

3.1.3 Plant Community 3 (Early Successional Hardwood Stand)

The early successional hardwood stand has developed upon those portions of the site that were previously disturbed during the sand and gravel operation. In general, the areas where this community type developed possesses a relatively more well – developed A horizon, with more organic matter than sand-dominated areas. Understory light levels are moderate, although there is significant lateral light penetration from adjacent cleared areas. Typically, this cover type is observed in the central portion of the site, although an isolated patch is observed in the northwestern corner.

The most dominant plant species in this community is *Maianthemum canadense* (Canada mayflower), which is followed by *Carex pennsylvanica* (Table 3-4). Other dominant species in this community type include *Solidago canadensis* (gray's goldenrod), *Prunus serotina* (black cherry), and *Acer rubrum*.

Table 3-4. Ranked IV_{ave} values for the early successional hardwood stand community.

SCIENTIFIC NAME	COMMON NAME	D_R	F_R	IV_{ave}
<i>Maianthemum canadense</i>	Canada mayflower	30.56	9.09	19.82
<i>Carex pennsylvanica</i>	Pennsylvania sedge	23.61	6.06	14.84
<i>Solidago canadensis</i>	Gray's goldenrod	8.47	6.06	7.27
<i>Prunus serotina</i>	Black cherry	1.39	12.12	6.76
<i>Acer rubrum</i>	Red maple	6.25	6.06	6.16
<i>Carya ovata</i>	Shagbark hickory	8.33	3.03	5.68
<i>Populus tremuloides</i>	Quaking aspen	4.17	6.06	5.11
<i>Carex sp.</i>	sedge	5.56	3.03	4.29
<i>Lonicera tatarica</i>	Tatarian honeysuckle	1.39	6.06	3.72
<i>Potentilla simplex</i>	cinquefoil	0.83	6.06	3.45
<i>Quercus alba</i>	White oak	0.69	6.06	3.38
<i>Berberis thunbergii</i>	Japanese berberry	2.08	3.03	2.56
<i>Betula populifolia</i>	Grey birch	1.39	3.03	2.21
<i>Cornus stolonifera</i>	Red osier dogwood	1.39	3.03	2.21
<i>Quercus palustris</i>	Pin oak	1.39	3.03	2.21
<i>Juniperus virginiana</i>	Eastern red cedar	0.69	3.03	1.86
<i>Polytrichum commune</i>	haircap moss	0.69	3.03	1.86
<i>Rhus toxicodendron</i>	Poison ivy	0.69	3.03	1.86
<i>Cornus amomum</i>	Silky dogwood	0.14	3.03	1.58
<i>Galium asparine</i>	bedstraw	0.14	3.03	1.58
<i>Pinus strobus</i>	White pine	0.14	3.03	1.58

Total species richness observed in this community type is 21, which includes nine tree species, five shrub species, six species of herb, and a single moss species.

3.1.4 Plant Community 4 (*Pinus rigida* stand)

The xeric *Pinus rigida* (pitch pine) stand has developed upon remnant tailings left over from the sand and gravel operation and is restricted to a small patch adjacent to the sand barren community. Light levels are very high within this cover type and the substrate alternately consists of either needle litter or bare sand with some gravel and cobbles. The most dominant plant species in this community includes *Pinus rigida*, which is followed by the moss *Polytrichum commune*, the tree species *P. strobes* (white pine), in addition to the shrubs *Myrica pennsylvanica* (bayberry) and *Spiraea latifolia* (meadowsweet) (Table 3-5). Many of the species in this community, including the ericaeous shrubs, e.g. *Myrica*, are also characteristic of acidic, nutrient poor soils and high light levels.

Table 3-5. Ranked IV_{ave} values for the *Pinus rigida* stand community (n=3).

