6.0 CONSERVATION PROGRAM

The MSHCP Conservation Strategy defines what the program will achieve through the Biological Goals and how those Biological Goals will be achieved through the measurable and incremental Biological Objectives. Additionally, the Conservation Strategy describes what Measures will be taken to avoid and minimize take and to restore and protect Conservation Values. The Monitoring and Adaptive Management Strategy defines how the MSHCP progress is monitored and tracked and how issues and needs for adjustments are identified and acted upon to ensure the long-term conservation of the Covered Species. Finally, the Reporting framework of the Conservation Strategy stipulates how program outcomes are reported over time. The Conservation Strategy is based on Covered Species' needs, with attention to the overall conservation landscape and its potential to change over time. The landscape-scale Conservation Strategy will be achieved through establishment of the Reserve System which includes public lands (BLM Special Management Areas [SMAs] or other designations as applicable) and private lands within the Plan Area.

Biological Goals define what the MSHCP will accomplish and lay the foundation of the Conservation Strategy. Biological Objectives describe the measurable outcomes that must be achieved in order to collectively reach the Biological Goals, connecting the overarching vision for the program to on-the-ground conservation and mitigation actions.

The Conservation Measures - Avoidance and Minimization section describes what measures will be taken to ensure that Covered Activities avoid and minimize take of Covered Species, consistent with federal ESA section 10[a][2][A][ii]. The Conservation Measures are grouped into three categories: Project Design, General Construction, and Species-Specific Measures. Project Design Measures reduce stressors that could result in indirect impacts or take of Covered Species following implementation or construction of a Covered Activity. General Construction Measures are specifically designed to minimize impacts and stressors to Covered Species and their habitats during construction or implementation of all Covered Activities. Species-Specific Measures are additional conservation measures that will be required prior to or during implementation or construction of Covered Activities when disturbance is in an area designated as potentially occupied by a species.

The Measures to Mitigation of Unavoidable Take section describes the Reserve System. The intent of the Reserve System is to mitigate for the take that occurs after avoidance and minimization measures have been implemented. Both federal and private lands are included in the Reserve System; however, the Reserve System is predominantly federal in proportion to the land ownership composition of the Plan Area. The Reserve System and mitigation actions including restoration, enhancement, and acquisition of lands are part of the Biological Goals and Objectives (BGOs) and needed to achieve successful implementation of the MSHCP.

The Monitoring and Adaptive Management Plan (MAMP) section includes biological effectiveness monitoring, compliance monitoring and an adaptive management plan. Monitoring results inform whether BGOs are being met and whether corrective actions or adjustments are needed.

The final section of the Conservation Strategy describes the reporting framework of the MSHCP. Reporting requirements are included for project status and impacts, take, avoidance, minimization and monitoring, and chance circumstances.

Each element of the Conservation Strategy, and particularly the BGOs, was developed to align with the following DCP values (Alta 2020). These values are embedded in all DCP projects and

day-to-day activities. They are not strictly biological in nature. However, their importance to successful implementation of the MSHCP and these BGOs should not be undervalued.

- Commitment to stakeholder inclusion (e.g., by expanding collaborations across multiple jurisdictions, engaging with stakeholders early in the process).
- Holistic approach to conservation and management that considers the multiple-uses within Clark County.
- Commitment to learning and adapting that promotes the conservation of species.

6.1 Biological Goals and Objectives

The MSHCP BGOs were developed through multiple processes and iterations beginning with updates to the 2000 MSHCP BGOs. The 2000 MSHCP BGOs were established and built upon by DCP staff and an independent Science Advisory Panel during a BGO workshop in 2016 (Science Advisor Panel 2016). The revised BGOs were developed using a set of criteria, a structured framework, and an assessment process. Those BGOs were used in the development of the Adaptive Management and Monitoring Plan (AMMP) and during the Implementation Plan and Budget process. The revised Boulder City Conservation Easement and riparian reserves management plans also use the 2000 MSHCP BGOs to guide management actions on the Reserve System. A draft revision of the 2000 MSHCP BGOs was completed by the Science Advisor Panel in September 2020 (Science Advisor Panel 2020) as part of the AMMP Adaptive Management Evaluation Process. This revision focused on making the 2000 MSHCP BGOs scientifically meaningful, quantifiable and practical for the DCP to implement. The BGOs outlined for the MSHCP in this chapter are derived from the aforementioned efforts, while also taking into consideration additional climate change and regional threats analyses, habitat suitability mapping, and an understanding of existing conditions and critical habitat. The BGOs are also designed to meet the SMART criteria described in United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) handbook (2016). The SMART acronym outlines that the criteria need to be Specific, Measurable, Attainable, Result-oriented, and Time-fixed.

