



**Region 3, Section 6 Recovery Land Acquisition
Grant Proposal**

**Land Acquisition Initiative Along The Little Darby Creek
State and National Scenic River To Aid In The Recovery
Of The Clubshell (*Pleurobema clava*) and Northern
Riffleshell (*Epioblasma torulosa rangiana*)**



Submitted by the ODNR, Division of Natural Areas & Preserves
2045 Morse Road, Building F-1, Columbus, OH 43229
Proposal prepared by Melissa Moser

July 19, 2007

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PROJECT TITLE:

Land acquisition initiative along the Little Darby Creek State and National Scenic River to aid in the recovery of the clubshell (*Pleurobema clava*) and Northern riffleshell (*Epioblasma torulosa rangiana*).

NEED:

The Little Darby Creek State and National Scenic River is nationally known for its tremendous diversity and abundance of both aquatic and terrestrial plants and animals. The Nature Conservancy (TNC) calls the Darby Creek watershed “the healthiest and most diverse aquatic system of its size in the Midwest.” It is, according to TNC, “among the top five warm freshwater habitats in the nation” and in 1991, it was acknowledged as “A Last Great Place” in the western hemisphere. A total of 32 occurrences of rare species or communities are documented within 100 ft. of the Little Darby Creek (Table 1), including mussel beds of the Federally endangered Northern riffleshell and clubshell mussels. In 1998, The U.S. Fish and Wildlife Service proposed creating a National Wildlife Refuge in the Darby watershed, known as the “Little Darby National Wildlife Refuge.” Due to local landowner opposition, the idea of a refuge was abandoned. It is now up to state and private entities to protect this diverse and fragile system.

The Darby watershed has a long history of conservation efforts initiated by many different agencies and organizations. In 1984, the Ohio Department of Natural Resources designated portions of the Big and Little Darby Creeks as a State Scenic River. In 1994, the Department of the Interior designated sections of the streams as a National Scenic River. Since these designations, the Ohio Scenic Rivers Program, within The Division of Natural Areas and Preserves (DNAP), has worked diligently to protect the biological diversity and natural integrity of both streams. The Scenic Rivers Program works to address impacts associated with changing land use by developing zoning and other protective mechanisms with local communities to permanently protect riparian forest and floodplains. Organizations such as TNC, the Darby Creek Association, and Operation Future worked successfully through the late 1970s and 1980s to eliminate a proposal to dam the Big Darby for a water supply reservoir. They continue to work to permanently protect riparian forest and floodplain lands as well as build support for the protection of these streams. Throughout the years, the Scenic Rivers Program has also maintained a good working relationship with the agricultural community in this area and continues to work effectively on efforts to protect the Little Darby Creek as a State and National Scenic River.

The primary goal of the Clubshell (*Pleurobema clava*) and Northern Riffleshell (*Epioblasma torulosa rangiana*) Recovery Plan is maintaining and restoring viable populations of the clubshell and Northern riffleshell to a significant portion of their historic range (Recovery Plan). Protection of the Darby Creek watershed is specifically identified within the Recovery Plan as necessary for achieving recovery of both the clubshell and the Northern riffleshell. This

watershed includes both the Little Darby Creek and Big Darby Creek State and National Scenic Rivers. This land acquisition initiative focuses on the Little Darby Creek. The project area includes the entire Little Darby Creek Watershed (Figure 1). Acquisition of any parcels within this project area would contribute toward the recovery of both the clubshell and Northern riffleshell. The first acquisition we are focusing on is a parcel known as the Riverwood property. Because full funding was not granted, DNAP will purchase approximately 100-acres of this 174-acre parcel (Figure 2). We anticipate resubmitting a grant proposal for purchasing the remaining acreage of this property.

The Riverwood property encompasses approximately 174 acres around the southern boundary of the Village of West Jefferson in Madison County, Ohio (Figures 1 and 2). This property contains riparian forest buffer and floodplain on the north bank of the Little Darby Creek, several small tributaries with associated forested ravines, some small isolated forest wetlands and some adjacent upland (Figure 2).

On August 16, 2006, fish, unionid mollusk and plant community surveys were performed in and along the Little Darby Creek adjacent to the Riverwood property. The mollusk survey yielded 518 individuals comprising 18 species (Table 1). Most notable was the presence of a fresh dead clubshell. Additional upstream and downstream records of this Federally endangered species have also been documented in the Ohio Natural Heritage Database (Figure 3). Other listed species found included the state endangered rabbitsfoot (*Quadrula cylindrica cylindrical*) and four species listed as species of special concern in the state (see Table 1 and Figure 3). A state endangered spotted darter (*Etheostoma maculatum*) and state threatened bluebreast darter (*Etheostoma camurum*) were both documented during this survey (Figure 3).

Over the past several years this parcel has been under the threat of medium density residential development. Representatives from the Village Council of West Jefferson have expressed their interest in seeing the parcel developed into medium density single-family housing. The village has also expressed interest in annexing the property and providing sewer and water to it. There is an existing main sewer-line crossing the property, which is located in close proximity to the village's sewage treatment plant (Figure 2). DNAP believes that the development of this parcel is imminent if funding cannot be secured for its protection. This threat of development makes the purchase of this property even more critical to the well being of the Little Darby Creek. If this parcel is developed, riparian vegetation loss on tributary streams and storm water runoff could negatively impact the sections of the Little Darby adjacent to and downstream of this property.

