

Mexican Wolf
RECOVERY IMPLEMENTATION STRATEGY
November 2017

U.S. Fish and Wildlife Service
Southwest Region (Region 2)
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DISCLAIMER

This Recovery Implementation Strategy is an advisory document, not a regulatory document. It does not obligate parties to implement the recommended activities contained within it and may not represent the views nor the official positions or approval of any individuals or agencies identified in the document, other than the U.S. Fish and Wildlife Service (Service, we). This Recovery Implementation Strategy provides guidance for implementing recovery activities to carry out recovery actions identified in the Mexican Wolf Recovery Plan, First Revision.

ACKNOWLEDGEMENTS

We developed the Implementation Schedule Table in this Recovery Implementation Strategy in cooperation with Federal and state agencies, counties, and Tribes in the United States; Comisión Nacional de Áreas Naturales Protegidas (CONANP), a Federal agency in Mexico; and non-governmental organizations in both countries, to which we express our gratitude for their participation in Mexican wolf recovery.

LITERATURE CITATION AND AVAILABILITY

Literature citation should read as follows:

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Copies of the document can be requested from:

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Copies are also available online at:
<http://www.fws.gov/southwest/es/mexicanwolf>

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I. INTRODUCTION

This Recovery Implementation Strategy (implementation strategy) describes activities and their estimated costs to carry out the recovery actions identified in the Mexican Wolf Recovery Plan, First Revision, to achieve recovery. The recovery plan is available at <https://www.fws.gov/southwest/es/mexicanwolf/>. Additionally, this implementation strategy summarizes the Mexican wolf recovery strategy and restates the recovery goal, objectives, and criteria, as well as the evaluation of the recovery strategy and progress toward recovery included in the Recovery Plan. It also reiterates the estimated cost and timing of recovery. In recognition of the importance of the perspectives of Tribes and Pueblos in Mexican wolf recovery, we include the Tribal Perspectives on Mexican Wolf Recovery report (Mexican Wolf Tribal Working-Group 2017) as part of this implementation strategy (Appendix A). We also recognize Secretarial Order 3206, which clarifies the responsibilities of the Service when taking actions under the Endangered Species Act (ESA) that may affect Tribal lands. The Biological Report, which provides background, life-history, and threat assessment information, is available at <https://www.fws.gov/southwest/es/mexicanwolf/>. The Recovery Implementation Strategy and Biological Report will be updated on a routine basis.

II. RECOVERY STRATEGY SUMMARY

The recovery strategy for the Mexican wolf is fully described in the Mexican Wolf Recovery Plan, First Revision. In summary, our recovery strategy is to establish and maintain a minimum of two resilient, genetically diverse Mexican wolf populations distributed across ecologically and geographically diverse areas in the subspecies' historical range in the United States and Mexico. Our recovery strategy for the Mexican wolf addresses the threats of human-caused mortality, extinction risk associated with small population size, and loss of gene diversity. It also ensures that Mexican wolf populations can achieve the resiliency, representation, and redundancy needed to downlist and delist the Mexican wolf. At the time of recovery, we expect viable Mexican wolf populations that are stable or increasing in abundance, well-distributed geographically within their range, and genetically diverse.

III. RECOVERY GOAL, OBJECTIVES, and CRITERIA

Recovery Goal

The recovery goal is to conserve and protect the Mexican wolf and its habitat so that its long-term survival is secured, populations are capable of enduring threats, and it can be removed from the list of threatened and endangered species.

Recovery Objectives

Recovery objectives identify outcomes that will lead to achieving the goal of recovery and delisting. Recovery objectives for the Mexican wolf are:

1. Increase the size of two Mexican wolf populations;
2. Improve gene diversity and maintain the health of Mexican wolves;
3. Ensure adequate habitat availability to support viable Mexican wolf populations;

4. Maintain the Mexican Wolf Species Survival Plan (SSP) captive breeding program to improve the status of wild populations;
5. Promote Mexican wolf conservation through education and outreach programs; and
6. Ensure recovery success.

Recovery Criteria

Recovery criteria serve as objective, measurable guidelines to assist in determining when an endangered species has recovered to the point that it may be downlisted to threatened, or that the protections afforded by the ESA are no longer necessary and the Mexican wolf may be delisted. Delisting is the removal of a species from the Federal Lists of Endangered and Threatened Wildlife and Plants. Downlisting is the reclassification of a species from Endangered to Threatened. The term “endangered species” means any species (species, sub-species, or Distinct Population Segment) which is in danger of extinction throughout all or a significant portion of its range. The term “threatened species” means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

All classification decisions consider the following five factors: 1) is there a present or threatened destruction, modification, or curtailment of the species’ habitat or range; 2) is the species subject to overutilization for commercial, recreational scientific or educational purposes; 3) is disease or predation a factor; 4) are there inadequate existing regulatory mechanisms in place outside the ESA (taking into account the efforts by the states and other organizations to protect the species or habitat; and 5) are other natural or manmade factors affecting its continued existence. When delisting or downlisting a species, we first propose the action in the *Federal Register* and seek public comment and peer review. Our final decision is announced in the *Federal Register*.

We provide both downlisting and delisting criteria for the Mexican wolf as follows:

Downlisting Recovery Criteria

Option 1:

The Mexican wolf will be considered for downlisting when:

- a) The United States population average over a 4-year period is greater than or equal to 320 Mexican wolves; and
- b) Gene diversity available from the captive population has been incorporated in the United States population through the scheduled releases of wolves surviving to breeding age as identified in delisting criteria.

-or-

Option 2:

The Mexican wolf will be considered for downlisting when a minimum of two populations (one in the United States and one in Mexico) meet abundance and genetic criteria as follows:

- a) Each population average over the same 4-year period is greater than or equal to 150 wolves with an annual positive population growth rate; and
- b) Gene diversity available from the captive population has been incorporated into both the United States and Mexico populations through the scheduled releases of wolves surviving to breeding age as identified in delisting criteria.

Delisting Recovery Criteria

The Mexican wolf will be considered for delisting when:

A minimum of two populations meet all abundance and genetic criteria as follows:

United States

- a) The population average over an 8-year period is greater than or equal to 320 wolves (e.g., annual wolf abundance of 200, 240, 288, 344, 412, 380, 355, and 342 averages 320 wolves);
- b) The population must exceed 320 wolves each of the last 3 years of the 8- year period;
- c) The annual population growth rate averaged over the 8-year period is stable or increasing (e.g., annual averages of 1.2, 1.2, 1.2, 1.2, 1.2, 0.9, 0.9, and 1.0 averages 1.1); and
- d) Gene diversity available from the captive population has been incorporated into the United States population through scheduled releases of a sufficient number of wolves to result in 22 released Mexican wolves surviving to breeding age in the United States population. “Surviving to breeding age” means a pup that lives 2 years to the age of breeding or an adult or subadult that lives for a year following its release. “Scheduled releases” means captive releases and translocations that achieve genetic representation, as described in Rationale for Recovery Criteria.

Mexico

- a) The population average over an 8-year period is greater than or equal to 200 wolves;
- b) The population must exceed 200 wolves each of the last 3 years of the 8- year period;
- c) The annual population growth rate averaged over the 8-year period is stable or increasing; and
- d) Gene diversity available from the captive population has been incorporated into the Mexico population through scheduled releases of a sufficient number of wolves that results in 37 released Mexican wolves surviving to breeding age in the Mexico population. “Surviving to breeding age” means a pup that lives 2 years to the age of breeding or an adult or subadult that lives for a year following its release. “Scheduled

releases” means captive releases and translocations that achieve genetic representation, as described in Rationale for Recovery Criteria.

-and-

States and Tribes will ensure regulatory mechanisms are in place to prohibit or regulate human-caused mortality of Mexican wolves in those areas necessary for recovery such that the Service determines at least 320 Mexican wolves are likely to be maintained in the U.S. in the absence of Federal ESA protections. In addition, Mexico will ensure regulatory mechanisms are in place to protect Mexican wolves from human-caused mortality, such that the Service determines at least 200 Mexican wolves are likely to be maintained in Mexico.

IV. EVALUATION OF THE RECOVERY STRATEGY AND PROGRESS TOWARD RECOVERY

Due to the intensive logistical, economic, and socio-political nature of the Mexican wolf recovery effort, it is critical to ensure that progress toward recovery is advancing in a timely manner. Therefore, to determine whether the recovery strategy is proving effective we will evaluate its efficacy and the progress of the Mexican wolf population toward recovery 5 years and 10 years after implementation of the recovery plan. In addition, we will conduct 5-year species status reviews required under the Section 4(c)(2) of the ESA.

The timing of the 5- and 10-year reviews is based on calendar years following the signing of this recovery plan. The PVA model was initiated using data through December 2015 (Miller 2017). The interim abundance and release and translocation targets to be used in the 5- and 10-year status reviews are derived from Vortex model years 7 and 12. This reflects the 2-year difference between the start of the Vortex model (end of 2015) and the signing of the recovery plan (end of 2017).

5-Year Status Review (based on data through 2022):

In the first 5-year review of the recovery plan, we will assess the status of each population contributing to recovery. The purpose of the assessment will be to identify each population’s progress toward recovery criteria, as measured by:

- Interim abundance targets of approximately 145 wolves in the United States and 100 wolves in Mexico;
- Interim release and translocation targets of a sufficient number of wolves to result in approximately 9 released wolves surviving to breeding age in the United States and 25 released and translocated wolves surviving to breeding age in Mexico.

Based on this information, we will identify aspects of population performance needing improvement and will determine what actions are necessary to address identified needs. Our evaluation will include the feasibility of the needed actions, including timelines, cost, and other relevant considerations. To complete the review, we will update the Recovery Implementation Strategy as needed.

10-Year Status Review (based on data through 2027):

In the second 5-year review of the recovery plan, we will assess the status of each population contributing to recovery. The purpose of the assessment will be to identify each population's progress toward recovery criteria and determine whether the recovery strategy is proving effective/feasible. Progress toward recovery will be measured by:

- Interim abundance targets of approximately 210 wolves in the United States and 167 wolves in Mexico;
- Interim release and translocation targets of a sufficient number of wolves to result in approximately 16 released wolves surviving to breeding age in the United States and 37 released and translocated wolves surviving to breeding age in Mexico.

Based on this information, in addition to findings of the 5-year status review, we will make a determination that the recovery strategy is proving effective/feasible or needs to be revised. If we determine the recovery strategy is effective but some elements of recovery implementation need improvement, we will identify what needs to be improved, including actions to address identified needs and the feasibility of conducting such actions such as timelines and costs. If we determine the recovery strategy is not proving effective and the expected recovery level is not achieved, we will identify the reasons for such finding and, if necessary, revisit the recovery strategy and work with States and others to identify other areas with suitable habitat and adequate prey to achieve recovery; change techniques used to address gene diversity; or implement other substantive change. Any such revised strategy should include revised time/cost estimates necessary to achieve recovery based on necessary actions. We will revise the Recovery Plan or Recovery Implementation Strategy as necessary.

V. ESTIMATED COST AND TIMING OF RECOVERY

We expect the status of the Mexican wolf to improve such that we can achieve downlisting criteria in approximately 16-20 years. We expect to achieve recovery in approximately 25-35 years for a total estimated cost of \$178,439,000. This cost includes those borne by governmental agencies and nongovernmental organizations in the United States and Mexico.

While recovery may take an estimated 25-35 years, we anticipate successfully implementing the actions and activities in the Implementation Schedule (Table 1) such that we can achieve recovery in 25 years (i.e., 2043); therefore, the total estimated cost to recovery is based on this 25-year timeframe. These timeframes are based on expectation of full funding, implementation as provided for in the recovery plan and implementation strategy, and full cooperation of binational partners.

Annual cost estimates to implement recovery actions and activities for the first 5 years are as follows:

Year 1 = \$7,123,000

Year 2 = \$7,491,000

Year 3 = \$7,771,000

Year 4 = \$8,005,000

Year 5 = \$8,065,000

The estimated cost to implement the first 5 years of recovery actions and activities (i.e., intermediate steps toward the goal of recovery) is \$38,455,000.

VI. IMPLEMENTATION SCHEDULE

This Implementation Schedules is intended to assist the Service and other stakeholders in planning and implementing activities to carry out the recovery actions in the Mexican Wolf Recovery Plan, First Revision. The Implementation Schedule (Table 1) includes activity numbers; activity descriptions; activity duration; responsible parties; and estimated costs. It is a guide for planning and meeting the objectives discussed in this strategy. The Implementation Schedule estimates costs for carrying out the first 5 years of recovery activities and the total estimated cost to implement activities through year 2043, the approximate date to reach the goal of recovery. Actual expenditures by agencies and other partners are contingent upon appropriations and other budgetary constraints.

While the ESA assigns a strong leadership role to the Service for the recovery of listed species, it also recognizes the importance of other Federal agencies, States, and other stakeholders in the recovery process. The “Responsible Agency” column of the Implementation Schedule identifies partners who can make significant contributions to specific recovery tasks. The identification of agencies and other stakeholders within the Implementation Schedule does not constitute any additional legal responsibilities beyond existing authorities (e.g., ESA).

Key to acronyms used in the Implementation Schedule

AZGFD	Arizona Game and Fish and Department
AZLLB	Arizona Livestock Loss Board
BLM	Bureau of Land Management
CBP	U.S. Customs and Border Protection
CONAFOR	Comisión Nacional Forestal
CONANP	Comisión Nacional de Áreas Naturales Protegidas
CNOG	Confederación Nacional de Organizaciones Ganaderas
DOT	Department of Transportation
DOW	Defenders of Wildlife
FS	U.S. Forest Service
FSA	U.S. Department of Agriculture Farm Services Agency
FWS	U.S. Fish and Wildlife Service
GM	Grupo México-Unidad de manejo para la conservación de la vida silvestre (UMA) Buenavista del Cobre
GN	Gendarmería Nacional
INECOL	Instituto de Ecología, A.C.-Estación Biológica Piedra Herrada
MFS	Mexican Field Staff
MWF	Mexican Wolf Fund
MWLC	Mexican Wolf/Livestock Council
NMDGF	New Mexico Department of Game and Fish

NPS	National Park Service
NRCS	Natural Resources Conservation Service
OVIS	Organización Vida Silvestre, A.C.-UMA La Mesa
PGR	Procuraduría General de la Republica
PROFEPA	Procuraduría Federal de Protección al Ambiente
SAGARPA	Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación
SCT	La Secretaría de Comunicaciones y Transportes
SEMARNAT	Secretaría del Medio Ambiente y Recursos Naturales
SSP	Species Survival Plan
TESF	Turner Endangered Species Fund
UI	University of Idaho
UNAM-FMVZ	Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional Autónoma de México
UNAM-IB	Instituto de Biología, Universidad Nacional Autónoma de México
UNM	University of New Mexico
USDA-WS	U.S. Department of Agriculture - Wildlife Services
WMAT	White Mountain Apache Tribe

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Table 1. Implementation Schedule for Mexican Wolf Recovery. 17 pp.

