

Biological Assessment
of the Proposed
Quarry Place Site

by

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Introduction

Recently, H.R. Ransom Inc. proposed a development, Quarry Place, to be constructed within the Village of Dublin. In accordance with village ordinances, a proportion of the land slated for development must be allotted to Dublin Parks and Recreation. It had come to the attention of the parks staff that the potential park site offered an opportunity to include a unique natural area in the park system. The purpose of this report is to document the occurrence of wildlife on this site with an emphasis on birds.

Site and Methods

The proposed site is located within the corporate limits of the Village of Dublin on the eastern shore of the Scioto River just south of the Dublin bridge. The area, approximately 700 x 150 yards, is bounded on the north and south by private holdings and on the east by Riverside Drive (Fig 1.). The area along the river is quite prone to flooding and is characterized by a plant community that is tolerant of inundation. Woody plants include box elder, American sycamore, cottonwood, black willow, and other typical floodplain plants. During low water, patches of gravel are exposed along the shoreline. A small island lies offshore of the proposed site. Above the most active flooding zone are interspersed several small marshes

dominated by cattails (Typha latifolia), watercress (Nasturtium officinale), and skunk cabbage (Symplocarpus foetidus). Numerous snags dot the marshes. Above the floodplain, vegetation is typical of a mesophytic woodland. Plants here include basswood, Ohio buckeye, sugar maple, common hackberry, Tartarian honeysuckle, and other typical woodland species. Woody plant species, with scientific names, encountered during the surveys are presented in Table 1.

Three surveys of wildlife species were conducted from 8 May to 22 May between 0700 and 0930 hours. One additional, exploratory evening survey was conducted on 1 May. Numbers of birds either seen or heard were recorded by walking systematically through the area. Special note was made of singing, brooding, or nesting individuals. Opportunistic observations of other animal groups were also recorded.

Results

Fifty-three species of birds were recorded during the 8.5 hours of surveying. Seventeen of the 53 species observed (32%) are considered to be transient, meaning the birds are only found in the area for a short period of time during spring migration. These species are thought not to breed in the immediate area of the site. Species and numbers of individuals of transient birds are given in Table 2. Breeding birds accounted for 43% (23) of the species observed. Approximate breeding bird density was 2.5

pairs per acre (where singing males were treated as a pair and combined with pair totals). Breeding was determined by singing males, observed pairs, nests, or presence of young. Of the 23 species thought to breed on the site, 6 (26%) were determined by singing males, 12 (52%) by observation of pairs, and 5 (22%) by presence of nests or young. Species and degrees of breeding confirmation of breeding birds are presented in Table 3. Additional species were considered as status undetermined. These species potentially breed in the area but sporadic observations precluded breeding confirmation. Species and maximum numbers observed are presented in Table 4.

During the surveys, 7 species of mammals were detected by either visual observation or track presence. Species and means of observation are given in Table 5. Judging by the track abundance, raccoons were the most numerous mammal present on the site. Opportunistic turning of rocks revealed the presence of northern two-lined salamanders on the site. Five additional species of reptiles and amphibians observed during the period are given in Table 6. Fresh shells of three species of freshwater mussels Corbicula fluminea (Muller 1974), Ptychobriachus fasciolaris (Rafinesque 1820), and Lasmigona caustata (Rafinesque 1820) may indicate the presence of these species in the Scioto River at the site. Numerous crayfish (Decapoda) burrows were also found on the site.

Discussion

Perhaps the most unique feature of the site is the flooding of the bottomlands. Periodic flooding aids wildlife by charging backwater marshes and creating new habitat and a new food source. Trees killed by this occasional flooding provide nest sites for mammals and birds. The Scioto River itself seems to be a particularly good nursery area for waterfowl. As evidenced by the migrant warblers found on the site, the riparian woodlands of the Scioto serve as a corridor for migrating birds. In order to retain the character of the floodplain system, it is suggested that development of a park not alter the dynamics of periodic flooding. This might best be accomplished by limiting access through minimal development and perhaps construction of a boardwalk. Since most bird species on the site are edge species, elimination of the shrub layer would greatly alter the breeding bird assemblage. Artificial nest box placement might compensate for any cavity tree loss incurred during construction.

The value of the site as an environmental education area seems quite high. The diversity found in an aquatic system makes it a prime candidate for natural history education. Abundant arthropods, amphibians, and bivalves provide much class material on the site. A diverse flora and a diverse avifauna enhances the program ability of the site.

Taxonomic References

American Ornithologist's Union. 1983. Checklist of North American Birds, 6th edition. Allen Press Inc. Lawrence, Kansas. 877 pp.

