilience. Target Date: Complete (*revised from 2019 APPA)
- Evaluate and prioritize development and implementation of tools under the Water Sustainability Act (WSA). Target Date: Ongoing

EMBC:

- The BC Flood and Wildfire Review (Chapman and Abbott report) has delivered recommendations on how to better plan for and respond to future flood and wildfire events. EMBC will look to address climate change related recommendations that are connected to EMBC activities and operations.
 Target Date: Fall 2020 (*revised from 2019 APPA).
- In partnership with other ministries, EMBC develops, maintains and implements emergency plans that address priority hazards. EMBC applies a climate adaptation lens to the ongoing review and development of applicable hazard-specific plans, starting with the update to the BC Flood Response Plan (see Rec #9). Target Date: Completed (*revised from 2019 APPA).

- Amendments to the Climate Change Accountability Act were completed in December 2019 requiring an annual minister's accountability report that includes government's progress to assess and manage climate related risks. (ENV)
- The Province (EMBC, FLNRORD, ENV) has established the Emergency Management Review Office to coordinate cross government efforts to address the Chapman and Abbott report's recommendations. A public status report and Action Plan was released in October 2018. Two subsequent <u>public updates</u> on the status of the 108 recommendations were released in April and October 2019. Responses to 99 of the recommendations (or about 92% of the total) are now considered to be "complete" (60 recommendations) or "underway" (16), or "substantial improvement" has been achieved (23). Of the remaining nine recommendations, four require further analysis and discussion, while alternative approaches are being used to address the other five recommendations.
- The Provincial Flood Emergency Plan (formally known as the BC Flood Response Plan) underwent a thorough review by CAS in March 2018. The updated Provincial Flood Emergency Plan was published in May 2019.
- The BC Drought Response Plan was reviewed, updated, and published in June 2018.
- EMBC has developed a BC Supplemental Questionnaire requiring applicants to indicate how their
 proposed project considers climate change adaptation. Communities that provide more thorough
 answers receive higher evaluation scores. Also, the application process for flood-related funding
 programs of the Community Emergency Preparedness Fund (CEPF) emphasizes incorporation of climate
 adaptation in project planning and design.
- TRAN Climate Change Technical Circular engineering adaptation policy has been revised and redistributed to staff and provided on public ministry website (completed March 2019).
- TRAN has engaged with EGBC in reviewing and finalizing the climate change practice manual (originally completed and released December 2016; EGBC 90% completed 2nd revision of content).
- TRAN supported the PCIC decision-support climate projection mapping tool (completed March 2019) and instructional videos are provided.
- The Investing in Canada Infrastructure Program (ICIP), has been developed to include a climate change section which addresses mitigation and adaptation within the application. Climate related responses are assessed during the review process and contribute to the decision-making process.
- The ICIP- Green Infrastructure stream has adaptation embedded in the program objective.
- A federal climate lens assessment, which includes mitigation and adaptation, is required prior to approval for all projects within the ICIP-CleanBC Communities Fund and for any project within any of the ICIP streams with a cost greater than \$10 million. MAH program staff have developed a climate change condition to be applied to the funding agreements for approved projects. Initial intakes and reviews for CleanBC Communities Fund and Environmental Quality are completed.
- Capital projects under the Green Infrastructure Fund over \$10M are now required to complete a climate resilience assessment.

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- EMBC will require mitigation funding applications to discuss climate change adaptation as a part of its funding approval process Target Date: Completed (*revised from 2019 APPA)
- EMBC is committed to modernizing the Emergency Program Act (EPA), with new legislation expected in 2020. The implications of climate change for emergency legislation and regulation is being considered as part of this effort.
 Target Date: Fall 2020
- EMBC is undertaking a comprehensive review of how the Province supports
 community recovery following significant emergency events. The changing
 natural hazard context due to climate change is being considered as part of
 this effort. Linkages to other pillars of emergency management are also being
 considered and integrated. Target Date: Fall 2020

TRAN:

- TRAN's Climate Change Technical Circular engineering policy applies to all
 ministry engineering designed infrastructures and requires climate change
 adaptation is taken into consideration. Target Date: Complete (*revised from
 2019 APPA)
- TRAN engaged with Engineers and Geoscientists of BC (EGBC) to develop climate change practice manual outlining standard of practice, the manual is undergoing final revisions. Target Date: 2020
- TRAN engaged with the Pacific Climate Impacts Consortium (PCIC) in developing a new decision support tool with maps of climate projections to further enhance the way the Ministry addresses climate change impacts within the British Columbia highway system. The "Climate Explorer" tool is available to the public on the PCIC website. Target Date: Complete (*revised from 2019 APPA)
- TRAN has begun development of a decision support tool to include issues of climate adaptation interdependence with other infrastructure owners. Target Date: Fall 2020

MAH:

- Local government infrastructure grant program now incorporates climate change adaptation into the assessment process. **Target Date: Complete**
- MAH will explore opportunities to strengthen climate change adaptation at the project level through an increased emphasis on adaptation in program criteria and project conditions. Target Date: 2020
- Based on actions identified by MAH and other ministries and the ideas put forward by the Green Communities Committee (GCC), assess adequacy of local government land use planning legislation in considering adaptation.

