



**AGRICULTURE SECTOR
COMMUNICATIONS PLAN AND
PROJECT REPORT
FOR DROUGHT IN THE
COWICHAN VALLEY REGIONAL DISTRICT
EMERGENCY PROGRAM**

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Disclaimer

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Introduction

A 2014 pilot project brought Cowichan producers together to discuss preparedness for extreme events. Through workshop discussions, it became clear that producers were not necessarily aware of the status of surface water supply at the regional level. Provincial government drought alerts and updates were not reaching producers through existing communication methods.

To address this gap, a jointly funded pilot project has been developed to implement several low cost communication strategies. The intent of the project is to improve drought status communication to producers, and evaluate which approaches are most effective. In 2015, the Cowichan Valley Regional District (CVRD) went from drought level 2 to level 4 by July 1st and it was not possible to fully implement and assess the communication strategies. Therefore the pilot project has been extended through 2016 to enable another year of implementation and evaluation of the strategies.

This Communications Plan times the various communications strategies to coincide with the changes in drought level. Ongoing drought information will be provided on road-side Drought Level signs and through the CVRD website at www.cvrld.bc.ca/Agri-Drought. Drought brochures have been made available at various agriculture sector events (e.g. Islands Agriculture Show, agricultural fairs), libraries and local government offices. The drought brochures explain the drought levels, and direct agricultural producers to the website and encourage them to register with the Emergency Alert System. During this two season pilot, postcards were sent out to agricultural producers to coincide with increasing drought levels. At level 3, update texts are sent to those producers that have registered with the CVRD Emergency Alert System. At level 4, texts and phone calls are provided for agricultural producers that have registered with the CVRD Emergency Alert System.

Over fall and winter 2016/2017, an evaluation was conducted with agricultural producers in the CVRD to obtain feedback on the communications strategies and to determine which ones have been most effective. The most effective options will be integrated into the on-going activities of the CVRD Public Safety Division and shared with other interested communities and with relevant provincial agencies.

Communications Plan

This communications plan focuses on the following components:

- Provincial Drought Definition and Classifications
- Determination of Provincial Drought Levels
- Communication Objectives
- Target Audience(s) and Key Messages
- Communication Roles and Processes
- Communication Strategies
- Evaluation and Next Steps

Provincial Drought Definition and Classifications

Definition of Drought

This communications plan is designed to communicate drought status to agricultural producers within the CVRD. To ensure that communications are consistent with the information distributed by the BC government, the drought definition and classifications are taken directly from the *British Columbia Drought Response Plan* (June 2015).

While there is a range of different ways that drought can be defined (including meteorological, hydrological, agricultural and socioeconomic) and each of these implies different impacts, the B.C. government's drought levels are based on hydrological drought.

Hydrological Drought is associated with the effect of low precipitation on water levels in rivers, reservoirs, lakes and aquifers. Hydrological droughts usually are noticed some time after meteorological droughts. First precipitation decreases and, some time after that, water levels in rivers and lakes drop. Hydrological drought affects uses which depend on ground and surface water levels and stream flows. Changes in water levels affect ecosystems, hydroelectric power generation, and recreational, industrial and urban water use.

Drought Classifications

The B.C. Drought Response Plan is organized around four successive levels of drought. Each level has certain activities associated with it in order to meet specific objectives and targets.

CVRD Emergency Program Drought Communications Plan

Level	Conditions	Significance	Objective	Target
1 (Green)	Normal Conditions	There is sufficient water to meet human and ecosystem needs	Preparedness	Ongoing reductions in community water use
2 (Yellow)	Dry Conditions	First indications of a potential water supply problem	Voluntary conservation	Minimum 10% reduction
3 (Orange)	Very Dry Conditions	Potentially serious ecosystem or socio-economic impacts are possible	Voluntary conservation and restrictions	Minimum additional 20% reduction to a minimum total vof 30%
4 (Red)	Extremely Dry Conditions	Water supply insufficient to meet socio-economic and ecosystem needs	Voluntary conservation, restrictions and regulatory response	Maximum reduction
Loss of Supply		Potential loss of a community's potable or fire fighting supply	Emergency response	Ensure health and safety

Table 1: Drought Levels

At Level 1 (Green), emphasis is on preparedness and taking action in advance of droughts in order to increase readiness of water users and communities when they inevitably occur.

At Level 2 (Yellow), emphasis is on stewardship and voluntary conservation through education, communication and planning.

At Level 3 (Orange), emphasis continues to be on voluntary conservation but increasing use of watering restrictions may be imposed by water service providers.

