

Biological Assessment

of

Lampsilis rafinesquena (Frierson, 1927)
Neosho Mucket

and

Quadrula c. cylindrica (Say, 1817)
Rabbitsfoot

for

AHTD Job Number BR0403
Illinois River Structures and Approaches
Benton County, Arkansas

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Introduction

Benton County is proposing to replace an existing bridge (Bridge 10591) on County Road 2 (Fisher Ford Road) crossing the Illinois River at Siloam Springs, Benton County, Arkansas (Figure 1). Bridge 10591 is currently rated as structurally deficient and has been closed to traffic since at least 2005. The new structure will be 228 feet in total length by 29 feet (69.5 m X 8.8 m) in total width and shifted slightly downstream of the existing bridge approximately 12 feet (3.7 m) center line to center line. Proposed construction plans are located in Appendix A.

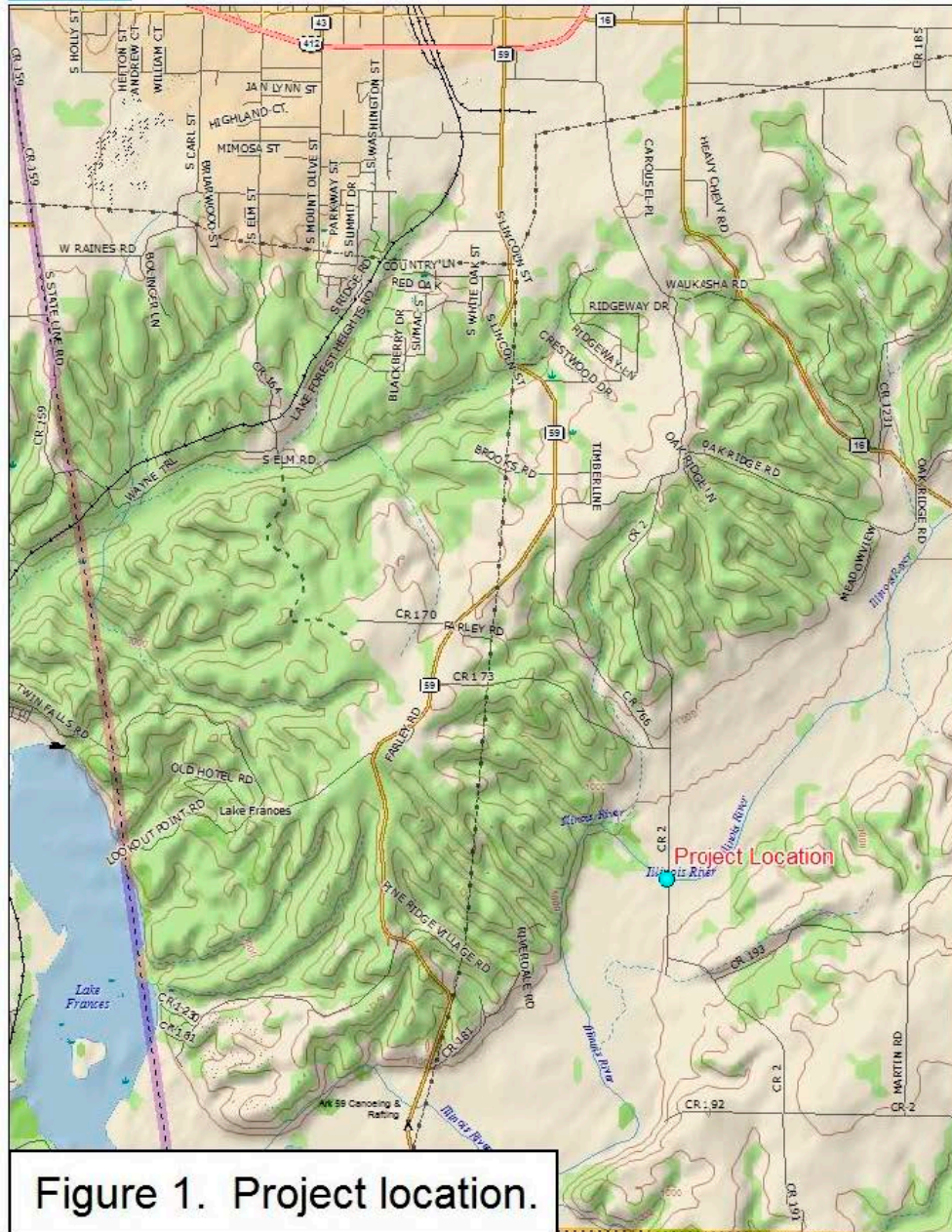


Figure 1. Project location.

Figure 2. Sketch of qualitative timed-search cell distribution within the survey area. U = Upstream, B = Bridge, D - Downstream.