- In 2017 and 2018 over 320 FLNRORD staff participated in workshops to evaluate decision points across the ministry where climate change can be incorporated as well as the information requirements and tools needed to make these decisions.
- Amendments to the Chief Forester Standards for Seed Use were made on April 5, 2018 to include the
 optional use of Climate Based Seed Transfer when transferring seed for Crown land reforestation. Seed
 Planning and Registry Application (SPAR) was modified (August 6, 2018) to allow for implementation
 (uptake) in last year's (Sowing Year 2019) seedling requests.

Work underway:

- Consultation with PSOs is ongoing to inform policy and regulation development on requirements for PSOs to assess, manage and report on climate risks to public sector buildings.
- CAS is working with INFC, MAH, and TRAN to develop an assessment of climate resilience. While some guidance exists, enhanced guidance and support are needed to assist with the assessment of climate resilience. CAS is working with federal partners to develop a "climate resilience lens" for infrastructure funding programs. Work to advance this action will be addressed as part of the Climate Preparedness and Adaptation Strategy.
- The Water Sustainability Act (WSA) includes several new policy tools that, when implemented, will help
 water managers address water scarcity. Water Sustainability Plans under the WSA, for example, may be
 appropriate where there are existing pressures on water resources. Pilot studies (i.e. Nicola valley); are
 expected to inform the development of related water policy. Water objectives established under the
 WSA are expected to help address water scarcity and contribute to adaptive water management.
- EMBC's Discussion Paper on Modernizing BC's Emergency Management System was released on October 28, 2019, with comments received by January 31, 2020. EMBC is scheduled to bring forward a Request for Legislation to the Cabinet Committee on Sustainable Shared Prosperity in spring 2020. A 'What We Heard' report on the engagement process will be released in the spring.
- Since 2018, EMBC has developed and implemented the Interim Provincial Disaster Recovery
 Framework to support communities. EMBC is currently developing operational recovery guidelines for
 use in the 2020 freshet and fire season as required. Working with the City of Grand Forks, EMBC has
 supported community-led recovery which included a significant mitigation-component including the
 use of natural infrastructure.
- In 2018, the Minister of AGRI established an independent Advisory Committee to lead consultations
 and provide recommendations on how to revitalize the Agricultural Land Reserve (ALR) and the
 Agriculture Land Commission (ALC). Climate change impacts and adaptation considerations are
 reflected in the report prepared by the independent Advisory Committee. AGRI is continuing to review
 the recommendations and implement next steps.
- In January 2020, the Food Security Task Force completed <u>a report with recommendations</u> on developing agri-technologies to support the climate resilience of B.C.'s agriculture sector. AGRI is reviewing the recommendations and identifying next steps.

