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## 5.10 BIOTIC COMMUNITIES

This section evaluates biotic communities in terms of changes to habitat and land cover at the Airport, which can potentially affect plant and animal species in the vicinity of the Airport. For information on existing conditions and impacts to threatened and endangered plant and animal species, see **Section 5.11, Threatened and Endangered Species**.

### 5.10.1 Background and Methodology

Biotic communities on Airport property and in the vicinity fall into five general categories: (1) forested lands; (2) scrub-shrub lands; (3) mowed grass lands; (4) unmowed grass lands; and (5) pavement and buildings.

#### 5.10.1.1 Regulatory Context

In accordance with FAA Order 5050.4A, *Airport Environmental Handbook*, the impacts caused by the proposed Build Alternatives to local biotic communities must be assessed. FAA Order 1050.1E (Appendix A, 8.1i) states:

In accordance with 40 CFR 1507.2(e), 1508.8(b) and 1508.27, the CEQ guidance on incorporating biodiversity considerations into environmental impact analyses under the National Environmental Policy Act requires Federal agencies to consider the effects of Federal actions on biodiversity to the extent that is possible to both anticipate and evaluate those effects. The guidance outlines the general principles and discusses the importance of context -- that is, examining the indirect, direct, and cumulative impacts of a specific project in the regional or ecosystem context.

In addition, the FAA guidance states:

land use practices that attract or sustain hazardous wildlife populations on or near the airports can significantly increase the potential for wildlife-aircraft collisions.<sup>1</sup>

The FAA recommends against land use practices that attract or sustain populations of hazardous wildlife within the vicinity of airports or cause movement of hazardous wildlife onto, into, or across approach or departure airspace, aircraft movement area, loading ramps, or aircraft parking area of airports. The U.S. Department of Agriculture (USDA) staff, which are permanently based at O'Hare, continue to implement a *Wildlife Hazard Management Plan*<sup>2</sup> (WHMP) for O'Hare. The WHMP recommends that the Airport should prevent potential wildlife threats to aircraft by deterring the reproduction of wildlife and limiting the number and location of attractive habitats.

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<sup>1</sup> Hazardous Wildlife Attractants On or Near Airports, Federal Aviation Administration, Advisory Circular 150/5200-33A, July 27, 2004.

<sup>2</sup> Wildlife Hazard Management Plan, US Department of Agriculture, Animal and Plant Health Inspection Service Wildlife Services, July 26, 2002.).

### 5.10.1.2 Thresholds of Significance

According to FAA Order 5050.4A,

(a) If the proposal would take or impact a publicly owned wildlife or waterfowl refuge of local, state, or national significance, the instructions in paragraph 47e(7) are to be followed to prepare the appropriate documentation required by section 4(f).

(b) Consideration of endangered and threatened species is required for all proposals under the Endangered Species Act as Amended. Instructions in paragraph 47e(10) below relate specifically to this Act.

(c) If the proposal would affect water resources (i.e., wetlands; groundwater; impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any stream or other body of water), the Fish and Wildlife Coordination Act applies. Consultation is to be initiated with the U.S. Fish and Wildlife Service and with the state agency having administration over wildlife resources. Letters are to be obtained from the Fish and Wildlife Service and the state agency on the wildlife aspects of the proposal for the purposes of determining the possible damage to wildlife resources and of determining means and measures that should be adopted to prevent the loss of or damage to wildlife resources as well as to provide concurrently for the development and improvement of such resources.

1. If the letters from the Fish and Wildlife Service and the state agency indicate substantial damage to wildlife attributable to the proposal which will not be mitigated to a minimal level, the proposal is considered to be one with potential significant impacts. Further evaluation shall be performed under FAA direction as described in paragraph 85i.

2. If the letters from the Fish and Wildlife Service and the state agency indicate only minimal impacts, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall include the letters from the Fish and Wildlife Service and the state agency and shall also include such justifiable means and measures to mitigate wildlife impacts as should be adopted to obtain maximum overall project benefits. No further analysis as described below is needed.

(d) If the proposal would not affect water resources as described in subparagraph (c) above, the Fish and Wildlife Coordination Act does not apply. In this case, a series of thresholds are to be examined to determine if there is the potential for significant impact on biotic communities. The four subparagraphs below should be reviewed in the order given to determine which one applies to the proposal; e.g., if subparagraph 1 applies, the remainder do not and no further analysis is needed.

1. If the proposal would impact only man dominated areas such as previously disturbed airport property, populated areas, or farmland, it may be assumed that there would be no significant impact on biotic communities.

2. If the proposal would impact other than man dominated areas but the impacts would primarily be transient rather than permanent, such as dislocation or other impacts due to construction activities, it may be assumed that there would be no significant impact on biotic communities. The environmental assessment shall document the transient nature of the impacts and any mitigation measures. Mitigation measures may include:

- a. Erosion controls to protect adjacent biotic areas and aquatic communities.
- b. Phasing of construction to avoid breeding or nesting periods and to promote escape routes for mobile species.
- c. Landscape restoration to reconstitute existing habitat or create new habitat.