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
Objective 1: Increase the size of two Mexican wolf populations											
1	Recovery Action 1.1. Survey and monitor Mexican wolves to determine population status in the U.S.		25	FWS, AZGFD, NMDGF	36,500	1,460	1,460	1,460	1,460	1,460	Ongoing. Includes costs of personnel and operations (e.g., plane, helicopter, vehicles, fuel, equipment, supplies, carnivore logs, per diem).
	1.1.1	Capture and collar wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.1
		An estimated 30 wolves will be captured and collared annually with a goal of having 2 collared wolves per pack. All appropriately sized wolves released from captivity will be collared. Efforts will focus on capturing and collaring cross-fostered pups to determine survival.									
	1.1.2	Conduct annual count	Same	Same	NA	X	X	X	X	X	Costs included in 1.1
		The annual count occurs from November through January each year in AZ, NM, and on Fort Apache Indian Reservation to determine the minimum number of wolves in the wild. We will explore integrated population models as a statistical sampling technique that may be more appropriate as the population grows.									
	1.1.3	Conduct aerial/ground telemetry and GPS monitoring of wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.1
		Aerial and ground telemetry are conducted to determine location and status of Mexican wolves in the wild and to gather demographic information. Aerial and ground telemetry will decrease as the number of GPS collars to monitor wolves is increased.									
	1.1.4	Document population parameters	Same	Same	NA	X	X	X	X	X	Costs included in 1.1
		Mexican wolf demographics, including survival, pup production, dispersal, and colonization, will be monitored in Arizona, New Mexico, and on tribal lands.									
1	Recovery Action 1.2. Survey and monitor Mexican wolves to determine population status in Mexico		25	CONANP, MFS	12,120	220	400	500	500	500	Ongoing. Includes costs of field staff, vehicles, and collars.
	1.2.1	Capture and collar wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.2
		An estimated 20 wolves will be captured and collared annually with a goal of having 2 collared wolves per pack. All appropriately sized wolves released from captivity or translocated will be collared.									
	1.2.2	Conduct annual count	Same	Same	NA	X	X	X	X	X	Costs included in 1.2
		Population estimates in Mexico use a combination of trail cameras and GPS collar monitoring.									
	1.2.3	Conduct satellite ground and aerial telemetry monitoring of wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.2

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
		Mexico currently uses high quality GPS collars; however, the use of less expensive models to monitor dispersing wolves are being pursued.									
	1.2.4	Document population parameters	Same	Same	NA	X	X	X	X	X	Costs included in 1.2
		Mexican wolf demographics, including survival, pup production, dispersal, colonization, will be monitored.									
1	Recovery Action 1.3. Monitor Mexican wolves on Fort Apache Indian Reservation		25	WMAT, FWS	5,625	225	225	225	225	225	Ongoing. FWS provides funding to WMAT through cooperative agreement. Includes costs of field staff, vehicles, fuel, and equipment.
	1.3.1	Capture and collar wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.3
		Capture and collar wolves annually with a goal of having 2 collared wolves per pack. All adult wolves released from captivity will be collared.									
	1.3.2	Assist with annual count in the U.S.	Same	Same	NA	X	X	X	X	X	Costs included in 1.3
		The annual count occurs from November through January each year in AZ, NM, and on the Fort Apache Indian Reservation to determine the minimum number of wolves in the wild.									
	1.3.3	Conduct telemetry monitoring of wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.3
		Aerial and ground telemetry are conducted to determine location and status of Mexican wolves in the wild and to gather demographic information. Aerial and ground telemetry will decrease as the number of GPS collars to monitor wolves is increased.									
2	Recovery Action 1.4. Monitor Mexican wolves on other Tribal lands		25	Tribes, FWS	3,920	20	40	40	40	40	Ongoing. Estimated costs include \$20,000 for first year; \$40,000 for 10 years, and \$250,000 for 14 years, to account for increased tribal participation in the future.
	1.4.1	Capture and collar wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.4
		Funding to assist tribes that choose to participate in Mexican wolf recovery program.									
	1.4.2.	Assist with annual count in the U.S.	Same	Same	NA	X	X	X	X	X	Costs included in 1.4
	1.4.3	Conduct telemetry monitoring of wolves	Same	Same	NA	X	X	X	X	X	Costs included in 1.4

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
2	Recovery Action 1.5. Conduct Mexican wolf releases to increase population size in Mexico		See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2
	1.5.1	See activities under Action 2.2. to grow population size in Mexico	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2	See Action 2.2
2	Recovery Action 1.6. Reduce human-caused mortality of Mexican wolves in the U.S.		25	FWS, AGFD, NMDGF, FS, WMAT	6,298	134	134	134	268	268	Some costs included in other actions.
	1.6.1	Conduct education and outreach to improve public tolerance of wolves	Same	Same	NA	X	X	X	X	X	Costs included in other actions to reduce wolf mortality (e.g., Actions 5, 6, 14, 15).
	This includes education on biology and conservation of the Mexican wolves and techniques to reduce conflicts with livestock for school children, communities, land owners, livestock producers, and the general public. Education and outreach may include brochures, workshops, newsletters, radio, and social media.										
	1.6.2	Increase law enforcement presence	25	FWS, AZGFD, NMDGF, WMAT, Other Tribes	6,298	134	134	134	268	268	Costs include one CLEO for 3 years and 2 CLEOs for 22 years.
	FWS will hire Conservation Law Enforcement Officers (CLEO) to assist in educating the public, in particular hunters and recreationists, assist with investigations of wolf mortalities, and coordinate with law enforcement from other agencies.										
	1.6.4	Install enhancements to facilitate Mexican wolf movement across existing and new roads	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3					See activities 3.3.1 to 3.3.3
	Enhancements will help reduce vehicle collisions with Mexican wolves.										
2	Recovery Action 1.7. Reduce human-caused mortality of Mexican wolves in Mexico		25	CONANP, CNOG, SAGARPA, PROFEPA, MFS, PGR, GN	2,672	32	110	110	110	110	Ongoing
	1.7.1	Conduct education and outreach to improve public tolerance of wolves	25	CONANP, CNOG, SAGARPA	2,422	22	100	100	100	100	

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
		This activity includes education for school children, communities, land owners, livestock producers. Education and outreach may include educational brochures, workshops, radio outreach. CONANP is hiring new staff for social tolerance issues through Global Environmental Fund (related to 14 priority species). Funding for this is currently limited, but education and outreach is a high priority to improve public tolerance of wolves and funding should be increased. Staff will be stationed at Biosphere Reserve at Janos (Natural Protected Area in the Region) and will be funded for next 4.5 years. Objectives of this position are to pursue better livestock management, reduce conflicts with wolves and promote and help private landowners to get reimbursement from Department of Agriculture (SAGARPA) (fund for livestock depredation, climatic, disease and depredation). Current funding includes \$22,000 for FY 18; more funding is needed to accomplish this high priority activity.									
	1.7.2	Increase law enforcement presence	25	PROFEPA, PGR, GN	250	10	10	10	10	10	This includes costs for LE travel from city centers to the field
		Increase involvement of PROFEPA and Gendarmeria agents in the region and in the project.									
	1.7.3	Investigate wolf mortalities	25	MFS, CONANP, PROFEPA, PGR	NA	X	X	X	X	X	Cost included in Action 1.2
	1.7.4	Install enhancements to facilitate Mexican wolf movement across existing and new roads	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3	See activities 3.3.1 to 3.3.3
		Enhancements will help reduce vehicle collisions with Mexican wolves.									
2	Recovery Action 1.8. Reduce Mexican wolf-livestock conflicts in the U.S.		25	FWS, AZGFD, NMDGF, DOW, MWF, USDA-WWS, MWLC, AZLLB, FSA	24,100	640	680	840	940	1,000	Ongoing
	1.8.1	Implement livestock conflict avoidance measures	25	FWS, AZGFD, NMDGF, DOW, MWF	9,550	220	240	320	370	400	Ongoing. NGO funding to match Federal grants for livestock compensation and wolf presence. Costs are anticipated to increase over the next 4 years as the population grows.
		Funding for proactive conflict avoidance measures including fencing, range riders, fladry, and diversionary feeding									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	1.8.2	Investigate depredations	25	USDA-WS	5,000	200	200	200	200	200	Ongoing
	1.8.3	Manage and remove problem wolves	Same	FWS, USDA-WS	NA	X	X	X	X	X	Costs included in 1.1
		Livestock-wolf conflicts, such as nuisance behaviors and excessive depredations, are addressed with proactive measures; increased monitoring, hazing; and if necessary translocations and possible removal of problem wolves.									
	1.8.4	Compensate livestock producers for losses due to wolves	25	MWLC, FSA, AZLLB	4,720	100	100	150	170	200	Federal Livestock Demonstration Project grants - 1:1 match provided by NGOs in 1.8.1. Costs are anticipated to increase over the next 4 years as the population grows.
	1.8.5	Provide funding for wolf presence on or near livestock operations	25	MWLC, AZLLB	4,830	120	140	170	200	200	Federal Livestock Demonstration Project grants - 1:1 match provided by NGOs in 1.8.1. Costs are anticipated to increase over the next 4 years as the population grows.
		Offset business losses that livestock producers experience from having wolves on or near their livestock operations.									
2	Recovery Action 1.9. Reduce Mexican wolf-livestock conflicts in the Mexico		25	SAGARPA, MFS, CNOG, CONANP, CONAFOR	4,850	100	150	200	200	200	Ongoing
	1.9.1	Implement livestock conflict avoidance measures	Same	CONANP, MFS	NA	X	X	X	X	X	Costs currently included in 1.2
		This may include fencing, range riders, fladry, diversionary feeding.									
	1.9.2	Manage and remove problem wolves	Same	MFS, SEMARNAT	NA	X	X	X	X	X	Costs included in 1.9
		Livestock-wolf conflicts, such as nuisance behaviors and excessive depredations, are addressed with proactive measures; increased monitoring, hazing; and if necessary translocations and possible removal of problem wolves									
	1.9.2	Investigate depredations	Same	MFS, CNOG	NA	X	X	X	X	X	Costs included in 1.9

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	1.9.4	Compensate livestock producers for losses due to wolves	Same	CNOG	NA	X	X	X	X	X	Costs included in 1.9
	1.9.5	Implement the Ecosystem Services Payments Program (Pago por Servicios Ambientales)	Same	CONAFOR, CONANP	NA	X	X	X	X	X	Costs included in 1.9
		CONANP will promote the inclusion of Mexican wolf recovery areas in the program.									
Objective 2: Improve gene diversity and maintain the health of Mexican wolves											
1	Recovery Action 2.1. Develop and implement an annual plan for Mexican wolf releases, cross-fostering, and translocations in the U.S.		16	FWS, AZGFD, NMDGF, FS, WMAT, TESF	6,400	400	400	400	400	400	Some costs of this action are included in 1.1.
	2.1.1	Develop annual release, cross-foster, and translocation plan	16	Same	NA	X	X	X	X	X	Costs included in 1.1
		The annual plan provides the target number of wolves to be released, cross-fostered, and translocated and the location and timing.									
	2.1.2	Cross-foster 12 wolf pups/year	16	Same	NA	X	X	X	X	X	Costs included in 1.1
		With current staff levels, we expect to be able to cross-foster up to 12 pups/year. This number may change in response to fluctuations in staffing levels or adjustments to logistics in transporting young pups.									
	2.1.3	Release pairs with pups if cross-fostering is deemed unsuccessful	5	Same	NA				X		Activity will occur every 4 years over 16 years. Costs included in 1.1
		The most successful releases of adult wolves from captivity are pairs with pups released when pups are very young. The cost of releases is included in action 2.1.; however, the cost may decrease if cross-fostering is deemed successful.									
	2.1.4	Translocate wolves, as necessary due to exigent circumstances	25	Same	NA	X	X	X	X	X	Costs included in 1.1
		Translocation of wolves may be necessary each year for management purposes, including to address boundary issues, problem behaviors, or to facilitate breeding.									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	2.1.5	Manage wolves at Sevilleta and Ladder Ranch pre-release facilities	16	FWS, TESH	6,400	400	400	400	400	400	Costs include staff and operations.
		The Sevilleta and Ladder Ranch Wolf Management Facilities serve as pre-release facilities to acclimate Mexican wolves prior to release to the wild. These facilities are designed to house wolves in a manner that fosters wild characteristics and behaviors by minimizing human contact in order to promote avoidance behavior and to maximize pair bonding, breeding, pup rearing, and healthy pack structure development. Wolves are then evaluated and selected for release to the wild based on their genetic makeup, reproductive performance, behavior, physical suitability, and their overall response to the adaptation process. The management facilities are also used to breed wolves to enable cross-fostering of pups into the wild.									
	2.1.6	Monitor survival of wolves released (including cross-fosters) from captivity	18	FWS, AZGFD, NMDGF, WMAT	NA	X	X	X	X	X	Cost included in 1.1
		A released animal successfully incorporated into the population is an adult that survives for at least 1 year from release, or a pup that survives 2 years from release.									
1	Recovery Action 2.2. Develop and implement an annual plan for Mexican wolf releases, cross-fostering, and translocations in Mexico		8	SSP, CONANP, MFS, SEMARNAT, OVIS, GM, INECOL, FWS	560	70	70	70	70	70	Most costs of this action are included in other actions.
	2.2.1	Develop annual plan for releases and translocations	8	SSP, CONANP, MFS	NA	X	X	X	X	X	Costs are included in other activities
		Based on annual SSP breeding and transfer plan to achieve Mexican wolf gene diversity and population growth in Mexico.									
	2.2.2	Survey for new release sites, including prey availability	8	MFS	NA	X	X	X	X	X	Costs are included in 1.2
	2.2.3	Develop landowner agreements for releases	8	MFS, CONANP	NA	X	X	X	X	X	Costs are included in 1.2
	2.2.4	Release pairs with pups	4	MFS, CONANP, SEMARNAT	NA	X	X	X	X		Costs are included in 1.2
		Mexico anticipates releasing wolves to accomplish releases prescribed in the PVA, at a minimum; they may continue releases into the future to further improve gene diversity in the wild. Mexico expects to release 16 wolves plus pups in 2017/2018 in 4 release events.									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	2.2.5	Translocate wolves	4	MFS, CONANP, SEMARNAT, FWS	NA	X		X		X	Activity will occur every other year for 8 years. Costs are included in 1.2
		Currently, no translocations are planned within Mexico or to the U.S. Translocations may occur in the future from SMOCC-N to SMOCC-S or from Mexico to the U.S.									
	2.2.6	Manage wolves at pre-release facilities	8	CONANP, OVIS, GM, INECOL	560	70	70	70	70	70	Costs are estimated for managing wolves at 3 pre-release facilities in Mexico
	2.2.7	Monitor survival of released and translocated wolves	10	MFS	NA	X	X	X	X	X	Costs included in 1.2
2	Recovery Action 2.3. Monitor and manage Mexican wolf genetic health		25	AZGFD, FWS, NMDGF, MFS, CONANP, UI, UNM	1,125	45	45	45	45	45	Ongoing. Some costs of the action are included in 1.1 and 6.1.
	2.3.1	Monitor gene diversity of wild population	25	AZGFD, FWS, NMDGF, MFS, CONANP	NA	X	X	X	X	X	Costs included in 1.1
		Monitoring to determine if wild Mexican wolf populations are achieving 90% of the gene diversity in the captive population.									
	2.3.2	Conduct genetic analyses	25	UI, FWS	750	30	30	30	30	30	FWS provides funding to UI through a Cooperative Agreement
		This includes analyzing blood and scat samples collected from the wild population to determine parentage of Mexican wolves.									
	2.3.3	Create and work with genetic management team	16	FWS	NA	X	X	X	X	X	Costs included in 6.1
		The team will develop recommendations for genetic management of Mexican wolves, including addressing the most effective approaches to increase gene diversity in the wild populations and providing recommendations to guide the release schedule to meet genetic recovery criteria									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	2.3.4	Curate wolf remains (for research purposes)	25	UNM, FWS	375	15	15	15	15	15	Ongoing. FWS provides funding to UNM through a Cooperative Agreement.
		Curation is primarily to maintain genetic samples for future research; however, curation may provide samples for other research as well.									
2	Recovery Action 2.4. Monitor and manage Mexican wolf health		25	FWS, AZGFD, NMDGF, MFS, IFT, USDA-WS, UNAM-FMVZ,	NA	X	X	X	X	X	Ongoing. Costs of the action are included in 1.1. and 1.2.
	2.4.1	Monitor disease and other health parameters	25	IFT, MFS	NA	X	X	X	X	X	Costs are included in 1.1 and 1.2; however, in future years, more funding is needed.
		All captive wolves and all wolves that are captured in the wild receive a comprehensive vaccination with canine distemper, parvo, adeno 2, parainfluenza viruses (DA2PP) vaccine. Killed rabies vaccine is also administered. Boosters are administered annually in captivity, and opportunistically as captured in the wild. Captive and wild wolves (when captured) are also preventatively dewormed for a wide range of intestinal and external parasites. Prior to release from Pre-release facilities to the wild, Mexican wolves are screened with laboratory evaluations of feces and blood, boosted as appropriate with vaccines, and given antiparasitics and dewormed. Blood is drawn from wolves captured in the wild for surveillance of canine distemper virus, canine parvovirus, plague, tularemia, and leptospirosis (multiple types), and feces are obtained (if available) for fecal floatation. In the event of any (captive or wild) Mexican wolf mortality, recovered carcasses undergo extensive necropsy (animal autopsy) procedures to inform managers about the cause of death and acquire medical data. Mexico currently conducts screening, however, improved access to laboratory services is needed.									
	2.4.2	Implement disease response and control measures	as needed	IFT, MFS	NA	X	X	X	X	X	Costs are included in 1.1 and 1.2
	2.4.3	Conduct research and monitor diseases that affect wolf populations	as needed	USDA-WS, UNAM- FMVZ	NA	X	X	X	X	X	Costs would be incurred regardless of listing status of the Mexican wolf
		Wildlife Services monitors for rabies in the U.S. and Mexico. Future funding may be required for research if new diseases emerge that affect Mexican wolves.									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
Objective 3: Ensure adequate habitat availability to support viable Mexican wolf populations											
2	Recovery Action 3.1. Maintain habitat for Mexican wolves in the U.S.		25	FWS, AZGFD, NMDGF, FS, BLM, NPS, NRCS	NA	NA	NA	NA	NA	NA	Ongoing. Costs included in 1.1., 1.2., and 6.1
	3.1.1	Collaborate with land management agencies to maintain habitat protections currently in place	25	FWS, AZGFD, NMDGF, FS, BLM, NPS	NA	X	X	X	X	X	Costs included in 6.1
	Coordinate with FS, BLM, NPS and other Federal agencies with suitable habitat.										
	3.1.2	Assist livestock producers in implementing voluntary range and habitat improvements	25	FWS, AZGFD, NMDGF, NRCS	NA	X	X	X	X	X	Costs included in 1.1 and 1.2
	Coordinate with NRCS and livestock producers to implement voluntary range and habitat improvements.										
2	Recovery Action 3.2. Maintain and protect habitat for Mexican wolves in Mexico		25	CONANP, MFS, UNAM IB	587	93	93	63	63	63	Ongoing
	3.2.1	Conduct habitat suitability survey	2	CONANP, UNAM IB	60	30	30	-	-	-	
	This will be a field habitat suitability survey to determine the accuracy of the habitat suitability model.										
	3.2.2	Develop management plans for Natural Protected Areas in Mexican wolf recovery areas	5	CONANP	50	10	10	10	10	10	
	Janos Biosphere Reserve in Chihuahua has a management plan, but this plan is currently under revision. CONANP is working to enlarge Área de Protección de Flora y Fauna Campo Verde, which will require an amended management plan. The management plans will promote conservation.										
	3.2.3	Assist livestock producers in implementing voluntary range and habitat improvements	25	MFS	NA	X	X	X	X	X	Costs included in 1.7
	Coordinate with livestock producers to implement voluntary range and habitat improvements.										