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		Coordinate with other provincial agencies on any legislation, regulations, approvals or permitting processes that may impact local government capacity and land use planning authorities. Target Date: 2020 onward Consider BC Building Code revisions to address specific adaptation priorities (e.g., wildfire). Target Date: 2022-2025 (*revised from 2019 APPA) FLNRORD: Examine policy options for incorporating a climate change lens in the Forest and Range Practices Act (FRPA). Target Date: Spring 2021 Implemented a change to the Chief Forester's standards for seed use to allow consideration of climate change in the FRPA. Target Date: Complete (*revised from 2019 APPA) In 2019, a new objective to "Expand and strengthen climate change mitigation and adaptation activities", including "integration of climate change adaptation considerations into the daily business of the Ministry" was added to the FLNRORD Annual Service Plan with the intent to incorporate climate change into all Ministry decision making. Target date: Ongoing AGRI: Review the recommendations from the independent Advisory Committee on how to incorporate climate change impacts and adaptation consideration into the Agricultural Land Reserve (ALR) and the Agriculture Land Commission (ALC) revitalization. Target Date: Ongoing Review the 'The Future of B. C's Food System' report findings and recommendation by the Food Security Task Force. Target Date: 2020	 MAH is developing a strategy to reduce greenhouse gas emissions and improve the energy efficiency, seismic, and climate resilience of existing buildings. A draft strategy is expected to be released in fall 2020. Key areas of focus will include addressing climate risks for buildings related to an increase in extreme weather events, more frequent and severe heat waves, and higher risk of wildfires. This work is being done in collaboration with all levels of government, academic research institutions, Crown corporations, and other relevant stakeholders. MAH is considering possible changes to the next edition of the BC Building Code to address overheating risks, based on future climate projections, in new construction. The next edition of the BC Building Code is anticipated in 2022. The FLNRORD Joint Executive Directors Committee has endorsed proceeding with policy work to incorporate climate change into the decision-making framework for the Lands, Range and Water program areas; Land Use Planning and the Cumulative Effects Framework. This work is currently underway. FLNRORD is reviewing FRPA with a goal to make legislative changes in two phases. Climate change and forest carbon have been included in proposed changes to the FRPA decision making framework. These proposed changes were outlined in a discussion paper for public input in 2019. The proposed changes are now awaiting approval, expected in Spring 2020. If approved, the changes are expected to be implemented by Spring 2021. An update to the 2015-2020 FLNRORD Climate Change Strategy is currently underway as well as supporting the government-wide CleanBC Initiative and Climate Prepardness and Adaptation Strategy. FLNRORD is preparing guidance/standards on climate change scenarios, models and timeframes for use in different types of natural resource decision making. FLNRORD is integrating climate change mitigation and adaptation in Forest Carbon Initiative projects <!--</th-->
6. Yes	Create a performance monitoring framework based on the goals, activities and outcomes outlined in the adaptation plan (see recommendation #2).	CAS has developed a monitoring and evaluation framework that tracks B.C.'s readiness for adaptation and will begin roll-out with other ministries and select public sector organizations. Target Date: 2021 (*revised from 2019 APPA) Amendments to the <i>Climate Change Accountability Act</i> created the legislative foundation for the province to regularly report on B.C.'s adaptation progress. The monitoring and evaluation framework will inform how the province will measure and report on adaptation progress. Target Date: Fall 2020 (*revised from 2019 APPA)	Progress Assessment: Partially implemented Actions Taken & Discussion: The Climate Change Accountability Act was brought into force in November 2019 replacing the Greenhouse Gas Reductions Target Act; with a legislated requirement for an annual provincial progress report for both adaptation and mitigation, starting in 2020. The monitoring and evaluation framework will inform development of progress reporting, including indicators, for the actions outlined in the Climate Preparedness and Adaptation Strategy. The full reporting approach will be implemented for the 2021 Climate Change Accountability Report. Process mapping workshops have been held to identify potential reporting processes and procedures to support meeting the new reporting requirements.
7 Yes	Improve public reporting, including providing detailed public reporting on adaptation when	The government will publish a public report on provincial climate risks and adaptation progress starting in 2020. The reporting requirements may be extended to public sector organizations. Target Date: 2020	Progress Assessment: Partially implemented Actions Taken & Discussion: 2019 amendments to the Climate Change Accountability Act require the minister to report annually on government's progresses in assessing and managing climate risks. The Act also requires government to re-

