



 WIRELESS HIGH SPEED  
RURAL BROADBAND INTERNET

## **SEASIDE WIRELESS COMMUNICATIONS**

**Reply Comments for**

**Canada Gazette, Part 1**

### **Consultation on the Spectrum Outlook 2018 to 2022**

SLPB-006-17

October 2017

Spectrum Management and Telecommunications

**March 16th, 2018**

1. Seaside is pleased to submit these reply comments to ISED in response to the comments received on Gazette Notice SLPB-006-17 – *Consultation on the Spectrum Outlook 2018 to 2022*.
2. In this consultation, ISED has been presented with responses and suggestions from a variety of service providers, from fixed wireless providers like Seaside, mobile wireless providers, satellite providers, industry groups and associations, and Municipalities.
3. The comments below focus on key points of agreement and disagreement that Seaside has with a number of positions submitted by many of the initial respondents.
4. Xplornet stated (Par. 12b.) that spectrum policy must address the needs of ALL Canadians and cannot continuously favour urban mobile consumers to the detriment of rural fixed and mobile broadband consumers. As well, Sasktel stated (Par. 34) that it is important that the Department continue to consider the unique needs of rural Canadians in any licensing process to ensure that all Canadians, both urban and rural, will benefit from the utilization of spectrum resources. Seaside strongly agrees with these positions.
5. Cogeco and the Canadian Cable Systems Alliance (CCSA) have suggested that ISED adopt strict “Use it or lose it” policy mechanisms for all spectrum bands that are released or reallocated. Current license conditions stipulate that only a certain percentage of the population in a given area must be served to satisfy the license condition. In many cases serving urban areas alone can satisfy the minimum coverage requirements of a license. Because of this flaw in the deployment requirements, rural areas within the license area can, and often are, left without service. Seaside has encountered such circumstances and we agree with Cogeco and the CCSA on this point.
6. Seaside agrees with the position of Shaw, Cogeco, Xplornet and others who note that providers’ ability to utilize technologies that promote efficient use of backhaul spectrum is hampered by the Department’s severely outdated licensing regime and fee calculation methodology for backhaul spectrum. Seaside agrees with Shaw that a license fee approach that is based on utilized spectrum, rather than per installed capacity, will promote the use of spectrally efficient technologies.
7. Seaside agrees with the positions of Bell, Cogeco, Shaw, and Xplornet that allowing flexible fixed and mobile services within the same frequency band appears to be a global trend. This approach gives wireless operators the ability to use the spectrum for mobile access, fixed wireless access, and/or backhaul, based on the needs in a given area, often resulting in greater spectral efficiency.
8. Sasktel (Par. 103) and Shaw (Par. 108) have urged the Department to complete the 3400-4200 MHz review and initiate the public consultation process as soon as possible. While Seaside agrees with this suggestion and acknowledges that there is significant national and international interest in the 3500 MHz band, especially given its instrumentality to 5G, we urge the Department to be careful not to concentrate too much on mobile 5G to the detriment of other technologies that

currently provide, or are currently capable of providing services to Canadian households now. Fixed wireless service providers across the country are also anxious to initiate this process, as there are currently tens of thousands of households served by fixed wireless access (FWA), with many other fixed wireless providers vying for access to the same spectrum to connect even more households.

9. Shaw notes (Par. 36) that although mmW spectrum is undeniably important for the deployment of 5G, the 3500 MHz band has characteristics that make it a crucial complement:
  - Versatility: The range and relatively better in-building penetration of the 3500 MHz band allow for deployments that leverage significantly larger cells than mmW spectrum. The spectrum can be used in macro, small cell, and indoor applications;
  - Consistent signal performance: While mmW spectrum suffers from path loss, affecting signal consistency, the 3500 MHz band can provide a more consistent connectivity experience;
  - Simple mobile antenna design: mmW spectrum faces significant challenges in terms of physical blockage (e.g., by walls, trees, etc.), and further development is required to reduce the size and form factor of the antenna to enable it to fit into a mobile form factor. The 3500 MHz band does not face these challenges, and can be easily integrated into today's generation of devices, or future 5G devices.
  
10. While those characteristics are valid in regards to 5G use, it should be noted that the same characteristics make the 3500MHz band ideal for FWA as well:
  - Versatility: The range and penetration of the 3500MHz band allow for fixed wireless deployments that leverage significantly larger cell sizes in rural and semi-urban areas.
  - Consistent signal performance: While mmW spectrum suffers from path loss, affecting signal consistency, the 3500 MHz band can provide a more consistent connectivity experience, especially in rural areas where paths between towers and households are usually obstructed by trees and terrain.
  - Matured antenna design: Fixed wireless providers deploying TD-LTE in the 3500MHz band are able to deploy antennas that are the result of years of LTE development which allow for advanced technologies such as Carrier Aggregation, MIMO, etc.
  
11. Telus has asserted (Par. 117) that large portions of the 3500MHz band have been left fallow for a decade. Telus also states that all mobile operators must have the ability to fully participate from the beginning in this critical band in Canada to create meaningful competition in 5G services, while finally stating that there is no justification for FWA licensees to reap a massive mobile windfall. Seaside agrees that mobile operators were indeed slow to deploy equipment to meet FWA deployment requirements; it is somewhat confounding that Telus would draw attention to this, as they were a majority license holder of this spectrum during the decade they refer to.

12. Telus also notes (Par. 117) that the Department must liberate and reassign this spectrum in a competitive process that provides all interested parties with a fair opportunity to bid on this crucial band, which will provide the urban/suburban coverage layer for Canadian 5G launch networks. Liberating and reassigning this spectrum would be unfair to current licensees, when just two years ago Telus transferred its remaining 3500MHz licenses to Xplornet. It is completely inappropriate for Telus (in particular) now to suggest that spectrum be expropriated and re-auctioned.
13. Bell has recommend (Par. 14) that the Department reject calls to use license areas more granular than Tier 4, and they generally support licensing on a Tier 1 to Tier 3 basis. Seaside disagrees with this suggestion as licensing on this basis effectively excludes smaller service providers from access to spectrum, especially in an auction forum. Most fixed wireless service provider networks don't span an entire Tier 4 area. Seaside re-iterates our position, also shared by CanWISP and the British Columbia Broadband Association, that licensing on a smaller scale (eg: Tier 5) would allow for better utilization of spectrum.
14. Many respondents have acknowledged that spectrum sharing models will play a dominant role in future spectrum management. These respondents have also suggested that new spectrum sharing protocols or algorithms must not be introduced into any existing mobile spectrum band without an extensive investigation and a thorough public consultation process that considers impacts to existing networks. Seaside agrees with these statements, but must stress Microsoft's point that, when applied, dynamic spectrum sharing techniques can create a flexible licensing regime that enable both licensed and license-exempt usage to coexist in the same spectrum band. Seaside is also in agreement with Microsoft's suggestion that spectrum sharing is crucial for meeting the ever-increasing demands for spectrum and for making spectrum more abundant, more efficient, and more affordable.
15. Seaside thanks ISED for the opportunity to present our perspectives and recommendations regarding the Consultation on the Spectrum Outlook for 2018 to 2022.