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	3.2.4	Establish additional protected areas south of Papigochic to La Michilia or around the current reintroduction area	9	CONANP	477	53	53	53	53	53	Estimated costs include the process to declare 3 Natural Protected Areas in Mexico. The process takes about 3 years for each area.
		A number of areas are being considered for protection in Mexican wolf habitat. These include 1) an area east of Campo Verde, which would cover the Sierra del Nido and Namiquipa area, located to the southeast from the current reintroduction area; 2) an area between Campo Verde and Tutuaca; and 3) other areas to the south (between Papigochic and La Michilía).									
2	Recovery Action 3.3. Maintain and enhance connectivity within and between Mexican wolf populations		25	FWS, CONANP, SCT, AZGFD, NMDGF, CBP, Local, State, and Federal DOT	NA	X	X	X	X	X	
	3.3.1	Identify areas where enhancements (e.g., underpasses, overpasses, guiding fences) would improve the passage of Mexican wolves across road corridors	As needed	FWS, CONANP, SCT, AZGFD, NMDGF, Local, State, and Federal DOT	NA	X	X	X	X	X	Costs will be calculated on a case-by-case basis as needed.
	3.3.2	Install enhancements to facilitate wolf movement across existing and new roads	As needed	FWS, CONANP, SCT, AZGFD, NMDGF, Local, State, and Federal DOT	NA	X	X	X	X	X	Costs will be calculated on a case-by-case basis as needed. These enhancements would benefit multiple species, therefore, the cost of this activity would be shared among various species programs.

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
		Enhancements may include road underpasses, overpasses, guiding fences, etc. Enhancements will help improve connectivity within recovery areas in the U.S. and Mexico as well as between them (e.g., Mexican Highway 2). In Mexico, Highway 2 from Cananea to Janos will be upgraded and Mexico will work to promote the installation of crossing structures. The effectiveness of such enhancements should be monitored. Mexico has mapped potential Mexican wolf corridors.									
	3.3.3	Monitor the effectiveness of enhancements post-construction	As needed	FWS, CONANP, SCT, AZGFD, NMDGF, Local, State, and Federal DOT	NA	X	X	X	X	X	Costs included in actions 1.1 and 1.2
	3.3.4	Work with CBP to explore options to maintain cross-border connectivity	As needed	FWS, CBP	NA	X	X	X	X	X	Costs included in 6.1
		FWS will work with CBP to explore options for continued connectivity between Mexican wolf populations in the U.S. and Mexico.									
	3.3.5	Assess, avoid, minimize, and mitigate the impacts of other human development on Mexican wolves	As needed	CONANP	NA	X	X	X	X	X	Costs will be calculated on a case-by-case basis as needed.
		Recovery in the U.S. is focused on Forest Service lands, therefore this activity is more relevant to Mexico. Other human development may include mines, dams, border infrastructure, housing and urban development, energy projects, railroads, large scale agriculture, etc.									
2	Recovery Action 3.4. Maintain or improve the status of native prey populations of Mexican wolves		25	AZGFD, NMDGF, WMAT, IFT, CONANP, MFS	625	25	25	25	25	25	Cost estimates are for Mexico.
	3.4.1	Monitor status of native prey populations	25	AZGFD, NMDGF, WMAT, CONANP, MFS	NA	X	X	X	X	X	In the U.S., costs already incurred for state management purposes. Costs for Mexico included in action 3.4.
		States, Tribes, and Mexico will monitor native prey populations to ensure that there is sufficient prey for wolf recovery and that Mexican wolves are not having unacceptable impacts on native ungulate herds.									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	3.4.2	Conduct wolf-ungulate research	5	IFT, MFS	NA	X	X	X	X	X	In the U.S., costs incurred by states for ungulate monitoring and included in action 1.1. Costs for Mexico included in action 3.4.
		States, Tribes, and Mexico will coordinate on research to determine the most effective methods to measure effects of Mexican wolves on native ungulate herds.									
	3.4.3	Conduct research on other predators in areas with wolves	5	MFS	NA	X	X	X	X	X	Costs for Mexico included in 3.4.
Objective 4: Maintain the Mexican Wolf Species Survival Plan (SSP) captive breeding program to improve the status of wild populations											
2	Recovery Action 4.1. Manage the Mexican Wolf captive breeding population		25	Various SSP, FWS	54,682	2,674	2,674	2,674	2,674	2,674	Some costs are included in other actions.
	4.1.1	Coordinate SSP breeding facilities and maintain Mexican wolf studbook	16	FWS	480	30	30	30	30	30	Funding for research and transfers provided from FWS through cooperative agreement with SSP Coordinator.
		All Mexican wolves in the captive breeding program in the U.S. and Mexico are managed under the Mexican Wolf Species Survival Plan. The SSP provides Mexican wolves for reintroduction into the wild in the U.S. and Mexico.									
	4.1.2	Manage and care for Mexican wolves in individual SSP captive breeding facilities (Mexico and U.S.)	25	NGOs	54,202	2,644	2,644	2,644	2,644	2,644	Costs based on 256 wolves in 51 facilities for 16 years. Then we anticipate the SSP will be decreased to about half of its current size from years 17 to 25.
		The Mexican Wolf SSP breeding facilities house and care for the Mexican wolves <i>pro bono</i> . The cost estimates for the Mexico portion of the SSP may be overestimated.									
	4.1.3	Manage and monitor wolves at Sevilleta Wolf Management Facility	16	FWS	NA	X	X	X	X	X	Costs included in 2.1.5
		The FWS manages and cares for Mexican wolves in the Sevilleta Wolf Management Facility, which is one of the pre-release facilities.									

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	4.1.4	Manage Ladder Ranch Wolf Management Facility	25	TESF, FWS	NA	X	X	X	X	X	Costs included in 2.1.5. The FWS provides \$45K to TESF through a Cooperative Agreement.
		Turner Endangered Species Fund staff manage and care for Mexican wolves at the Ladder Ranch Wolf Management Facility.									
Objective 5: Promote Mexican wolf conservation through education and outreach programs											
3	Recovery Action 5.1. Conduct education and outreach on Mexican wolf conservation in the U.S.		25	FWS, AZGFD, NMDGF, WMAT, FS	9,000	450	450	450	450	450	Ongoing. Costs include \$450,000 for 10 years, plus \$300,000 for 15 years.
	5.1.1	Conduct education and outreach on Mexican wolf conservation	25	FWS, AZGFD, NMDGF, WMAT, FS, NPS, SSP, BLM	5,250	300	300	300	300	300	Costs include 3 employees for 10 years, plus 1.5 employees for 15 years.
		Provide education to local landowners, livestock producers, and local communities necessary to accomplish recovery. Develop presentations, replicate model from grizzly bear efforts (trailer), use social media, websites, etc.									
	5.1.2	Maintain Forest Service liaison position	25	FS	3,750	150	150	150	150	150	Ongoing.
		Forest Service liaison coordinates with District Rangers and livestock producers on the status of the Mexican wolf and on-going activities; assist with development and implementation of proactive conflict avoidance measures.									
3	Recovery Action 5.2. Conduct education and outreach on Mexican wolf conservation in Mexico		25	MFS, CONANP	NA	NA	NA	NA	NA	NA	Ongoing. Costs included in 1.7.1
	5.2.1	Conduct education and outreach on Mexican wolf conservation	Same	Same	NA	X	X	X	X	X	Costs included in 1.7.1
		Educate local landowners, livestock producers, and local communities necessary to accomplish recovery.									
Objective 6: Ensure recovery success											
3	Recovery Action 6.1. Manage the Mexican Wolf Recovery Program in the U.S.		25	FWS	8,500	500	500	500	500	500	Ongoing. Cost based on 4 FWS employees to manage the recovery program; costs will decrease to \$300,000 after 5 years.

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	6.1.1	Conduct status assessments and prepare reports	Same	FWS	NA	X	X	X	X	X	Costs included in 6.1.
		Assess status of Mexican wolf and prepare annual reports, 5-year status reviews, and 5 and 10-year evaluations per recovery plan.									
	6.1.2	Develop and maintain partnerships	Same	FWS	NA	X	X	X	X	X	Costs included in 6.1.
		Coordinate with Mexican wolf recovery partner agencies through Memorandum of Understanding; Federal agencies in Mexico; SSP facilities; Mexican Wolf/Livestock Council; and with other affected counties, and state, Federal, and Tribal governments, and stakeholder groups.									
	6.1.3	Manage daily recovery program activities	Same	FWS	NA	X	X	X	X	X	Costs included in 6.1.
		Respond to congressional and public inquiries, FOIA requests, and litigation; manage budget, contracts, and funding to partner agencies and universities through grants and agreements; maintain administrative records.									
3	Recovery Action 6.2. Manage the Mexican Wolf Recovery Program in Mexico		25	CONANP, MFS, SEMARNAT	875	35	35	35	35	35	Ongoing. Cost based on proportion of CONANP and SEMARNAT employee salaries spent on Mexican wolf recovery.
	6.2.1	Secure funding	Same	CONANP	NA	X	X	X	X	X	Costs included in 6.2.
	6.2.2	Develop and maintain partnerships	Same	CONANP, MSF	NA	X	X	X	X	X	Costs included in 6.2.
	6.2.3	Manage daily recovery program activities	Same	CONANP	NA	X	X	X	X	X	Costs included in 6.2.
	6.2.4	Coordinate captive population management	Same	SEMARNAT	NA	X	X	X	X	X	Costs included in 6.2.
	6.2.5	Issue permits	Same	SEMARNAT	NA	X	X	X	X	X	Costs included in 6.2.
3	Recovery Action 6.3. Coordinate binational Mexican wolf recovery efforts		25	FWS, CONANP	NA	X	X	X	X	X	Costs included in 6.1. and 6.2.

Priority	Activity Number	Activity	Duration	Responsible Party	Total Cost (\$1,000s)	Cost Estimate by FY (by \$1,000s)					Comments
		Narrative				FY18	FY19	FY20	FY21	FY22	
	6.3.1	Exchange information between agencies in Mexico and the U.S.	Same	Same	NA	X	X	X	X	X	Costs included in 6.1. and 6.2.
		Exchange information between agencies in Mexico and the U.S. to discuss progress in implementing wolf recovery/conservation activities in Mexico and the U.S.									
	6.3.2	Establish a binational agreement or letter of intent (Mexico – U.S.)	2	Same	NA	X	X				Costs included in 6.1. and 6.2.
		Establish a binational agreement or letter of intent (Mexico – U.S.) to implement binational recovery actions in the PACE and Mexican Wolf Recovery Plan.									
3	Recovery Action 6.4. Develop adequate regulations and management and monitoring plans to maintain viable Mexican wolf populations after delisting		5	CONANP, FWS, AZGFD, NMDGF, WMAT	NA	NA	NA	NA	NA	NA	Costs included in 6.1 and 6.2. The action will occur in the latter (5) years prior to recovery and delisting.
	6.4.1	Analyze existing regulations	Same	Same	NA	NA	NA	NA	NA	NA	Costs included in 6.1 and 6.2. The activity will occur in the latter (5) years prior to recovery and delisting.
		Recovery criteria require regulatory protections for delisting the Mexican wolf.									
	6.4.2	Strengthen existing or put in place new laws if needed	Same	Same	NA	NA	NA	NA	NA	NA	Costs included in 6.1 and 6.2; the activity will occur in the latter (5) years prior to recovery and delisting.
	6.4.3	Develop post-delisting management and monitoring plans	Same	Same	NA	NA	NA	NA	NA	NA	Costs included in 6.1; the activity will occur in the latter (5) years prior to recovery and delisting.
		The ESA requires post delisting monitoring.									
		TOTAL COST OF ACTIVITIES			178,439	7,123	7,491	7,771	8,005	8,065	

APPENDIX A. Tribal Perspectives on Mexican Wolf Recovery (Mexican Wolf Tribal Working-Group, 2017). 36 pp.

Tribal Perspectives on Mexican Wolf Recovery

**Mexican Wolf Tribal Working-group
Final – May 5, 2017**

Tribal Perspectives on Mexican Wolf Recovery

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Authors' Note

The following section was developed by the Tribal Working-group of the Mexican Wolf Recovery Team. It is important to note that while most, if not all, of the Indian sovereigns that reside in the southwest have an interest and may directly or indirectly be affected by ongoing efforts to protect, conserve, and recover a wide variety of federally listed threatened and endangered species, each Indian sovereign has the prerogative to choose their level of partnership and participation in those efforts, and that nothing in this recovery creates duties, obligations, or commitments enforceable upon any of those Indian sovereigns.

Sections of this plan have been adapted from or directly incorporated from the recovery plans for the Rio Grande Silvery Minnow and Southwestern Willow Flycatcher.

Acknowledgment

We would like to thank each of the following Tribes, Pueblos, and agencies for their participation in writing this paper; Acoma Pueblo, Bureau of Indian Affairs, Hopi Tribe, Jicarilla Apache Nation, Kaibab Band of Paiute Indians, Laguna Pueblo, Navajo Nation, San Carlos Apache Tribe, Sandia Pueblo, Southern Ute Tribe, Taos Pueblo, White Mountain Apache Tribe and Zuni Pueblo. This paper is not a legal document and statements made within this paper may not represent each Tribe. However, these are broad perspectives expressed by members of the Tribal Working-group of the Mexican Wolf Recovery Team.

EXECUTIVE SUMMARY

This document presents various perspectives that a Tribe or Tribes may have regarding the Mexican Wolf Recovery Program and Mexican wolves in general. Perspectives include cultural, traditional, economical, financial, legal, and social considerations that are important for the U.S. Fish and Wildlife Service and other agencies to understand when implementing Mexican wolf recovery on or near Tribal lands. Being sovereign nations, Tribes have authority over their lands and thus have a unique relationship with federal agencies. Federal agencies in turn have a unique trust responsibility when interacting with tribes and conducting activities that may impact tribes or tribal lands. The primary purpose of this paper is to educate those agencies and other individuals and assist them in working with Tribes throughout the recovery process. The existing policies described herein lay the foundation for the legal framework for trust responsibilities to Tribes and the recommendations at the end of the paper identify areas for improved collaboration on recovery processes.

