10.0 IMPLEMENTATION COST AND FUNDING

The MSHCP will be implemented under a Section 10(a)(1)(B) permit issued by the USFWS to Maricopa Sun, LLC (Project Administrator). The permit term will be 35 years, and will encompass Covered Activities up to and including the decommissioning process of the solar facilities. This chapter presents an overview of the anticipated cost and funding mechanisms for the implementation of the Conservation Program (Chapter 5) and all portions of the Monitoring Program (Chapter 6) of the MSHCP, with the exception of compliance monitoring. Compliance monitoring assures that avoidance and minimization measures are enacted during construction, O&M, and decommissioning activities and costs will vary widely by project and construction schedules of the independent solar developers and their subcontractors (Developers) within the Maricopa Sun Solar Complex. This MSHCP stipulates a minimum level of compliance monitoring required to ensure no take occurs (Chapter 2; Appendix J), and those monitoring costs will be developed prior to the start of construction of each Project Phase (Chapter 8, Section 8.2) and will be funded by each Developer through the Project Administrator. Extensive financial analyses of projected costs to implement have been performed. The general assumptions and cost estimates are below.

10.1 Land Acquisition

There are multiple land types within the Project, consisting of Conservation Sites, Solar Sites and Movement Corridors. All land required for both solar development and mitigation for that development has been identified in this MSHCP (Chapter 2, Section 2.2), and is controlled by the Project Administrator. Therefore no additional land acquisition is necessary to meet development or mitigation obligations. Project phasing for the Maricopa Sun Solar Complex will occur such that all obligations for project mitigation will be met prior to development of the Solar Sites (Chapter 8, Section 8.2).

10.2 Program Administration

The Project Administrator will be responsible for the coordination of the MSHCP and working with the Developers, Conservation Easement Holder, and Endowment Holder to comply with the MSHCP. All costs associated with the implementation of the Compliance Monitoring, Interim Habitat Management Plan (IHMP) and Long Term Habitat Management Plan will be the responsibility of the Project Administrator. Costs shall be recuperated from each Developer related to their portion of the Project and commensurate with the Phasing Plan.

10.2.1 EASEMENT AGREEMENT

The Project Administrator will coordinate the establishment of an Easement Agreement that will be entered into by the titleholder(s) of the conservation lands and solar project lands, with a designated non-profit organization (Conservation Easement Holder) for purposes of establishing conservation easements thereon. Any funding associated with the establishment of the Easement Agreements will be provided by the Developer(s), and managed and coordinated by the Project Administrator. The Conservation Easement holder will be the grantee of the conservation easement and will provide third-party oversight to ensure compliance with the terms of the

conservation easement. The funding for the oversight activities will be paid for from the interest generated by the endowment.

10.2.2 ENDOWMENT AGREEMENT

An Endowment Agreement will be entered into between the Project Administrator and a designated non-profit organization (Endowment Holder), and the Project Administrator will require each Developer to contribute funds for purposes of managing and maintaining the conservation lands and the solar project lands on a long-term basis (managing and monitoring during the Project's life will be on a "pay-as-you-go" arrangement). The Endowment Holder will be responsible for managing the endowment and the disbursement of management funds from the endowment in accordance with Long Term Habitat Management Plan and the Endowment Agreement.

10.3 Cost to Implement

There are three separate types of activities and associated cost components within the MSHCP; Compliance Monitoring, the Interim Habitat Management Plan and the Long Term Habitat Management Plan. All habitat monitoring activities and funding will be coordinated by the Project Administrator and funded by the Developer(s). This Chapter is written from a Project level, because the projects of individual Developers are expected to vary in size, timing, location, etc. Any individual Developer will be responsible for funding their portion of each of the three activities, as determined by the Project Administrator.

10.3.1 COMPLIANCE MONITORING

As described above in Section 10.0, the solar development projects of individual Developers may vary in footprint, construction scale, construction duration, style, and other factors. The costs of compliance monitoring will depend on the scale of each individual solar development and will be determined prior to the start of construction. The Project Administrator will provide the Developer with the Compliance Monitoring terms of the MSHCP and the Developer will provide the Project Administrator with a construction plan and schedule. The Developer and the Project Administrator (in consultation with the Monitoring Agent) will then confer on the cost associated with the required level of Compliance Monitoring and the Developer will provide the requisite funding to accomplish the Compliance Monitoring. This funding will be provided on a pay-as-you-go arrangement.

Biological compliance monitoring will be conducted by a third-party biological consultant and will consist of several components, including pre-activity surveys, daily pre- and post-activity sweeps, and daily monitoring of work activities (Section 2.3.5). The costs associated with biological compliance monitoring will vary depending upon the scale of the solar project and the individual billing rate for a given third-party consultant. A general cost breakdown for an individual solar development can be estimated using a hypothetical solar facility development and billing rates for a typical biological consulting firm (Table 10-1).

