

**FROM DATA TO IMPLEMENTATION:
USING MODELING RESULTS AND FIELD STUDIES TO GENERATE MANAGEMENT
GUIDANCE FOR FREE-ROAMING CATS**

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The “adaptive management loop” is an iterative process by which our management practices can be constantly improved. In this loop, model results and other scientifically-based data are first used to generate guidelines for management. Monitoring programs and field studies are then used to empirically evaluate the actual impacts of the recommended management actions and to generate new data, which in turn leads to improvements in management guidelines. The development of guidelines (i.e. guidance) is an often overlooked element of this loop. Primary scientific sources are typically couched in technical language, rich in detail, and presented with an array of caveats. As a result, they are often ignored or misinterpreted by field program practitioners. Effective guidance, in contrast, serves to translate original scientific data into a more easily digestible format that contains clear cut, relevant, and achievable recommendations. We have created a guidance document based upon our cat simulation model results. Major elements of this guidance are as follows: 1) Confirmation that a sterilization rate of approximately 70%, consistently maintained over time, is required for population size reduction; 2) Translation of this sterilization rate into semi-annual trapping and sterilization targets; 3) Identification of lag times of about 5 years before population size changes stemming from fertilization programs become apparent, and 10 years before populations stabilize at new levels; 4) Identification of cat dispersal and abandonment as critical factors in determining the likelihood that a sterilization program will achieve its desired results; 5) Confirmation that temporary sterilants can reduce population size if deployed at a sufficient rate. Other findings and recommendations regarding age targeting, sex targeting, and removal versus sterilization strategies are also presented, along with suggestions for how future field work and monitoring projects can improve guidance over time. By adopting these guidelines along with the framework of adaptive management, field practitioners can become more effective in achieving their management goals.