

Final

**Clark County Multiple Species
Habitat Conservation Plan**

Law Enforcement Needs Assessment

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Contents

	Page
Introduction	1
The Purpose of the Needs Assessment.....	1
The Value of Conservation Law Enforcement in Natural Resource Management	1
Conservation Law Enforcement—Origins and the North American Model	2
Needs Assessment Methodology	4
Questionnaire and Field Observation	4
Literature Review and Agency Contacts.....	4
Law Enforcement Working Group.....	5
Conservation Law Enforcement and the MSHCP	5
Clark County MSHCP Setting and Plan Goals.....	5
MSHCP Law Enforcement Mandates and Implications.....	6
Agency-Specific Findings	17
Introduction	17
BLM.....	17
National Park Service	25
U.S. Forest Service	32
U.S. Fish and Wildlife Service	36
Boulder City Conservation Easement.....	41
Nevada Division of Wildlife	45
Nevada Division of Forestry.....	49
Clark County Parks and Community Services	50
Las Vegas Metropolitan Police Department.....	50
City of Boulder, City Police Department.....	51
Nevada Highway Patrol.....	51
Wackenhut Corporation.....	52
Summary of Agency-Specific Findings and Cumulative Enforcement Presence	52
Federal Agencies	52
State Agencies	55
Other Law Enforcement.....	55

Conservation Law Enforcement 2000 to 2035	56
The Growth Factor	56
Review of Other Regional Habitat Conservation Plan Law Enforcement and Compliance Strategies.....	62
Supplemental Enforcement and Compliance Alternatives and Strategies	63
Resource Problem Monitoring Using Trained Volunteers	63
Compliance Monitoring Using General Public Reports of Violations/Problems.....	64
Compliance Monitoring Using Trained Volunteers	66
Agency Resource Sharing	67
Enhanced Public Education/Awareness	68
Proactive Resource Partitioning	70
 Contractor Recommendations	 71
 References	 72

Tables

Table	Page
1 Mandates: MSHCP Conservation Actions that Mandate Law Enforcement	7
2 Implications: Conservation Actions That Imply or Carry the Expectation of Compliance and Implying an Enforcement Component or Presence.....	10
3 Conservation Actions and Programs to Respond to Stressors	14
4 Clark County Population Forecast: 2002 through 2035.....	57
5 All OHV and Street-Licensed DMV Data.....	59

Appendices

Survey QuestionnaireAppendix A

Enforcement Coverage: Public Use EstimatesAppendix B

Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
ATV	All-Terrain Vehicle
BCCE	Boulder City Conservation Easement
BLM	U.S. Bureau of Land Management
CCP	Comprehensive Conservation Plan
CFR	Code of Federal Regulations
CMS	Comprehensive Management System
DNWRC	Desert National Wildlife Refuge Complex
EIS	Environmental Impact Statement
EMT	Emergency Medical Technician
ESA	Endangered Species Act
FTO	Field Training Officers
GRPA	Government Performance Results Act
H/T	Humboldt–Toiyabe National Forest
HCP	Habitat Conservation Plan
IA	Interagency Agreement
IMC	Implementation and Monitoring Committee
LEO	Law Enforcement Officer
LER	Law Enforcement Ranger
LMNRA	Lake Mead National Recreation Area
MOU	Memorandum of Understanding
MSHCP	Multispecies Habitat Conservation Plan
NCA	National Conservation Area
NDF	Nevada Division of Forestry
NDOW	Nevada Division of Wildlife
NHP	Nevada Highway Patrol
NPS	National Park Service
NRA	National Recreation Area
NRS	Nevada Revised Statutes
OHV	Off-Highway Vehicle
PAO	Public Affairs Officer
PIE	Public Information & Education
POST	Police Officers Standard Training
RPO	Resource Protection Officer
RRCNCA	Red Rock Canyon National Conservation Area
SLER	Supervisory Law Enforcement Ranger
SMNRA	Spring Mountain National Recreation Area
USC	United States Code
USDAFS	U.S. Department of Agriculture Forest Service
USFWS	U.S. Fish & Wildlife Service

Law Enforcement Needs Assessment

Introduction

The Purpose of the Needs Assessment

The Clark County Multiple Species Habitat Conservation Plan (MSHCP) and associated Section 10(a) 1(B) 30-Year Incidental Take Permit as issued by the U.S. Fish and Wildlife Service (USFWS) require the implementation of ongoing conservation actions to ensure the survivability of the 78 permit-covered species (RECON 2000). Clark County, through its Board of Commissioners-appointed MSHCP Implementation and Monitoring Committee (IMC), reviews the ongoing conservation actions and makes recommendations for adjustment to conservation actions and expenditure of funds. In consideration and review of ongoing conservation law enforcement activities and requests for additional funding for conservation enforcement work, the IMC contracted for a needs assessment to research the existing habitat protection law enforcement services in Clark County, describe the current situation including needs and costs, and project future needs in this area by identifying alternatives and funding sources (Shlegel 2002).

The Value of Conservation Law Enforcement in Natural Resource Management

Natural resource managers and administrators often state that sound science, financial support, and social acceptance are the key elements necessary for perpetuation of natural resources. Effective conservation of natural resources must be based upon sound science that guides resource management actions and prescriptions to avoid loss of resources and waste of available finances. Financial support must be available in the amount necessary to support science, enhance public understanding, and implement identified conservation measures. Social acceptance stemming from public understanding of the need for resource conservation is essential to obtaining funding for resource conservation and attaining compliance with law. Conservation law enforcement plays a pivotal role in enhancing social acceptance by protecting resources, assuring compliance, and furthering understanding and molding public opinion about conservation laws and measures. If any of these key elements are missing or weakened, the perpetuation of natural resources will be compromised.

Conservation Law Enforcement—Origins and the North American Model

The development and enforcement of measures or laws that were intended to protect natural resources has a long history. As society moved from hunter-gathers of wildlife to landed agriculturists, wildlife was considered the property of the landowner, usually the aristocracy, in the European model that has existed since the Middle Ages. Emigrants from Europe to North America sought change to a number of European customs and traditions including the notion that wildlife is the property of the landowner. At the time of settlement, natural resources were considered to be available to the public for use and subsistence. With the advent of ownership and claims to private land, the rights to take vegetation and minerals were ceded to the property owner, but wildlife came to be considered a public trust resource, not owned or controlled as an element of private property ownership (Sigler 1967).

Notwithstanding native American tribal custom and culture, one of the first references to regulated take of wildlife in North America was to hunting privileges granted in 1629 by the West Indies Company to persons planning colonies. As colonial governments evolved, they assumed the responsibility to legislate and regulate on behalf of wildlife. By the time of the American Revolution, 12 colonies had enacted limited, closed seasons (Gabrielson 1951). After establishment of a federal constitution and recognition of various state governments, laws regulating the protection and use of wildlife and other natural resources were enacted at both the federal and state levels. The enforcement of the various natural resource protection laws was relegated usually to the entity, federal or state, that developed a particular piece of legislation or law.

At present there is a substantial network of laws and regulations, federal and state, intended to protect natural resources. Today's elevated level of concern for sustainability and protection of natural resources is directly linked to the public's continued and increasing reaction to the over-exploitation of natural resources that coincided with post-European settlement of North America, the advances in technology that were used to extract and process natural resources, and the unprecedented growth of human population and subsequent demand and competition for natural resources that occurred during the past 250 years (Lichatowich 1999). The competition and over-utilization of natural resources was referred to by some as the "tragedy of the commons" (Hardin 1968).

The accelerated use resulting in diminishing of natural resources since European settlement of North America resulted in establishment of federal and state laws and initiatives intended to protect and preserve natural resources. Examples of these measures to preserve natural resources include the following milestones.

- Congress established the U.S. Fish Commission (the beginning of today's USFWS) in 1871 to study and recommend ways to reverse the apparent decline in America's food fishes.
- The world's first national park, Yellowstone, was established in 1872 and was followed in 1916 with the creation of the National Park Service (NPS).

- The first unit of the nation’s national wildlife refuge system was established in 1903.
- Passage of federal law dealing in illegal interstate trade in animals (Lacey Act) was passed in 1900. It was followed by the Migratory Bird Treaty Act of 1918 that ended commercial hunting of migratory birds and resulted in the establishment of an enforcement branch within the USFWS.
- The exploitation of forest resources led to the need for forest and watershed management and protection and to the establishment of the USDA Forest Service (Forest Service) in 1905.
- Range damage and resource competition by unregulated livestock use of public lands resulted in creation of the Grazing Service, forerunner to the Bureau of Land Management (BLM), in the 1930s.
- By the late 1960s and early 1970s, continued human population growth, accompanying demand, and exploitation of natural resources for human use resulted in resource degradation that led to public demand for federal environmental mandates, producing
 - the Clean Air Act (1970) for maintenance of air quality,
 - the Endangered Species Act (ESA) (1973) for protection of endangered, threatened, or at-risk species and their habitats,
 - the Organic Act (1976) for protection of public lands and resources under the BLM, and
 - the Clean Water Act (1977) for protection of water quality and creation of the federal Environmental Protection Agency.

The evolution of federal involvement in conservation and preservation of natural resources was mirrored at the state level. States also enacted laws and statutes in ways that either paralleled and supported federal law or provided protections for natural resources that remained unregulated by the federal government and within the purview of each state. This centuries-long evolution of enactment of legal measures in support of natural resource conservation and protection at both the federal and state levels gave impetus to what is now known as conservation law enforcement.

However, merely passing laws, statutes, regulations and codes did not automatically result in the desired effect. Although the United States is considered a “society of law”, from the time of settlement, the taking and use natural resources was considered a normal activity associated with settlement or land and economic development. Laws adopted to conserve natural resources were at times met with resistance from individuals, groups and communities whose culture and economics were negatively effected by newly enacted legislation. Although generally recognized as well meaning, laws that tended to protect or partition natural resources among competing interests were often not fully supported and sometimes ignored by those who acquired food, shelter, or economic return from natural resources. Over time it became evident that protection of public trust resources, such as wildlife and vegetation found on public lands, would require an element of law enforcement to attain public compliance. The laws prescribed the protective measures and resource

management goals and regulations identified limits of resource availability or exploitation, law enforcement was instituted to monitor compliance and to bring instances of alleged non-compliance before an administrative justice system or a court (depending upon the severity or extent of non-compliance). When guilt could be established, penalties could be assessed for failure to adhere to established law and regulation and thereby encourage compliance. Both state and federal governments developed and staffed law enforcement programs that included the employment of wardens, rangers, or agents to monitor public use of natural resources in relation to established law and regulation.

Needs Assessment Methodology

Questionnaire and Field Observation

This report consists mostly of information gathered from a questionnaire that was completed by relevant agencies to document the current situation. The questionnaire (Appendix A) was distributed to and completed by personnel charged and familiar with the law enforcement programs of their respective agencies. Their timely, comprehensive, and candid responses to the questionnaire are the core of this assessment.

Field enforcement personnel of agencies providing primary support to the MSHCP and enforcement services for the Boulder City Conservation Easement (BCCE) made themselves, their programs, their vehicles, and patrol areas available for discussion and observation of issues, concerns, and opportunities for applying and improving conservation enforcement and public service. Their knowledge of their areas of responsibility and the natural resources they protect, and their desire to give the best resource protection and customer service possible, become evident after spending only a short time in their field offices. Spending time onsite with field enforcement personnel is highly recommended for anyone concerned about the application of enforcement in the conservation of natural resources.

Literature Review and Agency Contacts

Relevant literature was reviewed in order to identify methods used elsewhere for compliance to conservation laws. Members of the North American Wildlife Enforcement Officers Association and state and federal law enforcement personnel of numerous natural resources agencies also assisted in contacting individuals having experience with non-traditional, but undocumented, methods of attaining compliance with conservation laws. In addition, enforcement personnel were never too busy to share advice and experiences on successes and potential problems associated with existing and alternative conservation enforcement models. This demonstrated trait of open and candid discussions of natural resource management issues and options, even by telephone to a stranger, likely stems from careers built on direct and informative interactions with the

public. It reinforces the belief that some of the best natural resource management is people management and good enforcement personnel have acquired that skill.

Law Enforcement Working Group

Members of the IMC's Law Enforcement Working Group contributed substantially to the development of this needs assessment by candidly reinforcing the focus points that had spawned the project originally. They also provided a diverse perspective and interest necessary to encourage examination of the existing and traditional conservation enforcement model and to explore alternatives. Each working group member contributed in ways that were beneficial to the process regardless of whether they were traditional law enforcement, the culture of rural communities, off highway vehicle (OHV) enthusiasts, environmental preservation, academia or local government or, in some cases, a combination of several philosophies.

Clark County Department of Comprehensive Planning took the lead in establishing working group meeting agendas; preparing meeting notices; printing/emailing meeting minutes; focusing meeting discussions; moving participants toward attainment of progress; and providing needed encouragement, support, tools and information for use by the assessment preparation team. Their contributions were of high quality and essential to success with appropriate and timely amounts of encouragement and advice for all.

Conservation Law Enforcement and the MSHCP

Clark County MSHCP Setting and Plan Goals

Clark County's MSHCP is intended to maintain viability of natural habitat for 232 sensitive species. The MSHCP was prepared in conformance with the ESA of 1973, as amended. More specifically, the plan was prepared to obtain a Section 10(a) Permit (Permit) from the USFWS covering six federally listed or candidate species and Prelisting Agreements for 73 of the 232 species that are currently not listed. The MSHCP treats all 79 species covered under the Permit (Covered Species), regardless of their listing status, as if they were listed and provides habitat and species management and protection to the standards established in Section 10(a)(1)(B) of the Act and 50 Code of Federal Regulations (CFR) 17.32(b) and 17.22(b) for the term of the Permit (30 years) (RECON 2000).

The overall MSHCP mandate for natural resource management and protection connotes the need for intervention to maintain or enhance habitat conditions or a species presence and to remove, deny, or guard against elements or actions that, in the context of the MSHCP, could harm or result in unmitigated or unauthorized take of species or their habitats. Conservation law enforcement is essential to the success of the MSHCP in gaining public compliance with laws and the conservation measures designed to provide habitat and species protection

for the MSHCP's covered species. The MSHCP identifies agency-specific conservation enforcement actions that resource management agencies need to perform in order for the plan to be fully implemented and effective.

The majority of MSHCP's covered species are found on federally-managed public lands that are administered by one of four federal agencies: BLM, NPS, USFWS Refuge Division, and Forest Service, and the primary responsibility for management and protection of these species and their habitat falls to those agencies. Other agencies having countywide, MSHCP-related responsibility for species and habitat protection and management include Nevada Division of Wildlife (NDOW) (state-protected fauna and habitat) and Nevada Division of Forestry (NDF) (state-protected flora). Additionally, Clark County implements MSHCP enforcement of conservation measures within BCCE lands of Eldorado Valley. Figures depicting jurisdictional boundaries of agency-specific enforcement responsibility for BLM, NPS, USFWS, Forest Service and Clark County are found in Appendix B.

MSHCP Law Enforcement Mandates and Implications

Table 1 contains agency-specific, annotated law enforcement requirements and Table 2 identifies law enforcement activity that is implied to support MSHCP conservation measures, objectives, or the terms and conditions of special permits. Table 3 identifies species or habitat threats and lists law enforcement actions and measures that might be applied to reduce or avert a threat or stress. The information was extracted from the Clark County MSHCP and the Implementation Agreement (IA) that was signed by entities responsible for species and habitat protection and conservation.

Table 1. Mandates: MSHCP Conservation Actions that Mandate Law Enforcement

Document	Section/ Page Number	Agency	Language (directly from MSHCP/IA)
MSHCP	Section 2.8.8.1 Pg. 2-261	NDW	Prohibit driving off-road in OWMA.
MSHCP	Section 2.8.8.1 Pg. 2-262	NDW	Prohibit camping at OWMA except at designated campsites.
MSHCP	Section 2.8.8.1 Pg. 2-261	NDW	Increase enforcement of regulations prohibiting camping within 100 feet of key water sources, as defined through the adaptive management process.
MSHCP	Section 2.8.8.1 Pg. 2-261	NDW	Facilitate enforcement of leash laws and feral animal control in the Spring Mountains NRA.
MSHCP	Section 2.8.8.1 Pg. 2-263	NDW	Regulate hunting, trapping, and fishing allowed at OWMA.
MSHCP	Section 2.4.3.3 Pg. 2-79	NPS	All vehicles must be licensed and street legal. There is no off-road travel permitted.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Prohibit off-road driving and post signs to that effect throughout Valley of Fire State Park.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Prohibit collection or destruction of vegetation, including dead and down material.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Prohibit collection or destruction of rocks or other minerals.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Prohibit hunting, collection (other than for scientific research), or harassment of any wildlife.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Prohibit open campfires, except in designated campgrounds.
MSHCP	Section 2.8.8.3 Pg. 2-270	NPS	Limit camping to areas provided. No overflow camping is permitted.
MSHCP	Section 2.8.8.3 Pg. 2-271	NPS	Prohibit use of pitons, chocks, or other such climbing devices or any magnesium carbonate chalk in climbing the formations, except for rescue operations, in Valley of Fire State Park.
MSHCP	Section 2.8.8.3 Pg. 2-271	NPS	Prohibit unconstrained pets or domestic animals.
MSHCP	Section 2.8.8.4 Pg. 2-271	NDF	Prohibit the removal or destruction of native flora listed as fully protected (NRS 527.270), except by special permit.
MSHCP	Section 2.8.4.5 Pg. 2-213	USDAFS	Ensure consistent law enforcement and ranger presence on the east side of the NRA, west side of the NRA, and in the Wilderness Area.
MSHCP	Section 2.8.5.5 Pg. 2-235	USFWS	Allow collection by permit only.
MSHCP	Section 2.8.5.5 Pg. 2-235	USFWS	Prohibit access to caves for recreation.