A second parcel is considered equally important, but is not in immediate danger of development. DNAP anticipates submitting a proposal for this at a later date. Parcel 2, known as the Robin Green property, involves the purchase of an additional 219 acres upstream from the Riverwood property (Figures 4 and 5). It encompasses approximately 219 acres between Interstate 70 and the Little Darby Creek just west of the I-70 Bridge over Little Darby Creek (Figure 5). Very similar to the Riverwood Property, this piece also contains riparian forest, floodplain, wooded bluffs and some upland areas adjacent to the Little Darby Creek (Figure 5). An Ohio Natural Heritage Database search showed records for several unionid mollusk species including the

clubshell and Northern riffleshell. Several other state listed species (Figure 6) have also been recorded from this site.

Land use surrounding the Robin Green Property is still predominantly agriculture, however, large lot residential development is increasing in this area (evident in the aerial photo in Figure 6). The Village of West Jefferson is also expanding its borders to the north along State Route 29 with the corporation limit now at the south side of I-70 (Figure 6). The Village of West Jefferson has the Route 29 corridor zoned for light industrial development. Such development in this corridor could eventually result in the Robin Green Property becoming desirable for development as hotel, restaurant, service station or warehousing facilities given its proximity to I-70.

Over 11,100 acres have been protected within the entire Darby Watershed through purchases, easements, management agreements or dedications. Most of this protected property is owned or managed by Columbus and Franklin County MetroParks, DNAP or TNC. Columbus and Franklin County MetroParks has acquired over of 8,200 acres along the Big Darby and Little Darby creeks in Franklin and Eastern Madison counties at an approximate cost of \$46.2 million. TNC has also protected nearly 150 acres along the Little Darby and over 1,800 acres of land in the entire Darby watershed. The Scenic Rivers Program is working in the Little Darby watershed to acquire riparian forest corridor where there are willing landowners and when sufficient funding can be secured. To date, DNAP has obtained approximately 273 acres on eight parcels through fee simple purchases or conservation easements along the Little Darby Creek. DNAP has an additional 280 acres in 18 parcels along the Big Darby. The addition of the Riverwood property will bring DNAP's total acreage in the Little Darby watershed to 447 acres with a total expenditure of \$2,072,663.

Figure 6 illustrates some of the protected lands in the West Jefferson and Western Franklin County portions of the Big and Little Darby Creek watersheds. Given the amount of land that has been protected in the Darby watershed and the dollars that have been expended thus far, funding projects such as this are consistent with the goals already established by the conservation partners working to protect this watershed.

Overall, the greatest threat to the Darby watershed is urbanization. The most threatened sections of the Little Darby are those in the vicinity of West Jefferson, which is beginning to experience significant growth. According to the Village of West Jefferson, the village has sewer capacity available and is interested in growth. Funding projects such as the purchase of these properties will provide much needed protection to riparian corridor along one of the most biologically diverse, yet threatened stream ecosystems in this state. Due to lack of sufficient funding, DNAP cannot purchase this property without assistance. We must rely on partnerships for land purchases such as this. Recovery Land Acquisition Funds are essential for protecting this parcel.

OBJECTIVE:

The objective of this project is to protect riparian corridor along the Little Darby Creek State and National Scenic River to enhance the habitat for the clubshell (*Pleurobema clava*) and Northern riffleshell (*Epioblasma torulosa rangiana*).

Land Acquisition Objectives

Funding Year 2007: Acquire in fee title, approximately 100-acres of the Riverwood Property in Madison County, OH.

Subsequent Funding Awards: When additional funds become available, DNAP will acquire the remaining acreage of the Riverwood Property in Madison County, OH and/or acquire the 219-acre Robin Green Property in Madison County, OH. As opportunity and funds allow, DNAP plans to purchase land within the project area (Figure 1).

EXPECTED RESULTS OR BENEFITS:

The Recovery Plan identifies the first step towards reaching the objective of reclassifying both the clubshell and Northern riffleshell from endangered to threatened as establishing viable populations in 10 separate drainages for each species. The Little Darby Creek is listed as one of the targeted drainages necessary for achieving recovery of the clubshell. The Big Darby Creek is a target drainage for the Northern riffleshell. Because the Little Darby Creek drains into the Big Darby Creek, its protection will ultimately benefit the Big Darby Creek watershed. The ultimate goal of de-listing both species relies on the permanent protection of the populations and their drainages.

The result of this land acquisition will be the permanent protection of riparian corridor along Little Darby Creek. The addition of this property will bring the amount of protected land in the Little Darby watershed to nearly 2,080 acres.

No known past modifications or other problems relating to in-stream habitat exist at these sites. Some of the Riverwood property is currently in row crop production. Floodplain portions of the site in row crops will be allowed to revert naturally to a riparian forest condition. DNAP would like to return some of the upland area on this site to native tall grass prairie. We believe that the presence of Kokomo and Crosby Silt Loam soils on the site would be conducive to this activity. The Franklin County Metroparks has offered to assist us with locating prairie seed native to the Darby Plains area for planting on this site. Some deforestation has also occurred on the Robin Green property, however, these areas are now in early succession grass field conditions. It would be our intent to allow this site to reforest through continued natural succession. Our long-term management of both sites would permit re-forestation to occur through natural succession with invasive species control. Prairie areas, if reestablished, would be managed to maintain the tall grass prairie ecosystem.

