

Adaptive Management Program

Adaptive Management and the Clark County MSHCP

Adaptive Management is the use of evidence-based data and best scientific knowledge to improve management and programmatic actions and to reduce the uncertainty inherent in those actions. This approach is the core of the Clark County Multiple Species Habitat Conservation Plan (MSHCP), which also includes a strong emphasis on transparency in decision making to increase the accountability of the program.

The MSHCP supports an incidental take permit from the United States Fish and Wildlife Service (USFWS). When reviewing the MSHCP and issuing the incidental take permit, the USFWS required certain tasks be completed on a regular or ongoing basis. The MSHCP documents and the USFWS review document, the Biological Opinion, require the below tasks be a component of the Adaptive Management Program.

- Independent, Science-based Contractor (Science Advisor) to provide ongoing advice and guidance
- Tracking of
 - land use trends
 - covered species habitat loss
 - covered species status
 - effectiveness of MSHCP mitigation actions
- Provide periodic Science Advisor recommendations for future budgets and implementation plans

Annual Public Symposium

The Desert Conservation Program hosts an annual symposium to highlight the progress made to date in implementation of the MSHCP. Peer review of the presentations and opportunities for the audience to ask questions are key features of the symposium. Presentation materials from past symposia are posted on the DCP website.



The 2010 MSHCP Progress Report Symposium

Independent Science Advisor

Since 1999, there has been an independent Science Advisor consultant working with the DCP to implement the adaptive management program. Over the years this role has been held by University of Nevada Reno, Desert Research Institute, and most recently Enduring Conservation Outcomes, LLC. Each Science Advisor consultant has brought their staff and subcontractor expertise to bear on the issues facing the DCP.

The MSHCP Science Advisor participates in regular reviews of the MSHCP status and addresses the Adaptive Management Program tasks required by the USFWS. In addition, Science Advisor assists with reviews of MSHCP projects and designs for monitoring and conservation plans. Science Advisor is also available to conduct data analyses and literature searches as needed.



Science Advisor and DCP staff members find it most efficient to hold some monthly meetings in the field, but other meetings require laptop computing.

Regular, biennial reports from Science Advisor on the above tasks are known as Adaptive Management Reports, and are provided to decision makers as they prepare the implementation plans and budgets for implementation of the MSHCP. These reports are archived on the Desert Conservation Program's (DCP) website.

Peer Review

New methods, final reports and symposium presentations receive peer review. Most peer reviews for the MSHCP are coordinated by the US Geological Survey's Western Ecological Resource Center, and many of the reviewers remain anonymous to the DCP staff. USGS selects reviewers for the annual MSHCP Progress Symposium. DCP staff use other experts to peer review the work of USGS projects.

Timeliness and Focus of Reviews

Peer reviewers for the MSHCP receive stipends in exchange for a strict deadline to complete the review. Reviewers also receive a review form to ensure MSHCP questions are addressed in their review. They are also encouraged to provide additional comments.

Questions for New Method Documents

- Are the objectives clearly stated?
- Are the critical assumptions identified?
- Are methods clearly described in sufficient detail to achieve stated objectives?
- Are the proposed data analyses appropriate to address each objective?
- What are the strengths and weaknesses of the approach taken in this project?

Questions for Final Reports

- Were goals clearly stated and adequately addressed in the report?
- Are methods clearly described and tied to goals of the project?
- Are claims made in the final project report supported by the materials presented, and if not, what is lacking?
- What are the strengths and weaknesses of the approach taken in this project, in the event a similar approach is proposed or considered in the future?

Questions for Symposium Presentations

- Are the project objectives clearly stated?
- Is the study design adequate to address the project objectives?
- Is the data analysis (and/or results, if presented) a logical extension of the study?
- Are conclusions or recommendations supported by the results (if presented) or by expert knowledge and/or recent literature?
- What else should be done (more analysis, review other data, contact experts) to address the project objectives?
- Did organization of the presentation clearly present the project?

Website

The Desert Conservation Program has a set of webpages on the www.ClarkCountyNV.gov website. These webpages contain information for stakeholders, developers and scholars. Past and new compliance updates, Adaptive Management Reports, conservation strategy and planning documents and final project reports are posted on the website.



The DCP webpages contain a wealth of information about implementation of the MSHCP, including copies of symposium presentations, final project reports and conservation plans.

Data Based Decisions

The DCP maintains a database of spatial and other data from past projects and third party sources. These data are used in daily decision making and in regular analyses to address the tasks of the AMP. In addition, these data are used for special projects that improve the effectiveness and efficiency of MSHCP implementation.

The MSHCP identifies 604 possible conservation actions that mitigate and monitor the impacts of take on covered species and their habitats, and 22 permit conditions. A set of tables tracks which MSHCP projects have addressed each of the actions and permit conditions.

The MSHCP Species Database has been recently upgraded and updated with new datasets. A new users' guide was also produced. This database catalogs the datasets available to the MSHCP for analyses and decision making.

Data fields in the upgraded MSHCP Species Database

The form contains the following fields and sections:

- Record ID:** (New) Add New Record
- Species:** Choose Species From List, Species Scientific Name, Species Common Name
- Location Information:** Population Name, Monitoring Site Name (YUTM), Population Name Source, Monitoring Site Description (YUTM), Comments On Population Delineation, Monitoring Site Type
- Data Source:** Report Name, Surveyor, Surveyor Affiliation
- Monitoring Overview:** Monitoring Objectives, Monitoring Method (with Standardized Monitoring Protocol checkbox), Monitoring Method Comments, Standardized Monitoring Protocol Source
- Monitoring Data Summary:** Survey Date (Day, Month, Year), Abundance #, Abundance Unit, Data File Name, Observation Area (m2), Abundance SD, Qualitative Estimate, Spatial Data File Name, Evidence of Reproduction (checkbox), Abundance Comments, Spatial Data Type: Point or Polygon, Evidence of Reproduction Comments, Absence/Dead Data (Absence/Dead checkboxes), PDF/Sketch (checkbox)
- Environmental/Threat Data:** Habitat Data, Elevation Data, Geological Data, Soils Data, Precipitation Data, Threat Data, Environmental/Threat Data Comments
- Additional Comments:** Additional Comments

For further information

Please contact swainsco@ClarkCountyNV.gov for more information
<http://www.clarkcountynv.gov/depts/dcp/Pages/default.aspx>

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