RESULTS OF BIRD SURVEYS CONDUCTED AT NEAR WEST 2013

RESOLUTION COPPER MINING

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EXECUTIVE SUMMARY

WestLand Resources, Inc. (WestLand) was retained by Resolution Copper Mining, LLC to conduct avian surveys in support of the proposed Near West tailings alternatives area (the Analysis Area). The Analysis Area occurs on federal lands managed by the Tonto National Forest. The Analysis Area encompasses approximately 6,600 acres (2,671 ha) and is located north of US Highway 60 between Superior and Florence Junction in Pinal County, Arizona (*Figure 1*).

Biologists from WestLand and BIOME Ecological & Wildlife Research (BIOME) conducted a two-day site reconnaissance on April 15 and 16, 2013, during which they located 30 survey points (*Table 1*). Survey locations were selected to provide thorough coverage of habitat variability within the Analysis Area; including major vegetation types and topographic features. WestLand and BIOME biologists recorded all bird species encountered during the April site reconnaissance (*Table 2*).

WestLand and BIOME Biologists conducted avian surveys that were designed to provide information on the avian species occurring in the vicinity of the Analysis Area and to determine the presence of Tonto National Forest (TNF) sensitive and management indicator species (MIS), as well as species protected under the Migratory Bird Treaty Act (MBTA). Surveyors employed a point-count method at 30 survey points, two times during the breeding season (May 13 and 14, and June 2, 3, and 4, 2013), where they recorded all visually and audibly identified species observed during a five-minute period. Surveys were conducted from just before sunrise to approximately four hours after, in five of the most common vegetation associations found within the Analysis Area (*Figure 3*). Incidental observations, or species observed outside the 5-minute survey periods were also documented; including species observed while Biologists were traveling between survey points. Daily surveys were followed by informal site reconnaissance during which Biologists recorded all avian observations made within the Analysis Area as incidental. All incidental observations made during the 2013 Near West Bird Surveys are included in *Table 3*.

During the preliminary surveys in April, 44 species and 477 individual birds were recorded. These species included several migratory species that were in transit and would not be expected to breed in the vegetation associations available within the Analysis Area. During the breeding bird surveys in May and June, 46 species and 827 individuals were recorded. These included a few breeding species that were late arrivals, and a few late migrants still en route to other breeding areas. The Mesquite-Catclaw Wash vegetation association had the highest average number of species and the highest average number of individuals per point of the five vegetation associations within the Analysis Area. The other four vegetation associations, all communities within the Arizona Upland Subdivision of Sonoran Desertscrub, were similar in their bird species densities and diversities.

1. INTRODUCTION

WestLand Resources, Inc. (WestLand) was retained by Resolution Copper Mining, LLC (RCM) to conduct biological baseline studies related to proposed tailings alternatives in the area known as Near West (Analysis Area) (*Figure 1*). The Analysis Area includes approximately 6,600 acres (2,671 ha) of federal lands managed by Tonto National Forest (TNF). The Analysis Area is located adjacent to and north of US Highway 60, less than one mile west of the Town of Superior in Township 1 South, Range 11 East, portions of Sections 13-15, 22-27, and 34-36; Township 1 South, Range 12 East, portions of Sections 17-21 and 29-31; and Township 2 South, Range 11 East, in a portion of Section 2 (*Figure 1*).

This 6,600-acre parcel generally slopes downhill from the northeast to the southwest, and is dissected by numerous ephemeral washes. The highest elevation is 3,146 ft (959 m) at a ridge near its eastern boundary, and the lowest elevation is 2,240 ft (683 m) near the western boundary. Vegetation within the Analysis Area is characteristic of the Arizona upland subdivision of Sonoran desertscrub (Turner and Brown 1982). The Analysis Area remains largely unaltered by human activity; however, contains several Forest Roads, historic mining features, and disturbance caused by Off-Highway Vehicle (OHV) usage.

In support of the Near West tailings alternatives area studies, WestLand and BIOME Ecological & Wildlife Research (BIOME) Biologists conducted surveys designed to gather information on the avian species occurring in the vicinity of the Analysis Area, and to determine the presence of TNF sensitive and management indicator species (MIS).Virtually all North American bird species are protected under the Migratory Bird Treaty Act (MBTA), but TNF maintains a separate list of Migratory Bird Species of Concern, which includes a variety of species that are associated with particular vegetation communities. The purpose of this study is to provide baseline survey information which could be used in future studies to analyze potential impacts of the proposed mine features.

2. METHODS

2.1. APRIL RECONNAISSANCE

Biologists from WestLand and BIOME conducted a two-day site reconnaissance on April 15 and 16, 2013, during which they located 30 survey points. Survey points were distributed throughout the five most common vegetation associations found within the Analysis Area: Jojoba-Paloverde Shrubland (JPS), Jojoba-Paloverde/Triangleleaf Bursage Shrubland (JPT), Mesquite-Catclaw Acacia Wash (MCW), Ocotillo-Paloverde/Mixed Cacti Shrubland (OPV), and Paloverde-Creosotebush Shrubland (PCS) (*Figures 2 and 3*). These vegetation associations, as delineated by WestLand 2013, are generally comprised of a similar set of species common in the Sonoran Desertscrub biome. The primary differences among these associations are in the relative proportions of the various species. Within each association, the most dominant, widespread species are those included in the association name, but many species not included in the associations, but they are never the most dominant species. The scale at which Figure 3 was prepared precludes the possibility of identifying all small areas of potentially different associations within a larger area of relatively homogeneous vegetation. As such, the lines separating

vegetation associations represent transition zones; not sharp boundaries. The vegetation association in which each survey point was designated is appropriate as observed in the field. WestLand and BIOME biologists recorded all bird species encountered during the April site reconnaissance (*Table 2*).

2.2. 2013 NEAR WEST BIRD SURVEYS

WestLand and BIOME Biologists conducted two sets of surveys for breeding birds between spring and early summer. The first surveys were conducted May 13 and 14, 2013, and the second from June 3 through 5, 2013. Procedures used in this survey were similar to those used in the surveys conducted in the Oak Flat vicinity in 2008 and 2009 (WestLand 2009 and 2010). Surveys were conducted from just before sunrise to approximately four hours after sunrise, or until Biologists noted a significant decrease in the number of detectable birds. Biologists remained at each point for 5 minutes; scanning the vegetation for perching birds and listening for bird songs. Although the survey effort was concentrated within a 100-m radius surrounding each survey point, Biologists recorded all birds observed less than 200 m away. Species beyond the 100-m radius were recorded as incidental observations. Species observed outside the 5-minute survey periods, including those observed while Biologists were traveling between survey points, were also documented as incidental observations (*Table 3*).

The following data were recorded for observations made during each 5-minute survey period: species or best possible identification, number of individuals observed, whether the observation was a fly over, estimated distance from the observer, sex and age class (if possible), whether the observation was audial or visual, if it was a repeat individual, and any additional comments or unusual observations (*Appendix A*). Biologists also recorded the location, date, start and end time, weather information, and general habitat descriptions for each observation period. Representative habitat photos were taken at each survey point (*Appendix B*).

Biologists conducted informal site reconnaissance following each survey in an effort to gather additional information on avian species occurring in the vicinity of the Analysis Area. During site reconnaissance, Biologists recorded all avian observations made while in the Analysis Area.

3. RESULTS

3.1. APRIL RECONNAISSANCE

During the April site reconnaissance, 30 survey points were identified and located for breeding season point count surveys. Six points were selected in each of the five major vegetation associations as described above. Point designations, vegetation associations, and UTM coordinates for all survey points are provided in *Table 1*. Locations of these points are presented in *Figure 3*.

UTM Coordinates, NAD-83		nates, NAD-83	
Point Designation	Easting	Northing	Vegetation Association
MCW1	479517	3686896	Mesquite-Catclaw Wash
MCW2	482960	3688837	Mesquite-Catclaw Wash
MCW3	481730	3685201	Mesquite-Catclaw Wash
MCW4	482602	3683862	Mesquite-Catclaw Wash
MCW5	483147	3684578	Mesquite-Catclaw Wash
MCW6	484031	3685130	Mesquite-Catclaw Wash
PCS1	481639	3694999	Paloverde-Creosotebush Shrubland
PCS2	481968	3684936	Paloverde-Creosotebush Shrubland
PCS3	481936	3684503	Paloverde-Creosotebush Shrubland
PCS4	482347	3684255	Paloverde-Creosotebush Shrubland
PCS5	481485	3685407	Paloverde-Creosotebush Shrubland
PCS6	481736	3684438	Paloverde-Creosotebush Shrubland
JPS1	481136	3686337	Jojoba-Paloverde Shrubland
JPS2	482083	3686205	Jojoba-Paloverde Shrubland
JPS3	481935	3687032	Jojoba-Paloverde Shrubland
JPS4	482474	3687656	Jojoba-Paloverde Shrubland
JPS5	483129	3688357	Jojoba-Paloverde Shrubland
JPS6	482675	3686206	Jojoba-Paloverde Shrubland
OPV1	483043	3689093	Ocotillo-Paloverde-Mixed Cacti Shrubland
OPV2	482076	3688253	Ocotillo-Paloverde-Mixed Cacti Shrubland
OPV3	482027	3687869	Ocotillo-Paloverde-Mixed Cacti Shrubland
OPV4	483811	3686655	Ocotillo-Paloverde-Mixed Cacti Shrubland
OPV5	484333	3687119	Ocotillo-Paloverde-Mixed Cacti Shrubland
OPV6	483999	3686873	Ocotillo-Paloverde-Mixed Cacti Shrubland
JPT1	480902	3685890	Jojoba-Paloverde-Triangleleaf Bursage Shrubland
JPT2	480618	3686684	Jojoba-Paloverde-Triangleleaf Bursage Shrubland
JPT3	480399	3686727	Jojoba-Paloverde-Triangleleaf Bursage Shrubland
JPT4	480910	3687077	Jojoba-Paloverde-Triangleleaf Bursage Shrubland
JPT5	480275	3686991	Jojoba-Paloverde-Triangleleaf Bursage Shrubland
JPT6	480680	3687161	Jojoba-Paloverde-Triangleleaf Bursage Shrubland

Table 1. Locations of Survey Points

Forty-four avian species and a total of 477 individual avian observations were documented during the April reconnaissance. Avian species, as well as the number of individuals observed for each of those species are presented in *Table 2*. Species in this table and following tables are listed alphabetically by common name.

Common Name	Scientific Name	Special Status Categories*	Total Observations
Abert's towhee	Melozone aberti		1
American kestrel	Falco sparverius		5
Anna's hummingbird	Calypte anna		1
Ash-throated flycatcher	Myiarchus cinerascens	MIS	11
Bell's vireo	Vireo bellii	TNF-S MIS MBTA	3
Black-tailed gnatcatcher	Polioptila melanura		5
Black-throated sparrow	Amphispiza bilineata	MIS	13
Brewer's sparrow	Spizella breweri		88
Bronzed cowbird	Molothrus aeneus		1
Brown-headed cowbird	Molothrus ater		1
Cactus wren	Campylorhynchus brunneicapillus		35
Canyon towhee	Melozone fusca	MBTA	1
Common poorwill	Phalaenoptilus nuttallii		1
Common raven	Corvus corax		8
Cooper's hawk	Accipiter cooperii		2
Curve-billed thrasher	Toxostoma curvirostre		12
Empidonax flycatcher	Empidonax sp.		3
Gambel's quail	Callipepla gambelii		39
Gila woodpecker	Melanerpes uropygialis	MBTA	19
Gilded flicker	Colaptes chrysoides	MBTA	9
Gray flycatcher	Empidonax wrightii	MBTA	1
Gray vireo	Vireo vicinior	MIS MBTA	2
Greater roadrunner	Geococcyx californianus		2
Green-tailed towhee	Pipilo chlorurus		1
Hooded oriole	Icterus cucullatus	MIS	1
House finch	Haemorhous mexicanus		4
Ladder-backed woodpecker	Picoides scalaris		7
Lark bunting	Calamospiza melanocorys		1
Lark sparrow	Chondestes grammacus		24
Lesser goldfinch	Spinus psaltria		1
Lincoln's sparrow	Melospiza lincolnii		1
Lucy's warbler	Oreothlypis luciae	MBTA	13
Mourning dove	Zenaida macroura		42
Northern cardinal	Cardinalis cardinalis		13
Northern mockingbird	Mimus polyglottos		3
Phainopepla	Phainopepla nitens	MBTA	8
Red-tailed hawk	Buteo jamaicensis		6
Savannah sparrow	Passerculus sandwichensis	MIS	1
Turkey vulture	Cathartes aura		40
Verdin	Auriparus flaviceps		25
Violet-green swallow	Tachycineta thalassina		1
Western kingbird	Tyrannus verticalis		1
White-crowned sparrow	Zonotrichia leucophrys		15
White-throated swift	Aeronautes saxatalis		3
White-winged dove	Zenaida asiatica		2
Yellow-rumped warbler	Setophaga coronata		1
Total Observations			477

Table 2. List of Avian Species Observed During the April 2013 Site Reconnaissance

* Special Status Categories; TNF-S = TNF Sensitive Species; MIS = TNF Management Indicator Species; MBTA = TNF Migratory Bird Species of Concern.

3.2. MAY AND JUNE 2013 BIRD SURVEYS

Biologists conducted two sets of surveys for breeding birds between spring and early summer. The first surveys were conducted May 13 and 14, 2013, and the second from June 3 through 5, 2013.

Forty-one avian species and a total of 394 individual avian observations were documented during the May 2013 bird surveys, while thirty-two avian species and a total of 433 individual observations were documented during the June 2013 surveys. Avian species observed during the May and June 2013 surveys and their associated habitats as well as the number of individuals observed for each of those species are presented in *Table 3*.

Bird Species Common Name Scientific Name	Special Status Categories*	Incid Obser	lental vations	Joj Palo Shru	oba Verde bland	Joj Palo Triang Bur Shru	oba Verde gle-leaf sage bland	Mes Cat Aca Wa	quite claw acia ash	Oco Palo Mixed Shru	otillo Verde I Cacti bland	Creoso Shru	Verde otebush bland	Total	Relative Abundance (Percent)
Abert's towhee		May	June	May	June	May	June	May	June	May	June	May	June		
Melozone aberti		0	1		1			2	3			1	2	10	1.21
American kestrel Falco sparverius		4	9						1					14	1.69
Ash-throated flycatcher Myiarchus cinerascens	MIS	4	8	2	1	1		4	1	4	1	1	4	31	3.75
Bell's vireo Vireo bellii	TNF-S MIS MBTA	0	0					1	1					2	0.24
Black-chinned hummingbird Archilochus alexandri		0	0		1	1		1		1				4	0.48
Black-headed grosbeak Pheucticus melanocephalus		1	0											1	0.12
Black-tailed gnatcatcher <i>Polioptila melanura</i>		1	1			1	2	1	2		1		1	10	1.21
Black-throated sparrow Amphispiza bilineata	MIS	8	13	4	1	3	1		3	2	3	4	2	44	5.32
Bronzed cowbird Molothrus aeneus		2	0						3	1				6	0.73
Brown-crested flycatcher Myiarchus tyrannulus		8	23			3	2	4	10	2	2	3	3	60	7.26
Brown-headed cowbird <i>Molothrus ater</i>		0	0				1	1						2	0.24
Cactus wren Campylorhynchus brunneicapillus		13	15	3	6	2	9	1	7	3	4	6	8	77	9.31
Common poorwill Phalaenoptilus nuttallii		1	0		_									1	0.12
Common raven Corvus corax		1	1											2	0.24
Cooper's hawk Accipiter cooperii		1	0											1	0.12

Table 3. Avian Species Breeding Season Observations May and June, 2013

Bird Species Common Name Scientific Name	Special Status Categories*	Obser	lental vations	Palo Shru	oba Verde bland	Palo Triang Bur Shru	oba Verde gle-leaf sage bland	Cate Aca Wa	quite claw acia ash	Palo Y Mixed Shru	bland	Creoso Shru	-	Total	Relative Abundance (Percent)
		May	June	May	June	May	June	May	June	May	June	May	June		
Crissal thrasher Toxostoma crissale		0	1				2							3	0.36
Curve-billed thrasher Toxostoma curvirostre		5	15	4	2			1		2	1	3	2	35	4.23
Gambel's quail Callipepla gambelii		23	51	3		2	5	8	6	3		4	4	109	13.18
Gila woodpecker Melanerpes uropygialis	MBTA	4	9	2	1	2	8	4	5	3	1	3	3	45	5.44
Gilded flicker Colaptes chrysoides	MBTA	14	4	1			3		1	3		1	1	28	3.39
Great horned owl Bubo virginianus		0	3											3	0.36
Greater roadrunner Geococcyx californianus		2	4											6	0.73
Harris's hawk Parabuteo unicinctus		0	1											1	0.12
Hooded oriole Icterus cucullatus	MIS	0	0									1		1	0.12
House finch Haemorhous mexicanus		5	1	1	3		3	1	3	1		6	6	30	3.63
Ladder-backed woodpecker Picoides scalaris		1	1			1		2	1	2			1	9	1.09
Lark sparrow Chondestes grammacus		2	0											2	0.24
Lesser goldfinch Spinus psaltria		0	0	1										1	0.12
Lesser nighthawk Chordeiles acutipennis		0	1						1				1	3	0.36
Lucy's warbler Oreothlypis luciae	MBTA	0	0			1	1	6	4					12	1.45
Mourning dove Zenaida macroura		36	18	3	2	3		3	3	1		4		73	8.83

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Bird Species Common Name Scientific Name	Special Status Categories*	Obser	lental vations	Palo Shru	oba Verde bland	Palo Triang Bur Shru	r	Cate Aca Wa	quite claw acia ash	Palo Mixed Shru	otillo Verde I Cacti bland	Shru	otebush bland	Total	Relative Abundance (Percent)
		May	June	May	June	May	June	May	June	May	June	May	June		
Northern cardinal Cardinalis cardinalis		7	1	1		2		3	1	3		1		19	2.30
Northern mockingbird Mimus polyglottos		0	0							1				1	0.12
Northern rough-winged swallow Stelgidopteryx serripennis		2	0											2	0.24
Phainopepla Phainopepla nitens	MBTA	0	0			3								3	0.36
Purple martin Progne subis	MBTA	2	0											2	0.24
Pyrrhuloxia Cardinalis sinuatus		4	11	1	2		3					1	1	23	2.78
Red-tailed hawk Buteo jamaicensis		6	3											9	1.09
Rock wren Salpinctes obsoletus		0	1											1	0.12
Scott's oriole Icterus parisorum		0	0									2		2	0.24
Turkey vulture Cathartes aura		14	11			1								26	3.14
Verdin Auriparus flaviceps		5	5	5	5	3	6	4	6	2	2	3	3	49	5.93
White-throated Swift Aeronautes saxatalis		8	0											8	0.97
White-winged dove Zenaida asiatica		8	23	2	2	1	2	3	1		2	2	1	47	5.68
Yellow-rumped warbler Setophaga coronata		0	0							8				8	0.97
Zone-tailed hawk Buteo albonotatus		1	0											1	0.12
Total Number of observations		193	235	33	27	30	48	50	63	42	17	46	43	827	100.00

* Special Status Categories; TNF-S = TNF Sensitive Species; MIS = TNF Management Indicator Species; MBTA = TNF Migratory Bird Species of Concern.

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As is typical with most bird surveys, some species are relatively common and widespread, while others are relatively uncommon and restricted in their distribution. The final column in *Table 3* provides the relative abundance of each species observed during the breeding season surveys in May and June 2013. These values are based on the numbers of observations of each species expressed as a percentage of the total numbers of individuals observed. The number of occupied vegetation associations and survey points also give an indication of the relative distribution of species, as shown in *Table 4*.

B	Bird Species				
Common Name	Scientific Name	 Occupied Bird Survey Points 	Occupied Vegetation Associations		
Abert's towhee	Melozone aberti	5	3		
American kestrel	Falco sparverius	1	1		
Ash-throated flycatcher	Myiarchus cinerascens	12	5		
Bell's vireo	Vireo bellii	1	1		
Black-chinned hummingbird	Archilochus alexandri	4	3		
Black-tailed gnatcatcher	Polioptila melanura	7	4		
Black-throated sparrow	Amphispiza bilineata	15	5		
Bronzed cowbird	Molothrus aeneus	3	2		
Brown-crested flycatcher	Myiarchus tyrannulus	17	4		
Brown-headed cowbird	Molothrus ater	2	2		
Cactus wren	Campylorhynchus brunneicapillus	26	5		
Crissal thrasher	Toxostoma crissale	2	1		
Curve-billed thrasher	Toxostoma curvirostre	13	5		
Gambel's quail	Callipepla gambelii	17	5		
Gila woodpecker	Melanerpes uropygialis	20	5		
Gilded flicker	Colaptes chrysoides	9	4		
Hooded oriole	Icterus cucullatus	1	1		
House finch	Haemorhous mexicanus	9	5		
Ladder-backed woodpecker	Picoides scalaris	6	4		
Lesser goldfinch	Spinus psaltria	1	1		
Lesser nighthawk	Chordeiles acutipennis	2	2		
Lucy's warbler	Oreothlypis luciae	7	2		
Mourning dove	Zenaida macroura	10	5		
Northern cardinal	Cardinalis cardinalis	8	5		
Northern mockingbird	Mimus polyglottos	1	1		
Phainopepla	Phainopepla nitens	1	1		
Pyrrhuloxia	Cardinalis sinuatus	5	3		
Scott's oriole	Icterus parisorum	2	1		
Turkey vulture	Cathartes aura	1	1		
Verdin	Auriparus flaviceps	22	5		
White-winged dove	Zenaida asiatica	14	5		
Yellow-rumped warbler	Setophaga coronata	2	1		

Table 4. Breeding Season Bird S		
Table 4 Breeding Season Bird S	necies Distrinution among	1 Hanifats and NIRVAV Points

The survey data from *Table 5* can be used to compare the total number of individuals per survey point and the diversity of species observed at each point. These results, as well as the averages for each vegetation association, are summarized in *Table 5*.