Table 1. Mandates: MSHCP Conservation Actions that Mandate Law Enforcement (Cont'd)

MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Prohibit collection of plants, animals, and mineral materials in Red Rock Canyon NCA without a permit.
MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Restrict mountain bikes and other mechanized non-motorized vehicles to designated trails within the RRCNCA and only allow new trails consistent with the conservation of BLM sensitive species, including the Spring Mountain milkvetch.
MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Limit motorized uses in the Piute/Eldorado "Conserved Habitat" to designated roads and trails.
MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Limit motorized vehicles in WSAs to existing roads and trails as listed in inventory maps, or as otherwise authorized. Close unauthorized roads in WSAs.
MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Prohibit OHV competitions within Red Rock Canyon NCA.
MSHCP	Section 2.8.6.5 Pg. 2-240	BLM	Do not allow OHV speed events within ¼ mile of key mesquite woodlands from February 1 to August 1.
MSHCP	Section 2.8.6.5 Pg. 2-241	BLM	Do not allow competitive off-road vehicle events within ¼ mile of natural water sources and associated riparian areas.
MSHCP	Section 2.8.6.5 Pg. 2-241	BLM	Prohibit commercial collection of vegetative specimens within WSAs. Hobby collection may be allowed for personal use but not for commercial use, as long as the collection activity method meets the non-impairment criteria.
MSHCP	Section 2.8.6.5 Pg. 2-241	BLM	Prohibit commercial collection of cactus/yucca skeletons except in designated areas such as disposal areas, gravel pits, and sites associated with Federally approved projects that will result in the loss of surface vegetation.
MSHCP	Section 2.8.6.5 Pg. 2-241	BLM	Prohibit the cutting of firewood in Red Rock Canyon NCA.
MSHCP	Section 2.8.6.5 Pg. 2-242	BLM	Close the Sunrise Mountain and Nellis Dunes Special Recreation Management Areas to casual recreational shooting in accordance with Clark County's designated no shooting zone.
MSHCP	Section 2.8.7.5 Pg. 2-254	NPS	Prohibit destructive collecting techniques such as breaking off rock flakes and rolling cap rocks to uncover lizards.
MSHCP	Section 2.8.7.5 Pg. 2-254	NPS	Prohibit commercial collection of fauna and flora.
MSHCP	Section 2.8.7.5 Pg. 2-254	NPS	Prohibit recreational shooting.
MSHCP	Section 2.8.7.5 Pg. 2-254	NPS	Prohibit woodcutting and shrub clearing and limit other human disturbance off existing roadways.
MSHCP	Section 2.8.7.5 Pg. 2-255	NPS	Enforce existing prohibition of collecting and deter poaching through increased routine ranger patrols.
MSHCP	Section 2.8.7.5 Pg. 2-255	NPS	Prohibit commercial OHV tours and events in IMAs and LIMAs.
MSHCP	Section 2.8.4.7 Pg. 2-227	USDAFS	Do not permit introduction of new non-native species of fish or wildlife.

Table 1. Mandates: MSHCP Conservation Actions that Mandate Law Enforcement (Cont'd)

MSHCP	Section 2.8.4.7 Pg. 2-229	USDAFS	Require permits for publicized and/or organized events with 25 or more participants.
MSHCP	Section 2.8.4.7 Pg. 2-229	USFS	Require permits for groups with 15 or more pack or saddle stock. Require as part of the permit, all participants must stay on approved trails. Require removal of all hay and fecal material as part of site rehabilitation.
MSHCP	Section 2.8.4.7 Pg. 2-231	USFS	Prohibit snowmobile use in upper Lee Canyon.
MSHCP	Section 2.8.4.7 Pg. 2-232	USFS	Wilderness permits are required for all overnight use within the Wilderness. Prohibit camping in sensitive areas, as determined through monitoring.
MSHCP	Section 2.8.4.7 Pg. 2-233	USFS	Prohibit construction of developed recreation sites or additional roads in the Mount Stirling.
MSHCP	Section 2.8.5.7 Pg. 2-237	USFWS	Prohibit camping within one-quarter mile of water sources.
MSHCP	Section 2.8.6.7 Pg. 2-248	BLM	10) Designate as "Limited to designated roads and trails" for all motorized and mechanized vehicles.
MSHCP	Section 2.8.6.7 Pg. 2-248	BLM	11) Allow non-speed off-highway vehicle events subject to the restrictions identified elsewhere.
MSHCP	Section 2.8.6.7 Pg. 2-248	BLM	12) Campers may pull their vehicles off the edge of the road but must stay within 15 feet of the edge of the road, except in Wilderness Study Areas where the vehicle must remain within the berm of the road.
MSHCP	Section 2.8.6.7 Pg. 2-249	BLM	Within desert tortoise ACECs, do not allow commercial collection of flora. Only allow commercial collection of wildlife upon completion of either a credible study or investigation that demonstrates commercial collection does not adversely impact affected species or their habitat, as determined by NDW. This action will not affect hunting, trapping, or casual collection as permitted by the State. Limit collection or sale of desert vegetation and other vegetative resources for public use to approved areas including disposal areas, rights-of-way and gravel pits.
MSHCP	Section 2.8.6.7 Pg. 2-249	BLM	Do not allow OHV speed events, mountain bike races, horse endurance rides, four-wheel drive hill climbs, mini events, publicity rides, high speed testing, and other similar speed based events within tortoise ACECs. These restrictions apply to other ACECs except that horse endurance rides and mountain bike events may be allowed on a case-by-case basis.
MSHCP	Section 2.8.6.7 Pg. 2-250	BLM	Limit vehicular use to designated roads and trails in and around mesquite woodlands.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	g. vehicles shall not exceed the legal speed limit (posted or unposted) of the roads used during events. Clark County speed limit for unposted roads is 25 miles per hour. If the speed limit is not posted, the speed limit shall be 25 miles per hour.

Source: MSHCP

Table 2. Implications: Conservation Actions That Imply or Carry the Expectation of Compliance and Implying an Enforcement Component or Presence

Document	Section/Page Number	Agency	Language (directly from MSHCP/IA)
MSHCP	Section 2.8.4.1 Pg. 2-204	USDAFS	Develop a series of environmental education programs.
MSHCP	Section 2.8.8.1 Pg. 2-261	NDW	Participate in periodic riparian habitat monitoring.
MSHCP	Section 2.3.2.2 Pg. 2-42	BLM	BLM may regulate and manage organized recreational activities, in accordance with 43 CFR 8372, on R.S. 2477 roads within the DWMA as described in the implementation Agreement for the DCP, in order to protect and conserve the natural resources, habitat, and species located within the DWMA.
MSHCP	Section 2.5.3.2(d) Pg. 2-94	USDAFS	Implementation of an overnight wilderness permitting process.
MSHCP	Section 2.5.3.2(d) Pg. 2-94	USFWS	USFWS management of the DNWR includes significant constraints on recreation access and other activities.
IA	Section 11.11 Pg. 23	NDF	Shall: Issue its Master Permit to Clark County to allow individual owners of private property the right to incidentally take (List all protected species which are on our Covered Species List) upon compliance with the terms of the MSHCP.
IA	Section 11.11	USDAFS, USFWS, BLM, NPS, NDW, NDOT, NDF	...allow it [agency] to fulfill its obligations to protect ecosystems, habitats, and species consistent with statutory obligations.
IA	Section 11 Pgs. 16, 17, 18, 19, 20, 21,	USDAFS, USFWS, BLM, NPS, NAFB, NDW, NDOT, NDF	Shall: As further described in Section 2.8.5.1 of the MSHCP, institute and/or continue a Public Information and Education program in cooperation with PIE.
MSHCP	Section 2.8.6.3 Pg. 2-239	BLM	Inventory and monitor mesquite and acacia habitats in Amargosa Valley Area, Stump Springs, Pahrump Valley, Hiko Wash, Piute Wash, Meadow Valley Wash and other areas determined to be important as resting and/or nesting habitat for resident and neo-tropical migrants.
MSHCP	Section 2.8.7.3 Pg. 2-253	NPS	Inventory and monitor mesquite and acacia habitat that may be important as resting and/or nesting habitat for resident and neo-tropical migrants.

Table 2. Implications: Conservation Actions That Imply or Carry the Expectation of Compliance and Implying an Enforcement Component or Presence (Cont'd)

MSHCP	Section 2.5.3.4 (d) Pg. 2-104	USFWS	Identify general management actions for mid elevation habitats, including recreation site monitoring, campground management, environmental education programs, fire management, focusing of recreation development outside of sensitive areas, habitat restoration and enhancement at recreation sites, wild horse and burro management, and implementation of a weed management strategy.
MSHCP	Section 2.8.4.4 Pg. 2-208	USDAFS	Evaluate monitoring priorities on an annual basis and coordinate in development of additional monitoring protocols for species and habitats, as needed.
MSHCP	Section 2.8.5.4 Pg. 2-234	USFWS	Monitor and protect water sources and water flows.
MSHCP	Section 2.8.6.4 Pg. 2-240	BLM	Monitor road and trail proliferation in desert tortoise ACECs, Las Vegas bearpoppy management areas, and WSAs.
MSHCP	Section 2.8.7.4 Pg. 2-254	NPS	Monitor priority bat roosting and foraging sites and success of management actions targeted at bat protection.
MSHCP	Section 2.8.7.4 Pg. 2-253	NPS	Monitor traffic volume on road and trails near sensitive resources as appropriate.
MSHCP	Section 2.8.8.4 Pg. 2-271	NDF	Regulate the removal and possession of cacti and yucca for commercial purposes.
MSHCP	Section 2.8.4.5 Pg. 2-212	USDAFS	Develop and implement an overnight wilderness permitting process that provides education on sensitive resources.
MSHCP	Section 2.8.6.5 Pg. 2-242	BLM	Manage all cave resources as wild systems, free from commercial or show cave type developments. Special Recreation Permits for commercially guided trips by qualified cave experts may be considered if environmental studies show that cave resources will not be impacted.
MSHCP	Section 2.8.6.5 Pg. 2-244	BLM	Protect important resting/nesting habitat such as riparian areas and mesquite/acacia woodlands. Do not allow projects that may adversely impact the water table supporting these plant communities.
MSHCP	Section 2.8.7.5 Pg. 2-255	NPS	Monitor and protect water sources, including springs, seeps, and streams.
MSHCP	Section 2.8.7.5 Pg. 2-256	NPS	Eliminate exotic fish and plant species in and around springs where appropriate and feasible.
MSHCP	Section 2.8.6.7 Pg. 2-247	BLM	Do not allow saleable mineral disposal in ACECs with the following exception: 1) allow saleable mineral disposal within ½ mile of Federal and State highways and county roads identified by the RMP. These will only be allowed as extensions to existing material site rights-of-way and free use permits for State and local governmental entities, and 2) allow existing free-use and community pit authorization at one site in the Rainbow Gardens ACEC to be reauthorized or renewed but do not allow expansion of the sites.

Table 2. Implications: Conservation Actions That Imply or Carry the Expectation of Compliance and Implying an Enforcement Component or Presence (Cont'd)

MSHCP	Section 2.8.6.7 Pg. 2-248	BLM	Implement the following management actions in desert tortoise ACECs (743,209 acres):
MSHCP	Section 2.8.6.7 Pg. 2-248	BLM	3) Implement inventory, monitoring and research projects dealing with management issues within desert tortoise areas of critical environmental concern.
MSHCP	Section 2.8.6.7 Pg. 2-250	BLM	BLM shall consider with respect to rural roads the following measures which have been proposed by the I & M Committee and specifically those members of the I & M Committee who represent the interests of the environmental groups, the rural communities, and the OHV community.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	Within desert tortoise ACECs: A maximum of five permitted non-speed events and non-speed portions of speed-based events are permitted in each desert tortoise ACEC during the period of March 1 through March 15 and June 15 through August 31. No OHV non-speed events, or non-speed portions of speed-based events, will be permitted from March 16 through June 14 and from September 1 through October 15. (The September through October dates may vary up to 3 days to allow a full weekend [i.e., Saturday and Sunday] for an event. A maximum of 60 permitted non-speed events and non-speed portions of speed-based events are permitted cumulatively in desert tortoise ACECs during the period of October 16 through February 28 (29 in leap year) subject to additional restrictions described below [see Appendix I, 3 maps]:
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	b. no OHV events are permitted in the Piute/Eldorado ACEC west of US 95 during any part of the year.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	c. events within the Gold Butte ACEC shall only be permitted on and east of the existing paved road between the Riverside Bridge and Whitney Pockets and on and north of the unpaved road between Whitney Pockets and the Arizona State line.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	d. events within the Mormon Mesa ACEC shall only be allowed on the Carp/Elgin Road, Halfway Wash Road and the East Halfway Wash Road.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	e. no OHV events are permitted in the Coyote Springs ACEC.
MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	f. up to six non-speed OHV events are permitted in that area east of US 95 and south of SR164 during the tortoise inactive season only (October 16 through February 28).

Table 2. Implications: Conservation Actions That Imply or Carry the Expectation of Compliance and Implying an Enforcement Component or Presence (Cont'd)

MSHCP	Section 2.8.6.7 Pgs. 2-250 and 2-251	BLM	<p>Outside ACECs: BLM agrees to pre-approve 10 non-speed OHV events annually outside of desert tortoise ACECs where there are more than 49 entries or vehicles (thus requiring a permit) by January 1, 2000. The BLM also agrees to waive all insurance requirements and the County agrees to pay the permit fee (\$80.00 per event). The OHV promoter shall ensure that all permissions necessary from private landowners or rights-of-way grant holders are obtained prior to the BLM approving the particular courses in question. Once the applicant has provided to the BLM the appropriate permissions and proposed course, the BLM will approve or deny the permit within 45 days. These permits shall then be granted to non-speed OHV event organizers on a first come basis.</p>
MSHCP	Section 2.8.3.9(c) Pg. 2-201	BLM	<p>In cooperation with BLM, continue the joint process they have begun to designate, close, and rehabilitate unpaved roads. The subcommittee has agreed that it shall consider for closure any road thus recommended by the USFWS.</p>

Source: MSHCP

Table 3. Conservation Actions and Programs to Respond to Stressors

Threat	Conservation Action(s)
(2) Commercial Collection and Collection by Hobbyists	
Pg. 2-63, Threat 201: direct loss from collection by commercial collectors or by hobbyists resulting in reduction of populations of flora or fauna	Conservation Actions: control (prohibit or limit) collection, commercial or by hobbyists, through law, regulations, and permit requirements; public education
Pg. 2-63, Threat 202: indirect mortality through habitat degradation and loss from destructive collection methods (any collector)	Conservation Actions: limit collection methods used through laws, regulations, and permit requirements; prohibit moving large cobbles and boulders, chipping rock, prying open rock crevices or exfoliations; prohibit peeling bark and removing or disturbing plant litter or dead or apparently dead wood, including yucca and cholla skeletons; prohibit the removal of live plants except in designated areas (relates to direct impact on flora and indirect impact on fauna); increase law enforcement presence; public education
(3) Fire Management	
Pg. 2-64, Threat 301: habitat degradation and modification due to fire suppression and fuels management, post fire suppression and fuels management, historical fire management, fire	Conservation Action: Develop fire management program that provides protection for sensitive resources.
(4) Recreation	
Pg. 2-64, Threat 401: direct wildlife mortality and habitat degradation and loss from dispersed recreational activities (legal and illegal) such as by hunters, hikers, equestrians, campers, casual mountain bikers, and casual OHV users; from impacts associated with dispersed recreational activities such as littering, traveling and parking off designated roads and trails, removing and trampling of plants, and disturbing natural surfaces and soil-holding crusts; and travel through key areas to get to areas of concentrated recreational activities	Conservation Actions: Enforce speed limits; eliminate or mitigate causes of impacts in key areas.
Pg. 2-65, Threat 402: direct wildlife mortality, habitat degradation and loss from development or expansion of concentrated recreation facilities, and their maintenance and use (camping, ski areas, parking)	Conservation Action(s): Manage existing facilities to minimize adverse effects on biological resources.
Pg. 2-65, Threat 403: habitat modification and degradation and wildlife mortality from concentrated recreation including OHV events by organized groups (speed, non-speed, competitive, non-competitive, commercial, and non-commercial events); competitive OHV races that by number of vehicles or participants, speed of travel, or presence of spectators (authorized or not) constitute concentrated recreation with potential adverse effect; equestrian trail rides; dog field trials; flying machine events (remote control and piloted); skydiving; the parking of vehicles for these events	Conservation Action(s): Enforce appropriate seasonal restrictions on events; control and manage spectators to avoid impacts; limit the number of events in any sensitive areas; prohibit, regulate, or manage competitive races in key areas.

Table 3. Conservation Actions and Programs to Respond to Stressors (Cont'd)

Pg. 2-65, Threat 405: habitat modification and degradation, individual displacement by rock climbing	Conservation Actions: Prohibit rock climbing in key areas; consider seasonal restrictions on rock climbing in sensitive areas
Pg. 2-65, Threat 406: reduction of fauna populations by indiscriminate recreational shooting	Conservation Actions: Increase law enforcement presence.
Pg. 2-66, Threat 407: habitat degradation, population displacement from spelunking	Conservation Actions: Protect key caves and mines through signage, fencing, or closure to avoid disturbance of bats.
Pg. 2-66, Threat 408: increased long-term recreation demand in natural areas from human population increases	Conservation Actions: Protect key populations and habitat areas.
Pg. 2-66, Threat 410: direct wildlife mortality, and habitat degradation and loss from trail construction and maintenance	Conservation Actions: Encourage public involvement in trail projects, public education.
Pg. 2-66, Threat 411: direct and indirect impacts from vehicles traveling in wash beds	Conservation Actions: Prohibit vehicular traffic along wash beds or on wash banks; confine travel in washes to crossing them in the shortest possible distance.
Pg. 2-67, Threat 503: habitat fragmentation and destruction by roads and trails	Conservation Actions: Close unnecessary roads and trails in key habitat areas through signage and rehabilitation; eliminate proliferation of roads and trails in key habitat areas.
(9) Mineral Extraction	
Pg. 2-69, Threat 901: habitat degradation from locatable, leasable, and saleable mineral development	Conservation Actions: Close IMAs and LIMAs to mineral exploration and mining, subject to prior existing rights.
Pg. 2-69, Threat 903: toxic waste ponds	Conservation Actions: Provide measures to discourage wildlife from using ponds (fencing, cover) as required by state law.
(10) Woodcutting and Collection	
Pg. 2-69, Threat 1001: habitat degradation from wood collection and litter removal for firewood or decorative purposes	Conservation Actions: Prohibit or limit by permit requirements the collection of wood in key habitat areas; prohibit peeling bark, disturbing or collecting plant litter, or dead or apparently dead plant parts.
Pg. 2-69, Threat 1103: landfills: associated non-native species and subsidized species such as ravens and coyotes; increased potential for pollutants to enter the ecosystem	Conservation Action: Implementation of appropriate landfill management.
(14) Springs	
Pg. 2-71, Threat 1401: habitat degradation resulting from spring diversion and modification	Conservation Action: Protection of spring and spring brooks through fencing, signage, conservation agreements.
(15) Exotic, Subsidized, and Parasitic Species	
Pg., 2-72, Threat 1501: habitat degradation and population decreases resulting from introductions, competition, and encroachment of exotic species (such as tamarisk, <i>Vallisneria</i> , fan palm invasion [upper Muddy], red shiners, <i>Tilapia</i> , and other species)	Conservation Actions: Monitoring, development and implementation of site-specific/species-specific control or eradication programs.

