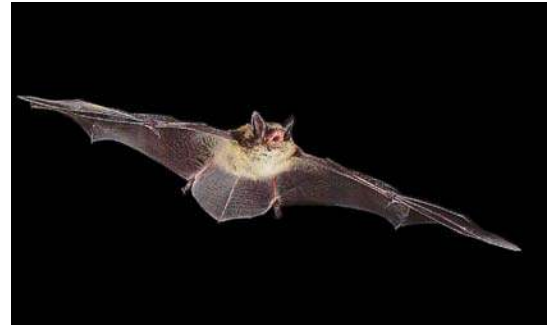


# Bats

Dave Evers/Dave Yates  
Biodiversity Research Institute



## Spatial trends of Mercury in Bats

- Use radio telemetry to establish distance bats are travelling from South River (RM 10-20)

June 1 to mid-July

- Determine geographic extent of mercury contamination downstream in South Fork Shenandoah River (5 sites)

July 15 to mid-August

| Capture Location/Species | Little Brown | Eastern Pipistrelle |
|--------------------------|--------------|---------------------|
| AFC                      | 2            | 2                   |
| Craige Barn              | 4            | 0                   |
| Frees                    | 2            | 3                   |
| Grottoes Park            | 2            | 3                   |
| Port Republic            | 5            | 0                   |
| Renkin                   | 3            | 0                   |

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# Bats



## Results

- 14 new roosts
- 19 bats tracked (feeding areas, core use areas)
- 5 bats not found, or transmitter failed, fell off
- Sampled 5 sites on the SF Shenandoah River
- 152 samples from 5 species
- Sent to UCONN lab, results pending

# Downstream Sampling of Bats

| Tow n/ Species | EAPI | EPFU | LABO | MYLU | MYSE | Total |
|----------------|------|------|------|------|------|-------|
| Alma           | 5    | 8    | 6    | 15   | 0    | 34    |
| Bentonville    | 0    | 0    | 0    | 23   | 0    | 23    |
| Goods Mill     | 9    | 0    | 0    | 29   | 2    | 40    |
| Island Ford    | 9    | 3    | 3    | 15   | 0    | 30    |
| Shenandoah     | 2    | 7    | 2    | 11   | 3    | 25    |
| Total          | 25   | 18   | 11   | 93   | 5    | 152   |

# Songbirds

Dave Evers/Sarah Folsom  
Biodiversity Research Institute



## Spatial trends of Mercury in Songbirds

- Determine geographic extent of mercury contamination downstream in South Fork Shenandoah River

May 18 to August 20



# Progress

- ❖ Sampling was conducted on the South River and South Fork of the Shenandoah River from May 18-August 20.
- ❖ Another site was added further down stream at the Shenandoah River State Park approximately 10 miles upstream of Front Royal after preliminary Hg results showed elevated Hg levels far-downstream. Thirty more birds were sampled at this location.
- ❖ A total of 575 birds were sampled on the SR and SFSR combined. This included: 219 tier one birds; 106 tier two birds; 95 tier three birds; and 155 non-target birds (See table on following slide).
- ❖ Mercury results are pending at the College of William and Mary (Dan Cristol). However, we should see results in the next few weeks.

# Sampling Results

| Location- River Mile (RM)                         | Tier       |            |           |            | Total      |
|---------------------------------------------------|------------|------------|-----------|------------|------------|
|                                                   | 1          | 2          | 3         | Other      |            |
| <b><i>South Fork Shenandoah River(SFSR)</i></b>   |            |            |           |            |            |
| Power Dam, PODA - <b>RM7</b>                      | 37         | 15         | 6         | 26         | 84         |
| Shuller Island, SHIS- <b>RM20</b>                 | 30         | 10         | 10        | 11         | 61         |
| Longs Bend Farm, LBFA- <b>RM30</b>                | 31         | 18         | 17        | 40         | 106        |
| Bealers Ferry, BEFE- <b>RM63</b>                  | 32         | 12         | 6         | 16         | 66         |
| Shenandoah River State Park,SRSP -<br><b>RM72</b> | 17         | 3          | 0         | 10         | 30         |
| <b>SFSR Total</b>                                 | <b>147</b> | <b>58</b>  | <b>39</b> | <b>103</b> | <b>347</b> |
| <b><i>South River(SR)</i></b>                     |            |            |           |            |            |
| Waynesboro Nursery, WNUS                          | 29         | 13         | 46        | 23         | 111        |
| Ridgeview Park                                    | 11         | 6          | 6         | 4          | 27         |
| Grottoes City Park, GRCP                          | 32         | 29         | 4         | 25         | 90         |
| <b>SR Total</b>                                   | <b>72</b>  | <b>48</b>  | <b>56</b> | <b>52</b>  | <b>228</b> |
| <b>*Grand Total</b>                               | <b>219</b> | <b>106</b> | <b>95</b> | <b>155</b> | <b>575</b> |

and the South Fork of the Shenandoah River (SFSR)

## COMMON SPECIES SAMPLED:

- Carolina Wren (90)
- Song Sparrow (72)
- Red-eyed Vireo (58)
- Indigo Bunting (55)
- Carolina Chickadee (26)
- Eastern Tufted Titmouse (20)
- Northern Cardinal (53)
- Gray Catbird (59)
- American Goldfinch (24)



# Songbirds-Carolina Wrens

USFWS, with help from BRI and WM



## Carolina Wren Reproductive Success

- Monitor Carolina Wren nests
  - April 7 to September 4
- Collect data on clutch initiation date, number of eggs, number of nestlings hatched, number of fledglings, mercury levels of adult(s), nestlings
- Nest box cameras





**BIRDCAM 01**

**07/04/09 01:37 PM**

## Progress

- Adult mercury sampled
    - ~30 Adults
  - Nest boxes monitored
    - 220 reference, 170 contaminated (390)
    - Reference – 13 nests, 5 successful
    - Contaminated – 22 nests, 7 successful
- $35/390 = \sim 9\%$  occupancy