Biological Goals lay the foundation of the Conservation Strategy by defining what the MSHCP will accomplish. All other components of the Conservation Strategy are based on the Biological Goals. Biological Objectives are the measurable and incremental steps that must be completed in order to achieve the Biological Goals. Biological Objectives are based on the needs of Covered Species, but also consider the broader conservation context and future anticipated changes to the landscape.

The Biological Goals and corresponding Biological Objectives for each Goal are described in Table 6-1 and in more detail below. Most of the BGOs are specific to the Reserve System, though some apply to the broader Plan Area in order to improve habitat management and reduce impacts in collaboration with other public entities that oversee non-Reserve System lands. This is to ensure the long-term conservation of the listed species.

Biological Goal 1. Maintain or improve habitat quality within Reserve System lands to promote resiliency, redundancy, and representation for Covered Species.

This goal aims to ensure the long-term conservation and rehabilitation of the natural habitats needed for survival and persistence of species covered by the MSHCP. Development of private land in Clark County results in loss of habitat, therefore Covered Species habitat must be improved and maintained within the Reserve System in order to ensure that the Covered Species persist. The focus on resiliency and redundancy draws into consideration the need to maintain

Table 6-1. Summary of BGOs for the MSHCP. Avoidance and minimization measures (AMMs), monitoring, and reporting which support the objectives are also described.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
Biological Goal 1. Maintain or improve habitat quality within Reserve System lands to promote resiliency, redundancy, and representation for Covered Species.					
Objectives	1A	Manage invasive plant species within the Reserve System to maintain a percent cover at or below baseline conditions.	Section 6.2.2 • GCM-4 (erosion control) • GCM-5 (weed management plan)	Section 6.4.1.1.1 Weed Management Plan to be developed and approved by the USFWS within the first 2 years of MSHCP implementation.	Report on weed management actions in Ten-Year Monitoring Report. Any additional details to be included in Annual Progress or Ten-Year Monitoring Reports will be detailed in the Weed Management Plan.
	1B	Acquire, enhance, restore, or place conservation easements on riparian habitat for the Riparian Reserve System to ensure that habitat quality and quantity for riparian-dependent Covered Species is maintained or increased, relative to impacts from Covered Activities in the Plan Area, as they occur, and as measured by the landscape-level habitat quantification assessments and site-specific Restoration Crediting Methodology.		Section 6.4.1.1.2 Use habitat quantification assessments outlined in Chapter 5 to compare riparian impacts and mitigation, and to target habitat acquisition in high quality areas at the landscape level. Use the site-specific Restoration Crediting Methodology (Appendix X) to measure credits for habitat improvement from riparian restoration or enhancement activities at the site level.	Annual Progress Report to include habitat quantification assessment summary of impacts and preserved riparian habitat in the Reserve System, and summary of credits gained from site-specific Restoration Credit Methodology.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
	1C	Protect and increase the quantity and quality of suitable habitat for Covered Species, using habitat quantification assessments and Restoration Credit Methodology to document change in quantity and quality.		Section 6.4.1.1.2 Use habitat quantification assessments outlined in Chapter 5 to measure habitat quality at the landscape scale and use the site-specific Restoration Crediting Methodology (Appendix X) to measure habitat improvements from restoration or enhancement activities at the site level.	Ten-Year Monitoring Report summarizing existing habitat quality changes in the Plan Area, including impacts and the Reserve System. Changes measured by habitat quantification assessments and site-specific Restoration Credit Methodology.
	1D	Incorporate natural ecological and hydrological processes into restoration design and implementation. On an annual basis, review all restoration projects to determine appropriate natural processes are being included in all projects and document in annual reporting.		Section 6.4.1.3	Document review was completed, and all projects incorporated appropriate natural processes using best available scientific and commercial information, as stated in Annual Progress Report.
Biological Goal 2. Avoid and minimize impacts to maintain the quality of habitat for Covered Species within the Plan Area.					
Objective	2A	Ensure the best available scientific and commercial information is being incorporated into habitat management efforts for Covered Species including use of, but not limited to, current distribution and habitat suitability models.		Section 6.4.1.1.2 Species habitat suitability models reviewed every 10 years.	Ten-Year Monitoring Report updates on management, restoration, and enhancement activities, and updates on habitat suitability model review.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
	2B	Project designs that minimize indirect effects of Covered Activities will be adopted into County and City planning codes by the end of the first year of implementation, including lighting, runoff and erosion, and other edge effects for Covered Activities at the boundary with undeveloped habitats.	Section 6.2.1 – 6.2.3 • Project design, general construction, and species-specific AMMs	Section 6.4.1.3 A subsample of projects reviewed each year to verify designs are adhering to AMMs.	Project review results included in Annual Progress Reports for the first three years. The Zone A boundary will be reviewed with the USFWS every 10 years and revised if needed. Updates to the Zone A boundary will be included in Ten-Year Monitoring Reports.
