MONITORING FOR BATS

Bat Conservation International
Connecting Farmers & Ranchers to Innovative Technology in Bat Conservation

Special thanks to the NRCS for their support

Photos copyright Bat Conservation International, unless otherwise noted.
70% of U.S. land in the lower 48 states privately owned....
You are critical for the future of bat conservation.
INTRODUCTION TO BATS
WHY MONITOR BATS?

1. UNDERSTANDING WHAT IS THERE HELPS YOU MAKE DECISIONS
WHY MONITOR BATS?

2. EVALUATE IMPACT OF HABITAT OR STEWARDSHIP CHANGES
WHY MONITOR BATS?

3. POSSIBILITY FOR COLLABORATION
WHY MONITOR BATS?

4. Protecting your investment – contingency for an uncertain future
WHAT SHOULD YOU LOOK FOR?
Accessible Water

Pooled, clean water; natural, human-made

Easy access (little clutter)

Size of pool needed species dependent
SEASONAL HABITAT USE
HOW DO YOU BEGIN?

Hoary Bat  *Lasiurus cinereus*

GATHER INFORMATION

**site confidentiality**
EXIT (EMERGENCE) COUNT
IR VIDEO
Thermal Infrared
Capture Survey
Internal Survey
ACOUSTIC MONITORING
WHO CAN HELP YOU?

YOU CAN DO A LOT OF IT !!!

BAT CONSERVATION INTERNATIONAL
NATURAL RESOURCES CONSERVATION SERVICE
PRIVATE CONSULTANTS
COLLEGES AND UNIVERSITIES
STATE WILDLIFE AGENCIES
OTHER FEDERAL AGENCIES
### WHO CAN HELP YOU?

<table>
<thead>
<tr>
<th>Habitat component</th>
<th>Management options for increasing habitat quality or availability</th>
<th>Assistance programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td>* Maintain clearings and edges by conducting rotational mowing, prescribed burning, and managed grazing where appropriate.</td>
<td>WHIP, EQIP, PFW, CRP</td>
</tr>
<tr>
<td></td>
<td>* Preserve hedgerows, maintain field borders and edge vegetation, preserve woodlots and vegetational diversity, and reduce pesticide and herbicide use in agricultural areas when possible.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>* Protect rivers, streams, lakes, and ponds from siltation and non-point source pollution via fencing of livestock, bank stabilization, and aquatic vegetation plantings.</td>
<td>WHIP, WRP, PFW, CRP</td>
</tr>
<tr>
<td><strong>Summer and winter roosts</strong></td>
<td>* Preserve mature trees with exfoliating bark and snags (dead trees conducive to natural cavities) within woodlots, as well as in fencerows and along field borders.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>* Stabilize old buildings used by bats. Install artificial roosts in conjunction with bat exclusion, or before buildings used as bat roosts are torn down.</td>
<td>WHIP, PFW</td>
</tr>
<tr>
<td></td>
<td>* Have bat inventories performed before closing abandoned mines. Protect bat populations in mines and caves by limiting human disturbance and using gating if necessary.</td>
<td>PFW, WHIP</td>
</tr>
<tr>
<td><strong>Interspersion and habitat size</strong></td>
<td>* Combine above prescriptions to increase interspersion of habitat components or amount of suitable bat habitat.</td>
<td>State DNRs</td>
</tr>
</tbody>
</table>

