Executive Summary of Working Group Drafts Prepared for Deliberation by the Precision Agriculture Connectivity Task Force

Introduction

The Task Force for Reviewing the Connectivity and Technology Needs of Precision Agriculture in the United States (also known as the Precision Ag Connectivity Task Force) arose out of the Agriculture Improvement Act of 2018 (2018 Farm Bill).

The Task Force's charge is to provide advice and recommendations to the Federal Communications Commission (FCC) and the United States Department of Agriculture (USDA) on how to assess and advance deployment of broadband internet access service on unserved and underserved agricultural lands and promote Precision Agriculture for both cropping and husbandry.

The Task Force has four working groups focused in greater detail on specific issues related to Precision Agriculture. These working groups are:

1) Mapping and Analyzing Connectivity on Agricultural Lands;
2) Accelerating Broadband Deployment on Unserved Agricultural Lands;
3) Examining Current and Future Connectivity Demand for Precision Agriculture; and
4) Encouraging Adoption of Precision Agriculture and Availability of High-Quality Jobs on Connected Farms.

Each of these working groups has conducted extensive research and developed recommendations that address current and future challenges. The sustainability lens was used to view the issues addressed in the Working Groups. Each Working Group understanding of sustainability was defined by the members of the group.

The following provides a summary of the findings from the four working groups in order.

For the 2024 term, the Mapping WG focused on mobile and in-field connectivity, analyzing the FCC's updated mapping processes in response to the Broadband DATA Act. They assessed how well these processes meet the needs of precision agriculture, particularly from a sustainability perspective. The WG identified several areas for improvement and developed recommendations regarding map presentation, validation and verification of the National Broadband Map, the public challenge process, sustainability, and awareness and outreach efforts.

The Connectivity Working Group strongly recommends implementation of "Last Acre" initiatives, policies, and incentives, highlighting their critical role in ensuring national security, particularly in terms of food and water. The core objective is to extend high-capacity internet service to croplands and livestock operations, enabling

broadband requirements of symmetrical 100 Mbps speeds and low latency (ideally under 10 milliseconds). The key drivers to achieve these connectivity goals include deploying fiber to farm and ranch premises and incentivizing the targeted build-out of high-performance wireless connectivity that provides broad, umbrella-like coverage across the entire farm. The technology is already available; the opportunity lies in securing the necessary funding and prioritizing Precision Agriculture within existing and future policies and programs.

The Accelerating Broadband Deployment Working Group has explored several areas of recommendations to promote the buildout accelerate deployment of broadband infrastructure onto unserved and underserved agricultural lands, including for use in precision agriculture applications. These options include specific proposals related to leveraging underused infrastructure including spectrum, novel approaches to funding and incentivizing private investment, streamlining permitting and equipping local officials with information and training.

The proposals adopt an "all-of-the-above" approach to the technology needs of precision agriculture, consistent with the prior recommendations of the Task Force that recognized: "[a]chieving Precision Ag's full potential necessitates the widespread deployment of wired and wireless broadband connectivity to cover the last acre." Their most recent recommendations describe a dual-track process of deploying fiber as deeply as possible into rural areas, while promoting the deployment of wireless networks for "last acre" connectivity. To facilitate prompt action, the FCC and USDA should seek public comment with respect to the Task Force's recommendations on an expedited basis.

Jobs and Adoption Work Group was charged with evaluating key issues related to the adoption of precision agriculture, including its potential to address labor shortages, ways for government to promote adoption, obstacles faced by farmers, and metrics to track progress. The report emphasizes the interconnected nature of these issues and the need for broad-scale principles that can be implemented locally with Federal guidance and in coordination with Federal and state agencies, universities, and private sector industry.

The recommendations from the four working groups fall largely within five primary categories with some additional key considerations. The five main priorities that the Task Force recommends are to:

1) Improve federal broadband wireless and mobile maps and consistently verify and validate accuracy as relates to connectivity on agricultural lands;

2) Increase incentives to build out a robust broadband infrastructure;

3) Future proof connectivity standards to meet the technology needs in a changing agriculture sector?;

4) Improve collaboration between federal agencies and State sister agencies as well as Agribusinesses including removing regulatory impediments; and

5) Increase access to broadband education and training for individuals engaged in farming through partnerships with land-grant institutions.

Conclusion:

It is evident from the working group reports that there are many in the agricultural community working on advocating for greater connectivity across agricultural lands to fully utilize the newest technologies to support a resilient and sustainable agriculture production system. The agriculture industry is moving to the next major evolution which is one based on connectivity and a digital first data driven business.

The speed and the strength of achieving a digital data driven sustainable agriculture system through connected farms will be determined by how fast and how extensive the efforts are by both the FCC and the USDA to support the various recommendations provided by this task force as well as those provided by the past two task forces.