SCIENTIFIC NAME	COMMON NAME	D_R	F_R	IV_{ave}
<i>Pinus rigida</i>	Pitch pine	36.25	10.53	23.39
<i>Polytrichum commune</i>	haircap moss	13.75	15.79	14.77
<i>Pinus strobus</i>	White pine	17.50	5.26	11.38
<i>Myrica pennsylvanica</i>	bayberry	6.25	5.26	5.76
<i>Spiraea latifolia</i>	meadowsweet	6.25	5.26	5.76
<i>Carex pennsylvanica</i>	Pennsylvania sedge	5.00	5.26	5.13
<i>Schizachyrium scoparium</i>	Little bluestem	5.00	5.26	5.13
<i>Vaccinium angustifolia</i>	Lowbush blueberry	3.75	5.26	4.51
<i>Betula populifolia</i>	Grey birch	1.25	5.26	3.26
<i>Eleagnus augustifolia</i>	Russian olive	1.25	5.26	3.26
<i>Juniperus virginiana</i>	Eastern red cedar	1.25	5.26	3.26
<i>Populus tremuloides</i>	Quaking aspen	1.25	5.26	3.26
<i>Quercus rubra</i>	Northern red oak	1.25	5.26	3.26

Total species richness is 13, which includes six tree species, four shrub species, a single warm-season grass, a single sedge species, and one species of moss.

3.1.5 Plant Community 5 (forested *Quercus alba* – *Q. ilicifolia* stand)

Of the communities on the site, this is the least anthropogenically disturbed plant community type (although lightning damage was observed) and occurs at higher elevations present to the east of the site. The most dominant plant species in this community type include *Quercus* and *Q. alba*, which are considered co-dominants (Table 3-6). Other abundant species include the low stature ericaceous shrub species *Vaccinium angustifolia* (lowbush blueberry), the fern *Pteridium aquilinum* (bracken fern), and *Betula populifolia* (grey birch).

Within this xeric forest type, the growth of *Quercus ilicifolia* (scrub oak) was at times quite dense. In that the cover of this species increases dramatically following fire, and there was very little evidence of fire, apart from a standing dead *Pinus rigida* stem that had been struck by lightning, it appears that some localized clearing may have occurred. The cover of the shrub *Vaccinium angustifolia* is not continuous, which may be attributable to low levels of both downwelling and horizontal light. This is only noted because this species typically forms continuous mats within this forest type.

Table 3-6. Ranked IV_{ave} values for the forested *Quercus alba* – *Q. ilicifolia* stand community.

SCIENTIFIC NAME	COMMON NAME	D_R	F_R	IV_{ave}
<i>Quercus ilicifolia</i>	Scrub oak	10.76	20.00	15.38
<i>Quercus alba</i>	White oak	8.97	20.00	14.48
<i>Vaccinium angustifolia</i>	Lowbush blueberry	3.59	20.00	11.79
<i>Carex pennsylvanica</i>	Pennsylvania sedge	8.97	13.33	11.15
<i>Pteridium aquilinum</i>	Bracken fern	9.87	6.67	8.27
<i>Betula populifolia</i>	Grey birch	7.62	6.67	7.14
<i>Prunus serotina</i>	Black cherry	7.17	6.67	6.92
<i>Pinus rigida</i>	Pitch pine (SD)	1.35	6.67	4.01

Total species richness is eight, which includes four tree species, two shrub species, a single fern species, and a single sedge species. In contrast with other communities present on the site, the herbaceous layer is species poor, although characteristically so for this community type.

3.1.6 Plant Community 6 (Early successional shrubland)

This community type is fairly disturbed and appears to have developed upon deposited fill material that consists primarily of a smoothed sandy loam. The distribution of this community is restricted to the central portions of the site and extends in a southerly direction to the very edge of Tarbox Road.

The most dominant species in this community type is *Eleagnus augustifolia* (Russian olive), which forms dense thickets comprised of interlocking individuals along the main dirt access road leading into the site (Table 3-7). Other well represented species include the grasses *Dactylus glomerata* (orchard grass) and *Shizachyrium scoparium* (little bluestem), the tree *Juniperus virginiana* (eastern redcedar), and the shrub species *Myrica pennsylvanica* (bayberry).

Table 3-7. Ranked IV_{ave} values for the early successional shrubland community.

SCIENTIFIC NAME	COMMON NAME	D_R	F_R	IV_{ave}
<i>Eleagnus augustifolia</i>	Russian olive	34.86	20.00	27.43
<i>Dactylus glomerata</i>	Orchard grass	33.03	20.00	26.51
<i>Schizachyrium scoparium</i>	Little bluestem	15.60	15.00	15.30
<i>Juniperus virginiana</i>	Eastern red cedar	3.67	10.00	6.83
<i>Myrica pennsylvanica</i>	bayberry	3.67	10.00	6.83
<i>Rhus typhina</i>	Staghorn sumac	4.59	5.00	4.79
<i>Achillea millefolium</i>	yarrow	1.83	5.00	3.42
<i>Pinus strobus</i>	White pine	0.92	5.00	2.96
<i>Prunus serotina</i>	Black cherry	0.92	5.00	2.96
<i>Verbascum thapsus</i>	Common mullein	0.92	5.00	2.96

Total species richness is ten, which includes three tree species, three shrub species, and four herbs.