Table 3. Conservation Actions and Programs to Respond to Stressors (Cont'd)

(16) Feral Animals	
Pg. 2-73, Threat 1601: predation by feral animals and uncontrolled pets	Conservation Actions: Increase law enforcement presence; increase interaction between land managers and animal damage control.
(17) Illegal or Unauthorized Activities	
Pg. 2-74, Threat 1701: poaching, illegal collection, or killing of flora and fauna	Conservation Actions: Increase law enforcement presence; public information program
Pg. 2-74, Threat 1702: illegal waste ponds, dumping, and waste disposal	Conservation Actions: Increase law enforcement presence; public information program.
Pg. 2-74, Threat 1703: illegal drug production, transport, and use	Conservation Actions: Increase law enforcement presence; public information program.
Pg. 2-74, Threat 1704: unauthorized release of captive tortoises and possible introduction of upper respiratory tract disease and other undesirable biological consequences	Conservation Actions: Increase law enforcement presence; public information program.

Source: MSHCP

Agency-Specific Findings

Introduction

The questionnaire found in Appendix A was completed by a majority of the agencies represented in this report. Follow-up interviews and field visits were also conducted, as appropriate, in order to obtain additional information and clarification from the agencies. Following is a compilation of the findings obtained as a result of the information provided by the agencies. It should be noted that the source of the information is not necessarily the result of empirical investigation and is often the opinion of the agency resource staff.

BLM

Administration and Structure

The Las Vegas BLM Field Office administers approximately 3.1 million acres of public land in Clark and southern Nye Counties.¹ The Las Vegas Field Office employs and supervises the work of 11 conservation enforcement positions: one Supervisory Law Enforcement Ranger (SLER), one Field Training Officer (FTO) and nine Law Enforcement Rangers (LERs) in a line/staff organization that extends from the Field Office Manager through the Associate Field Manager to the SLERs and LERs. Four LER positions are assigned primarily to the Red Rock National Conservation Area (NCA) while the other four are assigned to patrol areas throughout the remainder of Clark and southern Nye Counties. One BLM Special Agent with direct line supervision and program assignments from Washington, DC is also stationed in Las Vegas and may provide assistance to locally supervised personnel by request, but is not directly accountable or available to the Field Office.

Four of the nine LER positions are supported by MSHCP funding and are assigned responsibilities in areas where MSHCP-covered species and their habitats are found. The LERs work primarily within established patrol areas whose size and boundaries conform to expectations for public use or need for resource protection. Short-term changes in public use activity, such as permitted events, may result in adjustments to assigned areas and responsibilities as LERs and other BLM staff are assigned for the duration of a scheduled public activity. Following the attacks of September 11, 2001, all deputized federal enforcement personnel have been subject to special assignment for periods of time extending from several days to several weeks in duration in support of nationwide security.

¹ The Pahrump and southern Amargosa Valleys of southern Nye County are contiguous with MSHCP-conserved habitat and species distribution in Clark County. As such, the USFWS, Ecological Services deems Clark County MSHCP conservation measures for permit-covered species applicable to the adjacent Nye County public lands. Both Nye and Clark Counties' public lands are administered by BLM and USDA Forest Service; USFWS has extended Section 10 permit coverage to those areas. Please refer to the jurisdiction maps for BLM and Forest Service, Figure 1-1.

It is expected that national security assignments will continue into the future with no estimate of time expenditure available.

Continuity of personnel is a strength of the BLM enforcement program. Six of eight LER positions have not been vacant in the past decade. The two SLER positions have been continuously occupied for the past 4 years. Time required to fill LER and SLER vacancies averages 6 months and 4 months, respectively. Over the past 5 years, BLM estimates a loss of 18 months of field enforcement time due to the need to fill vacancies or newly authorized positions. Most vacancies (70%) are filled by lateral transfers of experienced, certified enforcement personnel which reduces the time required to train a new-to-the-program employee and indicates that enforcement positions in the Las Vegas Field Office area are desirable.

Delegation of funding is problematic. Funds provided to the BLM through the MSHCP/IMC budget authorizations are not automatically delegated to the enforcement program at the beginning of a fiscal year. Funds are held in a separate account that is managed by the Assistant Field Manager for Renewable Resources and Recreation. While salary and vehicle operational expenses (fuel, tire repair, oil changes) are pre-authorized, SLERs and LERs have to request funds for larger equipment repairs, operational supplies and equipment acquisitions that were previously IMC-approved and authorized for support of the enforcement program. This circumstance may be a product of internal accounting mechanisms, but it results in lost time and inefficiencies in performing operational activities and equipment acquisition at both the supervisory and field enforcement levels, engenders perceptions of enforcement being of lesser importance and could conceivably constrain enforcement program prioritization and effectiveness (see Program Assignment/Adaptation).

Planning

Strategic planning for the BLM enforcement program is accomplished through the BLM Strategic Plan. Enforcement performance goals are generically stated and contained in interrelated “blueprint” goals for serving the public. These goals restore and maintain land health through collaborative management, business practices, and human resources management. Because of the diversity of circumstances associated with the management of lands and resources found over large land masses and ecotypes, the strategic plan gives broad latitude to field level land use plans to develop strategies to address local issues and resources needs. Las Vegas personnel indicated a Field Office level strategic plan is being drafted and will include goals for the enforcement program.

Operational planning is not conducted at the Field Office level. BLM uses an ongoing interdisciplinary approach and volunteers to identify and address enforcement and resource program priorities and issues. BLM resource specialists and enforcement staff evaluate levels and impacts from public use on especially sensitive areas (ACECs, Red Rock Canyon NCA, cultural sites and wilderness study areas). For example, public use in the Piute/Eldorado Tortoise ACEC is monitored through a combination of weekly enforcement patrol reports

and communication between enforcement and resource restoration specialists who also work in the ACEC. Both enforcement and restoration personnel drive designated open roads to locate new trails or areas of unauthorized use that need to be restored or monitored for continued violations of travel in closed areas. In addition to monitoring by BLM enforcement and resource staff, cultural sites and wilderness study areas are monitored by volunteers for incidences of damage or illegal entry. Volunteers report violations to BLM, which takes remedial action for resources restoration and enforcement patrol/investigation. Other examples of ongoing enforcement operational activity in relation to MSHCP conservation measures/issues include illegal OHV use, bearpoppy transects, desert dumping, commercial reptile collection monitoring, and interagency coordination (BLM, NPS, NDOW). Most of these activities are not formalized in the sense of operational plans or procedures, but have evolved overtime as recognized program and resource needs.

Public Use Measurements

Other than previous, discontinued road and vehicle counts and more recent on-going records of visitation and public use maintained for Red Rock Canyon NCA, BLM has not collected objective, long-term measurements of public use or demand on public lands throughout the Las Vegas Field Office administered area. Appendix C, Figures 2-1 through 2-4 and Tables 1 and 2 depict BLM's general impressions of public use intensity.

The BLM Nevada State Office publishes subjective public use estimates that are compiled using recently developed, standardized methods segregated by site (e.g. Big Dune, Muddy Mountains, Keyhole Canyon, etc). The data include

- visits (anyone entering BLM-administered land),
- visitor day (a visit or combination of visits totaling 12 hours),
- participants by visitor day and activity (camping, OHV, bicycle riding, etc.) by site, and
- the number of active Special Resource Permits issued by activity (social gathering, OHV event) by Field Office per year.

The sources of information used to develop the estimates are for the most part subjective and not quantitative. The estimation methodology changed recently and data are not comparable for trend. Some figures generated for FY 2001 from this information show that the Las Vegas Field Office issues 360 (68%) of the 530 statewide Special Recreation Permits. Statewide public land visits and visitor days total 5.275 million and 3.606 million, respectively. For the Las Vegas Field Office visits and visitor days are 2.149 million and 0.489 million, respectively with Red Rock Canyon NCA accounting for 36% of all Las Vegas Field Office area visits and 42% of its visitor days.

Reporting/Documentation

The BLM enforcement program is mandated to produce reports or documentation of activity and results to the MSHCP. The LERs complete weekly monitoring reports of resource conditions, resource protection needs, and public contacts in their assigned patrol areas. The reports are useful in documenting resource conditions/problems, management/conservation needs and in sharing information among enforcement and resource program managers. The reports have not been analyzed formally for use in adjusting enforcement operational activity, but provide a potential database and reference material for SLERs and natural resource specialists to do so.

The BLM enforcement program periodically completes internal Policy Compliance Inspections at the request of the National Office or the Field Office Manager.

Program Assessment/Adaptation

Prioritization and adjustment in enforcement activity and operations does begin with a formal analysis of the overall program followed by development of operational plans to address needs. The process is initiated by an ongoing coordination among renewable resources staff and enforcement personnel. Both enforcement and resources personnel are expected to identify resource, management, and enforcement needs and problems and to suggest what might best be accomplished to improve or accomplish resource protection, restoration, and conservation. For example, enforcement may identify the need for additional or modified signage or public information materials to enhance user compliance with law and regulation. At that point, it is up to renewable resources staff to accept or modify the recommendation and to work with public information and maintenance staff to develop the requested materials, or to reject the suggestion and continue coordination of the issue with enforcement staff. The reverse of this example is also at work with resources identifying a problem and suggesting an enforcement remedy. Enforcement retains authority for assigning and scheduling enforcement field staff to specific enforcement duties and activities where there are funds available for support (see the section on Administration and Structure).

Natural resources staff were most willing to observe, report, and record instance of regulation violation and resource damage encountered in the course of field work and are committed to coordinating with other disciplines to address those problems. However, BLM is the only federal resource management agency providing MSHCP support whose field resources staff are not uniformed and do not use vehicles with agency markings while in the field. BLM staff commented that they felt vulnerable to being accosted or attacked if they were identified as a BLM employee. It was also pointed out that being identified and stopped by the public seeking information would compromise agency objectives for collecting natural resource information. The other federal agencies mandate uniformed field employees, encourage public interaction and information transfer, and

ascribe a resource protection and compliance benefit to having marked vehicles and uniformed personnel in the field.

Program Strengths

The BLM identified the following as enforcement program strengths:

- dedicated and knowledgeable personnel,
- flexible work hours to cover variable high use periods,
- strong interdisciplinary coordination to reinforce conservation actions,
- responsiveness to changes in priorities, and
- ability to recruit high quality enforcement personnel.

Program Challenges

BLM cites permitted and non-permitted off highway activities as the biggest challenge to resource protection on BLM managed federal land in Clark County. These activities include both the casual users and organized festivals and OHV events. The Nellis Dunes, Sunrise Mountain Area, and Logandale Trails were listed by the BLM as public lands managed by the Las Vegas Field Office with the highest natural resource damage with litter, wire burning, vegetation removal, abandoned stolen vehicles, and heavy ATV utilization.

Cited as program needs are:

- additional staff to enhance coverage, resource protection, and public information delivery;
- consistency of enforcement presence (relates to staffing levels and to assignments for homeland security) to engender public expectations for contact and information and to reinforce voluntary compliance;
- commitment to long-term funding beyond a 2 two-year budget cycle to enhance recruiting and retention of positions filled and funded by the MSHCP: and
- general improvement in the perception/understanding of both the role and need for law enforcement in resource conservation and protection by the public, BLM staff, and among members of the IMC.

Program Opportunities

- BLM suggested that the IMC conduct a survey of public land users to determine and better understand the attitudes, values, and views of the public utilizing public lands. Results could help better focus information and education products, as well as focus resource management programs and

restrictions to certain user groups such as OHV enthusiasts, campers, hikers, bicyclists and others.

- A road inventory and map system depicting open roads was recommended. It could be used as a means to inform the public of open and closed roads and access, and as an information tool for both the public and enforcement.
- Questionnaire respondents advocated the use of signage and a toll-free number directed to enforcement dispatch that would encourage the public to report instances of violations and pertinent information (vehicle license numbers, descriptions, location, time, etc.) as a means to both report violations and to deter infractions.
- The BLM also suggested that public compliance and enforcement could be enhanced by instituting a system requiring each BLM field employee to formally record observations of non-compliance with regulations or conservation measures. Recording non-compliance and conservation needs would assist in determining the frequency of problems by area and documenting the need for enforcement follow up or facilities maintenance.

Public Information Delivery and Effectiveness

BLM listed the following efforts as being most effective to least effective in disseminating information and gaining public acceptance, understanding, and compliance with natural resource protection measures:

1. (*Most Effective*) BLM-sponsored nature walks, lectures and interpretive displays at Red Rock Canyon Visitor Center;
2. one-on-one discussions with the public by uniformed LERs in the field;
3. mass media (television, newspapers) interviews and press releases by BLM Public Information staff; and
4. (*Least Effective*) in-office information dissemination via brochures and fact sheets, reception staff and resource specialists talking to the public, and responses to telephone inquiries.

With the exception of in-the-field encounters with the public by uniformed BLM Rangers, most of the information dissemination described above was not performed by uniformed BLM law enforcement personnel.

The disseminated informational brochures related to natural resource protection for the Las Vegas Field Office of the BLM include:

- Bureau of Land Management Fact Sheet.
- Observe It. Preserve It.
- Noxious Weeds of Southern Nevada, Las Vegas Field Office.

A number of circumstances were cited as measures of effectiveness in attaining public compliance with resource conservation and protective measures:

- barriers blocking vehicle access;
- public compliance with and lack of vandalism of signage explaining restoration goals at protected sites;
- lack of road proliferation where restoration and signage is being employed to provide protection; and
- strong public involvement in volunteer projects and activities including resource monitoring, restoration plantings, wild seed harvest, litter removal, public reporting of violations or problems, and the belief that the public is generally assuming a sense of ownership and pride in the condition of public lands.

Authorities and Responsibilities

The BLM's law enforcement responsibilities were initially established with passage of the Organic Act in the mid-1970s. The majority of federal regulations that are directly MSHCP related, designed to protect natural resources, and stemming from the Organic Act are found primarily under 43 CFR. BLM LERs have authority for an array of additional enforcement responsibilities under other United States Code and CFR including protection of federal property and facilities. With few exceptions, regulations protecting natural resources must be developed using the publicly advertised CFR process. Under emergency circumstances (fire danger) and only for NCAs (e.g., Red Rock NCA), Field Offices are authorized to develop "supplemental regulations" that do not require codification via the Federal Register, but must be approved by both the respective state and Washington, DC offices.

By formal agreement, BLM, NPS and USDA FS enforcement personnel have authority to enforce federal law applicable to lands under each other's jurisdiction. BLM enforcement personnel do not have authority to enforce state of Nevada laws or regulations, or local government ordinances.

Enforcement Strategies

Field enforcement personnel employ the following direct law enforcement strategies and methods to attain public compliance with MSHCP resource protection goals and conservation measures: marked vehicle patrol, OHV patrol, day and night surveillance, investigation of detected or reported violations, and monitoring of commercial permitted activities.

The following violations of law include the majority of the scope of work for LERs. These are listed in order from most to least severe in terms of penalties that can be prescribed to convicted individuals.

1. (*Most Severe*) Archeological Resources Protection Act,
2. ESA,
3. National Wild and Scenic Rivers System and National Trails,
4. Wild Free-Roaming Horse and Burro Act,
5. Assault on BLM employees and volunteers,
6. Vandalism and destruction of government facilities,
7. Theft of government property,
8. Cultivation/possession of controlled substances,
9. Lacey Act, and
10. (*Least Severe*) Federal Land Policy and Management Act.

With the exception of laws relating to cultivation and possession of controlled substances, all laws and violation classes included above are prosecuted through federal court. Drug possession, manufacture, or cultivation may be prosecuted through either federal or state legal systems, depending upon circumstances.

Lesser violations of the above laws and regulations (involving failure to obey regulatory signs or minor damage to resources not involving commercial or willful acts) are those most frequently encountered. Officers have discretion to either educate or issue a citation to either forfeit an established fee or appear before a federal magistrate to plead. Violations of a more serious nature may result in arrest, arraignment before a U.S. Magistrate to enter a plea, and possible subsequent trial before a U.S. District Court.

Training Requirements

Initial training and “refresher,” or In-Service training, are required components to attain and retain law enforcement certification. Training assures knowledge of enforcement duties, establishes the range and limits of enforcement powers, and includes the appropriate and safe use of specialized equipment and tools ranging from firearms to first aid. Training assures a standard approach and application of law enforcement to maintain high standards of public service and safety and to meet public expectations for both resource protection and public interaction. Training lessens administrative and officer liability for improper performance and protects the public and the officer from potentially exceeding authorities.

Each new-hire LER is required to receive the following training (always available within 1 year) before being certified and released to the field:

Natural Resource Police Training Program	3.0 months
Introduction to Resource Protection	0.5 month
Supervised, in-the-field training	1.5 months

Additionally, each BLM LER spends approximately 0.5 month annually in required In-Service and weapons training and approximately 0.25 month every three years in First Responder/EMT training.

Budget and Time Expenditures

The BLM enforcement work program is built on an estimate of 230 productive work days per employee per year. Questionnaire responses indicate that LERs spend approximately 74% of available time in field enforcement activities (monitoring public use, public contact, information delivery, violation prosecutions), 18% in inter- and intra-agency coordination and training, and 7% in reporting/documenting activity and equipment maintenance.

BLM expends \$11,346,000 on its law enforcement program nationwide and \$125,000 in support of salary for two SLER positions at the Las Vegas Field Office. BLM receives \$326,000 annually from the MSHCP to support enforcement activity of four Ranger positions that are assigned responsibility for areas outside Red Rock Canyon NCA. The four Red Rock Canyon NCA Ranger positions are funded from a separate budget category, specific to the NCA.