INTRODUCTION

It is not possible to speak with one voice for all Indian Tribes in the Southwest that may have a stake in the conservation of the Mexican wolf and its recovery. It is likely that, beyond disagreeing with the notion of acceptance of and cooperation with the Endangered Species Act (ESA), some Tribes may be hesitant to participate in this dialogue at any level. Therefore, this paper does not intend to speak for every Tribe in the southwest nor does this constitute in any way a government to government consultation. Instead, the ideas presented here are a culmination of varying views, discussion, and the perspective that there is room for constructive dialogue with the Fish and Wildlife Service (FWS) on ways to improve the Federal/Tribal relationship and to conduct a meaningful discussion as it relates to

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endangered species conservation and recovery. Many issues and problems surrounding wolf conservation will likely continue over the course of its recovery. It is important that Tribal participation at any level be carried out with extreme sensitivity to the views of other stakeholders, as well as Tribal sovereigns that choose not to participate. It is vital that the Federal Government, especially the FWS, establish effective relationships and dialogues with all Tribes that are based on mutual respect for one another; recognition of the shared common interests in conserving natural resources; and moving beyond an adversarial relationship to one that reflects a positive problem-solving approach.

POLITICAL LANDSCAPE

TRIBAL SOVEREIGNTY AND TRUST RESPONSIBILITY

To gain an overall perspective and appreciation of how Tribes view the ESA as it relates to Tribal interests, it is important to present some discussion on the basis of and the general principles embraced by all Tribal governments, namely Tribal Sovereignty and Federal Trust Responsibility.

Tribal Sovereignty

The inherent sovereignty of Indian Tribes and Nations has long been recognized by the United States Constitution, the Federal Government, and Federal Courts. See, *Cherokee Nation v. Georgia* (1831); *United States v. Winans* (1905) (Indian nations reserve all governmental powers and individual rights not specifically abrogated by Congress, or granted away by the Tribes in their treaties or agreements with the United States). As a result of a constitutionally established government to government relationship, the Federal Government has a responsibility to protect Indian trust resources (Indian trust resources generally include land, water, air, minerals, and wildlife, reserved or otherwise owned or held for the benefit of Indian Tribes and nations). That legal principle has been reiterated extensively in recent years within the context of natural resource management, *Parravano v. Babbitt* (1995) (Federal Indian trust responsibility extends not just to the Interior Department, but to the entire Federal Government as a whole) and *Covelo Indian Community v. FERC* (1990). As sovereign nations, Tribes and Tribal lands are not subject to the same public domain laws that govern other lands within the United States, either public or private. It has been legally established that inherent in the establishment of a reservation is the right of Indians to hunt and fish on reservation lands free from state regulations, lawfully exercise substantial control over the lands and resources of its reservation, including its wildlife, and to regulate the use of its resources by members as well as nonmembers. Cases such as the *Menominee Tribe of Indians v. United States* (1968), *Washington v. Washington State Commercial Passenger Fishing Vessel Association* (1979), *New Mexico v. Mescalero Apache Tribe* (1983), *Arapahoe Tribe v. Hodel* (1990), and *Minnesota v. Mille Lacs Band of Chippewa Indians* (1999), have affirmed this precept. Some of these rights are based on treaty rights, but many follow from the mere establishment of a reservation and the self-governance powers inherent therein. Congress may limit the powers of Indian self-governance, including the denial of treaty established hunting or fishing rights, as it did when it prohibited Indians from hunting eagles under the Eagle Protection Act. But to do so, the Congressional act abrogating those powers must be clear and explicit. See *Lone Wolf v. Hitchcock* (1903). Tribes retain their rights and powers, comprehensive of all Tribal properties and interests; *United States v. Winans* (1905), *Winters v. United States* (1908). In general, however, Congress has not abrogated Tribal interests and utilization of Indian trust resources and the matter has been, for the most part, left to Tribal regulation.

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Trust Responsibility

It is well established that Indian Tribes in the United States are sovereign entities, and that the U.S. is legally required to protect Indian trust resources for the benefit of each respective Indian Tribe and Nation. Those legal responsibilities are intended to ensure that Tribal lands remain capable and sufficient of serving as viable homelands. In managing trust lands or assisting Tribes in doing so, the government must act for the exclusive benefit of the Tribes, and ensure that Indian lands and resources are protected and maintained for their exclusive use.

Tribal lands are not public lands and are not set aside or designated for the purpose of conserving endangered species, critical habitat, or for the primary purpose of conserving flora or fauna, except as it may directly benefit the Tribes. As a practical matter, Tribal lands comprise some of the most remote, wild and scenic places on the continent and Tribal lands often support a far greater biological diversity than surrounding private or public lands. Nevertheless, it is important to point out that Tribal lands (reservations) are first and foremost the homelands to Indian people, established to provide for their respective traditional, spiritual, cultural, social, and economic benefit. As trustee, the United States must ensure that the purposes for which reservations were created are not undermined and the fiduciary obligations that arise from the trust responsibility must be met by all federal agencies and in a manner that does not interfere with Tribal rights.

Existing Policy Directions

The interaction of Tribal sovereignty and trust responsibility is complex, as Tribes and the federal government struggle to protect Indian resources while at the same time respecting Tribes' power to manage their own affairs. As a result, several administrative directives issued by the Executive Branch bear directly on the relationship of the FWS and other Interior Department agencies to Tribes. The following are examples of these directives and orders;

Secretarial Order 3175, November 8, 1993

Departmental Responsibilities for Indian Trust Resources

This Order clarifies the responsibility of the agencies under the Department of the Interior to ensure that trust resources of federally recognized Indian tribes are identified, conserved, and protected.

Native American Policy of the U. S. Fish and Wildlife Service January 20, 2016

This policy provides the framework within which the FWS cooperates and fulfills its Trust Responsibility with Native American governments to conserve fish and wildlife resources on Indian lands.

Joint Secretarial Order 3206, June 5, 1997

American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act

This order recognizes the importance of cooperation between Federal and Tribal governments. It also recognizes the jurisdictional tensions inherent in Indian resources management, especially concerning endangered species. In order to achieve a cooperative balance, Secretarial Order 3206 specifically states that it shall not be construed to grant, expand, create, or diminish any legally enforceable rights, benefits, or trust responsibilities.... under existing law", while making clear that it "does not preempt or modify the (FWS's) statutory authorities". It reaffirms the trust and treaty responsibilities of the U.S. government and instructs Federal agencies to "be sensitive to Indian culture, religion, and spirituality," the basis of which often relies on the use of these natural resources. It also reminds agencies under the

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Department of Interior and Commerce that Indian lands are not subject to the same controls as Federal lands; instructs them to recognize that Tribes are the appropriate governmental entities to manage their lands and resources; and instruct them to support Tribal measures that preclude the need for conservation restrictions. At the same time, the Order strives to harmonize Tribal concerns and interests, regarding the ESA and Federal mandates to enforce it; and it allows Tribes to develop their own conservation plans for threatened and endangered species that are more amenable to Tribes and Tribal needs.

The Order further states that the departments shall work directly with Indian Tribes on a government to government basis to promote healthy ecosystems.

Executive Order 13175, November 6, 2000

Consultation and Coordination with Indian Tribal Governments

This Order establishes regular and meaningful consultation and collaboration with tribal officials in development of Federal policies that have tribal implications, to strengthen the United States government to government relationships with Indian Tribes

Memorandum of November 5, 2009

Tribal Consultation

Carries forth the commitment to engage in regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that were prescribed to in Executive Order 13175 of November 6, 2000

Secretarial Order No. 3317 Amendment 1, December 31, 2012

This Order updates, expands, and clarifies the Department of Interior's policy on consultation with American Indian and Alaska Native tribes and acknowledges the provisions for conducting consultation in compliance with Executive Order (E.O) 13175

Endangered Species Act and Tribes

Although Congress does have authority to restrict some Tribal wildlife practices, it is unclear whether the FWS and the U.S. National Marine Fisheries Service (the two agencies responsible for enforcing the Act) have authority to enforce the ESA on Tribal land; an issue that has never been decided in the courts. At the heart of the matter is the question of what Congress' intent was when it established the ESA. The ESA does not specifically mention Tribes, and other court cases have upheld the concept that, unless Tribal treaty and other rights are specifically abrogated by an act of Congress or a particular piece of legislation, they remain in force. In the one court case that came closest to testing this question, *United States v. Dion*, a Tribal member was convicted of taking a bald eagle for commercial use. The statute under which the case was prosecuted, however, was not the ESA, but the Bald and Golden Eagle Protection Act. The ESA question was left unanswered; however, the success of ESA actions such as the proposed Mexican wolf recovery relies heavily on cooperation of southwestern Tribes and their lands. Given this ambiguity, many Tribal leaders and natural resource managers would prefer resolving these conflicts through cooperative agreements with Federal and in some cases, State agencies, rather than engage in costly and lengthy litigation.

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The previous discussion is not intended to imply that Indian Tribes are not willing to work with the ESA, consider ESA a burden, or are not interested in managing or conserving imperiled species. In fact, some Tribes have used the ESA to benefit their interests, especially in regards to the protection of dwindling fish stocks in the Pacific Northwest and the Great Lakes region. For example, the Pyramid Lake Paiute Tribe in Nevada and other entities used the ESA to achieve listing of the Cui-ui sucker in Pyramid Lake and to protect water resources and reduce diversions from the Truckee River. In the Pacific Northwest, off-reservation treaty rights are often protected by mandatory conservation measures, and strictly reinforced under provisions of the ESA.

Despite the legal maneuvering that can and often does accompany endangered species conservation, and the applicability of the Act, it generally contributes little to directly benefit threatened or endangered species. As a result, greater efforts and more positive dialogue must be initiated and continue between Tribal entities and the FWS. This dialogue, which is mutually beneficial to all interests, in recent years has evolved into policies that set aside diverse interpretations of the ESA and other laws and instead have focused on cooperative partnerships that promote species conservation, while acknowledging the respective roles of the FWS and Tribal governments in the conservation of endangered species.

Tribal Concerns with ESA

Indian Tribes generally work closely with the Federal government to meet many natural resource management needs; consequently triggering Federal regulations, often including ESA Section 7 consultations. Nearly every type of federally funded or federally approved activity requires consultation measures of one sort or another. While the intent of these regulations is to protect federally listed threatened and endangered species, the regulatory processes can occasionally create a bureaucratic quagmire that can impede projects and generate conflict with Tribal economic development, which frequently lag behind similar efforts in other non-Tribal communities.

For many years Tribes have expressed concern and distrust of the intent of the ESA and the manner in which it is often applied, especially on Tribal lands. Many Tribes feel that they are far better land stewards than the vast majority of private landowners and some Federal land management agencies, and consequently support a higher proportion of endangered species on their lands. In addition, most Tribal lands are far less developed than adjacent private or public lands. Tribes believe that because of this, Indian lands effectively serve as safe havens for a variety of threatened and endangered species, a result of displacement due to more aggressive development efforts on surrounding lands. Tribes feel they are unfairly penalized for exercising strict control over the large scale development of their lands and protecting the natural integrity of their homelands. Many Tribes also view the use of certain federal laws, such as ESA, as a means to dictate how they can, or should utilize their lands to accomplish resource management priorities of other non-Tribal resource management agencies and feel obligated to set aside priorities of their own. Unfortunately, Tribes frequently do not have a choice, particularly when they rely heavily on federal funding to carry out resource management activities, hence the federal nexus, which requires the protection and conservation of threatened and endangered species. Tribes generally consider this as a direct disregard of and infringement on Tribal sovereignty.

Within the context of the ESA the development of recovery plans for listed species typically gave minimal opportunity to Tribes to directly engage in the recovery plan process. Tribes are generally viewed as “stakeholders” or as “interested parties”, consequently their participation and input carried little, if any weight. Not until the listing of the southwestern willow flycatcher and the subsequent

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development of a recovery plan were Tribes actually provided a more direct opportunity to participate in the process. The establishment of a Tribal Working-group under the Southwestern Willow Flycatcher Recovery Team provided Tribes an opportunity to develop a Tribal Perspective Paper, which became part of the recovery plan. The Tribal perspective identified issues ... “relative to recovery of the flycatcher on Tribal lands and promoted a more thorough understanding of these issues and potential resolutions, ... engaging the FWS in a collaborative approach to recovery”.

Development of the Rio Grande Silvery Minnow Recovery Plan also engaged the middle Rio Grande Pueblos in the recovery plan process by also establishing a Tribal Sub-team, which functioned as part of the Rio Grande Silvery Minnow Recovery Team. The Tribal Sub-team had the opportunity to develop a Tribal Perspective that was incorporated in the main body of the recovery plan. This level of involvement allowed the Pueblos to have direct participation in the process and voice their issues and concerns relative to the recovery of the silvery minnow and finally have opportunity to discuss the broad level of their participation in recovery efforts. Regardless of the extent of Tribal involvement in any recovery process, Tribes still are reluctant to commit totally to the conservation of endangered species on Tribal lands for various reasons, including: concerns over the potential designation of critical habitat, which often follows the listing of a species; concerns over requirements to prioritize protection and conservation of listed species to the detriment of other culturally important resources; concerns over restrictions that could be placed on the use of Tribal lands for activities other than the conservation of endangered species; concerns over the loss of management and control of land use, especially when Tribal lands provide and support the livelihood of its members, such as through aggressive timber harvesting, grazing and recreational uses; concerns over the use of Tribal resources, including Tribal manpower and funds to protect, conserve and manage listed species without commitments or adequate technical support, especially regarding reliable federal funding.

Federal/Tribal Coordination on Endangered Species

There are many opinions regarding the Federal/Tribal relationship which has led to a contentious history over Federal/Tribal jurisdictions and their respective roles for the conservation of endangered species. Since the mid-1990's the overall relationship has developed into a more cooperative partnership and a willingness to work together. Over the years many Tribes have dramatically improved their management capacity for natural resources and the FWS and other Federal agencies must recognize and acknowledge this expertise. The benefit Tribes have derived from this cooperative relationship is the opportunity to directly participate at a broader level in various work groups and collaborative efforts administered by various Federal agencies. To continue improving and strengthening the commitment to working with Tribes, many Federal agencies have established Tribal Liaison positions, who are responsible for maintaining effective two way communication with Tribes and their respective agencies. Many recently issued Federal directives have been intended to establish policies that will allow for more direct communication and input from Tribal governments on a wide variety of issues, including those related to natural resource management and endangered species conservation. This increased level of Tribal participation in Federal actions that may affect Tribal lands continues to be refined and the hope is to eventually arrive at a point where Tribes can proactively participate in endangered species conservation and recovery, while having the flexibility of engaging at a level that ensures Tribes the prerogative to prioritize and accomplish their own resource management goals and objectives. For example, despite the mandates for Federal agencies to communicate with Tribes, the recent FWS decision to include the Mexican wolf subspecies as part of the greater gray wolf species did not include consultation with potentially affected Tribes, nor was the proposed revision of the Nonessential Experimental Population of the Mexican Wolf.

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Secondly, it is important that Federal agencies recognize and acknowledge the sovereignty of Tribal governments to manage their resources, including threatened and endangered species, at least at a level that minimizes the direct oversight by an external authority that Tribes often consider an infringement. It is also important that Federal agencies understand and realize that because of the holistic view Tribes have of all natural resources; their sense of value of all plants and animals is a tribute to their culture and tradition. Because of this view, Tribes understand that all plants and animals, including endangered species, have value and should be managed in a manner that will wholly protect and perpetuate their continued existence.

Coordination among Federal and Tribal representatives relies upon in-depth interaction concerning species and conservation priorities of mutual concern. For example, the Pueblo of Santa Ana executed a Safe Harbors Agreement with the FWS, the first in the country. The White Mountain Apache Tribe, San Carlos Apache, Tohono O'odham, and the Pueblo of Zuni have each established Statements of Relationship (SOR) with the FWS. The White Mountain Apache Tribe, which was instrumental in developing the first SOR, was one of the first Tribes to address the Tribal/ESA issue head on, as a result of the listing of the Mexican spotted owl as a threatened species and the proposed designation of critical habitat on Tribal lands. White Mountain chose to be proactive in terms of how they addressed endangered species conservation, without directly acknowledging compliance with the Endangered Species Act on their lands; and in doing so promoted their sovereignty and capacity to manage natural resources in accordance with their management priorities. The SOR also helped to forge a mutually acceptable partnership in conserving a variety of endangered species.