	2C	Identify sediment sources for plant Covered Species that are dependent on specific substratum including threecorner milkvetch and sticky buckwheat, and avoid, minimize, mitigate impacts to the sediment sources as feasible.		Section 6.4.1.1.3 The DCP will review and identify essential sediment sources, if found, for threecorner milkvetch and sticky buckwheat habitats within the first year of MSHCP implementation.	Essential sediment source review included in Annual Progress Report in the year it is completed. First Ten-Year Monitoring Report will include summary of review and any recommendations for avoidance. Subsequent Ten-Year Monitoring Reports will include status updates of impacts to the sediment sources, if any.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
	2D	Support invasive species early eradication efforts in the Plan Area.		Section 6.4.1.1.1 The DCP will develop and approve the Early Detection Rapid Response Program in cooperation with Clark County Vector Control or other applicable agencies/entities within the first three years of MSHCP implementation.	Early Detection Rapid Response Program reported in Annual Progress Report in the year it is completed, and to be appended to the Weed Management Plan. Any additional details to be included in Annual Progress or Ten-Year Monitoring Reports will be detailed in the Early Detection Rapid Response Program.
	2E	Maintain and update the Connectivity Management Plan every 10 years. The Plan and each update shall identify the connectivity and genetic exchange improvements to be targeted for implementation over the next 10 years.	Section 6.2.1 • PDM-1 • PDM-2 • PDM-3	Section 6.4.1.1.4 The DCP will revise the existing Connectivity Management Plan in the first year of MSHCP implementation. Key corridors or areas for plant Covered Species such as for seed dispersal will be identified within the first 5 years.	Document completion of connectivity improvement projects in Annual Progress Reports in the year conducted. Ten-Year Monitoring Reports will summarize all improvements made within the previous 10 years. Connectivity Management Plan will be updated every 10 years at a minimum to include improvement projects for the next 10 years of implementation.
	2F	Limit development in areas of occupied and potentially suitable habitat for gypsophile species to 10% of baseline occupied and potentially suitable habitat within the Plan Area as shown in Figure 6-1.		Section 6.4.1.1.3	Document the amount of cumulative impacts to potentially suitable habitat in Annual Progress Report. Include percent impacted under MSHCP.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
Biological Goal 3. Maintain stable or increasing populations of Covered Species occurring within Reserve System lands.					
Objectives	3A	Average population sizes of Covered Species are maintained over time. Population trends will be characterized over 5-10 years depending on the species and associated monitoring approaches.		Section 6.4.1.2 Species monitoring protocols/methodologies to be developed and peer-reviewed by the Science Advisory Panel within the first 18 months of MSHCP implementation or prior to first monitoring surveys, whichever comes first.	Any survey results to be reported in Annual Progress Report in the year surveys conducted. Ten-Year Monitoring Reports will include a summary of survey results and an analysis of population trends in the Reserve System. Any additional data noted in species monitoring protocols will also be included.
	3B	Identify and protect maternity roosts of spotted bat. If a Townsend's big-eared bat roost is detected in the Reserve System and potentially impacted by Covered Activities, it shall be protected.	Section 6.2.3.7 • BAT-1	Section 6.4.1.2.10	Annual Progress Report will include any maternity roost identified within the reporting year. It will also be noted if the roost was impacted in any manner or measures implemented to avoid or minimize impacts. Ten-Year Monitoring Report will provide a summary of all maternity roosts identified within the Plan Area.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
	3C	Identify and protect essential populations of plant Covered Species and their habitat.	Section 6.2.3.1 • Plant species-specific AMMs	Sections 6.4.1.2.13 and 6.4.1.2.14	Any new populations of plant Covered Species will be identified in the Annual Progress Report in the year detected. Ten-Year Monitoring Reports will include a summary of all essential plant Covered Species locations and if any impacts have occurred to these populations.
Biological Goal 4. Foster community and stakeholder engagement to benefit Covered Species.					
Objectives	4A	Ensure input is obtained from key partner agencies on mitigation/restoration project plans being implemented on jointly managed land.		Section 6.4.1.3	Summary of mitigation, restoration, and enhancement projects implemented in year of reporting to be included in Annual Progress Reports and a summary of recommendations or input provided by partner agencies, if applicable.
	4B	Educate the public about the desert ecosystem in Clark County and promote responsible recreation and development to avoid and minimize impacts to the environment.	Section 6.2.4.2 • Wild Desert Tortoise Outreach and Mojave Max Program	Section 6.4.1.3	Any new or revised educational material posted including location posted will be summarized in the Annual Progress Report. A summary of outreach related to wild desert tortoises and the Mojave Max Program will also be provided in the Annual Progress Report for the first three years and every 10 years thereafter.