National Park Service

Administration and Structure

Lake Mead National Recreation Area (LMNRA) is a specially designated unit of the NPS located adjacent to the Colorado River and Lakes Mead and Mohave in both Nevada and Arizona and administers 1,265,447 acres including 186,860 acres of open water. LMNRA also administers the Parashant National Monument in Arizona, north of the Colorado River and bordering the NRA. LMNRA is among the most diverse units of the NPS system in that it includes both a resource protection and a recreation mandate, has open desert, reservoir, riverine, and terrestrial features that require protection and attract public use and is located near a large urban center but also has remote aquatic and terrestrial features that attract visitors and support a diversity of plants and wildlife. LMNRA's mission is "*protecting the natural and cultural resources while providing for visitor use.*" The NPS mission is broader than most other federal agencies charged with resource protection and conservation because it requires both addressing high levels of visitor use and strong direction for resource preservation that creates a need for regulations that are site specific and sometimes comprehensive. Depending upon an individual NPS unit's resource base that requires protection and conservation, and distance from local communities, these factors may result in the NPS needing to provide comprehensive resource and public protection regulations, law enforcement, emergency medical services, violator holding facilities, fire fighting capability, specialized communications and maintenance facilities, highways, roads, trails, boating facilities, visitor centers, interpretive services, extended visit facilities, garbage/trash removal, waste treatment facilities, residential quarters for full-

time and seasonal employees, and concessionaire facilities. Many units of the NPS system function almost as distinct, separate municipalities that provide for the full range of needs of their visitors. LMNRA is no exception. Each of these Park-specific amenities has the potential to generate needs or impacts to the agency's law enforcement program.

The Division of Visitor and Resource Protection includes separate branches for Revenue and Fees, Emergency Service (Fire Management), Communications, Air Operations, Agents-in-Charge, Budget, and Operations (law enforcement). The Operations branch is sub-divided into districts that correspond to major river or reservoir segments and distinct land masses (Mohave District, Boulder Basin District, Northshore District, etc.). The organizational structure of the Operations Branch is line/staff encompassing five layers: Chief Ranger, Branch Chief, District Ranger, Ranger and Seasonal Ranger and a staff of 40 including full-time supervisors and Rangers and seasonal Rangers. Of the 40 enforcement positions, 31 full-time and three seasonal staff are assigned to terrestrial enforcement with at least a portion of those duties being complementary to the MSHCP. Within the 31 terrestrial-assigned positions, one full-time and two seasonal positions are directly responsible for MSHCP-related resource protection and conservation measures and are assigned patrol areas encompassing covered species and their habitats.

In addition to the field Ranger positions enumerated above, there are more than 20 uniformed, but not certified, interpretation personnel, from the Resource Management staff. These include research personnel, rehabilitation/restoration personnel, and fire management crews (not actively fighting fires) who are charged with the responsibility to collect and report relevant information about violations and violators. The presence of uniformed personnel in the field is believed to add more than 500 days per year of effective conservation enforcement and deter potential violations due to the presence of uniformed staff using agency-marked vehicles.

Enforcement has several high priority areas at LMNRA: resource protection, public safety, boating safety, highway safety, and EMT/First Responder medical service. The primary linkages between the MSHCP and LMNRA enforcement program occur through NPS enforcement efforts aimed at resource protection and NPS Resources Division's biological and interpretive programs, and dissemination of information and educational materials (see relevant sections, below).

LMNRA enforcement personnel retention/time in position information was not available at this writing, but 85% of employees rate job satisfaction as high with strong ratings for program priorities, local living conditions, and equipment and low ratings for entry-level pay and political considerations. Sixty-six percent of enforcement position vacancies are filled with experienced personnel, which precludes the need for extended initial training and indicates that positions at LMNRA are desirable to prospective employees.

Planning

Strategic planning for LMNRA and its specific Operations program is accomplished through an annual goal setting and performance evaluation process known as Government Performance Results Act (GRPA) Lake Mead Plan. Performance measures are recorded and analyzed to determine relative attainment of goals for each program discipline administered by the NRA.

Operational planning is linked to goals found in the GPRA. Supervisors and field staff perform seasonally appropriate and visitor use focused resource protection activities to meet the goals of the GPRA. Supervisors meet several times annually to review and adjust work priorities and bring the results of those meetings back to field personnel to adjust priorities. Park Rangers, the basic resource protection and public use management position in the NRA, are provided with position descriptions of the duties and activities associated with their area of responsibility. Day-to-day tasks and assignments are coordinated as necessary with a supervisor. Program emphasis is determined and adjusted seasonally to meet expectations for resource needs and public activity. Operational planning is continually adjusted by communications feedback loops from both Operations and Resources staff who note and communicate needs for resource protection that become apparent during the course of work within the NRA.

Public Use Measurements

The LMNRA develops and maintains a visitor use estimation database using information collected monthly. While the methodology for the estimates may change over time, NPS staff is critically aware of and bases strategic and operational plans on projections and historic knowledge of seasonal trends and long-term changes. NPS perhaps has the most comprehensive measurement of visitor numbers, public interest in area resources and public compliance with regulations of any of the federal land management agencies in southern Nevada. The NPS uses the information extensively to adjust programs, direct facilities maintenance, and develop budget requests. Data are collected using a variety of methods including aerial counts, ground counts, and reports and records of incident activities (accidents, injuries, violations, arrests). Incidents are categorized by type and geographic location, and published annually. The LMNRA public use data base is expected to improve significantly with the recent installation of a fee access system that provides opportunities to measure and sample visitors for information that can be used to enhance resource protection and management.

Reporting/Documentation

Records maintenance and reporting is an ongoing element of NPS enforcement work. Rangers complete daily reports of activity, resource and enforcement problem and document actions taken in response to field encounters. Daily

reports serve as a mechanism for logging activity and are recorded into a database that can be accessed for use in planning operational activity and needs. LMNRA enforcement personnel prepare reports to summarizing activity in support of the MSHCP. NPS personnel submit reports of enforcement activity as part of the overall NPS reporting process to the MSHCP that includes reporting on natural resources and public education.

Program Assessment/Adaptation

Three times each year, Operations supervisors meet to evaluate progress toward attainment of implementation of strategies to achieve GPRA goals. Ongoing operational plans are evaluated for effectiveness and adjusted to meet changing circumstances. "Backcountry patrol," a term used by NPS that covers most of the enforcement activity done in support of the MSHCP, is reviewed for accomplishment of MSHCP conservation measures and NPS commitments for resource protection. The Park Management team, consisting of program heads including the Division of Visitors and Resource Protection and Division of Natural Resources, meet weekly to share information, issues and needs and to adjust operations in response to ongoing and upcoming NRA activity.

Program evaluation and modification also occurs as a result of supervisors meeting with cooperating and adjacent resource management agencies (federal land managers, state resource agencies, and local police agencies), all of whom have interests or shared responsibilities for either enforcement and/or resource management within and adjacent to LMNRA.

Program Strengths

NPS staff cite the following as program strengths:

- dedicated, professionally trained, highly motivated staff;
- funding sufficient to meet the diverse, current program needs;
- program flexibility at both the field and supervisory level to meet field needs and make adjustments;
- programs and activities aligned with focus of funding;
- high level of respect and trust throughout the organization;
- high level of communication and support between field and staff;
- prosecution of violations is efficient and forfeited funds return for resource rehabilitation;
- staff training accomplishes mission of visitor and staff safety; and
- strong working relationship between enforcement and natural resources staff.

In needs assessment questionnaire responses and in field interviews of Ranger staff, it was noted that field personnel assigned primarily to MSHCP-related

work were provided with information to guide their activity. The delivery of this material is noted as program strength, while at the same time there appeared to be a need to update the material to include the full scope of conservation measures and goals of the MSHCP beyond the earlier Tortoise HCP program.

Program Challenges

The NPS cites recreational use of the Lake Mead shoreline as the biggest challenge to resource protection within the LMNRA. The NPS has identified concentrated use of the LMNRA in several “hotspots” within Clark County, Nevada. These areas, including Overton Arm, Muddy River confluence, the Virgin River confluence, Stewart Point, Nelson, Six Mile Cove and Telephone Cover near Laughlin, are considered are undergoing heavy recreational use by campers, day-users, and OHV enthusiast.

NPS staff cite the following as program challenges:

- sufficient staff to cover all LMNRA needs at present;
- sufficient funds to support staff operational field activity and needs at present;
- funding and personnel to train field staff relative to natural resources;
- a sense of a high level of demand for time in support of a broad array of activities associated the administration, management, and protection of resources and visitor use at the NRA; and
- visitor use at a very high level in relation to the NRA staff’s and natural resource base’s abilities to provide a meaningful and safe visitor experiences without compromising natural resource integrity.

Public Information Delivery and Effectiveness

Public information and education delivery is a significant component of NPS programs and an identified element in the work program of its enforcement staff. All park staff are trained and given information packages that pertain to NRA and natural resource operations. Employee selection criteria include the ability to interact and communicate with the public. Staff are updated on changing conditions and priorities for public information delivery through meetings within program disciplines and by means of weekly Superintendent’s Notes transmitted to all personnel. Informational materials and responses to public inquiry are provided at entrance stations, campgrounds, District Ranger Station and Visitor Centers, one-on-one contacts with the public while on patrol, via the Internet and by telephone. All enforcement and resources staff respond to requests for talks and information delivery to schools and organizations wanting to learn more about natural resources and NPS programs. Visitor contacts are conducted with the primary aim of imparting information and Rangers are expected to consider natural resource conservation/preservation as their primary duty with education as the primary tool to be used to seek public compliance with regulation.

In addition to imparting information via field enforcement contacts, conservation and resource protection information is also delivered at guided hikes, slide programs, power point presentations, demonstration programs, beach walks, kiosks, literature handouts and signage. NPS enjoy a nationwide reputation for quality interpretive programs and displays.

Message development is a shared responsibility among enforcement, resources, and information staff. Any entity can identify a need and expect to obtain cooperation in accurate and meaningful message development from other disciplines.

The informational brochures that specifically target natural resource protection that are disseminated by the NPS LMNRA staff include:

- LMNRA Rules and Regulations.
- LMNRA Quick Tips.
- Minimum Impact Hiking.
- Leave No Trace.
- Exploring the Backcountry.
- Fire Restrictions.

One measure of program effectiveness that is used by NPS is visitor survey information. When a sample of LMNRA-exiting visitors are asked, “What is the significance of this park?” more than 60% are able to understand and articulate the LMNRA’s significance. The NPS’s GPRA goal is have at least 60% of the public leave the facility with an understanding and appreciation of its significance. Other measures of effectiveness include suggestions from participants, evaluations from teachers, public comment/criticism and visitor center questions.

Authorities and Responsibilities

The NPS authority for resource protection and law enforcement originated with the passage of the NPS Organic Act in 1916. Primary federal authorities for resource protection are found in Titles 16, 18, and 43, U.S. Code. Other enforced U.S. Code Titles that have direct nexus to the MSHCP include: Title 36 CFR (NPS Lands), Title 43 CFR (Public Lands), Title 30 CFR (Mining, Minerals), and Title 50 CFR (Wildlife). NPS is empowered to enforce USC Titles 3, 27, 29, 31, 33, and 41 that are not related to the MSHCP. LMNRA is able to develop regulations through Federal Register Notice and by means of a Superintendents Compendium. The latter allows development of park-specific regulations that complement local and state ordinance, regulation and laws and affords enhanced enforcement presence, cooperation and efficiencies in areas where joint jurisdiction may occur which is beneficial to the MSHCP. However, NPS enforcement staff are not authorized to directly employ state or local law or regulations.

NPS and BLM personnel are authorized, by formal agreement, to enforce federal laws having application to lands or resources administered by either agency.

Enforcement Strategies

The NPS employs the following strategies that have direct bearing on the conservation measures and goals of the MSHCP:

- high visibility, marked vehicle patrols (30+ units);
- motorcycle and ATV patrol by uniformed staff (five units);
- unmarked vehicle patrols (four units);
- fixed-wing aerial patrol (one unit);
- contract rotary-winged patrol (contract unit);
- mechanical and technological surveillance;
- monitoring permitted activity/events;
- specific backcountry patrols focused on MSHCP conservation goals; and
- field monitoring and reporting by resources personnel.

Training Requirements

Due to the broad range of duties and generalized mission of the NPS, training is a large component of the Operations Program. Training is structured to meet the unique needs of the different positions assigned to the Operations Program. Some positions may receive or be assigned to a wide variety of training if their program assignment is broad while other personnel may have relatively narrow program range and correspondingly lesser amounts of training. At a minimum, all new rangers are required to complete one of the following:

Natural Resources Police Training	4 months
Special Agent School	4 months
Training for Seasonal Rangers	4 months

Additionally, each Ranger attends an annual 40-hour enforcement refresher course and qualifies with appropriate firearms in quarterly, 4-hour sessions. Rangers in the Operations Program annually attend the training if their assigned duties include boating safety (5 days), fire fighting (8 days), EMT services (5 days), hazardous materials (3 days) and leadership training (5 days). Employees, whose duties are focused on natural resource protection and whose educational background may not have emphasized natural resources, receive 4 days of Natural Resource/Conservation Awareness Training, 5 days of Archeological Resources Protection training, and three days of Communications Skills training.

Budget and Time Expenditures

The NPS uses 218 workdays as the basis for annual productive work time per employee. NPS estimates that field enforcement employees expend relative percentages of time in the following categories: patrol, surveillance, investigation, permit compliance, 82%; reports and documentation, 8%; equipment repair and maintenance, 3%; public use demand monitoring, 3%, and planning and budgeting, 4%.

The LMNRA has an annual Operations program budget of \$14.2 million per year. This amount supports all subdivisions of Operations including law enforcement, which accounts for approximately \$4.0 annually. MSHCP contributions to LMNRA in support of enforcement work total \$156,316 annually to fund one full-time and three seasonal Ranger positions whose work is specific to conservation measures of the MSHCP.

U.S. Forest Service

Administration and Structure

The USDA Forest Service Humboldt-Toiyabe National Forest administers 315,488 acres of lands within the Spring Mountains National Recreation Area (Spring Mountains NRA) located in Clark and southern Nye counties. Both line and line/staff organization are employed to provide enforcement and resource protection. Two full-time Law Enforcement Officers, LEO, report in a straight line to supervision emanating from the USDA Forest Service Supervisor's headquarters in Sparks, Nevada. Eight Recreation positions, assigned to the SMNRA, perform enforcement-related duties in a line/staff organization that incorporates multiple disciplines and program responsibilities.

Tenure of USDA Forest Service personnel assigned to law enforcement locally all have previous law enforcement experience. Field visits with Forest Service enforcement staff indicated that personnel have high job satisfaction, strong knowledge of mission, duties and resources and a desire to remain in their current duty assignments, all of which would lessen turnover and improve coverage and efficiencies. Enforcement position vacancies (three) were filled with two experienced personnel (with one still open) again indicating the desirability of Spring Mountains NRA assignment. Respondents indicated that over the past five years approximately eight months of potentially productive enforcement time was lost due to vacancy/rehire requirements.

Planning

Respondents indicated no specific law enforcement strategic plan was available. Strategic enforcement goals and strategies for law enforcement are included in the SMNRA Plan.

Operational planning is performed to direct field enforcement operations. The Forest Service has reviewed both the Spring Mountains NRA Plan and MSHCP to extract objectives for resource protection and public safety that require law enforcement participation. The Spring Mountains NRA has been sub-divided into patrol areas corresponding to specific enforcement objectives, unique resources, and/or special land designations. Resources, recreation and enforcement personnel are assigned specific patrol areas and expected to provide and document coverage, log resource conditions, perform and record visitor contact, and address incidents of regulatory violation. Because recreation and resource protection and management are elements of most employees' duties, communication of the need for operational enforcement planning and adjustment is not separated from recreation and resources management programs. Inter-program coordination needs are easily recognized and addressed.

Questionnaire response did not indicate that effectiveness monitoring of strategic or operational planning was employed. Field recreation/enforcement personnel cited personal knowledge of reductions in littering, unauthorized resource removal, off road vehicle travel and facility vandalism following establishment of regular patrol presence by uniformed Forest Service personnel. It was believed that analysis of required field activity report forms would support this observation.

In Las Vegas, Forest Service and BLM administrative offices are co-located and opportunities for shared operational planning and communication are enhanced where land management jurisdictions adjoin on the ground.

Public Use Measurements

Public use measurement information is collected by limited use of road counters and reviewing visitor contact data collected during patrol. Patrol times and intensity are adjusted in relation to expectations for visitor use.

Reporting/Documentation

Staff performing recreation and law enforcement duties complete daily logs and biweekly summaries to record visitor contacts, visitor use numbers by patrol unit, enforcement contacts, incidents, violations and related enforcement action. Quarterly and annually, the Spring Mountains NRA prepares accomplishment reports that summarize information collected on a daily basis and provide references for linkage to MSHCP Conservation Measures and Actions. These reports are delivered to the IMC by the MSHCP coordinator for the SMNRA.

Program Assessment/Adaptation

The LEO for the Spring Mountains NRA is given broad latitude in implementing the enforcement programs. Communication among the LEO, Recreation, and

Resources staffs, and program documentation and records maintenance are critically important elements to effective program development and adaptation. The Forest Service has empowered decision-making at the local level and established programmatic mechanisms to encourage interdisciplinary cooperation and adjustment of strategies to meet objectives and goals.

Program Strengths

Because of recent changes in staff and line positions, questionnaire respondents were not able to identify specific program strengths. Jones & Stokes' assessment is based upon questionnaire response and interviews with Forest Service personnel. It found that Forest Service programs providing resource protection are based upon an understanding of resource needs and problems as identified through Forest Service and MSHCP planning. Objective methods were used in determining where to place staff resources. Sufficient documentation of public use occurs to permit the Forest Service organizational structure to adapt and change to meet the needs of the resource and users.

Program Challenges

Similar to determination of program strength, respondents were not able to categorize challenges due to recent staff changes. Interviews with field personnel pointed to a need for improved communication capability on a yearlong basis on the west side of the Spring Mountains NRA. The geographically discontinuous and seasonally interrupted two-way radio communications on the west slope of the Spring Mountains represent a challenge and potential safety concern for agency employees who are expected to address adverse environmental and at times hostile individuals in remote sites. Affected employees are aware of and have developed procedures to address this issue, but improved communication should be a strategic goal for the agency.

Regular and formalized coordination with enforcement staff of agencies having adjacent jurisdiction does not occur on the west slope Spring Mountains NRA.

Public Information Delivery and Effectiveness

The LEO responded that communication and coordination between enforcement and the Forest Service Public Affairs Office was good and effective. Cited was an instance of enforcement and information working to provide Las Vegas High School and Pahrump High School with information for dissemination about the "whys, whens, and wheres" of resource restrictions on the National Forest. The information was used and resulted in a decline in instances of unauthorized fires. The LEO and Recreation Officer were complimentary of Public Affairs' response to requests for assistance. Field personnel distribute literature to apprise the public of sensitive resources and the reasons for resource protections and regulations that are in place. Field staff seemed comfortable explaining the

ecological rationale for regulations and use restrictions. Field personnel were not aware of the opportunity for engaging MSHCP Public Information and Education (PIE) Working Group as a resource for public information delivery.