At Level 4 (Red), voluntary measures and increasing use of restrictions will continue but may be augmented by regulatory responses by the provincial government including use of authorities provided under the Water Act, the Fish Protection Act and other legislation.

At Loss of Supply Level, further action including emergency responses may be required if a community or system experiences complete loss or near loss of supply. Planning for such events is outside the scope of this plan.

Determination of Drought Levels

The Drought Levels are based on scientific indicators including snow levels, seasonal runoff for river basins, precipitation, and stream flow. For Vancouver Island, this data is provided by the River Forecast Centre, the Water Survey of Canada through a combination of real time data from the Island and South Coast. This information provides indications of the general conditions for a water basin, meaning that the drought levels for eastern and western Vancouver Island are based on average conditions over a large number of rivers, each with different characteristics. Based on the presence of various conditions, the Inter-Agency Drought Working Group (explained below) determines the drought levels. Any reports of problems with the water supply from water licensees are also considered at the Inter-Agency Drought Working Group meetings.

The Drought Levels are used to streamline communications on drought conditions and risk across the province. These levels – and their corresponding objectives and suggested water use targets – are summarized in Table 1. Actual water use targets will depend on the regional conditions and the likelihood of drought.

The Inter-Agency Drought Working Group, led by the Ministry of Forests, Lands and Natural Resource Operations, is tasked with the coordination of drought response in BC. The Inter-Agency Drought Working Group receives advice from a Technical Drought Working Group which links with regional cross-government drought teams with representation from provincial and federal agencies.¹ For more information on coordination bodies and individuals involved in drought response see Appendix 1.

Communications Objectives

- To ensure local authorities receive prompt provincial updates on drought levels.
- To raise awareness about the status of water supply throughout the production season
- To increase knowledge of the drought level alert system and potential implications
- To identify mechanisms for effective communication regarding drought status

¹ BC Drought Response Plan Frequently Asked Questions June 2015
<http://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-planning/bc-drought-response-plan-faq-june-2015.pdf>

Target Audience & Key Messages

The target audiences for this Communications Plan include:

- Agricultural producers in the Cowichan Valley
- Information is also available to the general public via the website, brochures and drought signs

The key messages to be shared through the various communications strategies implemented through this Communications Plan include the following:

Drought Level 1 – Normal

- Education about drought and drought indicators
- Best practices for conserving water before it becomes scarce
- “Check out the Agri-Drought website”

Drought Level 2 – Dry

- 10% water use reduction
- Best management practices for drought level 2
- “Follow water conservation now so that we have water later”

Drought Level 3 – Very Dry

- 20% water use reduction
- Best management practices for drought level 3
- Specifying required action
- “Conserve water now as this resource is becoming scarce”

Drought Level 4 – Extremely Dry

- Maximum water use reduction
- Best management practices for drought level 4
- “Water is now a critical resource both necessary and scarce”
- Government imposed water restrictions

Loss of Supply

- Water needs to be brought into the community
- Water is only available for people and animals
- All additional uses of water are not viable until water resources are replenished

Communication Roles and Processes

Provincial Communication Strategies

Provincial government messaging about drought levels to the public is coordinated out of the central Government Communications and Public Engagement organization in Victoria, BC. Information bulletins on current or forecasted conditions are distributed widely through media channels and through the Province's *Living Water Smart* webpage.

The Drought Levels may guide the implementation of water restrictions by local water authorities. In the case of Vancouver Island, any necessary restrictions are driven out of the Ministry of Forests, Lands and Natural Resources Operations Regional Water Protection Unit in Nanaimo.

For any communications plan to be effective, it is imperative that the organizations creating the information have effective mechanisms for distributing this information to all downstream organizations. In 2015, provincial government approaches did not include a mechanism whereby specific individuals could sign up for immediate notification of a change to the drought level, resulting in time loss as information moved through various agencies and individuals before reaching the CVRD public safety department.

In 2016, this time loss was greatly reduced. During the 2016 drought season, the provincial interagency drought working group communicated changing drought levels directly to Emergency Management BC (EMBC), EMBC regional managers then communicated the drought status directly to emergency managers in each community (including the CVRD Public Safety Division emergency manager). This information flow is depicted in Figure 1 on the following page. This recently initiated system for communicating changes to the drought levels on Vancouver Island is been effective for the purposes of this Communications Plan.

An alternative, even more inclusive option to share information about changing drought levels, would be to use social media to distribute immediate changes to drought levels, individuals could sign up and receive instant notification as needed. The Inter-Agency Drought Working Group and the Government of British Columbia could consider adding this type of notification to supplement the existing channels for sharing information bulletins.