Meaningful Tribal Participation

Ensure Effective Communication

Many of the issues outlined in this paper can be avoided with early, open, and honest communication. According to Secretarial Orders 3206 and 3175, Tribes must be kept involved and informed at all levels and treated as equal partners. Tribes must be involved at the earliest stages of any planning process that could potentially affect Tribal trust resources. Communication with Tribes should be frequent and any and all related information must be made available to Tribes in a timely manner in order to provide sufficient time to review, discuss, and have the opportunity to engage, if they choose, in government to government consultations. The Federal government must ensure that the timing is appropriate for Tribal participation.

All federal agencies are reminded that Indian Tribes and Tribal leaders should not and must not be viewed as part of the general public, but instead must be dealt with on a government to government basis. Agency representatives, who are required to communicate and maintain working relationships with Indian Tribes should have appropriate training and knowledge in Tribal communication protocols; and because each Tribe is unique, it is important that individuals be aware and have a basic understanding of each Tribe's culture and customs. All agencies should err on the side of consulting and communicating with Tribes prior to taking action, rather than assuming an action will not affect a Tribe.

If the FWS desires close partnerships with Tribes in the recovery of the Mexican wolf, it will be imperative that open communications be maintained at all levels. Although government to government consultations will need to be carried out with Tribal leaders, especially those that request consultations and those that could be directly affected as a result of wolf recovery efforts, maintaining effective communications with Tribal resource managers and technical staff will be especially important.

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Broad Representation

Tribal lands are widely distributed throughout the southwest; and it is expected that the Mexican wolf recovery process will impact many, if not all, Tribal lands and their resources. Wolves are expected to be wide-ranging and may occupy areas outside primary recovery zones; therefore, all Tribes within the five state region, including, Arizona, Utah, Colorado, New Mexico and Texas, must be invited to participate and engage in all aspects of the process. Tribes can then exercise their prerogative to either proactively participate in recovery efforts or choose to monitor the process and engage at their discretion.

Formal Communication

Government to Government Consultation

Government to government consultations generally serve as a foundation for recognizing and acknowledging the respective role of the Federal government and Indian Tribes concerning endangered species. This process, generally initiated as a result of proposed federal actions and decisions that are anticipated to potentially affect Tribal trust resources, Tribal rights and various other Tribal interests, is an important mechanism to ensure that Tribal governments are informed and have the opportunity to review and assess proposed actions and provide input.

Agreements

Agreements in the form of Memorandum of Agreements, Cooperative Agreements, or Statement of Relationships are examples of formalizing the roles and responsibilities, and establishing mutually acceptable principles to guide the FWS and Tribal Governments in dealing with threatened and endangered species on Tribal lands, and other issues of mutual concern. While the process of negotiating and developing a mutually acceptable agreement can be time consuming, it is important that federal entities understand that Tribal decisions often require considerable internal consultation with traditional and cultural leadership. Many formal agreements have been developed over the years and can serve as useful models; however, it is also important to understand that because each Tribe is a sovereign entity, each agreement that is developed will be unique; some may be simple and straight forward, others may be more complicated. Regardless of the complexity of any formal agreement that may be developed, the basic foundation that guides these formal agreements must be based on principles of Tribal sovereignty and federal trust responsibilities.

Confidentiality of Tribal Information

All Tribes have serious concerns regarding endangered species information that is gathered on Tribal lands. These concerns have impeded effective cooperative relations with other management agencies. In part because of a level of distrust and concerns over having the information used against them, many, if not most, Tribes are reluctant to share information. In addition, some information that Tribes possess has cultural or religious significance, therefore Tribes may choose to withhold the information. It is important that federal agencies understand that any information provided by Tribes must be considered confidential and the use of the information should have written Tribal approval if it will be provided in a public forum or document. The confidentiality of information is an important cornerstone of Tribal sovereignty, self-governance, and spiritual and religious power. Unfortunately, court decisions recently have undermined the Tribes' ability to maintain confidentiality of certain information collected through cooperative efforts, especially when Tribes use federal funding to collect information.

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To maintain some control over sensitive information that is shared with federal agencies, some Tribes have developed Confidentiality Agreements and Information Sharing Protocols. These agreements contain mechanisms to establish what information the Tribe considers confidential and proprietary, who can access it, and how it can be used. These agreements are especially useful when information or data have cultural or religious significance. Despite efforts to ensure confidentiality of Tribal data and information, Tribes understand the vulnerability of Tribal information when in the possession of federal agencies. The confidentiality of information can be compromised under the Freedom of Information Act; therefore Tribes must be aware that any information that is provided by them may possibly become public information.

RESOURCE LANDSCAPE

Natural Resources

Wolf Habitat

Tribal lands in the southwest comprise a significant land area, amounting to over 27 million acres. A wide variety of habitats can be found on these lands, ranging from low elevation deserts to high elevation mixed conifer and sub-alpine forests, habitats that are certainly capable of supporting the Mexican wolf. Tribes that have the largest land bases, such as the Navajo Nation, San Carlos Apache, White Mountain Apache, and the Jicarilla Apache generally support a greater diversity of habitats.

Although it is not a question of whether Tribal lands could support wolves or other federally listed endangered species, the question that should be asked, is whether Tribes wish to engage in the conservation and recovery of endangered species, and to what extent and what level of involvement they are willing to accept. The assertion that Tribes are not concerned about endangered species is not accurate. Habitats that are important for species conservation may occur on Tribal lands and the possibility that listed species occupy those habitats is generally assumed by the FWS. The reluctance of Tribes to willingly provide information on habitat or the possible presence of listed species is the result of concern of the potential loss of management control of Tribal resources through the designation of critical habitat. Although it could be assumed that the majority of Tribal lands in the southwest could probably support wolves at some level, it is important to also understand from a Tribal perspective that these same lands are important for species that may have greater cultural/traditional significance.

In considering the availability of potential wolf habitat on Tribal lands it is important that federal agency resource managers acknowledge the importance of these same habitats for other beneficial land uses. Tribes must have the opportunity to assess their own lands and make management decisions for available habitat.

Land Management

An important consideration regarding Tribes' ability to manage for wolf recovery is the complicated jurisdictional framework that exists within many Indian reservations, especially those that have been compromised by non-Indian settlement or properties owned by Tribes that are not held in trust. Historical Congressional actions which opened Tribal lands to homesteading, created checker-boarded land ownership patterns divided wildlife management authorities among Tribal, federal, and state governments in adjacent parcels. Although sovereign authority empowers Tribes with strong control over wildlife management on their trust lands, the inability of Tribes to affect action on neighboring

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fee/private/public land can present significant challenges. This is especially true when the success of wildlife management actions hinges on strong jurisdictional control over vast areas of habitat (e.g., species reintroductions). Similar challenges exist in off-reservation settings, where some Tribes enjoy treaty rights tied to wildlife management, but wildlife management is strongly controlled by state government. Although Tribes' authority and ability to implement their wildlife management plans may be compromised in these scenarios, this does not mean they will resign from pursuing wildlife management and/or other interests. These challenges can lead to Tribes developing cooperative working relationships with state and federal agencies who share the same wildlife management goals.

Natural Prey Base

The overall distribution of Mexican wolves will likely be dictated by the availability of prey and it follows that any new releases to enhance the success of wolf recovery in the southwest will likely hinge on the availability of a natural prey base, including mule deer, Coues white-tailed deer, elk, pronghorn, and in a few cases bighorn sheep. While several Tribes in the southwest conduct periodic big game population surveys and update data routinely, most Tribes are not able to conduct population assessments on a regular basis; and in some cases Tribal lands have never had biological inventories or surveys conducted. Consequently the status of large natural prey is largely unknown.

A common concern among most Tribes may be the potential conflict between wolf predation on big game and traditional and ceremonial hunting practices that occur on Tribal lands. Conflicts could possibly intensify especially in situations where big game numbers are severely limited. In addition, the presence of Mexican wolves and predation on big game may possibly be of concern on Tribal lands that promote big game hunting enterprises.

The fact that wolves are opportunistic in terms of their prey can present concerns for Tribes and Tribal resource managers. By and large the most traditionally valued game species by Tribes throughout the southwest is the mule deer. Deer and their parts are used for religious ceremonies and other traditional practices. It is and has been clearly noted by deer biologists throughout the southwest that overall populations have declined over the last 3 decades, a trend that has affected many Tribal lands as well. Wolves released near Tribal lands are a concern too many Tribes considering the impact those wolves may have on the already low numbers of deer.

Conservation

Tribal lands offer some of the most pristine environments in the southwest and as such, provide habitat that supports a multitude of federally listed threatened and endangered species, as well as many species of concern. Tribes have been fearful of being unjustly penalized for maintaining large areas of undeveloped land that could be designated as critical habitat. To avoid these designations, Tribes are required to prepare management plans to receive deference on their lands and justify exclusion from critical habitat. The presence of endangered species on Tribal lands is perceived by some Tribes as a liability, a view commonly held by private land owners as well.

Tribes reject the notion that Tribal land and resource management priorities should yield to federal conservation policies that dictate and often revolve around endangered species protection and conservation, instead of assisting Tribes in fulfilling and promoting Tribal management goals, objectives, and priorities. Generally at issue is the original intended purpose of establishing Indian reservations, which was to support and protect remaining Tribal cultural and traditional values and practices; while sustaining economic livelihood for their members, as well as their unique sovereign governmental

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entities. Indian Reservations, in most cases are basically a remnant of the traditional lands relinquished to the United States and now serve as their only homeland. Short of exempting Tribes and Tribal lands from the ESA, incentives and alternatives need to be made available to Tribes that will allow them to continue setting their own natural resources management priorities in accordance with their own goals and objectives. Any incentive or alternative must carry with it maximum flexibility in applying them to Tribal lands. The Tribal community encourages the FWS to comply with Federal mandates to engage in adaptive management during the development of conservation incentives, especially when consulting with federally recognized Tribes. Because each Tribal entity is sovereign, Tribal goals and objectives vary, and each Tribe's level of engagement in wolf recovery will be different, and it is likely that incentives that may be appropriate for one Tribe may not be appropriate for another.

One of the primary concerns for Tribes is sustainable and realistic compensation for the necessary infrastructure, mitigation, monitoring, maintenance, and for other economic losses (including the take or destruction of property, pets, livestock, wildlife, and/or trophy game animals). Several other incentives that may warrant consideration include: hands-on proactive involvement and participation by Tribal biologists and technicians in all phases of data collection and management activities; training of Tribal personnel in all aspects of monitoring, data collection, analysis and other related wolf recovery activities; and use of FWS equipment or assistance in the purchase of new equipment to carry out wolf management work on Tribal land.

Tribal programs are often over-burdened and overwhelmed with the complicated requirements and stipulations under the ESA. Tribal resource managers are typically supportive of reducing the need for regulatory paperwork. A potential incentive that the FWS should consider is a reduction or relaxation of various ESA permitting and regulatory paperwork that does nothing to promote the recovery of T & E species. Instead, the FWS should consider incorporating administrative requirements under the umbrella of cooperative agreements or memorandum of agreements which address regulatory requirements, such as for "take permits". Many Tribes have raised issue with "Take Permit" requirements, especially when implementing T & E conservation activities on Tribal land, or carrying out strategies in accordance with Tribal sensitive species management plans. Objections commonly revolve around reporting requirements and submission of data considered by Tribes as confidential information.

Tribal Enforcement

Partnerships (Role of Tribal Conservation Enforcement)

In accordance with S.O. 3206, federal agencies (FWS) and Indian Tribes can enter into formal intergovernmental agreements in order to *"harmonize the Department's missions under the Act (ESA) with the Indian Tribes' own ecosystem management objectives"*. These agreements may involve candidate, proposed and listed species; and pertain to land and resource management, multi-jurisdictional partnerships, cooperative law enforcement and guidelines to accommodate Indian access to, and traditional uses of, natural products. Many Tribal fish and wildlife resource management programs maintain some level of conservation enforcement and enforce Tribal conservation laws, in accordance with Tribal approved Game and Fish Codes. The majority of these codes generally cover all fish and wildlife species that may occur on their lands and may also address federally listed species and "sensitive species". Tribal conservation enforcement officers have equal and local authority, and can and do serve a vital role in the protection of these species. S.O. 3206 further states in the Appendix, Sec. 3., (F) Law Enforcement (2) - that the US. Fish and Wildlife, at the request of an Indian Tribe can, *"cooperate....in enforcement of the Act by identifying opportunities for joint enforcement operations or*

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investigations. Discuss new techniques and methods for the detection and apprehension of violators of the Act or Tribal conservation laws, and exchange law enforcement information in general”.

Utilizing Tribal conservation officers, or Tribal wardens, to assist in protecting endangered species resources on Indian lands can have considerable benefits, not only to federal enforcement entities, but for Tribes as well. Formal agreements can establish protocols necessary to initiate appropriate actions, in the event enforcement actions are warranted for ESA. Tribal, Federal, and State conservation officers should have a clear understanding of their enforcement role. By having a proactive enforcement role, Tribes can have the opportunity to promote their sovereignty, while engaging in meaningful partnerships. Formal agreements can serve as an effective mechanism to improve and enhance Tribal conservation enforcement capacity.

Wildlife Codes

Tribal Wildlife Codes serve as the basis for conservation law enforcement on Tribal lands. Any person who enters into the exterior boundaries of Tribal lands is subject to these codes and to the jurisdiction of the Tribal Police and Game Rangers. Tribal wildlife codes are an important avenue for Tribes to exert their sovereignty and maintain the authority to manage their natural resources. Many Tribal wildlife codes directly address threatened and endangered species. These may include species that are federally and/or tribally protected. For Tribal conservation law enforcement, it may be easier to charge violators if there is a wildlife code in place. Therefore, it may be beneficial for Tribes that do not have codes that address ESA issues, to develop general wildlife codes.

Some Tribes may not wish to directly address federally listed threatened and endangered species due to unanswered questions regarding whether or not ESA applies to Tribes. However, those species may be indirectly protected by wildlife codes that reference unlawful take of any wildlife on the reservation except as provided in the codes. Another way to avoid directly addressing ESA is to designate all wildlife found within the exterior boundaries of the reservation as property of the Tribe, including resident and migratory, native and introduced species. Some Tribes have also developed their own lists of threatened and endangered species. These lists often include federally listed species as well as culturally sensitive species.

Management

Tribal Management Priorities

Conflicts can occur concerning Tribal priorities with regard to natural resource management, and the conservation and recovery of endangered species, a primary mission of the FWS. The underlying question generally is to what extent must Tribes “share the burden” for the conservation and recovery of federally listed species, especially in situations where management priorities conflict.

Each Tribe establishes its own priorities regarding the management of their natural resources. These priorities can vary widely, depending on the reservation’s diversity, size, location, cultural and traditional values, and the resources that occur. In the southwest, Tribes consider water a very high priority resource, due to its importance for municipal and commercial uses and because of its cultural significance. For example the Pueblos, which are located in the middle Rio Grande River corridor, consider water the life-line for many of their traditional and cultural practices. It is vital to sustaining their traditional agricultural practices. The listing of the Rio Grande Silvery Minnow in 1994 caused an immediate concern among Tribes because of the potential issue over the conservation need of Rio

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Grande River water necessary to sustain the minnow, essentially the same water needed by the Tribes to sustain their cultural and traditional values. Fortunately, despite several years of restricted low water recharge, decisions to balance water between ESA and Indian water rights have not been necessary; however, with recent trends that indicate declining precipitation events, potential conflicts between the ESA and Tribal resource priorities may yet occur.

The listing of the Northern and the Mexican spotted owls likewise resulted in all affected Tribes immediately raising concerns about the potential impacts the listing and the designation of critical habitat would have on Tribal timber management and logging activities. The fear of being forced to shut down or dramatically decrease timber harvest on Tribal lands was a serious economic problem. Tribes that had issues with the spotted owls consider timber management a high priority program that would have far reaching economic impacts on Tribal lands and communities, concerns and issues that were clearly in conflict with ESA.

In the case of Mexican wolves, Tribes may be put in a situation that requires a decision to potentially compromise traditionally important species and their habitat, such as deer, to aid in the conservation and recovery of a threatened and endangered species and its habitat, which may negatively impact the more culturally important species.

While these are only a few examples of the potential conflicts that exist between the application of the ESA on Tribes and Tribal lands and resource priorities vital to Tribal culture and their economic well-being, it is generally this issue that causes many, if not most Tribes to take up a defensive and distrustful posture toward the federal government. The notion that the ESA could potentially trump Tribal rights and management priorities on Indian lands is a valid concern and one that must be addressed if Tribes are to have a proactive role in assisting with recovery efforts for the Mexican wolf in the southwest.