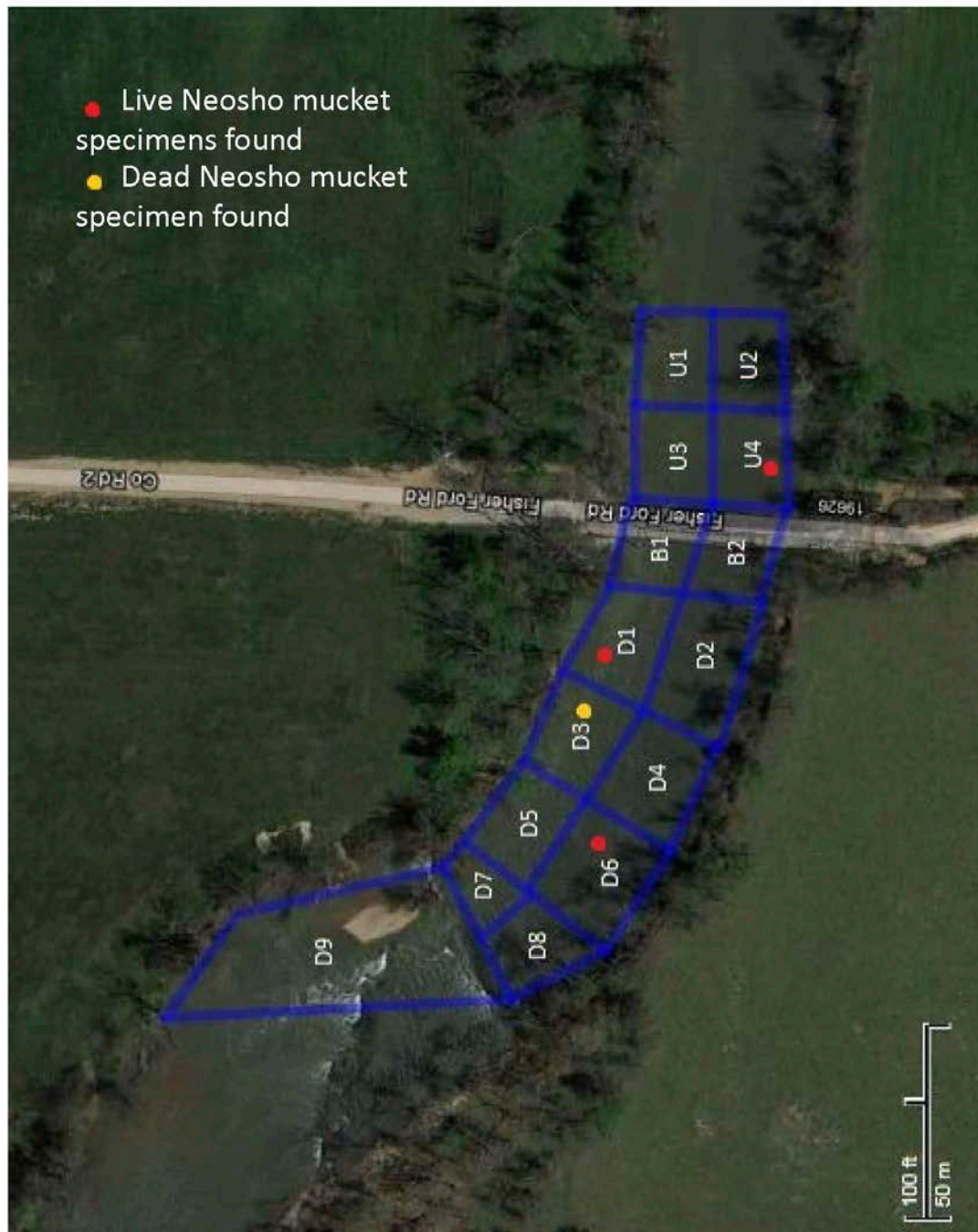




Figure 3. Top. Downstream survey area; *Justicia* islands center left, downstream run encompassing search cell Downstream 9 top right. Bottom. Upstream of county road crossing taken from right descending bank, bridge end at top right.

Each search cell, except Downstream 9, was surveyed by two individuals with one snorkeling (where water depth was adequate) and the other wading and

A total of 16 live specimens representing three native unionid species were collected during the qualitative timed-search survey, and three additional species were found as dead shells only (Table 2). In addition, the Asian clam (*Corbicula fluminea*) was found in low numbers as both live and dead specimens within each survey quadrat.

Table 2. Timed search results for 15 search cells within survey area.

Search Cell	Survey Time	<i>Amblema plicata</i>	<i>Elliptio dilatata</i>	<i>Fusconaia flava</i>	<i>Lampsilis rafinesqueana</i>	<i>Lampsilis siliquoidea</i>	<i>Pyganodon grandis</i>
Upstream 1	20 mins	0	0	0	0	0	0
Upstream 2	36 mins	0	1 live	0	0	0	0
Upstream 3	36 mins	0	0	0	0	0	0
Upstream 4	60 mins		5 live, 1 fresh dead	5 live	1 live	0	0
Bridge 1	42 mins	0	0	0	0	0	0
Bridge 2	40 mins	0	0	0	0	0	0
Downstream 1	54 mins	0	0	0	1 live	0	0
Downstream 2	42 mins	0	0	0	0	0	1 fresh dead
Downstream 3	38 mins	2 valves	0	0	1 relict	1 relict	0
Downstream 4	34 mins	0	1 live	0	0	0	0
Downstream 5	48 mins	1 valve	1 + 1 valve dead	0	0	0	0
Downstream 6	24 mins	0	0	0	1 live	0	0
Downstream 7	14 mins	1 relict	0	0	0	0	0
Downstream 8	12 mins	0	0	0	0	0	0
Downstream 9	17 mins	0	1 live	0	0	0	0
TOTAL	517 mins	0 live	8 live	5 live	3 live	0 live	0 live

Survey time for the qualitative effort totaled 8.6 person-hours. Length, height, and width measurements (mm) for the three Neosho mucket (*Lampsilis rafinesqueana*) specimens are: Upstream 4 - L 86.05, H 57.25, W 30.25; Downstream 1 - L 49.50, H 30.40, W 16.85; Downstream 6 - L 92.60, H 58.95, W 32.70, and these three specimens are shown in Figure 4. The only mussel concentration found was located in search cell Upstream 4.