APPROACH:

Willing sellers have already been identified. Because full funding was not granted, only half of the Riverwood Property will be purchased at this time (approximately 100-acres). Once the funding is approved, the ODNR Division of Real Estate and Land Management (REALM) will begin the acquisition process. The following steps are included in the acquisition process: appraisal is ordered, title ordered on property, review appraisal to set fair market value, submit title report to the Assistant Attorney General for an AG Opinion of Title, prepare an Option to Purchase and present option to landowner, prepare deeds (will include a federal interest statement) and schedule the closing, record the deed and provide copies to the acquiring division. From the beginning of the acquisition process until the deed is in hand, it could take a minimum of 6-8 months and a maximum of 12-15 months. DNAP staff will then post the boundaries,

begin regular site inspections and prepare a management plan within the first year of acquisition. This site will be managed as a State Scenic River Area. A DNAP preserve manager will be assigned to the site and he/she will perform all management duties as outlined in the management plan. Limited recreational use will be allowed on the property. Hiking and fishing will be permitted. The only hunting that may be conducted will be strictly controlled and used for management of the site. Additional biological surveys will be conducted. Prairie plantings may be initiated in the spring of 2008 if conditions are appropriate. The site, with the exception of prairie areas, will be left to natural succession. Invasive species will be managed, as funding is available. Management may include hand pulling of plants, cutting and treating or foliar spraying (herbicide labels will be followed and all efforts will be made to keep chemicals out of the river). The project leader for this site acquisition is Robert Gable. He can be contacted by phone at 614/265-6814 or by email at bob.gable@dnr.state.oh.us.

Other partners involved in this project include Franklin County MetroParks and the Ohio Division of Wildlife (DOW). By focusing efforts in the Little Darby Watershed, it is hoped that a continuous corridor along the Little Darby Creek can be protected. Full funding was not provided through the non-traditional Section 6 funds so it will be combined with state wildlife grant money to increase the amount of land that can be purchased. MetroParks is also providing \$250,000 towards the purchase. The DOW will be providing state wildlife grant funds to double the amount of remaining matching funds (see attached budget). This leftover match will be used as match to the DOW's state wildlife grant funds. This will provide more money for purchasing the property and use up the remaining match. Between the two grants, the federal share on the property will be 58% and the state will be 42%. DNAP plans to submit a subsequent grant proposal for the next Recovery Land Acquisition Grant. This second proposal will request funding to purchase the remainder of this Riverwood Property or other similar parcels within the project area.

LOCATION:

Little Darby Creek Watershed, Madison County, Ohio

REPORTING:

Within 90 days of the grant period ending, a report will be submitted to the USFWS. This report will include a land summary statement, draft management plan and a short narrative describing what has been accomplished.

REFERENCE:

U.S. Fish and Wildlife Service. 1994. Clubshell (*Pleurobema clava*) and Northern Riffleshell (*Epioblasma torulosa rangiana*) Recovery Plan. Hadley, Massachusetts. 68 pp.

BUDGET:

LAND ACQUISITION

	<u>USFWS RLA</u>	<u>USFWS SWG</u>	<u>DNAP</u>	<u>METROPARKS</u>	<u>TOTAL</u>	
Fee Simple Purchase*	\$ 247,395.00	\$ 243,366.00	\$ 100,000.00	\$ 250,000.00	\$ 840,761.00	✓
Boundary Posting			\$ 900.00		\$ 900.00	✓
Negotiations, Coordination & Reporting			\$ 3,614.00		\$ 3,614.00	✓
	<hr/>					
Total	\$247,395.00	\$243,366.00	\$104,514.00	\$250,000.00	\$845,275.00	✓
Federal interest by Program	0.29	0.29				
Total Federal share in grant	\$490,761.00	0.58				

*Preliminary appraisals put the value of the land on the Riverwood Property at approximately \$8500 per acre

Table 1
Ohio Natural Heritage Database
Element Occurrences within 100 ft. of Little Darby Creek
As of 1/29/2007

