
Appendix D – Preliminary Environmental Scan

J-U-B ENGINEERS, Inc.

Memo

To: Shawn Shuler, P.E., J-U-B Project Engineer
From: Vincent Barthels, J-U-B Biologist
Date: November 5, 2008
Re: Preliminary Environmental Scan pertaining to Wetlands and Sensitive Species-
Logan-Cache Airport - Master Plan Update

OVERVIEW: This preliminary environmental scan looks at the potential impacts correlated with the Airport Master Plan Update. The updated Master Plan will help the City (i.e. Logan) and County (i.e. Cache) stakeholders select appropriate patterns of land use on the airfield and adjoining properties based on updated forecasts of demand for aviation services such as hangars, tie downs, repair, flight instruction, etc.

The intent of this preliminary environmental scan is to identify issues which may affect the future operation or development of the airport, such as potential or known wetland locations, special habitat considerations, flood plain levels, and storm water runoff concerns. The FAA environmental checklist, also known as the Categorical Exclusion Form, will serve as a guide to review potential environmental constraints on airport development associated with the master plan update. Determination of environmental constraints will not include destructive or nondestructive testing, mapping, surveying, measuring, or other detailed fieldwork, except as described herein. Baseline environmental conditions discussed in this memo will be primarily determined by literature search and aerial map interpretation; no wetlands delineation or actual on the ground field observation of habitat was completed in conjunction to this preliminary environmental scan.

It should be noted, that this scan only reflects the environmental potential issues currently; and, if any future projects evolve as a result of this master plan update, then they will have to ensure that no new or changed regulations are in effect. New or changed regulations could alter some of the conclusions drawn in this section.

The airport property encompasses approximately 739 acres and is located in the South ½ of Section 8, West ½ of Section 9, West ½ of Section 16 and North ½ of Section 17, in Township 12 N, Range 1 E, in Cache County, Utah. The attached soil survey exhibit illustrates the airport property (please see attached).

The following bolded subsections discuss certain attributes specific to the master plan update and are derived from the FAA Categorized Exclusion Form.

Controversy: At this point, no foreseen controversy on environmental grounds has been identified. Acquisition of property or relocation of businesses or residential uses

resulting from the master plan's recommended future improvements may cause community or property owner controversy.

Noise: Noise contours will be developed as a later part of the plan, as specific master plan alternatives are developed and designed.

Compatible Land Use: The compatibility of recommended future improvements is documented in Section 2.9 of this master plan update.

Social Impact: Social impacts are typically implied if residents or existing businesses need to be relocated by a proposed action or if a proposed project degrades a level of existing services. Currently, the airport layout plan does not yield any social impacts, the degradation of any level of services, or the need to relocate any residents or businesses.

Induced Socio-Economic Impacts: The future improvements recommended in the master plan update are intended to stimulate economic activity and development of the airport.

Environmental Justice: Populations of any income level or minority background will not be affected by the recommended future improvements.

Air Quality: The Logan-Cache Airport that lies west of the City of Logan, UT is considered to be an "attainment" area. As of December 18, 2008 the Logan-Cache Airport will be considered a "non-attainment" area, due to new legislation taking effect on that date. Currently, the threshold for particulate matter (PM) is 2.5 µm. (Personal communication, Bill Reiss, Environmental Engineer, Utah Department of Environmental Quality, 11/5/08). Bill Reiss was contacted at (801) 536-4077.

Water Quality: Surface drainage from the recommended future improvements and any roadway relocations will likely be collected in designed ditches and conveyed to detention basins where it will evaporate or percolate into the subsurface. No storm water drainage is expected to discharge into any waters of the U.S. (e.g. the waterways discussed in the wetlands/streams section of the memo).

Section 4 (f) [49 U.S.C. 303 (c)] Impacts: N/A - None within the airport property.

Cultural Resources: N/A - None are known to exist within the airport property.

Biotic Communities and Endangered and Threatened Species: ESA listed Species

The USFWS is responsible for maintaining a list of threatened and endangered species that are protected under the Federal ESA (PL 93-205, as amended). The USFWS may assign a "candidate" status for those species being considered for listing; however, candidate species have no legal protection under the ESA.