CVRD Agriculture Sector Communications Strategies

In order to emphasize drought severity as it increases, the CVRD Emergency Program Drought Communication Strategies are implemented in phases to reflect the shifting conditions. As such, a series of steps are implemented with each change in drought level as follows:

Drought Level 1 - Normal Conditions:

- Drought Awareness Signs at Level 1
- Drought Awareness Brochures at Agricultural Fairs, Libraries and Information Venues
- Information posted to *Agri-Drought* website

Drought Level 2 – Dry Conditions:

- Drought Awareness Signs at Level 2
- Drought Awareness brochures at agricultural sector events, libraries and other suitable public information venues

CVRD Emergency Program Drought Communications Plan

- Information posted to *Agri-Drought* website
- Starting in 2017, appropriate social media updates will occur

*Note: In 2015/2016 Level 2 Postcards were mailed to all agricultural producers in the region. This strategy will not be used for 2017 and beyond. Please see the evaluation section of this report for further detail.

Drought Level 3 – Very Dry Conditions:

- Drought Awareness Signs at Level 3
- Drought Awareness brochures at agricultural sector events libraries and other suitable public information venues
- Information posted to *Agri-Drought* website
- Starting in 2017, appropriate social media updates will occur

See note above under Drought Level 2.

Drought Level 4 – Extremely Dry Conditions:

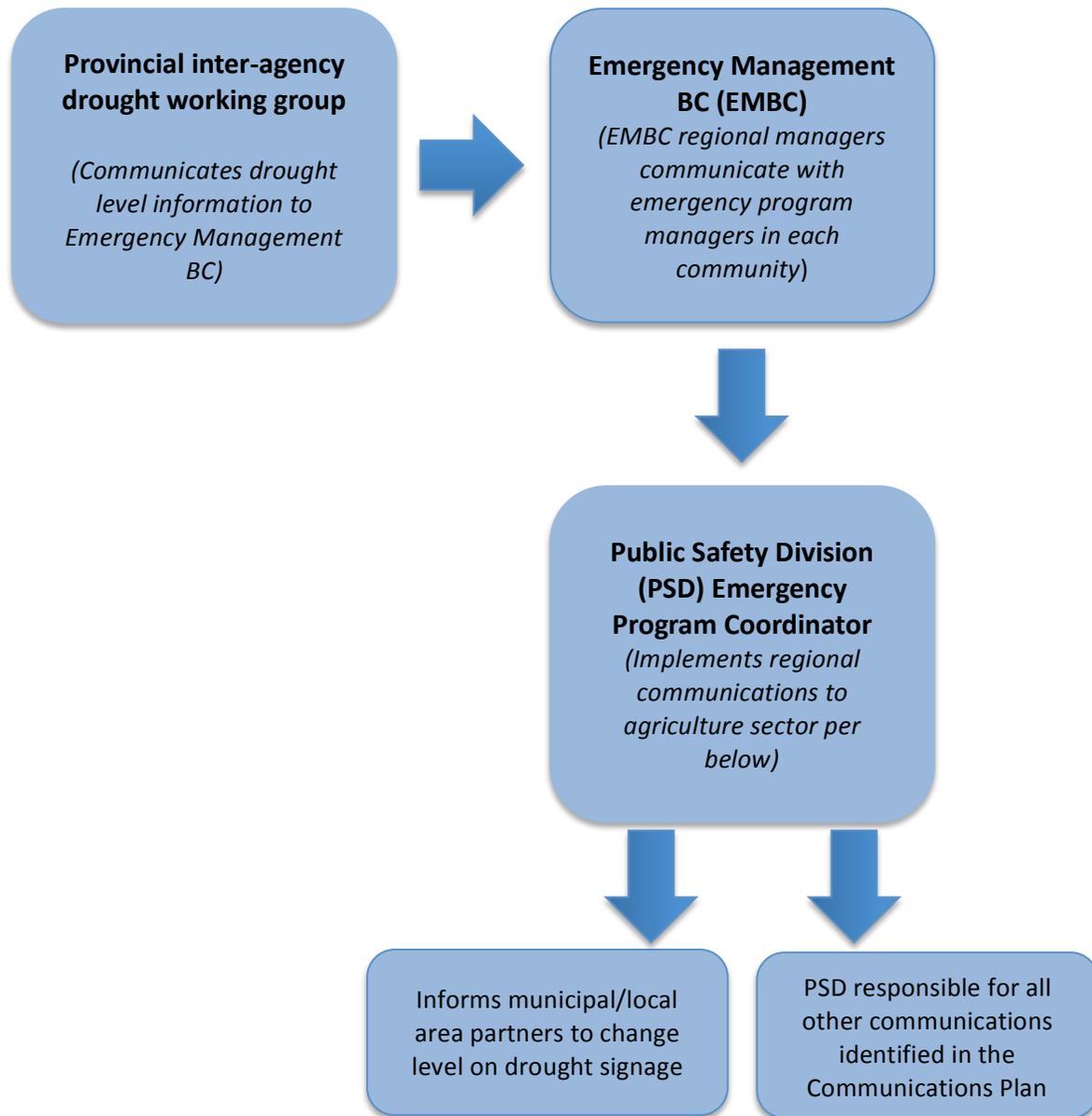
- Drought Awareness Signs at Level 4
- Drought Awareness Brochures at agricultural sector events, libraries and other suitable public information venues
- Information posted to *Agri-Drought* website
- Email, Text and Phone call sent to agricultural producers that have signed up for Emergency Alerts
- Starting in 2017, appropriate social media updates will occur