Response to the question regarding assessment of information effectiveness was that the effectiveness of information delivery could best be measured in terms of changes in the amount of non-compliance or violations.

The informational brochures that specifically target natural resource protection disseminated by the Spring Mountains NRA staff include:

- Rules for Visitors to the National Forests.
- Healthy Riparian Areas.
- Without a Trace.
- Benefits of Trees.
- Humboldt-Toiyabe National Forest's War on Weeds.
- Conservation Pledge.

Authorities and Responsibilities

The Forest Service relies on CFRs 36–261 to enforce resource violations. Rule making is authorized under Federal Register Notice. CFR 36, subpart B provides limited powers to a Forest Supervisor to close roads, trails, or areas of concern to protect the public. This authority is most frequently invoked in response to high fire danger, threat of flood, avalanche or other public threat or hazard.

The Forest Service enforcement personnel are not authorized to enforce local or state law or regulation. According to 16 USC 480, States retain their civil and criminal jurisdiction over persons in National Forests. Any crimes involving a person and their property would be the primary responsibility of local law enforcement, while crime against the United States in Violation of federal laws is the responsibility of Forest Service Rangers. By means of formal agreement, Forest Service personnel may enforce regulations on adjacent BLM lands and on USFWS refuges through a separate national MOU that is currently in place.

Enforcement Strategies

In support of the MSHCP conservation measures, the Forest Service uses the following uniformed-employee field strategies: high visibility, marked-vehicle patrol; field contact with visitors; investigation of detected or reported violations; mechanical and electronic surveillance and foot patrol.

Training Requirements

The Forest Service LEO are required to receive four months Federal Law Enforcement training upon appointment and complete a 4-month field training program specific to Forest Service programs and objectives before release to independent work. Annual refresher training for civil rights, firearms, defensive tactics, law change updates and procedures and fire suppression totals 9 days annually. The CPR/First Responder training requires a two-day refresher every year.

Budget and Time Expenditures

Time expenditures for field enforcement in the Spring Mountains NRA is estimated at 460 days per year. Of this total, 72% is expended in field enforcement activities of patrol, public information delivery, investigations and permit compliance checks. Fifteen percent of available field time is expended in training and planning. The remainder is expended in administrative activity, reporting/documenting program activity and equipment maintenance.

Questionnaire respondents were unable to provide the amount of Forest Service funding provided for support of enforcement activity on Spring Mountains NRA. Annual funding support from MSHCP for Spring Mountains NRA law enforcement was listed at \$290,000.

U.S. Fish and Wildlife Service

Administration and Structure

The USFWS is subdivided into several branches including Refuges, Ecological Services, and Enforcement. Primary responsibility for field implementation and enforcement of conservation measures such as those that support the MSHCP falls to Refuges, in this case the Desert National Wildlife Refuge Complex (DNWRC). The Desert National Wildlife Refuge (1,498,627 acres), Ash Meadows National Wildlife Refuge (23,488 acres) and Moapa Valley National Wildlife Refuge (106 acres) are located in Clark County and the MSHCP-covered portion of Nye County and include a total of 1,527,603 acres of land. The Desert National Wildlife Refuge includes 845,787 acres of land withdrawn by the Department of Defense from public use. The DNWRC retains primary jurisdiction and natural resource management of the withdrawn lands.

The DNWRC uses a modified line/staff organization. Program development and evaluation is accomplished at the refuge level. Program implementation including collateral enforcement duties are implemented and supervised at the individual refuge level.

The USFWS maintains a three-tiered enforcement system: special agents, refuge Rangers, and collateral duty refuge personnel. The Law Enforcement Branch

maintains a line organization of Special Agents whose duties focus on enforcement of federal laws intended to stop illegal commercial or recreational take and/or trade of wildlife and performing investigations of destruction of federal property managed by the USFWS. Agents in the Enforcement Branch are not assigned specific responsibilities for regulation enforcement on USFWS-administered federal lands. Two agent positions are located in Clark County, but provide service to the DNWRC only under special circumstance.

The second tier of enforcement is the Ranger program. The USFWS Rangers are full-time enforcement personnel assigned to specific areas of responsibility, usually a refuge or group of refuges, and provide regulatory compliance for both specific refuge regulations relating to visitor use and resource protection, and for other federal regulatory authorities that would apply to their areas of assignment. The DNWRC has no Ranger staff.

Collateral duty personnel are assigned enforcement duties as incidental to their primary function. Collateral duty enforcement personnel are uniformed and authorized to enforce refuge regulations, but do not wear a badge or carry a weapon during the normal course of duty. Collateral duty personnel may be assigned occasional, seasonal, enforcement-specific duties during periods of anticipated high use (adjacent OHV events, opening of hunting seasons adjacent to refuge lands, etc.), but generally only perform enforcement functions when violations are observed/encountered during the course of primary assignments of collecting biological information or performing maintenance tasks on the refuge.

The DNWRC currently has no formalized law enforcement program. In Clark and Nye counties, the three refuges employ a total of nine individuals: six professionals (two biologists, two refuge managers, one deputy project leader, and one complex manager), one wage grade (equipment operator) and two administrative staff. The deputy project leader and equipment operator have collateral duty law enforcement authority.

According to the DNWRC, lacking an enforcement program, continuity of staff is not an issue.

Not having employed full-time enforcement personnel, DNWRC was not certain how Rangers might view assignment to a full-time enforcement position there. Generally, the USFWS has found that refuges located at the interface between wildlands and urban areas were not perceived as desirable assignments by experienced Rangers.

Planning

The DNWRC is currently involved in a planning process, as mandated by the 1997 National Wildlife Refuge System Improvement Act, which will result in the development of Comprehensive Conservation Plans (CCPs) for each of the refuges within the DNWRC. The CCPs will outline goals, objectives and strategies that will provide for board management direction for habitat conservation and management, including maintaining biological integrity,

diversity and environmental health of the refuge(s) and facilitating compatible wildlife-dependent recreation. Per the National Environmental Policy Act, an environmental impact statement (EIS) is being prepared concurrently for all refuge CCPs. The CCPs/EIS are scheduled for completion in Summer 2004 and will have a management timeline of 15 years.

Public Use Measurements

Public use measurements are subjective, and the USFWS staff have questioned its accuracy. The methodology is believed to produce conservative estimates of DNWRC visitation by the general public. The complex has begun to use automated vehicle counters over the past several months and is promoting collection of consistent, reliable data for measuring visitor use on USFWS managed federal lands.

Reporting/Documentation

The DNWRC develops annual reports of operations, habitat/lands management, habitat conditions, wildlife status, public use, enforcement issues and special activities. There are no reports generated for specific use by the MSHCP.

Program Assessment/Adaptation

The current DNWRC planning process may identify goals and objectives to define law enforcement needs and management actions to be implemented over the life of the 15-year refuge planning period. However, without an established program and staff in place, there is currently little opportunity to employ, assess or adapt enforcement goals, objectives or strategies.

Program Strengths

The DNWRC staff view the organizational structure that the USFWS applies to its law enforcement program to be functional and sound. Where funded and in effect, enforcement is managed at the local level and is fully integrated into resource and public use management.

Program Challenges

The DNWRC is the largest wildlife refuge complex in the lower 48 states. The challenge for the refuge has been to enable collateral duty or law enforcement staff to cover areas of the refuge currently receiving the most public use. Estimates by the DNWRC staff indicate the refuge lands adjacent to the northern

boundary of the Las Vegas Valley receive a large percentage of the public visitation and subsequent resource degradation.

To date, the USFWS has not been able to fund or support an enforcement program at DNWRC. There is concern for the USFWS giving the appropriate amount of recognition to the role and value of enforcement in natural resources conservation.

Program Opportunities

In conversation, DNWRC identified needs to improve communication regarding issues that cross administrative jurisdictions at mid-level management in the agencies. These include exploring options and compatibility of joint USFWS/BLM enforcement, investigating the potential of contracting for resource enforcement with county government at Ash Meadows NWR, seeking ways to enhance customer/government relations, and training employees at all levels to recognize and be prepared to respond to the “teachable moment,” a term used to identify the point at which communications and education can be enhanced.

Public Information Delivery and Effectiveness

The scope of public information that the USFWS employs on behalf of refuges is restricted to the narrow mission of the National Wildlife Refuge System. The goals of the Environmental Education and Interpretation program are to inform visitors of the mission, individual refuge objectives and refuge-specific regulations. Refuges that have portions open to hunting, fishing or other resource taking option develop specific brochures to inform the public. General information brochures address such things as vehicle use, open/closed access or areas, camping, fire or other refuge-specific issues. Signs and brochures are drafted by refuge staff working with Regional Office (Portland, Oregon) information specialists.

The informational brochures that specifically target natural resource protection disseminated by the DNWRC staff include:

- Desert National Wildlife Range.
- Ash Meadows National Wildlife Refuge.

The DNWRC Coordinator for Volunteers and Outdoor Recreation attends MSHCP PIE meetings to provide refuge perspective and communicate program needs.

Most public information is provided by refuge staff and volunteers through one-on-one contact and by brochures, maps and leaflets. No effectiveness evaluations are performed. Forest Service personnel believe that, in general, the public places low value on the desert ecosystem and that education programs

should have a core focus of improving public perceptions and attitudes of the need for desert conservation.

Authorities and Responsibilities

The USFWS relies on conservation measures extending from 16 USC (National Wildlife Refuge System Administration Act, Migratory Bird Treaty Act, ESA, Wild Bird Conservation Act, Bald and Golden Eagle Protection Act) and 18 USC (Lacey Act, Assimilated Crime Act). The USFWS is also empowered to enforce the Archaeological Resources Protection Act. . Unlike other federal lands, 50 CFR 26.21 specifies that entry onto lands of the NWR system is prohibited unless specifically authorized. Expanded authority as compared to other federal lands is also afforded individual refuge managers (50 CFR 25.31) who may close entry merely by posting a sign without regard for notice publication or regulatory review.

Unique to the federal and states' natural resource enforcement programs is the limited opportunity through cooperative agreement and administrative to certify and authorize state enforcement personnel to enforce provisions of the Migratory Bird Act dealing with hunting and possession of migratory waterfowl. This is the only circumstance where joint state/federal responsibilities for natural resource law enforcement are authorized.

Enforcement Strategies

Collateral enforcement activity is applied as incidents are encountered by uniformed personnel. Enforcement needs may be encountered when in the field performing biological investigations or maintenance duties or when investigating reports of violations.

Training Requirements

Newly hired Rangers receive 17 weeks of federally mandated academy training including two weeks specific to refuge protection and enforcement. Additional field training is required that may extend to 30 weeks. In total, Rangers will receive nearly one year of training before being released to perform unsupervised field enforcement work.

Collateral enforcement personnel receive from 16-18 weeks training before being authorized to perform enforcement functions.

In-Service refresher training, CPR and weapons qualification requires seven days annually.

Budget and Time Expenditures

The DCNWR estimates that five positions (including the two collateral duty-certified individuals and three remaining professional staff who perform field observations and conduct public contact) from among its nine person staff provide 104 days per year that may contribute to enforcement of regulations and conservation measures in the DNWRC.

While MSHCP funds have been allocated for DCNWR law enforcement rangers, there are currently costs for two ranger positions at \$275,000 annually. They also noted that by USFWS policy, contributed funds are subject to an administrative support fee of approximately 7%.

Boulder City Conservation Easement

Administration and Structure

In Eldorado Valley, a portion of the land owned by the City of Boulder is overlaid by the BCCE. Clark County purchased BCCE from Boulder City in 1995 to provide resource conservation credits when obtaining the original 10 (a) Permit pursuant to the Desert Tortoise Conservation Plan. The BCCE was incorporated into the subsequent Clark County MSHCP. While Boulder City owns the land, it is the responsibility of the County to oversight the condition of the easement, provide resource protection/conservation, and assure public compliance with regulations and ordinances that have been enacted (see City of Boulder, City Police Department).

The County first contracted for BCCE enforcement with Nevada Division of Wildlife (NDOW) but found the length of time to acquire, train, insert an enforcement officer, and then repeat the process following a position vacancy to be unacceptable. While under contract to Clark County to perform enforcement for the BCCE, the Division provided quarterly and annual reports of activity, contacts by user group and recommendations for program adjustment to meet conservation measures intended by the MSHCP. In 1997-1998 NDOW received \$87,125 from the Clark County MSHCP for law enforcement on the BCCE. During the 1997–1998 biennium, NDOW requested an additional \$20,000 for the purchase of an all-terrain vehicle to continue the law enforcement contract. The small truck that NDOW was using was unsuitable for the terrain. The County then elected to contract with a retired, but state-certified and trained, former Boulder City police officer to provide conservation enforcement to BCCE lands.

The enforcement contractor was answerable to and received payment from Clark County for a pre-specified, not-to-exceed amount based upon an invoicing-for-services system. The Contractor was linked via two-way radio to a number of police dispatch centers, other enforcement jurisdiction radio networks and maintains cellular telephone communication. For more than three years, this approach worked well in terms of providing enforcement coverage in support of

MSHCP conservation measures and in reducing enforcement coverage gaps that were caused by the need to fill vacancies with certified, trained personnel.

Although contracted to a sole proprietor in the past, the agreement with Boulder City requires Clark County to contract with a “law enforcement agency or natural resource entity.” In the future, Clark County will be contracting with an agency or entity to perform this work.

Planning

Strategic and operational planning are not components of this element of conservation enforcement used in support of the MSHCP. Operational duties and activities are driven by the need to provide support for specific conservation measures that are associated with the BCCE and City of Boulder City ordinances relative to land, vehicle, natural resource, and road use/access that have been enacted.

The Contractor has latitude to schedule and perform operational activity in relation to the timing and intensity of public use encountered or expected in the BCCE.

Public Use Measurements

No formal measurements of public use are performed.

Reporting/Documentation

Formal reporting was requested under terms of the most recent contract. The County and Contractor are adjusting the contract to include provision for quarterly reporting of activity and status to the IMC.

Program Assessment/Adaptation

Program implementation goals and deliverables are specified in the contract but give latitude to adapt to changing conditions or needs. Assessment of effectiveness of enforcement is performed by the Contractor and the County.

Interview and field observation with the Contractor revealed that most regulatory restrictions and ordinances in support of the MSHCP are being observed by the public and/or adequately enforced by the Contractor. Cited as examples are areas where former trash dumping, shooting target litter, and unauthorized road use has been abated. Evidence of limited, unauthorized vehicle use of desert washes was observed west of the Nelson Hills. However, taken as a whole, desert habitat appears to be intact and is not experiencing effects of adverse public use that occurred prior to initiation of the BCCE.

Up to the time of this assessment, BCCE program adaptation was accomplished largely through the initiative of the Contractor whose knowledge of the geography, climate, and BCCE visitors permitted program adjustment in response to predictable and changing environmental conditions and public use patterns. With the inclusion of reporting mechanisms and information feedback loops to the County and IMC, communication about land use impacts and enforcement program activity should be enhanced and result in improved knowledge and confidence by those who may have questioned the value and/or efficacy of the enforcement approach being employed in the BCCE. At the least, discussions can now center on reported information and observation or on the need for reporting of specific information, none of which was available until recently.

Program Strengths

Program strengths that are apparent in observation of application and approach include

- improved efficiencies in providing compliance coverage in the BCCE by the use of a contract work force as opposed to time-consuming procedures required of government entities to acquire staff and fill vacancies;
- geographic knowledge, desert environment acuity, and visitor use familiarity and understanding exhibited by the Contractor; and
- contractor flexibility to be available or not to perform needed tasks in relation to seasonal and public use fluctuations that may not be easily attained when using government agency personnel.

Program Challenges

Program challenges that are apparent in observation of application and approach include

- while the incumbent in the current BCCE enforcement position is particularly well suited to the position from many perspectives, finding a replacement with the requisite qualifications and abilities may not be accomplished easily; and
- as has already been noted, communication among the members of the IMC and the Contractor have not been formalized in the past and may have resulted in lack of knowledge and resulted in elevation of issues without mechanisms for resolution. Using formalized reports to focus discussions may enhance communication and issue resolution.

Public Information Delivery and Effectiveness

Public information delivery is largely at the discretion of the Contractor. It appears that most information delivery comes from one-on-one field contact and some road designation signage that is present and maintained throughout the BCCE by the Contractor. Brochures and information pamphlets are available for distribution by the Contractor, but message content may benefit from periodic, formal review involving the Contractor and PIE Working Group. Given the number of BCCE access points, increasing the number of kiosk information sites is believed to be a beneficial strategy at certain sites. However, given the apparent high level of compliance with ordinance and conservation regulations, only limited additional information delivery may be desirable at current use levels. It should be noted that field observation of public use and compliance were made during mid-summer at a time when desert visitor use is reported to be at its lowest. Therefore, evidence of non-compliance with road closures and off-road travel would also be expected to be at a low ebb. Little or no rainfall had occurred in the previous six months that would have removed evidence of illegal activity. It is the assessment preparer's opinion that public compliance with regulations is high. The preceding discussion does not project a measure of information delivery effectiveness, only the observation of apparent compliance with regulations and conservation measures with the reasons remaining to be determined.

Authorities and Responsibilities

Authority for enforcement of conservation measures associated with the BCCE stems from the specific provisions contained in the easement and their projection into enforceable ordinance enacted by the City of Boulder City. The County is responsible to implement conservation measures on lands and habitat in El Dorado Valley in order to maintain its 10 (a) permit. The City of Boulder has enacted ordinances to provide necessary support of those conservation measures. Clark County contracted with an individual who has the certifications, qualifications, and abilities necessary to enforce City and any applicable county ordinance. While the Contractor's authorities as a result of maintenance of police powers certification extend beyond the limits of the ordinances associated with the BCCE, as a matter of contractual obligation, he refers non-BCCE related enforcement matters to those entities having jurisdictional responsibility (i.e., violations of laws governing vehicle operation on state highways are referred to Nevada Highway Patrol; instances of felonious crimes or misdemeanor activities not associated with the BCCE conservation measures are referred to the Boulder City Police Department).

Enforcement Strategies

The Contractor employs marked vehicle patrol of the BCCE and attendance at permitted, organized events within and adjacent to the BCCE as primary means of enforcing ordinances. Patrol is adjusted seasonally and diurnally to improve

effectiveness in terms of maximizing contacts, establishing a presence and encountering violations.