Table 5. Survey Point Abundance and Diversity						
Point Designation	Total Number of Individuals	Number of Species				
JPS1	18	10				
JPS2	7	5				
JPS3	10	7				
JPS4	10	8				
JPS5	6	4				
JPS6	9	7				
JPS Association Average	10	6.8				
JPT1	10	6				
JPT2	13	6				
JPT3	9	6				
JPT4	11	8				
JPT5	19	9				
JPT6	16	12				
JPT Association Average	13	7.8				
MCW1	17	10				
MCW2	25	13				
MCW3	20	11				
MCW4	13	9				
MCW5	19	9				
MCW6	19	12				
MCW Association Average	18.83	10.7				
OPV1	10	5				
OPV2	14	8				
OPV3	13	10				
OPV4	10	7				
OPV5	9	8				
OPV6	3	2				
OPV Association Average	9.83	6.7				
PCS1	8	8				
PCS2	16	10				
PCS4	11	9				
PCS5	19	11				
PCS6	21	6				
PCS Association Average	14.83	9.0				

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4. **DISCUSSION**

4.1. AVIAN USE

The results of these surveys indicate that the Analysis Area is used by a large number of bird species in moderate densities. Forty-four species were observed on this site in April, 41 species were observed in May, and 32 species were observed in June. These observations gave a combined total of 59 species. Observations of individuals totaled 477 in April, 394 in May, and 433 in June, for a total of 1,304 individuals. Several of the species observed in April are winter residents or migratory species that would not be expected to breed in Sonoran desertscrub. These species include Brewer's sparrow (Spizella breweri), Empidonax flycatcher (Empidonax sp.), gray flycatcher (Empidonax wrightii), gray vireo (Vireo vicinior), green-tailed towhee (Pipilo chlorurus), lark bunting (Calamospiza melanocorys), lark sparrow (Chondestes grammacus), Lincoln's sparrow (Melospiza lincolnii), violet-green swallow (Tachycineta thalassina), white-throated swift (Aeronautes saxatalis), and yellow-rumped warbler (Setophaga *coronata*). Other migratory species are known to breed in this area but typically do not arrive until May. These species include brown-crested flycatcher (Myiarchus tyrannulus), lesser nighthawk (Chordeiles acutipennis), purple martin (Progne subis), and Scott's oriole (Icterus parisorum). A few species seen in May were late migrants that would not normally breed in the habitat conditions available in the Analysis Area. Examples of these species include black-headed grosbeak (Pheucticus melanocephalus), lark sparrow, white-throated swift, and yellow-rumped warbler.

Most of the vegetation associations in the Analysis area are comprised of similar plant species. The mesquite-catclaw wash association is the most distinctive, having relatively high densities of large mesquites, palo verdes, and catclaw in narrow corridors along washes. Saguaros are another distinctive component of the vegetation, but these cacti may be found in most of the vegetation associations on the site. Relatively few avian species appear to make a great distinction among the five vegetation associations in their habitat selection; however, both observations of Bell's vireo (*Vireo bellii*) in May and June, and 10 out of the 12 observations of Lucy's warblers (*Oreothlypis luciae*) were in the mesquite-catclaw wash association.

4.2. TONTO NATIONAL FOREST SPECIAL STATUS SPECIES

Tonto National Forest (TNF) maintains several lists of species that have special status categories. Sensitive species are those that are of concern due to overall population declines or potential risks from land management activities. TNF Sensitive species are presented in *Appendix C*. Management Indicator Species (MIS) are those for whom changes in populations can indicate potential changes or risks in wider-scale vegetation associations. These species are listed in *Appendix D*. TNF also maintains a list of migratory bird species of concern under the Migratory Bird Treaty Act (MBTA) (*Appendix E*). Bird species on any of these lists that were observed during these surveys are identified on *Table 2* and *Table 3* and are discussed below.

Several of the bird species observed during these surveys are included in one or more of these lists. Bell's vireo is the only TNF sensitive species observed, making it the only observed species that is included on

all three of the TNF lists. Observations were limited to three sightings in April and single occurrences in May and June in the mesquite-catclaw wash association. Bell's vireo is listed as an MIS for this association. Other management indicator species that were observed during these surveys include ash-throated flycatcher (*Myiarchus cinerascens*), black-throated sparrow (*Amphispiza bilineata*), gray vireo, hooded oriole (*Icterus cucullatus*), and savannah sparrow (*Passerculus sandwichensis*). The ash-throated flycatcher, a migratory species, is common in all vegetation associations throughout the Analysis Area and during each month of observation. The black-throated sparrow is a permanent resident and is also common in all vegetation associations. The gray vireo and savannah sparrow are both migratory species that pass through this area in migration but do not remain to breed in these vegetation associations. The hooded oriole is a relatively uncommon migratory species that was observed once in April and once in June.

Other migratory bird species of special concern include canyon towhee (*Melozone fusca*), Gila woodpecker (*Melanerpes uropygialis*), gilded flicker (*Colaptes chrysoides*), Lucy's warbler, phainopepla (*Phainopepla nitens*), and purple martin. The canyon towhee was observed only once during April, but it should be present as a breeding species in this vicinity. The Gila woodpecker and gilded flicker are legally considered to be migratory species, but in reality, they are both resident throughout the year in the Sonoran Desert, and both were relatively common in all vegetation associations where saguaro cacti are available. Lucy's warbler is a migratory species that returns to Arizona relatively early in the spring and begins leaving in early summer with most birds gone from Arizona by August. It is most abundant in the mesquite-catclaw wash association, with 10 out of 12 total observations in that association in May and June. Phainopeplas breed in late winter and early spring in the Sonoran Desert, and they typically leave this area by mid-May. This pattern is consistent with our observations of eight individuals in April, three individuals in May, and none in June.

4.3. RELATIVE SPECIES ABUNDANCE AND DISTRIBUTION

Bird species, in any given location or set of vegetation associations, will vary widely in their relative abundance, as shown in *Table 3*. Bird communities typically have a few species that are common and widespread, while many other species are relatively uncommon and limited in their distribution (Strong 1987). The data on relative abundance presented in *Table 3* show that there are relatively few observations of most species and that only a few species have many observations. These data are based on a combination of the results of point counts and all other incidental observations in the Analysis Area. The six most frequently observed species, Gambel's quail (*Callipepla gambellii*), cactus wren (*Camyplorhynchys brunneicapillus*), mourning dove (*Zenaida macroura*), brown-crested flycatcher, verdin (*Auriparus flaviceps*), and white-winged dove (*Zenaida asiatica*), comprise over 50 percent of all observations in May and June. In contrast, the 28 least abundant species comprise only about 10 percent of all observations. Only eight species have individual observations greater than five percent of the total, while 25 species have individual observations less than one percent of the total.

The distribution data presented in *Table 4* summarize the number of survey points and vegetation associations at which each bird species was observed. These data are limited to observations within 100 m of survey points. Not surprisingly, many of the species with high relative abundance are also present at

high numbers of survey points. Likewise, bird species with very low relative abundance are present at very few survey points. None of the species were recorded at all 30 survey points, and only three species, cactus wren, verdin, and Gila woodpecker, were recorded at 20 or more survey points. Seven species were observed at only a single survey point, and 16 of the 32 species on this list were observed at five or fewer points. Eleven of the more widespread species were observed in all five of the vegetation associations, while ten of the more restricted species were found in only one association.

4.4. SURVEY POINT ABUNDANCE AND DIVERSITY

The summary data from *Table 5* indicate substantial differences among survey points for numbers of individuals observed and, to a lesser degree, in the numbers of species observed at each point. These data combine the breeding season results from May and June. The number of individuals observed at a survey point ranged from a low of three individuals at OPV6 to a high of 25 individuals at MCW2. However, most points were in the middle of the range, with only four points having fewer than nine individuals, and only three points having greater than 19 individuals. The numbers of species observed at a survey point followed a similar pattern, with a minimum of two species at OPV6 and a maximum of 13 species at MCW2. The distribution of the number of species at a survey point is skewed to the higher end, with only eleven survey points below the median value of 7.5 species, and 19 survey points above the median value of seven species.

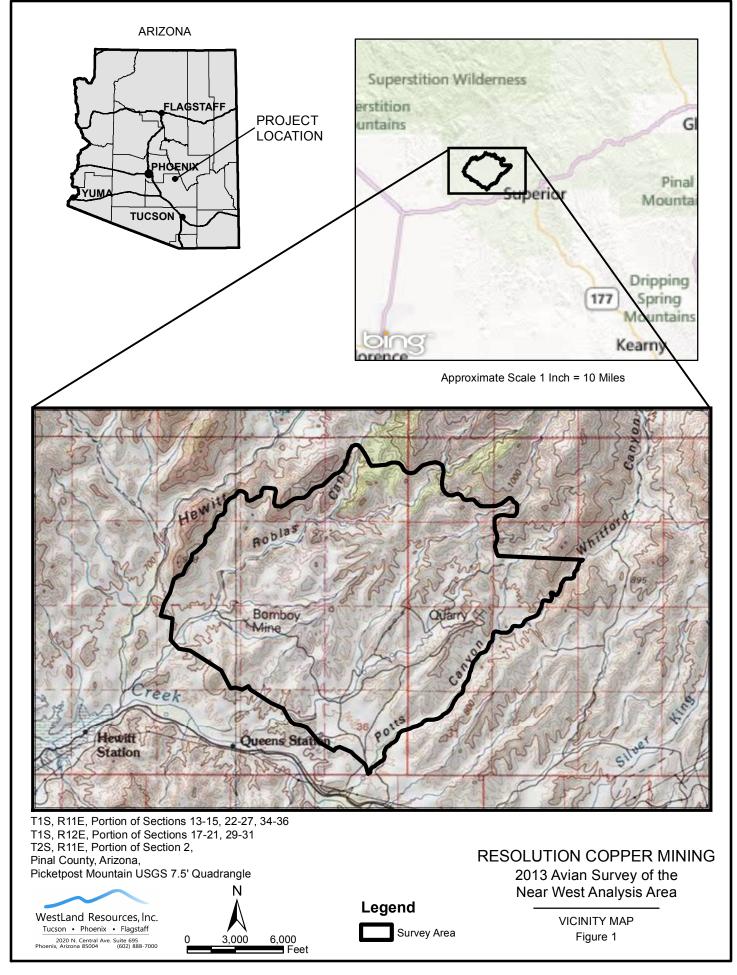
Vegetation association averages can also provide information about the distribution and abundance of species within the Analysis Area. The data presented in *Table 5* indicate relatively minor differences in avian abundance and diversity among the five vegetation communities. As expected because of high vegetation density, the Mesquite-Catclaw Wash association has the highest average number of individuals and species, at 18.83 individuals and 10.67 species. The Ocotillo-Paloverde-Mixed Cacti Shrubland association had the lowest averages, at 9.83 individuals and 6.67 species. The averages presented in *Table 5* indicate no major differences among the Ocotillo-Paloverde-Mixed Cacti Shrubland, the Jojoba-Paloverde Shrubland, and the Jojoba-Paloverde-Triangleleaf Bursage Shrubland associations.

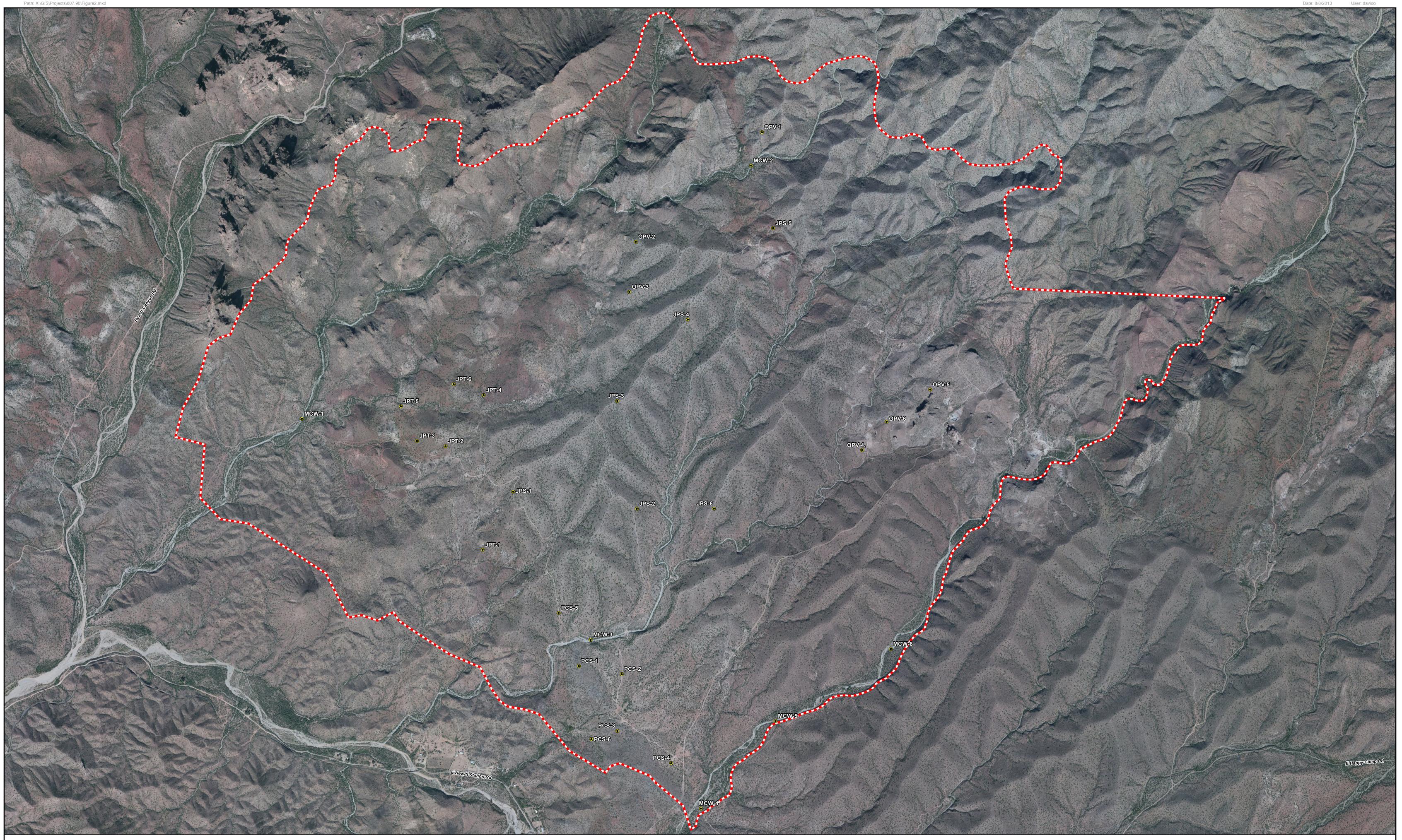
5. **REFERENCES**

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- WestLand Resources, Inc. 2009. Raptor Survey and 2008 Bird Census, Resolution Copper Mine Study Area. Report submitted to Resolution Copper Mining, LLC, March 2009.
- _____. 2010. 2009 Bird Census, Resolution Copper Mine Study Area. Report submitted to Resolution Copper Mining, LLC, September 2010.

_____. 2013. Biological Evaluation of the Near West Analysis Area. Report submitted to Resolution Copper Mining, LLC, March 2013.

FIGURES





WestLand Resources, Inc. Tucson • Phoenix • Flagstaff 2020 N. Central Ave. Suite 695 Phoenix, Arizona 85004 (602) 888-7000 T1S, R11E, Portion of Sections 13-15, 22-27, 34-36 T1S, R12E, Portion of Sections 17-21, 29-31 T2S, R11E, Portion of Section 2, Pinal County, Arizona, Photo Source: Microsoft Aerials, 2010

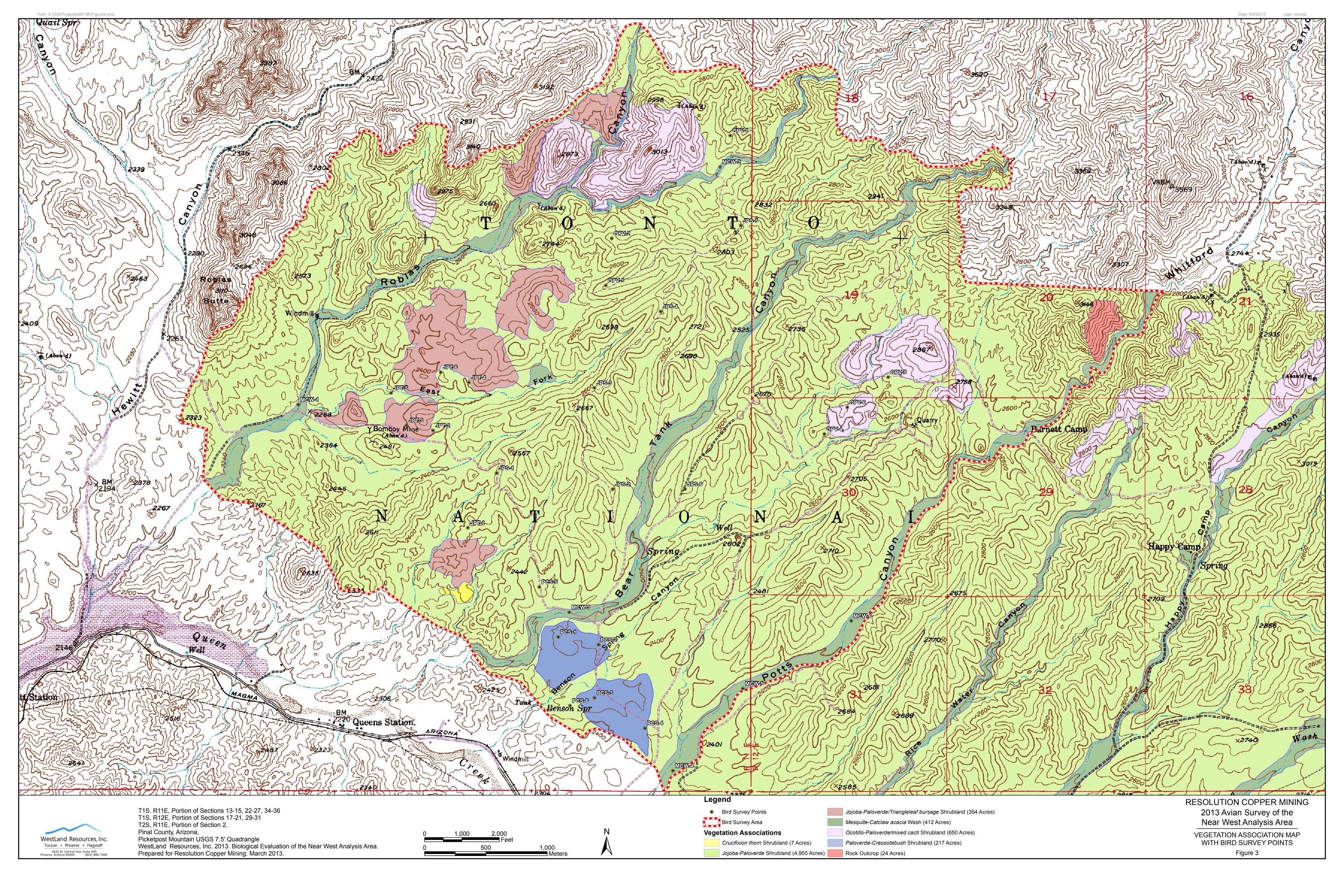
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Legend



RESOLUTION COPPER MINING 2013 Avian Survey of the Near West Analysis Area Aerial Overview

Figure 2



APPENDIX A

DATA SHEETS

APRIL 2013

Project #	_80-	1.90	_		Date	(yr/mm/dd) 201.3	104/1	5	Surveyor(s	J.61 B.M	Iligan Iarshall Point ID MCW II
UTM Coordinate		83)	<u>48</u> <u>3</u> [1031	30	J¥E ≢N	,		rvey Time			LAM GPS CAM <u>C-62PS 14</u> 6 Site Photo #s <u>43-5W,44</u> -NE
TEMP	Starl	<u>- 54°</u>					3eaufort#	0-0-	1	-		<u> </u>
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	Distance (25-50	(m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
GAQU	1						1				#	Gampei's Qual
GIND	1						\checkmark				#	Caila uppodept KPic
WCSP							\checkmark				H	White crowned sparrow Abert's townee
ABTO	1						\checkmark				H	Abert's towhee
VERD							1				H	Verdin
VERD	1						\checkmark				H	verdin
LUWA	1						V				4	Lucu's Warbler
BRSP	1						\checkmark				# #	Lucy's Warbler Brewer's sparrow
GAQU	1						1				H	
CACW							\checkmark				H	CACTUS WYEN
LUWA	1				2013		1				H	
LUWA	- 1				25m			NIM	F		5	
GKRD	1					NDA	100				H	breater voadrunner
			1.000				Sec. 1				3.1	
					4.2							
					1.1							

General Habitat Description:

Gaguaro, Mesquite, catelaw, upland with riparian (Willow, cottonwood) in wash

Chain of Custody

Field Biologist Signature

union Julian

Supervisor Signature

Data Entry Signature

Data Proofing Signature

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	_80_	1.90	_		Date ((yr/mm/dd	2013/	04/15		Surveyor(s)	J. 611 B. M	1990n Jarshall Point ID MCW 10
UTM Coordinat		83)	48	314-	I	NE				Start	10:27	AM GPS CAM <u>C-62514</u> Site Photo #'s <u>45-5101, 41</u> 0-101
TEMP	Star	- 54					leaufort#)			-		<u>О</u> ррт. <u>О</u>
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
LUNA							55				H	
CACIN	- 1							100+			+	cactus wren
GAQU							95				H	
BEVI	1						90		1		H	Bell's Vireo
MODO	2					25					5	Mourning dove
MODD	1						70				#)
GIND	1						90				14	
BEVI	1					45					H	
GAQU	1						100				14	
MODD	1				E.M.	25	1371				5	
LBWD							75				H	
WLSP					: Post		100				#	
CAUN	1						100				H	
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								_				
									1			
									T.			
					11.25				1.1			

General Habitat Description:

Mesquite, catcian, saguaro upland

Chain of Custody

Field Biologist Signature

Data Entry Signature

unin Gilligen

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up

1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain

3 = heavy rain

Project #	80	7.90	-		Date (yr/mm/dd	2013/	04/1	5	Surveyor(s)	J.b B.	Marshall Point ID MCN9
UTM Coordinat		83)	48	52100	12	NE	,	/ Sur	vey Time	Start	7:12	AM GPS CAM <u>C-BPS 14</u> Site Photo #s <u>47-5W, 4</u> 8-NE
TEMP	Star	102	End	62	F	Wind (E	eaufort#)	0-	· [_	Cloud %	
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
VERD	1						90	100			H	UBUICIONS PRANTABAR
LASP	2					45					H 5	lark sparrow
LASP	7						62					/
BRCO	1		1				95 80				#	biomond could ind
MODD	2		V			35					S	bronzed cowbird
											4.6	
						-						
							111					

General Habitat Description:

Hillside above MCW. Palo verde, saguaro, cheat grass, mesquite, cholla, cat claw, prickly pear