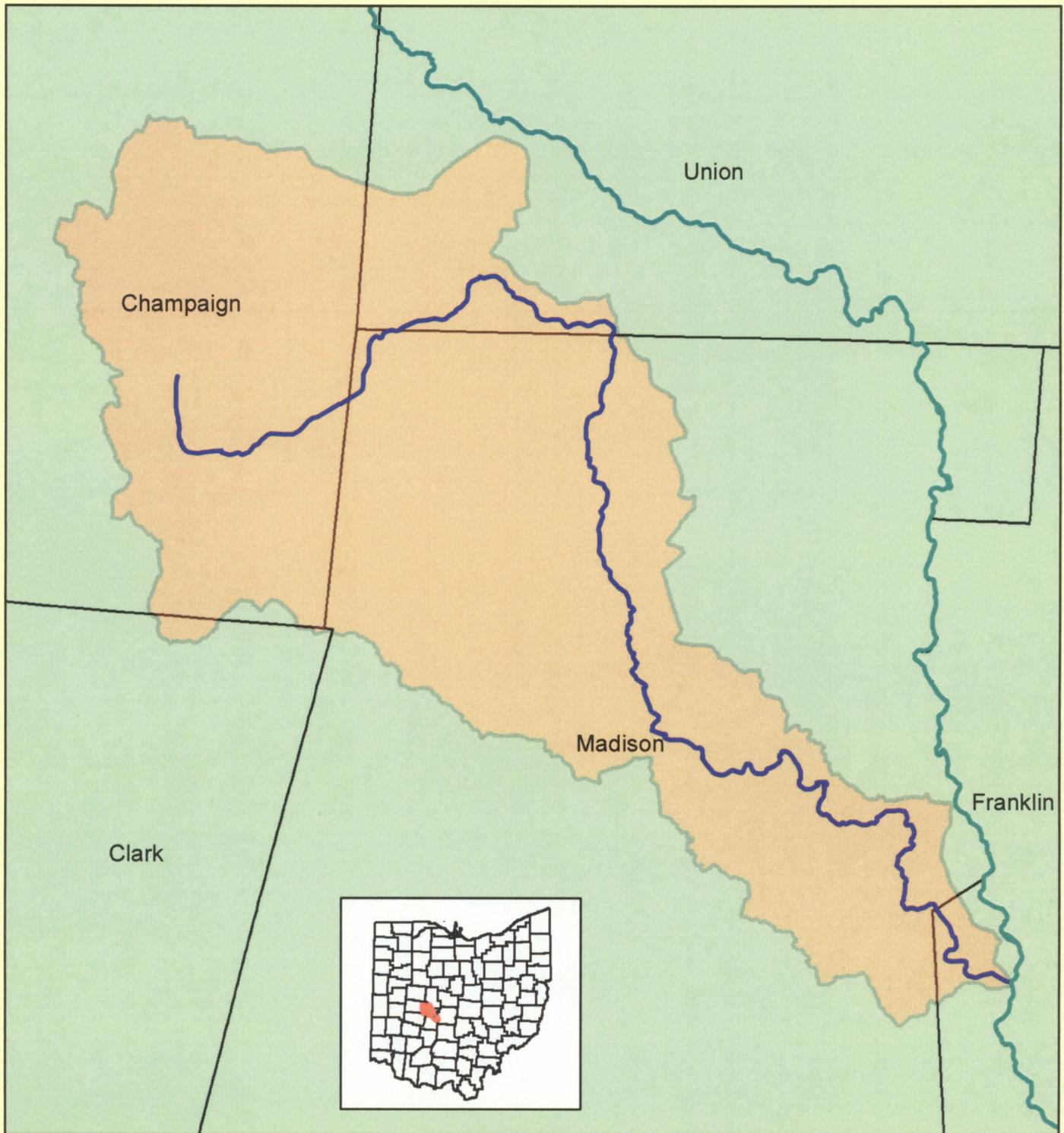
EO ID	Element Name	Common Name	Last Observed	State Status	Federal Status
6093	<i>Armoracia lacustris</i>	Lake Cress	1997-06-12	T	
10312	<i>Cyclonaias tuberculata</i>	Purple Wartyback	1986-08-18	SC	
7400	<i>Cyclonaias tuberculata</i>	Purple Wartyback	1990-09-14	SC	
6438	<i>Elliptio crassidens</i>	Elephant-ear	1984-08-12	E	
13105	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	1984-05	E	FE
7692	<i>Epioblasma torulosa rangiana</i>	Northern Riffleshell	1996-09-29	E	FE
7608	<i>Epioblasma triquetra</i>	Snuffbox	1990-10-01	E	
10995	<i>Epioblasma triquetra</i>	Snuffbox	1982-07-05	E	
1457	<i>Epioblasma triquetra</i>	Snuffbox	1996-09-29	E	
11114	<i>Epioblasma triquetra</i>	Snuffbox	1964-08-15	E	
12879	<i>Erimyzon sucetta</i>	Lake Chubsucker	1985-04	T	
6864	<i>Etheostoma camurum</i>	Bluebreast Darter	1992-08	T	
13324	<i>Etheostoma maculatum</i>	Spotted Darter	2003-08-29	E	
10548	<i>Etheostoma tippecanoe</i>	Tippecanoe Darter	1992-08	T	
10915	<i>Iris brevicaulis</i>	Leafy Blue Flag	1998-06-02	T	
6278	<i>Lampsilis fasciola</i>	Wavy-rayed Lampmussel	1996-09-29	SC	
9097	<i>Lampsilis fasciola</i>	Wavy-rayed Lampmussel	1995-09-28	SC	
12214	<i>Lampsilis fasciola</i>	Wavy-rayed Lampmussel	1990-09-14	SC	
7437	Mussel Bed		1990-09-25		
254	Mussel Bed		1990-11		
255	Mussel Bed		1990-09-14		
78	Mussel Bed		1990-09		
2775	Mussel Bed		1990-10		
12218	Mussel Bed		1990-10		
6376	Mussel Bed		1990-10		
9511	<i>Pleurobema clava</i>	Clubshell	1996-09-29	E	FE
12007	<i>Pleurobema sintoxia</i>	Round Pigtoe	1990-10-27	SC	
6781	<i>Quadrula cylindrica cylindrica</i>	Rabbitsfoot	1996-09-02	E	
1476	<i>Villosa fabalis</i>	Rayed Bean	1990-11-15	E	
10489	<i>Villosa fabalis</i>	Rayed Bean	1986-05	E	
6230	<i>Vitis cinerea</i>	Pigeon Grape	1998-06-02	P	
16772	<i>Zizania aquatica</i>	Wild Rice	2005-08-18	T	

Total number of occurrences: 32

Table 2: Mussel species recorded during the August 16, 2006 mussel survey conducted on the Little Darby Creek adjacent to the Riverwood property.