Goals and Objectives			AMMs Supporting Objective (if applicable)	Monitoring Section & Timing Considerations	Reporting
	4C	Deter unauthorized land use by patrolling at least 3,120 hours of the Reserve System Units each year. DCP planning documents shall include activities to deter unauthorized use.	Sections 6.2.4.1 • Developer Outreach Sections 6.2.4.2 • Wild Desert Tortoise Outreach	Section 6.4.1.3	The patrol hours within the Reserve System, any additional data per Reserve System lands, and number of incidents in Reserve System lands within the reporting year will be documented in the Annual Progress Report.
	4D	Project proponents and construction personnel follow best management practices (BMPs) for Covered Species and associated reporting procedures.	Section 6.2.2 – 6.2.3 • General construction and species-specific AMMs Section 6.2.4.1 • Developer Outreach	Section 6.4.1.3	A summary of compliance with General Construction and Species-Specific Measures will be summarized in the Annual Progress Report with 10% of projects randomly selected for review and monitoring of compliance. A summary of outreach related to wild desert tortoises and to developers will also be provided in the Annual Progress Report.

and restore habitat relative to changing conditions. To achieve this goal, the following objectives will need to be met.

Objective 1A. Manage invasive plant species within the Reserve System to maintain a percent cover at or below baseline conditions.

This objective recognizes the threat of invasive plant species and ensures that invasive species will not be allowed to spread and reduce chances for establishment in new areas in the Reserve System. Non-native species, and in particular invasive species, have pernicious indirect effects on reducing habitat quality, such as by outcompeting native food species, altering fire regimes to the detriment of populations or native habitat of Covered Species, or reducing utility of road culverts designed for wildlife movement (RECON 2022). The inventory, removal, and long-term control of invasive and non-native plant species will ensure the integrity and proper functioning of the Reserve System lands. A sub-objective has been identified to aid in completion of Objective 1A:

- A Weed Management Plan will be developed for describing baseline conditions and identifying essential areas for targeting weed control in order to promote resiliency, redundancy and representation of Covered Species. The Weed Management Plan will be approved by the USFWS within the first two years of MSHCP implementation.

Objective 1B. Acquire, enhance, restore, or place conservation easements on riparian habitat for the Riparian Reserve System and ensure that habitat quality and quantity for riparian-dependent Covered Species is maintained or increased, relative to impacts from Covered Activities in the Plan Area, as they occur, and as measured by the landscape-level habitat quantification assessments and site-specific Restoration Crediting Methodology.