3.1.7 Plant Community 7 (isolated wetlands)

Isolated wetlands have been previously identified by others within five locations on the site. In large part, they have developed within shallow depressions formed during previous excavation activities within the gravel pit. Within several of the depressions, discarded tires and the occasional rusted 55 –

gallon drum were observed, and in general the communities were highly disturbed. The largest of the five isolated wetlands occurs adjacent to the Providence and Worcester railroad easement and contains standing water to a depth of 1.5 feet. Although water stained leaves are observed in the other three isolated wetlands, standing water is not present, which is indicative of fairly high infiltration rates.

The largest isolated wetland was most likely directly associated with a large and degraded *Chamaecyparis thyoides* (Atlantic white cedar) swamp to the west of the site prior to the construction of the railroad easement and other filling activities. It is worth noting that a single, 3 – 5 years old *Chamaecyparis thyoides* seedling was observed in this wetland. A great deal of Fe (iron) flocculation was observed along the edges of the wetland and the water within the pool was the color of dark “iced-tea”, which is the hallmark of leached tannins. Substrate types in this wetland include a thin veneer of organic material, including some periphyton, atop a mineral layer comprised of a fine sand and as such, is very firm.

The single most dominant plant species in the isolated wetland community is the shrub species *Vaccinium corymbosum* (Table 3-8). Other important species include *Salix bebbiana* (bebb willow), *Salix discolor* (pussy willow), *Dulichium arundinaceum* (three way sedge), and *Spiraea tomentosa* (steeplebush). Total species richness is 17, which includes three tree species, seven shrub species, five herbs, and two species of moss.

Table 3-8. Ranked IV_{ave} values for the early successional shrubland community.

SCIENTIFIC NAME	COMMON NAME	D_R	F_R	IV_{ave}
<i>Vaccinium corymbosum</i>	Highbush blueberry	13.19	8.33	10.76
STANDING WATER	NA	15.38	4.17	9.78
<i>Salix bebbiana</i>	Bebb willow	4.40	12.50	8.45
<i>Salix discolor</i>	Pussy willow	10.99	4.17	7.58
<i>Dulichium arundinaceum</i>	Three-way sedge	8.79	4.17	6.48
<i>Spiraea tomentosa</i>	steeplebush	7.69	4.17	5.93
<i>Spiraea latifolia</i>	meadowsweet	6.59	4.17	5.38
<i>Populus deltoides</i>	cottonwood	2.20	8.33	5.27

SCIENTIFIC NAME	COMMON NAME	D _R	F _R	IV _{ave}
<i>Acer rubrum</i>	Red maple	5.49	4.17	4.83
<i>Polytrichum commune</i>	haircap moss	5.49	4.17	4.83
<i>Carex stricta</i>	Tussock sedge	0.88	8.33	4.61
<i>Alnus rugosa</i>	Speckled alder	4.40	4.17	4.28
<i>Cornus amomum</i>	Silky dogwood	4.40	4.17	4.28
<i>Onoclea sensibilis</i>	Sensitive fern	3.30	4.17	3.73
<i>Equisetum fluviatile</i>	horsetail	2.20	4.17	3.18
<i>Populus tremuloides</i>	Quaking aspen	2.20	4.17	3.18
<i>Osmunda cinnamomea</i>	Cinnamon fern	1.10	4.17	2.63
<i>Sphagnum spp.</i>	Sphagnum moss	1.10	4.17	2.63
<i>Chamaecyparis thyoides</i>	Atlantic white cedar	0.22	4.17	2.19

The following section summarizes wildlife observed within each habitat, in addition to published accounts of species occurrence by habitat type (DeGraaf & Rudis, 1986). Rare, threatened, and endangered species are also discussed.

3.2 Wildlife

3.2.1 Habitat 1 (*Acer rubrum* forested wetland)

Within the *Acer rubrum* forested wetland community there is a great deal of structural diversity including forested stands, shrub dominated patches, and sections of standing water with emergent vegetation. As such, a correspondingly wide range of amphibians, reptiles, birds, and mammals could be expected to occur within this habitat type.