3. If the proposal would cause only a minor permanent alteration of existing habitat, it may be assumed that there would be no significant impact on biotic communities. "Minor alteration" generally refers to the removal of a few acres of habitat which represent a small percentage of the area's inventory or which support a limited variety or number of common wildlife species. "Minor alteration" is not applicable if the action involves removal of relatively small areas which are sensitive tracts occupying a strategic position in the vicinity or which support rare (meaning not common) species or which constitute a large percentage of the remaining habitat of a particular kind. The environmental assessment shall not merely cite "minor alteration" but shall document the basis for the assumption of no significant impact and shall also document any mitigation measures.

4. If the proposal would involve the removal of a sizeable amount of habitat, of habitat which supports rare species, or of a small, sensitive tract but the accompanying loss of plant communities and displacement of wildlife do not result in a significant long term loss to the area, it may be assumed that there would be no significant impact on biotic communities. In this case consider that, although displaced wildlife may move to adjacent land areas, a long term loss will accrue by virtue of reduction of the wildlife carrying capacity of the overall area. When wildlife habitat is removed, the possibility that the remaining habitat is insufficient in size and quality to continue to support all resident species must be considered. The input from state and local review and other informal coordination as necessary is to be used to determine the significance of the impacts. The environmental assessment shall document the impacts and mitigation measures and shall include supporting letters. Mitigation measures may include:

- a. Design adjustments to minimize impact on sensitive areas or species.
- b. Purchase of contiguous habitat as a preserve for dislocated wildlife or as a buffer zone.

### 5.10.1.3 Methodologies

Descriptions of biotic communities and the analysis of impacts are based on available studies, surveys, and field reconnaissance conducted for the City within recent years. **Appendix N, Biological and Water Resources**, includes copies of these studies. In addition, input has been sought from the U.S. Fish and Wildlife Service (FWS) and the Illinois Department of Natural Resources (IDNR) regarding the presence of biotic communities at the Airport. Also, as requested by the FWS, field surveys were conducted in the summer of 2003 to investigate the Eastern Prairie Fringed Orchid, a Federally-listed threatened and endangered species, and the Eastern Massasauga, a candidate for Federal listing.<sup>3,4</sup> The small sundrop, a state listed threatened and endangered species, was also investigated as part of the survey.<sup>5</sup> The IDNR and FWS reviewed and concurred with the protocols and findings of the surveys. See **Appendix N, Biological and Water Resources** for copies of the letters from IDNR and FWS.

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<sup>3</sup> Chicago O'Hare International Airport, Eastern Massasauga Threatened and Endangered Species Survey, Montgomery Watson Harza, August 1, 2003.

<sup>4</sup> Chicago O'Hare International Airport, Eastern Prairie Fringed Orchid Threatened and Endangered Species Survey, Montgomery Watson Harza, August 1, 2003.

<sup>5</sup> Chicago O'Hare International Airport, Small Sundrops Threatened and Endangered Species Survey, Montgomery Watson Harza, August 1, 2003.

Vegetation types and ground cover were characterized on the basis of both records and field observations. The biotic communities analysis identifies the changes in the vegetation at the Airport and the impacts that each alternative would have on plant and animal species. In general, a correlation could be made between loss of certain types of vegetation and potential impacts to biotic communities.

### 5.10.2 Baseline Conditions

The Airport is located in the northeastern region of Illinois that was once a mosaic of woodlands, prairie, and wetlands and is now characterized as the central Corn Belt Plains Ecoregion.<sup>6</sup> This ecoregion is comprised of gently rolling topography which, when undeveloped for other purposes, is primarily used for food production for livestock. Intermittent and perennial streams cutting through a thick mantle of wind-blown loess have dissected the glacial till plain. The Airport properties are considered part of the Northeastern Morainal Division, Morainal Section.<sup>7</sup> In general, the land surrounding the Airport is highly urbanized, including significant amounts of transportation-related infrastructure improvements, as well as commercial, industrial, retail, and residential land uses.

The existing undeveloped lands are small, isolated patches, the majority of which do not resemble the original landscape of the area. Past and current disturbances limit the quality of the remaining habitat.

The Des Plaines River Forest Preserve, the DuPage County Forest Preserve, and the undeveloped areas along the Airport periphery include some of the few remaining green spaces in the vicinity of the Airport. A portion of the DuPage County Forest Preserve (Silver Creek) is located within the proposed Southwest Acquisition Area. The above areas consist largely of disturbed woodlands, meadows, degraded streams (from past modifications), and habitat used by an array of adaptive wildlife species for nesting and migratory resting, as well as modest amounts of urban wildlife. The disturbed habitats that are available limit the number of habitat-sensitive species, especially those species that require large areas for nesting. The species that are known to breed in the Airport area are mostly common, highly adaptive species that survive reasonably well in urban environments. Species common to disturbed habitats include: coyote, fox, rodents, skunk, opossum, raccoon, and various raptors and song birds. On the Airport property, mowed lawns, paved surfaces, and buildings cover most of the secured airfield area. The remaining Airport property has been disturbed to varying extents and contains little intact native vegetation. These lands are located adjacent to the airfield in former industrial and residential areas, nurseries, and some undeveloped areas. The west side of the Airport contains several large earth berms, a former tree nursery, scrub woodland, vacant land, and wetlands.

