

1135-J1-2509 **Steven D. Leonhardi*** (sleonhardi@winona.edu), Winona State University, Winona, MN
55987. *Modeling and Experiencing the Tragedy of the Commons*. Preliminary report.

The “Tragedy of the Commons” describes a classical problem arising from shared usage of any natural resource such as freshwater, forests, and fish populations: individual parties each trying to maximize their own private gain can lead to loss of the resource value, and thus damage the common good of the users when considered as a collective group. This talk will discuss attempts to model this situation using Mathematical Game Theory concepts and techniques. We will present specific classroom activities and educational materials designed to help students experience first-hand the nature of this problem, and to explore possible solutions. No definitive solution has been found to this problem, nor is an all-purpose solution likely to be found. Nevertheless, the Tragedy of the Commons serves as an excellent context for the application of game theory which also draws upon concepts from economics, political science, and even psychology. (Received September 26, 2017)