AgriNorthwest (Jacob Fullerton)

These comments are submitted in response to the Department of Ecology's draft guidance, "Determining Irrigation Efficiency and Consumptive Use". The guidance update is an important step toward modernizing consumptive use evaluations. However, several aspects should be revised before adoption.

1. Subject the Guidance to Peer Review and Improve Technical Precision

Because this guidance will influence water right decisions with significant regulatory and economic consequences, it should undergo formal peer review. Several passages contain broad statements that oversimplify technical concepts and may be misapplied in practice. For example, the discussion regarding effective precipitation suggests that all precipitation during hot, dry periods may be considered fully effective (i.e. available for crop use), without adequately acknowledging factors such as rainfall intercepted by plant canopies, existing soil moisture conditions, and the soil's capacity to store water. Ecology should revise language throughout the document to improve technical precision and reduce the potential for inconsistent interpretation.

2. Improve Transparency and Documentation of the Effective Water Use Model

Reliance on Washington State University's Effective Water Use Model is appropriate only if the model's assumptions and inputs are fully documented and reproducible. Key elements, including crop coefficients, regional variations in crop coefficients, crop development assumptions, and supporting parameters are not presented in a transparent and traceable manner. Efforts to independently reproduce model outputs using publicly available documentation revealed gaps in the documentation needed to verify model assumptions.

3. Clarify the Appropriate Scale for OpenET and Satellite-Derived ET Estimates

The guidance should distinguish between the use of OpenET for regional planning versus quantifying beneficial use of a water right on a 5-acre field. OpenET is a valuable tool for watershed-scale and regional water management. However, satellite-derived evapotranspiration (ET) estimates are designed to characterize conditions across broad geographic areas rather than provide definitive measurements of water use for individual fields. While OpenET products may delineate areas as small as ¼ acre, increased spatial resolution should not be interpreted as providing the same level of confidence as field-scale measurements. Ecology should recognize OpenET's value for basin-scale and regional water budget planning while acknowledging that field-level measurements have a substantially longer history of application and validation. Because these methods are grounded in local measurements and observations, they remain a more appropriate and defensible basis for field-specific regulatory evaluations.