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<sup>6</sup> Ecoregions of the Upper Midwest States, Report No. EPA/600/3-88/037, J.M. Omernik and A.L. Gallant, U.S. Environmental Protection Agency, September 1988.

<sup>7</sup> Guide to the Vascular Flora of Illinois, R.H. Mohlenbrock, Southern Illinois University Press, 1986.

Between 1999 and 2003, wildlife management staff at O'Hare has estimated harassing 70,000 birds in addition to the depredation and removal noted in **Table 5.10-1**. However, only a small percentage of actual wildlife strikes are reported. The following data represents only those strikes reported to the FAA.

**TABLE 5.10-1  
WILDLIFE MANAGEMENT DATA AT O'HARE**

Description	1999	2000	2001	2002	2003
Total Strikes	167	190	158	140	119
Strikes during landing/takeoff	35	47	39	36	32
Strikes occurring 0'-500' AGL	48	67	59	51	48
Strikes, altitude not reported	84	76	60	53	39
Depredation (# of birds)	246	544	1442	661	470
Removal/Relocation (# of birds)	55	231	139	36	123

Source: FAA National Wildlife Strike Database (Level I) – Version 5.01, October 13, 2004.

In response to Federal Aviation Regulation Part 139 and bird strike issues at the airport, the City of Chicago developed a Wildlife Hazard Management Plan (WHMP) in July 2002.<sup>8</sup> The City also has a Migratory Bird Depredation Permit issued by the FWS, which is renewed on a yearly basis. The current permit expires on December 31, 2005.<sup>9</sup> This permit enables the City to “kill migratory birds for the purpose of assuring safe aircraft operations. The killing of birds must not be the principle control measure and is only to be employed in concert with an active scare and deterrent program.” The permit excludes threatened or endangered species. Per the requirements of the permit, the City’s wildlife coordinator is responsible for reporting controls to FWS (including species taken and hazed) each calendar year.

Detailed descriptions of the Airport biological field surveys and a more detailed characterization of wildlife, fish, and common and scientific names of plant species occurring within the Airport area are presented in **Appendix N, Biological and Water Resources**. The following summarizes the vegetation and wildlife commonly found at the Airport.

### 5.10.2.1 Ground Cover

Aside from the buildings and paved surfaces (covering about 2,776 acres at the Airport), the remaining portions of the Airport consist of four distinct categories of ground cover: unmowed grass (about 669 acres), mowed grass (about 2,553 acres), scrub-shrub (about 618 acres), and forested (about 188 acres). Vegetative communities located at the Airport are represented by various man-altered land cover types, most of which do not represent native conditions (see **Exhibit 5.10-1**). Wetlands exist within the unmowed grass, scrub-shrub, and forested ground

<sup>8</sup> Wildlife Hazard Management Plan, US Department of Agriculture, Animal and Plant Health Inspection Service Wildlife Services, July 26, 2002.

<sup>9</sup> Federal Fish and Wildlife Depredation Permit, Permit Number, MB811454-1, expiration date December 31, 2005.

covers areas. For a discussion of the existing wetlands and Waters of the U.S. at the Airport, see **Section 5.12, Wetlands**.

Little native vegetation remains within the Airport area, as large-scale disturbances involving clearing and grading activities have occurred on the present Airport property. The vegetation that does exist is considered successional vegetation, resulting from recovery from periodic disturbances. Many non-native plant species are now established on the Airport property, such as the common buckthorn and purple loosestrife. Some of these species are more aggressive than the original native species and have become the dominant species in many areas. These non-native plant species, bordering on the verge of fully developed monocultures, have significantly degraded the remaining natural vegetative communities on the Airport property.

The most extensive diversity of vegetation within the Airport area is located on the west side of the airfield, along York Road; the soils and vegetation in the area have been disturbed and the vegetation that continues to grow is characterized by these non-native species.

Several old fields, small wooded areas, and meadows of five to ten acres each occur between the scrub woodlands and wetlands located on the west side of the airfield along York Road. The area is relatively uniform and contains common species of vegetation such as Kentucky bluegrass, Hungarian brome, fescues, Queen Anne's lace, and sweet clovers. Some native goldenrods, scattered prairie dock, and wild bergamot also occur in this area, but they generally do not form a dominant portion of the plant community. The fields that are not mowed periodically are becoming overgrown with woody shrubs, including gray dogwood, common buckthorn, honeysuckle, and tree saplings. Other meadow areas with these same vegetative characteristics are located on the north and west sides of the Airport.