The ESA requires federal agencies to consult with the USFWS and review proposed actions that may impact any listed species or their critical habitat. Formal consultation with the USFWS is required if it is determined that an action is likely to cause an adverse effect to a listed species, jeopardize the continued existence of the species, or result in destruction or adverse modification of critical habitat (50 CFR 402). The federal agency should submit a written biological assessment to the USFWS for formal concurrence on ESA effect determinations for federally listed species, assuming a no effects determination had not been reached.

Based on the most current USFWS Countywide Species Listing (dated November-07), two (2) threatened ESA species are listed for Cache County (see attached listing). They include: Canada Lynx (*Lynx Canadensis*) and Maguire Primrose (*Primula maguirei*); the Yellow-billed cuckoo (*Coccyzus americanus*) is also listed as a "candidate" species. If

there is a proposed future project that has a federal nexus, which most airport project do, then a biological assessment will need to be developed to address these aforementioned ESA species. Based on the current operations of the airport coupled with habitat considerations, a no effects determination is anticipated for all of the previously mentioned ESA listed species; except possibly the yellow-billed cuckoo that inhabits riparian woodlands. Based on habitat considerations and the fact that the airport property is characterized as a developed industrial zone, the Canada Lynx and the Maguire Primrose are not likely to occur; whereas, the yellow-billed cuckoo could be present based on the high number of mapped wetlands and streams in the airport vicinity.

The following sections describe the three ESA listed species in more detail.

Canada Lynx

The Canada lynx is normally found in dense coniferous forested areas with an abundance of windfalls, swamps and brushy thickets (Maas 1997). Lynx require heavy cover for concealment when stalking prey. In addition, lynx are most likely to persist in areas that receive deep snow, for which the lynx is highly adapted (Maas 1997). In the western U.S., lynx occurrences are generally found only above 4,000 feet in elevation (McKelvey et al. 2000).

Maguire Primrose

These perennial herbs, with broad, spatula-shaped leaves, have showy rose to lavender-colored flowers that bloom in late April to May. They are found on either north-facing or well shaded south-facing moss covered sites on damp ledges, in crevices, and on over hanging limestone rocks along the walls near the bottom of canyons. They have an elevation that ranges from 1550 to 2015 feet (NatureServe 2006).

Yellow-billed Cuckoo

The yellow-billed cuckoo, as the name suggests, has a yellow lower mandible (Alsop 2001). It has rufous wings which contrast against the gray-brown wing coverts and upperparts, and white underparts (Alsop 2001). Large white spots can be noted on its long black undertail (Alsop 2001). The yellow-billed cuckoo is also known as the Raincrow because its call heralds the coming of summer rains. It is a neotropical migrant which winters in South America (NatureServe 2006). Breeding often coincides with the appearance of massive numbers of cicadas, caterpillars, or other large insects (NatureServe 2006, Ehrlich et al. 1992). Its incubation/nestling period is the shortest of any known bird because it is one of the last neotropical migrants to arrive in North America and chicks have very little rearing time before embarking on their transcontinental migration (NatureServe 2006). In the West, this cuckoo will nest in dense stands of tall cottonwood and willow riparian woodlands (NatureServe 2006, Harrison 1979). Their nesting home range may include 25 acres (10 hectares) or more of riparian woodland habitat (NatureServe 2006; Biosystems Analysis 1989).

State sensitive fish and wildlife species

This section discusses the existing habitat conditions for State sensitive species that have the potential of occurring within the project area or nearby vicinity. This section takes into account UDWR Administrative Rule R657-48 (Utah Sensitive Species List). The UDWR response letter dated October 27, 2008 is attached to this memo (please see attached).

The UDWR maintains a list of State sensitive fish and wildlife species pursuant to UDWR Administrative Rule R657-48 (UDWR 2004). By State rule, wildlife species that are federally listed, candidates for federal listing, or for which a conservation agreement is in place, automatically qualify for the Utah Sensitive Species List.

Additional species included on the State Sensitive Species List are designated as "wildlife species of concern," and are those species for which there is credible evidence to substantiate a threat to continued population viability. Although wildlife species of special concern are not protected by either state or federal law, it is anticipated that these designations will identify species for which conservation actions are needed, and that timely and appropriate conservation actions implemented on their behalf will preclude the need to list these species under the provisions of the Federal Endangered Species Act (ESA) (UDWR, 2005).

The following subsections detail the four species (and their habitat descriptions) that were included on the project specific Utah State Sensitive Species List for the airport property.