Chain of Custody

Field Biologist Signature

Millin Milligen

Data Entry Signature

Supervisor Signature

Data Proofing Signature

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle

3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain

3 = heavy rain

Project #	80	7.90	-		Date (yr/mm/dd)	2013/	04/15	Ś	Surveyor(s)	J.6 B.1	Alligan <u>Jarchall</u> Point ID <u>PCS</u>	4
UTM Coordinate	es (NAD-	83)	<u>40</u> _30	2347	.55	XE XN		Surv	vey Time	Start End	7:20	9 AM GPS CAM <u>(-685</u> 4 Site Photo #s <u>49-5E, 5</u>	14 50-NW
TEMP	Star	45	_ End	Les -	°F	Wind (B	eaufort#)	1		-	Cloud %	<u>о </u>	
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	D 10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
GIFL	1						90				S	Gilded Flicker	
GIND	1					30					H		
WEKI	1							100+			H	Western Kingbird	- DUtside PID+
	-								-		_	/	ľ
			12										
	1						6t g (
											147		
									1.2				
							-						
	1.1												

General Habitat Description:

Paloverde, cheat grass, cat claw, hedgehog cactus, prickly pear, wolfberry

Chain of Custody

Field Biologist Signature

Data Entry Signature

Emica Sillian

Supervisor Signature

Data Proofing Signature

- Wind:
- 0 = <1 mph: Smoke rises straight up
- 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain
- 3 = heavy rain

Project #	_80	7.90	<u>)</u>		Date (yr/mm/dd	13/0	415	-	Surveyor(s)	J.Gillia	an, B. Marshalloint 10 PCS.3
UTM Coordinate	es (NAD-	-83)	<u> 48</u> 31				I				7:47	AM GPS CAM <u>C-GP5 14</u> - AM Site Photo #s <u>51-5E,52</u>
TEMP	Star	1 68	End	108	F	Wind (E	leaufort#)	1-	2	_	Cloud %	0 PPT. 0
Species			Fly)istance (Detect	
(4-Letter Code)	4	# Juv	Over?	0-10	10-25	25-50 95	50-100	>100	Sex	Repeat?	s/н Н	Comments
BRSP	1					50					H	
BRSP	1					35			10.0		17	
BRGP							40				H	
BASP	T						80				H	
CACW	1						100				H	
CACN	1						90				H	
GIND	1		3				95				#	
			117,51									
					36							
	-				_							
							14					
												· · · · · · · · · · · · · · · · · · ·
									-			
			31.5	1								
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	IL DESCI	ipuon								<u>, 10, 11</u>		erde, hedgehog,
(Dino	NAPP	- Itc.		-		1	DCC) 1400	cd ou	trial of at
COM	11 00	ч <u>с</u> -	Turk	thin 1	UIA	riy i	DOBRIN	r fr	<u>i re</u> iuini	a our	side t	itside plot
Chain of Custody		1		0			. y - y - y - y	-21		1	r F	1
Field Biologist Sigr	nature _	Ju	N ⁱ M	1/1	1191	m				Supe	ervisor Signa	ature
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Wind: 0 = <1 mph: Smok 1 = 1-3 mph: Smok		raight up					PPT:) = None					
2 = 4-7 mph: Feel v 3 = 8-12 mph: Leav	wind, lea		onstant mo	otion		2	l = fog 2 = light rai 3 = heavy n					

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Project #	80	7.90	-		Date ((yr/mm/dd)	<u>13/c</u>	1/15	_	Surveyor(s	J. billie	AM, B. MASHAI Point ID PCS 2
UTM Coordinate	es (NAD-	83)		1968	310	XE		Sur	vey Time	Start End	<u>8:0</u>	TAM GPS CAM <u>0-64514</u> AM Site Photo #'s <u>53+54 - S, 55</u> -N
TEMP	Star	<u>le9</u>	End	69	۴	Wind (B	eaufort#)	1	<u>·</u> }	-		PPT
)istance (m)					
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50		>100	Sex	Repeat?	Detect S/H	Comments
CACW	1_						95				H	
CAUN	1						75				H	
GIWD	1						70				H	
VEKD	1						85				H	
BESP	1					32					S	
NOCA	1						60				H	northern Cardinau
BESP	1		100				75				H	
CBTH	1						80					curve-billed thrasher
									4 75			
											4	
					12.5							
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Chain of Custody Field Biologist Sign		/ı					7					J

PPT:

0 = None 1 = fog 2 = light rain 3 = heavy rain

Field Biologist Signature

Data Entry Signature

Wind:
0 = <1 mph: Smoke rises straight up
1 = 1-3 mph: Smoke drifts
2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
3 = 8-12 mph: Leaves/small twigs in constant motion

Data Proofing Signature

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Project	* <u> </u>	07.90	-		Date	(yr/mm/dd	2013/	07/15		Surveyor(s)	J. E.	a'llian Marshall Point ID MUN U
UTM Coordinat			46	3173	D 201	NE	,			Start	8:2	2 Site Photo #'s <u>56+57-5</u> W
TEMP	Star	t <u>72</u>					Beaufort#)	_2-	3	-	Cloud %	<u>0</u> ppt. <u>0</u> 58-NE
Species (4- Letter Code)	#	#Juv	Fly Over?	0-10	10-25	25-50	1	>100	Sex	Repeat?	Detect S/H	Comments
LUWA	1					40					H	
LUMA	1				15						5	
GARU							90		-		H	
EMFL*	- 1			10			10		1 -7.1			Empidonax Flyiatcher *
WUSP	1					45					5	Print Industry
WCSP)				21						5	
GIND	1		1.1				75				H	
GAQU	1		See.			20					S	
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Chain of Custody	,			1								
Field Biologist Sig		10	<u>uí M</u>	, A	illia	m				Supe	ervisor Sigi	nature
Data Entry Signati	ure _									Data Proofing) Signature	
Wind: 0 = <1 mph: Smok 1 = 1-3 mph: Smo 2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	ke drifts wind, leav	es rustle	onstant mo	btion		1	PPT: = None = fog = light rai = heavy r					

Project #	80	7.90	_		Date ((yr/mm/dd	13/04	/15		Surveyor(s)	1. Gillig	an, B. MarshallPoint ID PCS
UTM Coordinate	es (NAD	-83)	48	1239	999	,×€ ≠N	,	Sun	ey Time	Start End	<u>8:50</u> 9:55	AM GPS CAM C - GPS 14 AM Site Photo #'s 59-E, 60-W D PPT. O
TEMP	Star	t 72	End	72	F	Wind (E	Beaufort#)	3		-	Cloud %	<u>О</u> ррт. <u>О</u>
			-		-							
Species			Fly)istance (m)				Detect	
(4- Letter Code)	#	#Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
VEP-D	1						100				H	
CBTH						0.	100		_		#	
VERD	1	-				30			2		5	
VERD	1	-				40	De				5	
CACW	1	<u> </u>					85		-		H	
NOCA						01	100				H	
CACIN	1					3					5	
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Project #	_60	7.90	-		Date (yr/mm/dd	13/0	4/15	-	Surveyor(s	J.6 B.	Marshall Point ID JP51
UTM Coordinat	tes (NAD-	83)	481	<u>+85</u> 8541	Γ(X F V N	·	Sur	vey Time	Start End	9:17 9:2	AM GPS CAM <u>C-648</u> 14 ZAM Site Photo #'s <u>10[-5, 62</u> -N
TEMP	Star	16					leaufort#)	2	<u>}</u>	-		6 <u>0</u> PPT. <u>0</u>
Species (4- Letter Code)		#Juv	Fly Over?	0-10	D	istance (25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
CALIN							80	100			H	
GADU							90				H	
NOLA	1						65				H	
LBND	1						55				H	
CBTH							95				H	
GAQU	1						80				H	
BRSP	1						35				H	
TUVU	1		\checkmark		11		100				5	TURKEY VUITUre
BTSP	1						85				H	TUXXEY VUITURE BLACK- HOVOAted Sparrow
					h Eur							

General Habitat Description:

paio verde, choua, prickly pear, wolfberry, no jojoba in sight. Habitat more PCS (will need to change to PCS habitat type) type)

Chain of Custody

Field Biologist Signature

Data Entry Signature

1. Magn MIAN

Supervisor Signature

Data Proofing Signature

Wind: 0 = <1 mph: Smoke rises straight up

1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle

3 = 8-12 mph: Leaves/small twigs in constant motion

		PPT:
0	=	None
1	=	fog
2	=	light rain
-		

3 = heavy rain

	Project #	 es (NAD-{)7.9[83)	2 310	134	Date (yr/mm/dd) <u>13/04/15</u> <u>Survey Tim</u> <u>37</u> K N F Wind (Beaufort#) <u>2-3</u>			<u>4/15</u> sur	vey Time	Surveyor(s) Start Fod	J.6 B.1 9:39 9:41	illigal Marsh ZAM Z si	1) <u> <u> <u> </u> <u> </u></u></u>	UP5 68514
	TEMP	Start	74	End	74	F	Wind (E	leaufort#)	2-3		-	Cloud %		ррт <u>Ĉ</u>)
	Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	D 10-25	istance (25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H		Comments	
	BTSP	1		1 - 18				100				H			
	GAQU	1						75				H		-	
	BRSP	1						80				H			
	ATTFL	1						55				5			
	FTHA	1							100+			5			
	NDCA							60				H			
	BRSP	1						35				H			
						ii		C pri i							
) [
ſ															
								1.2.1							
F				-		-									
Ī		2.8													
ŀ															
ŕ															
ł		11	-		- 1										
ŀ										-					
L	General Habita	at Descrip	ption:	j	bjob	01, pc	I	lei de	, pr	i aki	1 pei	ar, s	paqvo	aro	
c	米しりが Chain of Custody	nna	nts:_	AT I PT	FL + + 01	UA: 1959EVV	ed 11	<u>Near</u> 20+ (d off	e plo bove;) /				
F	ïeld Biologist Sign	ature _	Jen	1 m	- Al	<u>U, q ê</u>	n_				Supe	ervisor Sign	ature		
D	ata Entry Signatu	re				~)ata Proofing) Signature			
1	Wind: = <1 mph: Smoke = 1-3 mph: Smoke = 4-7 mph: Feel w = 8-12 mph: Leav	e drifts vind, leave	es rustle	onstant mo	otion		1 2	PPT: = None = fog ! = light rai = heavy r							

 \bigcirc

Project #	<u>B0</u>	1.90	_		Date (yr/mm/dd	2013/1	24/16		Surveyor(s)	J. bi	ligan Aarshall	Point ID C)PV1
UTM Coordinat		-83)	49	403043 NE 3699093 NN				Survey Time Start			+			
TEMP Start 57		End					0-	0-1		Cloud %	PF	PPT		
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Com	ments	
MODO	Į.						100				H			
CACW	1						100		1.5		H.			
BTSP	1		14.45		1.27		100		1919		4			
CBTH	1				26.1		85				4			
GIWO							100		100		H			
LASP											H			_
HOOR			1				85				5	lbadad n	vinta	
FINE							_0_	- 1				Hooded 0		_
									-					
			_											
	_		-	-+										
			_					-						
			-					_						
			19											
				-+										
											2.7			
							15							
General Habit			ho				10 V-			Sagu	aro	dominat	fd	
Con	Comments:				observed COPD (commo Point						YDAD	during -	travel -	10
Chain of Custody	,	1			5.									
Field Biologist Sigr	eld Biologist Signature								Supervisor Signature					
Data Entry Signatu	ata Entry Signature							C Data Proofing Signa						
Wind: 0 = <1 mph: Smoki 1 = 1-3 mph: Smok 2 = 4-7 mph: Feel v 3 = 8-12 mph: Leav	ke drifts wind, leav	es rustle	nstant me	btion		1 2	PPT: = None = fog = light rair = heavy ra							

O

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Project #	60-	1.90	Date (yr/mm/dd) <u>2013/04/10</u> Surveyor(s) <u>B. MAIShAll</u> Point ID <u>M</u>									MARSHALL POINT ID MCW.5		
UTM Coordinates (NAD-83)							,	-	Survey Time Start U:21 AM GPS CAM C- 12PS 14					
			30	1940 6883	7			our			10:2	U Site Photo #'s 07-5, 00-NE		
TEMP	Star	50	End	58	F		Seaufort#)	0-	1			6 PPT		
				-	-					-				
Species			Elv		Distance (m)						Datast			
(4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	Detect S/H	Comments		
LUWA	1					35					5			
ATFL							100				H			
VERD	1						.75				H			
WESP							100				H			
CACW	1						100				H			
GARU	1		2				100				H			
CAUN	1						100				#			
PHAI	1						85				5			
GIND	14						100				H			
GIND						35					H			
LASP	2				1.6	30					5			
NOMO						32					5	Northurn mockingbird		
LISP	1				15						5	Lincoln Sparrow		
BRSP	1						85				H	produces of produces.		
GTTD	1			-		37					5	Green-tailed-townee		
ATFL	1		4.18				90				#			
BHUD	1		2			31	10			·	5	Brown-headed compiled		
ATFL	1					40	211				5			
CBTH	1				20						H			
General Habitat Description: Megquite, Catulaw, Saguaro Upland														
Um	nent	S: -	NO	NOLA heard putside S-minute survey + Gray Flycatcher (GRFL)										
Chain of Custody Field Biologist Sig		_/e	una Millar (GRFL) una Dillign Supervisor Signature											

Data Entry Signature

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

		FFIL
0	=	None
1	=	fog
2	=	light ra

ain

DDT.

3 = heavy rain

Data Proofing Signature

Project #907.90						yr/mm/dd)	2013/	04-/16	<u>'</u>	Surveyor(s) B: Mayshall Point ID JPS6				
UTM Coordinates (NAD-83)				3129					Survey Time Start $10:43$ AM GPS CAM $C-67514$ End $10:478$ Site Photo #'s $109-5E,70$					
TEMP	Star	1 <u>03</u>	End	U3°	F	Wind (B	eaufort#)	0		-	Cloud %_	<u>О</u> ррт. <u>О</u> 		
Species			Fly Over?		D	istance (m)			Repeat?	Detect			
(4- Letter Code)	#	# Juv		0-10	10-25	25-50	50-100	>100	Sex		S/H	Comments		
CAUN							85				H			
CACW					31		100				H.			
NOMO								100+			H			
GAQU	1						-139	100+			H			
DIND	1		5.52				161	100+			H			
GIWD	1						Pi (ini - i	100+	114		H			
CAUN	1						100				H			
VERD	1						145	100+			H			
MODD	1				1.			100+			H			
LASP	1.							100+			1+			
MODD	2		\checkmark				100				5			
VERD	1						40				5			
											E.E.			
									2.4					
											5 24			
											24			
						ŀ								
Operated Habits				Pain	10.00	10 -1	5.01	d		unt h	illa: di			

General Habitat Description:

Wolfberry, Brittlebush, (huat grass

Chain of Custody

Field Biologist Signature

(DMMAINTS: <u>GRED heard in plot Dutsi'de S-minute Survey</u> istody ist Signature <u>JUM'UN JUM'gan</u> Supervisor Signature _____

Data Entry Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion 0 = None 1 = fog

2 = light rain

3 = heavy rain

PPT:

Project #	80	1.90	_		Date	(yr/mm/dd)	2013/0	14/16	_	Surveyor(s)	J.E.	Marshall Point ID OPV 2
UTM Coordinat	es (NAD-	83)	49	2071	0	NE	,	Sur	vey Time	Start	7:08	3AM GPS CAM_ (; GPS 14
TEMP	Star	107	End	107°	F	Wind (8	eaufort#	<u>D</u>		-	Cloud %	B Site Photo #s 11-W, 12-E 5 () PPT. () 73-W, 7
Species			Fly)istance (I	m)				Detect	
(4-Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
BKSP							85				H	
MODO								100+			<u>H</u>	
CBTH								100+			H	
NOCA					_			100+			H	
HDFI						31					5	
MODD	1							100+			#	
WWDD					1.1.1			100+			H	white wing dove
MODU						30				_	5	
BRSP	1							100+			H	
LASP	1							100+			H	
GARV	1						10.57	100+	7 Z k		H	
LAUN	1						-90 1	100+				
							35.1					
											² - 1	
											12	
							56.8					
							8		1.			
General Habit		-	Sagu	aro,	Choi	10,	Britt	1ebu	sh			dgetop
LO	mme	nts: _	Phot	75 1	AKer	<u>on</u>	120th	_5d	es of	- Yoad	lon	ridge top
hain of Custody	,		1		20	-						

Jenía Billigen

Data Entry Signature

Field Biologist Signature

1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

Data Proofing Signature

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain Supervisor Signature

\cap		# <u>_&b</u>	7,90	40.1	in -	Date -	(yr/mm/dd	2013	104/10		Surveyor(s	J. 611 B. 1	ligan Marsha	Point ID	OPV3
	UTM Coordina	tes (NAD-	83)	-10/	818	509			Sur	vey Time	Start End	7:37	AM GI Site P	PS САМ hoto #'s	- SW, TU - NE
	TEMP	Star		End	70	F	Wind (E	Beaufort#)	1	_	Cloud %	0	ррт. ()	<u>675 14</u> - <u>SW, TL</u> e-NE
	Species			Fly			Distance (<u>m)</u>				Detect			_
	(4-Letter Code)	*	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	s/H S		Comments	
	GAQU					1)		65				H			
	GIWD								100+			H			
	CACW	1							100+			#			
	NOCA							85				H			
	GARU	1					45			25		H			
	GIWO	1				цій т.			100+			H			
	NOCA								100+	8.7 8		H			
	CAUN	1				5-11		90				H			
	PHAI					. 125°	32					5			
	VERD	1						1.00	100+			H			
\bigcirc	WWDD	1		Suc.2					100+			H			
	MODD	1		. Sec.					100+			H			
	BRSP	1-							100+	20		H			
	NDMD	1							100+			H			
										68					
						- 1-1		1.1							
				20											
									_						
						8.16									
	General Habh	tat Descri	ption:	DU)ti110	L, <i>R</i>	101	1erd	e dor	nína	nt ri	dge t	DP.		
			_	Pric	KIY	pear	, pr	ittle	bush	, Wa	IFDE	rry,	Dioba	choll	a
	*[]]	mme	nas:_	GI	FLT	hla	rd	00+	ΜA	way	out	side	5-mir	NUH S	Urven
	0.0	· · ·	Phot	76 t	aken	on	bot	h Si	des o	f vil	darir	le roo	ld.)
	Chain of Custody		1	INT	n M	I.T.A.	Calan								
	Field Biologist Sig	-	/1	NVI LA		W	1				Sup	ervisor Signa	ature		
	Data Entry Signat	ure _								[Data Proofing	g Signature			
Οr															
	Wind: 0 = <1 mph: Smol 1 = 1-3 mph: Smo		raight up					PPT:) = None = fog							
	2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	wind, leav	ves rustle twigs in co	onstant mo	otion		2	? = light ra ? = heavy							
L															

Project	<u>*80</u>	17.90			Date	(yr/mm/dd)	2013/0	24/10	_	Surveyor(s	J.611	ligar Make	i Shall	Point iD	JPS:	5
UTM Coordinat			4B	2474	-	NE	,		vey Time				GPS C/ Site Photo			
		72		1876					2							-NE
TEMP	Star	t_10	End	-13-	۴	Wind (B	eaufort#			_	Cloud %	0	PF	л		
<u> </u>									1							
Species (4- Letter Code)	*	# Juv	Fly Over?	0-10	10-25	25-50	n) 50-100	>100	Sex	Repeat?	Detect S/H		Com	ments		
GAQU	1				10 20		55				#					
CBTH	1							100+			+					
GINO	-1						110	100+			H			-		
LACW	1							100+			H					
NOCA	1							100+			H					
GAQU	1							100+			H					
VERD	1						100				H					
BRSP	1							100+			H					
MODO	_1							100+			#					
NOCA	1							100+			H					
BTGN	1						75				H					
PHAI	1		\checkmark								S					
CAUN						45	1613				H					
			1.24								1					
					-				1							
							N									
General Habi	tat Descri	iption:	P	ALO V	lerd	e, jo	1000	i ha	bita	t. C	holla,	bri-	HICH	Ush,		
				prick	14	plar	<u> </u>									
C	omm	ents:	200	RA	New	d Du	tsia	1 5-	min	. SUM	vey;	· AM	IKE +	RTH	A	_
				Flen	1 in	/over	pio	rt -		. sur	0 1	FIY	over c	iul sidu	5-m	nute
Chain of Custody Field Biologist Sig		Ju	K UN	Dil	liad	m					ervisor Sign		ļ			
Data Entry Signat	-			-	-/				-		-					
Jam Linuy Olyridi	- ¹⁰								L	Data Proofing	y Signature					
14P-1							DDT									
Wind: 0 = <1 mph: Smol 1 = 1-3 mph: Smo		raight up					PPT: = None = fog									
2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	wind, leav		nstant me	otion		2	= light ra = heavy									

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C

Project #	<u> </u>	17.90	_		Date (yr/mm/dd)	2013/	04/16	_	Surveyor(s	J.6i B.	Iligan Marshall Point ID JP34	-
UTM Coordinat		83)	3	1935	32	N E EN	,	Sur	vey Time	Start End	<u> 8:2</u> 8:31	2 AM GPS CAM <u>C-6P5 14</u> 	B3-NE
TEMP	Star	1_74	End	74	°F	Wind (B	eaufort#)	_2		-	Cloud %	<u> </u>	
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	D 10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
CAUN	1				10 10			100+		Tropout	H	oonnata	
GAQU								100+			H		
GIND								100+			H		
NDLA	1							100+			H		
GIFL	1		1.5.6.5					100+			H		
HOFI	1				1.1.1		100				H		
GIFL	1						100				H		
MODO	1							100+			H		
			_										
			20.00										
					-	-							
						-							
								- 1					

General Habitat Description:

bitat Description: <u>Jojoba - Palo Verde dominant habitat</u>. <u>Brittle bush</u>, Cat-claw, cholla, prickly pear, Fairy duster COMMents: BTGN fly-by + perched in plot after s-minute survey

Chain of Custody

unan Milligon Field Biologist Signature

Data Entry Signature

Supervisor Signature

Data Proofing Signature

- Wind:
- 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- 0 = None 1 = fog 2 = light rain
- 3 = heavy rain

PPT:

Project #	8()7.9()			yr/mm/dd		104/11	<u>v</u>	Surveyor(s	J. bi B. M	Illigan Aarshall Point ID (PTA
UTM Coordinat	es (NAD-	83) t_75	480	1910	11	NF FN	1	Sui	vey Time	Start End	<u>8:5</u>	2 AM GPS CAM <u>C-BRS i</u> J Site Photo #s <u>BA-N, 85-</u> S
ТЕМР	Star		End	15	F	Wind (E	Beaufort#)			-	Cloud %	6 PPT
Species			Fly			lstance (T.	1	-		Detect	
(4-Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
CBTH GARV							52	1601				
GIFL	1						90	100+			H	
ATEL	1						56		1.2%		S	
MODO							50	100+			H	
CACIN	1							100+			H	
GIFL	2						75		IM, IF		S	Nest site in PV tree
CBTH							95				H	
MODO	1					40	had				5	
BRSP	-1		12120			40					H	
RTSP	1					39	1.				5	
	1. 5											
					176							
									land?			
									6.14			
			125				1.45				-21	
General Habit	at Descri	lption: _ _ k (_D)	Pril Pril	ilo V Kly enfs	erdu pe	e, jo ar, THF	<u>joba</u> 5ac 7 fi	juan	<u>iana</u> 10, n ~2	<u>112 - 1</u> <u>nesq</u> 200 m	eaf uite	bursage dominant. 1914 (Outside 5-min Ourvey)
Chain of Custody Field Biologist Sig	7		шí И					ervisor Sig	-			
Data Entry Signatu	ure _	<u> </u>				£			ſ	Data Proofing	g Signature	3
Wind							PPT-					

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

										Nest Bir		•
Project #	<u></u> 8t	17.9	D		Date	(yr/mm/dd)	2013	104/1	0	Surveyor(s)	J.6 B.	Marshall Point ID JPT0
UTM Coordinat			48	0112	0	JE JEN			vey Time	Start End	9:17 9:21	AM GPS CAM <u>C-GRS 1</u> 4 - Site Photo #'s <u>810-5, 8</u> 7-N
TEMP	Star		End	_75'	F	Wind (B	eaufort#)	3		_	Cloud %	<u>0</u> ррт. <u>0</u>
Species			Fly			Distance (m)				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
BRSP	1					35					4	
CACN	1						100				H	
BISP	1				18		140				H	
GAQU	1 -						100				H	
VERD	1						84		i bana i		5	
BTSP	1						90				H	
MODO	1		~		15				ho Le		S	
LBWD	1						75		5 A.		H	
MODO	1							1001			H	
CACN	1							100+	1.2		H	
BISP	2					25	1.32				9	
CBTH	-		1.25				100		-		H	
VERD	1				18						5	
							5.45					

n, palo verde, triangle - leaf bursage dom. bush, creosote, ocotillo UVV observed flying about 2 mi. away

* comment: N12

Chain of Custody

Field Biologist Signature

Data Entry Signature

MAINA

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain

3 = heavy rain

										West Bir		-
Project #	_60	17.90)		Date ((yr/mm/dd	0. <u>2013/</u>	04/10	-	Surveyor(s)	J.6 B.1	Marshall Point ID JPT5
UTM Coordinate	es (NAD-	83)	490	275		NE		Sur	vey Time	Start	9:47	2AM GPS CAM C-6PS 14
TEMP	Star	76	End	849 - 70 	91 °F	_F∕N Wind (E	3eaufort#)	3		End	<u>9;4</u> Cloud %	DAM GPS CAM <u>C-6PS 14</u> 5 Site Photo #'s <u>BB-W, BA-E</u> , 90-3 6_0 6_0PPT0
Species			Fly			Distance ((m)				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
LUWA	I						75				H	
VERD	1					48					S	
BRSP	1				21414		90				H	
GAQU	1						85				H	
WCSP	1				in and		65				S	
GIWD	1						78				S	
YRWA						40					5	yellow-runned warbler
LAUN	1						100				H	
									5			
			1		F. j.				1.2		16-	
											1-1-	
	-				5.24							
	-								5.00			
			12.31				12111		CHIN.			