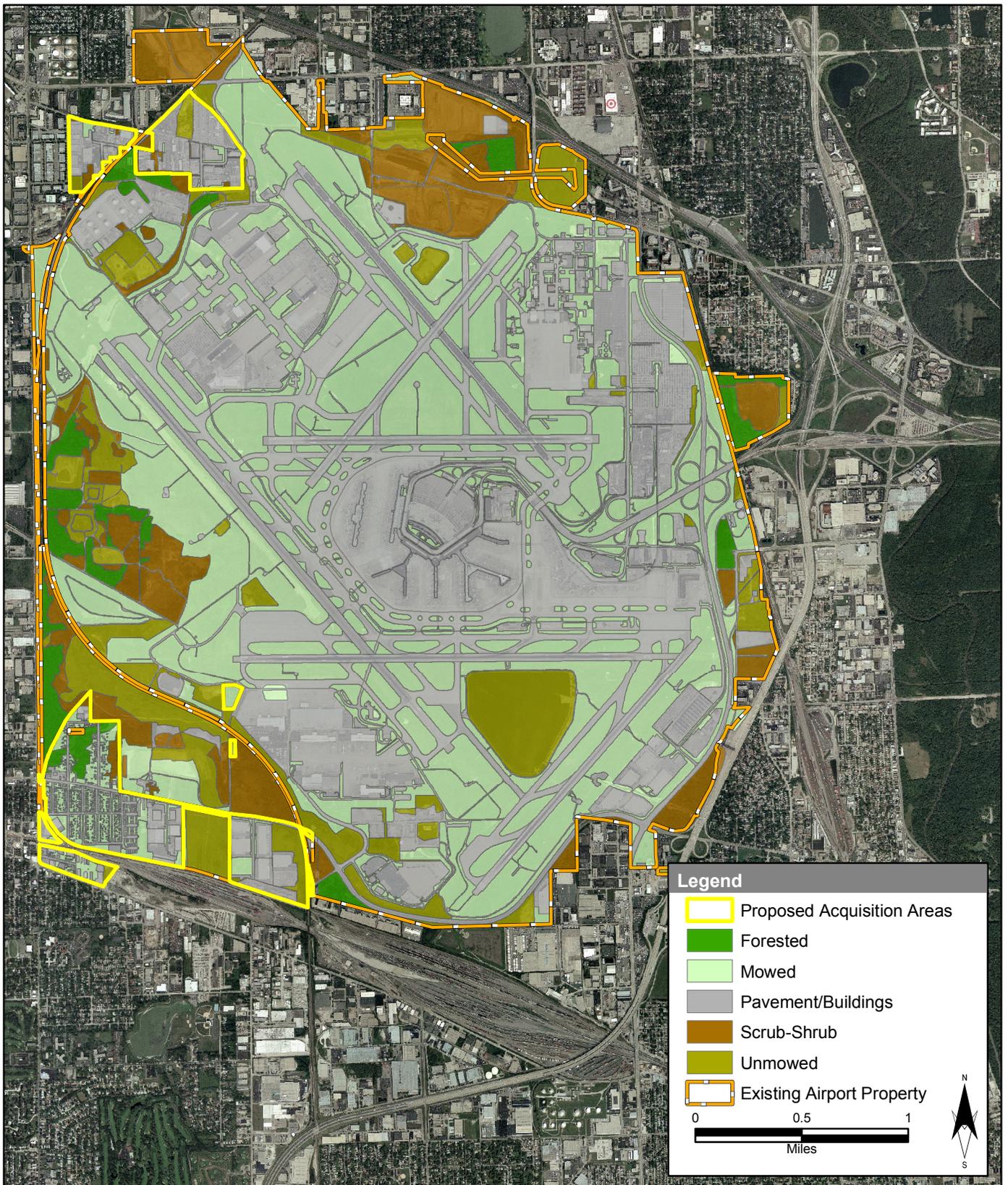
The unmowed and scrub-shrub areas represent old agricultural fields or pasture lands. Unmowed areas consist of pasture-like or old field successional stage vegetation. Most of these areas are located along the periphery of the Airport, near the forested areas and along the on-Airport streams. However, an exception can be found in two small areas located east of Mannheim Road that contain a higher proportion of native prairie species. One of these areas, north of Irving Park Road, contains native upland prairie species such as big bluestem, switch grass, rattlesnake master, prairie blazing star, and rigid goldenrod, along with other native species. Nonetheless, native species diversity is not substantial. Further to the north of Balmoral Avenue, the other small area is also dominated by the upland prairie species, prairie blazing star and prairie dock. These two areas have a combined area of less than one acre and would not be disturbed.

#### **5.10.2.2 Wildlife**

Although the Airport property is highly developed and seemingly incompatible with wildlife needs, it is used by wildlife species that are highly adaptable to urban environments. The remaining open-water areas, forested areas, wetlands, and open spaces at the Airport are attractive to wildlife such as coyotes, fox, feral dogs, raccoons, opossum, rodents, raptors, and resident and migratory waterfowl. Deer have been removed from the Air Operations Area (AOA) and are only found outside of the security fence. Basic habitat elements (food, water,

and shelter) are available to support the urban wildlife populations. **Appendix N, Biological and Water Resources**, discusses the wildlife character and the Airport's wildlife control practices.