Table 10-1
Cost Estimate for Biological Compliance Monitoring
for a Hypothetical 160-Acre Solar Development

Expense	Occurrences	Cost/ Occurrence[1]	Total Cost (160 acres)
Pre-activity surveys[2]	1	$2,989.80	$2,989.80
Construction monitoring	220[3]	$2,816.00[4]	$619,520.00
Travel[5]	220	$612.00	$134,640.00
Reporting[6]	1	$51,150.00	$51,150.00
10% Admin fee			$79,470.05
Construction subtotal			**$887,769.85**
Annual O&M monitoring[7]	12	$704.00	$8,448.00
Annual O&M Travel	12	$612.00	$7,344.00
Annual O&M Reporting[6]	1	$5,280.00	$5,280.00
10% Admin fee			$2,105.40
O&M Subtotal			**$23,177.40**
Pre-activity surveys	1	$2,989.80	$2,989.80
Decommissioning monitoring	110[8]	$2,816.00[4]	$309,760.00
Travel[5]	110	$612.00	$67,320.00
Reporting[6]	1	$27,940.00	$27,940.00
10% Admin fee			$40,485.50
Decommissioning subtotal			**$448,495.30**
Project total			**$1,359,442.55**

1. Cost/Occurrence is estimated at an hourly rate of $88.00 for an eight hour work day.
2. Pre-activity surveys will involve 32 person hrs (4 biologists for a period of 8 hrs) + travel (@ 1 hr 30 min /75 miles round trip)
3. Construction of a 160 acre solar facility is estimated to take approximately 10 months (220 days).
4. Construction/decommissioning monitoring will involve four biologists per day for an eight hour work day.
5. Travel is estimated at one and a half hours round and 75 miles trip from Bakersfield at a rate of $88.00 for four biologists.
6. Reporting during the construction and decommissioning phases will include monthly and final reporting; reporting during operations and maintenance will be annual.
7. Operations and maintenance activities are anticipated to occur no more than once a month on average to include expected and unexpected activities.
8. Decommissioning of a 160 acre solar facility is estimated to take approximately 5 months (110 days).

For example, for a 160-acre solar facility, pre-activity surveys (pre-construction and pre-decommissioning) will be required prior to any ground-disturbing activities (Table 10-1). Only a single pre-activity survey (pre-construction and pre-decommissioning) will be required as ground-disturbing impacts are anticipated to occur over the entire 160-acre site. In the event that a period of 14 days lapses with no activity on the site, or a portion of the site, pre-activity surveys would need to be repeated for the site, or portion of the site. Pre-activities surveys of a 160-acre solar facility can general be completed by four biologists in an eight hour work day (assuming a walking pace of roughly one mile per hour and transects spaced 100 feet apart to provide full site coverage). During all on-site activities (construction, operations and maintenance, and decommissioning), a biological monitor will be present to monitor work crews.

During peak periods of activity (construction and decommissioning), four biological monitors will be present per 160-acre solar development. Assuming eight-hour work days, travel from Bakersfield, necessary reporting to the Project Administrator, Developer, and agencies, and a 10% administrative fee, the total cost for biological compliance monitoring for a 160-acre solar facility can be estimated to be $1,359,442.55 over the life of the solar project (approximately 35 years) (Table 10-1). This total dollar value amounts to $8,494.47 per solar development acres.

10.3.2 INTERIM HABITAT MANAGEMENT PLAN

The Interim Habitat Management Plan (IHMP, Appendix C) describes the ecological and resource management activities that will take place on the Project during the 35 year life of the Project, as well as all necessary capital ecological improvement actions on the Project. The Project will be phased, thus, various ecological management activities may begin and end at different times throughout the life of the Project. Tables 10-2 through 10-4 outline the estimated costs for implementation of the IHMP for the Project over all 1,894.4 acres of the Conservation Sites. Prior to the development of any individual Phase of the Project, an IHMP implementation security (Security) will be provided by the Project Administrator to the Conservation Easement Holder in the form of an irrevocable standby letter of credit. The Security will be maintained in an amount sufficient to complete the 3 coming years of IHMP activities in each developed phase (Table 10-2). The first year of development of any individual Phase will require a greater Security amount, because of capital improvement costs in Year 1 (Year 1 LOC), but then following completion of the capital improvement activities, the Security will decrease to and be maintained at for the duration of the Project, a level sufficient to implement the 3 coming years of IHMP monitoring activities (Ongoing LOC). The Project Administrator will ensure that the appropriate amount of Security will remain in effect throughout the duration of the Project. Specific details of the Security calculation can be found in Appendix C (IHMP) of the HCP.