As it occurs within the boundaries of the site, the swamp is dominated by red maple with a fairly dense herbaceous layer characterized by a nearly continuous layer of *Symplocarpus foetidus*. The shrub layer is not as well developed, although *Clethra alnifolia*, *Vaccinium corymbosum*, and *Rhododendron viscosum* (swamp azalea) are present. Within sections of the utility right of way, scrub shrub communities dominate and species including highbush blueberry and swamp azalea become more prevalent.

In that there is considerable movement between adjacent patch types for species that are habitat generalists, it is presumed that those wildlife species that

utilize non-forested scrub shrub and emergent dominated patch types might also be encountered within the forested portions present on the site (Table 3-9). It is worth noting that many of these species were observed within similar habitat at a nearby site on Tarbox Road.

A high percentage of the species observed within this habitat type are fairly common and include amphibians such as *Gyrinophilus p. porphyriticus* (spring peeper), *Notophthalmus v. viridescens* (red spotted newt), and *Rana palustris* (pickerel frog). Avian species observed include *Agelaius phoeniceus* (red-winged blackbird) and a pair of *Anas platyrhynchos* (mallards). This pair was also observed within the largest isolated wetland at the southern end of the site. During the 1993 USFWS survey avian communities dominated by wood thrush were observed in the forested portions of this community, while species richness in the scrub-shrub portions was considerably higher. Specifically, species including common yellowthroat, song sparrow, American goldfinch, cedar waxwing, and chestnut-sided warbler were observed.

Table 3-9. Observed and expected wildlife species within the *Acer rubrum* swamp community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Amphibians and Reptiles</i>			
<i>Ambystoma maculatum</i>	Spotted salamander		X
<i>Gyrinophilus p. porphyriticus</i>	Northern spring salamander		X
<i>Desmognathus f. fuscus</i>	Northern dusky salamander		X
<i>Hyla c. crucifer</i>	Northern spring peepers	X	
<i>Notophthalmus v. viridescens</i>	Red spotted newt	X	
<i>Hyla versicolor</i>	Gray treefrog		X
<i>Rana calmitans melanota</i>	Green frog		X
<i>R. sylvatica</i>	Wood frog		X
<i>R. palustris</i>	Pickerel frog	X	
<i>Bufo fowleri</i>	Fowlers toad		X
<i>Bufo americanus</i>	American toad		X
<i>Thamnophis sirtalis sirtalis</i>	Eastern garter snake		X
<i>Nerodia sipedon sipedon</i>	Northern water snake		X
<i>Chelydra s. serpentina</i>	Common snapping turtle		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Birds			
<i>Podilymbus podiceps</i>	Pied billed grebe		X
<i>Nycticorax violaceus</i>	Black crowned night-heron		X
<i>Branta canadensis</i>	Canada goose		X
<i>Anas platyrhynchos</i>	Mallard	X	
<i>Rallus limicola</i>	Virginia rail		X
<i>Gallinago gallinago</i>	Common snipe		X
<i>Empidonax alnorum</i>	Alder flycatcher		X
<i>Vireo griseus</i>	White-eyed vireo		X
<i>Geothlypis trichas</i>	Common yellowthroat	X ^A	X
<i>Wilsonia citrina</i>	Hooded warbler		X
<i>Dendroica petechia</i>	Yellow warbler	X ^A	X
<i>Dendroica pennsylvanica</i>	Chestnut-sided warbler	X ^A	X
<i>Melospiza melodia</i>	Song sparrow	X ^A	X
<i>Melospiza lincolni</i>	Lincoln's sparrow		X
<i>Melospiza georgiana</i>	Swamp sparrow		X
<i>Agelaius phoeniceus</i>	Red-winged blackbird	X	
<i>Euphagus carolinus</i>	Rusty blackbird		X
<i>Quiscalus quiscula</i>	Common grackle		X
<i>Scolopax minor</i>	American woodcock		X
<i>Carduelis tristis</i>	American goldfinch	X ^A	X
<i>Ceryle alcyon</i>	Belted kingfisher		X
<i>Hylocichla mustelina</i>	Wood thrush	X ^A	X
<i>Bombycilla cedrorum</i>	Cedar waxwing	X ^A	X
<i>Ardea herodias</i>	Great blue heron		X
Mammals			
<i>Didelphus virginiana</i>	Virginia opossum		X
<i>Odocoileus virginianus</i>	White-tailed deer		X
<i>Vulpes vulpes</i>	Red Fox		X
<i>Sorex cinereus</i>	Masked shrew		X
<i>Sciurus carolinensis</i>	Gray squirrel		X
<i>Mephitis mephitis</i>	Striped skunk		X
<i>Blarina brevicauda</i>	Short-tailed shrew		X
<i>Sorex cinereus</i>	Masked shrew		X
<i>Condylura cristata</i>	Star-nosed mole		X
<i>Myotis lucifugus</i>	Little brown myotis		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Eptesicus fuscus</i>	Big brown bat		X
<i>Sylvilagus floridanus</i>	Eastern cottontail		X
<i>S. transitionalis</i>	New England cottontail		X
<i>Zapus hudsonius</i>	Meadow jumping mouse		X
<i>Peromyscus leucopus</i>	White-footed mouse		X
<i>Procyon lotor</i>	Raccoon	X ^A	X
<i>Mustela vison</i>	mink		X