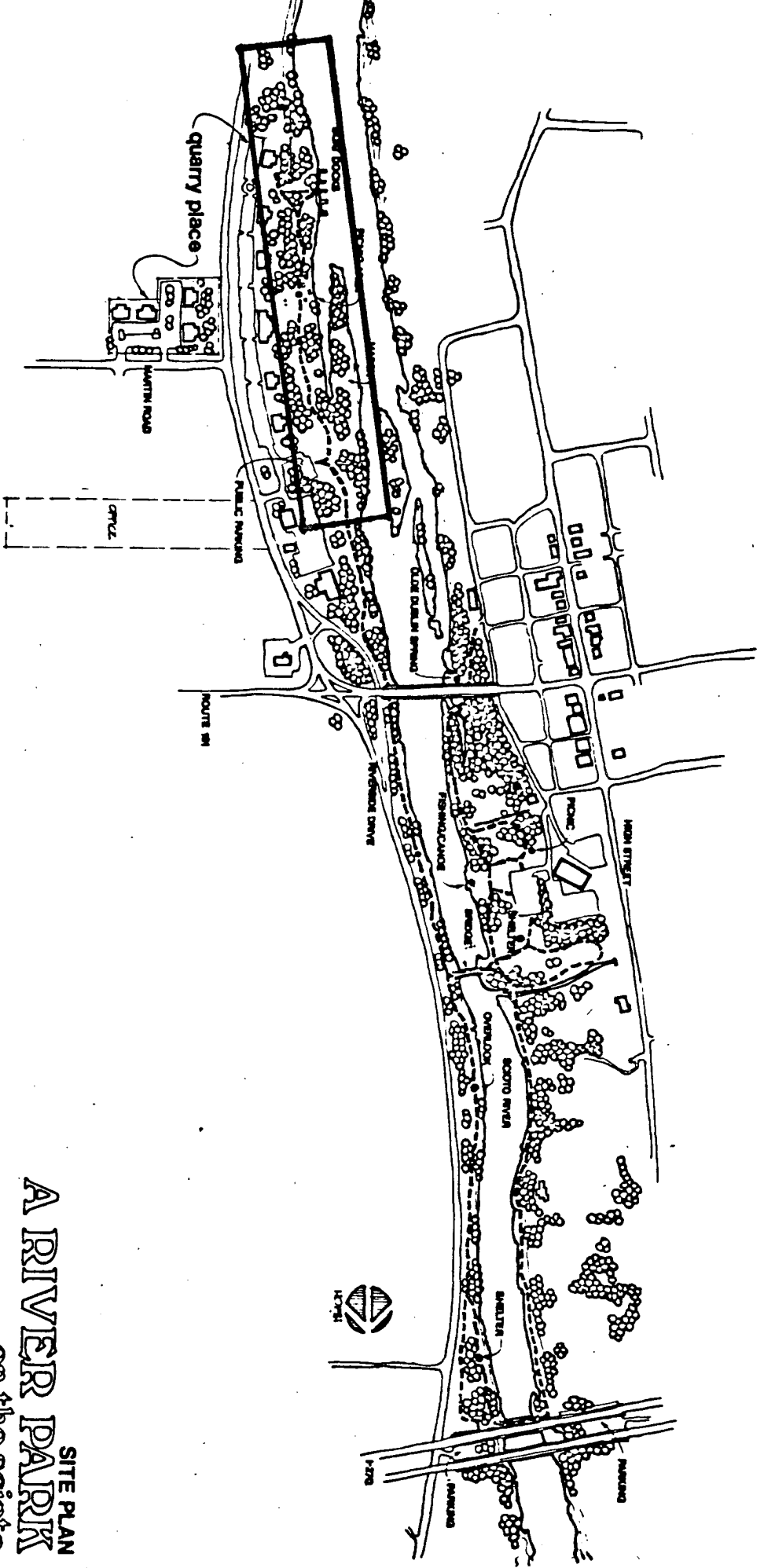
Conant, R. 1975. A Field Guide to Reptiles and Amphibians of Eastern and Central North America. Houghton Mifflin Co. Boston, Mass. 429 pp.

Jones, J.K., D.C. Carter, H.H. Genoways, R.S. Hoffmann and D.W. Rice. 1982. Revised checklist of North American mammals north of Mexico, 1982. Occasional Papers, The Museum of Texas Tech University. 80:1-22.

Newcomb, L. 1977. Newcomb's Wildflower Guide. Little, Brown, and Co. Boston, Mass. 490 pp.

Wharton, M.E. and R.W. Barbour. 1973. Trees and Shrubs of Kentucky. University of Kentucky Press. Lexington, Kentucky. 582 pp.

Figure 1. Proposed Quarry Place Site with Study Area Outlined.



SITE PLAN
A RIVER PARK
on the scio

from H.R. Ransom plans

SCALE 1" = 200'

Table 1. Woody plant species found on the Quarry Place site - Dublin.