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	completing legislated reporting on mitigation.		determine climate risks for the province every five years. The first legislated report will be released in 2020. CAS is currently establishing reporting procedures to support this process. The 2019 Climate Change Accountability Report provides information on the potential climatic changes
			expected, the strategic climate risk assessment and the actions the province had taken on adaptation.
8 Yes	Identify priority unmet climate data needs and fill gaps accordingly. This work should be done in collaboration with network operators as well as with users, such as flood forecasters and climate modellers.	Government continues to work across agencies and with its partners to explore and address needs and gaps in climate data, information and tools. Target Date: Ongoing Specific actions include: As part of the Pan-Canadian Framework on Clean Growth and Climate Change, the Government of Canada committed to "Establish a new Canadian Centre for Climate Services (CCCS) to improve access to climate science and regional climate resilience." Target Date: Complete (*revised from 2019 APPA) FLNRORD, through the BC Wildfire Service (BCWS) has extensive station networks that will be maintained and potentially enhanced as funding becomes available. Target Date: Ongoing The Climate Related Monitoring Program (CRMP) completed a map-based evaluation (gap analysis) of current climate monitoring stations. This evaluation identified key locations (watersheds) for network enhancements to improve the Provincial Climate Data Set. Target Date: Complete Under the CRMP, the province is working with BC Hydro, Rio Tinto ALCAN and regional districts to make long term meteorological data available for professional users. Target Date: Complete (*revised from 2019 APPA) FLNRORD has published an inventory of data and tools for professionals to use when making climate-informed decisions. Work is underway to improve this inventory and identify gaps and tools that need updating or additional data.	 Overall Progress Assessment: Partially Implemented Actions Taken & Discussion: The Province continues to work closely with other agencies, partners, Pacific Institute for Climate Solutions (PICS) and Pacific Climate Impacts Consortium (PCIC) to identify user needs for climate data and information. Federal government has established the CCCS and developed an online portal providing access to climate science information. As part of this effort, the federal government invested \$1.25M in PCIC to deliver climate services to assist decision makers in preparing for the changing climate. BCWS has developed a new Predictive Services Unit, of which weather is a key data component. New equipment and stations are added incrementally as funding becomes available. The CRMP's agreement on the Management of Meteorological Networks in BC was renewed by nine agencies including ENV. The meteorological data collected under the CRMP agreement are publicly available through the Provincial Climate Data Set hosted by PCIC. Work underway: The CRMP is currently engaging with regional partners and Indigenous Nations to seek feedback on the results of the climate monitoring stations gap analysis. The inventory of data and tools for making climate-informed decisions has been published on the BC government website, and content is updated and refined as new information becomes available. Funding to fill the gaps for unmet climate data needs will be requested through the development of the Provincial Climate Preparedness and Adaptation Strategy.
		Tools include a Fish and Wildlife Vulnerability Assessment, Climate Based Seed Transfer, Tree Species Selection Tool, Regional Climate Change Extension Notes, etc. Target Date: Ongoing	
9 Yes	As part of their flood risk strategy: review roles and responsibilities for flood management in the province and clarify leadership set clear objectives that target areas of	 A clear and concise BC Provincial Flood Risk Strategy is targeted for completion in FY 2020/2021, to articulate: The history of flood management in BC, including indigenous narratives; Input from other levels of government, stakeholders, and First Nations; A vision, principles, and key outcomes for integrated flood management; Strategic directions on corporate priorities Target Date: FY2020/2021 Subsequently, more comprehensive plan and program development will occur to build a BC Flood Resilience Plan, targeted for completion by 2021/22. This will clarify details on roles, responsibilities, governance, funding, capacity, 	 Progress Assessment: Partially Implemented Actions Taken & Discussion: In 2018, a consultant report including recommendations was delivered, addressing initial scoping, planning, information assembly, key issues and investigations, and next steps for the Provincial Flood Risk Strategy. In 2019, the Province provided a grant to the Fraser Basin Council to coordinate and manage expert teams to conduct further investigations on provincial flood strategies, planning, and implementation and developed the scope of a renewed BC Flood Risk Strategy.

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- high priority and/or high risk
- link funding allocations to areas of high priority and/or high risk
- assess current capacity to meet objectives and identify and fill gaps
- tie flood mitigation funding for local governments to commitments to address risk at the local level

- objectives and targets, spatial priorities, as well as the timing and sequencing of integrated flood risk management actions, operations, and projects. **Target Date: FY2021/2022**
- EMBC provided approximately \$1M in funding to the Fraser Basin Council to develop a regional flood management strategy for the lower mainland. Phase 2 is expected to be completed in 2019. Target Date: Complete (*revised from 2019 APPA)
- EMBC's Disaster Mitigation Unit (DMU) evaluates project applications for flood mitigation funding programs such as the National Disaster Mitigation Program (NDMP) (~\$75M) and the Community Emergency Preparedness Fund (CEPF) (~\$23M). As part of its evaluation process, DMU has developed evaluation criteria to tie flood mitigation funding for local governments to commitments to address climate risk at the local level. Target Date: Complete (*revised from 2019 APPA)
- EMBC is leading the update to the BC Flood Response Plan, which will clarify roles & responsibilities for flood response in a changing climate. Target Date: Complete (*revised from 2019 APPA)