See note above under Drought Level 2.

Loss of Supply:

- Drought Awareness Signs at Level X
- Drought Awareness Brochures at agricultural sector events, libraries and other suitable public information venues
- Information posted to *Agri-Drought* website
- Government regulations implemented
- Information through all forms of media (print and digital) to identify where water resources are being brought into the communities, how they may be accessed, quantitative limits and usages

Drought Communications Linkages Diagram



Evaluation

To determine which mechanisms were most effective at reaching producers, the drought alerts piloted during 2015 and 2016 were evaluated in the fall and winter of 2016/2017.

Communications mechanisms were evaluated through a combination of measures including a short survey with a small sample from the target audience, telephone discussions with partners hosting the drought level signs and discussions with participants at three meetings / presentations with:

- 1) The Cowichan Agricultural Society;
- 2) The North Cowichan Agricultural Advisory Committee; and,
- 3) The Cowichan Adaptation Strategies Working Group.

The focus of these presentations and discussions was to gauge participant awareness of the project and gather feedback about the communications materials. Approximately 30 individuals were consulted with in total as a part of the evaluation.

Performance Indicators

Performance indicators include:

- Drought Level Awareness among producers in the Cowichan Valley, as well as associated water regulation and conservation measures
- Increased Drought Level Awareness of other water users in the Cowichan Valley
- Opportunities to employ website, signs, brochures and emergency alert system to communicate with agriculture producers regarding relevant emergency or extreme event
- Increased water conservation and improved water management leading up to water shortages

Evaluation results

1. Communications Mechanisms

KEY MESSAGE: Producers consulted favour the use of low cost social media and other digital strategies rather than printed mediums to share drought related information

- Producers consulted did not respond favourably about the receipt of the drought level postcards
- Approximately half of producers and others consulted had seen the drought level signs
- Less than half of the producers and others consulted had seen the drought project brochure.
- 1/3 of producers surveyed (2 out of 6) and approximately 3/4 of producers spoken to via presentations use social media to access information. Facebook was the preferred social media source, LinkedIn also appears to be quite popular.
- Producers prefer to receive drought level information via CVRD website, text message, or signs rather than via phone call or traditional mail.
- Registration for the e-alerts was low and only 1 out of 6 producers surveyed had signed up for the e-alerts
- Website analytics were not available but indications from discussions with producers and other potential users was that little time was spent reviewing the information provided on the new web pages.

- Social media was preferred due to its short, direct and timely messaging

2. Drought alert messaging

- Farmers felt the messaging implied that they are not aware of the water situation, whereas many farmers felt they were already watching their sources carefully.
- Some producers indicated that the communication should be targeted to producers in the sector who are wasting water by inefficient irrigation practices and inefficient systems.
- In general, the road side signs were a valuable mechanism, however there were issues with the content of the signs. Some commented that the signs look too much like the fire risk signs. Wording or imagery to clarify that the signs are related to drought needs to be more prominent.
- Producers do not know what action to take when they receive messaging about a drought mid-season, when they will lose crops (and go out of business) if they stop watering.
- It was recommended that the region should take action year-round to encourage the agriculture sector (and other sectors) to use water more efficiently, rather than focusing communications during a drought.
- Messaging will be improved if accompanied by informational and financial supports to invest in infrastructure that mitigates the impact of a drought (i.e. for more on-farm water storage or installing more efficient irrigation systems with timers).
- Drought related messaging to producers should coincide with a general strategy to encourage all residents to conserve water.