Training Requirements

Depending upon stipulations included in its selection of a Contractor, the County may chose another level of enforcement monitoring to achieve compliance for enforcement of BCCE conservation measures, subject to approval of USFWS in its issuance of the incidental take permit for the MSHCP. However, at present the County has chosen to contract with entities that are authorized to enforce the laws of the State, County and City as they may apply to the BCCE. Given that circumstance, any Contractor must remain certified through Nevada's Police Officers Standards and Training (POST). Minimum requirements include Basic POST – 18 weeks, one time; annual certified refresher (3 days); biannual defensive tactics (2 days), and weapons qualification (quarterly – 2 days total).

Budget and Time Expenditures

In the current two-year budget cycle, Clark County MSHCP expended \$155,500 to pay for all costs associated with BCCE enforcement services. The Contractor is obligated to furnish all equipment and expend 49, 40-hour weeks per year in support of BCCE conservation enforcement measures (patrol, public contact, permitted event monitoring, documentation) as identified in the contract. No other benefits accrue to the contractor or are paid for by the County.

Nevada Division of Wildlife

Administration and Structure

Nevada Division of Wildlife recently reorganized from a line/staff to a line organization in all disciplines. Program development and evaluation is centered at individual Bureaus located at Reno headquarters and program implementation and supervision is performed from one of three regional focal points including Las Vegas. Field enforcement officers are Game Wardens and are responsible to a Regional Warden Supervisor for program direction and operational instructions. Reorganization also resulted in the de-commissioning of enforcement responsibilities for fisheries and terrestrial wildlife field biologists. Questionnaire response indicated the line structure aided programs by allowing field managers to make decisions as problems or situations arise without having to check with a middle manager and permitting management without interference by someone who is not properly trained or experienced in law enforcement.

Currently, Nevada employs 17 Game Wardens in southern Nevada. Most field enforcement time assignments are divided seasonally between terrestrial wildlife enforcement and boating safety enforcement. Positions are stationed in Laughlin, Boulder City, Henderson, Las Vegas, and Overton.

Tenure in individual field Warden positions averages five years and 10 years for supervisors. Vacancies average 4 months to authorize, advertise, test and select candidates. Of 19 vacancies of the past decade only one individual was hired that was POST-certified and ready for formal Division-mandated Field Training.

Traditionally, Wildlife Division enforcement positions in southern Nevada have been viewed as “stepping stone” positions with negative connotations arising from climate (hot desert), program priorities (major emphasis on boating safety, a non-traditional wildlife agency enforcement program), natural resources requiring protection (little emphasis on “charismatic mega-fauna” such as big game and raptors) and limited access to preferred recreation amenities (temperate climate outdoor activity). These factors have combined generally to lessen the length of time law enforcement employees spend in southern Nevada duty stations. This trend was evident during the 1980s and 1990s at a time when the Division was experiencing an unprecedented number of retirements that created vacancies and the opportunity for transfer from southern to northern Nevada duty stations. The trend has slowed as the number of vacancies has declined.

Planning

The Division has used a Comprehensive Strategic Plan, developed in the 1980s, to provide strategic goals, objectives, and strategies for its different programs including enforcement. An update of the plan was in progress at the time reorganization occurred 2 years ago but has not been completed.

Operational planning is performed by means of a Comprehensive Management System (CMS). CMS is intended to be a mechanism to select strategic plan priorities for implementation, partition fiscal and human resources among competing programs, develop operational plans, and evaluate effectiveness in attaining priorities before beginning another CMS cycle. The CMS process is currently under review and may be modified in the near future.

The CMS planning system includes an effectiveness monitoring element as one of its key components. However, questionnaire responses from the Division indicated that effectiveness monitoring is not yet in place.

Public Use Measurements

Questionnaire respondents indicated the Enforcement Bureau does not employ public use measurements. Game Wardens complete biweekly activity reports that record field contacts in particular areas. However if a Warden is not assigned to work the area for a period of time, the value of the information as a trend indicator of public use is compromised.

The Division retains records of hunting and fishing license sale, and commercial and non-commercial permit issuance. Fisheries and Game Bureaus collect and publish wildlife recreation-related use information (hunting days, fishing days, take data) based upon questionnaire and mandated-user reports.

Reporting/Documentation

The agency publishes an annual Law Enforcement Report detailing the number of contacts in different activity categories (hunting, fishing, boating safety, etc.) and the number of warnings and citations issued by Wardens.

Program Assessment/Adaptation

The response to this portion of the questionnaire indicated that there was no formal process currently in place to prioritize or adjust its law enforcement strategic goals, implementation objectives or strategies as related to the MSHCP. At present, Division enforcement commitments found in the MSHCP are inclusive of the Division's enforcement and resource conservation goals and are not singled out for emphasis by the agency (see Tables 1 and 2).

Program Strengths

The Division cited programs strengths as dedicated personnel and the current field training program used for new hire wardens.

Program Challenges

The Division cited a lack of an investigative unit for major wildlife crimes, limits in travel budgets necessary to conduct prolonged patrols/investigations, a need for specialized equipment (night vision, ATVs, remote sensing cameras), and reliable radio communications in remote sites as being significant program challenges.

Public Information Delivery and Effectiveness

The Division has an Information and Education [I&E] Bureau with specialists that provide public information through news releases and other mass media. Division I&E staff attend meetings of the IMC's PIE Working Group to assist in enhancement of conservation message development, but enforcement does not view this as an outlet for public education of the Division's enforcement program.

The informational brochures that specifically target natural resource protection disseminated by the NDOW staff include:

- Nevada Hunt Book: 2003 Hunting and Trapping Laws and Regulations.
- Nevada Department of Wildlife 2003–2004 Upland Game Bird, Rabbit, Dove & Crow Seasons and Limit Regulations.

Authorities and Responsibilities

Division of Wildlife enforcement authorities are found in NRS Chapters 488, 501-505, and in codified regulations adopted by the Board of Wildlife Commissioners. The agency has no authority to promulgate law or regulation. Wardens are considered to be state Peace Officers with full authority to enforce NRS and all codified regulation. However, the mission of the agency is to protect, maintain, enhance Nevada's wildlife and wildlife habitat, and to promote safe operation of watercraft. The agency has discouraged Wardens from exercising enforcement powers outside the scope of the agency's mission. The Division's mission and scope of duties in laws that it emphasizes for enforcement are substantial contributions to many of the conservation measures identified in the MSHCP.

Select wardens may be authorized to enforce limited provisions of the federal Migratory Bird Treaty Act relating to waterfowl hunting. Because the Wildlife Commission has developed language parallel to federal law in regard to waterfowl hunting, the need for cross-deputization has lessened. Some wardens, particularly those whose duty stations are located adjacent to major wetlands may still carry this special, limited authorization.

Enforcement Strategies

The agency employs the usual array of field enforcement strategies: uniformed enforcement employees, marked vehicle patrol, investigations, vehicle checkpoints, mechanical surveillance, diurnal coverage and covert operations.

The Division also staffs and supports a position that enlists public assistance in the confidential reporting of wildlife violations via a toll free, 24-hour telephone line. The program, Operation Game Thief, has been in effect for more than 15 years and is responsible for generating information leading to conviction of individuals that have taken wildlife illegally. The program guarantees anonymity of individuals filing reports and offers, upon conviction, to pay rewards in amounts varying with the relative severity of the violation. The program involves a non-agency review board to make recommendations for program effectiveness, to oversight fund receipts from donors and the dispersal of rewards. There have not been measures of effectiveness determined, but a review of the cases resulting in successful investigation and prosecution would indicate that a high percentage would not have been detected or brought to the attention of enforcement without the program. The program may also have a yet-to-be measured deterrent effect in that individuals who are inclined to take wildlife illegally may be dissuaded by the prospect that a friend, neighbor, spouse or someone observing their activity in the field may make a report. Similar programs are operated by other states' wildlife agencies.

Training Requirements

Minimal training for new-hire employees to become POST-certified and field ready is 11 months. Wardens spend 10 days, two work weeks, annually in mandated training consisting of 5 days in refresher training, three days in defensive tactics, impact tools and new training, and two days (4 hours quarterly) in weapons qualification in order to retain POST certification.

Budget and Time Expenditures

The 17 Wardens assigned to Division of Wildlife enforcement positions in Clark County are assigned 82 months of terrestrial wildlife duties, the equivalent of 6.8 full-time positions. The remainder of their time is spent in boating safety, equipment maintenance and other duties

Division of Wildlife uses 220 productive workdays as the basis for operational planning. Patrol time is estimated at 130 days or 59%. Public information delivery in addition to patrol contacts is estimated at 16 days or 7%. Planning consumes 13 days (6%) and equipment repair/maintenance 19 days or 9%.

The Division operates its statewide enforcement program (wildlife protection and boating safety) on an annual budget of approximately \$7.0 million. The Southern Region budget for terrestrial law enforcement is approximately \$1.29 million.

Nevada Division of Forestry

The NDF did not respond to the questionnaire. In a subsequent conversation with the regional program administrator for Clark County, it was determined that there was little enforcement activity that could be credited to conservation beyond that identified in Section 2.8.8.4, Page 2-271, of the MSHCP (Table 2). The NDF stipulates that land containing MSHCP-protected species and habitats and owned and managed by the State of Nevada is limited in both amount and quality leaving little if any resource needing protection under the statutes NDF is authorized to enforce. The NDF believes it is able to meet its NRS and MSHCP commitments for protection of flora with the existing staff of one, Nevada POST-certified, enforcement officer. NDF does not perform enforcement patrols, but investigates and prosecutes instances of violation of NRS (cited above) that are brought to its attention. NDF does not receive MSHCP funding in support of enforcement activity, however one botanist position is funded through the MSHCP program. The NDF did not quantify its contribution to the MSHCP in terms of personnel time or financial support.

Public Information Delivery and Effectiveness

The NDF did not respond to the questionnaire. However, the informational brochures that specifically target natural resource protection disseminated by the NDF staff include:

- NDF: The Resources Agency.
- Nevada Natural Resource Education Council.
- Think Trees.
- Tree Values.
- Outdoor Fire Safety.

Clark County Parks and Community Services

Clark County Parks and Community Services responded to inquires by an email from Rich Bishop, dated March 31, 2003, stating:

“Unfortunately my next couple weeks are booked solid with a variety of meetings, classes and some miscellaneous. Additionally, I had gotten the e-mail indicating the various things that you all would like tracked. For our current manpower and staff, those tasks would be impossible to complete. I realize that had we received the funding for our Wetlands officers that we would be required, so it would be built in. As it is, with no additional manpower we could not participate in this effort. Thanks for your consideration and have a great week, (Signed) Rick Bishop, Chief Clark County Park Police”

Las Vegas Metropolitan Police Department

A needs assessment questionnaire was provided to Las Vegas Metropolitan Police Department Division that administers Metro sub-offices in rural communities. No response was received. In a follow-up telephone conversation, it was indicated that Metro officers would provide backup to conservation agency enforcement officers upon request, but did not assume any enforcement responsibility for conservation measures associated with the MSHCP.

The Las Vegas Metro Police do have an IA with the Forest Service to patrol the campgrounds in the SMNRA. However, this agreement does not extend to natural resource protection anywhere with the SMNRA.

In subsequent discussions with Sgt. Page of the Las Vegas Metro Police Special Events Division, it was determined that it was unlikely the Special Events program would be able to assist Clark County or the federal land managers with resource conservation. The mandates of the Special Events program include

providing relieving a burden from an area command or if there is a discernable public safety issue.

Clark County will continue to explore options to use Metro police officers to enforce conservation measures associated with the MSHCP. Although Las Vegas Metro Police Special Events Division may not have express interest, agency personnel in rural substations have expressed an interest in performing these services.

City of Boulder, City Police Department

The City of Boulder, City Police Department responded to the questionnaire by telephone conversation followed by written communication, dated June 4, 2002, from Lt. William A. Brown stating:

“Per our conversation:

Our agency (Boulder City Police) performs no functions in support of the CCMSHCP. We do not have the manpower to do any habitat protection whatsoever. It is my understanding that the county has a contracted (sic) with Mike Creathbaum. We have no contact with Creathbaum except on occasion during the off road races. The department would be happy to provide the service if the county could provide us with money for manpower. If you have any questions please call me at 293-9267. (Signed) Lt. William A. Brown.”

Subsequent discussions between Clark County and Boulder City Police Chief Bill Turk have resulted in an expression of support and enthusiasm for the Reserve Officer Program to provide law enforcement for the Boulder City Conservation Easement.

Nevada Highway Patrol

Nevada Highway Patrol (NHP) was not surveyed with the questionnaire. The needs assessment contractor felt comfortable in describing the role NHP plays in the MSHCP. NHP is a statewide agency that limits its enforcement energies to driver and motor vehicle safety and compliance law enforcement on elements of the Interstate Highway and Nevada State Highway systems. In Clark County, NHP enforcement powers are focused in I-15, I-215, US Hwy. 93, US Hwy. 95 (and the 95 Expressway), and State Route 261. While NHP officers retain full police powers for all Nevada Revised Statutes, NHP only exercises those powers under emergency situations. NHP officers may respond and remain at the scene of an urban or rural personal injury accident or egregious violation of law they have either witnessed or been dispatched to attend. They may also, on more rural highways and after making a stop for a traffic related incident, detain an individual(s) who in their view has/have probably committed a flagrant violation of law (possession of controlled substances, closed season wildlife take,

possession of stolen property, etc.) and request assistance from those entities in the law enforcement community having primary responsibility for enforcement of the apparent violation. In the main, the kinds and types of enforcement to be applied to the MSHCP conservation measures would not receive attention or action by NHP, unless another MSHCP enforcement agency or conservation enforcement officer made a specific request through formalized communication for “backup,” “officer assistance,” or “attempt to locate” type response.

Wackenhut Corporation

Wackenhut Corporation is a private security firm that specializes in security and investigative services for private and government clients, and currently provides on-site security for the Bureau of Reclamation at Hoover Dam and the Department of Energy (DOE) at the Nevada Test Site. Wackenhut is also providing paramilitary protective services to the DOE at the Savannah River site in South Carolina. The company was not surveyed with the questionnaire; however, several management staff from the Las Vegas office were interviewed in order to describe the potential role Wackenhut could play in the MSHCP enforcement efforts. Wackenhut has three classifications of security officer including the unarmed Traditional Security Officer and Professional Unarmed Security. In addition to the unarmed security and patrol officers, the Custom Protection Officer is an armed uniform officer. The company was requested to provide approximate fees for providing enforcement services. It was indicated that an armed law enforcement officer would be billed at a rate of \$32 per hour, plus mileage (\$0.345 per mile) and \$1,000 per month for a vehicle.

Summary of Agency-Specific Findings and Cumulative Enforcement Presence

Federal Agencies

In summary and comparison of enforcement resources, the four federal land managing agencies’ ability to respond to and meet enforcement obligations incurred as parties to the MSHCP and IA varies considerably.

- MSHCP-conserved habitats (Clark and southern Nye Counties) and MSHCP-covered species receive direct, focused law enforcement protection on lands administered by three federal agencies (BLM, NPS, Forest Service). Seven full-time (4 BLM, 2 Forest Service, 1 NPS) and two seasonal law enforcement positions (2 NPS) accomplish this MSHCP-focused effort.
- Conserved habitat and covered species found on lands administered by the DNWRC, receive minimal law enforcement resource protection from two USFWS employees who are enforcement-qualified, but perform enforcement functions coincidentally to other scheduled duties. The USFWS does not

have any full-time enforcement personnel assigned to refuges in southern Nevada.

- In terms of the total number of natural resource enforcement officers, including supervisors available to provide comprehensive natural resource protection, NPS has the largest number (40) but their responsibilities are divided to account for resource protection on the Arizona portion of LMNRA outside Clark County as well as providing boating safety enforcement on large bodies of water. At the other points on the conservation enforcement compass, the DNWRC has the fewest enforcement resources available (two collateral duty officers) to provide limited protection to land under its administration. Intermediate among the federal agencies in ability to field enforcement staff are the BLM (10 enforcement positions) and Forest Service (two positions).
- As of July 2003, the total number of federal conservation enforcement positions that could be considered as either providing full- or part-time terrestrial, conservation law enforcement support in Clark County is estimated at 46 positions (11 BLM, 2 USFWS, 31 NPS, 2 Forest Service). Of those 46 positions, 20 full time equivalent (FTE) federal field positions provide terrestrial resource protection as a result of federal law enforcement programs and are of general benefit to the MSHCP conservation goals and strategies. The 21 FTE positions exclude supervisors and boating safety enforcement staff.
- Natural resource enforcement programs administered by NPS, Forest Service, and BLM appear to have added conservation enforcement value over and above what might be expected from funds they receive from the MSHCP. The agencies and the IMC may want to explore options for receiving conservation credit for this value-added benefit. The same cannot be said for enforcement administered by DNWRC (see below).
- The 20 FTE federal enforcement/ and resource protection positions include six full-time and six part-time positions (totaling 7.5 FTEs) that are funded directly from and expected to expend their enforcement time on MSHCP-related activity on lands administered by the BLM (4.0 FTEs), NPS (2.5 FTEs), and Forest Service (1.0 FTE and 1 FPO).
- In general terms, agencies do not expend a great deal of effort in collecting, documenting, and analyzing quantitative information about the amount and intensity of public use. The amount and precision of public use information varies considerably and can only be used to estimate agency need for enforcement effort. This is not necessarily bad in that time and money spent in measuring and quantifying public use is time and money removed from on-the-ground resource protection and restoration. Other factors may make generalized public use statistics unreliable for supporting enforcement needs. Variance in public use associated with climate can affect the amount of enforcement presence required seasonally (low levels of visitation in low elevation, hot desert habitat in summer versus high levels of visitation in cooler months; consistent high levels of visitors seeking cool summer temperatures and winter sports opportunities in high elevation, cool climate habitats like SMNRA and DNWRC). Also, public use information is not always an accurate barometer of the need for resource protection and

conservation. Seasonal presence and vulnerability of conserved species or habitats that could be impacted potentially or need protection also may influence the need for enforcement presence (some species may migrate outside or be seasonably unavailable to be directly impacted within the MSHCP area). Differing types or levels of public use (bird watching, OHV travel) may or may not represent a hazard or threat to conserved species or habitat depending upon the species, season, intensity of use or regulatory mechanisms applied. Presently, it appears that field enforcement personnel are sufficiently aware of and responsive to public pressures being exerted on natural resources and perform useful documentation and reporting.