This objective aims to increase the area and habitat quality of the riparian Reserve System lands as direct mitigation for development and loss of riparian habitat. The objective indicates that acquired riparian habitat must be equivalent or greater in quality and quantity to habitat lost to impacts from Covered Activities, as determined by landscape-level habitat quantification assessments described in Chapter 5. The habitat quantification assessment will be used to record the Habitat Quality Index for acquired properties or conservation easements to be used in MSHCP reporting. The assessment is also a tool for identifying high quality riparian habitat to target land for Reserve System acquisition or conservation easements.

Restoration and enhancement actions will also be conducted to improve the quality of acquired riparian habitat. Habitat quality improvements achieved through restoration and enhancement will be assessed using the site-specific Restoration Crediting Methodology to assign mitigation credit to a project post restoration (Appendix X). By using a consistent crediting methodology, riparian habitat in the Plan Area will be maintained and increased.

Objective 1C. Protect and increase the quantity and quality of suitable habitat for Covered Species, using habitat quantification assessments and Restoration Credit Methodology to document change in quantity and quality.

The purpose of this objective is to achieve the long-term conservation and recovery of Covered Species' habitats by protecting existing habitat and restoring degraded habitat. Covered Species need suitable habitat that contains the environmental conditions (i.e.,

substrate, elevation, vegetation communities, etc.) in which their populations can be maintained and/or increased over time.

Multiple landscape-level factors often influence habitat suitability for a species within its range (Bellamy et al. 2013; Heller and Zavaleta 2009). Species habitat suitability models can increase understanding of the environmental variables (e.g., soils, elevation, topography, slope, and climate) correlated with presence of a species which can aid in potential distribution predictions and landscape-level conservation planning (Benito Garzon et al. 2006; Fourcade et al. 2014; Bellamy et al. 2013). Habitat suitability models for Covered Species are described in Appendix A and referenced in Chapter 3. These allow species by species estimates of potential suitable habitat within the Plan Area. Given the large number of Covered Species and their varying individual habitat requirements, habitat quantification assessments were developed and described in Chapter 5 which included the habitat suitability models. These assessments provided consistent methods to quantify habitat quality including factors such as impervious land cover, fragmentation, proximity to water, etc., allowing for improved comparisons of impact and mitigation habitats. The DCP will utilize the habitat quantification assessments to evaluate the habitat quality of impacted and protected habitats and demonstrate higher Habitat Quality Indices of protected habitats compared with impacted habitats. Site-specific measurements of habitat quality improvements achieved through restoration, enhancement, or other efforts will also be measured by the Restoration Crediting Methodology (Appendix X).

Objective 1D. Incorporate natural ecological and hydrological processes into restoration design and implementation. On an annual basis, review all restoration projects to determine appropriate natural processes are being included in all projects and document in annual reporting.

Natural ecological processes are inherent in functioning habitat needed by Covered Species of the MSHCP. Therefore, including natural ecological processes in restoration design increases the likelihood of achieving functioning habitat and overall restoration success. Restoration failures can often be attributed to a lack of consideration of erosion, water table depth, flood and scouring events, etc. Restoration efforts should incorporate ecological processes into design and implementation to pursue the goal of maintaining, improving, and expanding habitat for Covered Species. Restoration of natural ecological and hydrological processes could include restoring sediment transport, encouraging natural recruitment of native vegetation, increasing groundwater recharge, increasing primary productivity, and allowing for natural hydrological regimes. By doing annual reviews of all restoration projects, the DCP can verify restoration efforts are incorporating proper design components to promote ecological processes and verify this objective is being met.

Biological Goal 2. Avoid and minimize impacts to maintain the quality of habitat for Covered Species within the Plan Area.

This goal extends habitat management and improvements and the avoidance and minimization of project impacts to the entire Plan Area. Although some of these objectives reach beyond the County's direct control, they are meant to engender collaboration with the Permittees and other natural resource management entities and to enable the MSHCP to support other regional conservation efforts. This type of collaboration will improve landscape-scale planning for and long-term viability of Covered Species.

Objective 2A. Ensure the best available scientific and commercial information is being incorporated into habitat management efforts for Covered Species including use of, but not limited to, current distribution and habitat suitability models.