Triangle-leaf bursage, jojoba, palo verde dominant. Cheal grass, wolf berry, creosote, cat claw, choila

Chain of Custody

Field Biologist Signature

Data Entry Signature

min Millian

Supervisor Signature

Data Proofing Signature

- Wind:
- 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- 0 = None 1 = fog 2 = light rain
- 3 = heavy rain

PPT:

												-	
Project #	8	07.91	2		Date (yr/mm/dd	2013	<u>/04/i0</u>	-	Surveyor(s)	J.G B.N	arshall Point ID JPT	3
UTM Coordinate	s (NAD-	83)	_		2				vey Time	Start	9:55	AM GPS CAM 6-6PS	14
			30	1867	27	_¥				End	10:0	D Site Photo #'s <u>92-N, 9</u>	<u>3</u> -S
TEMP	Star	1	End	77	°F	Wind (E	Beaufort#)	3)	_	Cloud %	<u>()</u> PPT. ()	
		-		~	_							<u> </u>	
Species			Fly		D	istance (m)				Detect]
(4-Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	-
BTGN		ļ				29					5		4
CACW	1	<u> </u>					100				H		-
WCSP	1						75				H		
BTGN	1				15						5		
MODO	1							100+			H		
BRSP	1						100				H		
GAQU	1							100+			H		
GIFL	1				7 - 5 - 17			100+	25 [-		H		
EMFL*	1					34-					S	POSSIBLE Gray Flycat	cher
MODO	1		1			45			641-1		S	1	
CBTH	1						90				H		
BTSP	1							100			H		
	16.3				- 11								
	1918		3-11										
									-				
			- 5										
							200						
			5										
	6 111				1								

General Habitat Description:

Triangle-leaf bursage, pain verde, jojoba Brittlebush, fairy duster, cheat grass

Chain of Custody

Field Biologist Signature

win Julian

Data Entry Signature

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up

- 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle
- 3 = 8-12 mph: Leaves/small twigs in constant motion

0 = None 1 = fog

2 = light rain

3 = heavy rain

PPT:

Habitat Recon 1

* species observed during Recon following the 4 hour period after sunrise

4/15/13 10:00 AM-1:30 PM	4/16/2013 10:00 AM - 1:15 PM
LABU-1 PHA1 - LHT GAQU - LHT 11 BTGN - 1 EMFL - 1 GKV1 - 11 NOCA - 11 CACW - 111 LUWA - 111 BEV1 - 1 CBTH - 1 ATFL - 1 LASP - 111 CATD - 1 COHA - 1	$\frac{4/10/2013}{10:00 \text{ AM} - 1:15 \text{ PM}}{C0HA - 1}$ $\frac{C0HA - 1}{TUVU - 144} HT 1441 HT 1411$ $\frac{GAAU - 144}{GAAU - 144} HT 1441 HT 1441$ $\frac{B4SP - 444}{WSP - 11}$ $\frac{WOSP - 11}{WOSP - 11}$ $\frac{MOD0 - 144}{MKE - 11}$ $\frac{LBN0 - 1}{LBN0 - 1}$ $\frac{VERD - 1}{VERD - 1}$ $\frac{MOD0 - 1}{LUWA - 11}$ $\frac{WTSW - 111}{VGSW - 1}$ $\frac{GIFL - 1}{GIFL - 1}$ $\frac{BTSP - 1}{RTHA - 111}$ $\frac{LEG0 - 1}{LEG0 - 1}$

MAY 2013

Project #	80	7.90	2	Date (yr/mm/dd	13/0	15/12	2 sı	urveyor(s	J. 611	igan.	B. Marshall Point 10 OPV 1
UTM Coordinate	s (NAD-8	13)	40	304:	3	Ē		Sur	vey Time	Start	5:30	O ANY GPS CAM <u>C- 6751</u> Site Photo #'s <u>78-N, 99-S, 100-</u> O PPT. O
			_30	690	93	_N			~	End	5:35	Site Photo #'s 10" V, 49-3,100
TEMP (°F)	Start	75	End	75	-	Wind (B	eaufort #	1_2-	3	-	Cloud %	<u>О</u> ррт. <u>О</u>
Species			Fly)istance (<u>m)</u>				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
BTSP							73	<u> </u>			H	<u> </u>
ATFL	1				14						S	
ATEL CACW JEWA					25	<u> </u>					5	
CACIN	1							100+			#	
	2					25					5	
ATFL								100+			H	
ATFL	1					<u> </u>		100+		<u> </u>	H	
CAUN							95				H	
MODD	ł				NT 1	<u> </u>		100+			H	
GIND	1					L	71		1.443		5	
	-5											
	-											
									ing the			
						_						
General Habit	at Descri	ption:	-joj	вва,	DLO	4110	, pal	o ver	de			
Additional	Commer	its: 🔭	photo	05 0	14+0	15 5h	NOW J	Dioba	PV.	domina	ant 1	nillside to east
Chain of Custody	,	1		0	1		u u	J	1.14	JAN YUNT I)	
Field Biologist Sig	nature	_JL	UN IN	1/	<u> †1111</u>	gr	2		Sup	ervisor Signa	iture _	
Data Entry Signati	Jre			~		r				Proofing Sigr		

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	001	.90	-	Date (yr/mm/dd	2013/	05/13	รเ	irveyor(s)	1-6111	qan, e	Marshall Point ID MCW 2
UTM Coordinat			187						vey Time	Start	5:4	5 AM GPS CAM <u>C-6795 14</u>) Site Photo #'s <u>101 + 102 - N 10</u> 3+104 - S
TEMP (°F)	Start						eaufort #	2				<u> </u>
Species		-	Fly		0	eistance (m)	T			Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
ATFL	1					25	13				H	
GIND	1						80				H	
HOFI	N.						65				H	
ATFL	1					40		-			S	
WWDD	12					35					H	
VERD	1					30					H	
ATFL	VA	2				25					5	
BISP	1						1.5	100+			H	
GIND	1						65		5.5		H	
BLFL	1					30					H 5	Brown-crested Flycatcher
WINDO	1							100+			H	
MODO	1						105				5	
BLFL	1						45				H	
LBND	1						45				5	
					195							
							-					
	- 14											
												· · · · · · · · · · · · · · · · · · ·

General Habitat Description:

Megavite, catclaw dominant wash

Additional Comments:

Chain of Custody

Field Biologist Signature

un er Gillige

Supervisor Signature

Data Proofing Signature

Data Entry Signature

- Wind:
- 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 ≈ 8-12 mph: Leaves/small twigs in constant motion

Project #	80	7.90	_	Date	(yr/mm/dd	2013	105/1.	<u>3</u> si	ırveyor(s	Jbillio	an,B.	Marsh	<u>all</u> pr	oint ID JF	°5 .5
UTM Coordinat					57					Start	6:0	TAM	GPS CAN	6-6PS	514
TEMP (°F)	Star						eaufort #	3							N: 107108-
	1				_					-					
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	istance (25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H		Comme	nts	
VERD	-1							100+			H				
ATFL	1		\checkmark	10			tón.				5				
ATEL	1						75				H				
GAQU	1							100+			H				
NOUA	1							100+			H				
BTSP			1	10							5				
CACW	1							100+			H				
BTSP					14						H				
GIWD							195-	100+			H				
VEFD							55				H				
							1.44								
							a É I				12				
												-			
				i	1		5.2								
		_							8		2010				
General Habit:	at Descri	ption: _	.]0]	060,	PAID	Ver	de d	LOMM' Y	lant						
Additional	Commen	ts: <u> </u>	ASP	566	n DUA	side	. 5-	min.	SUY	vey (Withi	n plot	-)		_
Chain of Custody		1			2										
Field Biologist Sigr	nature _	, H	min	nK	un	sn			Supe	rvisor Signat	ure				
Data Entry Signatu	ire _								Data P	roofing Signa	• — ature _				
Wind: 0 = <1 mph: Smoke 1 = 1-3 mph: Smoke 2 = 4-7 mph: Feel v 3 = 8-12 mph: Leav	e drifts wind, leav	es rustle	nstant mo	tion		1 2	PPT: = None = fog = light rai = heavy r								

Project #	807	.90	_	Date	(yr/mm/dd)	2013/	105/1	<u>3</u> s	urveyor(s	J.GIL	jan, B	Marshall Point ID DPV2	
UTM Coordinat					3				vey Time	Start	10:20	7 AM GPSCAM C. BPS 14	
			368	1825	3	_N				End	1:3	Site Photo #'s 109-N, 109-N, 1	10-5
TEMP (°F)	Star	81	End	81	-	Wind (B	leaufort #)	3		-	Cloud %	Site Photo #'s 100-N, 109-W, 1 6_0	3-5 14-W
Species			Fly		D	istance (m)			1	Detect		*1 **
(4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	
JEWA	2		V		15						5	ő.	
ATFL	1						85				H		
BLFL	.1						65				H		
MODO	1							100+			H		
CAUN							75				H		
WWDD	1							100+			H		
GARU	1						80				H		
CBTH	1						55				Н		
YEWA	3		\checkmark		20						5		
BLHU	1			10					F		5	BLACK Chinned humming b	oird
YEWA	1				22				M		5		
VERD	1		ki-fi				45				H		
	14												
			17.4								15		

General Habitat Description:

blotillo, palo verde dominant veg. on all sides surrounding SURVey point. 2 UNUN Seen in plot outside 5 min. survey period

Additional Comments:

Chain of Custody

Field Biologist Signature

wir Allign

Supervisor Signature Data Proofing Signature

Data Entry Signature

PPT: 0 = None 1 = fog

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle

3 = 8-12 mph: Leaves/small twigs in constant motion

2 = light rain 3 = heavy rain

Project #	60	1.90	_	Date	(yr/mm/dd	1) <u>1013</u>	/05/1:	<u>5</u> s	urveyor(s	»J-billi	gan B.	Marsha	UL P	oint ID <u>(</u>	<u>PV 3</u>
UTM Coordinat	es (NAD-	83)	- 44	3202	-7	_E		Su	rvey Time	Start	6:40	1 AM	GPS CAN	1 C-61	314
			308	3180	9	_N				End	10:54	1 AM CAM sile 6_0_	e Photo #'s	115-NE	110-NW
TEMP (°F)	Star	t 87	End	82	-	Wind (Beaufort #	<u>, 3</u>		-	Cloud %	0	PPT	0 117	-5W;1]{ 1]9
Species			Fly			Distance	(m)								
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	Detect S/H	ļ	Comme	nts	
VERP)						100				+				
GIFL	1						100				H				
NOLA	1						100				H				
MODD	2							100+			5				
CBTH	1				ie.		75				H				
GIFL							80				S				_
NOUA							95				H				
CACW	1							100+	1. 3		H				
NOUA	1		800		59-j		15				H				
BFLD	1					35					5				
BLFL	1		1.20		1		65		1.		H				_
GIWD	1		-				95				H				
NOMO	1						95				H				-
61FL	1							100+			H				_
DAQU	1							100+			H				
								W.			FI.				-
				- +											
													_	_	
				-											_
															_

General Habitat Description:

paloverde + ocotillo dominant veg.

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

una Juliger

Supervisor Signature

Data Proofing Signature

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	BD	7.90	-	Date (yī/mm/dd	1) <u>2013/</u>	105/13	SI SI	urveyor(s	» <u>). bílli</u>	gan,B.	Marshall Point ID JP	34
UTM Coordinate	is (NAD-	83)	40	2474	0	E	•	Sur	vey Time	e Start	7:12 A	M GPS CAM <u>((_)PS</u> WA Site Photo #'s <u>]11 - N, 12</u> 0PPT7	14
TEMP (°F)	Star	1_84	End	84		Wind (B	eaufort #	<u>}</u>	3	-	Cloud %_	0	123-N
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Commonle	
UBTH	1	I CUT	Cruit	0-10	10-20	20-00	97	-100	JUA	Nepearr	5	Comments	
GADU	1							100+			H		_
GIND	1				7 - 4		100	100.			H	· · · · · · · · · · · · · · · · · · ·	
CALINI	1							100+		_	H		
CALW	I		FIRE				75	1000					
BTSP	1						100				H		
VERD	1						75				H		
											5		
							1 62				S (L)		
							- 14						
							FTED.						
General Habita	ıt Descri	ption: _	joj	o ba	pa	to ve	rde	dom	inau	nt ve	g		
Additional C	Commen	ts: _											
Chain of Custody		1		0	1								
Field Biologist Sign	# Custody Mogist Signature Supervisor Signature												
Data Entry Signatu													_
Wind: 0 = <1 mph: Smoke 1 = 1-3 mph: Smoke 2 = 4-7 mph: Feel w 3 = 8-12 mph: Leav	e drifts vind, leav	ves rustle	nstant mo	tion		1 2	PPT: = None = fog t = light rai = heavy i						

Project #		<u>7,90</u>		Date (yr/mm/dd)	2013/	05/13	S	urveyor(s)	Jbilli	gan, B.	Ma	(Shall Point ID	JPS 3
UTM Coordinate	es (NAD-I	33)	481	935		_E	/	Sur	vey Time	Start	7:301	AM	GPS CAM <u>(. ~ 6</u> Site Photo #'s <u> 24 +</u> PPT 0	PS14
		DC	36	18702	32	_N				End	7:41	AM	Site Photo #'s 174+	125-N 1210-5W
TEMP (°F)	Star	05	End	05	•	Wind (B	eaufort #)_7_			Cloud %_	0	РРТ/	- 127-5E
Species			Fly)istance (m)		-		Detect			
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100		Sex	Repeat?	S/H		Comments	
VERD	1							100+			H			
CAUN	1							1007			H			
CBTH						<u> </u>	6620	100+			H			
GIFL	1							100+			H	_		
ATFL	1							100+			H			
NOLA								100+			#			
VERD	1		25 gp 4											
NOLA	1		90 H											
LEGO			30 H 95 S											
LBTH	1			_										
			201				5.2							
										[
I						10.10	eval	day		link	VIAD			
General Habi	tat Descr	iption:		010100	LFA		AM		VUND	unt	veq.			
					6 1 .0.				0			10	INAN	
Additional	Comme	nts:	00401	Ved .		$\frac{20,1}{0+}$	<u>. (0</u> /-1	ft, +	2 pu	rple N	artin	(ri	IMA) while	traveling
Chain of Custod	v		10 %	1.	1 [[01]	гр.+								
	Biologist Signature Supervisor Signature													
Data Entry Signal	Entry Signature Data Proofing Signature													
- an may orgina							-			99	_			
Minds							PPT:							
Wind: 0 = <1 mph: Smo 1 = 1-3 mph: Smo		traight up					0 = None 1 = fog							
2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	wind, lea		onstant m	otion			2 = light r 3 = heavy							
]					

Project #	80	7.90	-	Date (yr/mm/dd	2013	105/12	<u>3</u> sı	irveyor(s)	<u>J. 6111</u>	igan, k	3. Marshall Point ID JPT4
UTM Coordinate	as (NAD-l	33)	49	0910)	E	·	Sur	vey Time	Start	8:00	AM GPS CAM <u>C-6PS</u> 14 Site Photo #'s <u>120-N, 129-N</u> , 130- PPT [3]-N
			36	870-	17	N				End	8:05	Site Photo #'s 120-N, 129-N, 130-
TEMP (°F)	Start	90	End	90	-	Wind (B	eaufort #	1-2	p#19	-	Cloud %	PPT [3]-N
Species			Fly)istance (m)				Detect	
(4-Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
TUVU							100				5	
GAQU						45					H	
BARU						1		1007			H	
CACW						45					5	
WWDD	1							100+			H	
VERD	1							100+			H	
LBWD	1						122				5	
BLFL							40	100+			H	
							2.5					
				_								
							-		1 2			
					-							
			-						-			
	1,015				1.15							
General Habita	at Descri	ption: _	illi	oba	tria	ngle	haf	bur	sage	, 500	uarl	o dominant veg.
		_	J .			,				. /		
	Commen	ts: _										
Chain of Custody		,			,	_						
Field Biologist Sigr	nature _	, K	MA	Ŋ.,	Ill.	<u>a</u>			Supe	rvisor Signal	ture	
Data Entry Signatu	re _	V			b		-		Data P	roofing Sign	ature _	

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

Resolution Copper Company –	2013 No	ear West	Bird	Surveys
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Project #	80	7.90	<u>0</u> Date (yr/mm/dd) <u>2013/05/13</u> 4800000 E						rveyor(s	J. Gilli	gan, B. N	MARSMALL Point ID	JPTLe
UTM Coordinate	s (NAD-8	33)	<u>48</u> 36	<u>480000</u> E <u>3003101 N</u> End <u>92</u> Wind (Beaufort a				Sur	vey Time	Start End	8:15 A	イ GPS CAM <u>(</u> 6 Site Photo #'s <u>j3たN</u>	PS 14 E,133-5W,134W
TEMP (°F)	Starl	92	End	92		Wind (B	eaufort #)	3		-	Cloud % (<u>)</u> ррт. <u></u>	135 -E
Species			Fty		D	istance (I	m)				Detect		
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	
GAQU							100				#		
NOCA	1						100				H		
VERD	1					45					H		
GARU	.1							100+			H		
CAUN	1						100				H		
BTGN	1				13				F		5		•
BCFL	1						122	100+			H		
GAQU	1							100+			H		
ATFL	1						101				5		
	d =						l e S						
	5-1												
			N., 81								1518		
							The St		n)			0	
						I				1		-	

jojoba, palo verde dominant veg. triangu leaf bursage

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Wind:

1 = 1-3 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

win Jalupes

Supervisor Signature

Data Proofing Signature

Project #	-80	7.90					105/13	<u>3</u> s	urveyor(s)		•	arshall Point ID ()	
UTM Coordinat	es (NAD-	83)	40	027	5 91	E N		Su	rvey Time	Start End	<u>8:34</u> 9:39	GPS CAM <u>C-6</u> Site Photo #s <u>138 †137</u>	-W. 128-N
TEMP (°F) Star	1 93					leaufort #	1)_2	3	-		<u>0</u> ррт. <u>0</u>	
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	(m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
GARV	1						1.5	100+			H		
MODO	1							100+			H		
WWDD	1						100				H		
LUWA	1						100				#		
VERD	1					34					5		
MODO	1							100+			H		
CAUN	1						WW	100+			H		
GIND							85				H		
NOLA	1						191-1	100+			H		
VERD	1							100+			H		
MODO	1						100				5		
PHAI	8	1	\checkmark		25				IM, IF		5		
HOFI								100+					
			15								121.5		
General Habi	tat Descri	iption:	joji	160,	pai) VUV	idu, t	vian	que-	kaf k	aursaq	e dominant veg	<u>}</u>
Additional	Commen	its:	photo	141	- JP-	T VEO	don	ninar	H hil	15ide	10 5M	J	
Chain of Custod	у		3		2 2				14441	112	• •		
Field Biologist Sig	nature _		IM.	In S	Man	4 pm	~		Supe	ervisor Signa	ture		
Data Entry Signat	ure _								Data P	Proofing Sign	ature		
Wind: 0 = <1 mph: Smol 1 = 1-3 mph: Smo 2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	ke drifts wind, leav	ves rustle	onstant me	otion			PPT: 0 = None 1 = fog 2 = light ra 3 = heavy						

Resolution Copper Company –	2013 Near	West Bird	Surveys
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Project #	- 60	27.90)	Date (yr/mm/dd)	2013	/05/1	3 Su	rveyor(s)	ŀbími	<u>an, B.</u>	Marshall Point ID MCW 1
UTM Coordinate		(3)	4-70	1517		Е	·	Surv	vev Time	Start	8:51	gps cam (-6PS_)4
TEMP (°F)	Start	94	End	94	-	Wind (B	eaufort #	2			Cloud %	Site Photo #'s <u>1447-10, 145-10</u> 0
Species			Fly	0.40	D	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
(4- Letter Code)	*	# Juv	Over?	0-10	10-25	20-00	80	-100	JEA	Tepeur	H	
BTON	1					50	2				H	
LUWA	1					45	1. A. A.				H	
GAQU	1						100				H	
Modo	1		\checkmark		20						5	
MODD	1		\checkmark		15						5	
GIWD	1						42.	100+			H	
TUVU	1						65	100+			5	
GIFL	1							100+			H	
CBTH	1				20						5	carrying food item
ABTO							80				H	
	2		3.78									
										1		
									_			
					251							l

MEGNITE CATCIAN WASh

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Jen'n Manger

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

Project #	80-	.90	-	Date (yr/mm/dd)	2013	05/13	_ Su	rveyor(s	<u>J-6îna</u>	gan, R	Marshall Point ID JPT3)
UTM Coordinate	s (NAD-8	13)	400	1	E	·	Sun	vey Time	Start End	9:12 9:17	GPS CAM <u>C-6FS </u> 4 Site Photo #'s <u>000000000000000000000000000000000000</u>	140-N	
TEMP (°F)	Start	96	End	96	-	Wind (B	eaufort #)	1-1	2		Cloud %	<u> </u>	50-W 51-E
Species			Fly		D	Istance (r	n)				Detect		
(4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	
CBTH	1	L						1001			H		
GARU	1							100+			H		
MODO	1							100+			H		
GIFL	(100+			H		
GAQU	1				6.50			1001			4		
NOCA	1				12			100+			H_		
							- 25				(2, -)		
							Hal						
	- 1.53				14.71								
			1111				120						
	5												
									1.51				
			- 5.4										
									-				
			1										
					2122								

General Habitat Description:

-jojoba Palo verde triangle-leaf bursage dominant cheat grass

un Jullion

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Supervisor Signature

Data Proofing Signature

- Wind: 0 = <1 mph: Smoke rises straight up
- 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

Project #	807	.90	-	Date (yr/mm/dd)	2013	105/13	<u>}</u> Su	rveyor(s	J. Gilli	iqan, E	3. Marshall Point ID JPT2-
UTM Coordinate	-	83)	<u>48</u> 30	01019) 84	_E _N		Sun		End	9:30	AM GPS CAM <u>C-695</u> 14 Site Photo #'s <u>152-153 = N, 15</u> 4 - 155={
TEMP (°F)	Star	t <u>90</u>	End	96	-	Wind (B	eaufort #/	2		-	Cloud %	0 PPT. 0 150 W, 157 E
Species			Fly			istance (m)				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
BCFL						25					5	
GIFL								100+			14	
NOCA	1							100+			H	
CALIN	1							100+			H	
GAQU	1							100+			H	
BTSP	1						55				H	
VERD		-			15						5	
BCHU	1		\checkmark	2							5	
BTSP	-	2					52				5	
BTSP	1										H	
BCFL	1	1					100				H	
					<u>4</u> 2-3							
					(
	- 24											
		1			14 14							
		-										

General Habitat Description:

jojoba, paro verde, triangle reaf bursage dominant veg-on survey plot. + all billsides surrounding.