X = observed/expected by KA; X^A = observed by USFWS 1993.

Amphibian species identified during the vernal pool survey included *Rana palustris* larvae, in addition to common aquatic insects including members of the *Dytiscidae* (predaceous diving beetle), *Gerridae* (water striders); and *Cladocerans* (daphnia). Other reptile and amphibian species that would be expected include the eastern garter snake, northern water snake, wood frog, and the gray treefrog.

3.2.2 Habitat 2 (Sand Barren)

The sand barren community is regularly disturbed by ATV traffic and as such, it is unlikely that even fossorial species, which are specifically adapted to burrowing in soils, would be able to utilize the substrate with the exception of adjacent, undisturbed patches. In addition, there is very little structure within this habitat type, which further limits the numbers of species that might be expected.

The few species that might occur within this community, at least along the edges of this community that support low stature shrub and warm season grasses include basking *Thamnophis s. sirtalis* (eastern garter snake), and *Coluber constrictor* (northern black racer). Other species that might be expected to pass along the edges of this community include *Odocoileus virginianus* (white-tailed deer) (tracks observed at the interface with the early successional hardwood stand). Ground nesting bird species that might be expected to utilize this habitat type include *Charadrius vociferous* (killdeer). The absence of killdeer within the sand barren areas and the unpaved pathways is most likely a consequence of the heavy ATV use in these areas.

3.2.3 Habitat 3 (Early successional hardwood stand)

This cover type only accounts for a small fraction of the total area on the site and is present as small, discrete patches. As such, large populations of wildlife are not expected to utilize this patch type (Table 3-10) and is most likely of low value for these species. However, in that many of the wildlife species observed on the site are generalists, there will most likely be a great deal of species that immigrate from adjacent patch types.

Some of the more common species observed in this patch type include *Caprimulgus vociferous* (whip-poor-will), prairie warblers and blue-winged warblers. Several small mammals including *Sylvilagus floridanus* (eastern cottontail) and *Tomias striatus* (eastern chipmunk) were also observed.

Table 3-10. Observed and expected wildlife species within the early successional hardwood stand community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Amphibians and Reptiles			
<i>Plethodon cinereus</i>	Redback salamander		X
<i>Coluber c. constrictor</i>	Northern black racer		X
<i>Thamnophis s. sirtalis</i>	Eastern garter snake		X
Birds			
<i>Scolopax minor</i>	American woodcock		X
<i>Colinus virginianus</i>	Northern bobwhite		X
<i>Meleagris gallopavo</i>	Wild turkey		X
<i>Sphyrapicus varius</i>	Yellow bellied sap sucker		X
<i>Caprimulgus vociferus</i>	Whip-poor-will	X	
<i>Colaptes auratus</i>	Northern flicker		X
<i>Certhia americana</i>	Brown creeper		X
<i>Sturnus vulgaris</i>	European starling		X
<i>Vermivora ruficapilla</i>	Nashville warbler		X
<i>Dendroica discolor</i>	Prairie warbler	X, X ^A	
<i>Vermivora pinus</i>	Blue-winged warbler	X, X ^A	
<i>Dendroica petechia</i>	Yellow warbler		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Passerina cyanea</i>	Indigo bunting		X
Mammals			
<i>Scolophus aquaticus</i>	Eastern mole		X
<i>Sylvilagus floridanus</i>	Eastern cottontail	X	
<i>S. transitionalis</i>	New England cottontail		X
<i>Tamias striatus</i>	Eastern chipmunk	X	
<i>Odocoileus virginianus</i>	White-tailed deer		X

X = observed/expected by KA; X^A = observed by USFWS 1993.