- During fall and winter 2019/2020, engagements were led to gather input on flood risks from local
 governments (UBCM Annual Convention); indigenous communities (Indigenous Climate Forum); the
 public (EMBC Emergency Program Act modernization process; CAS Climate Ready public web portal),
 as well as other stakeholders (e.g., Fraser Basin Council's Lower Mainland Flood Risk Strategy).
- For NDMP projects, the DMU has developed a BC Supplemental Questionnaire requiring applicants to indicate how their proposed project will address risk at the local level.
- The DMU has updated the CEPF application form to include questions that allow the applicant to discuss how the project will address climate risk at the local level.
- The update of the BC Flood Response Plan to the <u>Provincial Flood Emergency Plan</u> (FEP) has transformed it to a plan that encompasses all four pillars of emergency management and was published in May 2019. A cross-ministry working group was established that also included federal partners, local authorities, and First Nations representation.
- The Provincial FEP defines the roles and responsibilities of local authorities, First Nations, and Provincial ministries before, during, and after a flooding emergency, is in alignment with the Interim Provincial Disaster Recovery Framework and has been reviewed from a climate adaptation perspective. The Plan reflects the new Provincial Governance Structure, including the Ministers'-Deputies' Emergency Council (M-DEC), Deputy Ministers' Committee on Emergency Management (DMCEM) and Assistant DMCEM.

Work underway:

 The Fraser Basin Council investigations are underway and encompass identified issues such as: governance, forecasting, flood hazard and risk assessment, structural vs. non-structural flood mitigation approaches, partnerships, response, recovery, and resourcing to inform the BC Flood Risk Strategy.

10 Yes

Create a flood plain and hazard mapping program that:

- incorporates the effects of climate change and land-use change
- provides mapping standards with ongoing updates has expertise available for local governments to draw upon

<u>Background</u> – Legislative changes in 2003 and 2004 transferred responsibility for developing flood and hazard maps from the province to local governments. Since then, the role of the Province has been to provide guidelines for local governments to consider, technical support, and funding when it becomes available.

- Current mapping guidelines will be reviewed every 10 years (or when substantial new science dictates) to ensure effects of climate change are properly considered. Target Date: Ongoing
- Through funding support from EMBC, GeoBC is conducting and assisting with Light Detection and Ranging (LIDAR) mapping for Vancouver Island (planned), the Lower Mainland (complete), the Okanagan (complete), and the Kootenays (planned). Target Date: Fall 2021
- Floodplain mapping will be considered in the Provincial Flood Risk Strategy (see rec. #9) and BC's Climate Preparedness and Adaptation Strategy (rec. #2).
 Target Date: 2020-22

Progress Assessment: Partially implemented

Work Underway:

- LiDAR acquisition program is continuing to make progress in coverage and expanded areas are being considered (e.g., Nicola Valley).
- Several provincial and federal funding programs have been established to provide funding for local governments to undertake floodplain mapping, but the efforts by local government to date are not adequate to replace the outdated floodplain maps currently in use by the majority of the province. The flood risk strategy (rec. #9) will review the adequacy and decision of local governments to provide floodplain mapping.
- The Province has contracted Fraser Basin Council (FBC) to review the status, inventory, and adequacy
 of floodplain mapping in BC. In addition, FBC will review the ability and efficiency of local governments
 to be responsible for floodplain mapping.
- The Province is reviewing the need to develop Provincial guidelines in addition to the established professional practice guidelines for floodplain mapping including participating in establishing requirements for standardization of flood mapping practices in Canada with the federal government.