Tribal Wolf Management Plans

Many Tribes have invested considerable efforts in developing both comprehensive and resource specific management plans. Others have invested time, money, and efforts in developing management plans for threatened and endangered species. Most, if not all, Tribal management plans that have been prepared for endangered species are developed to avoid designation of critical habitat. Over the years, Tribes have consistently used a provision in S.O. 3206 (Principle 3. (B)), that allows and encourages Tribes to develop conservation plans for listed species and in doing so are given "...deference to Tribal conservation and management plans for Tribal trust resources that: (a) govern activities on Indian lands,...and (b) address the conservation needs of listed species." While preparing conservation plans has been primarily in response to critical habitat designations, many Tribes have the capability and capacity to take a more proactive approach to endangered species conservation by developing ecosystem management plans that address a wide variety of resources and include culturally sensitive or endangered species. This approach can dramatically reduce the necessity of having to prepare species specific management plans for each listed species. Tribes that are able to engage in a proactive approach to endangered species conservation can potentially provide useful insight to endangered species conservation, including critical habitat designation and recovery efforts.

It would behoove Tribes to develop management plans for their lands, in close coordination with the FWS that would serve as guidance for the Tribe to closely manage wolves that are present on Tribal lands. The development of management guidelines could provide agencies that conduct activities on Tribal lands with strategies that could diminish any potential effects and conflict with wolves. Having

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guidelines in place would reduce the need to consult on every action and help strengthen and promote Tribal sovereignty, while easing the Tribes' sense of being overwhelmed by ESA.

It is a Tribe's decision whether or not to participate in the recovery of the Mexican wolf, a decision that requires considerable insight and a thorough assessment of the impacts of having wolves on Tribal land. Secondly it is important to have a strong commitment of resources to participate in various aspects of wolf monitoring and other recovery actions. Tribes understand that wolf recovery requires a long term commitment. Tribes that choose to participate in recovery efforts are encouraged to develop management plans that address specific management goals and objectives for Tribal land and in accordance with S.O. 3206 the FWS must "...be cognizant of Tribal desires to attain population levels and conditions that are sufficient to support the meaningful exercise of reserved rights and the protection of Tribal management or development prerogatives for Indian resources."

If Tribes decide not to participate in wolf recovery and the recovery process and FWS determine areas adjacent to Tribal lands are potentially suitable wolf release areas, it is important that Tribes in this situation be encouraged and assisted in developing a strategy/policy to help deal with wolves that may invariably move from transplant sites into adjacent areas, including Tribal land. Having a management or strategic plan in place to guide Tribes in dealing with potential wolf encounters would be useful and would assist Tribal resource managers in ensuring that any wolves that may relocate or travel through Tribal lands are protected, monitored, or handled appropriately.

Staffing Levels

Mexican wolf recovery and management requires considerable effort in terms of manpower and time invested. Whether a Tribe is actively engaged in wolf recovery or opposes it, management of wolves on Tribal lands is necessary. Each Tribe may determine their level of involvement in the recovery program and whether they would prefer to handle the management of wolves on Tribal lands or allow the FWS to. The level of involvement will dictate the number of personnel and funding necessary to complete the goals and objectives established by the Tribe. Recovery or removal of wolves on Tribal lands may include, but is not limited to, development of management plans, depredation investigations, trapping, vaccinating, releasing, relocating, tracking, monitoring, harassing, attending meetings, public outreach and education, and law enforcement.

Although the majority of Tribal natural resources departments are understaffed, most Tribes do have professional staff that is capable of managing natural resources on Tribal lands. With adequate funding and training from FWS, Tribes are more than capable of developing wolf management programs that meet Tribal goals and objectives. The number of wolves on Tribal lands will also play a major role in determining the amount of personnel needed. Low-density Mexican wolf populations may only require 1-2 individuals. In areas with medium-density populations it would require 2-4 trained individuals to manage Mexican wolves. For example, the San Carlos Apache Tribe does not currently have any resident wolf packs on the reservation; however, they do have packs that maintain a home range that occupies part of the reservation. San Carlos employs 1 technician to manage field activities such as monitoring and trapping, and 1 biologist to oversee the program, participate in middle management meetings, and write work plans and management plans. In established wolf areas, such as on the White Mountain Apache Reservation, 3 technicians and 1 biologist are responsible for monitoring, trapping, vaccinating, collaring, harassing, implementing action plans, investigating depredations, education, and outreach, working with partners, etc.; therefore, at a minimum, each Tribe within the recovery area would need at least 2 additional employees to manage for wolves. Tribes that oppose the recovery

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program and participate in the removal of Mexican wolves from Tribal lands still require 2 individuals to trap and relocate wolves. The more involved a Tribe is in the recovery program the more time, effort, and manpower will need to be invested. Whether FWS provides FWS personnel or trains Tribal personnel for wolf management on Tribal lands, FWS must be willing to provide funding for training, travel, equipment, vehicles, etc.

Funding Levels

A vast majority of Tribal natural resource programs have insufficient funding to carry out their own resource management goals and objectives. Therefore, Tribes are generally unwilling to redirect their limited resources to management issues that conflict with Tribal priorities that are federal responsibilities. While most Tribes rely on federal program dollars through the Bureau of Indian Affairs or through grants offered by other agencies, the amount of effort required to sustain these programs can be overwhelming and is a primary reason Tribal resource management programs experience fluctuations from year to year. Lack of stable, consistent, and secure funding is one of the primary reasons why Tribes are reluctant or unable to proactively engage in endangered species conservation, especially when the ESA directly conflicts with other important Tribal resource management priorities. Tribes typically feel they are left with the burden of implementing federal conservation measures without adequate resources. As Mexican wolf recovery is a FWS effort, fiscal responsibility for Mexican wolf management and recovery lies with the FWS. When estimating costs for Mexican wolf recovery FWS needs to include costs incurred by Tribes to manage wolves on their lands and implement a funding program for Tribes that is long-term and consistent. Tribes should not be pressured to engage in wolf recovery.

Training

Tribes generally have access to training opportunities that help to increase and improve management capabilities. Field oriented training should continue to be available to Tribes, through federal, state, and private entities, in techniques and methodologies involving biological data collection, use of appropriate sampling and inventory protocols, and data analysis. Funding should be available for Tribes to access training. In situations where Tribal resource management programs may not have adequate technical staff, agencies or other entities engaged in data collection activities should be encouraged to provide assistance to Tribes to gather scientific information specific to Mexican wolves and wolf biology. Most Tribal resource management programs generally lack specialized tools and equipment to conduct Mexican wolf data collection and removals. To help Tribes accomplish data gathering, functioning surplus equipment should be available to Tribes and/or opportunities provided to Tribal resource programs to have access to agency equipment by means of loans, or the purchase of equipment specifically for use by Tribes.

Tribes that wish to proactively engage in wolf recovery should have the opportunity to have resource personnel work directly with agency biologists to learn basic wolf biology, observation techniques, radio tracking, and other related data collection methods. To streamline training opportunities, though it would be best to provide training on a reservation by reservation basis for Tribes engaging in recovery, logistically it could be more efficiently accomplished by establishing a training “unit” specifically to work with and train Tribal resource managers and technicians. An ideal location for training on wolf management, research and other related topics could possibly be at White Mountain, because of the wolf management program that is currently in place. Other benefits would be the opportunity to gain the Tribe’s perspective regarding wolves and wolf management and observing firsthand the complexity

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of resource issues that potentially is dealt with on Tribal lands; and finally because the Interagency Wolf Management Field Team is located near White Mountain, access to biologists that are involved in actual wolf recovery could be arranged.

SOCIO/CULTURAL LANDSCAPE

TRIBAL CONCERNS WITH WOLF REINTRODUCTION

Traditional and Cultural Perspective

Each Southwestern Native American culture has their own oral history, cultural perspective, beliefs, and teachings of the wolf. Wolves serve a specific purpose for each Tribe. It is believed that the wolf served as a messenger, a good omen to hunters, served as spiritual being for traditional elders and in some cases is a specific clan for Tribes. Some historical accounts recognize the wolf being present within traditional homelands at one point in time, but it is unknown whether the Mexican wolf was the specific wolf which inhabited the southwest region, or if it was another species.

Mexican wolves are viewed differently among the Tribes of the southwest. Some have no strong cultural connection with the wolf, while for others, the wolf is extremely significant. Within a Tribe, wolves may be viewed differently by the youth than the elders or by members of different societies. For cultures that interacted with southwestern wolves prior to their extirpation from the U.S., whether or not the wolf played a significant role, there are mixed feelings about their reintroduction. One Tribe may feel that wolves had their place, but they left, and bringing them back would be unnatural, unless the wolves recovered by themselves. Other Tribes may feel that the lack of wolves has left the ecosystem in an unbalanced state and that the reintroduction will bring back that balance. Yet another may look back in their history and stories and indicate that the Mexican wolf is not the right wolf, and that their histories indicate that the “right” wolf looked, or behaved differently than the one proposed for reintroduction. There is no reason to discount any of these views, as all may be correct.

Dr. Sarah E. Rinkevich recorded the thoughts of Apache consultants on the wolf’s traditional role in their culture in her dissertation “**Cultural Significance of *Ba’cho*, *Ma’cho* (Wolf) to the Western Apache in Arizona**”:

“We know him as ba’cho. He was here before, and we Apaches learned to live him them. The same way as all the other animals like the bear and mountain lion; they are dangerous but the Apaches learned to live with them. And we learned from them [wolves] too, by watching them. Long time ago, Apaches would want to imitate the way wolves hunted, in packs, as in a team effort. The Apache people tapped into everything in the natural world in order to obtain knowledge. We learn from the animals. Long ago, people wanted to be like the wolf for ways of hunting, to be stealth-like.”

“He is very powerful to us. They are a person in that they have blood like we do, they breath air like we do, and their heart is pumping like our hearts pump. The wolf is a serious person in the way he carries himself and the way he hunts whereas the coyote and fox wait to scavenge.”

“He is a protector in a spiritual sense in that he comes to you and tells you of perils or dangers. They [wolves] tell you when there is danger. The wolf is very powerful and should be respected.

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In the traditional way, you don't mess around with dangerous animals, need to respect them and leave them alone."

"There is a difference between the modern wolf and the old wolf. The wolf that they brought back was not the wolf that was originally here. The wolf that is here is a relative to it. The one that was brought here was not the one that was here before, that one is gone, wiped out for good. We'd like the one that was here historically back."

Despite these differing and sometimes conflicting views, there are some general commonalities in the cultural worldview of many Tribes. In general, Native cultures interact with the natural world on a holistic level, with no one piece being more important than another. The focus on the needs of a particular species rather than on the whole is contrary to their ecosystem level understanding of the systems in which that species may exist. On the other hand, on a cultural level, excluding an individual species, when it may have played an important role in the ecosystem, would also not make sense.

The interconnectedness of all the natural elements, such as land, water and the animals, along with traditional and cultural values, are basic to Tribal existence. This cultural and traditional view of the environment is very much in line with the concept of ecosystem management. For Tribes, this approach has considerable benefits, one of which is the ability to address a wide variety of listed and non-listed species holistically rather than on a species by species basis. By addressing a broad range of species and habitat, the amount of effort and resources required can be minimized and for Tribes, many of which are seriously strapped for funding and technical staff, allows them to more efficiently allocate resource management efforts. A case in point, during the early to mid-1990's the White Mountain Apache Tribe proactively developed management plans for several species that were proposed for listing, including the Mexican spotted owl, Arizona willow, and the Loach minnow. In addition, plans were being contemplated for the Southwestern willow flycatcher and the Mexican wolf as a result of FWS actions for these species. The result of developing management plans that were species-specific led to extensive overlap of goals, objectives and strategies and added management complexities that were at times difficult for various resource managers to effectively carry out. The complexity of trying to implement multiple strategies can easily become burdensome.

In honor of this holistic view of the natural world and the wolves' potential place in it, it is important for the FWS to consider how the ecosystem has changed since the Mexican wolf left it, and how the introduction or reintroduction of the Mexican wolf will impact it. In addition, despite the holistic, or ecosystem approach Tribes generally accept and are guided by, it is important for non-Tribal entities to understand that in the practical sense many Tribes view the reservation boundary as the limit of their influence. It is also important to remember that although the cultural views and actions of the Tribes have resulted in ecosystems that are ideally suited for wildlife, these reservation lands belong first to the Tribal peoples, and are not wildlife refuges or parks to be taken advantage of by the federal government.

The proposed recovery plan should include formal consultations with traditional elders from each affected Tribe to address and consider each Tribes traditional teaching, as these historical accounts and traditions have been passed on, and have sustained Tribes for generations. Some specific teachings may not be shared with others, however, and can only be disclosed to specific individuals. To minimize

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potential affects and infringement on the Tribe's First Amendment Rights, early consultation with traditional elders is needed.

Economic Development

Land use practices vary widely on Tribal lands in the southwest and include grazing, oil and gas production, mining, timber production, recreation and various urban and rural developments. However despite these uses, large portions of Tribal lands are generally considered undeveloped. Traditionally these areas have served as habitat largely for culturally important fish and wildlife species and a variety of sensitive species, which may also include federally listed threatened and endangered species. Because large expansive areas of Tribal lands may appear as unused or undeveloped, it is important to clearly understand that these areas function and serve to meet cultural and spiritual needs that are vital to the well-being of each respective Tribe and some Tribes may be reluctant to change or modify their current land uses, especially if significant changes in the way they utilize and manage their land could result.

Throughout Indian country, economic development is a critical means by which Tribal governments can sustain their sovereign governmental functions and provide basic services and support for Tribal memberships. This is especially true at a time when federal trust obligations to Tribes are not being met due to shrinking political support and annual budgets for the U.S. Bureau of Indian Affairs. Therefore, Tribes are increasingly dependent on economic development of their homelands. The ability of Tribes to successfully pursue such activities is influenced by the federal regulatory environment in which they operate, including various environmental laws such as the National Environmental Policy Act (1969) and Endangered Species Act (ESA, 1973).

An expanded re-introduction effort for the Mexican wolf in the southwest potentially represents a new challenge to Tribal economic development primarily due to ESA-related protections on wolf habitat. There are many examples throughout the southwest where the ESA has threatened land-based Tribal economic development, including the impact of the Mexican spotted owl on Tribal commercial forestry, and the impacts of silvery minnow, humpback chub, razorback sucker, loach minnow, spikedace, bald eagle, and southwestern willow flycatcher on Tribal water use and development.

Domestic Livestock

A long tradition among Tribes in the southwest is domestic livestock grazing, in some cases serving as economic enterprises through the establishment of Tribal herds and cattle associations. Some Tribal grazing is carried out by individual livestock owners. Regardless of what system is in place, livestock are a historical use of Tribal lands. Tribal livestock owners are no different than livestock owners who graze private and public lands. They generally have a vested interest in the well-being of their livestock and strive to maximize production, as well as generate revenue. Livestock owners clearly understand the vulnerability of grazing on the open range and the potential hazards they are typically prone to, especially regarding depredation. Livestock owners generally accept minimal levels of depredation; however, as depredation rates increase the typical response is to address the problem. Depredation of most Tribal livestock is believed to be a result of mountain lion, black bear, and coyote, especially on calves. The addition of another potential predator would certainly be a major concern among the Tribal livestock industry.

Some Tribes or Tribal members may use livestock as a means of subsistence. Thereby, the loss of one or a few livestock to depredation can be detrimental. Although there are several depredation

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compensation programs available, many livestock owners believe that these programs do not compensate for full impact predators have on livestock and/or may not be willing to go through the often detailed and time consuming process to apply for reimbursement. Many Tribes are also distrustful of federal compensation programs and would prefer that the Tribes manage their own depredation compensation programs.

Captive Game Species

Several Tribes manage big game under fence, promoting hunting enterprises, as well as intensive captive breeding programs. Wolf recovery efforts near Tribes with captive big-game populations create extensive management concerns, as predation on even a single animal carries serious economic damages. For example, restitution could easily reach \$25,000-\$50,000 for a single high quality breeding animal. Tribes with captive populations also often operate intensive breeding programs to augment hunted populations, with significant costs and inputs to ensure trophy quality. These programs require a considerable amount of investment in time and resources for them to be successful; accordingly these programs also require a relatively high level of security from such things as predation and other related concerns. Tribes that engage in these sorts of resource management activities may raise issues regarding the potential impacts on resources from wolves that could trespass in existing enclosures. These enclosures are not currently designed to be predator-proof, so wolves could potentially have access to captive game and consequently create serious issues. Although modifying existing fences may be possible in some cases the question remains of who would be or should be responsible for the cost of fence modification. Although there are several depredation compensation programs available for livestock, Tribes with captive big-game programs believe that these programs would not compensate for full market value of wildlife, and would likely pursue full restitution for animals killed by wolves.