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Source: Aerials Express, September 2002; Ground Cover, Montgomery Watson Harza, Inc.



Chicago O'Hare International Airport

**O'Hare Modernization  
Environmental Impact Statement**

**Ground Cover**

► **Exhibit 5.10-1**

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### 5.10.3 Alternatives Analysis

This section describes the impacts of the Build Alternatives under consideration in a comparative form with the No Action Alternative (Alternative A) for each of the analysis phases.

#### 5.10.3.1 Construction Phase I

##### Alternative A - No Action

Alternative A does not include the acquisition of any lands. However, the impacts to land that would be acquired under the Build Alternatives are given for comparison purposes only. Some of the existing wetlands and non-wetland Waters of the U.S. (WUS) at the Airport would be filled under the No Action Alternative (Alternative A) (see **Section 5.12, Wetlands**). A total of 23.5 acres would be filled, consisting of 13.5 acres of isolated wetlands and 10 acres of jurisdictional wetlands. Ongoing projects, either previously assessed or with independent utility as identified in **Table E-19 in Appendix E, Alternatives**, could directly affect existing wetlands through draining, filling, and development of the wetland areas, or indirectly by altering the hydrology of the areas in which the wetlands are located.

Because the existing vegetation at the Airport is primarily common species that are found throughout the Airport vicinity and because the wetlands at the Airport are of low quality, the changes in ground cover would not have a significant effect on the biodiversity of the Airport vicinity. The reduction in wetland acreage would result in the elimination of some of the wildlife attractants at the Airport and could reduce the potential for wildlife hazards. In addition, no change in the regional ecosystem would occur as a result of this alternative. Therefore, the FAA concludes that no significant impacts to biotic communities would be expected under this alternative.

##### Alternatives C, D, and G

The three Build Alternatives in Construction Phase I are the same and, therefore, effects on biotic communities for these alternatives are presented together.

Implementation of any Build Alternative would result in the loss of common biotic species within the construction impact area. These construction activities include grading, paving airfield areas, developing buildings and parking, using borrow/fill areas, and establishing construction staging areas. These activities would disturb the plant and animal species within the construction impact area. As shown in **Table 5.10-2**, the implementation of any of the Build Alternatives would result in the acquisition of 135 acres in Construction Phase I, and would result in an increase in pavement/buildings areas by 13 acres, and mowed grass by 489 acres, compared to the No Action Alternative (Alternative A). In addition, the implementation of any Build Alternative would result in the loss of 83 acres of forested area, 291 acres of scrub-shrub, and 128 acres of unmowed grass compared to the No Action Alternative (Alternative A). As

shown in **Section 5.12, Wetlands**, the Build Alternatives would result in the loss of approximately 154 acres of wetlands and non-wetland WUS at the Airport.

The loss of these biotic communities is not considered to be significant because the areas that would be affected by any Build Alternative have been disturbed in the past to varying extents, contain little intact native vegetation or natural habitat, and are of low quality. These areas, which are fragmented and are not part of a natural ecosystem, do not resemble the original conditions of the area and consist largely of disturbed woodlands, meadows and degraded streams, which provide limited urban wildlife habitat. Thus, the species that would be affected by the implementation of any Build Alternative are the common, highly adaptive species that survive reasonably well in urban environments (see **Appendix N, Biological and Water Resources**). In addition, the loss of 154 acres of wetlands and non-wetland WUS would result in the elimination of wildlife attractants at the Airport and could reduce the potential for wildlife hazards.

The implementation of any Build Alternative would result in the expansion of the North Detention Basin. The USDA currently is implementing the measures outlined in the approved WHMP. The WHMP would be revised to include any provisions to reduce the attractiveness of an expanded North Detention Basin to wildlife and birds. With the continued implementation of the revised WHMP, it is not expected that there would be any increase in the probability of a birdstrike occurring under any Build Alternative in Construction Phase I.

**TABLE 5.10-2  
VEGETATION TYPE FOR EACH ALTERNATIVE (CONSTRUCTION PHASE I)**

Vegetation Type	Area (Acres)				
	Baseline (2002)(a)	Alternative A (No Action)(b)	Alternative C	Alternative D	Alternative G
<b>Existing Airfield Limits</b>					
Forested	188	188	105	105	105
Scrub-shrub	618	618	334	334	334
Mowed Grass (d)	2,553	2,553	2,917	2,917	2,917
Unmowed Grass (d)	669	669	553	553	553
Pavement / Buildings	2,776	2,776	2,895	2,895	2,895
<b>Total (Acres)</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>
<b>NW Acquisition Area</b>					
Forested	0	0	0	0	0
Scrub-shrub	7	7	0	0	0
Mowed Grass (d)	7	7	132	132	132
Unmowed Grass (d)	12	12	0	0	0
Pavement / Buildings	109	109	3	3	3
<b>Total (Acres)</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>
<b>SW Acquisition Area(c)</b>					
Forested	19	19	19	19	19
Scrub-shrub	11	11	11	11	11
Mowed Grass (d)	107	107	107	107	107
Unmowed Grass (d)	43	43	43	43	43
Pavement / Buildings	157	157	157	157	157
<b>Total (Acres)</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>