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11 Yes	Conduct and support research into climate change and wildfire behaviour and incorporate findings into BC Wildfire	FLNRORD has an existing research program. BC Wildfire Service (BCWS) continues to collaborate with the Western Partnership for Wildland Fire Science, the Canadian Forest Service, and B.C. academics on research. Pan-Canadian research is currently under development through the National Blueprint on Wildland Fire Science. BCWS is developing a database of	 The Province and the federal government are discussing the recent federal Minister Wilkinson Mandate Letter which included the commitment to 'Work with the Minister of Natural Resources and provinces and territories to complete all flood maps in Canada'. The Province will work with the federal government to explore a sustainable floodplain mapping program in BC and the requirements for standardized flood mapping practices across Canada. Progress Assessment: Substantially Implemented Actions Taken & Discussion: BC has undertaken an inventory of research, initiated the development of a database and has identified local research gaps for action. Additionally, BC contributed to the development of the Blueprint for Science and is working with partners to advance research within BC, western Canada and
	Service planning.	 research to help identify gaps and opportunities. Target Date: Ongoing To expand its research capacity, the BCWS has hired a research coordinator and is working with the federal and provincial governments on the National Blueprint for Wildland Fire Science. The research coordinator will set the foundation for BC's participation for further research through the cross-Canada Blueprint and interact between the various research entities. Target Date: Complete (*revised from 2019 APPA) 	 nationally. Our research priorities are aligned with the BCWS strategic direction and are reflected as such in the Strategic Plan. BCWS hired a Research and Innovation Senior Officer over a year ago and has also created additional capacity through a Research Officer and 3 Research Analysts. Through the Western Partnership and collaboration with other National/Federal agencies, BCWS has benefited from cross-jurisdictional research to support our priorities. BCWS has also partnered with EMBC, Jobs, Economic Development and Competitiveness (JTT) and Information, Innovation and Technology (IIT) and other Emergency Management agencies to advance Research and Innovation through the Emergency Management Tech Cluster. Work underway: BCWS continues to identify opportunities for research collaboration as it aligns with the Blueprint for Science and has specifically initiated research projects tied to presumptive diseases (i.e., wildland firefighter smoke inhalation impacts) and psychological and physiological impacts (i.e., wildland firefighter stress and fatigue). BCWS has partnered with a number of Universities, such as; UBC, UoA,
12	Create an overall strategy	The Province has completed a review into the wildfires (and floods) of 2017.	UNBC, Laurentian, and others in collaboration through the Western Partnership. Progress Assessment: Partially Implemented
Yes	to address hazardous fuel risks that: Uses a risk-based approach when allocating funds to reduce wildfire hazard Ties wildfire mitigation funding for local governments to commitments to address risk at the local level	Internal reviews of the 2017 wildfire season are also underway. BCWS is implementing new structures to incorporate the recommendations into programs and procedures. BCWS is also working with Emergency Management BC to advance preparedness and cooperation during fire (and flood) events. Target Date: Ongoing	 Actions Taken & Discussion: The Abbott Chapman Report and After Action Reviews have been completed, and recommendations are currently being implemented. While some recommendations were implemented immediately, many require detailed analysis or approvals prior to implementation. An Executive Lead and office has been initiated under EMBC to assist with coordination of work under the After Action Reviews. The target date for receiving the Independent After Action Review has been met, while implementation will continue for several years. BCWS has adopted a continuous improvement model, to capture lessons learned from subsequent After Action reviews, and to increase the effectiveness of the substantive changes implemented BCWS has hired a Director, Partnerships and Indigenous Relations has built and resourced a new structure to increase and maintain engagement with Indigenous persons, communities and stakeholders.

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- BCWS has hired a senior manager to coordinate stakeholder engagement and work specifically with First Nations, which includes the incorporation of traditional knowledge. Target Date: Complete (*revised from 2019 APPA)
- The Province has made \$235M available through the Forest Enhancement Society of BC (FESBC) to enhance forest health, ecosystems and wildfire prevention. Target Date: Ongoing
- FLNRORD regularly undertakes ecosystem restoration works and rehabilitation of Crown land impacted by wildfires (and flooding). Target Date: Ongoing
- Since 2004, over \$78M has been made available through the Strategic Wildfire Prevention Initiative (SWPI) to local authorities and First Nations to undertake community wildfire planning, fuel treatments and FireSmart activities in the wildland urban interface (WUI). Target Date: Complete (*revised from 2019 APPA)
- The results of the provincial review of 2017 wildfire and flood response will inform increased coordination between the UBCM Community Wildfire Protection Plan funding stream, FES and other funding sources and to ensure smoother function for local governments. Target Date: Complete / Ongoing (*revised from 2019 APPA)
- The new Wildfire Resiliency Initiative (WRI) was announced in the 2018 budget and will provide funding to local authorities and Indigenous Communities for the development and implementation of community fire risk, prevention and response plans. The WRI has been structured to incorporate recommendations from the 2017 flood and fire after action reviews. The WRI also provides funding to identify and address landscape level provincial priorities to support economic, environmental and forest resiliency based on risk. Target Date: Complete (*revised from 2019 APPA)

- BCWS has launched the new Community Resiliency Investment Initiative (CRI) to support indigenous
 and non-indigenous communities in B.C. to become more resilient to the impacts of wildfire. This is
 achieved by providing funding for a broad suite of eligible activities that fall within the seven FireSmart
 disciplines. In addition, the CRI program is also focused on activities to reduce the impacts of wildfire to
 critical infrastructure and mitigate economic disruption; prioritizing communications, energy, and
 transportation networks.
- The new CRI was designed to streamline funding sources and application techniques. BCWS, in conjunction with UBCM and First Nations Emergency Services Society, are consulting with communities to improve the Community Wildfire Protection Plan process in BC.
- The SWPI program has been transitioned to the CRI that provides funding for a greater range of works and targets projects of provincial significance as well as communities and First Nations.

Work underway:

- The Province is working on the development of a comprehensive wildfire risk reduction strategy. The cornerstone of the strategy is the development of the CRI.
- BCWS is developing a new Cultural and Prescribed Fire Program to guide the implementation of prescribed fire strategies to mitigate wildfire threat and improve ecosystem health and vitality.
- The Province continues to work with the Forest Enhancement Society to provide funding for wildfire mitigation initiatives.
- The Province continues to undertake ecosystem restoration works and rehabilitation as part of the wildfire and freshet recovery process.