Habitat suitability models were developed in preparation of the MSHCP and described in Chapter 3. These habitat suitability models will be updated every 10 years and other data on Covered Species distributions or new information will be incorporated into the revised models. This objective intends to ensure that the most up-to-date information is being considered in management activity. To ensure and verify the habitat suitability models are being reviewed each decade, the following sub-objectives are identified:

- Covered Species habitat suitability models will be reviewed every 10 years for topics including new occurrence data, accuracy with known distribution, and new data on influential environmental variables.
- If new data for a Covered Species may influence the habitat suitability model results, the model for this species will be revised to include this data.

Objective 2B. Project designs that minimize indirect effects of Covered Activities will be adopted into County and City Planning codes by the end of the first year of implementation, including specifications for lighting, runoff and erosion, and other edge effects for Covered Activities at the boundary with undeveloped habitats.

This objective relates to Project Design avoidance and minimization measures as described below in Section 6.2.1 to minimize post-construction effects of Covered Activities on Covered Species. In addition, General Construction Measures (Section 6.2.2) and Species-Specific Measures (Section 6.2.3) are described below to minimize effects on Covered Species during implementation of Covered Activities. The Permittees will adopt planning codes to incorporate measures described in Section 6.2.1 and ensure via project design review and approval processes that these avoidance and minimization measures are incorporated into project designs. To verify the implementation, the following sub-objective is identified:

- For the first three years of MSHCP implementation, the DCP will randomly select and review 25% of permitted projects each year to verify designs are adhering to avoidance and minimization measures. In randomly selecting projects, include criteria to ensure that some of the largest and smallest projects (in terms of acreage) are selected for review. The review of selected projects will be included in the Annual Progress Reports. After three years of implementation, if the planning codes and project design review processes in place by Permittees is demonstrated to be successful at ensuring compliance with Section 6.2.1 measures, no further annual review of permitted project designs will be required.

In addition, implementation requirements for some Conservation Measures (Section 6.2) are dependent upon location and if outside of the heavily urbanized and infill area of Las Vegas Valley (Zone A; Figure 6-2). The boundary of Zone A is decided upon in discussion between the DCP and USFWS and is updated every few years as conditions change. To provide a schedule for discussions regarding Zone A updates, the following sub-objective is identified:

- The DCP will review the Zone A boundary every 10 years. If revisions are recommended, the DCP will provide the USFWS the recommended revisions for

approval. The Ten-Year Monitoring Report will include a summary if revisions were recommended, feedback from the USFWS, and, if approved, a figure showing the revised Zone A boundary.

Objective 2C. Identify sediment sources for plant Covered Species that are dependent on specific substratum including threecorner milkvetch and sticky buckwheat and avoid, minimize and mitigate impacts to the sediment sources as feasible.

Review project designs for appropriate conservation measures for sediment sources, review sediment transport system, and monitor using indicators of rangeland health and supplemental soil properties. If specific sediment sources are revealed to be of primary importance to sediment transport and source of suitable substrate for these species, these areas will be identified and impacts avoided to the extent feasible. A sub-objective is identified to aid in completion of Objective 2C:

- The DCP will review and identify essential sediment sources, if found, for threecorner milkvetch and sticky buckwheat habitats within the first year of MSHCP implementation.

Objective 2D. Support invasive species early eradication efforts in the Plan Area.

The DCP will not be able to solely control invasive species across the Plan Area, but it can collaborate with other entities to support monitoring and eradication efforts, especially for newly detected invasive species. The DCP will work with Permittees, Clark County Vector Control, BLM, and other applicable entities to help target and eradicate newly identified invasive species prior to establishment through an Early Detection Rapid Response Program. This program will help prevent establishment of new invasive species and increase effectiveness in control of these species prior to spread. The following sub-objectives are identified to support achievement of Objective 2D:

- The DCP will collaborate with Clark County Vector Control through an Early Detection Rapid Response Program.
- The DCP will develop and approve the Early Detection Rapid Response Program in cooperation with Clark County Vector Control within the first three years of MSHCP implementation. Components of the Program will include worker and public education, invasive species monitoring methods, and response protocol for newly identified invasive or potentially invasive species. Upon finalization, this Program will be an appendix added to the Weed Management Plan (Objective 1A).

Objective 2E. Maintain and update the Connectivity Management Plan every 10 years. The Plan and each update shall identify the connectivity and genetic exchange improvements to be targeted for implementation over the next 10 years.

