

*Department of Mathematical and
Computer Sciences*

Can Spatial Property Rights Fix Fisheries?

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Chauvenet Hall, Room 143, 3:00 pm

Abstract: When can spatial property rights solve the ubiquitous tragedy of the commons in renewable resources? We explore the game theoretic outcomes under a decentralized system of spatial property rights with spatial externalities. The efficiency of spatial property rights depends critically on the spatial connectivity of the resource; even with complete spatial property rights, the outcome may be equivalent to open access, sole ownership, or points in between. A simple profit sharing arrangement can serve as a useful coordination mechanism and requires no cumbersome side-payments. When all owners participate in the sharing arrangement, increasing the slice of profits shared increases efficiency, but voluntary participation may not be subgame perfect. We derive a renewable resource version of the Folk Theorem, which reveals a counterintuitive result: Increasing the discount factor can encourage patient, above average owners to defect. The most efficient cooperative arrangement involves balancing participation with efficient resource use among those who cooperate; full cooperation is typically not desired.

BIO: Dr. Kaffine joined the CSM faculty last fall as Assistant Professor of Economics and Business. He received a B.S. in Physics and a B.A. in Applied Mathematics from the University of Saint Thomas (Saint Paul, MN). He earned his M.A. in Economics and Ph.D. in Environmental Science and Management with an Environmental Economics focus from the University of California, Santa Barbara. His dissertation work examined incomplete property rights and their impact on natural resource use. Dr. Kaffine has also been involved in research that has considered the impact of gasoline taxes on urban sprawl and urban spatial structure, and the impact of gasoline prices on freeway speeds and traffic in Los Angeles. His areas of interest include environmental and resource economics, property right theory, and urban and transportation economics.

Please join us for coffee and cookies in CH 143 at 2:45 pm