Common Name	Scientific Name	Live	Fresh Dead	Weathered Dead	Status
1. Clubshell	<i>Pleurobema clava</i>		1		FE/E
2. Creek heelsplitter	<i>Lasmigona compressa</i>		1		SC
3. Elktoe	<i>Alasmidonta marginata</i>	5	1		SC
4. Fat mucket	<i>Lampsilis radiate luteola</i>	12			
5. Fluted-shell	<i>Lasmigona costata</i>	1	3		
6. Fragile papershell	<i>Leptodea fragilis</i>	1			
7. Kidneyshell	<i>Ptychobranhus fasciolaris</i>	148	20		SC
8. Northern riffleshell	<i>Epioblasma rangiana</i>			1	
9. Plain pocketbook	<i>Lampsilis ventricosa</i>	28	4		
10. Rabbitsfoot	<i>Quadrula cylindrical</i>	1			
11. Rainbow	<i>Villosa iris</i>	3	12		
12. Slippershell	<i>Alasmidonta viridis</i>	1			
13. Snuffbox	<i>Epioblasma triquetra</i>			1	
14. Spike	<i>Ellipitio dilatata</i>	289	30		
15. Squawfoot	<i>Strophitus undulates</i>	15	1		
16. Threeridge	<i>Amblema plicata</i>	1			
17. Wabash pigtoe	<i>Fusconaia flava</i>	8			
18. Wavy-rayed	<i>Lampsilis fasciola</i>	5			

Little Darby Creek Corridor Protection Project



Legend

-  Little Darby Creek
-  Big Darby Creek
-  Little Darby Creek Watershed

Figure 1. The project area encompassing the entire Little Darby Creek Watershed.

0 0.5 1 Miles




Mapped by: Melissa Moser

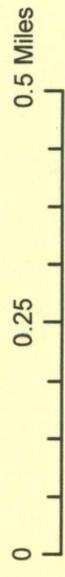
Little Darby Creek Corridor Protection Project



Legend

- Riverwood Property
- Hidden Creek WRP Easement
- Municipality
- Little Darby Creek Watershed

Figure 2. The lower Little Darby Creek watershed, showing the 174-acre Riverwood Property.



