1145-B5-2323   **Zach A. Hollis** (`zahollis16@my.trine.edu`), Trine University, 1 University Ave, Campus Box 730, Angola, IN 46703, and **Dylan A Kunce*** (`dakunce16@my.trine.edu`), 610 E Gilmore St, Angola, IN 46703. *When Do You Call the Bullpen?*

A baseball team has two goals: to avoid making outs on offense; and force the other team into making outs on defense. One can think of an opponent successfully reaching base as a temporary setback to achieving this second goal. We build a Markov chain model of baseball from the defensive point of view (we are only concerned with innings, outs, and number of baserunners; not location of baserunners) and apply our model to analyze modern trends in the usage of starting pitchers. In one application we find the expected number of outs a pitcher will achieve in two and three trips through the opposing teams batting order, essentially answering the question: When Do You Call the Bullpen? (Received September 25, 2018)