Notes: (a) Ground cover types in areas that are beyond the limits of any Build Alternative component were assumed to remain the same as in the Baseline condition  
 (b) The No Action Alternative projects were assumed to have a negligible net change on the type of ground cover that currently exists at the airport.  
 (c) The proposed SW land acquisition area differs for each of the Build Alternatives. For purposes of comparison, the land acquisition area associated with Alternative C, which has the greatest number of acres, was used. Using the Alternative C SW acquisition area as the baseline results in analyzing the maximum area contemplated for acquisition.  
 (d) The proposed vegetation type for ground cover directly impacted by any of the Build Alternatives was assumed to be either Pavement/Buildings or Mowed Grass. The final limits of mowed and unmowed areas will be determined by the City, and adhere to the updated Wildlife Hazard Management Plan and AC 150/5200-33A guidelines.

Source: Crawford, Murphy, and Tilly, Inc. [TPC] analysis, September 2004.

### 5.10.3.2 Construction Phase II

#### Alternative A - No Action

Alternative A does not include the acquisition of any lands. Moreover, the impacts to land that would be acquired under any Build Alternative are given for comparison purposes only. Because the existing vegetation at the Airport is primarily common species that are found

throughout the Airport vicinity, the changes in ground cover would not have a significant effect on the biodiversity of the Airport vicinity. In addition, no change in the regional ecosystem would occur as a result of this alternative. Therefore, the FAA concludes that no significant impacts to biotic communities would be expected under this alternative.

### **Alternatives C, D, and G**

The Build Alternatives in Construction Phase II are the same and, therefore, effects on biotic communities for these alternatives are presented together.

Implementation of any Build Alternative would result in the continued loss of common biotic species within the construction impact area. As with Construction Phase I, these construction activities include grading, paving airfield areas, developing buildings and parking, using borrow/fill areas, and establishing construction staging areas. These activities would disturb the plant and animal species within the construction impact area. As shown in **Table 5.10-3**, the implementation of Alternative C in Construction Phase II would result in the acquisition of 337 acres and would result in an increase in pavement / buildings by 62 acres and mowed grass by 995 acres compared to Alternative A. In addition, the implementation of Alternative C would result in the loss of 132 acres of forested area, 508 acres of scrub-shrub, and 417 acres of unmowed grass compared to the No Action Alternative (Alternative A). Implementation of Alternative D or G in Construction Phase II would result in similar continued loss of common biotic species within the construction impact area compared to Alternative C, however, approximately 40 less acres of land acquisition (20 acres of pavement/buildings and 20 acres of mowed grass) would be required and hence would not be impacted.

As with Construction Phase I, the loss of these biotic communities is not considered to be significant because the areas that would be affected by the project components have been disturbed in the past to varying extents and contain little intact native vegetation or natural habitat. These areas, which are fragmented and are not part of a natural ecosystem, do not resemble the original conditions of the area and consist largely of disturbed woodlands, meadows and degraded streams, which provide limited urban wildlife habitat. Thus, the species that would be affected by any Build Alternative are the common, highly adaptive species that survive reasonably well in urban environments (see **Appendix N, Biological and Water Resources**).

The Build Alternatives would result in the expansion of the Central Detention Basin and relocation and expansion of the South Detention Basin. The USDA currently is implementing the measures outlined in the approved WHMP. The WHMP would be revised to include any provisions to reduce the attractiveness of an expanded Central Detention Basin and a relocated and expanded South Detention Basin to birds and waterfowl. With the continued implementation of the WHMP, it is not expected that there would be any increase in the probability of a birdstrike occurring under any Build Alternative in Construction Phase II.

**TABLE 5.10-3  
VEGETATION TYPE FOR EACH ALTERNATIVE (CONSTRUCTION PHASE II)**

Vegetation Type	Area (Acres)				
	Baseline (2002)(a)	Alternative A (No Action)(b)	Build Alternatives		
			Alternative C	Alternative D	Alternative G
<b>Existing Airfield Limits</b>					
Forested	188	188	75	75	75
Scrub-shrub	618	618	128	128	128
Mowed Grass (d)	2,553	2,553	3,196	3,196	3,196
Unmowed Grass (d)	669	669	307	307	307
Pavement / Buildings	2,776	2,776	3,098	3,098	3,098
<b>Total (Acres)</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>
<b>NW Acquisition Area</b>					
Forested	0	0	0	0	0
Scrub-shrub	7	7	0	0	0
Mowed Grass (d)	7	7	132	132	132
Unmowed Grass (d)	12	12	0	0	0
Pavement / Buildings	109	109	3	3	3
<b>Total (Acres)</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>
<b>SW Acquisition Area (c)</b>					
Forested	19	19	0	0	0
Scrub-shrub	11	11	0	0	0
Mowed Grass (d)	107	107	334	323	323
Unmowed Grass (d)	43	43	0	0	0
Pavement / Buildings	157	157	3	14	14
<b>Total (Acres)</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>