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Junin Gulinger

Supervisor Signature

Data Proofing Signature

Wind:

1 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

Project #	80	7.90	-	Date (yr/mm/dd)	2013	105/1.	3 s u	irveyor(s)			» Marshall Point ID JPS
UTM Coordinate	es (NAD-8	83)		1136 h1033) 57		·	Sur	vey Time	Start End	9:47 9:47	GPS CAM <u>(-6495</u> Site Photo #'s <u>58-W, 159</u> D PPT. 0 W-S
TEMP (°F)	Star	96	End	96		Wind (B	eaufort #)	2			Cloud %	<u>ррт. 0 101-5</u>
Species			Fly			listance (i	m)				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	<u>50-100</u>	>100	Sex	Repeat?	S/H	Comments
WWDO				<u> </u>			80				H	
BTSP						·	75				H	
GAQU	1						75				H	
VERD	.						85				H	
CBTH HDFI							-	100+			H	
HOFI	-		With				80				5	
F-THA	1		\checkmark					100+			5	
ZTHA			\checkmark					100+			5	zone-tailed hawk
MODO	1		\checkmark				80		1		5	
MOPO_	2		\checkmark		20						5	
					1.51							
	Bar s								-			
			1.1									
									d'Ite			
	3.5											
	1993						145					

General Habitat Description:

jojoba paloverde dominant veg.

Jenin Deliger

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Wind: 0 = <1 mph: Smoke rises straight up

- 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle
- 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Supervisor Signature

Data Proofing Signature

Spec (4- Lette	ecles (er Code) FL FL AR WO FL DO DO T DO QN	Image: second	83) # Juv	Fly	-333 01110 		_E _N Wind (B 		Sur 2 2 100 2 2 2 2 2 2 2 2 2 2 2 2 2	Sex M G M M M M M	Repeat? N N N N N N N N	$\begin{array}{c} \text{d surve} \\ \text{d } \text{Surve} \\ \text{d } \text{Gill} \\ G$		PPT. Comme		163-N
ATT CAT CAT CAT CAT CAT CAT CAT	ecles (er Code) FL FL AR WO FL DO DO T DO QN			Fly		5	Distance (m) 50-100	>100 ✓ ✓ ✓	Sex M G M M M M M	Repeat? N N N N N N N N	Detect S/H H H H H H H H H H H	251.			
AT: AT: CJ CJ CJ CJ CJ CJ CJ CJ CJ CJ	rer Code) FL FL FL W W W W V D D D D D D Q N N D D D D D Q N	# 1 1 1 1 1 1 1 1 1 1 1 1 1	# Juv		0-10			50-100		N S N N N N N N N N N N N N N N N N N N	 ス ス	SIH H H H H H H H H		Comme	ents	
AT: CI CI CI CI CI CI CI CI CI CI	FL FL AL WO L DO DO T DO Qu		# Juv		0-10		25-50			N S N N N N N N N N N N N N N N N N N N	 ス ス	SIH H H H H H H H H		Comme	ents	
CI GI LBN BCF MOD MOD HOF WWI GAO	FL AR WO FL DO DO T DO Qu									S S N N N N N N N	 N N<th>H H H H H H H H</th><th></th><th></th><th></th><th></th>	H H H H H H H H				
LBM BCF MOD MOD HOF WWI GAG	wd 7L D0 D0 7I D0 Qu									S N N N N N N N	 N N	+ + + + + + + + + + + + + + + + + + +				
LBM BCF MOD MOD HOF WWI GAG	wd 7L D0 D0 7I D0 Qu									M M M M M	 N N N マ N 	H H H H				
LBM BCF MOD MOD HOF WWI GAG	wd 7L D0 D0 7I D0 Qu									M M M M M	 N N N マ N 	H H H				
BCF MOD MOD HOF WWI GAG	72 00 00 71 00 90 90 90							2		M M M M	 N N	H H H				
MOD MOD HOF WWI GAG	00 00 71 00 90 90									M	N N N	H				
MOR HOF WWI GAG	DO I DO Qu							7		M		Н				
HOF WWI GAG	PO Qu							~	V	M	N	1000				
WWI	D0 qu							~	V			H				
GAG	qu	1							V	M		. 0				
		1								40	N	H	-			
	- T								1	M	N	H				
					1				V	M	N	H				
						D H								_		_
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	-				_					- 10 - 5						
	-					100										_
		512.01		3. 6.												
Gener	ral Habita	it Descri	ption: _											<u> </u>		
Add	Iditional C	Commen	 ts: 光										-			
Chain of (Custada		-													
Chain of (-	ature	14	INI	r l	1.0	Un int			Supe	ervisor Signat	ure				
Data Entry		_	0				<u> </u>				Proofing Signa					
	Wind:							PPT:								
0 = <1 mpl 1 = 1-3 mp 2 = 4-7 mp 3 = 8-12 m	ph: Smoke	e drifts /ind, leav	es rustle	onstant mo	otion		1	= None = fog = light rai = heavy r								

			Resol	ution	Сорре	r Com	pany -	- 2013	Near V	Nest Bir	d Survey	15 Migen
Project #	80	1.90	_	Date (yr/mm/dd	5/1	4/13	SI	urveyor(s	Byc	emar	The Point ID OPV 0
UTM Coordinat	es (NAD-	83)	- 4	<u>3399</u>	9	_E		Sur	vey Time	Start	0537	15 11: Seh <u>3 Lell</u> Point ID <u>OPV</u> (0 166-N 168-S GPS CAM 167-W 168-S Site Photo #'s (-1795)4
TEMP (°F)) Star	75	2W	75		_N Wind (B	eaufort #)	10 -	- [- -	Cloud % 2	-Site Photo #5 (
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
BLFL	1						1	V	M	N	H	
BLFL	1							V	M	N	H	
GAON	1							~	M	N	64	
GINO	(_			265			\checkmark	u	N	H	
BTSP	1							/	M	N	H	
CACW	1						~		M	N	H	
MODO	1							~	M	N	н	
PYRR	l							\checkmark	M	N	H	
HOFT	1							/	M	N	H	
CBTH	1							/	M	N	H	
MODD	1							V	M	N	H	
WWDD	1							\checkmark	m	N	1+	
	1											
			- 22									
			0.24									

Additional Comments:

Chain of Custody

Field Biologist Signature Data Entry Signature

Jenner Greinigen

Supervisor Signature

Data Proofing Signature

Wind:

- 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

			Resol	ution	Coppe	r Com	pany _i	- 2013	Near	West Bir	d Survey	ys
										Jeasi	ica Gi	illisan
Project)7.90	<u>)</u>	Date (yr/mm/dd)	5/1	4/13	\$	urveyor(s	Bya	Marc	SLall Point ID <u>DPV</u> GPS CAM Site Photo #S <u>C-6PS 14</u> 172-S 172-S
UTM Coordinat	es (NAD-	83)		3811	-	E		Su	rvey Time	Start	0553	7 GPS CAM
			30	Bille	<u>55 </u>	N				End	0558	Site Photo #s C-6PS 14 173-E
TEMP (°F) Star	721	End	72°	F	Wind (Be	eaufort #)	Ø	r	-	Cloud %	7 GPS CAM 3 GPS CAM 5 Site Photo #'s <u>C-6PS 14</u> 73-E 25% PPT.
Species			Fly		D	istance (r	n)				Ditte	
(4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	Detect S/H	Comments
BTSP	1					~			M	N	H	
MODO	J						~		M	N	H	
BCFL	1							\checkmark	M	N	H	
GAQU	1					~				N	H	
GJFL	1						V		M	N	H	
CBTH	1							~	M	N	H	
LBNO	1						V		M	N	H	
GIWO	1							~	M	N	H	
GAQU	1						~	•	M	N	H	/
MODO	1							<	M	N	H	
											1-2-1	
									-26-			
					11.2		43.5					
			15.5						10			
	ALC: N						u ferti					

Additional Comments:

Chain of Custody

Field Biologist Signature

eura Biliga

Supervisor Signature

Data Proofing Signature

Data Entry Signature

Wind: Virino: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

											d Surve	
Droject d	. 80	7.90		Dete	(51	4(13			Jess	in G	illign <u>-5421</u> Point ID JPS6 174-N 176-S GPS CAM <u>175-W</u> 177-E Site Photo #s <u>C-1751</u> 4 257- por Ø
Project #			-	Date ((yr/mm/aa)			_ 31	urveyor(s	1740	LEIA	174-N 176-S
UTM Coordinat	es (NAD-	83)	_ 49	267	5	E		Sur	vey Time	Start	06 IS	7 GPS CAM 175-W 177-E
		-	<u></u>	0802	05	_N				End	06 20	Site Photo #'s <u>C-(2P5 1</u> 4
TEMP (°F)) Star	1 <u>74°P</u>	End	747	-	Wind (B	eaufort #)	Ø	-1	-	Cloud %	25% PPT. Ø
Species			Fly		D	istance (m)				Detect	
(4- Letter Code)	*	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
CACW	1					~			M	N	4	
LIPL	1						V		M	N	4	
PYPR	1						/		M	N	H	
GAQU	1						V		M	N	H	
CAQU							1		M	N	H	
MODO	1		Y					V	M	N	H	
WWDO								\checkmark	M	N	H	
CBTH	N					~			M	N	H	
GRRO	1							~	M	N	H	
GIWO	1					×.	~		M	N	4	
	5.1831		5.71									
			-									
									12			

Additional Comments:

Chain of Custody

Field Biologist Signature

Jemin Mullign

Supervisor Signature

Data Proofing Signature

Data Entry Signature

- Wind:

1 = 1-3 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustie 3 = 8-12 mph: Leaves/small twigs in constant motion

			Reso	lution	Сорре	er Com	pany -	- 2013		West Bi	rd Surve	eys Illisan
Project #	80	7.90	_	Date	(yr/mm/dd	5/11	+/13	_ s	iurveyor(s	Bra	Mar	shall Point ID JPS2
UTM Coordinate	es (NAD-	•83)	<u>49</u> 310) <u>208.</u> 9612	<u>3</u> 05	_E N		Su	rvey Time	Start	0637	Bys illigan <u>shull</u> Point ID JPS2 178-N 130-S 181-E Site Photo #s <u>C-6PS 14</u>
TEMP (°F)	Star	1.75°F	End	78 1	F	Wind (B	eaufort #)	2	9	-	Cloud %	201 PPT. 2
Species (4- Letter Code)			Fly			Distance (-		Detect	
MODO	*	vul #	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
VERD									h	N	H	
CACW	1				1				M	N	5	
BOFL	1							V	M	N	H	
GAQU	1							V	M	N		
GAQU	1							1	M	N	H	
WWDO	t		Y		~				M	N	S	
CBTH	1						V	_	M	N	S	
										10	-	
			-									
				-								
			1377									
1											1.0	
	1917							- +				
General Habita	t Descriț	otion:			_							
Additional C	omment	is:										
Chain of Custody		1			0~							
Field Biologist Signa	ature _	11	m	n/	Ji	ling	m		Super	visor Signatu	ure	
Data Entry Signatur	e _								Data Pr	oofing Signa	ture	
Wind: = <1 mph: Smoke = 1-3 mph: Smoke = 4-7 mph: Feel w = 8-12 mph: Leave	drifts ind, leave	es rustle	istant mot	ion		1 2	PPT: = None = fog = light rain = heavy ra					

 \bigcirc

			Resol	ution	Coppe	r Com	pany -	· 2013	Near \	Nest Bir	d Surve	eys Tilizan
Project	80	1.90	-	Date	(yr/mm/dd	5/1	4/13	\$	urveyor(s	Bryce	Mar	shorl Point ID MCW3
UTM Coordinat	es (NAD-	83) 1 <u>82</u> 4	_ <u>40</u> 31	0173	0	_E N		Su	rvey Time	Start	<u>6654</u> 0659	-5 Lor 11 Point ID MCW3 182-N 184-2 182-N 184-2 182-N 184-2 182-N 184-2 185-1 Site Photo #5 C-6P5 14
TEMP (°F) Star	82%	End	82	F	Wind (B	ieaufort #)			-	Cloud %	20% PPT. 2
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
BCFL	1						1		M	N	5	
Betty	1				~				F	N	5	
ABTO	1					\checkmark			M	N	H	
VERD	1				~				M	N	Н	
NOCA	1						\checkmark		M	N	H	
WWDO	1						/		M	N	H	
WWPD	L		Y						N	N	S	
GAQU	1						/		M	N	4	
a Aqu	1							\checkmark	M	2	4	
g Aqu BCFL	1						1		F	と	H	
<i>caqu</i>	2			~					MF	ろ	5	
LNWA	1						~		M	N	H	
			E-16									
_												
							1					

Additional Comments:

Chain of Custody

Field Biologist Signature

una Julian

Supervisor Signature

Data Proofing Signature

Data Entry Signature

- Wind:

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Resolution Copper Company – 2013 Near West Bird Surveys Jessia Cilligen Project # 807.90 Date (yr/mm/dd) 5/14/13 Surveyor(s) By a Marshall Point ID PCS 5 186-N 188-S 40:405 E Survey Time Start 0706 7 GPS CAM 187-W 189-E UTM Coordinates (NAD-83) Site Photo #'s C- 6P5 14 End 07(1 3085401 N Cloud % 15% Start 84°F End 84°F PPT. Ø TEMP (°F) Wind (Beaufort #) Distance (m) Detect Species Fly (4- Letter Code) # Juv 10-25 25-50 50-100 >100 Sex Repeat? S/H Comments Over? 0-10 # N NOLA 75 4 ł M N H 100+ M NOCA 80 PYRR M 4 AS 90 Y U H MODO N 95 M H BCFL N 85 LINO M N 4 N GIFL 15 H 1 Y U 1 100+ N H GAQU M 75 ABTO M N 1 H 95 95 CALW 1 N H M 1 M N H WWDO 100+ 95 BISP N 1 M H N VERD 1 M 100 H LASP N 100+ H M

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

- Wind: 0 = <1 mph: Smoke rises straight up
- 0 = <1 mph: Smoke rises straig 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle
- 3 = 8-12 mph: Leaves/small twigs in constant motion

Jewin Juliger

Supervisor Signature

Data Proofing Signature

											194-N 196-5 195- & 197-E (morth of ra
											195-W (71-E
		Resolu	ution (Connei		oanv -	2013	Vear V	est Bird	d Surve	1988
									· · ·		Man
80-	1.90		Date ()	/r/mm/dd)	5/14	113	Su	rveyor(s)	Daya	. Ma	Shall Point ID JPT 1 190-N 192-S
: (NAD-8	3)	40	nan	2	E		Surv	ey Time	Start	5720	7 GPS CAN 191-W 193-6
. (31	2858	890	N				End (2725	Site Photo #'s COPS 14 road
Start	85°F	End	859		Wind (B	eaufort #)		-2		Cloud %	15/1 PPT. 20
				D	istance (I	m)				Detect	
#	# Juv	Fly Over?	0-10	10-25	25-50	100 C 100 C 100 C	>100	Sex	Repeat?	S/H	Comments
1						85		M	N		
1							100+	M	N	H	
1							100+	M	N	H	
1							100+	M	N	H	
1						60		M	N	H	
1							100+	M	N		
1							(00+	M	N	S	
2						25		U	N	2	
1						90		v	N	3	
-4.5		5121				44					
1								201			
						145		1.202			
						120		. 201			
								The .		alet i	
						1,45				1991	
			-								
		807.90 (NAD-83) Start SS F # # Juv 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	807.90 (NAD-83) 40 310 Start 310 # Juv Fily # Juv Over? 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $						

Additional Comments:

Chain of Custody

Field Biologist Signature

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Supervisor Signature

Data Entry Signature

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain Data Proofing Signature

-		0					-1.	1.0			Jessi	d Surv a G	Ellizan
	Project #	80	1.90	-	Date (yr/mm/dd	5/11	1113	S(rveyor(s	Buja	e Ma	vshall Point ID PES-1 198-N 2000
	UTM Coordinate	s (NAD⊣	83)	49 36	11039 8494	1 19	_E _N		Sur	vey Time	Start End	074 S	$\frac{1}{2} \frac{1}{2} \frac{1}$
	TEMP (°F)	Star	50°F	End	50"F		Wind (B	eaufort #	<u>1</u>		-	Cloud %	630% PPT.
	Species			Fly		D)istance (m)				Detect	
	(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100 85	>100	Sex	Repeat?	S/H	Comments
	CACW	1	*					rs.	<u> </u>	M	N	H	
	WWDD								100	M	N	H	
	GAQU								1001	M	N	H	
	GARU							25	100+		N	H	
OR	HODR						<u> </u>	75		M	N	н	SCOTT'S Oriole
										_			
												1811	
		_											
2													
		_					-						
						-							
		-											
		<u></u>											
Į												118	
	General Habita	ıt Descri	ption: _										
	Additional (Commen									,		
(Chain of Custody		Ĩ	o	•	91	01	0					
I	Field Biologist Sigr	ature _	<u>/</u> 1	<u>M</u>	ĺv.	/J1	<u>un i</u>	1gm	i.	Supe	rvisor Signat	ure _	
I	Data Entry Signatu	re _								Data P	roofing Signa	ature _	
1	Wind:) = <1 mph: Smoke ! = 1-3 mph: Smok ? = 4-7 mph: Feel v	e drifts	• •				1	PPT: = None = fog ! = light ra					

				0	
Project # 807,90	Date (yr/mrr/dd) 5/14/13	Surveyor(s) BL	yce Marol	-all Point ID PCS	-2 E06-5
UTM Coordinates (NAD-83)	819108 E	Survey Time Sta	art 0802	GPS CAM205-W Site Photo #'s C-6P5	207-E
TEMP (°F) Start 82F End	S2°F Wind (Beaufort #)		Cloud % 42		
					7

Species			Fly		D	istance (m)				Detect	
(A. Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
CACW	1						65		M	N	H	
CACW BUFL BTSP WWDD GARN BTSP)						95		M	N	H	
BTSP	1						50		M	N	H	
wwpo	1						95		M	N	н	
GARN	1						160 .	too	M	N	Н	
BTSP	1				18				M	N	5	
	-1.3											
	1											
					2.31							
							1					
	(T.S.)											
									1.1			

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature Data Entry Signature

uner Billige

Supervisor Signature

Data Proofing Signature

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

			Resol	ution	Сорре	er Com	pany –	2013	Near V	Vest Bir	d Surve	Not
			Resolution Copper Company – 2013 Near West Bird Surveys Jessica Gilligan Jessica Gilligan Date (yr/mm/dd) 5/4/13 Surveyor(s) Byce Marchaell Point ID Point ID 2013 48/136 E Surveyor(s) Byce Marchaell Point ID 2013 GPS CAM 200 Site Photo #'s (-1) GPS CAM 200 Site Photo #'s (-1) Cloud % 30% PPT. D									
Project #	yr/mm/dd	<u>) 514</u>	-113	S	urveyor(s)	<u>10m</u>	ema	volar() Point ID PCS-6 Zister N: 210				
UTM Coordinate	es (NAD-	83)	481736 E						Survey Time Start			GPS CAM 209-W 211
TEMP (°F)	Star	186°F	End	86 6	50	Wind (B	eaufort #)	æ	5-1	Ena	Cloud %	30% PPT. @ 213-W2
Species			Fly	Distance (m)							Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50		>100	Sex	Repeat?	s/н H	Comments 5
	1						75		M	Ń		
GIW0 GAQU	1						95		M	N	H	
						-			M	N	+	
HOFI	1		Y			100	10		M	N	H	
			7			40	10		M		5	
GAQU	7					55	65		M	N	H	
HOFI	3					33	3.0 -			N	S	
CBTH	1						100	_	M	N	H	
	1											
					-							
					-							
					A-2-							
							1.1.2					1