Mapped by: Melissa Moser
Aerial Photo: USDA, 2006

Little Darby Creek Corridor Protection Project

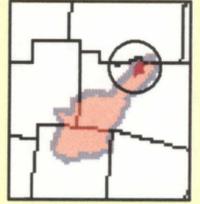
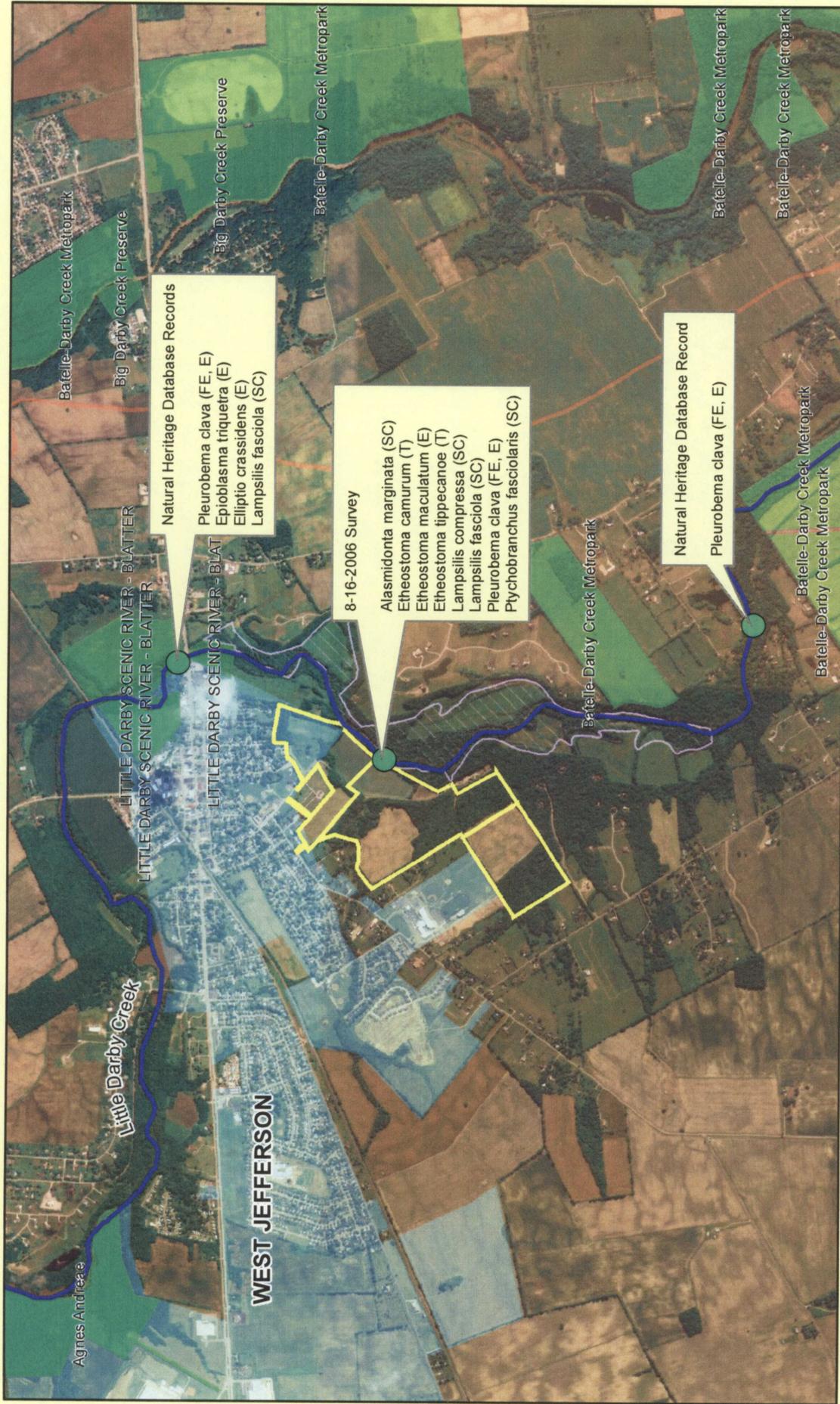
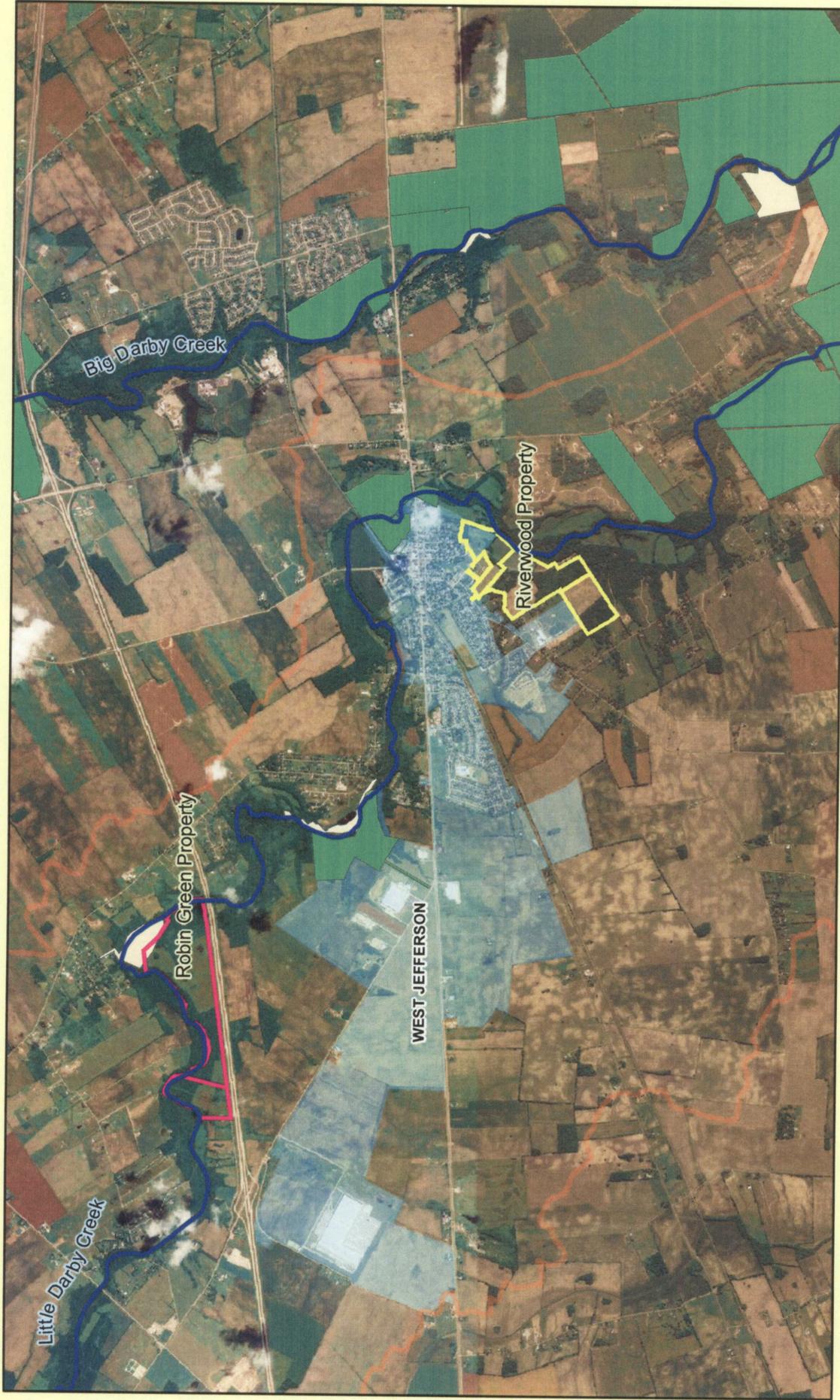


Figure 3. Riverwood property showing rare animal collection areas stored in the Ohio Natural Heritage Database and from an onsite survey by the Scenic Rivers Program on 8-16-06.