This objective is meant to ensure that Covered Species can safely move through habitat corridors and achieve sufficient genetic exchange for species population resilience, redundancy, and representation. Infrastructure related to Covered Activities will be designed and implemented to increase connectivity in high priority corridors, and existing infrastructure within Permittee's authority may be modified in identified high priority corridors. Additional methods may also be outlined such as facilitated migration or translocations as determined by the best available science to maintain genetic exchange and species population resilience. The following sub-objectives are identified to support achievement of Objective 2E:

- A Connectivity Management Plan (RECON 2022) for Clark County was developed focused on desert tortoise. DCP will update this Connectivity Management Plan within the first year of MSHCP implementation to incorporate other non-volant wildlife species such as banded Gila monster and desert pocket mouse. The updated Connectivity Management Plan will include identification of high priority movement corridors under the authority of Permittees and recommendations for maintenance and management of genetic connectivity. Recommendations may include but are not limited to design guidance measures to minimize impacts to wildlife movement, restoration or wildlife corridor improvement projects, or more intense management actions such as translocations to maintain genetic and population connectivity. The updated Connectivity Management Plan will identify connectivity and genetic exchange improvement projects to be targeted for implementation over the next 10 years.
- Review and identify if there are key corridors for plant Covered Species within the first five years of MSHCP implementation.
- Update the Connectivity Management Plan every 10 years to incorporate the best available science and identify projects to improve habitat connectivity and/or genetic exchange of Covered Species populations to be targeted over the next 10-year timeframe.

Objective 2F. Limit development in areas of occupied and potentially suitable habitat for gypsophile species to 10% of baseline occupied and potentially suitable habitat within the Plan Area as shown in Figure 6-1.

This objective requires an understanding of the County's projected impacts and coordination with Covered Activity permitting to ensure that occupied and potentially suitable habitat is not impacted to the degree that the quality of habitat cannot be maintained in the Plan Area to ensure the long-term conservation of these species. Habitat suitability models for gypsophile species (sticky ringstem, Las Vegas bearpoppy, silverleaf sunray, and Las Vegas buckwheat) described in Appendix A and referenced in Chapter 3 were incorporated to create the baseline of potential suitable habitat within Clark County. The potential impacts are anticipated to be less than 10% of potential suitable habitat for gypsophile species as shown in Figure 6-1, and Annual Progress Reports will state cumulative impacts to document the status of this objective. Covered Activities in "Potential low-impact areas" are not anticipated to remove or develop potential suitable habitat and will not be counted towards this objective unless potential habitat is removed or lost as a result.

Biological Goal 3. Maintain stable or increasing populations of Covered Species occurring within Reserve System lands.

While habitat loss is the direct impact of development, the ultimate biological concern is the fate and sustainability of MSHCP-covered plant and animal populations. If populations are stable or increasing, the fundamental goals of the MSHCP are likely being achieved. Monitoring, managing for, augmenting, and protecting populations of Covered Species are actions that can be taken in pursuit of this goal. Stable or increasing populations indicate that conservation and management to offset habitat loss under the MSHCP is resulting in desired benefits to Covered Species.

Objective 3A. Average population sizes are maintained over time. Population trends will be characterized over 5-10 years depending on the species and associated monitoring approaches.

The purpose of this objective is to ensure that populations are maintained over time and if populations are trending downward, adaptive management actions will be implemented. Monitoring methods and frequency, and also the approach to calculating annual average, will depend on the species. Monitoring efforts also may be limited to certain areas of the Reserve System, which rotate from year to year. For some Covered Species, population data is not available to establish a baseline prior to the start of MSHCP implementation. For these Covered Species surveys must be conducted early in MSHCP implementation to establish the baseline from which future data will be compared for trends. These efforts are described below in Section 6.3 in more detail.

Objective 3B. Identify and protect maternity roosts of spotted bat. If a Townsend's big-eared bat roost is detected in the Reserve System and potentially impacted by Covered Activities, it shall be protected.