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Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Lewin Bellign

Supervisor Signature

Data Proofing Signature

Wind: vvina: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

												5 •	from
			Resol	ution (Coppe	r Com	pany -	- 2013	Near \	Nest Bir ککککلہ	d Surve	ys Ilîgan	1
Dualaatid	a n:	1.an		Data (-	SIL	+12		novorie	Buc	Ma	Shell Point ID PCS-3 216-N 21 GPS CAM 217-W 21 Site Photo #'s (-675 14 302 PPT. 227 227	V.
Project #	00	110		Date (yt/minzou		<u> </u>	<u> </u>	aveyon(a	- 1-	4507	216-N 21	8-5
UTM Coordinate	s (NAD-	83)	49	5193	02	_E		Sur	vey Time	Start	0827	GPS CAM LI P TO LI	10
		010		C6°E	003	_N		Ø		End			-NER:
TEMP (°F)	Star	106 r	End	0		Wind (B	eautort #)		-	CIOUD %	225	w this
Secolar	- 94-5		Fly)istance (m)				Detect		
Species (4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	1	>100	Sex	Repeat?	S/H	Comments	
CBTH	1					ļ	85		M	N	25S		
CACW	1						100		M	N	4		
VERD	1						100		M	N	H		
HOFT	1				35	4	ΠĘ		m	N	4		
MODO	1		Y		30				n	N	H		
BTSP							95		M	N	Н		
SLOP	1						100		M	N	H		
CITWO.						65	1.70		M	N	5		
BLEL-	1						25		M	N	H		
BTSP SCOP GIWO BCFL GIR	1							100+	M	N	H		
						<u> </u>							
						<u> </u>			-				

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Jewier Sillign

Supervisor Signature

Data Proofing Signature

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

			Resolu	ution C	oppe	r Com	pany -	- 2013	Near V	Vest Bir	d Survey	ys Elligan
Project #	80	7.90		Date (y	r/mm/dd)	5/10	1/13	Sı	irveyor(s)	Buyce	Mar	shall Point ID PCS-4
UTM Coordinat	es (NAD-	B3)	49	234	<u> </u> 5	E		Sur	vey Time	Start End (0833	Sharl Point ID PCS-4 224-N 226- GPS CAM 225-W 222 Site Photo #'s(-6PS 14 PPT. #
TEMP (°F)	Star	85°F	End	85 4		Wind (B	eaufort #)	8	-1		Cloud %2	20% PPT.
Species			Fly			istance (Detect	Commente
(4- Letter Code)	#	#Juv	Over?	0-10	<u>10-25</u>	25-50	<u>50-100</u>	>100	Sex	Repeat?	s/н H	Comments
CBTH							75		M	N	H	
VERD CACW HOUR	1						SS		n	N	G	
Hast	1		Y			35			F	N	5	
GAQU	1							1001		N	Н	
MODO	2		Y				95		ME	N	2	
ATPL	1		_/			35			M	N	S	
11.0												
							25		NA I			
											14	
								<u> </u>				
											2-2	
								<u> </u>				
							10.1					
								-				
General Hab	itat Desc	ription:										
Additiona	I Comme	ents:										
Chain of Custor Field Biologist S Data Entry Signa	ignature	(Ju	nh		fill	1 gu	r		ervisor Sign Proofing Sig		
Wind: 0 = <1 mph: Sm 1 = 1-3 mph: Sm 2 = 4-7 mph: Fe 3 = 8-12 mph: Lo	oke rises hoke drifts el wind, le	aves rustle	constant n	notion			PPT: 0 = None 1 = fog 2 = light 3 = heav	rain				

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			Resolu	ution (oppe	r Com	pany –	2013	Near V	Vest Bir	d Surve	ys 51158-	ur-		
Project #	80	1.90		Date (/r/mm/dd)	5/10	1/13	Su	rveyor(s)	Binc	Mar	shall	Po	int ID N	new-6
UTM Coordinate	s (NAD-8	83) .	40	403	30	E		Sur	vey Tîmê	Start (0856	Site	GPS CAM	C-6 28 5	229 W N231 E
UTM Coordinate TEMP (°F)	Star	90'F	End	90°F		Wind (B	eaufort #)			-	Cloud %	207	PPT.	3 0	N231 E
Species		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H		Comme	nts	
(4- Letter Code)	*	# Juv	Overn	0-10	10-20	20-00	80		M	N	H				
BEVI							65		M	N	H				
COHA	1		Y					100+	F	N	S				
BHCO	1						55		M	N	5				
LINNA	1				22				M	N	HS				
	2								126						
											1200				
			15 2												
									1000						
		-													
			12												
	RL														
					61.1			-							
General Habi	itat Desc	cription:													
Additiona	l Comm	ents:													
Chain of Custor Fleld Biologist Si Data Entry Signa	gnature		lem	i.A.	Di	May	ym-	r		pervisor Sig a Proofing Si					
Wind: 0 = <1 mph: Sm 1 = 1-3 mph: Sm 2 = 4-7 mph: Fe 3 = 8-12 mph: Le	oke rises oke drift el wind, l	s eaves rusti	в	motion			PP1 0 = Non 1 = fog 2 = light 3 = hea	e rain							

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Resolution Copper Company - 2013 Near West Bird Surveys Surveyor(s) Byce Mars Lall Point ID Mcw # 5 Project # 807.90 Date (yr/mm/dd) 5/14/13
 Survey Time
 Start
 0913
 GPS CAM
 C-6PS
 4

 End
 6918
 Site Photo #'s
 232 N
 234 S

 I
 Cloud % 2028
 PPT.
 235 E
 483147 E UTM Coordinates (NAD-83) Start 90'F End 90'F Wind (Beaufort #) TEMP (°F) Distance (m) Detect Species Fly Comments Repeat? S/H 25-50 50-100 >100 (4- Letter Code) # Juv Over? 0-10 10-25 Sex 2 H N 35 S LUWA t +15 55 N GIWO 1 M N 100 M H GAQU ſ λ VERD 115 ł 45 M H 65 M N H 1 GAOU M H N 1001 GAQU t 4 85 M N 1 CACW

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

Jema Milligen

Supervisor Signature

Data Entry Signature

Wind:

- 0 = <1 mph: Smoke rises straight up
- 1 = 1-3 mph: Smoke drifts

2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

			Resolu	ition C	Coppe	r Comj	pany –	2013	Near V	Vest Bir	d Survey	1 s Iligan 4	
Project #	80	7.90)	Date ()	/r/mm/dd)	5/12	113	Su	rveyor(s)	Buje	ie Ma	whell Point ID MCW-	
UTM Coordinate		13)	<u>48</u> 30	200	2	EN		Sun	vey Time	Start (End	0970	15 11igan 4 <u>whe()</u> Point ID <u>M(W-1</u> <u>GPS CAM</u> <u>C-6PS</u> Site Photo #5236 N 22 <u>Site Photo</u> #5236 N 22 <u>PPT</u> D	10 S 31 E
TEMP (°F)	Start	90'F	End	90°F		Wind (B	eaufort #)	0-	L		Cloud %	0 ⁷ / ₂ PPT. <u>7</u>	
					۵	istance (m)				Detect		
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	
NOLA	1				24				M	N	5		
LINNA	1					25	14.5		N	N	5		
UNWA	1					50	333		M	N	H		
NOCA		-					85		M	N	H		
RAQU							90		M	N	H		
							85		M	N	H		
LBWD	1						70		M	N	H		
								l					
						-							
					123								
	250												
							12.						
							1			-			
]

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

ema Milligan

Supervisor Signature

Data Entry Signature

- Wind:

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

JUNE 2013

Project	<u>* 80</u>	7.90	2	Date (y	yr/mm/dd	<u>, 6/.</u>	3/20	<u>13</u> si	urveyor(s)	J.Gil	ligan,	B. Marshall Point ID MCN
UTM Coordina		83)	481	730		Е	,			Start	5:15	AM GPS CAM <u>C-6PS1</u> AM Site Photo #'s <u>01-NE</u> , 02-
TEMP (°F) Star	64	End	64		Wind (E	leaufort #)0				0 ppt. ()
Species			Fly			Distance ((m)				Detect	
(4- Letter Code)	#	#Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
HDFI						30			<u></u>		S	
MODO	1					1		100+			4	
GAQU								100 1			++	
PYRE BUFL	1					<u> </u>		100+			H	
BUFL	2						Res.	100+			H	
MODD	1							100+	n-,		H	
LAUN	1						80				H	
BUFL	1						90				H	
WWDD	1							1001			H	
GIWD	[_				100+			H	
GAQU	1							100+			H	
ABTO	t						65				H	
HOFI	1				D.		70				5	· · · · · · · · · · · · · · · · · · ·
BTSP	1						100				H	
HOFI						30					5	
VERD	1						VO				H	

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

unin Milligan

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Supervisor Signature

Data Proofing Signature

Data Entry Signature

Wind: v_{1nc} : 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	80	7.90		Date (yr/mm/dd	1 <u>3/1</u>	10/03	Su	ırveyor(s)	يا. اعال	igan, B	Marshall Point ID PCS
JTM Coordinate			48	1039 0049		E						GPS CAM <u>C-GPS</u> Site Photo #s(<u>B - N, 04</u>
TEMP (°F)	Star	1_70					leaufort #)0			Cloud %	
Species 4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
LENI	1					40					5	Lesser nighthawk * nist nearby
NNPD	2							100+			H	* REST REAL BY
30FL	2							100+			+	
ATFL	T			10	D. M						5	
CALW	1							100+			H	
ABTO	j							100+			H	
PYPE	1							100+			H	
GIWD	1					WN.	95	1001			H	
3CFL	1					45					5	
BTSP	1					36					5	
						<u> </u>					2	
		-			_							
		-							_			
			11-									
								_				
							1.5					
General Habita	Descrip	otion:										
		-										
Additional C	omment	s:										
ain of Custody		1	1111	I IN	Min				-			
ld Biologist Signa	iture _		<u>OVVI (</u>	in I	Jun	rgm	v		Superv	lsor Signatu	ne	
a Entry Signatur	e _								Data Pro	oofing Signa	ture	
Wind: <1 mph: Smoke 1-3 mph: Smoke 4-7 mph: Feel w 8-12 mph: Leave	drifts ind. leave	as rustle				1	PPT: = None = fog = light rai	 n				

()

Project #	80	7.90	-	Date	(yr/mm/dd	13/0	<u></u>	<u>}</u> s	urveyor(s	9 <u>1.6111</u>	gan, k	<u>3 Mai</u>	shall Poin	nt ID _	P65-2
UTM Coordinat			400	1968	136	_E N		Su	vey Time	Start End	5:51	AM	GPS CAM_ iite Photo #'s (6-61	<u>ps1</u> +
TEMP (°F;) Star	t_70				- Wind (E	leaufort #) <u> </u>	-	-	Cloud %	0	PPT	0	1100
Species			Fly		C	istance (<u>m)</u>				Detect				
(4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H		Commen	ts	
GAQU	1						75				H				
BTGN	1					35					5				
VERD	1						55				H				
GAQU	1						100				H				
BLFL.	2		13.6					100+			H				
LAUN	1						100				H				
UBTH	-1						93				5				
UBTH GIFL	1						70				5				
GAQU	1	e e e e e e e e e e e e e e e e e e e	515				90				H				
GIWD	1						80				5				
LORA	1							100+			H				
LAUN	1		1				54		3		5				_
															_
				-											_
		-										-			
													_		
		-													
												_			
			-	- E											1

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

unim Milligan

Supervisor Signature

Data Proofing Signature

- Wind: VVino: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	80-	1.90	-	Date	(yr/mm/dd)	13/0	<u>103</u>	_ \$	urveyor(s	J. Ginia	jan, B	Marshall Point ID PCB-10
UTM Coordinate	s (NAD-	83)	40	1736	0	E		Sur	vey Time	Start	10:08	AM GPS CAM C-6PS 14
			31	1844	9 3B	N				End	10:13	AM Site Photo #'s 07-E, 08-W
TEMP (°F)	Star	1_70	End	70	-	Wind (B	eaufort #	0_0		-	Cloud %	<u>о</u> ррт. О
Species			Fly		D	istance (m)				Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
HOFI	1					30	175				H	
CACW	1						75				H	
HDFI	3						55				H	
LIBTH	1						70				Н	
ATEL	1						100				H	
GAQU	1				15		51101				H	
HOFI	Ĩ							100+			H	
HOFI	-	2			12		178				H	* hest (hear at least 2 juv.)
ATTEL	1				24		191				5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
							3.0					
												T
							hi sa U		-			
			12.11									
								_				
							_					

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature Data Entry Signature

emin Milligar

Supervisor Signature

- Wind:

- 1 = 1-3 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #_		<u>.90</u> 3)	40	Date (y	2 503	13/0 E N	603	Surv	veyor(s) ey Time	J-[2]][][A Start End	0:27 0:27	<u> 013H011</u> Point ID <u>PUS-3</u> GPS CAM <u>U-UPS 14</u> Site Photo #'s <u>D9 - E , D1</u> 0
TEMP (°F)	Start	72	End	72		Wind (Be	aaufort #)	0			Cloud %_()ррт()
Species - Letter Code)		# Juv	Fly Over?	0-10	D 10-25	istance (r 25-50	n) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
BUFL	2							100+			H	
SAQU	1						115	100+			H	
BTH	1							100+			H	
TTFL	1						90				H.	
/EKD	1				15		100				H	
AUN	1						85				H	
BUFL							90				H.	
ACN	1					50	in st				H	
AUN					1.26		46					
							1.1					
	-					-						
							1					
		-										
					-							
		<u> </u>										
			_				-					
	1.125					L						
General Hab												
waalaona	" ^ouuu	wi 11474										
hain of Custo	dy		1	114.	M:	11. 00				upervisor Sig	nature	
ield Biologist S	ignature		Jen	1M	<u>n</u>	nga	201				_	
ata Entry Signa	ature						_		Dat	a Proofing Si	gnature _	
Wind: = <1 mph: Sm = 1-3 mph: Sm = 4-7 mph: Fe = 8-12 mph: L	oke rises toke drift el wind, l	s eaves rusi	tle	motion			PP ⁻ 0 = Nor 1 = fog 2 = ligh 3 = hea	ie t rain				

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Project #		<u> 7.90</u>	-	Date ((yr/mm/dd)	13/0								oint ID P	
o na coordinate	- 4 .01) 61	03)	_ 34	1842	7	_⊏ _N		əur	vey rime	End	6:4	3 AMSin	e Photo #	s_11-5	5_14 ,12 - NE
TEMP (°F)	Star	t <u>73</u>	End	73	-	Wind (B						<u>0</u>			,
Species (4- Letter Code)			Fly			istance (T T				Detect				
BUFL	1	# Juv	Over?	0-10	10-25	25-50	50-100 90	>100	Sex	Repeat?	s/н Н		Comm	ents	
ATFL	1						10	100+	1		H				
LAW	1	-					55	1001			H				
GARU	1							100+			H				
LBND	1						75				5				
												-			
	-													_	_
					_										
									-						
															-
			- 11												
General Habita	at Descri	ption: _													
		-													
Additional (Commen	its: _							_						
Chain of Custody															
Field Biologist Sign	nature		MI	<u>n / J</u>	illi à	an			Supe	ervisor Signa	ture				
Data Entry Signatu	re _								Data F	Proofing Sign	ature _				
Wind: 0 = <1 mph: Smoke 1 = 1-3 mph: Smok 2 = 4-7 mph: Feel v 3 = 8-12 mph: Leav	e drifts wind, leav	ves rustle	onstant mo	otion		1 2	PPT: = None = fog 2 = light rai 5 = heavy r								

0

(

Project #	80	1.90	-	Date	(yr/mm/dd	1) <u>13/0</u>	<u>u/03</u>	\$	urveyor(s	<u>J. Gin</u>	igan, I	<u>3. Marshall</u> Point ID <u>OPV-</u> 0	
UTM Coordinat		83)	13	399	9	E					-	AM GPSCAM C-6P5 14	
			31	eoleg	73	_N			-	End	7:2:	3 AM Site Photo #'s 13 - N 14 - 5	•
TEMP (°F)	Star	80	End	80	-	Wind (B	eaufort #)		-	Cloud %	3 At Site Photo #'s 13-N 14-5 6 0 PPT. 0 15-E 110	-W
Species			Fly			Distance (m)				Detect		
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments	
GIWO	1						_	100+			H		
CAUN	1							100+			H		
CBTH	1							100+			H		
GARV	1							100+			H		
ATFL	1							100+	1.0		H		
VERD	2				25				(M,IF		5		
WWDO	1				1124			100+			H		
FONR	1							100+			H	ROCK Wren	
BLFL								100+			H		
									1221				
								_					
								-					
						_							
						- 1							
General Habita	t Descrip	ntion: <u>1</u>	- RT+	t Dk	berv	red.	Fiyir	nq_0	n Wi	ry to	SUN	ley point.	
Additional (omment	s:											

Chain of Custody

Field Biologist Signature Data Entry Signature

lewin Filigan

Supervisor Signature

Data Proofing Signature

Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: $0 \approx None$ 1 = fog $2 \approx light rain$ 3 = heavy rain

Project	# <u>_&(</u>	27.91	2	Date	(yr/mm/dd	0_1.3/	06/0	<u>3</u> si	urveyor(s	9 <u>1.611</u>	igan,1	3. Mar	Shal Point ID (DPV-5
UTM Coordina			40						vey Time	~			GPS CAM <u>(, - ()</u> iite Photo #'s <u>1] - N</u>	
TEMP (°F) Star	1 90					Beaufort #)C)	End	/ · 1 Cloud %	E APOIs 0	ite Photo #'s <u>17~ N</u> PPT	, 19-5, 19-E 20 W
Species (4- Letter Code)		# Juv	Fly Over?	0-10)istance (T				Detect			
CACW	1	W OUV	CARLE	0-10	10-25	25-50	50-100	>100 100t	Sex	Repeat?	S/H H		Comments	
WNDO	1							100+			++			
LACW	1							100+			H			
WWDD	1		\checkmark		15						H			
CBTH	1					25			1		5			
BTGN	1				18						5			
Turu	1		1					100+			5			
BISP	1		_				45				5			
GIWD							80		_		H			
		- +							_					
						_								
							_							
·				-		-+								
							-	_						
General Habita	t Descrip	tion:												
		_												
Additional C	comments	5:												
Chain of Custody														
Field Biologist Sign	ature	Jun	m	lier	RAA	2			Super	visor Signatu	me			
Data Entry Signatur	re 7.	/			P					oofing Signat				-
-										ംഡർ ചദിവമി				-
Wind:) = <1 mph: Smoke = 1-3 mph: Smoke	rises stra	ight up				0=	PPT: None							

O

1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

1 = fog 2 = light rain 3 = heavy rain

Resolution	I Copper	Company -	2013	Near	West Bird	Surveys
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Project	# <u>8(</u>	07.90	?	Date (yr/mm/dd) <u>13/0</u>	16/03	<u>} s</u> ı	urveyor(s	». J. Catilia	an, B.	Marshall Point ID <u>OPV-</u> 4	
UTM Coordinat	es (NAD-	·83)	48	3011	0CE							2 GPS CAM <u>(-645 14</u> Site Photo #'s <u>21 ~ NW</u> 22	
TEMP (°F) Star	t_92	S	92		_N Wind (B	eaufort #)_2		End	<u>0:0</u> Cloud %		55
Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
BTSP	1		Cue,				75				5		
BUFL	1							100+			H		
LACW	1						85				H		
Tuvu	1		\checkmark		3.0			100+			5		
GAQU	1							100+			H		
GIWD	1							100+					
BUFL	2						72				5		
					1.1								
									1.1				
	-				-						192.6		
				_									
			_										
							_						
							_						
			_						2.54		4.1.1		
							1.1		1.11				
General Habit	at Descri	ption:											
Additional	Commen	ts:											
		_	_	_									
Chain of Custody		1.	110'10	25	Nin	0							
Field Biologist Sig	nature _	Je	<u>un in</u>	174	ung	m			Supe	rvisor Slgnat	ture _		
Data Entry Signati	ure _								Data P	roofing Sign	ature		
Wind: 0 = <1 mph: Smok	e rises str	aight up				0	PPT: = None						
1 = 1-3 mph: Smol 2 = 4-7 mph: Feel	ke drifts wind, leav	es rustle				1 2	= fog = llght rai						
3 = 8-12 mph: Lea	ves/small	twigs in co	nstant mo	ntion		3	= heavy r	ain					

0

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UTM Coordina	tes (NAD	-83)	- 46 - 36	954)7	_E _N		Su	rvey Time	Start End	5:15	GPS CAM <u>C-6PS</u> H Site Photo #s_ <u>73-N</u>
TEMP (°F) Sta	rt_03	End	43	-	Wind (I	Beaufort #)_ () _		-	Cloud %	30 PPT. O_
Species (4- Letter Code)	*	# Juv	Fly Over?	0-10	10-25	25-50	(m) 50-100	>100	Sex	Repeat?	Detect S/H	, Comments
BLFL	1							LIDDY			H	
GARU	1							100+			H	
PYRE	1						85				H	
GAQU	1							100+			H	
LALIN	1						100				H	
BLEL	1							100+		. . .	H	
1BTO					10						5	
NINDO							100				H	
TFL	1							100+			H	
4610						45	0.0	_			H	
SIWD							80				#	
	I						95				H	
15P BTH	1						90				H	
ACW	1						90	100+			H	
AVIV							90				H	
				-								
eneral Habita Additional C n of Custody Biologist Sign Entry Signatur	comment	_	obser Sag Sul	waro waro rvey Mu	1 le on are	sser Way	nighs 1 to :	thaw	K FIL Y PT Superv	II <u>N g- +</u> PUS-	<u>1 6H</u> 5. Bi	to <u>perched on</u> oth outside project

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Virno: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

0 = None 1 = fog 2 = light rain 3 = heavy rain

Project	<u>80</u>	1.90	_	Date	(yr/mm/dd	13/0	16/04	s	urveyor(s	<u>.].(7i11i</u>	gan, B.	Mar.	hall Poin	nt ID JPT	-1
UTM Coordina		83)	49	Span	2	_E		Su	vey Time	Start	5:33	HM	GPS CAM_ Ite Photo #'s_	<u>U-6P5</u>	514
TEMP (°F) Star	1 45	/0	_115	-	_N Wind (B	eaufort #)()		End	0	s <u>30</u>	ite Photo #'s_ PPT	<u>0</u>	20-n 27-W
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H		Comment		
WWDO	- 1				10 20	20 00	75	- 100	- OCA	Πορθαιτ	H		Comment	5	-
WWDD	1				100		12	100+			H				-
OAQU	1						6.5	100+			H				-
ATEL	1							100+			H				-
GIND	1						100	100			P.				-
UAUN	1						80				H				-
WWDD	1							100+			H				-
GIWO	2					43	in l				5				-
CBTH	1				1.1			100+			H				-
GIND								100+			H				-
							9.72			_					-1
							14 L.A.								-1
															-
	117						96-1	1							1
	-								1.0						-
															1
		_						- 1							-
															-
	5.01		8.8							- 1					1
General Habit	at Descrip	otion: _								l					-
Additional hain of Custody eld Biologist Sign		_	Mi a	1/2	Till	ign			Super	visor Signati	ure				-
ata Entry Signatu	re _			- <u></u> -					Data Pr	oofing Signa	iture			<u>.</u>	-
Wind:							PPT:								