Table 10-2
Interim Habitat Management Plan – Phased Security Summary

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Construction Cost	$181,282	$146,322	$105,329	$86,502	$146,005	$ -
Annual Monitoring Cost	$27,034	$42,390	$58,907	$74,457	$91,168	$91,168
Tier 2 Monitoring Cost	$72,600	$130,680	$174,240	$203,280	$232,320	$261,360
Year 1 LOC* (3 years of IHMP activities w/ construction)	$480,183	$665,531	$804,771	$919,712	$1,116,469	$1,057,584
Ongoing LOC** (3 years of IHMP activities, no construction)	$298,901	$519,209	$699,442	$833,210	$970,464	$1,057,584

*Calculated by adding "Construction Cost" to 3 years of "Annual Monitoring Cost" and 3 years of "Tier 2 Monitoring Cost"
*Calculated by adding 3 years of "Annual Monitoring Cost" and 3 years of "Tier 2 Monitoring Cost"

10.3.3 LONG TERM HABITAT MANAGEMENT PLAN

The Long Term Habitat Management Plan (LTHMP, Appendix C) describes the ecological and resource management actions that will take place initially on the Conservation Sites, and then on all land types (Conservation Sites, Solar Sites and Movement Corridors) following decommissioning. The Project will be phased, thus, various ecological management activities may begin and end at different times throughout the life of the Project. The estimated cost for the implementation of the LTHMP was determined by a PAR-like analysis. This analysis is used to determine the amount of funding necessary to establish a non-wasting Endowment, from which, the interest generated will be sufficient to implement the LTHMP. Individual Developers will be responsible for funding a portion of the Endowment as determined by the Project Administrator. Where IHMP and LTHMP activities overlap, the Project Administrator may bill the Endowment to recover the costs of overlapping activities.

The LTHMP will initially be implemented on only the Conservation Sites, then following decommissioning; the Solar Sites and Movement Corridors will also be managed for their habitat values according to the terms of the LTHMP. The Endowment will therefore be funded in two primary intervals, according to the Phasing Plan (Chapter 8, Section 8.2); the Initial Funding will be sufficient for the management of the Conservation Sites, and then the Supplemental Funding will be added to the Endowment to extend LTHMP management activities to the decommissioned Solar Sites and Movement Corridors. The Supplemental Funding will be contributed to the endowment following the initiation of each phase in an amount such that at the time the Solar Sites are decommissioned, the Supplemental Funding will have grown sufficiently to fulfill the funding requirements for managing the Solar Sites according to the LTHMP. The Initial Funding and the Supplemental Funding will be adjusted for inflation prior to the initiation of each phase, by adjusting said phase's contributions by a percentage equal, if any, to the percentage increase in the California Consumer Price Index ("CPI", as published by the California Department of Industrial Relations), between the finalization date of this HCP and the initiation of said phase. Further, the Supplemental Funding contribution for each phase will be recalculated for the number of years remaining between the initiation of said phase and the time to decommissioning, accounting for the reduction in compounding interest periods.

Table 10-3 outlines the current year estimated Initial Funding contribution, the estimated Supplemental Funding contribution and the total funding contribution. The Initial Funding contribution is anticipated to be funded incrementally according to the construction of the Project Phases (Chapter 8, Section 8.2). Specific details of the PAR-like analysis can be found in Appendix C of the HCP (Part 2: LTHMP).

Table 10-3
Long Term Habitat Management Plan Estimated Costs

Land Type	Acres	Ave. Annual Cost	Capitalization Rate	Total Endowment Contribution
Conservation Site	1,894	$57,385.88	4.00%	$1,769,015.31
Full Project (Yr. 35)	5,784	$160,266.47	4.00%	$5,017,059.55
		Initial Funding		$1,769,015.31
		Supplemental Funding		$3,248,044.24
			Total Funding	**$5,017,059.55**

Table 10-4 (Finish updating table per PAR @ Phase 2)
Long Term Habitat Management Plan Estimated Contributions by Phase

Land Type	Phase	Acres	Endowment Contribution	Capitalization Rate	Total Endowment Contribution
Conservation Site	1	356.8	$824,074.74*	4.00%	$824,074.74
Solar Site	1	640	$138,758.40*	4.00%	$138,758.40
Conservation Site	2	420	$203,015.31*	4.00%	$1,027,090.05*
Solar Site	2	640	$138,758.40*	4.00%	$277,516.80*
Conservation Site	3	380	$223,052.91*	4.00%	$1,250,142.96*
Solar Site	3	640	$138,758.40*	4.00%	$416,275.20*
Conservation Site	4	380	$199,687.06*	4.00%	$1,449,830.02*
Solar Site	4	640	$138,758.40*	4.00%	$555,033.60*
Conservation Site	5	357.6	$319,185.29*	4.00%	$1,769,015.31*
Solar Site	5	640	$138,758.40*	4.00%	$693,792.00*
Conservation Site	6	0	$0.00	4.00%	$1,769,015.31*
Solar Site	6	598.2	$129,695.75*	4.00%	$823,487.75*
			Initial Funding		$1,769,015.31*
			Supplemental Funding		$823,487.75**
				Total Funding	**$2,592,503.06****

*Phases 2 – 6 will be adjusted annually for inflation (by the change in the Consumer Price Index).
**The Supplemental Funding will be maintained and accrue interest in a separate account, to be contributed to the Initial Funding, following Solar Site decommissioning. The Supplemental Funding account is anticipated to total $3,249,555.95, at year 35, at a 4% capitalization rate compounded annually.