

# IOS awards seven research grants

One of IOS's primary objectives is "To promote scientific research and education in order to improve knowledge and awareness of birds in Illinois." For 2009, IOS, with the support of the Chicago Ornithological Society,

the DuPage Birding Club, Southern Illinois Audubon and a group of private donors, is proud to award a total of seven- \$500 research grants to (in alphabetical order) the following recipients:

## Nicole Davros



Nicole Davros, a Graduate Teaching Assistant in the Program in Ecology, Evolution, & Conservation Biology (PEEC), University of Illinois at Urbana-Champaign, is evaluating an integrative approach to testing density effects in Prothonotary Warblers. The DuPage Birding Club provided the funds for the \$500 IOS Grant to Nicole's project work during 2009.

Ornithologists historically observed many bird populations fluctuating around some long-term average abundance. This average is assumed to be regulated through density-dependent factors like competition, predation, and disease. But the importance of density-dependent population regulation processes has often been debated; clear evidence of the (usually adverse) effects of density-dependence remains elusive for many taxa, especially birds.

Davros's research aims to assess the importance of such density-dependent processes in a population of the Prothonotary Warbler, a territorial cavity-nesting warbler breeding in the eastern and central U.S and wintering in the neotropics. This species is an ideal subject for testing ideas about density-dependence. Densities can be easily manipulated through the Prothonotary's ready acceptance of nest boxes, allowing spacing to create areas of high and low warbler density. During the summer of 2008, Davros began the experimental manipulation of Prothonotary densities at three study sites within an existing project area of the Cache River watershed in southern Illinois, establishing high and low density treatment plots at each site, collecting baseline information on reproduction, adult behavior, Brown-headed Cowbird parasitism rates, immunity, and stress levels. Her research will span four summers, with the last year of data being collected during the 2011 breeding season.

## Keriann Dubina



Keriann Dubina, a graduate student at Western Illinois University in Macomb, is investigating how frequently Brown-headed Cowbirds depredate host nests and whether they discriminate between host and parasitic eggs. She is continuing research begun in 2008. The DuPage Birding Club provided the funds for the \$500 IOS Grant to Dubina's project work during 2009.

Dubina's research focuses on Brown-headed Cowbird egg destruction behavior. Cowbirds have many adaptations that work to increase their reproductive success. One of these adaptations is egg pecking. This behavior seems to function to compel the host to renest, giving the cowbird another opportunity at parasitism. If a female cowbird finds a host nest too advanced into incubation, she cannot successfully parasitize it, because her embryo will not have time to develop. By destroying the nest contents, she forces the host to renest, providing the cowbird with a second opportunity at parasitism.

Dubina investigates male and female Brown-headed Cowbird egg destruction behavior with the following objectives: Do female Brown-headed Cowbirds regularly depredate host nests? Are males participating as well? Do male and female cowbirds use egg discrimination when depredating host nests? Does a non-parasitic control species peck eggs? The latter would suggest egg pecking is simply a consequence of being caged.