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Dear Dr. Schimel,

Please find attached our manuscript entitled "*Integer Linear programming outperforms simulated annealing for solving conservation planning problems*", which we wish to submit as a *Communications* paper for consideration to *Ecological Applications*.

In this paper we compare integer linear programming with simulated annealing, which is widely used currently, for solving systematic conservation planning problems using real-world data from Western North America. We find that integer linear programming produced higher quality solutions potentially saving >$100 million (or 13% of total costs) for realistic conservation scenarios. We also find that solutions were generated >1,000 times faster than using simulated annealing, opening up new possibilities for conservation planning. This latter advantage is important, in that it opens many possibilities, including scenario exploration in real-time during stakeholder meetings to explore options.

Our manuscript highlights the potential integer linear programming solvers show for conservation planning. We end by recommending that conservation planners add this modified approach to solving systematic conservation planning problems, which will be of interest to many readers of *Ecological Applications*.

This manuscript reports original research that is not published or under consideration for publication elsewhere. The submission for publication has been approved by all relevant authors and institutions, and all persons entitled to authorship have been so named, seen and agreed to the submitted version of the manuscript.

Sincerely,

Richard Schuster
(on behalf of all co-authors)