Burrowing owl:

Burrowing owls are found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals (Johnsgard 1986). They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. They can be found at elevations ranging from 200 feet below sea level to 9,000 feet. These owls can be found along the fringes of airports and golf courses and in vacant urban lots. They are active day and night, but are usually less active in the peak of the day (Johnsgard 1986). Burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. The burrowing owl hovers while hunting, similar to an American kestrel (*Falco sparverius*), and after catching its prey it returns to a perch. Burrowing owls are primarily crepuscular (active at dusk and dawn), but will hunt throughout a 24-hour period.

Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows or badger dens. They can dig their own burrows, but prefer deserted excavations of other animals. They are also known to use artificial burrows. Their nesting season begins in late March or April. Six to eleven eggs are laid; the average number of eggs is seven to nine. Incubation lasts 28-30 days and is performed by only the female. The male performs the care of the young, while still in the nest. At 14 days of age, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. The young leave the nest at about 44 days and begin chasing living insects when 49-56 days old.

Based on information obtained from the Utah Division of Wildlife Resources, there is recent documented occurrence of burrowing owl within the vicinity of the defined project area (see attached UDWR letter). No burrowing owls have been documented to occur within a one-mile radius of the airport property.

Lewis's woodpecker:

Lewis's woodpecker (*Melanerpes lewis*) is a cavity nester that is mostly black with iridescent green highlights and a pinkish-red belly (Alsop 2001). This woodpecker frequents logged and recently burned mixed conifer forests, open park-like pine forests, riparian and oak woodlands, and orchards all where the understory of grasses and shrubs support sufficient insect prey populations (UDWR 2008). Nests are found in

snags and stumps. The female generally lays six to seven white eggs; while both partners incubate them for thirteen to fourteen days. Young fledge after approximately 28-34 days. Only one brood is produced each year. Forage ranges from insects during the breeding season to nuts and berries during the winter. Oak woodlands are the preferred wintering grounds (UDWR 2008).

Based on information obtained from the Utah Division of Wildlife Resources, there is recent documented occurrence of Lewis's woodpecker within the vicinity of the defined project area (see attached UDWR letter). No Lewis's woodpeckers have been documented to occur within a one-mile radius of the airport property.

Long-billed curlew:

The long-billed curlew (*Numenius americanus*) is a fairly common summer resident in Utah (UDWR 2008). They have been documented to nest on the ground in small grass-lined depressions near the edges of barren alkali flats around the Great Salt Lake. This member of the sandpiper family lives and breeds in higher and drier meadowlands than many other shorebirds. There are four primary nesting habitat requirements, which include: short dense grass (less than 12 inches tall), adjacent bare ground components, shade, and, abundant vertebrate prey (UDWR 2008). These birds forage on a diverse selection of prey that includes: crustaceans, mollusks, worms, small amphibians, terrestrial and aquatic insects/larvae, and even berries (Alsop 2001). Typically, the female lays one brood per year that consists of an average of four eggs.

Based on information obtained from the Utah Division of Wildlife Resources, there is recent documented occurrence of long-billed curlew within the vicinity of the defined project area (see attached UDWR letter). No long-billed curlews have been documented to occur within a one-mile radius of the airport property.

Short-eared owl:

The short-eared owl (*Asio flammeus*) is a medium sized, mostly brown owl with a big head and a short neck (Alsop 2001). This nomadic owl prefers grasslands, marshes and other open type habitats to feed on rodents, small birds and large insects. They often use fence posts as perches. Similar to the grasshopper sparrow, this owl constructs a nest in April primarily in grasslands on the ground. In winter some owls migrate south as far as Mexico, whereas others remain in the breeding grounds as a permanent (year-round) resident (UDWR 2008).

Based on information obtained from the Utah Division of Wildlife Resources, there is recent documented occurrence of short-eared owl within the vicinity of the defined project area (see attached UDWR letter). No short-eared owls have been documented to occur within a one-mile radius of the airport property.

Essential Fish Habitat (EFH): N/A - No EFH exists within the airport property.

Migratory Bird Act: Airport operations discourage bird flyways and habitat (e.g. standing water or large deciduous tree stands) since they promote a higher likelihood of wildlife strikes.