Source: 1999. NRCS, Wildlife Habitat Council, and BCI. BATS. Fish and Wildlife Habitat Management Leaflet. No. 5
<table>
<thead>
<tr>
<th>Program</th>
<th>Land Eligibility</th>
<th>Type of Assistance</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation Reserve Program (CRP)</td>
<td>Highly erodible, land, wetland, and certain other lands with cropping history. Stream-side areas in pasture land.</td>
<td>50% cost-share for establishing permanent cover and conservation practices, and annual rental payments for land enrolled in 10 to 15-year contracts. Additional financial incentives are available for some practices.</td>
<td>NRCS or FSA State or Local Office</td>
</tr>
<tr>
<td>Environmental Quality Incentives Program (EQIP)</td>
<td>Cropland, range, grazing land and other agricultural land in need of treatment.</td>
<td>Up to 75% cost-share for conservation practices in accordance with 5- to 10-year contracts. Incentive payments for certain management practices.</td>
<td>NRCS State or Local Office</td>
</tr>
<tr>
<td>Partners for Fish and Wildlife Program (PFW)</td>
<td>Most degraded fish and/or wildlife habitat.</td>
<td>Up to 100% financial and technical assistance to restore wildlife habitat under minimum 10-year cooperative agreements.</td>
<td>Local office of the U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>Waterways for Wildlife</td>
<td>Private land</td>
<td>Technical and program development assistance to coalesce habitat efforts of corporations and private landowners to meet common watershed level goals.</td>
<td>Wildlife Habitat Council (301-588-8994)</td>
</tr>
<tr>
<td>Wetlands Reserve Program (WRP)</td>
<td>Previously degraded wetland and adjacent upland buffer, with limited amount of natural wetland, and existing or restorable riparian areas.</td>
<td>75% cost share for wetland restoration under 10-year contracts, and 30-year easements, and 100% cost-share on restoration under permanent easements. Payments for purchase of 30-year or permanent conservation easements.</td>
<td>NRCS State or Local Office</td>
</tr>
<tr>
<td>Wildlife at Work®</td>
<td>Corporate land</td>
<td>Technical assistance on developing habitat projects into a program that will allow companies to involve employees and the community</td>
<td>Wildlife Habitat Council (301-588-8994)</td>
</tr>
<tr>
<td>Wildlife Habitat Incentives Program (WHIP)</td>
<td>High-priority fish and wildlife habitats.</td>
<td>Up to 75% cost-share for conservation practices under 5- to 10-year contracts.</td>
<td>NRCS State or Local Office</td>
</tr>
</tbody>
</table>

State fish and wildlife agencies, private groups such as Bat Conservation International (BCI), and others may have assistance programs or other useful tools in your state.

Source: 1999. NRCS, Wildlife Habitat Council, and BCI. BATS. Fish and Wildlife Habitat Management Leaflet. No. 5
North American Bat Monitoring Program (NABat) is Seeking Participation in 2014 Pilot Studies

Wednesday, February 5, 2014

Ecologist Laura Ellison co-organized the 1st of 3 workshops to develop a North American Bat Monitoring Program on February 5-7, 2013 in Fort Collins. The workshop brought together bat researchers, population modelers, and experts in the field of wildlife population monitoring to design statistically robust and logistically feasible methods for monitoring bat populations. The 3 planned workshops were jointly funded by the Landscape Conservation Cooperatives, National Institute of Mathematical and Biological Synthesis, U.S. Fish and Wildlife Service, U.S. Forest Service, and U.S. Geological Survey, with organizational support from Bat Conservation International and the National Park Service.

Currently the North American Bat Monitoring Program (NABat) is seeking participation in 2014 pilot studies. The goal of the NABat program is to develop a bat population monitoring program that can be used to monitor trends in bat populations at local, state, regional, and continental scales. A series of strategic planning workshops have been held to develop the framework and design of the proposed monitoring program; the last workshop took place at the Fort Collins Science Center in Fort Collins, Colorado, on November 4-7, 2013. Fifteen statisticians, quantitative ecologists, and bat biologists from multiple agencies gathered for the final session to lay out the framework and design of the proposed monitoring program. Since then, the group has drafted a NABat program strategic plan, describing the NABat program mission and goals, protocols for gathering acoustic (stationary points and driving transects) and colony count data, long-term data storage, management, and analyses, and reporting of results. The NABat team is looking for interested parties to pilot the proposed monitoring program in their home area(s) during the summer of 2014. The proposed design (pending peer review) calls for deploying 2 to 4 bat detectors for 4 to 7 nights within one 10 x 10 km grid cell, and a road within this grid would be driven on 2 nights during this same deployment period. The road can be as long as 30 km and extend into neighboring grid cell(s), and would be driven at 25-30 km/hr with a bat detector/microphone on the roof of the vehicle. The NABat...
RESOURCES

Bat Conservation International

Natural Resources Conservation Service

State Wildlife Agencies

Wildlife Habitat Council