Smoke rises straight up

0 = <1 mph: Smoke rises straignt up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	#BD	7.90	- A	Date 121121	(yr/mm/dd) <u> 3/(</u>		s	urveyor(s	of Gilli	gan_	7		Point ID	UPS	-1
		-03)	3	<u>81130</u> 6863	, 127	_= N		Sur	vey Time	Start End	5.5	1 AM 2-	GPS C	AM C	6DI	T
TEMP (°F)) Sta	rt <u>108</u>	End	48			eaufort #)		-	Cloud %	35	P	итэ <u>/</u> рт. <u>()</u>		+ 29
Species 4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	T	>100	Sex	Repeat?	Detect S/H		Com	ments]
CALW	1						100				H					1
CETH							100				H					1
NWPO	1							100+			H					
/ERD	1						75				H					1
TBTO	1						80				H					1
AUN							Ble				H					1
LACW							100				#					1
ZAQU	1							IDOT			H					
BISP	1						05				H					
1000	2		\checkmark	10							S					
GIWD							90		100		H		-			
														_		
			_													
_																
	1															
General Habita	at Descrij	ption: _														
Additional (Comment															
in of Custody Biologist Sign		14	Un V	n/	Jun	100	2		Super	visor Signati	Ine					
Entry Signatu	-	1		6		-1	-			nofina Siana						

- Wind: 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #	es (NAD-	107.9(83)	2 48	Date ((yr/mm/dd) <u> 3/0</u> _e	4/04	Su	urveyor(s rvey Time) <u> (j j</u> Start	qan _t B _U=02	- Marshall Point ID JPT- - AM GPS CAM <u>U-6P51</u>	2
TEMP (°F	Star	t <u>74</u>	2 End		- 61	_N Wind (B	leaufort #)0		End	<u>U:0</u> Cloud %	- AM GPS CAM <u>(-675)</u> 7 Site Photo #'s <u>30 - N</u> 35 PPT. 0 32	31 - W - S, 33
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
BUFL			100				90				H	Commenta	
VERD	1						105				H		
	1					50			M				
CIFL GIFL	1						115			<u> </u>	85		
GIWO							0.0	100+			H		
NNDO	j.						3.24	100+			H		
	1				01.31		50		F		5		
24FR JERD	1				1	30					-		
	-81						1.5						
			- 41										
							30-						
	1												
									2 -				
											1.5		
					-				lų.Π				
General Habit	at Descri	ption: _											
Additional	Commen	ts: _											
in of Custody					4								
d Biologist Sigr]	IM U	1/	Til.	Inv	\sim		Sune	rvisor Signat	ure		
a Entry Signatu	_									roofing Signa	_		
Wind: < 1 mph: Smok 1-3 mph: Smok 4-7 mph: Feel 8-12 mph: Leav	e drifts wind, leav	es rustle	onstant mo	tion		1 2	PPT: = None = fog = light rai = heavy r						

Project #	80	7.90	-	Date (yr/mm/dd	<u>13/0</u>	6/04		irveyor(s	y. Gilli	igan, B	Marshall Point ID JPT-3
UTM Coordinat			- 44	50390) 27	E			vey Time	Start	10:10	AM GPSCAM (1-6PS14
TEMP (°F)	Star	178					leaufort #	0		End	Cloud %	Site Photo #s <u>34-N</u> , 35-W 35 PPT. 0 36.S, 37-E
[)istance (_			
Species (4- Letter Code)	*	# Juv	Fly Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	Detect S/H	Comments
GIFL	1						100				H	
VERP					1.11		100				#	
BTGN	1						85		-12		H	
LAUN	1				1.1		15				H	
CACW	1						70				H	· · ·
CALW							10				H	
GAQU	1		75.0					100+			H	
GARU	1					35					S	
GIFL	- -							100+			H	
CRITH	1						80				H	Crissais Thrasher
			28						-53			
							1.4					
	2.1											
			6									
General Habit	at Descri	ption:				1		I				
Additional	Commen	- ts: _	R-TH	AV	uard	DU	tside	5-	min	, sur	vent	Percined nearby in
			4	UYV4	my f	104.)				SUY	96	1
Chain of Custody		Ţ,	1	ß	1.00							
Field Blologist Sig	_	-Je	<u> </u>	<u>^</u>	<u>u</u>	- Jan				ervisor Signal Proofing Sign		
Wind: 0 = <1 mph: Smok 1 = 1-3 mph: Smol 2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	ke drifts wind, leav	ves rustle	onstant mo	otion			PPT; D = None 1 = fog 2 = light ra 3 = heavy					

\cap	Project	# <u>90</u>	17.90	2	Date	(yr/mm/do	1)_13/	01/0	4 s	urveyor(s	<u>).[.6////</u>	<u>jan, B. N</u>	Jarshai	Point I	id JP	5
	UTM Coordina	ites (NAD-i	83)	4	8027	5	E		Su	vey Time	Start	0:301	AM G	PS CAM_(-6PS	14 - 39-N D-S, 41-N
	TEMP (°F	F) Start	81	L	81	-	_N Wind (E	eaufort #	» ()		End	[0:47] Cloud %	Site F 35	Photo #'s	<u>10-W</u>	- 39-N
					<u> </u>	_	Distance (- 					
	Species (4- Letter Code) #	# Juv	Fly Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	Detect S/H		Comments		
	LALW	1						54				H				
	VERD	1						50				H				
	LUWA	1						85				H				
	CAUN	1						100				H				7
	GAQU							95				H				
	GADU							100				H				
	GIND			\checkmark		15						S				
	GIWO							80				H				
	HOFI	3		V			35					S				_
	PYPE							- 25-	100+			H				_
\bigcirc	CACW							-	100+			H				
Q						-										4
												_				4
																-
						_										-
																-
										-						-
			-													-
																-
				loth.	(0	.01										J
	General Habit	at Descript	tion:	PJUM	1-44	PT.	5011	our	ald.	Ny	JPT_	domir	1 cent	habit	at	
	Additional	Comments	_ الا ::	K DN	 n+1)	41	to r		hows	10	T day	la in anot				
				-110			<u>· v </u>	<u>v 5</u>	1 10100	-01	+(X.UY	hipant	- null	JULL_		
	Chain of Custody		10.	U.T.II	Ľ	, no -	_									
	Field Biologist Sigr		fl	<u>U. (I</u> L		<u>Ulli</u>	gan			Superv	visor Signatu	re				
	Data Entry Signatu	ire								Data Pro	ofing Signat	ure			<u></u>	
\bigcirc	Wind:				<u> </u>			PPT:								
	0 = <1 mph: Smoke 1 = 1-3 mph: Smoke	e drifts						= None = fog								
	2 = 4-7 mph: Feel v 3 = 8-12 mph: Leav	vind, leaves res/small tw	s rustle /igs in con	stant moti	on		2 =	= light rain = heavy ra								
	·															

Project	<u> </u>	7.90	_	Date	(yr/mm/dd)	13/0	<u>)u/04</u>	Su	rveyor(s	J.Gill	igan, e	3. Marshall Point ID JPT-le
UTM Coordinat	es (NAD-	83)	49	3000	D	E		Sur	vey Time	Start	6:5	AM GPS CAM 6-6PS 14
UTM Coordinat		Q1.	3	<u>17671</u> 22	61	N		0		End	<u>lo: 51</u>	AM GPS CAM <u>6-6PS</u> 4 AM Site Photo #'s <u>42-N</u> 43-1 35 PPT. <u>0</u> 44-5, 45-1
/EMP("F) Star		- End	06	-	Wind (B	eaufort #			-	Cloud %	- <u></u>
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	Istance (25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
VER-D	1	- TOUY	CTGTT	0-10	10-23	20-00	85	-100	JCA	Nepearr	5	Comments
WWDO	1						100				5	
BTGN	1						75				H	
GAQU	1						Diry	100 H			H	
BTSP	1						100				H	
BHCO	1						80		F		S	
PYRA	1						90				H	
GIWD	1				-	-	90		1.4		H	
LACW.	1						100				4	
BLFL							100				H	
GAQU	1						100		-		H	
									-			
									-		_	
								_	-			
			-				_					
									-	-		
					12.5				-			
									10		-	
								-	-			
										[
General Habi	tat Descri	ption:										
		-										
Additional	Commen	its: _										
Chain of Custod	у			•								
Field Biologist Sig	nature _).	UA V	nl	Jull	am			Supe	ervisor Signat	ture _	
Data Entry Signat	ure _					<i>v</i>			Data F	Proofing Sign	ature _	
Wind: 0 = <1 mph: Smol 1 = 1-3 mph: Smo 2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	ke drifts wind, leav	ves rustle	onstant mo	otion		-	PPT:) = None l = fog 2 = light ra 3 = heavy					

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Project #_	<u>80</u> ; (NAD-E	<u>1,90</u> 13)	_48	Date ()	yr/mm/dd))	<u>13/(</u>	<u>)v/0</u> -	Surv	rveyor(s) vey Time	<u>J. Gilli</u> Start	<u>201, B.</u> <u>7:02</u> 7:07	Marshall Point ID JPT-	4 4 -7 - W
TEMP (°F)	Starl	84	End	84		N Wind (B	eaufort #)	0-	l		Cloud %	AM GPS CAM <u>(-645)</u> Site Photo #'s <u>40 - N , 4</u> <u>35</u> PPT. 0 48-S	,49-E
Species (4- Letter Code)		# Juv	Fly Over?	0-10	D 10-25	istance (I 25-50	n) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
VERD	1						95				H_		
CRTH	1		110				75				5		
()IFL							50				S		
CACW	1						100				HS		
GIND	2		1.04				100				S		
CACIN	1					43					5		
WWDD	1						100	100+			H		
											Tere:		
							1944						
		-											
		1											
		1											
	1.11	-											
General Habi		-											
Chain of Custod					4								
Field Biologist Sig	gnature	/	unc	11 ×	Lilli	gan	k		Su	pervisor Sig	nature		
Data Entry Signa	ture					(_		Data	Proofing Si	gnature		
Wind: 0 = <1 mph: Smc 1 = 1-3 mph: Sm 2 = 4-7 mph: Fee 3 = 8-12 mph: Le	oke rises oke drift el wind, le	s eaves rust	le	motion			PPT 0 = None 1 = fog 2 = light 3 = heav	e rain					

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Project #	<u>- O(</u>)7.90	2	Date	(yr/mm/dd) <u>13/0</u>	06/07	t s	urveyor(s	16illia	ian, B.	Marshall Point 10 MCW 1
UTM Coordinat	es (NAD-	83)	_4_	1951	7	E		Su	vey Time	Start	7:22	-AM GPS CAM_C-6PS 14
			_34	848	96	_N				End	7:2-	-AM GPS CAM <u>C-6PS 1</u> 4- <u>1</u> Site Photo #'s <u>50-N</u> , 51 - N <u>6 30</u> PPT. 0 52-S
TEMP (°F)	Star	t_ <u>95</u>	End	85	_	Wind (B	eaufort #	00		-	Cloud %	<u>,30</u> ppt. 0 52-5
Species			Fly		D	istance (m)		-		Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
ATFL	1			8			10				S	
BUFL	2				15						S	
BLFL							80	1			H	
LUWA	1						105				H	
GIFL								100+	-		H	
GAQU							100				H	
WWDD	1							100+			H	
ABTO							95				H	
GIND	1						55				H	
LENI	1		\checkmark		15				2.53		5	
	4, 1											
	-											
				-		_		-				
								-				
		_										

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature Data Entry Signature

Jenian Silligan

Supervisor Signature

Data Proofing Signature

Wind:

 V^{VIRIC} 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project # UTM Coordinat		<u>)7,9</u> 83)	D 49 31	Date (yr/mm/dd) 5	<u>13/0</u> _e	10/04	<u>Surv</u>	rveyor(s vey Time	<u>J-Gilli</u> Start	gan, E 7: +7	AM GPS CAM U-GPS 14 Site Photo #s 53-NE, 5	3
TEMP (°F)	Star	t <u>85</u>	<u>B</u> I	85 85	- 32	_N Wind (B	eaufort #)	0-	1	End	<u>7:52</u> Cloud %_	- Site Photo #s_ <u>33-NE</u> ,5 <u>30</u> PPT. <u>0</u>	1-SV
Species (4- Letter Code)		# Juv	Fly Over?	0-10	D 10-25	25-50	m)	>100	Sex	Repeat?	Detect S/H	Comments	
PYPE	1							100+			H		
CAQU	1							100+	÷.		#		
WWDD	1						100				++		
CACW							97		14		H		
CACIN	1						95				#		
VERD	1						100				H		
HOFI	2						70				H		
											11-1		
					1512						1-1-1		
											5234		
					8.2								
									1.5 21				
			4 24 V										
								•					
	1.5				5						5153		
General Habit	at Descri	-											
Additional	Commen	its: 🦹	obse SU	<u>rved</u> rv-e	2 p	<u>AMK</u> enioc	<u>E in</u> 1	SW	vey	plot;	not	during 5-min.	
Chain of Custody		1	911	K	1,2.	ه رس							
ield Biologist Sig	nature .		MU	Λ/_	INU	ger	١		Supe	ervisor Signa	ture		
Data Entry Signat	ure _								Data I	Proofing Sign	ature		
Wind: 0 = <1 mph: Smol 1 = 1-3 mph: Smol 2 = 4-7 mph: Feel 3 = 8-12 mph: Lea	ke drifts wind, lea	ves rustle	onstant mo	ition		:	PPT: 0 = None 1 = fog 2 = light ra 3 ≃ heavy						

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Project #	80	7.9(Date (yr/mm/dd)	13/0				J-6illí	qan, l	3. MARSHALL POINT ID JPS	-4-
UTM Coordinate	s (NAD-8	33)	4	1007	14	E		Surv	vey Time	Start	0:0	$\frac{3}{6} \qquad \text{GPS CAM} \left[\int \frac{1}{\sqrt{2}} \frac{1}{\sqrt{2}} \right]$	<u>[</u>] Slo-sin
TEMP (°F)	Start	87	End	87	-	Wind (B	eaufort #)	0-	1	-	<u>() - () e</u> Cloud %	2. M/// J 1/// Point ID 3. J 3.	SW, SB.
Species (4- Letter Code)		# Juv	Fly Over?	0-10	10-25	25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
VERD	1			10	1 112						S		
HOF1	}		1				85				5		
CAIN	1							1001			+		4
ATFL	1							100+			H		-
VERD	1						55				S		-
WWPO	1							100+			#		-
BISP	1							100+			H-		-
WWPO	1		V	10	3.5						5		-
ATFL	1		\checkmark		15		323				S		-
WW.DO	1							100+			H		-
									19.23				-
									-				-
							-						-
	-												-
									-				-
	-						_						-
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General Habit	at Descr												-
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Chain of Custod	-		eur is	n)	<u>lili</u>	op.	-		Sup	ervisor Signa	ature .	; not during S-W	-

Data Entry Signature

Wind:

 v_{1102} 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #_801-90 Date (yr/mm/ddi) 13/019/04 surveyor(s) - Gilligan & Matha UTM Coordinates (NAD-83) AB2083 E surveyor(s) - Gilligan & Matha UTM Coordinates (NAD-83) AB2083 E survey Time start $0 - 20$ TEMP (*F) Start O cloud %_30 Species # # Juv Over 7 of 10-25 25-50 Solution >100 Sex Repeat? Survey Time start O cloud %_30 Species # # Juv Over 7 of 10-25 25-50 Solution >100 >H Over 7 of 1000 >100 H Juv 20 I IOO H Over 7 Over 7 Over 7 Solution 1000 H Over 7 I	
TEMP (°F) Start Θ End Θ Wind (Beaufort #) O Cloud % 30 Species # # Juv Over? 0-10 10-25 25-50 50-100 >100 Sex Repeat? S/H $PYPP$ I I I I I/O H H $GAAU$ I I I/O I/O H H $PYPP$ I I I/O I/O H $PYPP$ I I I/O I/O H $GAAU$ I I/O I/O H H $PYPP$ I I/O I/O H H $PYPP$ I I/O I/O H H $PODO I I/O I/O H H PODO I I/O I/O I/O H H $	
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General Habitat Description:	
Additional Comments:	
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ield Biologist Signature	
ata Entry Signature Data Proofing Signature	
Wind: PPT: = <1 mph: Smoke rises straight up	

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Project #	<u> </u>)7.9(2	Date	(yr/mm/dd	13/0	10/04	- si	ırveyor(s	<u>J-bîlli</u> g	an, B.	Marshall Point ID JPS 6
UTM Coordinate		83)		3267	15	E	*	Sur	vey Time	Start	9:40	AM GPS CAM C-6PS /4 + Site Photo #'s 03-NE 04 - 20 PPT. 0 05-S
		010	31	1861	1.00	_N				End	8:51	Site Photo #'s 03-NE, 04
TEMP (°F)	Star	t_92	End	92	-	Wind (B	eaufort #	0_0-	·	-	Cioud %	<u>10</u> ррт. 0 0553
Species			Fly)istance (m)	 1			Detect	
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
BCHU	1	-	\checkmark	2			<u> 1017</u>				S	
WWDO			2.1	 		<u> </u>		100+			H	
GAQU	1							IDD+			H	
VERD	1							100+			++	
PYPE BTSP	1							100+			H	
BTSP	1							100+			H	
BUFL	1				1.1		300	100+	198		H	
(BTH								100+			H	
(BTH)	1						100	1012	1.5		H	
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General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

Data Entry Signature

Junia Pheligen

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #_	90	7.90	A.O	Date (yr/mm/dd)	13/0	0/05	Su	veyor(s)	J.Gilli	gan, B. 5:1104	Marcharl Point ID DPV-1
UTM Coordinate:	s (NAD-8	3)	- 94 31	09991	5 193	N		2014	ey mine	End	5:21	M GPS CAM <u>(-15P5 14</u> Site Photo #s <u>107 - N, U</u> B
UTM Coordinates	Start	72	End	72	ť	Wind (B	eaufort #)	2			Cloud %	<u>()</u> ррт. ()
Species			Fly			istance (I			Sex	Repeat?	Detect S/H	Comments
(4-Letter Code) BCFL	#	# Juv	Over?	0-10	10-25	25-50	<u>50-100</u>	>100 1007	OCA	Nopoart	H	
WWDO	1							100+			H	
CACW	1							100+			H	
GAQU	1							100+			H	
MOPO	1							100+			H	
GIWD	1							100+			H	
BTSP	1						75				H	
LAW	1		-				90				H	
ATFL	1		1	10							S	
	-											
					15.0.3							
	208											
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									12			
					- k						122	
	1.1											
General Habi	tat Desc	-										
Additional	l Comme	ants: त्रे	- Ups	ervec way	to to	Veat OPV	hor - 1 (nud first	DW pt.	1 per of da	(ned y) Dut	on Saquaro side survey area
Chain of Custod	ly	,		J.	1:	•	-		1		· /	1
Field Biologist Sig	gnature		IM U	n/	July	9m	<u>~</u>		Sup	pervisor Sigr	nature	
Data Entry Signa	ture						-		Data	Proofing Sig	gnature _	
Wind: 0 = <1 mph: Smo 1 = 1-3 mph: Smo 2 = 4-7 mph: Fee 3 = 8-12 mph: Le	oke drifts el wind, le	aves rusti	е	motion			PPT 0 = Nond 1 = fog 2 = light 3 = heav	e rain				

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Project #	_80-	1.90		Date (y	yr/mm/dd	13/0	06/05	Si	urveyor(s)	1.6imi	jan, B.	Mars	hall	Point ID	MCW-2
UTM Coordinate				-960 6889					vey Time	Start End	<u>05:2</u> 5:33	BAM 3	GPS CA Site Photo #	м <u>(-6</u> "s <u> 109-</u>	<u>N, 70-</u>
TEMP (°F)	Starl	72	End	72		Wind (B	eaufort #)	1		-	Cloud %	0	PP	т. 0	
Species	Ē		Fly		C)istance (-		Detect				
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H		Comm	ients	
VERD	1						105				H				
WNDD	1		200, ni				70				H				
LUWA	1					45	1				H				
BEFL	1						70		1-		H				
GIFL	1						100				S				
NOCA							90				H				
LBWO	1						90				H		·		
LBNO	1						80				H				
BTSP	1						90				H				
BCFL	1						60				H				
GAQU						45					H				
GAQU	1					40					H				
									12.0						
	Tal. R														

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature Data Entry Signature

Imion Miligan

Supervisor Signature

Data Proofing Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #_	80-	7.90 13)	40	Date () 3 2- 2002	/r/mm/dd) 7	<u>13/0</u> E	0 <mark>6/05</mark>	Surv	rveyor(s) rey Time	<u>Gilli</u> Start	<u>3an, B.</u> <u>5: 40</u> 5: 45	<u>Max (Mall</u> Point ID <u>JPS-5</u> <u>GPS CAM <u>C-6P5 14</u> Site Photo #'s <u>71-£</u>, <u>7</u>2- <u>0</u> <u>PPT. 0</u> 73-N</u>
TEMP (°F)	Start	73	End	73	<u> </u>	Wind (Be	eaufort #)			-	Cloud %	0 PPT. 0 73-N
Species (4- Letter Code)		# Juv	Fly Over?	0-10	D 10-25	istance (r 25-50	n) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
GAQU	1							100+			H	
CAUN	1						75				H	
PURK	1							100+			H	
PURFL	- 1						170	100+			11	
WWDO	J.						The	100+			H	
WWDO	1						19.4	1001			H	
BTSP	J.							100+	12		H	
CAUN	1		1000					1001			H	
							82					
							100		-			
	de la				n-In							
					1.1						10	
									_			
							5.1					
	1.1.2											
	110											
General Habit												
Additional	Comme	nts:							<u> </u>			
Chain of Custod Field Biologist Sig Data Entry Signal	jnature		luni	m/	Jill	nàn	-			pervisor Sigr Proofing Sig		
Wind: 0 = <1 mph: Smo 1 = 1-3 mph: Smo 2 = 4-7 mph: Fee 3 = 8-12 mph: Le	oke drifts I wind, le	aves rustle	е	motion			PPT 0 = None 1 = fog 2 = light 3 = heav	e rain				

