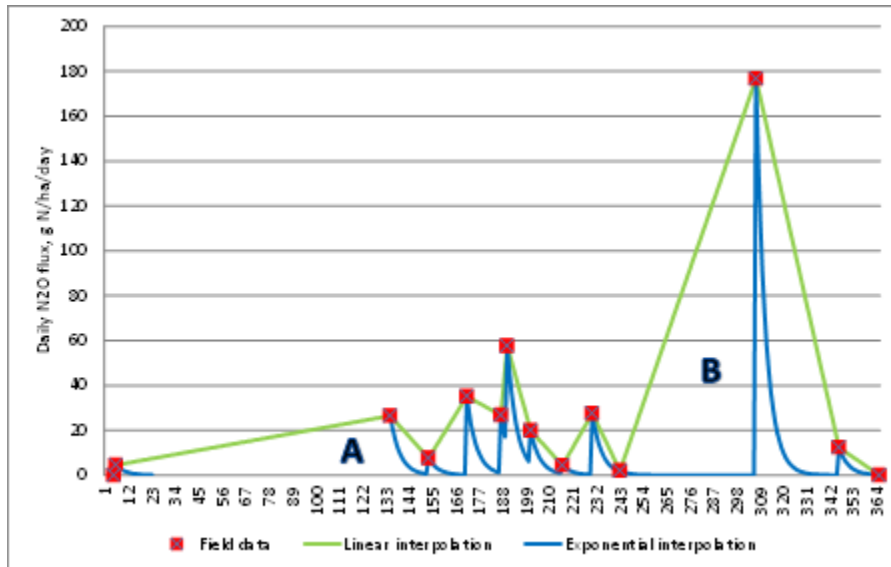


Commenter G

Nitrogen Management Project Protocol
Minimum Data Standard Public Comment Period

General Comments:

I have a minor comment on page 7 for addressing flux data gap. The Reserve mentioned “linear interpolation” as an example for filling data gaps, but based on our experience, exponential interpolation (e.g., $\text{Flux}_{(\text{day}=\text{n})} = \text{Flux}_{(\text{day}=\text{0})} * 0.8^n$) would be a much better choice, especially when sampling frequency is low. See below the graph for illustration.



Reserve MDS Package Public Comment 1, D.1.1 Methodologies and Priorities for Future Protocol Expansion:

I prefer a Tier 3 method, if possible. ARB recently completed a DNDC modeling study on California agricultural land emissions. The final report is being reviewed and will be posted online in late February 2014.

Reserve MDS Package Public Comment 3, D.2 Minimum Data Standards for Field Experiments:

A published research does not mean high quality data, and not all research is destined to be published. The Reserve should take both published and non-published data, but require additional QA/QC data for the latter.

Reserve MDS Package Public Comment 11, D.2.2.2 Temporal Frequency and Scale of Data Collection:

The recommended minimum sampling frequency of once every 7 days seems too low during an emission episode. Interpolation of daily fluxes using linear method would introduce too much error (>50%) at this frequency according to Parkin, 2008 (Parkin T.B. *Effect of Sampling Frequency on Estimates of Cumulative Nitrous Oxide Emissions*. Journal of Environmental

Quality. 2008 July-Aug, v. 37, no. 4, p. 1390-1395). Suggest reducing this frequency to less than 6 days.

Reserve MDS Package Public Comment 12, D.2.2.2 Temporal Frequency and Scale of Data Collection:

First rainfall event after thaw in the spring would produce sufficient fluxes of N₂O that should not be ignored.