Possible Next Steps

1. Increase number of producers signed up for e-alert system
2. Improve drought alert signage and increase visibility
3. Raise awareness of drought levels through low cost means such as social media
 - a. Include messaging that acknowledges producers who use best practices
 - b. Offer support for producers that want to improve their water management practices and/or infrastructure
 - c. Include messaging around how to get involved with water conservation/water supply/water management conversations at the regional level
4. Develop and implement complimentary communications strategies for fall, winter and spring
5. Expand drought level and water management messaging to other sectors

Near-term activities

1. Re-design signs using black text. Add clarifying text that the levels displayed are provincial drought levels. Ensure it is clear that these signs refer to drought and are distinct from fire danger level signs.
2. Develop a social media strategy using existing platforms to:
 - a. Promote drought level awareness;
 - b. Promote registration for e-alerts;
 - c. Share messaging about best practices during drought; and,

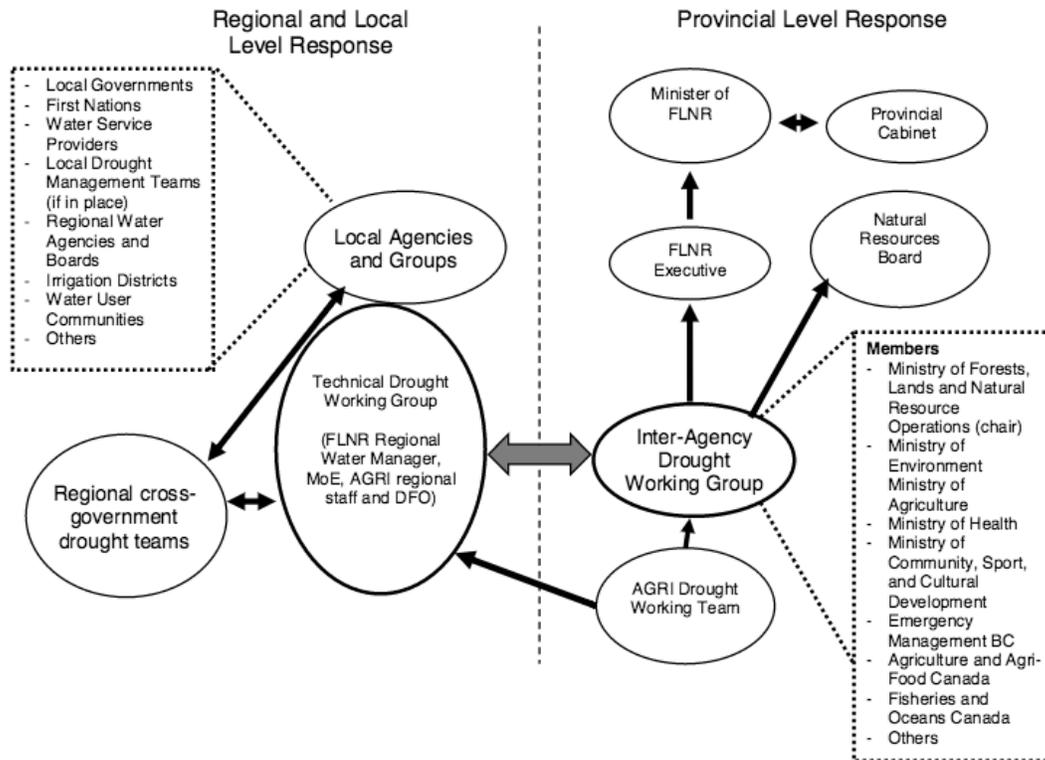
3. Use existing CVRD and Cowichan Valley platforms with a social media presence (i.e. Cowichan Green Community, Young Agrarians, etc.) to promote the drought social media strategy
4. Share case studies or interviews with producers using recommended water management practices/technologies
5. Clearly create and/or identify the most appropriate forum for the agriculture sector to engage in dialogue with the CVRD around water management and water conservation (in the agriculture sector and in other sectors across the region).
6. Set-up software for web site and social media analytics before implementing a social media strategy in order to track performance and gain information about the target audience's communications preferences.

Other Considerations

A number of producers consulted with as a part of the project evaluation indicated their concern with noticing inefficient water use, by a variety of water users, as drought levels increase. Producers see water being wasted by other users (both agricultural and non-agricultural) during times when there is pressure on supply, and some indicated that they would like to see a way to advise their local municipality or regional district of "water wasting" activities. Currently, there is no mechanism to receive these concerns or investigate them in the CVRD, and it may not be effective to facilitate this. There may be incidences where an activity that looks wasteful may not be properly understood, and this type of citizen watch program may be complicated to initiate. A possible near-term action would be for the CVRD to investigate whether this type of program exists in other jurisdictions and if so, whether it is successful and how it works.

Appendix 1: Provincial Drought Response Coordination

Figure 1: Key Coordinating Bodies and Individuals Involved in Drought Response



From the British Columbia Drought Response Plan. Revised June 2015