3.2.4 Habitat 4 (*Pinus rigida* stand)

The *Pinus rigida* (pitch pine) stand is also an extremely small patch type and would be expected to support a proportionally low number of species (Table 3-11). In fact, many of the species listed in the table are presumed to be immigrants from adjacent patch types, e.g. sand barren, early successional shrubland, and *Quercus alba* - *Q. ilicifolia* forested stand.

Species observed in this stand type include *Pipilo erythrophthalmus* (rufous-sided towhee) and expected species include reptiles such as the *Thamnophis s. sirtalis* (eastern garter snake), bird species including *Parus atricapillus* (black capped chickadee) and *Bombycilla cedrorum* (cedar waxwing), and common mammals species such as the eastern cottontail and the eastern chipmunk.

Table 3-11. Observed and expected wildlife species within the *Pinus rigida* stand community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Amphibians and Reptiles			
<i>Thamnophis s. sirtalis</i>	Eastern garter snake		X
Birds			
<i>Parus atricapillus</i>	Black-capped chickadee		X
<i>Regulus calendula</i>	Ruby-crowned kinglet		X
<i>Bombycilla cedrorum</i>	Cedar waxwing		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Dumetella carolinensis</i>	Grey catbird		X
<i>Vermivora pinus</i>	Blue-winged warbler		X
<i>Dendroica coronata</i>	Yellow-rumped warbler		X
<i>D. discolor</i>	Prairie warbler		X
<i>Passerina cyanea</i>	Indigo bunting		X
<i>Spizella passerina</i>	Chipping sparrow		X
<i>Pipilo erythrophthalmus</i>	Rufous-sided towhee	X	
Mammals			
<i>Sylvilagus floridanus</i>	Eastern cottontail		X
<i>Tamias striatus</i>	Eastern chipmunk		X

3.2.5 Habitat 5 (Forested *Quercus alba* – *Q. ilicifolia* stand)

Like many forests, this habitat type has pronounced structural diversity and would support a wide range of wildlife types (Table 3-12). It is worth noting that this stand is heavily fragmented and is restricted to a narrow strip that is bordered by light industry to the north and a cleared lot to the south. Some of the more common species identified in this stand include the rufous-sided towhee, and several small mammals including the eastern cottontail, short tailed shrew, meadow jumping mouse, eastern chipmunk, *Odocoileus virginianus* (white tailed deer), and *Sciurus carolinensis* (gray squirrel).

Table 3-12. Summary of observed and expected wildlife species within the forested *Quercus alba*-*Q. ilicifolia* stand community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Amphibians and Reptiles			
<i>Plethodon cinereus</i>	Redback salamander		X
<i>Coluber c. constrictor</i>	Northern black racer		X
<i>Thamnophis s. sirtalis</i>	Eastern garter snake		X
Birds			
<i>Parus atricapillus</i>	Black-capped chickadee		X
<i>Meleagris gallopavo</i>	Wild Turkey		X
<i>Colinus virginianus</i>	Northern bobwhite		X
<i>Picoides pubescens</i>	Downy woodpecker		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Pipilo erythrophthalmus</i>	Rufous-sided towhee	X	
<i>Parus bicolor</i>	Tufted titmouse		X
<i>Sitta carolinensis</i>	White breasted nuthatch		X
<i>Vireo philadelphicus</i>	Philadelphia vireo		X
<i>Mniotta varia</i>	Black and White warbler		X
Mammals			
<i>Cryptotis parva</i>	Least shrew		X
<i>Sylvilagus floridanus</i>	Eastern cottontail	X	
<i>Blarina brevicauda</i>	Short-tailed shrew		X
<i>Zapus hudsonius</i>	Meadow jumping mouse		X
<i>Sciurus carolinensis</i>	Gray squirrel	X	
<i>Tamias striatus</i>	Eastern chipmunk	X	
<i>Odocoileus virginianus</i>	White-tailed deer	X	

3.2.6 Habitat 6 (Early successional shrubland)

Most of the site provides habitat for species that utilize early successional plant communities, which cover a significant proportion of the site. This shrub-dominated habitat would provide excellent cover for a range of bird species and a suite of small mammals (Table 3-13). Observed bird species included the American goldfinch, gray catbird, common yellowthroat, song sparrow, rufous-sided towhee, mockingbird, and field sparrows.