Bottomlands	Uplands
<p>Box Elder (<u>Acer negundo</u>) American Sycamore (<u>Platanus occidentalis</u>) Cottonwood (<u>Populus deltoides</u>) Silver Maple (<u>Acer saccharinum</u>) Black Willow (<u>Salix nigra</u>) Ash (<u>Fraxinus</u> sp.) Slippery Elm (<u>Ulmus rubra</u>) Dogwood (<u>Cornus</u> sp.) Mallow (<u>Hibiscus</u> sp.)</p>	<p>Tartarian Honeysuckle (<u>Lonicera tatarica</u>) Sugar Maple (<u>Acer saccharum</u>) Ohio Buckeye (<u>Aesculus glabra</u>) Chinquapin Oak (<u>Quercus muehlenbergii</u>) Honey Locust (<u>Gleditsia triacanthos</u>) Common Hackberry (<u>Celtis occidentalis</u>) Basswood (<u>Tilia americana</u>) Mockernut Hickory (<u>Carya tomentosa</u>) Maple-leaved Viburnum (<u>Viburnum acerifolium</u>) Paw Paw (<u>Asimina triloba</u>) Black Locust (<u>Robinia pseudoacacia</u>) Black Oak (<u>Quercus velutina</u>) Autumn Olive (<u>Elaeagnus umbellata</u>) Burr Oak (<u>Quercus macrocarpa</u>) Blackberry (<u>Rubus</u> sp.)</p>

Table 2. Species and numbers of transient birds found on the proposed Quarry Place site - Dublin.

Species	1 May	8 May	15 May	22 May
Great Blue Heron	-	1	-	-
Spotted Sandpiper	1	1	4	-
Solitary Sandpiper	1	2	-	-
Ruby-throated Hummingbird	-	-	1	-
Least Flycatcher	-	-	1	-
Wood Thrush	-	1	-	-
Gray-cheeked Thrush	-	1	-	-
Swainson's Thrush	-	-	1	-
Ruby-crowned Kinglet	1	-	-	-
Yellow-rumped Warbler	5	7	-	-
Palm Warbler	1	1	-	-
Wilson's Warbler	-	-	1	1
Blackpoll Warbler	-	-	1	-
Tennessee Warbler	-	-	1	-
Bay-breasted Warbler	-	-	1	-
Swamp Sparrow	-	1	-	-
White-throated Sparrow	-	5	-	-

Table 3. Species, number, and breeding category of breeding birds on the proposed Quarry Place site - Dublin.

Species	Singing Males	Pairs	# Young/brood or nests
Canada Goose	-	2	1
Wood Duck	-	6	10
Mallard	-	4	2,4,12
American Woodcock	-	1	-
Downy Woodpecker	-	1	-
Northern Flicker	1	-	-
Eastern Wood Pewee	1	-	-
Great-crested Flycatcher	1	-	-
Carolina Chickadee	1	2	-
Tufted Titmouse	1	-	-
House Wren	2	3	-
Blue-gray Gnatcatcher	-	2	-
American Robin	-	3	1 Nest
Gray Catbird	2	1	-
European Starling	-	1	-
White-eyed Vireo	-	2	-
Red-eyed Vireo	1	-	-
Yellow Warbler	1	-	-
Common Yellowthroat	2	1	-
Northern Cardinal	-	6	2 Nests
Song Sparrow	3	1	-
Brown-headed Cowbird	1	2	-
Northern Oriole	-	1	-

Table 4. Species and numbers of birds considered as status undetermined on the Quarry Place site - Dublin.

Species	1 May	8 May	15 May	22 May
Red-tailed Hawk	1	-	-	-
Mourning Dove	1	-	-	-
Hairy Woodpecker **	-	1	1	1
Blue Jay	1	3	-	3
American Crow	2	3	-	-
White-breasted Nuthatch	-	-	-	1
Cedar Waxwing	-	-	3	5
Yellow-breasted Chat	-	-	-	1
Indigo Bunting	-	-	1	-
Red-winged Blackbird	-	1	-	-
American Goldfinch	1	1	2	1

** single female, no male observed

Table 5. Species and means of observation of mammals on the Quarry Place site - Dublin.

Species	Observation
Virginia Opossum (<u>Didelphis virginiana</u>)	tracks
Eastern Cottontail (<u>Sylvilagus floridanus</u>)	visual
Eastern Chipmunk (<u>Tamias striatus</u>)	visual
Gray Squirrel (<u>Sciurus carolinensis</u>)	visual
Muskrat (<u>Ondatra zibethicus</u>)	visual
Raccoon (<u>Procyon lotor</u>)	tracks
Whitetail Deer (<u>Odocoileus virginianus</u>)	tracks

Table 6. Reptile and amphibian species observed on the Quarry Place site - Dublin.

Northern Two-lined Salamander (<u>Eurycea bislineata</u>)
Bullfrog (<u>Rana catesbeiana</u>)
Northern Leopard Frog (<u>Rana pipiens</u>)
Painted Turtle (<u>Chrysemys picta</u>)
Northern Water Snake (<u>Natrix sipedon</u>)
Eastern Garter Snake (<u>Thamnophis sirtalis</u>)