Mapped by: Melissa Moser
Aerial Photo: USDA, 2006

- Legend**
- Riverwood Property
 - Hidden Creek WRP Easement
 - Municipalities
 - Little Darby Creek Watershed
 - Protected Land

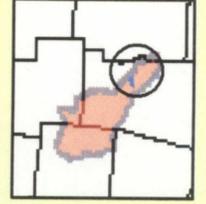
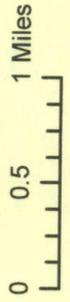
Little Darby Creek Corridor Protection Project



Legend

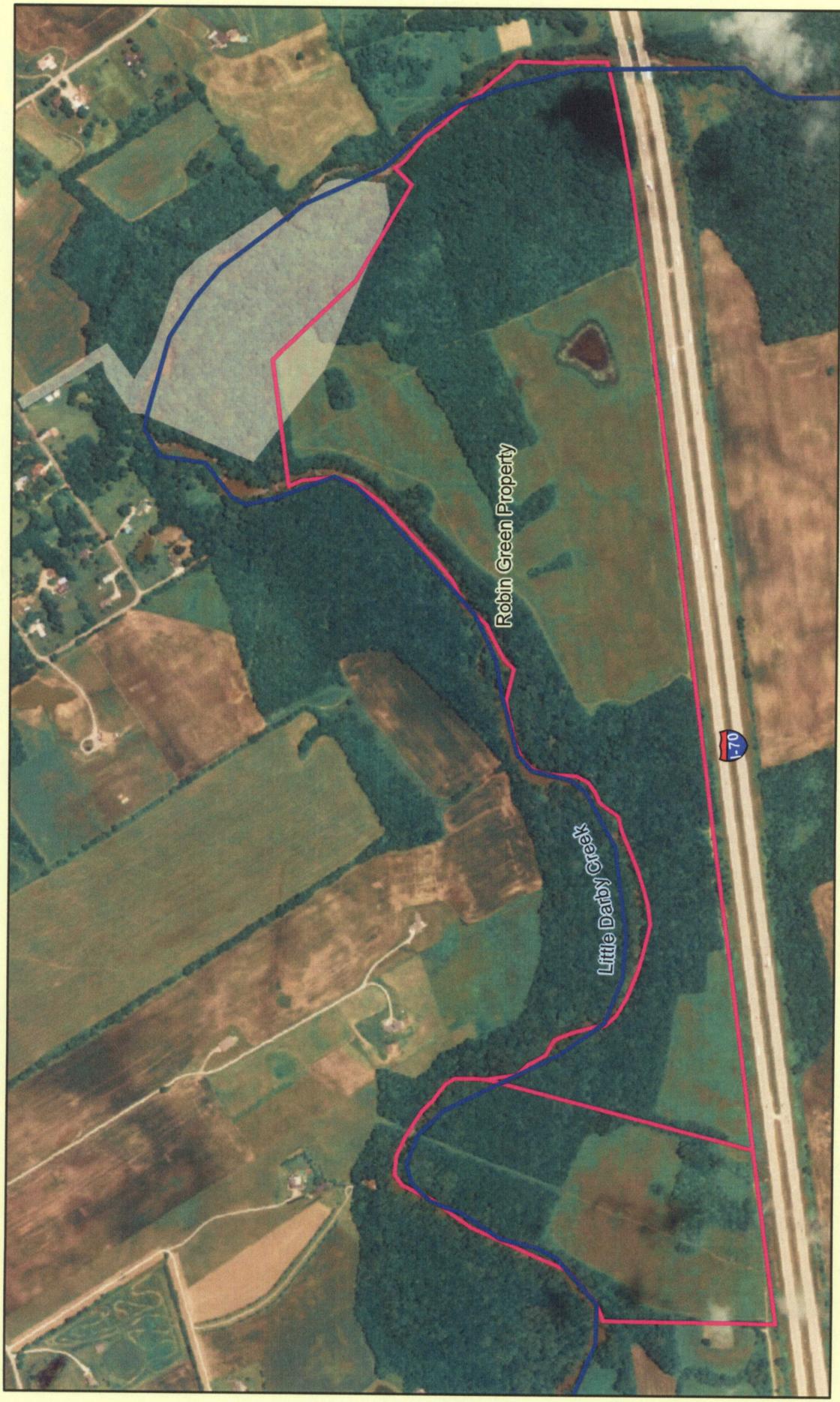
- Riverwood Property
- Robin Green Property
- Protected Land
- Other Protected Land
- Municipalities
- Little Darby Creek Watershed

Figure 4. The lower Little Darby Creek Watershed, showing the Riverwood and Robin Green properties in relation to protected conservation lands.



