

How research ecologists can benefit urban design projects

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Ecologists conducting field research usually study areas that they hope won't be disturbed for a while. But in an article published in the November issue of *BioScience*, "Mapping the Design Process for Urban Ecology Researchers," Alexander Felson of Yale University and his colleagues describe how ecologists can perform hypothesis-driven research from the start of design through the construction and monitoring phases of major urban projects. The results from such "designed experiments" can provide site-specific data that improve how the projects are conceptualized, built and subsequently monitored.

In light of the billions of dollars spent each year on urban construction, Felson and his coauthors see important potential in improving its environmental benefits and minimizing its harms. Currently, environmental consultants advising on the designs for such projects usually rely on available knowledge and principles that were originally tested in natural settings.

The authors note that researchers must understand contracting, then work to establish their credentials with project designers and their clients to be awarded a recognized role in a construction project. Felson and colleagues therefore provide maps of the process for researchers' benefit. Ecologist researchers should try to involve themselves at the earliest stages, even before designing starts, and be ready to accept priorities that are alien to typical research settings.

Felson and his colleagues provide two case studies to show how it can be

done.

One is the construction of a "green" parking lot and associated water gardens at an environmental center in New Jersey, the other a major tree-planting project in New York City. In both cases, researchers involved themselves during the contract phases of the projects by establishing the likely value of answering research questions. Although they had to make some compromises with commercial and political imperatives, the designed experiments undertaken allowed researchers to influence the design and implementation and improve environmental benefits, while also establishing viable long-term research sites in highly urbanized areas

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