- Agencies appear to do adequate or better jobs of documenting and addressing public use impacts. NPS, BLM, and Forest Service document and record observations of public use problems and use that information to adapt their management actions including modified enforcement presence, regulatory adjustment, resource restoration, and information dissemination. Minimal staffing levels of both resource and enforcement personnel inhibit a similar level of response on DNWRC lands.
- At DNWRC, the relative effectiveness of agency response in addressing identified enforcement needs is problematic. This issue is brought about by budgetary decisions outside the local management level. Enforcement needs include
 - an established enforcement program on the DNWRC, and
 - an established enforcement presence to foster public expectation for encountering enforcement personnel.
- According to the federal agencies, the lack of enforcement presence may result in the disregard for signage and regulations. The USFWS reports evidence of litter, unauthorized OHV use, dumping of household trash, unauthorized removal of vegetation and vandalized signage in areas of where the public is able to access refuge lands.
- In some areas, the level of human use in some may overwhelm the ability of natural resources and agency staff to accommodate the public and maintain resource values. First among these are high intensity public use sites such as access points, roads, campgrounds, parking lots, and visitor facilities in small, distinct areas mostly on Forest Service- and NPS-administered lands. The presence of litter, unauthorized trails, erosion, damaged vegetation, vandalism to facilities, and graffiti on natural resources vividly illustrates human use exceeding thresholds of both natural systems to compensate and enforcement efforts to intervene, even though high levels of enforcement presence are applied. These conditions, if allowed to proliferate across the landscape, may require more restrictive visitor management programs. Resource partitioning (see below) in the form of additional recreation development, limited access, seasonal closures, 24-hour agency presence or the use “host/docent volunteers” may be necessary to overcome the impacts of frequent and intense public use at some sites.
- Assigning terrestrial enforcement personnel yearlong to areas of only seasonal public use may be somewhat ineffective. It should be recognized, as pointed out in relation to DNWRC lands noted above, that the absence of

expectation of resource agency staff may invite non-compliance by members of the public. However, there may be flexibility to seasonally adjust patrol intensity and areas, perhaps across jurisdictional boundaries where formal agreements exist, to maximize available enforcement resources without compromising coverage and public compliance with regulations.

If taken as a whole, in the opinion of the federal land managers, protection of natural resources and application of available enforcement resources on federally administered lands is accomplished in a professional and capable manner. Employees take their agencies mission for resource protection seriously and also understand public attitudes and desires for interaction with natural resources. Every person contacted expressed a level of desire to fully address resource issues and concerns found within their particular areas of responsibility at both the field and supervisory level. All agreed that societal attitudes toward the value of natural resources was evolving at a rapid rate, that these changes seemed to be linked to the growth and urbanization of human populations, and that not all public land users had a good understanding of natural resource management regulations or principles. All agreed that public education and signage regarding regulations combined with a field presence of the managing agencies in an official capacity was essential in attaining compliance. Some volunteered that in addition to a law enforcement and regulatory information presence, there is a need to better understand the perspectives and needs of public land visitors. Some also indicated it was important for agencies to continue seek ways to promote and instill a land ethic and appreciation of natural systems among users of natural resources that increasingly originate and are educated in urban, not rural, societies.

State Agencies

Cooperating state agencies that have designated enforcement responsibilities for species or habitats under the MSHCP/IA are the Nevada Divisions of Forestry, Parks and Wildlife. Each Division appears to be performing its respective conservation enforcement mandates and functions as outlined in the MSHCP (Tables 1, 2, and 3). Currently, no state agency receives MSHCP funding support for conservation law enforcement. Nevada Division of Wildlife is the only state agency that routinely provides backcountry patrol of MSHCP-conserved habitat to provide an agency presence and intervene in violations of state conservation laws. While this effort occurs with or without the existence of the MSHCP, the Division fulfills a portion of its MSHCP commitments by protecting state-managed wildlife on public lands.

Other Law Enforcement

The only other entity that provides direct law enforcement support of the MSHCP is the Clark County contract for BCCE enforcement coverage. The BCCE is provided one FTE enforcement individual commensurate with the terms

and stipulations of the contract. Because of its responsibilities for protection of resident wildlife, NDOW also provides species protection on the BCCE.

No other entities provide MSHCP law enforcement coverage or assume responsibilities for conservation measures in the MSHCP. Other law enforcement agencies do cooperate to assist MSHCP enforcement officers in emergency circumstances, on request.

Conservation Law Enforcement 2000 to 2035

The Growth Factor

Population Projections

Population growth in Clark County is expected to increase by 49% from 1.498 million to 2.351 million in the next quarter century and more than 13% in the subsequent decade (Table 4). The growth estimates for Clark County do not include development forecasts for Pahrump, Sandy and Coyote Springs valleys of Nye and Lincoln counties, which are increasingly expected to be connected to and become part of the greater Las Vegas urban area.

Table 4. Clark County Population Forecast: 2002 through 2026.

Year	Population	Population Growth Rate (Percent Change)
2001	1,498,279	4.87%
2002	1,570,730	4.04%
2003	1,625,080	3.46%
2004	1,674,880	3.06%
2005	1,720,350	2.71%
2006	1,761,700	2.40%
2007	1,799,280	2.13%
2008	1,833,370	1.89%
2009	1,864,730	1.71%
2010	1,894,580	1.60%
2011	1,924,540	1.58%
2012	1,954,540	1.56%
2013	1,983,690	1.51%
2014	2,012,800	1.45%
2015	2,041,020	1.40%
2016	2,068,690	1.36%
2017	2,095,970	1.32%
2018	2,122,910	1.29%
2019	2,149,610	1.26%
2020	2,176,320	1.24%
2021	2,203,520	1.25%
2022	2,231,490	1.27%
2023	2,260,210	1.29%
2024	2,289,650	1.30%
2025	2,319,830	1.32%
2026	2,350,900	1.34%

Source: The Center for Business and Economic Research at UNLV, February 6, 2002.

User Trends Analysis and Implications

Reinforcing the expectations for increased demands for use of public lands are national, regional, and local statistics related to recent trends in life style and recreation uses of public lands.

In general terms, the public has increased its capacity for travel and access onto public lands. Since 1969, the number of cars and trucks in the United States has grown twice as fast as the population and currently, nationwide off road vehicle sales are estimated at 1,500 daily in the United States (Mitchell 2001).

In California, OHV registrations more than doubled in the 20 years between 1982 and 2002. And while registration of off-highway motorcycles increased slightly more than 30% during that period, the registrations for All Terrain Vehicles (ATVs) and dune buggies increased by 165% (Table 5). At present, California also registers an estimated 445,500 “street legal” motorcycles, 8.2 million two-wheel drive pickups and 2.9 million four-wheel drive vehicles many of which have capability and are used to access public land. Although comparable data are not available for Nevada where OHVs are not registered, the increasing trend in use of OHVs and vehicles capable of accessing public lands in California is expected to be similar in Nevada.

As population growth increases and remaining open space located in and near urban areas is consumed by housing, commercial enterprises, and community infrastructure, public land open space will become increasingly more important and in demand. At present, Las Vegas appears to be lagging behind other desert southwest urban areas in terms of providing open space. For every 1,000 residents, Las Vegas devotes 2 acres to open space while Phoenix, Arizona offers 31.5 acres (Mitchell 2001).

At the same time that population growth has accelerated and local communities have not been able to provide urban open space, restrictions on the type, amount, and intensity of uses of federally managed public lands have also increased as a result of increasing human pressures. Considerable amounts of public lands that were formerly open to use and accommodated dispersed recreation are now placed in more restrictive management classifications such as HCP preserves, national parks, national monuments, national recreation areas, wilderness, and areas of critical environmental concern where some public uses are constrained or prohibited. This trend toward increased restriction of public use has two primary effects: enhanced requirements of law enforcement to obtain public compliance with the more restrictive land management strategies and additional impacts to remaining, minimally regulated open space.

Natural resource management and the regulation of public use and impacts assumes that additional law enforcement will be necessary to achieve public compliance as the population grows and land management regulations become more restrictive. Other cultural models, such as cities versus rural areas, exemplify how larger urban populations brought about a corresponding increase in the need for law enforcement as compared to less dense populations where law enforcement presence was reduced. Some additional evidence of the need for increased public regulation in association with increased human population is found in information provided by the BLM Nevada State Office. BLM-managed public lands in Nevada total slightly more than 48,850,000 acres. Of that total, 39 million acres (80%) are open to OHV use and 9,029,000 (18%) have special designation regarding OHV use. In comparison, of the 3,500,000 acres adjacent to the Las Vegas Valley and managed by the BLM Las Vegas Field Office,

Table 5. All OHV and Street-Licensed DMV Data

YEAR	DMV's OHV-Only data (May annually)										DMV's Street-Licensed data (June annually)									
	ALL OHV	M/C	ATV	M/C+ATV	OSV	OTHER ^a	M/C	CARS	2WD PICK-UPS	OTHER	4WD ^b	4WD-Estimate ^c	4WD per CEC ^d							
1983	268,837	153,304	91,984	245,288	6,049	17,500	--	--	--	--	--	--	--							
1984	303,440	168,768	111,148	279,916	6,006	17,518	--	--	--	--	--	--	--							
1985	336,890	176,144	135,729	311,873	5,724	19,293	--	--	--	--	--	--	--							
1986	369,388	213,630	126,940	340,570	6,001	22,817	--	--	--	--	--	--	--							
1987	378,088	239,193	108,240	347,433	5,923	24,732	--	--	--	--	--	--	--							
1988	373,205	251,469	90,283	341,752	6,335	25,118	--	--	--	--	--	--	--							
1989	358,257	249,554	76,997	326,551	6,874	24,832	--	--	--	--	--	--	--							
1990	356,327	254,306	68,284	322,590	8,020	25,717	--	--	--	--	--	--	--							
1991	357,089	160,211	161,658	321,869	8,849	26,371	--	--	--	--	--	--	--							
1992	361,561	163,948	159,792	323,740	9,837	27,984	--	--	--	--	--	--	--							
1993	362,028	164,997	158,289	323,286	10,941	27,801	--	--	--	--	--	--	--							
1994	358,516	163,700	154,983	318,683	11,844	27,989	459,141	14,436,103	5,082,448	504,141	290,651	1,540,450	--							
1995	353,942	160,750	152,537	313,287	12,712	27,943	440,144	14,322,595	5,260,039	489,822	312,934	1,658,550	--							
1996	356,922	161,738	152,953	314,691	13,569	28,662	432,433	14,289,405	5,498,405	475,533	341,992	1,812,558	--							
1997	359,415	163,735	152,706	316,441	14,050	28,924	382,030	13,940,701	5,630,840	446,231	362,348	1,920,444	1,874,509							
1998	365,747	167,712	153,561	321,273	14,913	29,561	331,800	14,179,829	6,155,120	439,562	402,759	2,134,623	2,100,781							
1999	387,608	178,309	162,216	340,525	15,878	31,205	346,396	14,227,044	6,616,280	434,375	432,854	2,294,126	2,429,323							
2000	430,603	199,142	180,273	379,415	16,945	34,243	373,620	14,728,849	7,218,145	442,885	471,515	2,499,030	2,596,377							
2001	479,178	221,959	202,163	424,122	17,838	37,218	407,820	14,909,430	7,705,318	435,992	506,585	2,684,901	--							
2002	573,356	267,727	243,794	511,521	18,986	42,849	445,556	14,992,279	8,205,038	437,593	554,326	2,937,928	--							

^a Dune buggies, sand rails, miscellaneous

^b These numbers are based upon VINs that DMV has not updated since 1990.

^c Strictly an estimate using a 1:5:3 conversion to approximate the Energy Commission data.

^d These are actual counts from the Energy Commission after adding WD VIN numbers to DMV's October data.

-- No data available

22,860 acres (less than 1%) are designated as open and 99% have special OHV designated management (BLM 2002).

OHV interest is not the only measure of desire for public land resources or use in southern Nevada. Interest in commercial collection and sale of reptiles, with a large share of the collection occurring in southern Nevada, doubled in the decade between 1985 and 1995 (NDOW 2002). Special Recreation Permit (SRP) issued in FY 2001 by the Las Vegas Field office totaled 360 permits for 23 different classifications of both commercial and non-commercial activities ranging from archery and rock climbing to races and festivals in FY 2001. In contrast, the Battle Mountain Field Office, with three times the land area under management, issued 15 SRPs in six activity classifications in the same period. In this example, increased populations brought about increased numbers of special use permits that require regulatory oversight and field law enforcement presence.

User Trend Analysis by Jurisdiction

As part of the user trend analysis, BLM, USFWS, NPS, and Forest Service law enforcement or recreation staff were interviewed to develop an estimate of the long-term recreational use of public lands in southern Nevada. In all cases, the estimates of public use were developed through discussions with the agency staff, existing public use estimates, when available, and population growth trends for southern Nevada. The projected growth of recreational use of public lands in southern Nevada is illustrated in Figures 2-1 to 2-5. As noted at the beginning of this document, the source of the user trend information is not necessarily the result of empirical investigation and is often the opinion of the agency resource staff.

The NPS currently has the highest public land use, in terms of visitors, in southern Nevada. Law enforcement staff at NPS estimated the recreational use of the LMNRA in the year 2000 was nearly 9,072,545 million users, with the majority of the visitation occurring at or in the vicinity of Lake Mead and Lake Mojave. The LMNRA is located in Arizona and Nevada, and no distinctions were made in regard to which state the public use was occurring. The LMNRA has experienced a decline in visitors over the past few years, but this trend is expected to reverse on or before 2010. The LMNRA estimates of public use in 2035 forecast are over 12,075,556 million visitors per year, equating to a 75% increase from the year 2000. The LMNRA internal law enforcement needs assessment (LENA) has identified the need for 47 additional field-level enforcement personnel based on 2003 visitation levels. The MSHCP funding to provide law enforcement positions would be an important factor in alleviating the staffing shortfall.

BLM estimates the public use of BLM-managed federal lands in southern Nevada at more than 2.1 million visitors in the year 2000. This public use is expected to increase at an annual rate of nearly 8% through 2035, when visitation is expected to exceed 3.6 million recreational users. This growth reflects an overall increase in public use of 68% from the year 2000. BLM has indicated up to 16 additional MSHCP law enforcement rangers could be required during the

period 2000 to 2025. According to the BLM, the urban interface with the BLM managed federal lands and the City of Las Vegas will continue to put pressure on these critical/sensitive habitats. During this time period, law enforcement staffing levels will need to increase to help meet this demand. The BLM law enforcement staff has estimated the optimum level of staffing would be an additional 14-16 MSHCP funded LE rangers to cover the patrol areas and some of the overlap that occurs in-between these areas as well as some of the Wilderness Areas within the District. The additional staff would allow patrols every day of the week and extended patrols on the weekends.

According to USDA Forest Service law enforcement staff, recreational use of Forest Service-managed federal lands is expected to increase over 290% from the year 2000 to 2035. Current public use estimates indicate the Spring Mountains NRA accommodated approximately two million visitors in 2000. The Forest Service estimates that public use of the Spring Mountains NRA will approach 5.8 million individual visits by 2035. Without implementing alternative resource protection measures, the Forest Service will likely require additional MSHCP-funded law enforcement rangers to compensate for the increased public pressure on the unique natural resources of the SMNRA. The USDA Forest Service estimates the Spring Mountains NRA would require MSHCP-funding for a total of 3 LEO, 6 RPO (Resource Protection Officer), and 1 PAO (Public Affairs Officer) by the year 2010. The Forest Service indicated 1 additional LEO and 4 additional RPO requiring MSHCP funding would be needed between the years 2010 and 2020. By the year 2035, the total MSHCP-funded law enforcement and resource protection staff would total 5 LEO, 12 RPO, and 1 PAO for the Spring Mountains NRA.

The DNWRC, managed by the USFWS, has the least recreational use of any federal lands in southern Nevada. Visitation estimates indicate that there were approximately 500,000 visits to the refuge in 2000. The USFWS forecast of public use for the refuge in the 2035 is over one million visitors, a 116% increase over the year 2000. Preliminary planning estimates for the DNWRC include MSHCP-funding requests for 6–14 LEO positions from the year 2000 to approximately 2020.

Implications for Conservation Enforcement Programs

Speaking in the late 1960s, William Morse, former Director of the Oregon Game Department and a long time student of trends in natural resource management and administration, maintained that natural resource management was 90% people management (Morse 1969). In consideration of the demographic trends and indices of recreation interests, Morse may have underestimated the relative importance of “people management” as a component to be considered in natural resource management. Accelerated population growth and public demand for open space-based recreation in combination with public expectations and laws requiring maintenance of ecological functions and species presence on public lands have resulted in the need for increasingly complex resource management strategies. The ability of resource agencies to attain somewhat disparate goals of attempting to address and meet the presence and needs of increasing numbers of

people while maintaining the ecological integrity of natural resource systems will likely necessitate the increasing use of restrictive regulatory measures that will include the need for law enforcement to insure regulatory compliance. The level of law enforcement needed is expected to grow commensurate with the increase in population and perhaps be accelerated by the complexity and public acceptance of management regulations and systems employed.

Review of Other Regional Habitat Conservation Plan Law Enforcement and Compliance Strategies

There are a limited number of regional habitat conservation plans law enforcement and compliance strategies that can be evaluated as being relevant to Clark County's future efforts.

One such program, the Coachella Valley Preserve in Riverside County, California, was undertaken in order to evaluate possible alternative approaches to law enforcement and natural resource conservation within the Clark County MSHCP. In 1983, The Nature Conservancy took the lead in bringing government agencies, private landowners and other interested parties together to develop the Coachella Valley Multispecies Habitat Conservation Plan that would ensure preservation of the endangered Coachella Valley fringe-toed lizard, while allowing development of part of the species habitat for human use. Land acquisition in the area were made through a combination of BLM land exchanges and purchases using the land and Water Conservation Fund; private donations; and a per-acre mitigation fee paid by local developers. The BLM, The Nature Conservancy, USFWS, California Department of Fish & Game, and the California Department of Parks & Recreation manage this 20,000-acre preserve as a joint effort. The MSHCP was approved by the USFWS in 1985. While this MSHCP initially provided law enforcement allocations for resource protection within the boundaries of the permit area, these allocations were discontinued after a period of approximately 6 months. Since this discontinuation, each of the local, state and federal jurisdictions have maintained their own law enforcement programs and do not receive any additional MSHCP funds.

In addition to the Coachella Valley Preserve HCP, the Balcones Canyonlands Preserve (BCP) in Travis County, Texas was reviewed for potential approaches to law enforcement and compliance strategies. The Balcones Preserve currently encompasses approximately 27,000 acres of land. This multispecies conservation plan includes the City of Austin, Texas, Travis County, Texas, The Audubon Society, The Nature Conservancy, The Lower Colorado River Authority, and private landowners began with the issuance of a 10a permit from the USFWS in 1996. This plan covers 8 federally listed species and 27 other species that could be listed in the future due to habitat loss. The BCP does not provide law enforcement allocations for natural resource protection. Each local, state and federal jurisdiction is responsible for its own natural resource law enforcement funding.