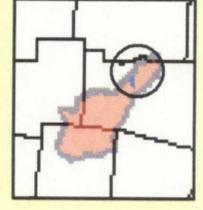
Mapped by: Melissa Moser
Aerial Photo: USDA, 2006

Little Darby Creek Corridor Protection Project



Legend

- Robin Green Property
- Little Darby Creek Watershed
- TNC easement



Mapped by: Melissa Moser
Aerial Photo: USDA, 2006

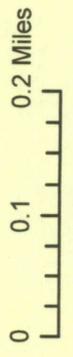
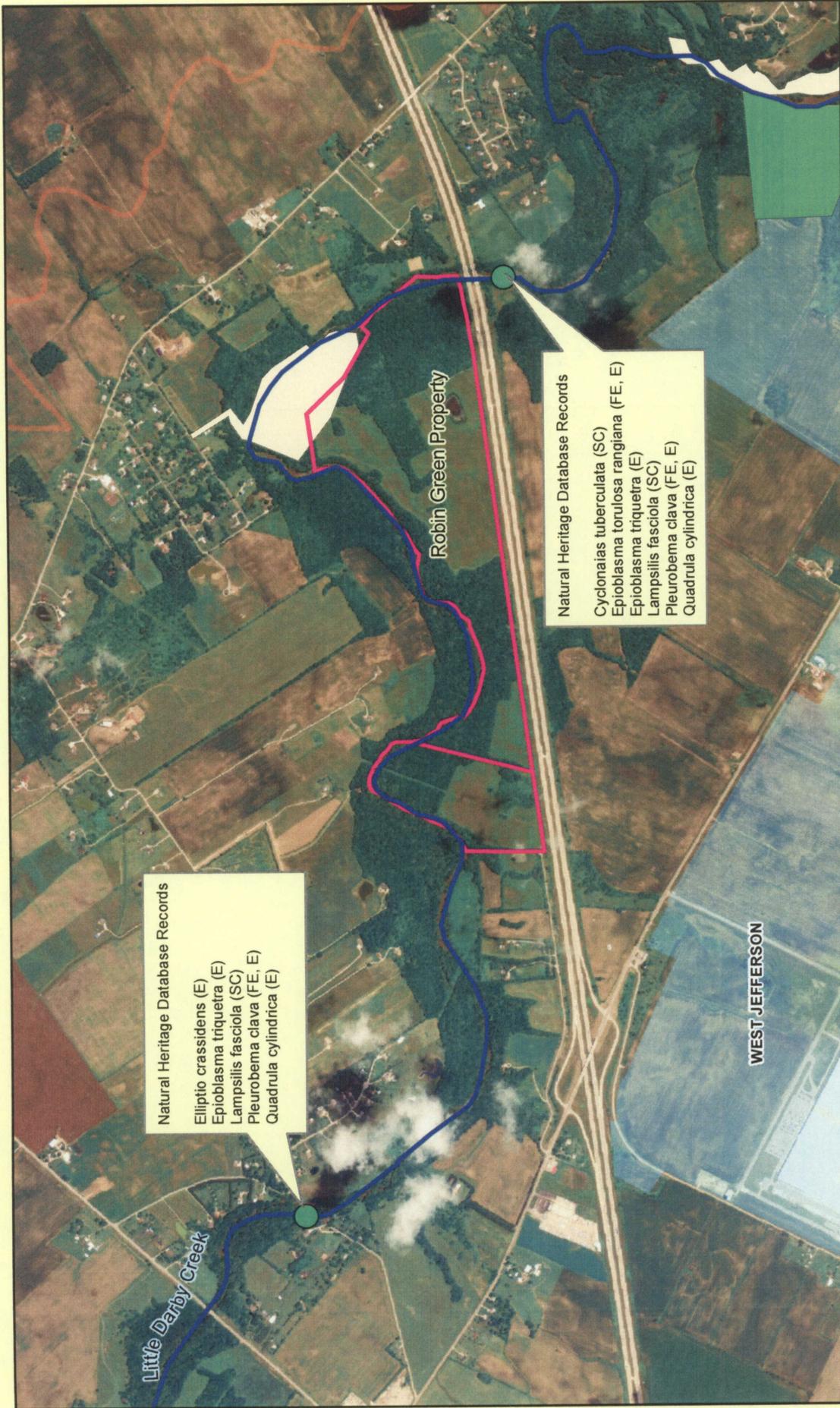


Figure 5. The lower Little Darby Creek Watershed, showing the 219-acre Robin Green property.

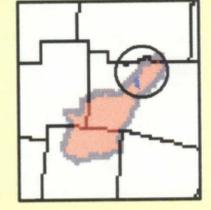
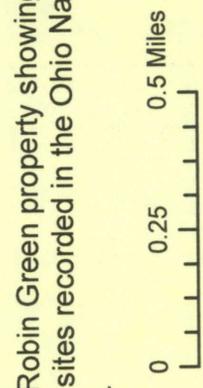
Little Darby Creek Corridor Protection Project



Natural Heritage Database Records
 Elliptio crassidens (E)
 Epioblasma triquetra (E)
 Lampsilis fasciola (SC)
 Pleurobema clava (FE, E)
 Quadrula cylindrica (E)

Natural Heritage Database Records
 Cyclonaias tuberculata (SC)
 Epioblasma torulosa rangiana (FE, E)
 Epioblasma triquetra (E)
 Lampsilis fasciola (SC)
 Pleurobema clava (FE, E)
 Quadrula cylindrica (E)

- Legend**
- Robin Green Property
 - Protected Land
 - Other Protected Land
 - Municipalities
 - Little Darby Creek Watershed



Mapped by: Melissa Moser
 Aerial Photo: USDA, 2006

Figure 6. Robin Green property showing rare mussel collection sites recorded in the Ohio Natural Heritage Database.