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	Project #_		33)	- 4	3207	σ	E	<u>0/05</u>		veyor(s) ey Time	J- <u>billic</u> Start End	5:56 <u>6:01</u> cloud %	Mars	GPS C Site Photo	Point ID AM_ <u>6</u> -	<u>OPV-</u> GPS 14 N , 75-	2
	TEMP (°F)	Start						aufort #)				Cloud %	0_	. F	ррт	76-5	א-רר
	Species (4- Letter Code)	#	# Juv	Fly Over?	0-10	D 10-25	istance (1 25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H		Cor	nments		
	BLFL	1		1					1001			H					
	WWDO	1							100+			#					
	WWDD	1							100+			H					
	UBTH	1							100+			H					
	LACW	1							100+	-		H					
	BISP	1							100+			H					
	BLFL	1							100+_			H					
	PURE	1		0.5-9					100+			H					
	PURE	1					35					5					
		ax.															-
		1															-
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										E.							-
		198															-
				4													-
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	General Hab	itat Des	cription:														-
	Add	itional C	omments	::													-
	Chain of Custo	dy			0	1.											
	Field Biologist S	ignature		lemic	NP	M	ign	<u> </u>		Su	pervisor Sig	nature					-
	Data Entry Signa	ature						_		Data	a Proofing S	ignatur e					_
5											-						
	Wind: 0 = <1 mph: Sm 1 = 1-3 mph: Sn 2 = 4-7 mph: Fe 3 = 8-12 mph: L	oke rises toke drift et wind	ts leaves rus	tle	t motion			PPT 0 = Nor 1 = fog 2 = light 3 = hea	ie t rain								

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Project #_	80	7.90		Date (yr/mm/dd)	13/0	<u>u/05</u>	_ Su	rveyor(s)	J. Gilli	zan, B.	Marshall Point ID OPV-3
UTM Coordinate			48	202-	1	E			vey Time			GPS CAM <u>C-645 14</u> Site Photo #'s <u>78 - N</u> 79 - W O PPT. O 80-5,81-F
					09					End	6:18	Site Photo #'s 78-N, 19-W
TEMP (°F)	Start	76	End	76	_	Wind (B	eaufort #)				Cloud %_	<u>O</u> PPT. <u>O</u> 00-5,01 F
Species			Fly	0.40		25-50	m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments
(4- Letter Code)	#	# Juv	Over?	0-10	10-25	20-00	50-100	100+	UOA	Report	H	
MODO	1							1604			H	
NIN.DO	1							1001			H	
	1					1		100+			H	
CACW	1		125		-	1	100				H	
CBTH	1							100+			H	
WWDO	1					45			- T'		S	
BLFL	1							100+			#	
							1.5					
							24.					
					in.							
General Habit	at Descr	iption:										
Additional	Commo	nts:										
Additional	44111116											
Chain of Custody	V		1		01.							
Field Biologist Sig	nature	}	emî	//	Jil	uga	n		Sup	ervisor Signa	ature	
Data Entry Signati	ure								Data	Proofing Sig	nature _	
Wind: 0 = <1 mph: Smok	(e rises s	traight up					PPT: 0 = None					
1 = 1-3 mph: Smo 2 = 4-7 mph: Feel	ke drifts wind, lea	aves rustle					1 = fog 2 = light r					
3 = 8-12 mph: Lea	ives/sma	ii twigs in a	constant m	IOTION			3 = heavy	/ 18in				

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Project #	BD-	<u>1.90</u> 83)	481	Date ()	yr/mm/dd)	<u>13/00</u> E	<u>105</u>	Sur	rveyor(s) /ey Time	<u>]. 61111</u> Start	<u>qan, B.</u> 7:03	MAISHAL Point ID MCH -AM GPS CAM <u>C-GPS</u> Site Photo #'S <u>B3-NE</u> , S	1-4 14
JTM Coordinate			36	938	62	N		ł		End		Site Photo #'s_ <u>83-14F, 1</u>	<u>0</u> 1-9W
TEMP (°F)	Star	16	End	-18		Wind (B	eaufort #)			-	Cloud %_	() PPT()	_
Species			Fly			istance (m) 50-100	>100	Sex	Repeat?	Detect S/H	Comments	
4- <u>Letter Code)</u> AMKE	#	# Juv	Over?	0-10	10-25	25-50	100	- 100	UCA	Report	2		
VERD	1				19		10.				S		
PCFL							100				H		
ACW	1						95				H		_
GAOU	1							100+			H		_
ACN	1						55				H		_
ACW	1						75				H		_
													_
													-
	1												-
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	5												
General Hab Additiona		-	= 0104	NV-	ed.	1 - 1	UV.	GH 0	per	ched	<u>on</u>	saguaro while / project area.	traveli
		1	D	SNIL	MY	ν τ . γ	NUW	-9.	1/121	a si	Urvey	/ project will a.	
hain of Custor	-		lean	an 1	Jun	iojor	_		Su	pervisor Sigr	nature _		_
ata Entry Signa	-						_			a Proofing Sig		1	_
Wind: = <1 mph: Sm = 1-3 mph: Sm 2 = 4-7 mph: Fe 3 = 8-12 mph: Lo	oke rises loke drifts el wind, le	s eaves rusti	e	motion			PPT 0 = None 1 = fog 2 = light 3 = heav	e rain					

Project #	807	.90		Date ()	/r/mm/dd)	3/06	/05	Su	rveyor(s)	<u>J-6ini</u>	gan, B	. Marsi	<u>1911</u> P	oint ID	MCM	1-6
UTM Coordinates	(NAD-8:	3) _	40	651	30	EN		Surv	vey Time	Start End	<u>7:29</u> <u>7:34</u>	AM Site	GPS CA Photo #	м <u>С-</u> rs <u>8</u> 4	GPS -NE,	14 85-NE 86-SW
TEMP (°F)	Start	81	End	81		Wind (Be	aufort #) _.	0-	1		Cloud %	0	PP	т. <u>()</u>		94-5W
			Fly		D	istance (r	n)				Detect		Сотп	- onte		
Species (4- Letter Code)	#	# Juv	Over?	0-10	10-25	25-50	<u>50-100</u>	>100	Sex	Repeat?	S/H		Comi	ilenta	_	
BRUD	1				18						1+					-
BCFL	1		1.00		12	34					<u> </u>					-
	1					30					+					-
BIGN	1						70				H					-
VERD	1						55				H_					-
GIND	1				22						5					_
BEVI	1						90				H					-
MODO	1						60				H					-
(AFIN)	1						80				#					-
MADDA	2		V			39	0.00				5					_
LINA	1						40				H					_
ARTO	1	1				38					H					_
DIE	1						90				H					_
GIND	1	-				45	236				S					_
0100				-												_
	-	-							121							_
		-														
		-				1	102				15-1					
		-				-										

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

Junia Milligan

Supervisor Signature

Data Entry Signature

- Wind:
- 0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts
- 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion
- PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

Project #_	80	7.90		Date (y	/r/mm/dd)	13/0	0/0	5 Sur	veyor(s)	<u>). 611110</u>	zan, B.	Marshall Point ID MCW-5
UTM Coordinates	(NAD-8	3)	49	314	700	E		Surv	ey Time	Start	7:4-7:52	7 AM GPS CAM <u>(~EAS 14</u> - Site Photo #'s <u>87 - NE</u> 80 - 5W <u>0</u> PPT. <u>0</u>
TEMP (°F)	Start	83	End	93		Wind (Be	aufort #)	0			Cloud %	О ррт. О
Species			Fly		D	istance (r	n)				Detect	
(4- Letter Code)		# Juv	Over?	0-10	10-25	25-50	50-100	>100	Sex	Repeat?	S/H	Comments
GAQU							05			-	4	
GAQU	1				1 G		70		_		#	
LUWA	-1						55				+	
BRID	1_						90				5	
CACW	1						55				<u>H</u>	
GARY	1							100+			1	
CACW	1						100				+	
[71WO	-1-					40	7.0				<u> + _</u>	
BTGN	1						100				H	
BISP	1		1				100				H_	
BRID	1						40				5	
BIFL	1					40	1 1				11-	
VERD	2					39			IM, IF		5	
									100			
					1.18							
	1						dia.					
				-								

General Habitat Description:

Additional Comments:

Chain of Custody

Field Biologist Signature

union Milligan

Supervisor Signature

Data Entry Signature

Wind:

0 = <1 mph: Smoke rises straight up 1 = 1-3 mph: Smoke drifts 2 = 4-7 mph: Feel wind, leaves rustle 3 = 8-12 mph: Leaves/small twigs in constant motion

PPT: 0 = None 1 = fog 2 = light rain 3 = heavy rain

8:05 AM - 9:05 AM

Resolution Copper Company - 2013 Bird Survey Site Recon

Project # 807.90

Date (yr/mm/dd) <u>13/01/03</u> surveyors, <u>J-Gilligan, B. M</u>WJhall

Species (4- Letter Code)	Number of Individuals	Comments
TUVU	111	
GRED		
LAUN	111	
MODO	HHI	
AMKE	1111	
BLFL	1111	
CBTH	1	
GIFL BTSP	1	
BISP		
GAQU HAHA	UH UN I	
HAHA	_ i	

Chain of Custody

Field Biologist Signature

Junion Nielign

Supervisor Signature

Data Entry Signature

8:55 AM - 9:55

Resolution Copper Company - 2013 Bird Survey Site Recon

Project #	801
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oject # <u>307.90</u> Date (yr/mm/dd) <u>13/Die/04</u> Surveyors J. Gilligan, B. Marshall

Species (4- Letter Code)	Number of Individuals	Comments
ATFL	111	
GIFL	1	
VERD		
BTSP		
CBTH	IHTI	
TUVU	HA	
GAQU	UH UHT UHT I	
GIND	11	
MOPO	111	
WWDD		
BTGN		
CACW	111	
FTHA	۱	
NDLA	1	
LBWO	1	
CKTH	1	
BCFL	1	
AMKE	11	
	1 mar	

Chain of Custody

Jerning Jilligen Fleld Biologist Signature

Supervisor Signature

Data Entry Signature

Data Proofing Signature

Resolution Copper Company - 2013 Bird Survey Site Recon

Project # 807.90

Date (yr/mm/dd) <u>13/010/05</u> surveyors <u>1-6111 a AN, B-</u>Marshall

7:55 AM - 8:30

•		
Species (4- Letter Code)	Number of Individuals	Comments
MODO	1111	
GAQU	11.11	
GIND	1	
VERD		
AMKE		
TUVU		
PUPP		
* Had to	stop becon early	dere to flat tive
X 110-01 10		

Chain of Custody

Jewin Tillingen

Supervisor Signature

Data Entry Signature

Field Biologist Signature

Data Proofing Signature

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS OF THE VEGETATION ASSOCIATIONS IN THE ANALYSIS AREA



PHOTO 1. Jojoba-Paloverde Shrubland



PHOTO 2. Jojoba-Paloverde Shrubland



PHOTOSHEET 1



PHOTO 3. Jojoba-Paloverde/triangle leaf bursage Shrubland association.



PHOTO 4. Jojoba-Paloverde/triangle leaf bursage Shrubland association.



PHOTOSHEET 2



PHOTO 5. Mesquite-Catclaw acacia Wash



PHOTO 6. Mesquite-Catclaw acacia Wash



PHOTOSHEET 3



PHOTO 7. Ocotillo-Paloverde/mixed cacti Shrubland association



PHOTO 8. Ocotillo-Paloverde/mixed cacti Shrubland association



PHOTOSHEET 4

Q:\jobs\800's\807.90\ENV\3 2013 NW Bird Surveys\Bird Survey\DRAFT Submittal 080913\Report Appendices\Appendix B. Vegetation Assoc Photos.docx



PHOTO 9. Paloverde-Creosotebush Shrubland



PHOTO 10. Paloverde-Creosotebush Shrubland



PHOTOSHEET 5

APPENDIX C

Tonto National Forest Sensitive Species

Tonto National Forest Forest Sensitive Species (includes Federal candidate species) Mar 2011

Common Name	Scientific Name	
Mammals		
Bat, Allen's lappet-browned	Idionycteris phyllotis	
Bat, California leaf-nosed	Macrotus californicus	
Bat, greater western mastiff	Eumops perotis californicus	
Bat, pale townsend's big-eared	Corynorhinus townsendii pallescens	
Bat, pocketed free-tailed	Nyctinomops femorosaccus	
Bat, spotted	Euderma maculatum	
Bat, western red	Lasiurus blossevillii	
Coati, white-nosed	Nasua narica	
Sheep, desert bighorn	Ovis canadensis mexicana	
Sheep, rocky mountain bighorn	Ovis canadensis canadensis	
Birds	·	
Blackhawk, common	Buteogallus anthracinus	
Cuckoo, western yellow-billed*	Coccyzus americanus occidentalis	
Eagle, bald	Haliaeetus leucocephalus	
Falcon, American peregrine	Falco peregrinus anatum	
Goshawk, northern	Accipiter gentilis	
Grebe, Clark's	Aechmophorus clarkii	
Hawk, northern gray	Asturina nitida maximus	
Hawk, zone-tailed	Buteo albonotatus	
Towhee, Abert's	Pipilo aberti	
Reptiles		
Gartersnake, northern Mexican*	Thamnophis eques megalops	
Gartersnake, Narrow-headed	Thamnophis rufipunctatus	
Monster, reticulate Gila monster	Heloderma suspectum suspectum	
Snake, Maricopa leaf-nosed	Phyllorhynchus browni lucidus	
Tortoise, Morafka's desert*	Gopherus morafkai	
Amphibians		
Frog, lowland leopard	Rana yavapaiensis	
Frog, northern leopard	Rana pipiens	
Frog, western barking	Eleutherodactylus augusti cactorum	
Toad, Arizona	Bufo microscaphus	
Fish		
Chub, headwater*	Gila nigra	
Chub, roundtail*	Gila robusta	
Dace, longfin	Agosia chrysogaster	
Sucker, desert	Catostomus clarki	
Sucker, Sonora	Catostomus insignis	
Invertebrates		
Beetle, Parker's cylloepus riffle	Cylloepus parkeri	
Midge, netwing	Agathon arizonicus	
Springsnail, fossil	Pyrgulopsis simplex	
Plants		
Agave, Hohokam	Agave murpheyi	
Agave, Tonto basin	Agave delamateri	
Buckwheat, Ripley wild	Eriogonum ripleyi	
Bugbane, Arizona	Cimicifuga arizonica	

Common Name	Scientific Name
Dock, blumer's	Rumex orthoneurus
Fleabane, fish creek	Erigeron piscaticus
Fleabane, Mogollon	Erigeron anchana
Groundsel, toumey	Packera neomexicana var. toumeyi (=Senecio n. var. t.)
Mallow, Pima Indian	Abutilon parishii
Milkwort, Hualapai	Polygala rusbyi
Phlox, Arizona	Phlox amabilis
Rockdaisy, fish creek	Perityle saxicola
Rockdaisy, salt river	Perityle gilensis var. salensis
Root, Arizona alum	Heuchera glomerulata
Root, eastwood alum	Heuchera eastwoodiae
Sage, galiuro	Salvia amissa
Sandwort, Mt. Dellenbaugh	Arenaria aberrans
Sedge, Chihuahuan	Carex chihuahuensis
Sedge, Cochise	Carex ultra (=C.spissa var. ultra)
Snapdragon, mapleleaf false	Mabrya acerifolia (=Maurandya a.)
Vetch, horseshoe deer	Lotus mearnsii var. equisolensis
Woodfern, Aravaipa	Thelypteris puberula var. sonorensis
* also a federal candidate species.	

APPENDIX D

Tonto National Forest Management Indicator Species

Tonto National Forest Management Indicator Species May 2012

Management Indicator Species	Potential Natural Vegetation Crosswalk w/ Forest Plan Vegetation	Indicator of	Habitat Trend	Population Trend
Elk	PPM, MCA	general forest conditions	Static	Increase
Turkey	PPM, MCA	vertical diversity – forest mix	Static	Increase
Pygmy Nuthatch	PPM	Old growth pine	Static	Increase
Violet-green swallow	РРМ, МСА	Cavity-nesting habitat	Static	Increase
Western Bluebird	РРМ, МСА	Forest openings	Static	Increase
Hairy Woodpecker	РРМ, МСА	Snags	Static	Increase
Goshawk	PPM, MCA	Vertical diversity	Static	Increase
Abert Squirrel	PPM, MCA	Successional stages of pine	Static	Increase
Ash-throated Flycatcher	PJC, PJG,	Ground cover	Static	Increase
Gray Vireo	PJC, PJG	Tree density	Static	Decrease
Townsend's Solitaire	PJC, PJG	Juniper berry production	Static	Decrease
Juniper Titmouse	PJC, PJG	General woodland conditions	Static	Decrease
Northern Flicker	PJC, PJG	Snags	Static	Increase
Spotted Towhee	PJC, PJG	Successional stages of pinyon- juniper	Static	Increase
Spotted Towhee	IC	Shrub density	Static	Increase
Black-chinned Sparrow	IC	Shrub diversity	Static	Increase
Savannah	CPG, PJG	Grass species diversity	Upward/sta	Increase

Management Indicator Species	Potential Natural Vegetation Crosswalk w/ Forest Plan Vegetation	Indicator of	Habitat Trend	Population Trend
Sparrow			tic	
Horned Lark	CPG, PJG	Vegetation aspect	Upward/sta tic	Increase
Black-throated Sparrow	DC, SDG	Shrub diversity	Downward/ static	Increase
Canyon Towhee	DC, , SDG	Ground cover	Downward/ static	Increase
Bald Eagle	CWRF	General riparian	No change	Increase
Bell's Vireo	CWRF	Well-developed understory	No change	Increase
Summer Tanager	CWRF	Tall, mature trees	No change	Increase
Hooded Oriole	CWRF	Medium-sized Trees	No change	Increase
Hairy Woodpecker	MBDRF	Snags, cavities	No change	Increase
Arizona Gray Squirrel	MBDRF	General riparian	No change	Increase
Warbling Vireo	MBDRF	Tall overstory	No change	Increase
Western Wood Pewee	MBDRF	Medium overstory	No change	Increase
Common black- hawk	MBDRF	Riparian streamside	No change	Increase
Marcro- invertebrates	Aquatic	Water quality	N/A	N/A
IC - interior chapa aspen, MWRF- m	arral, MBDRF - mixed bro	cottonwood willow riparian fores badleaf deciduous riparian forest, I rest, PJC - PJ chaparral, PJG - PJ	MCA - mixed co	onifer w/

APPENDIX E

Tonto National Forest Migratory Bird Species of Concern

Tonto National Forest Migratory bird species of concern Mar 2011

Ponderosa Pine Forest: primarily	pure ponderosa pine forest			
Flammulated Owl*	Northern Goshawk*	Olive-sided Flycatcher*		
Grace's Warbler*	Lewis's Woodpecker*	Olive Warbler*		
Ponderosa-Gambel's Oak Forest	*			
Band-tailed Pigeon*	Grace's Warbler*	Northern Goshawk*		
Flammulated Owl*	Lewis's Woodpecker*	Olive Warbler*		
	r, white fir, ponderosa pine, often sor			
Band-tailed Pigeon*	Golden-crowned Kinglet	Olive-sided Flycatcher*		
Cordilleran Flycatcher	Mexican Spotted Owl	Red-faced Warbler*		
Flammulated Owl*	Northern Goshawk*	Red-naped Sapsucker*		
Pinyon Pine – Juniper woodland		k		
Black-throated Gray Warbler*	Gray Vireo	Peregrine Falcon*		
Golden Eagle*	Juniper Titmouse	Pinyon Jay		
Gray Flycatcher	1	5 5		
	ladrean evergreen oaks, juniper, pin	von pine		
Black-throated Gray Warbler*	Golden Eagle*	V L		
	k, manzanita, mountain-mahogany, c	liffrose		
Black-chinned Sparrow				
1	attered sotol, agaves burroweed, snal	keweed, vucca, mesquite		
Golden Eagle*	Swainson's Hawk	1		
6	oland Biome): paloverde, ironwood, 1	nesquite, catclaw, acacia,		
	kly pear, creosote bush, jojoba, cruci			
Bendire's Thrasher	Gila Woodpecker	Phainopepla*		
Canyon Towhee	Gilded Flicker	Prairie Falcon		
Costa's Hummingbird*	Golden Eagle*	Purple Martin		
Elf Owl	Peregrine Falcon*	1		
Montane riparian wetlands: cotto	nwood, maple, box elder, alder, willo	ow, some Gambel's oak,		
ponderosa pine, Douglas fir, whit		, , , ,		
Cordilleran Flycatcher*	Red-faced Warbler*	Red-naped Sapsucker*		
MacGillivray's Warbler				
Marshlands, cienegas, ponds, and	lake edges: bulrush, sedges, pondwe	eds, cattail, duckweed,		
saltgrass				
Yuma Clapper Rail				
Interior riparian deciduous forest	s and woodlands: sycamore, cottonw	ood, willow, ash, walnut,		
bigtooth maple, hackberry, cypre	ss, juniper, oak			
Common Black-Hawk*	Northern Beardless-Tyrannulet*	Yellow Warbler*		
Sonoran riparian deciduous fores	t and woodlands: primarily cottonwo	ood, willow, mesquite, tamarisk		
(salt cedar), some ash, walnut, and hackberry				
Bald Eagle	Northern Beardless-Tyrannulet	Western Yellow-billed Cuckoo		
Bell's Vireo*	Southwestern Willow Flycatcher	Yellow Warbler*		
Common Black-Hawk*				
	wash): mesquite, paloverde, ironwoo	d, burrobush, desert broom.		
quailbush, desert willow		-,,,		
Bell's Vireo*	Lucy's Warbler	Phainopepla*		
Costa's Hummingbird*				
* Species occurs in more than 1 typ	e of habitat			
1 · · · · · · · · · · · · · · · · · · ·				

APPENDIX F

PHOTOGRAPHS OF AVIAN SPECIES OBSERVED WITHIN THE ANALYSIS AREA



PHOTO 1. Harris's hawk (Parabuteo unicinctus)





PHOTO 2. Gambel's quail (Callipepla gambelii)

PHOTO 3. Western kingbird (Tyrannus verticalis)

> 2013 Near West Bird Surveys Appendix F





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PHOTO 4. Black-throated sparrow (Amphispiza bilineata)

PHOTO 5. Brown-headed cowbird (Molothrus ater)

PHOTO 6. Red-tailed hawk (Buteo jamaicensis)

> 2013 Near West Bird Surveys Appendix F

> > PHOTOSHEET 2

WestLand Resources, Inc. Engineering and Environmental Consultants

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