Notes: (a) Ground cover types in areas that are beyond the limits of any Build Alternative component were assumed to remain the same as in the Baseline condition.  
 (b) The No Action Alternative projects were assumed to have a negligible net change on the type of ground cover that currently exists at the airport.  
 (c) The proposed SW land acquisition area differs for each of the Build Alternatives. For purposes of comparison, the land acquisition area associated with Alternative C, which has the greatest number of acres, was used. Using the Alternative C SW acquisition area as the baseline results in analyzing the maximum area contemplated for acquisition.  
 (d) The proposed vegetation type for ground cover directly impacted by any of the Build Alternatives was assumed to be either Pavement/Buildings or Mowed Grass. The final limits of mowed and unmowed areas will be determined by the City, and adhere to the updated Wildlife Hazard Management Plan and AC 150/5200-33A guidelines..

Source: Crawford, Murphy, and Tilly, Inc. [TPC] analysis, September 2004.

### 5.10.3.3 Build Out

#### Alternative A - No Action

Alternative A does not include the acquisition of any lands. However, the impacts to land that would be acquired under the Build Alternatives are given for comparison purposes only. Because the existing vegetation at the Airport is primarily common species that are found throughout the Airport vicinity, the changes in ground cover would not have a significant effect

on the biodiversity of the Airport vicinity. In addition, no change in the regional ecosystem would occur as a result of this alternative. Therefore, no significant impacts to biotic communities would be expected under this alternative.

### **Alternative C**

During the Build Out phase, Runways 9R/27L, 9C/27C, and 10R/28L and associated taxiways are proposed for construction. The construction activities associated with these airfield improvements include grading, paving airfield areas, using borrow/fill areas, and establishing construction staging areas. These activities would disturb the plant and animal species within the construction impact area. As shown in **Table 5.10-4**, the implementation of Alternative C in the Build Out phase would result in an increase in pavement/buildings by 734 acres, and mowed grass by 502 acres, compared to the No Action Alternative (Alternative A). In addition, the implementation of Alternative C would result in the loss of 196 acres of forested area, 556 acres of scrub-shrub, and 484 acres of unmowed grass, compared to the No Action Alternative (Alternative A).

As with Construction Phase I and Phase II, the loss of these biotic communities is not considered to be significant because the areas that would be affected by Alternative C have been disturbed in the past to varying extents and contain little intact native vegetation or natural habitat. These areas, which are fragmented and are not part of a natural ecosystem, do not resemble the original conditions of the area and consist largely of disturbed woodlands, meadows and degraded streams, which provide limited urban wildlife habitat. Thus, the species that would be affected by the implementation of Alternative C are the common, highly adaptive species that survive reasonably well in urban environments (see **Appendix N, Biological and Water Resources**).

No increase in the size of the detention basins would occur in the Build Out phase under Alternative C. With the continued implementation of the revised WHMP, it is not expected that there would be any increase in the probability of a birdstrike occurring under Alternative C in the Build Out phase.

### **Alternative D**

During the Build Out phase, Runways 9R/27L and 9C/27C and associated taxiways are proposed for construction. The construction activities associated with these airfield improvements include grading, paving airfield areas, using borrow/fill areas, and establishing construction staging areas. These activities would disturb the plant and animal species within the construction impact area. As shown in **Table 5.10-4**, the implementation of Alternative D in the Build Out phase would result in an increase in pavement / buildings by 553 acres and mowed grass by 683 acres compared to the No Action Alternative (Alternative A). In addition, the implementation of Alternative D would result in the loss of 196 acres of forested area, 556 acres of scrub-shrub, and 484 acres of unmowed grass compared to the No Action Alternative (Alternative A). Compared to Alternative C, Alternative D would affect similar acres of forested areas, scrub-shrub, mowed grass, and unmowed grass (see **Table 5.10-4**).

As with Construction Phase I and Phase II, the loss of these biotic communities is not considered to be significant because the areas that would be affected by Alternative D have been disturbed in the past to varying extents and contain little intact native vegetation or natural habitat. These areas, which are fragmented and are not part of a natural ecosystem, do not resemble the original conditions of the area and consist largely of disturbed woodlands, meadows and degraded streams, which provide limited urban wildlife habitat. Thus, the species that would be affected by the implementation of Alternative D are the common, highly adaptive species that survive reasonably well in urban environments (see **Appendix N, Biological and Water Resources**).

No increase in the size of the detention basins would occur in the Build Out phase under Alternative D. With the continued implementation of the revised WHMP, it is not expected that there would be any increase in the probability of a birdstrike occurring under Alternative D in the Build Out phase.