Mammals observed within this habitat type include eastern cottontail and the white-tailed deer (tracks and scat). Other mammals that is expected in this habitat type include woodchuck, Virginia opossum, eastern chipmunk, gray squirrel, and raccoon. In that herbaceous cover is low and that a sufficiently thick A-horizon with organic matter is present only in a few patches, the small mammal community is expected to be dominated by white footed mice and deer mice.

No reptiles were observed on the site either during this current survey or the 1993 USFWS survey. However, a number of snake species are expected to utilize this patch type, in addition to the mounds of soil and rocks scattered

throughout the site, and the railroad tracks themselves. With regard to amphibians, some of the more common species including the American toad and the redback salamander are expected.

Table 3-13. Observed and expected wildlife species within the early successional shrubland community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
Amphibians and Reptiles			
<i>Coluber c. constrictor</i>	Northern black racer		X
<i>Thamnophis s. sirtalis</i>	Eastern garter snake		X
<i>Bufo americanus</i>	American toad		X
<i>Plethodon cinereus</i>	Redback salamander		X
Birds			
<i>Colinus virginianus</i>	Northern bobwhite		X
<i>Scolopax minor</i>	American woodcock		X
<i>Zenaida macroura</i>	Mourning dove	X	
<i>Empidonax virescens</i>	Acadian flycatcher		X
<i>Tyrannus tyrannus</i>	Eastern kingbird		X
<i>Dumetella carolinensis</i>	Gray catbird		X
<i>Mimus polyglottos</i>	Northern mockingbird	X,X ^A	X
<i>Toxostoma rufum</i>	Brown Thrasher		X
<i>Bombycilla cedrorum</i>	Cedar waxwing		X
<i>Vireo griseus</i>	White-eyed vireo		X
<i>Vermivora pinus</i>	Blue-winged warbler		X
<i>V. peregrina</i>	Tennessee warbler		X
<i>Dendroica petechia</i>	Yellow warbler		X
<i>Geothlypis trichas</i>	Common yellowthroat		X
<i>Passerina cyanea</i>	Indigo bunting		X
<i>Carduelis tristis</i>	American goldfinch	X	
<i>Pipilo erythrophthalmus</i>	Rufous-sided towhee	X	
<i>Melospiza melodia</i>	Song sparrow		X
<i>Spizella pusilla</i>	Field sparrow	X ^A	
<i>M. lincolni</i>	Lincoln's sparrow		X
<i>Zonotrichia albicollis</i>	White-throated sparrow		X
Mammals			
<i>Scolopus aquaticus</i>	Eastern mole		X
<i>Didelphus virginiana</i>	Virginia opossum		X

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Sylvilagus floridanus</i>	Eastern cottontail		X
<i>S. transitionalis</i>	New England cottontail		X
<i>Sciurus carolinensis</i>	Gray squirrel		
<i>Marmota monax</i>	woodchuck		X
<i>Peromyscus leucopus</i>	White footed mouse		X
<i>Microtus pennsylvanicus</i>	Meadow vole		X
<i>Napaeozapus insignis</i>	Woodland jumping mouse		X
<i>Mephitis mephitis</i>	Striped skunk		X
<i>Odocoileus virginianus</i>	White-tailed deer		X

3.2.7 Habitat 7 (Isolated wetlands)

As previously discussed, three isolated wetlands have developed within excavated basins in the former gravel pit. Given their extremely small size and disturbed nature it is unlikely that they would support large wildlife populations. However, there are a number of different types of amphibian and aquatic invertebrate species that would potentially utilize this habitat as breeding habitat and a few mammal and avian species that would use the dense shrub cover for shelter and those few berry-bearing shrubs as a food source (Table 3-14).

Common bird species observed within the isolated wetlands include red-winged blackbirds. Due to their small size, and the poorly developed plant communities in the smallest isolated wetlands, this habitat type is most likely of low value for this species. Small mammals would also be expected to use the isolated wetlands and include the short tailed shrew and the meadow jumping mouse.

Table 3-14. Observed and expected wildlife species within the isolated wetland community.

GENUS AND SPECIES	COMMON NAME	OBSERVED	EXPECTED
<i>Amphibians and Reptiles</i>			
<i>Hyla c. crucifer</i>	Northern spring peepers		X
<i>Bufo americanus</i>	American toad		