13 Yes	Create additional educational materials and incentives for the public that focus on behavioural change to reduce wildfire hazard.	 BCWS has initiated BC FireSmart Committee (BCWS, UBCM, Fire Commissioner, Fire Chiefs, FN Social Services, Academia). The new engagement and communications specialist is helping BCWS create additional educational materials, policy material, workshops, and public education campaigns to increase awareness and education. Target Date: Ongoing PreparedBC, EMBC's public education program, is incorporating climate change into its core materials as part of a staged refresh, including the Wildfire Preparedness Guide (released last July) and the Flood Preparedness Guide (planned for release this spring 2020). In addition, climate change is raised in the refreshed Master of Disaster program that launched in fall of 2019 and targets grades 4 to 8. Target Date: 2020 BCWS, in collaboration with provincial and territorial colleagues continues to lead the implementation of the Canadian Wildland Fire Strategy (CWFS) and Investment Strategy to advance wildfire resiliency and integration including climate change, research, landscape level planning, public education and awareness and response capacity. Target Date: Ongoing 	 Progress Assessment: Partially Implemented Actions Taken & Discussion: The BC FireSmart Committee is focussing on public education, engagement and incentives for participation in the seven disciplines of FireSmart. Funding supports for FireSmart investments are included within the CRI. The BC FireSmart Committee has adopted a phased approach and will continue to expand efforts and priorities as the committee matures. The new Wildfire Preparedness Guide was released in July 2019. Updates to the Flood Preparedness Guide and a refresh of the Master of Disaster classroom program were also completed. An update to remaining PreparedBC materials will include a climate change perspective. An advisory group of subject matter experts will be created including representatives from CAS. BCWS continues to co-chair the implementation of the Canadian Wildland Fire Strategy (CWFS) with NRCan. In 2018, the Federal government included wildfire mitigation works (natural infrastructure) as an eligible expense under the new Disaster Mitigation Adaptation Fund under Infrastructure Canada. BC and the other Provinces and Territories continue to work with the federal government to advance the CWFS. In 2019, the Canadian Council of Forest Ministers (CCFM) endorsed a "whole of government" approach to transform wildland fire management in Canada. BC and the other Provinces and Territories continue to work with the federal government to increase integration as a mechanism to advance the objectives within the CWFS.
14 Yes	Complete its work on a proactive drought	Actions completed, underway, or planned to support Drought Strategy development include:	Progress Assessment: Partially Implemented Actions Taken & Discussion:
	management strategy, including an assessment of potential risks to the province's water resources, and efficacy of potential strategies to manage them.	 Evaluation of the current status of provincial drought preparedness and response processes; Assessment of drought risks and vulnerabilities in BC, including to water resources; Identification of policies and programs that would enhance provincial government drought preparedness and response and increase the capacity of communities, Indigenous peoples, businesses, and industries to prepare for 	 An annual review of provincial drought response is standard procedure as part of an ongoing cycle of business improvement (FLNRORD and ENV). Internal engagement identified existing policies and programs to address drought response and preparedness, gaps, and additional actions. Input from this process was synthesized in a draft Drought Strategy reviewed by the Interagency Drought Working Group (IADWG). Recommendations address: risk assessment; data and knowledge; government and community capacity; supply and demand management; and water for aquatic ecosystems.

Work underway:

• ENV continues to monitor *Water Sustainability Act* (WSA) implementation to identify the need for new WSA provisions or operational policies to support drought response, preparedness, mitigation and recovery.

understand provincial drought risk. These assessment outputs were released in 2019.

ENV has synthesized information about climate change impacts on hydrological systems in B.C. and on

periods of low streamflow, the economic impacts of drought in B.C., has developed two drought scenarios, and elicited expert opinion on the likelihood and consequences of these scenarios to better

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and respond to drought.

finalization of the strategy;

Engagement with Indigenous groups, stakeholders and government, and

Target Date: TBD Pending resourcing decisions (*revised from 2019 APPA).