### **Alternative G**

During the Build Out phase, Runways 9R/27L, 9C/27C, and 12/30 and associated taxiways are proposed for construction. The construction activities associated with these airfield improvements include grading, paving airfield areas, using borrow/fill areas, and establishing construction staging areas. These activities would disturb the plant and animal species within the construction impact area. As shown in **Table 5.10-4**, the implementation of Alternative G in the Build Out phase would result in an increase in pavement/buildings by 868 acres, and mowed grass by 368 acres, compared to the No Action Alternative (Alternative A). In addition, the implementation of Alternative G would result in the loss of 196 acres of forested area, 556 acres of scrub-shrub, and 484 acres of unmowed grass compared to the No Action Alternative (Alternative A). Compared to Alternative C, Alternative G would affect similar acres of forested areas, scrub-shrub, mowed grass, and unmowed grass (see **Table 5.10-4**).

As with Construction Phase I and Phase II, the loss of these biotic communities is not considered to be significant because the areas that would be affected by Alternative G have been disturbed in the past to varying extents and contain little intact native vegetation or natural habitat. These areas, which are fragmented and are not part of a natural ecosystem, do not resemble the original conditions of the area and consist largely of disturbed woodlands, meadows and degraded streams, which provide limited urban wildlife habitat. Thus, the species that would be affected by the implementation of Alternative G are the common, highly adaptive species that survive reasonably well in urban environments (see **Appendix N**).

No increase in the size of the detention basins would occur in the Build Out phase under Alternative G. With the continued implementation of the revised WHMP, it is not expected that there would be any increase in the probability of a birdstrike occurring under Alternative G in the Build Out phase.

**TABLE 5.10-4  
VEGETATION TYPE FOR EACH ALTERNATIVE (BUILD OUT)**

Vegetation Type	Area (Acres)				
	Baseline (2002)(a)	Alternative A (No Action)(b)	Build Alternatives		
			Alternative C	Alternative D	Alternative G
<b>Existing Airfield Limits</b>					
Forested	188	188	11	11	11
Scrub-shrub	618	618	80	80	80
Mowed Grass (d)	2,553	2,553	2,750	2,927	2,624
Unmowed Grass (d)	669	669	240	240	240
Pavement / Buildings	2,776	2,776	3,723	3,546	3,849
<b>Total (Acres)</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>	<b>6,804</b>
<b>NW Acquisition Area</b>					
Forested	0	0	0	0	0
Scrub-shrub	7	7	0	0	0
Mowed Grass (d)	7	7	132	132	132
Unmowed Grass (d)	12	12	0	0	0
Pavement / Buildings	109	109	3	3	3
<b>Total (Acres)</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>	<b>135</b>
<b>SW Acquisition Area(c)</b>					
Forested	19	19	0	0	0
Scrub-shrub	11	11	0	0	0
Mowed Grass (d)	107	107	287	291	279
Unmowed Grass (d)	43	43	0	0	0
Pavement / Buildings	157	157	50	46	58
<b>Total (Acres)</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>	<b>337</b>

Notes: (a) Ground cover types in areas that are beyond the limits of any Build Alternative component were assumed to remain the same as in the Baseline condition.  
 (b) The No Action Alternative projects were assumed to have a negligible net change on the type of ground cover that currently exists at the airport.  
 (c) The proposed SW land acquisition area differs for each of the Build Alternatives. For purposes of comparison, the land acquisition area associated with Alternative C, which has the greatest number of acres, was used. Using the Alternative C SW acquisition area as the baseline results in analyzing the maximum area contemplated for acquisition.  
 (d) The proposed vegetation type for ground cover directly impacted by any of the Build Alternatives was assumed to be either Pavement/Buildings or Mowed Grass. The final limits of mowed and unmowed areas will be determined by the City, and adhere to the updated Wildlife Hazard Management Plan and AC 150/5200-33A guidelines.

Source: Crawford, Murphy, and Tilly, Inc. [TPC] analysis, September 2004.

#### 5.10.4 Potential Mitigation Measures

Based on the above analyses, the FAA concludes that no significant impacts would occur under any alternative. Given that the biotic communities are not exceptional, are fragmented, and do not contribute to the regional ecosystem, no formal mitigation procedures have been identified.

### **5.10.5 Summary**

Under the No Action Alternative (Alternative A), the FAA concludes that no significant impacts to biotic communities would occur. Each Build Alternative includes similar proposed land acquisition and would result in the potential disturbance of all biotic communities within the construction impact area. However, given that these biotic communities are not exceptional, are fragmented, and do not contribute to the regional ecosystem, the FAA concludes that no significant impacts would occur. In addition, these biotic communities contain common, highly adaptive urban species that will continue to exist in the vicinity of the Airport. The impacts of each Build Alternative would be similar. None of the alternatives would result in a deliberate (non-permitted) killing of MBTA species.

The IDNR and FWS were consulted regarding the presence of biotic communities at the Airport, and reviewed and concurred with the protocols and findings of the related surveys. See **Appendix N, Biological and Water Resources** for copies of correspondence from these agencies.

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