Big Game Populations

Big game animals, especially mule deer, are culturally and traditionally important to many, if not all Indian Tribes in the southwest. Other game species such as whitetail, pronghorn, turkey, bighorn sheep, and elk are also important, but may not be held in the same reverence as mule deer in many of the Indian cultures. Despite the significance of various large game species, which may also be potential prey for Mexican wolves, Tribes consider all wildlife relevant and important in sustaining the overall health of the ecosystem. Some Tribes consider the wolf as a culturally important animal.

All southwestern Tribal lands maintain populations of one or several big game species and their populations can vary based on a number of factors, including the size of the reservation, the diversity and health of habitats that occur, the geographic location of the reservation, and often their management capacity.

Tribes such as the White Mountain Apache, San Carlos Apache, Navajo Nation, and the Jicarilla Apache, encompass large acreages of reservation lands that support diverse habitats and support healthy populations of big game. Each of these Tribes have well established hunting enterprises that are well known in the professional hunting circles and the overall success of these programs generate revenues that are important to the Tribes and contribute to managing and protecting their natural resources. Apart from trophy hunting opportunities these Tribes offer, ensuring hunting opportunities for Tribal members is generally first and foremost because of the cultural and traditional significance that hunting serves. Some Tribal member hunting can be considered subsistence hunting.

Tribes that operate trophy hunting programs normally conduct periodic efforts to survey big game populations that occur on Tribal land, some on an annual basis and others as funding allows. Population

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surveys and big game numbers can and should serve as an indicator to assess the feasibility of successfully supporting Mexican wolves on Tribal lands. FWS shall ensure that Tribes that wish to engage in recovery efforts on their lands understand that current levels of big game may experience significant changes in their distribution, numbers, and quality. If big game populations were to decline it is apparent that Tribes that maintain trophy hunting programs would be forced to make important management decisions that could have significant detrimental economic impacts, while also directly affecting Mexican wolf recovery. Other Tribes that manage primarily for Tribal member harvest would none the less be impacted by lower populations of game. If big game numbers decline the overall success of Tribal hunters could decline and potentially compromise cultural, traditional, and subsistence harvests. These are important, as well as difficult, decisions Tribal resource managers and Tribal leaders could be required to make in situations where Mexican wolves were present and had negative impacts to game numbers, a situation that could be magnified for Tribes that have a smaller land base and/or low big game densities.

Forest Management

For most Tribes, respect for the natural world is rooted in a tradition of environmental stewardship. Many Tribal forestry programs continue this deep-rooted traditional practice by planning and implementing natural resource management plans that work toward healthy landscape conditions. Therefore, many Tribes combine a variety of management techniques such as prescribed burning, thinning, planting, and commercial timber sales. As a result, forests on Tribal lands are often healthy and productive. Restrictions on how Tribes can manage their forest resources would not only undermine Tribal sovereignty, but would preclude Tribes from maintaining sustainable forest resources. Harvesting trees is an important part of forestry management and improving forest health. For some Tribes, commercial timber harvest is a significant source of revenue, with some of the larger Tribes generating over \$1,000,000.00 annually. This money usually goes back into Tribal forestry management and is also often used to supplement other Tribal departments. For Tribes with largely forested reservations forest management and timber harvests may be the main industry generating numerous jobs for Tribal members. In economically impoverished populations, this type of industry can contribute significantly to a Tribe's ability to provide for its people. Restrictions on if, where, and/or how a Tribe can harvest timber could severely cripple Tribes that rely heavily on these resources for employment and revenue.

Many Tribal forest resource programs permit wood-cutting for home use. Many Tribal members rely on this to heat homes, cook, build fences and homes, and for ceremonial use. Some Tribes may also allow Tribal members to sell wood by the cord or stack. Limitations on tree harvesting, whether for commercial or personal use, would impact the ability for Tribal members to provide for themselves.

Recreation

Many Tribes in the southwest benefit financially from recreation programs. Because Tribal lands are mostly undeveloped, reservations provide a large expanse of outdoor recreational opportunities. Therefore, many Tribes are concerned about human safety and how populations of Mexican wolves may impact recreation on Tribal lands. There have been several documented cases of released Mexican wolves that have become habituated to humans and frequent areas of high human activity, i.e., houses, towns, etc. The same concerns exist in regards to recreation sites and campgrounds. Because many of these sites are in remote locations, there is a higher likelihood that human/wolf interactions will occur. Whether those interactions are positive or negative depends largely on the individual human and wolf; however, because both are unpredictable, Tribes may not be prepared to adequately address each

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situation. Some Tribes are currently overburdened with other human/predator recreation conflicts, such as bears in campgrounds, and may not have the resources to address additional predator/human recreation concerns. Many Tribes have recently felt the economic impacts of catastrophic wildfires and have been forced to shut down recreation sites due to flash floods, erosion, and unsafe conditions resulting in significant financial loss. The presence of Mexican wolves could have a similar impact if Tribes are forced to close recreation sites due to the proximity of a den, the presence of a genetically valuable pack, aggressive or habituated wolves, etc. Spread of diseases such as parvo and canine distemper virus around recreation sites and within the communities may also be a concern. On the other hand, the presence of Mexican wolves may raise interest in recreation on Tribal lands if there are opportunities to interact with wolves through wildlife viewing, wolf tracking, wolf howling surveys, or similar ecotourism opportunities. These opportunities would require substantial financial support from the Tribe to develop and sustain such programs; funding that may be currently allocated to other important resources such as emergency services, education programs, hospitals, diabetes prevention, or other higher priority programs.

ISSUES TO ADDRESS FOR IMPROVED COLLABORATION WITH TRIBES

Education and Community Outreach

One of the most crucial elements of Mexican wolf reintroduction and recovery will be education and community outreach. This effort is just as important to Tribal communities as it is to private landowners. Although some communities may have historic or cultural knowledge of wolves, perceptions of these top predators have changed over the years. Reeducation will go a long way in mitigating community concerns with Mexican wolf reintroduction efforts.

Community outreach should be as broad as possible; many Tribes, let alone Tribal members, do not have the resources to travel great distances to attend a joint meeting at the FWS's convenience. Demonstrating a willingness to put forth the effort to meet with many small groups, on the many reservations will be necessary to gain any support from the Tribal communities.

At a minimum, community outreach needs to educate the Tribal public on several issues, including:

1. Why reintroduction is occurring;
2. What the role of the federal government and the FWS is in the process;
3. How consultation on the process will occur with the Tribes;
4. What the role of the Tribes are in the process;
5. What the steps are in the reintroduction process;
6. Basic wolf biology, ecology, and demography; and
7. Potential threats, costs, and benefits to reintroduction

At the same time, concerns about the impact of wolves on the health and safety of the communities and their livelihoods will need to be addressed, as well as the political misinformation that frequently arises from the extremes at both sides of the spectrum.

Although it may be easy to reincorporate Mexican wolves into the cultural world view of many Tribes, not all of them are or will be in support of the reintroduction or recovery efforts. Economic influences play a strong role in the decision making process of most Tribes. The potential loss of income from lost livestock or hunting revenues and how those Tribes will be compensated for those losses will be a critical message to bring to the people for them to be comfortable with the risk.

Finally, the majority of Tribes, if not all, have concerns about the US Federal Government forcing them to accept things on sovereign Tribal lands. This concern, resulting from extensive experience will probably be one of the hardest to address, but if approached honestly, and humbly, may pay the biggest dividend.

Population Management and Monitoring

Tribes that participate in wolf recovery should clearly understand the importance of monitoring wolf numbers should they become established on Tribal lands, even if opposed to wolf presence. Although it is ultimately the responsibility of the FWS to oversee population monitoring activities, Tribal resource managers must be closely apprised of population trends and distribution on Tribal lands. Tribal managers must remain engaged in the monitoring process as well in order to keep Tribal leaders informed of changes in wolf populations, and locations and the potential changes in wolf management

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that could result. In other words, if numbers increased beyond established population objectives, management could possibly call for reducing numbers, or if numbers were to dramatically decline, following population establishment, management efforts could potentially call for strategies that would assist to increase numbers, including possible releases.

Prior to engaging in wolf management on Tribal lands it is imperative that Tribes seriously consider and weigh the benefits of allowing wolves to occupy their lands by considering various factors, including but not limited to the following: the importance and level of livestock grazing, including the class of livestock; acres of unoccupied Tribal lands, which include a wide variety of habitat such as high elevation montane habitats consisting of mixed coniferous forest, pinyon/juniper habitat, and extensive rangeland habitat; type of land use that occur on the landscape; overall health of the reservation big game population, especially mule deer and elk, if they occur; road density and level of human activities, including outdoor recreational uses; it is also important to take into consideration adjacent land owners and their perspective on wolf management and recovery.

An assessment of these and other factors should assist Tribes in determining the feasibility of supporting wolves on their lands and secondly, working closely with FWS, it is important that Tribes establish wolf population goals and objectives acceptable to the Tribe and biologically sound.

Wolf Conflict Management and Predator Control

Tribes have the inherent authority to manage predators, including wolves, on their lands. Many Tribal wildlife management programs carry out predator control activities on Tribal lands and if Tribes, or a Tribe decides to participate in wolf recovery, it is highly likely that it may create management conflicts. Predator control is primarily conducted to address impacts on livestock and in certain situations to assist in improving big game populations, especially mule deer, which is a culturally significant species. It is important that Tribes continue to have the flexibility to maintain a level of predator management in order to address specific problems and assist in non-wolf related livestock depredation. Problem predators may involve coyotes, black bear and mountain lions; and in some cases feral dogs. Because Tribal livestock owners generally have considerable influence, both politically and traditionally, it is imperative that predator related issues are addressed in a timely manner. Also, because potential wolf depredation can be controversial when it involves livestock, Tribal resource managers will need to be assisted and trained in identifying signs and evidence of wolf depredation if wolves occur on Tribal lands. Secondly Tribal resources managers will require training on how to address and handle potential depredation issues, first in effectively working with livestock owners and secondly by ensuring that mechanisms are in place that will quickly resolve depredation problems that may involve wolves, including compensation and removal programs. These procedures outlined in management plans or policies should be in place prior to placing wolves on the ground.

With respect to non-wolf depredation issues, Tribes that maintain proactive predator management programs have the authority to continue these activities or to develop programs if the need arises. These programs typically involve a small staff of individuals that carry out the work, therefore, control efforts are generally performed on a case by case basis and generally affect small localized areas; and generally cease once the problem is resolved. Tribes can and should be able to continue control efforts. To ensure that non-wolf predator control is carried out in an appropriate manner it will be necessary for FWS to provide training to Tribal personnel engaged in predator control work and assist them in modifying or utilizing control methods that will protect non-target species, especially in areas where wolves are confirmed to be present.

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Allowing wolves to occupy Tribal lands will be contentious, especially on reservations that have large livestock operations and therefore will require considerable coordination. It will be imperative that a compensation plan be in place that is accepted by livestock owners; and a process that will resolve depredation problems in a fair and timely manner.

The FWS, in cooperation with the National Fish and Wildlife Foundation (NFWF), established the Mexican Wolf /Livestock Interdiction Trust Fund (Interdiction Trust Fund) on September 23, 2009. The objective of the Interdiction Trust Fund is to generate long-term funding for prolonged financial support to livestock operators within the framework of conservation and recovery of Mexican gray wolf populations in the Southwest. Funding will be applied to initiatives that address management, monitoring, and other proactive conservation needs for Mexican gray wolves as they relate to livestock, including alternative livestock husbandry practices, grazing management alternatives, livestock protection, measures to avoid and minimize depredation, habitat protection, species protection, scientific research, conflict resolution, compensation for damage, education, and outreach activities. In April 2011, the FWS appointed an 11-member Interdiction Fund Stakeholder Council (Stakeholder Council), which includes a member from both Tribes currently affected by the reintroduction program, has the authority to identify, recommend, and approve conservation activities, identify recipients, and approve the amount of the direct disbursement of funds to qualified recipients. This Council is responsible for developing a formula that better addresses the concerns of livestock operations with the goal of building tolerance. If future Mexican wolf populations are established outside of the current recovery area, at least one (1) Tribal representative from each recovery area shall be appointed to the ***“Interdiction Fund Stakeholder Council.”*** Tribes may also develop their own interdiction and compensation program to handle wolf related depredations on their lands through funding agreements with federal/state agencies.

10(j) Considerations on Tribal Lands

Wolves have been released within the current recovery area in New Mexico and Arizona since (1998) and are considered a Non-essential Experimental Population, under the 10(j) rule. Under this rule, individual wolves in the populations (C)(i) are treated as a threatened species for purposes of Section 7 and are considered (B) to be not essential to the continued existence of the species. Under (C)(ii), critical habitat shall not be designated for any experimental population.

It is important that Tribes clearly understand the implications that come with the designation of the population, especially those planning to proactively participate in wolf recovery. If proposed releases occur, 10(j) may be in a Tribe’s best interest and would offer considerable flexibility in terms of managing wolves on Tribal lands. It is also important to note that there are some national parks/monuments on Tribal lands and the FWS will need to clarify the status of Mexican wolves that enter those areas with regard to 10(j). When 10(j) boundaries are designated, the FWS needs to consider geographical configuration of Tribal lands and consult with Tribes.

The presence of wolves on Tribal lands will undoubtedly result in additional Section 7 consultation requirements and may consequently lead to additional consultations for actions of federal agencies that carry out activities on Tribal lands. Tribes must also be cognizant of any potential take related issues that could arise on their lands and should ensure that appropriate partnerships and processes are in place to quickly address and resolve potentially sensitive situations.

Tribal Perspectives on Mexican Wolf Recovery

Wolf Releases

In order to establish additional Mexican wolf populations and ultimately recover the Mexican wolf in the southwest, the FWS will likely engage in new wolf releases in certain areas of the southwest, in accordance with recommendations that will be presented by the Mexican Wolf Recovery Team. Tribal lands that occur in or near potential reintroduction areas may be asked to participate and could even serve as potential “ground – zero” release sites. If this were to occur it is important that the FWS ensure that the Tribe has a clear understanding of the commitment and responsibility that will be required if wolves are released on Tribal lands. If a Tribe is interested or considering serving as a release site it is essential that a wolf management plan be developed prior to wolves being released on Tribal land and a memorandum of agreement or cooperative agreement be developed. **The White Mountain Apache Tribe has worked under a cooperative agreement with the FWS that could possibly serve as a model.** FWS needs to also ensure that in cases where Tribes oppose wolf releases, government to government consultation is conducted with impacted Tribes. Because wolves are wide ranging and any release on or near Tribal lands would require FWS to consult with affected or potentially affected Tribes.

CASE STUDIES

Wolf Management on Tribal Lands

Over the last 20 years many Tribes in other regions have proactively engaged in wolf management and recovery, including Tribes in the Great Lakes region, the Nez Perce in Idaho, Salish Kootenai and Blackfeet in Montana and the Shoshone and Arapahoe Tribes in Wyoming. The Nez Perce Tribe was instrumental in helping in recovery of the northern gray wolf by serving as the lead entity in coordinating wolf management activities in Idaho. A primary factor in the Tribe’s involvement was the close cultural significance of the wolf and the cultural ties the Tribe has with the wolf. Other Tribes in the northern Rockies have taken a more reserved approach to wolf recovery and have developed Tribal wolf management plans that address the presence of wolves that may eventually find their way on to Tribal lands.

Through discussions about wolves and wolf reintroduction with Tribal communities and stakeholders, there are a number of concerns that could be addressed with additional research. Some of that research may be time consuming and site specific; however, the information would go a long way in assisting individual Tribes in determining the extent to which they would like to participate. The majority of these studies involve further development of the ecological understanding of the specific impacts to existing wildlife species populations, distributions, and movements; this research should include both prey and predator species. Many of these studies would be interconnected, and reflect the holistic nature of the ecosystem and Tribal world views.

History of Mexican Wolf Management on Tribal Lands

With the 1998 release of Mexican wolves near the borders of the White Mountain Apache and San Carlos Apache Tribes, it was inevitable that both Tribes would be impacted. Although only separated by a river, the positions that each Tribe has taken vary drastically. Below is an account from each Tribe on their experiences with the Mexican wolf recovery program and how each Tribe responded to the reintroduction effort.