Wetlands/Streams: The National Wetlands Inventory (NWI) Map (Clearfield, Utah) illustrates numerous wetlands within the airport property. The NWI Map depicts a series of "PEMC" areas or polygons around the developed airport infrastructure. "PEMC" areas on the ground tend to contain seasonally wet or ponded areas that contain one or a combination of the following vegetative assemblages: cattails, reed canary grass, common or Baltic rush, common reed and a variety of sedges. It is conceivable that

woody vegetation, namely Russian olives, cottonwoods or willows may also inhibit the outer core or the mapped wetlands or be located within riparian corridors of the mapped stream features. The Wetland Aerial Exhibit (please see attached) depicts the location of known wetlands consistent with the NWI Map.

Based on a review of the Smithfield USGS Quad map and the Cache County Soil Survey Maps the airport is surrounded by a mosaic of wetlands. The airport itself is more than likely constructed on fill material and may have been located in several historic wetland sites. The topography onsite seems to be fairly flat, between 4430 and 4450 feet above sea level. All the 5 mapped soils (i.e. Ak, Am, Lr, Pn and Se) are also listed as "hydric soils." Hydric soils are typically wetland soils. In a nut shell, this airport property more than likely contains more wetlands (outside the developed portions) than uplands, based on what the aforementioned reference maps portray. To determine the limits of any wetland or stream features on the airport property, a formal wetland delineation, with a subsequent survey, should be completed.

Floodplains: The referenced Flood Insurance Rate Map (FIRM) (4900120005B) illustrates no floodplains within the airport boundaries (see attached map).

Coastal Zone Management Program: N/A - Not in Project Area.

Wild and Scenic Rivers: N/A - Not in Project Area.

Farmlands: The area within and surrounding the Logan-Cache Airport is not characterized as prime farmland. (Reference source: www.maps.utah.gov - North Logan Prime and Statewide Important Farmland Map)

Energy Supply and Natural Resources: N/A - Not in Project Area.

Light Emissions: Total light emissions may increase as a result of the recommended future improvements.

Solid Waste Impact: No land fills or solid waste disposal areas are known to be present onsite.

Construction Impacts: Construction impacts will be mitigated through FAA guidelines. The following three Construction BMPs will likely be employed:

1. Hydro-seed disturbed areas at the completion of the project. The hydro-seed should consist of native seed, which is conducive to growth in dry climates.
2. Design should contour grading for drainage to retention (containment) areas onsite.
3. If suspected cultural resources or burials are inadvertently encountered by construction activities, all work in the immediate vicinity of the discovery shall cease, and the local Tribe(s) and the Utah Department of Archaeology and Historic Preservation (DAHP) shall be contacted immediately.

Hazardous Materials: A Phase One Environmental Assessment may be needed for future projects contained within the airport property to help determine potential environmental hazards. A Phase One Environmental Assessment could be triggered to understand the environmental condition of a parcel of commercial real estate, to understand the risk to human health and the environment, and associated financial

risk that environmental liability and/or property devaluation may represent on a site. Liability and devaluation usually arises as a result of environmental conditions that threaten or have adversely affected human health and/or the environment on a site or on an adjoining or nearby property.

Conclusion:

Based on a review of the reference maps, the airport property contains numerous wetland and/or stream features in close proximity to its boundaries. A formal wetland delineation is warranted to determine the extent of wetland or stream features. These wetland and stream features have the potential to provide suitable habitat for yellow-billed cuckoos (an ESA listed candidate species). Based on habitat considerations, the other two listed ESA species (both listed as threaten species) for Cache County are not likely to occur on the airport property. In addition, there are four state listed sensitive species that should be considered in the Master Plan Update, since they all have a documented occurrence in the project vicinity. Based on a review of the pertinent reference maps no floodplains or prime farm lands are documented to occur within the airport property. Noteworthy, this preliminary scan was completed without any field site visits or ground-truthing and should only be utilized to flush out potential impacts. Further research and assessments are warranted prior to specific improvement projects for wetlands, streams, and sensitive species based on what the preliminary scan has uncovered or determined.

Attachments:

1. Soil Survey Exhibit
2. Wetland Aerial Exhibit
3. USFWS Countywide Species Listing dated November, 2007
4. UDWR response letter dated October 27, 2008
5. Flood Insurance Rate Map (FIRM) (4900120005B)
6. North Logan Prime and Statewide Important Farmland Map