		 Finalization of a Drought Strategy will require further interagency collaboration and a commitment to resourcing. ENV and FLNRORD are looking for an effective cross-agency mechanism through which to advance internal engagement, as the IADWG last met in 2018. Indigenous engagement was identified as a priority in 2018 and is being integrated with engagement on water policy and climate change adaptation planning. ENV is working with the First Nations Fisheries Council to develop a framework for Indigenous engagement on water policy. Identifying actions to improve the provincial hydrometric network Developing additional regulatory tools under the WSA to increase capacity for adaptive management. ENV is exploring the potential of aquifer storage and release as an alternative water storage mechanism. Drought initiatives will be incorporated in to the provincial Climate Preparedness and Adaptation Strategy.
15 Yes Assess more fully the challenges facing local governments around climate change adaptation, identify priority areas and act on the findings.	Review the range of local government climate adaptation challenges, building on: Work done by the joint UBCM-Province Green Communities Committee (GCC) Adaptation Working Group in 2017. In-house knowledge Work currently being done in the context of policy fellow research on potential for planning and land use strategies to improve community resilience to flood and wildfire hazards MAH participation in cross-ministry committees and working groups Share the results of this review with the GCC. Target Date: Spring 2020 (*revised from 2019 APPA) The results of the in-house review were considered by the GCC Adaptation Working Group in 2019 and their recommendations, including priorities, will be provided to the GCC for consideration. Target Date: Spring 2020 (*revised from 2019 APPA) MAH anticipates that specific initiatives to address the challenges identified by local governments and priorities to support further action will also be identified through the work of the UBCM Special Committee on Climate Action and the Province's Climate Preparedness and Adaptation Strategy process that is being led by CAS. Target Date: 2021 (*revised from 2019 APPA)	 Overall Progress Assessment: Partially Implemented Actions Taken & Discussion: An in-house review of previously identified potential adaptation challenges and ideas was completed. MAH engaged with the GCC Adaptation Working Group (AWG) in 2019 to discuss the results of this review and revisit the AWG's earlier recommendations. The 2019 AWG included representatives from a range of local governments, academia and professional associations. The engagement included a review, updating and prioritizing of previously identified proposals which helped inform MAH's submission to the Province's Climate Change Preparedness and Adaptation Strategy Discussion Paper. It is anticipated that they may also be shared with the UBCM Special Committee on Climate Action. A Mitacs fellow's draft report on opportunities for reducing flood and wildfire risks in BC has been completed and is being considered by MAH. Recommendations from the draft report are being

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			Once the UBCM Special Committee on Climate Action releases its findings and the Province's Climate
			Preparedness and Adaptation Strategy is released, MAH will work to advance priority actions identified
			in these reports.
16	Create a clear, measurable	Government has directed the Minister of ENV to develop a strategy to meet carbon	Progress Assessment: Substantially Implemented
Yes	plan to meet legislated	pollution reduction targets in his mandate letter and service plan. The strategy will	Actions Taken & Discussion:
	targets, including clear	consider adaptation co-benefits.	The CleanBC plan released on December 5, 2018 was developed as a pathway to achieve the Province's
	accountabilities, emission	Target Date: 2020 (*revised from 2019 APPA)	legislated climate targets of reducing greenhouse gas (GHG) emissions by 40% by the year 2030, based on
	estimates and baselines,		2007 levels. The plan and annual reports include clear accountabilities, emissions estimates, baselines,
	resources, timelines, and		timelines and interim targets. The plan described and quantified measures to eliminate 18.9 megatonnes of
	interim targets.		carbon dioxide equivalent (MtCO ₂ e), 75% of the 2030 target. The Climate Change Accountability Act was
	Government should also		updated in November 2019 to require interim and sectoral targets and clear accountability through an
	consider co-benefits with		annual report. The report released in February 2020 provides an update to the CleanBC plan outcomes,
	adaptation.		reports on progress, and updates the 2030 emissions reduction projection to 16.4 MtCO ₂ e, 79% of the 2030
			target (a lower emission forecast in the absence of CleanBC led to fewer reductions achieving a similar
			outcome). Remaining reduction initiatives for the 2030 target will be identified in 2020. Continued
			iterations of CleanBC planning will address future targets. The Climate Preparedness and Adaptation
			Strategy will be released in 2020.
17	Publish information	Government will enhance the information in the 2018 progress-to-targets reporting	Progress Assessment: Fully Implemented
Yes	regarding its use of offsets	regarding the use of offsets.	Actions Taken & Discussion:
	within the provincial	Target Date: Complete (*revised from 2019 APPA)	The Province released the 2018 progress-to-targets on Dec 5, 2018 and included an appendix with
	inventory to provide		enhanced information regarding the use of offsets and the reconciliation to the Provincial Inventory. The
	clarity and consistency		use of offsets as described continues in the first Climate Change Accountability Report, released in
	with the progress to		February 2020 (a replacement for Progress-to-Targets Reports).
	targets report.		