During a cursory review of the approximately 425 approved HCPs, it was concluded that there isn't currently an applicable benchmark for comparison of the Clark County MSHCP law enforcement strategy. The large amount of federally managed public lands included in the Clark County MSHCP distinguishes it from other existing HCPs often developed for the incidental take of federally listed species on private property and rarely included large blocks of public lands.

Supplemental Enforcement and Compliance Alternatives and Strategies

Options for supplementing traditional natural resource law enforcement with programs and strategies are limited only by existing law, agency policy, imagination, and the ability to provide financial and technical support. Locally and nationally, resource managers are employing several different generalized types of strategies to enhance compliance as outlined below. To ensure effectiveness, and in some cases reduce individual and agency liability, each of the alternatives or strategies have certain constraints and obligations that need to be considered.

Resource Problem Monitoring Using Trained Volunteers

Natural resource agency personnel monitor the condition and trend of natural resources in order to measure the effectiveness of their respective management programs. The NPS and BLM also train and schedule volunteers to monitor and report resource issues or instances of regulatory non-compliance and apply remedial measures to discourage future non-compliance.

After receiving volunteer reports, the agency evaluates and prioritizes the issues and employs different management strategies to gain compliance and resource protection. Any number of remedial, actions or combination of actions, may be employed including an increase in directed law enforcement patrols, regulatory signage, educational signage, education programs aimed at groups or individuals failing to comply, site rehabilitation, the use of exclusionary devices or modification of regulations for clarity or an increase in penalties prescribed for violation.

It is not the focus of this strategy to use volunteers to determine who is violating, to intervene if a violation is witnessed, or to provide information for use in prosecution of violations. The focus of the effort is documentation of problems, and application and adaptation of management strategies to lessen or reduce or eliminate the problem. The ability to provide law enforcement of regulations and management objectives is a meaningful and necessary element of the adaptive component of this strategy, but is only one of several tools available.

Currently, BLM Las Vegas employs this model. In using this strategy, the BLM seeks the assistance of volunteers to cover specific areas of concern (ACECs, isolated spring sources, designated wilderness study areas, etc.) to observe evidence of regulatory non-compliance. There appears to be opportunity to expand volunteer monitoring to other agencies and larger landscape areas such as MSHCP-designated Intensively Managed Areas.

Obligations/Constraints:

- Agencies must have staff available to provide technical support and guidance to volunteers to insure the scope of their mission is understood and authorities are not exceeded.
- Agencies must have internal communication processes established among several resource disciplines to be able to respond to reports and provide feedback to volunteers of actions implemented to address identified issues.
- Agencies must have sufficient budgetary and program flexibility to respond efficiently and effectively to identify resource needs.

Compliance Monitoring Using General Public Reports of Violations/Problems

In this model, the objective is to use public awareness and civic responsibility to encourage the timely reporting of natural resource regulation violations. The general public is apprised of primary issues or concerns that effect natural resources (driving off designated roads, unauthorized or illegal taking of natural resources, dumping of trash and waste, etc.) and asked to collect and communicate information that could be used by an agency to directly intervene or to investigate and prosecute an alleged violator.

Examples of this type of program include the anti-poaching campaigns that are used in 48 states and seven Canadian provinces. The programs use short names or acronyms as an aid in reminding the public of their presence and goal: Operation Game Thief (OGT–Nevada and New Mexico), Turn in Poachers (TIP–Oregon); California-Turn in Poachers (CAL-TIP–California); Target Illinois Poachers (TIP–Illinois); Citizens Against Poaching (CAP–Idaho); Report All Poaching (RAP–Michigan), etc. Wildlife management agencies report two key program benefits. One is the ability to apply enforcement measures to instances of intentional illegal take of wildlife that would probably not otherwise be detected. The second is the unmeasured, but probable, effect of attaining compliance by those who might otherwise violate wildlife laws as a matter of opportunity, but are inhibited from doing so out of fear of detection or reporting by others.

According to Nevada’s OGT Program Specialist, Rob Buonomici, the effectiveness of public reporting of poaching violation programs requires consideration of several key items:

- Individuals reporting violations are told not to intervene, or to stop or accost those engaged in illegal activity.
- Reporting individuals must be aware of what are necessary and essential pieces of information that must be available if enforcement is expected to respond immediately as opposed to collecting information to pursue an investigation.
- If informant anonymity is a program commitment (this applies in most state anti-poaching models), that guarantee must be maintained even if prosecution and investigation of a reported violation cannot continue without risk of revealing the information source.
- Agencies must possess sufficient trained personnel and investigative resources to respond immediately and effectively to reports of regulatory violation and to report the results of investigations back to informants if requested. While a citizen reporting program for violations of MSHCP conservation regulations in southern Nevada may not result in a large response, at higher levels of human population density, and abundance of natural resources, Michigan RAP responds to as many as 24,000 reports and prosecutes up to 3,400 cases of wildlife violations per year.
- Agencies must commit staff time and communication resources (separate business hours and 24-hour recording telephone lines, interactive websites, designated staff assignments) to insure 24-hour/7 days per week capability to receive and respond to reports of illegal take.
- Stationing agency enforcement staff in local communities may enhance program effectiveness. This strategy places agency personnel in contact and communication with the local community and enhances communication between enforcement and the public. While this may be somewhat problematic for urban communities such as the Las Vegas metropolis, more rural areas like Laughlin, Pahrump, Mesquite, Moapa Valley, Boulder City, and Searchlight should be considered as potential duty stations to encourage and sustain “community policing.”

Many state-sponsored anti-poaching programs also employ the use of monetary rewards to informants (usually upon successful prosecution of a reported violation). Several programs have established oversight boards or panels from among interested publics to assist with fund raising and fund dispersal for rewards and program advertising.

The report poaching program model may not be ideally suited to all MSHCP resource protection and enforcement issues. But certain types of natural resources violations (desert dumping, unauthorized off-road travel, illegal plant or animal harvest, discharge of firearms in areas closed to shooting, etc.) may be addressed and/or reduced by adapting this model to local circumstances. Currently, Clark County uses a citizen reporting initiative to address trash dumping on vacant land. Land management agencies need to perform natural resource threat and risk assessments based upon their documented knowledge of resource conservation and enforcement problems. Following that assessment, agencies should estimate the potential effectiveness of general citizen violation reporting programs to determine if committing fiscal and employee resources to this model would be efficacious.

Compliance Monitoring Using Trained Volunteers

Another citizen involvement and reporting model is being implemented in the State of Washington. Eyes In The Woods (EITW), a non-profit citizen interest group, has obtained grant funding to develop and implement a resource protection program that is initially aimed at protecting wildlife from illegal take. EITW has enlisted the cooperation of the Washington Department of Fish and Wildlife (WDFW) to both assist in program development and to provide law enforcement officers to train citizen volunteers. Citizen volunteers are trained in detecting violations, avoiding confrontation, observing/recording/reporting relevant information, and in testifying as expert witnesses. EITW and the WDFW initiated a pilot program and trained volunteer observers using both classroom and out-of-doors settings. Based upon initial response by volunteers to join the program, and the return of information by those already trained, EITW and WDFW are encouraged by the results. They are developing program documentation, published training manuals, and producing CD-ROM interactive training tools for use by field enforcement personnel to implement the program on a statewide basis (Winton 2002, Turnbow 2002).

Like other citizen reporting models EITW seeks and requires

- timely reporting of relevant information regarding natural resource violations,
- agency responsiveness to reports on a 24-hour/7 days per week basis and agency investigative capabilities to address all reported activity, and
- non-intervention by citizen informants.

As compared to other citizen reporting models, EITW differs significantly in that it

- trains and certifies program participants; and
- expects that, in most circumstances, volunteers would not remain anonymous and would be willing to prepare and participate in court proceedings, if necessary.

Program documentation and training are included in the EITW program to provide uniformity in program application and to protect sponsoring entities from potential liability that would occur if program volunteers exceeded their responsibilities and authorities. Certification is expected to provide a measure of benefit during prosecution of violations in circumstances where witnesses may be called upon to testify in court.

Expected benefits are similar to other citizen reporting programs:

- expansion of knowledge and reporting of violations by volunteers in order to pursue prosecution; and

- expectations for deterrence of violations by those who are not chronic violators of natural resource laws, but who out of ignorance or opportunity may violate if the risk of detection is low.

The expectation for deterrence of violations is largely untested theory, but stems from the general belief that concern for detection assists people to make decisions that comply with law and regulation.

Agency Resource Sharing

Federal natural resource management agencies may have the opportunity to share personnel resources across jurisdictional boundaries without abrogation of management authority or diminishment of enforcement coverage on lands under their agency's respective jurisdiction. At the same time, overall enforcement coverage and presence within MSHCP-covered area may be enhanced where visitor concentrations and intensity of resource problems change in relation to seasons and attendant public use.

For example, agency enforcement personnel assigned primarily to protection and patrol of low elevation, hot desert habitats report and document low levels of visitor use and enforcement issues in the June-early September period as a result of extreme heat. Conversely, visitor use and corresponding incidents needing enforcement attention at cooler, upper elevation mountainous habitats are reported to be at relatively high levels. Visitor use associated with boating on Lakes Mead and Mohave in areas administered by NPS is intense in the hot summer months, but use decreases substantially in the November through February period. It would seem that exploration of interagency opportunities to seasonally adapt and share enforcement coverage to reflect changes in visitor use would be worthy of further consideration, planning, and coordination. This seems to be a reasonable progression of modifications of responsibility that have already occurred between BLM and NPS, and BLM and Forest Service. At present, BLM and NPS provide enforcement coverage across adjoining jurisdiction boundaries by means of a formal cooperative agreement. Similarly, BLM and Forest Service have agreed to provide enforcement of regulations where employees sharing administrative boundaries may encounter incidents requiring attention. What seems to be missing is interagency coordination and resource sharing that might improve seasonal enforcement coverage and efficiencies. Such sharing of resources could conceivably include USFWS as a fourth partner, although the USFWS lacks a meaningful enforcement program that would allow it to contribute to the effort.

Seasonal shifts in visitor use also occur in relation to activities and events occurring within the same elevations and generalized habitats, but in different geographic areas on public lands. For example, hunting seasons are often accompanied by increases in visitor use of public lands. The increased visitation associated with hunting is somewhat predictable and focused in desert habitats where species sought by hunters are usually confined to areas around naturally occurring or developed water sources or particular habitat types. The NDOW has responsibility for enforcement of laws relating to take of resident wildlife.

The corollary federal resource protections afforded land, habitat, and ESA-listed species in areas covered by the MSHCP are largely enforced by the federal land management agencies. At present, federal and state agencies do not have cross-jurisdictional authority to enforce each other's laws and regulations, except in limited circumstances. That circumstance is not likely to change in the foreseeable future given the tiered structure of government originating from authorities granted by the U.S. Constitution.

What is available is the opportunity for those entities responsible for federal and state program implementation to coordinate and communicate enforcement needs and on-the-ground enforcement plans for patrol coverage and communication of resource problems for the best use of enforcement and public compliance resources. The IMC and Law Enforcement Working Group might well consider the opportunity to initiate, facilitate and formalize discussion and coordination among federal, state, and local law enforcement entities that have authority for natural resource protection and whose agencies are cooperators in the MSHCP and signatory to the IA.

Enhanced Public Education/Awareness

Virtually every individual charged with protection or enhancement of natural resources points to the need for public education and awareness as one measure of benefiting natural resource management and protection. Several strategies might be employed to improve public awareness and enhance protection of wildlife resources.

- In response to the needs assessment questionnaire, BLM suggested that sampling and determining the desires and expectations of public land visitors could assist resource managers in planning for that use, assist educators and information specialists in preparing and delivering information to the public about opportunities and restrictions, and aid enforcement personnel in better understanding the behavior and attitudes projected by the visitor. The PIE and Law Enforcement Working Groups might wish to join in exploring opportunities for measuring the public expectations and attitudes regarding natural resource protection/conservation and enforcement.
- The communication path between the those charged with enforcement responsibilities and those charged with development and distribution of public information that has bearing on enforcement program responsibilities seems to be somewhat circuitous and, at times, filtered at the IMC level. Intra-agency collaboration among disciplines is a valuable method of developing both policy and information and seems to be intact. The MSHCP model seems to rely on natural resource or education specialists receiving and carrying knowledge of enforcement needs to the PIE Working Group where information tools or public education strategies are generated. There may be opportunities to improve educational message content from an enforcement perspective and to broaden enforcement's knowledge of information and education program considerations, if enforcement is encouraged to bring its needs to the PIE Working Group directly.

- Agencies increasingly rely on volunteers and docents to impart information, interpretation, and address visitors' questions/needs. The potential benefits of using volunteers are numerous, obvious, and generally can be summarized as reducing workload on the limited staff resources that most agencies are experiencing at the same time public presence and demand for information is increasing. Yet there are some significant cautions that need to be stated:
 - to the extent that volunteers are either empowered or permitted to represent agency policies, goals or regulations, the public will view volunteers as representing the agency;
 - if volunteers are not authorized to represent the agency, the credibility of the volunteer, the agency, and the information provided is diminished;
 - staff time must be allotted to train and evaluate the performance and effectiveness of volunteer efforts, particularly when those efforts are in the public eye;
 - volunteers must to be trained and be able to not only respond accurately to public questions, but also to represent the agency, its mission, policies and programs (including enforcement); and
 - use of volunteers does not excuse the agency from providing accurate, objective information services to the public.
- Agencies not now providing education and interpretation by either enforcement, interpretative staff and/or volunteers outside of established facilities may want to consider sponsoring interpretation and education tours at more remote areas. They could utilize interdisciplinary personnel, including enforcement officers, to pass on information that is site specific and difficult to impart from centralized facilities. Partnering with other groups—such as OHV organizations, wildlife viewing enthusiasts, cyclists, hunters, or others—to sponsor and promote natural resource conservation and compliance with law using inter-disciplinary teams may prove beneficial in message delivery and acceptance.
- Providing public information and education about natural resources is not a priority throughout all disciplines in every agency having MSHCP responsibilities. While enforcement programs in the different agencies uniformly recognize and support the need for providing the public with relevant information and education about natural resources and particularly laws governing their use, other disciplines within agencies may not view providing public information as a part of their duties but may express concern for a lack of public understanding of the resource stewardship role of their agency.
- For example, BLM does not mandate wearing of uniforms or use of marked vehicles by non-enforcement personnel. When asked, non-enforcement/non-uniformed personnel expressed concern for personal safety, fear of confrontation regarding BLM policies and regulations, and a lack of time to perform their field duties if interrupted by the public's questions. Yet at the same time other BLM non-uniformed personnel express a sense of irony that the public does not know who or what BLM is or does in spite of its responsibility to manage the largest amount of federal acreage and greatest

biodiversity of any governmental agency (Mitchell 2002). Encouraging visibility and information delivery at all levels of government enhances public understanding of resources, policies and laws. Having uniformed personnel and using marked vehicles in the field would also be an aid to law enforcement programs by increasing the public's perceptions of agency presence on land it is responsible to manage. The use of uniformed personnel in public contact situations is a generally accepted practice throughout other resource management agencies and, in fact, may imbue the wearer with "official status" and act as a deterrent to confrontation and aggression.

- Non-profit organizations like Leave No Trace offers a minimum impact educational message targeted to non-motorized recreational activities on federal lands. The Leave No Trace partnering program that offers educational workshops, courses and educational materials designed to expose recreational users to the idea of minimum impact to natural resources. In 1994, the BLM, NPS, Forest Service, and USFWS signed a MOU to formalize the Leave No Trace Program.
- Tread Lightly is another large non-profit organization that promotes responsible recreational use of federal lands. Through a partnership program with corporate sponsors and federal land managers, this program stresses land use ethics. Tread Lightly provides a training program, educational, research and public outreach designed to increase public awareness of responsible natural resource and recreational land use.

Proactive Resource Partitioning

Resource partitioning is a strategy that is generally applied when the limits of a particular use or take of a resource are approached or exceeded. At the point where resources cannot be sustained under current and projected use, restricting or partitioning areas of take may be used to accommodate and sustain both resources and use. At the landscape level, the MSHCP itself is an example of resource partitioning that prohibits development in conserved habitat in order to sustain natural resources and permits development and allows take of natural resources outside conserved habitat.

Proactive resource partitioning is also an element of the MSHCP. It was applied where protection and conservation of natural resources were instituted on conserved habitats in advance of reaching thresholds of sustainability in exchange for a permit to take or diminish those same resources beyond sustainable thresholds at other sites.

Proactive resource partitioning can be used to aid conservation law enforcement by providing opportunity of resource use in designated sites with the intent of reducing or eliminating unauthorized use in sites that are conserved and receiving protection. Because much of the work involved in MSHCP development centered on restricting or eliminating activities that compromised ecological functions or resulted in take, some opportunities for partitioning areas to accommodate uses that were subject to restriction may have been overlooked.

Examples of possible opportunities that may exist to further partition resources, provide for resource use, and provide incentives for regulatory compliance within conserved habitat include establishment of open use areas for OHVs, establishment of trails (OHV, hiking, bicycling, equestrian) within and adjacent to communities, and development of shooting facilities adjacent to communities. Although current planning by members of the IMC and others charged with providing recreational opportunity and protecting resources is proceeding, it comes after the initial development of the MSHCP. As the MSHCP is amended and modified to accommodate changes in land use resulting from unanticipated land sales, exchanges and special designations, proactive resource partitioning to anticipate and accommodate recreational demands should also be considered. Doing so can possibly reduce the amount of enforcement required to protect conserved areas by providing authorized, planned recreational opportunity.

In its most extreme form, resource partitioning may take the form of limited or permit entry into activities or areas that have exceeded thresholds of sustainability or use. Examples include reservation systems, drawings, waiting periods, limited use periods, or other strategy to lower the intensity of use below the threshold needed to sustain the resource in question

Recommendations

Based on projected Clark County population growth and increase in visitation, the current law enforcement strategy will require a substantial increase in law enforcement officers and equipment in order to maintain the existing level of natural resource protection. While additional investigation into the effectiveness of the existing Clark County law enforcement strategy is recommended, it can be concluded that based on the existing information a combination of increased traditional law enforcement and a much wider use of alternative resource protection programs would be the most cost-effective and successful approach for the MSHCP law enforcement program.

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Appendix A

Survey Questionnaire

Appendix B
Enforcement Coverage: Public Use Estimates