Tribal Perspectives on Mexican Wolf Recovery

White Mountain Apache Tribe

The last naturally occurring Mexican gray wolf was removed from the reservation in the 1960's by a government trapper near Cibecue, Arizona. With the judicial settlement calling for the recovery of the wolves, wolves were released into the reintroduction area just east of the reservation in March of 1998. Because of the prime habitat and prey base for wolves available on the reservation, a presentation was made to the Tribal Council advising that wolves would be coming onto Tribal lands. The first Mexican wolf was monitored on the reservation in June of 1998. A Mexican Wolf Task Force was established for the evaluation of the potential impacts and benefits of wolf presence in July 1998. The Tribe chose to participate due to the following reasons: 1) wolves would be on Tribal lands because of the habitat and prey base and FWS is under a Federal court settlement to release and recover wolves, 2) wolves were here in the past and part of the land and the culture of the Tribe, 3) this is a sovereignty issue; the land and all of its resources should be under WMAT management, 4) response time is better when the Tribes' own field team does daily monitoring, depredation investigations, follow-up on sighting reports and incidents, 5) as one of the lead agencies, the Tribe has an equal voice for management and participation in reintroduction decisions that may affect WMAT, 6) there is depredation compensation funding for losses incurred by wolves with interdiction and incentive funding in the works, 7) federal funding provides employment for Tribal staff and outside funding has provided for education, outreach, and equipment, 8) economic benefits have started an initial ecotourism program (Apache Wilderness Journeys). In August 1998, a resolution was adopted by the Tribal Council to develop a Cooperative Agreement with the FWS for the management of wolves on White Mountain.

The WMAT-Mexican Wolf Management Plan was completed in February 2000 and was accepted by the Tribal Council and the USFWS. A Cooperative Agreement was developed with the FWS to train a Wolf Biologist in September 2000. The comprehensive Cooperative Agreement was signed by FWS after being approved by the White Mountain Apache Tribal Council March 2002. In January 2004, there was a resolution and an MOU signed, establishing the White Mountain Apache Tribe as one of six lead regulatory agencies for wolf reintroduction.

The first naturally occurring wild wolf pack was formed on the Reservation in February 2001 from 1 wild born pup (Hawks Nest Pack) and 1 released pup (Francisco Pack). After the first year of wolf presence, and again following review by the Wolf Task Force, a resolution was passed in May of 2003, allowing the release of a wolf pair with pups. The pack was released in June 2003. The female alpha was lost to a lion kill and another female was released to bond with the alpha male; this didn't happen and the released wolf was removed for nuisance behavior. The alpha male bonded with an un-collared, unknown wild-born female wolf, denned, and had pups near the original release site in April of 2006. In May 2006, the entire pack with pups were removed at Tribal Council's request and transferred to USFWS personnel because of their involvement in multiple depredations. Since then, several packs have formed on the reservation, some have dispersed after losing one of the alphas, some packs are on and off the reservation seasonally, and some have established ranges entirely on the Reservation. Current observations have been made of additional paired wolves, as well as single wolves. Depredation incidents have been infrequent. The program pursues tolerance through cooperation with the livestock associations by providing ear tags and equipment, grant funding for extra stockman/monitors, outreach and educational presentations, and development of funding for interdiction and incentives.

Tribal Perspectives on Mexican Wolf Recovery

The Tribe's main management goals include: 1) capture and collaring of at least half of the members in each wolf pack (especially un-collared packs), 2) investigation of all potential livestock depredations, 3) respond to sighting reports and checks of historical locations, 4) monitoring of known packs and animals, 5) continuation of education and outreach, 6) participation in working-groups on policy and adaptive management issues for wolf reintroduction and recovery under the WMAT/FWS Cooperative Agreement, the WMAT-MW Management Plan, and Statement of Relationship/Information Protocol. The benefits seen by the Tribe at this time include: 1) protection of sovereignty by having a Tribal program with the capacity to pro-actively manage a controversial predator with Federal and State cooperation instead of interference or passivity, 2) protection of a species with cultural and intrinsic value that were on the land historically, 3) funds to provide for a Tribal program and employment for Tribal member staff, 4) positive recognition for the Tribe and Tribal programs on local, State, and Federal levels, 5) protection from potential litigation, 6) ecotourism development and economic potential for the Tribe and the Wildlife & Outdoor Recreation Division, 7) opportunities for funding and equipment from agencies and outside entities, lessening the financial burden on livestock associations, and 8) immediate response to issues by Tribal program employees that are familiar with the land, resources, and the language and culture.

Potential costs have been minimal for depredation of livestock with compensation mitigation first from the Defenders of Wildlife program and now from federal funding provisions under the Stakeholder's Council. There is the potential for impacts on trophy elk and other big game species; mitigation measures can be carried out by our own management personnel (moving or removing wolves, supplementary feeding near den sites, livestock monitoring, hazing, etc.). Compensation for wildlife losses is being discussed, should losses occur. While threats to people and pets are possible, it is felt that it is fairly unlikely per observations of wolves on the Reservation from the past 14+ years. Our own team can respond immediately, acting under accepted protocols from our Management Plan. So far, there have been no significant impacts to overall big game population numbers (per yearly surveys, animals have been moved by wolves, but also rotate back to areas). No person has been injured or seriously imperiled by wolves on the Reservation. Reports of conflicts between wolves and pets have not been frequent and no deaths of pets have been reported.

A public opinion poll/survey was done in 2007 prior to the Tribe's signing of the 2nd Cooperative Agreement with FWS. Survey forms were sent out to all Tribal members 18 years and older. Most of those responding said that they had never seen a wolf, but believe that they were on the Reservation in the past. Most believe that the land and all plants and animals are of equal value and are not aware of cultural connection to the wolves specifically. The majority of Tribal members responding say they do not hunt and of those that do hunt, only a small percent have had hunts impacted by wolves. The majority of responders say they do not own livestock and of those who do, only a small percent have had wolves affect their livestock. Most Tribal member responders say they do not know if wolves have any economic impact on the Tribe.

The 2nd Cooperative Agreement (5-year) was approved by Tribal Council and USFWS in 2008. A new financial system was set up by FWS which required a new agreement in 2012 and this was also approved by WMAT and FWS (2012-2016).

Since their initial 2000 agreement with the USFWS, the WMAT has been an active participant in the Mexican Wolf program, but it has not always been a smooth path, nor unopposed.

Tribal Perspectives on Mexican Wolf Recovery

San Carlos Apache Tribe

The primary release zone established in the Blue Range Wolf Recovery Area (BRWRA) is located just east of the San Carlos Apache Reservation (SCAR). Because the San Carlos Apache Tribe (SCAT) has spent considerable effort managing for cattle and trophy elk, which generates substantial revenue, there were concerns about the impact wolves may have on livestock and ungulate populations. Therefore, in 2000 SCAT motioned in Special Council that they would not participate in Mexican wolf reintroduction and required the removal of wolves at the Tribe's request.

In 2002, during a 5-month period, 5 wolves were documented on SCAR (USFWS 2002). Four of these wolves were trapped, collared, and then released on site, rather than being removed. Only one of the wolves was removed, however, not until after its third capture. In response to FWS not abiding by the Tribe's requests, the Tribal Council adopted a Resolution on December 11, 2002 opposing the reintroduction program and requiring the removal of wolves from the reservation.

In 2003, SCAT entered into a Cooperative Agreement with FWS for wolf monitoring and management which included non-lethal removal. The Tribe received \$20,000.00 annually to operate a wolf management program on the reservation. Over the next several years numerous wolves were documented or monitored on SCAR however, only a handful were trapped and relocated, mostly by FWS staff. Although the amount of financial support increased to \$40,000.00 annually, SCAT was apprehensive to spend the money or participate in Mexican wolf management or IFT meetings in fear that it would be viewed as contributing to the reintroduction efforts. As a result, SCAT was regularly disregarded in decision making, uninformed about decisions and management actions, and rarely afforded the opportunity to express its views or needs. When surplus funding or equipment was available, SCAT was commonly forgotten. In 2003, the FWS hired a Tribal member part-time to monitor wolves on SCAR. Although several wolves were trapped and relocated over the years, employees learned how difficult it was to trap wolves, and most attempts to do so were unsuccessful. At meetings, the employee was often viewed as representing the Tribe; however, as a FWS employee this was not how the Tribe viewed it.

Due to concerns about cattle losses to Mexican wolves and other predators the Tribe passed a Resolution in 2006 to implement a Tribal Wildlife Grant from FWS to assess cattle mortality in areas with Mexican wolves, coyotes, bears, and mountain lions. Over 200 calves were fitted with radio ear tags that emitted a signal when the calf did not move for 24 hours. Trained staff investigated the mortalities and determined cause of death. Coyotes and mountain lions were mostly responsible for the depredations. There was only one documented Mexican wolf kill. Unfortunately, data from this study were not used to modify husbandry practices to decrease depredations from any predator. In 2009 SCAT passed a Resolution allowing a PhD student to investigate and assess prey selection patterns of Mexican wolves and other predators on the Reservation by scat collection and to describe Western Apache views on Mexican wolves. However, no wolves were identified in the scat that was collected. Therefore, it was impossible to determine and describe the wolf population on SCAR through DNA analysis.

During this time, the Tribe's relationship with FWS remained contentious and strained. Invitations to and representation at meetings were intermittent. However, after several years of employee turnover,

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the Tribe hired two biologists in 2009 that believed it would be to the Tribe's benefit if they were represented at Mexican wolf related meetings to provide Tribal input and to stay informed of decisions and management actions. It would be in SCAT's best interest to develop their own wolf management program to monitor wolves and ensure their removal from the reservation. Utilizing funding from FWS through the Cooperative Agreement, two Tribal member wolf technicians were hired to carry out the following duties: track and monitor wolves using radio telemetry, scat, tracks, and GPS, collect scat for DNA analysis, install and monitor camera traps, map wolf locations, maintain daily logs of areas searched, and report wolves on SCAR to the Tribe and FWS for removal. One biologist oversaw SCAT's Mexican Wolf Management Program and participated in IFT meetings but no portion of that salary is covered by FWS even though approximately 50% of the duties are Mexican wolf related.

Although the Tribe became more involved with the Mexican wolf recovery program they maintained their stance and continued to oppose the program. However, by having more of a presence in the program, SCAT was included in more proposals, decisions, meetings, and trainings. That is not to say that the Tribe's comments are always executed. In 2012, the Tribe was asked to comment on a proposal to remove the alpha female from the Rim Pack which share part of their home range with the reservation and to release another female or pair within the Rim Pack's home range. The Rim Pack has not been implicated in many depredations and has been a relatively low problem pack. Efforts to trap and relocate the pack off reservation have been unsuccessful. When relocated, they have made their way back to the reservation within a week. The Tribe submitted comments boldly expressing their opposition to removing the alpha female in fear that the introduction of a new female or pair and a change in pack dynamics may result in depredations and/or expansion of their range on SCAR. Despite the Tribe's opposition, FWS moved forward in January 2013 with the removal of the alpha female.

CONCLUSION

It is imperative the FWS recognize and acknowledge Tribal sovereignty when implementing the recovery goals of the Mexican wolf in the southwest. Tribal land base in the southwest is enormous and constitutes a large part of the recovery area for the Mexican wolf. It is impossible to represent all Tribal views in this Perspective, and this is not the intent of this paper. It is the FWS's responsibility to carry out the intent of Secretarial Order 3206 and engage meaningful consultation with all Tribes impacted by federal decisions related to the recovery effort of the Mexican wolf, and to do so early in the process and continue throughout the recovery planning and implementation phases of the project. Each Tribe is unique in governmental organization and structure and some work directly with their Tribal councils, or others work indirectly, to enhance Tribal wildlife resources. The FWS is responsible for ensuring that Tribal interests are considered prior to making Mexican wolf recovery decisions that affect Tribes. Many Tribes in the southwest have developed capabilities to manage Tribal wildlife resources on their lands without federal/state interference, and meaningful consultation with Tribes will only serve to enhance a productive and trusting working relationship. It is difficult to determine how many Tribes support Mexican wolf recovery and how many Tribes oppose it; however, Tribal interests, recommendations, and positions should be a major consideration with making decisions in the recovery effort of the Mexican wolf in the southwest. Tribes have inherent authority over wildlife resources on their lands and are the decision makers for Mexican wolf recovery and management efforts on their lands. With the expansion of the Mexican wolf reintroduction area more Tribal lands will be affected. Therefore, when FWS estimates the total costs for Mexican wolf recovery it is necessary that the FWS allocate appropriate funding for management costs and impact mitigation costs to each Tribe.

RECOMMENDATIONS

- All agencies should err on the side of consulting and communicating with Tribes **prior to taking action**, rather than assuming an action will not affect a Tribe
- FWS to designate and fund 1 southwestern Native American representative to serve as Tribal Liaison for the Mexican wolf program
- There should be a representative for each potentially affected Tribe on the IFT for each release area
- FWS to conduct timely government to government consultation with potentially affected Tribes on all recovery and reintroduction actions
- Federal mandates such as this recovery is the responsibility of FWS and therefore adequate funding should be provided to potentially affected Tribes to carry out wolf management, whether or not Tribes participate in the recovery program; FWS should fully fund training, employees, and equipment for Tribes that are affected by Mexican wolves
- Greater efforts and more positive dialogue must be initiated and continue between the FWS and Tribal entities to build trust and effective working relationships
- Understand that each Tribe is a sovereign nation and should not be regarded as the general public
- Understand that each Tribe has its own government, culture, and traditional beliefs which dictate resource management and thus should be consulted with individually
- DOI to earmark or appropriate funding for Tribes to implement wolf management
- Ensure that Indian lands and resources are protected and maintained for their exclusive use
- As trustee, the United States must ensure that the purposes for which reservations were created are not undermined and the fiduciary obligations that arise from the trust responsibility must be met by all federal agencies and in a manner that does not interfere with Tribal rights
- All DOI employees should familiarize themselves with the purpose and intent of SO 3206 and should have appropriate training and knowledge in Tribal communication protocols
- FWS shall provide potentially affected Tribes adequate opportunities to participate in data collection, consensus seeking, and associated processes
- FWS shall strive to ensure that Indian Tribes do not bear a disproportionate burden for the conservation of listed species, so as to avoid or minimize the potential for conflict and confrontation
- Tribes must be kept involved and informed at all levels and treated as equal partners
- Tribes must be involved at the earliest stages of any planning process that could potentially affect Tribal trust resources
- FWS shall ensure that the timing is appropriate for Tribal participation
- Because wolves are expected to be relatively wide-ranging and may occupy areas outside primary recovery zones, all Tribes within the five state region, including, Arizona, Utah, Colorado, New Mexico and Texas, should be invited to participate and engage at some level
- Formal agreements must be based on principles of Tribal sovereignty and federal trust responsibilities
- Federal entities must understand that Tribal decisions often require considerable internal consultation with traditional and cultural leadership
- Federal agencies must recognize and acknowledge Tribal expertise in natural resource management

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- FWS needs to ensure Tribes the prerogative to prioritize and accomplish their own resource management goals and objectives
- Federal agencies need to understand and realize that Tribes have a holistic view of all natural resources and that belief influences their ecosystem approach to resource management
- It is important that federal agencies understand that any information provided by Tribes must be considered confidential and the use of the information should have written Tribal approval if it will be provided in a public forum or document
- It is important for FWS to understand from a Tribal perspective that lands which may be considered for wolf recovery are the same lands for other species that have greater cultural/traditional significance
- FWS needs to clarify the legal status of Mexican wolves on non-trust Tribal properties and consider those wolves outside of the non-essential experimental population to be 10(j), i.e. private ranches purchased by Tribes or Tribal lands that are divided by the 10(j) zone
- FWS needs to understand that their priorities may not necessarily be Tribal priorities and may also conflict with Tribal management priorities
- Tribal lands are historical homelands intended for maintaining traditional and cultural values versus refuges for endangered species
- Incentives and alternatives need to be made available to Tribes that will allow them to continue setting their own natural resources management priorities in accordance with their own goals and objectives
- FWS should consider a reduction, relaxation, or simplification of various ESA permitting and regulatory paperwork as an incentive for Tribes
- Develop agreements for conservation enforcement on Tribal lands that describe the roles and responsibilities for each entity; use investigations as opportunities for training for Tribal personnel
- Evaluate and mitigate impacts of the recovery program on Tribal economic development
- Work with Tribes to educate community members about Mexican wolves and the recovery program

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