Spotted bat may roost in urbanized locations and roost disturbance and loss has been identified as a threat to the species (Appendix A-28). Information on roost habitat is not well known, and sites that may support reproduction shall be protected to the extent feasible, or at a minimum avoided until maternity roosting bats have vacated the roost site. Protection of maternity roost sites within the Plan Area will support reproductive success of the species. The Townsend's big-eared bat is a Covered Species; however, the habitat suitability model predicts the Plan Area is predominantly foraging habitat and impacts from Covered Activities will avoid roosts which are at higher elevations of Clark County. Based on the habitat suitability model, the most likely location for Townsend's big-eared bat roosts within the Plan Area is in the Reserve System. Protection of roosts from disturbance or destruction is important to the viability of the species (Piaggio 2005). Implementation of species-specific avoidance and minimization measures including BAT-1 (Section 6.2.3.7) for roost surveys in modeled habitat will assist in achieving this objective.

Objective 3C. Identify and protect essential populations of plant Covered Species and their habitat.

Plant species covered by the MSHCP are exceedingly rare or imperiled, and there is little to no knowledge of their true distribution across Clark County. Efforts must be undertaken to identify these populations and, once located, conservation measures and management actions must be implemented. Although much of this activity may occur on the Reserve System, identification and protection measures can also be carried out across the Plan Area, as appropriate. Implementation of plant-specific avoidance and minimization measures in Section 6.2.3.1 will assist in achieving this objective as will the Covered Plant Species Habitat identification and monitoring efforts described in the Monitoring and Adaptive Management Plan (Section 6.4).

Biological Goal 4. Foster community and stakeholder engagement to benefit Covered Species.

This goal focuses on collaboration and engagement in order to incorporate the best available science and management practices to the Conservation Strategy, to obtain stakeholder input and buy-in, and to improve joint implementation of conservation and management activities.

Objective 4A. Ensure input is obtained from key partner agencies on mitigation/restoration project plans being implemented on jointly managed land.

On BLM lands, mitigation and restoration project plans will be coordinated between DCP and BLM as specified in the Cooperative Management Agreements (CMAs) for each Reserve System Unit.

Objective 4B. Educate the public about the desert ecosystem and in Clark County and promote responsible recreation and development to avoid and minimize impacts to the environment.

This objective is intended to inform the general public, recreational users, and developers about the importance and sensitivity of the desert ecosystem and of restrictions and enforcement measures to avoid, or deter, inappropriate use of the land that may disturb Covered Species or damage their habitat. Education is provided through the DCP's Mojave Max program and through signage at major entrances and junctions of the BLM SMA Reserve System lands.

Objective 4C. Deter unauthorized land use by patrolling at least 3,120 hours of the Reserve System Units each year. DCP planning documents shall include activities to deter unauthorized use. *[This objective may be updated following further discussion with the BLM on a CMA]*

While the number of incidents is difficult to control because it is influenced by a variety of factors, the DCP will commit to implementing a certain number of patrol hours for law enforcement to increase the likelihood of detecting unauthorized use, as well as deterring unauthorized use, on Reserve System lands. The number of hours within each Reserve System Unit will not be equal as there are differences in size and public use. The number of hours that DCP will commit on public Reserve System lands (SMAs) will be collaboratively managed and implemented between DCP and BLM as described in the CMAs. The number of patrol hours this objective commits to is in addition to BLM patrols on public Reserve System lands.

Objective 4D. Project proponents and construction personnel follow best management practices (BMPs) for Covered Species and associated reporting procedures.

This objective relates to the general construction and species-specific avoidance and minimization measures (Sections 6.2.2 and 6.2.3 below). Its purpose is to ensure that project proponents are adequately trained and potential impacts to Covered Species are reduced. Ten percent of randomly selected projects will be monitored on an annual basis to ensure implementation of the avoidance and minimization measures.

6.2 Conservation Measures – Avoidance and Minimization

In compliance with federal ESA Section 10[a][2][A][ii], measures to avoid and minimize take of Covered Species are provided in this section. Project design measures are intended to reduce stressors that can result in indirect impacts to or take of Covered Species. These measures function under Objective 2B to meet Biological Goal 2 of maintaining habitat quality for Covered Species within the Plan Area. Construction measures are general measures for all construction projects to minimize impacts to habitats of and temporary stressors to Covered Species. These measures function under Objective 2B but also Objective 4D to meet Biological Goal 4 to foster community and stakeholder engagement.

Two zones, Zone A and Zone B, within the Plan Area have been designated (Figure 6-2) to guide how AMMs will be implemented. Zone A includes areas within highly urbanized and developed