

Summaries of CED projects for threat chapters

Agricultural Conversion

Thirty projects that address agricultural conversion were entered in the CED as “completed” by data providers. These projects total more than 800,000 acres rangewide. A unique total for each Management Zone (MZ) is difficult to calculate owing to extensive duplication: some large projects listed more than one MZ but the reported acres were not allocated by MZ in the database. Table X-a provides the total acreage reported for each MZ and notes where this duplication occurs.

Table X-a. Summary of projects addressing agricultural conversion entered in CED as “completed” by data providers. Duplicated acres represent projects spanning more than one Management Zone but reported as a single value (i.e., total acres are not allocated among Management Zones in the CED). Therefore, acres listed for individual Management Zones cannot be summed accurately.

Comment [hf1]: Summary map instead of table?

AG CONVERSION		
TOTAL PROJECTS	30	
TOTAL ACRES	804,149	
WAFWA Management Zone	Acres	
I	711,970	200K duplicated w/II; 511K duplicated w/II & IV
II	785,771	200K duplicated w/ I; 511K duplicated w/I & IV
III	12,517	
IV	511,000	511K duplicated w/ I & II
V	-	
VI	-	
VII	10,606	

We determined that agricultural conversion is a primary threat in MZs I and VI. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. Table X-b provides the project acres reported for each MZ that were assessed as effective in our review. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing agricultural conversion in Management Zones I and VI.

WAFWA Management Zone	AGRICULTURAL CONVERSION Conservation Effort Assessed as Effective by USFWS Reviewers	Acres
I Great Plains	unique acres (1 MZ, 1 threat)*	200,000
	same acres & MZ, > 1 threat**	970
	same acres, > 1 MZ, >1 threat***	511,000
VI Columbia Basin (WA)	unique acres (MZ & threat)	None in CED
	same acres & MZ, > 1 threat	
TOTAL		711,970

*Projects in one Management Zone listing one threat.

**Projects in one Management Zone listing more than one threat (acres duplicated in other chapters)

***Projects in multiple Management Zones listing multiple threats (acres duplicated in other Management Zones (in Table X-a, above, and in other chapters).

Conifer Encroachment

A total of 556 projects addressing conifer encroachment were entered in the CED as “completed” by data providers. These projects occur across most of the range of sage-grouse and total more than 350,000 acres, with the greatest total amount of effort in Management Zones (MZs) III, IV, and V (Table X-a). The sum of acres provided for individual Management Zones is slightly higher than the “TOTAL ACRES” owing to a small number of projects with acres reported for more than one MZ.

Table X-a. Summary of projects addressing conifer encroachment entered in CED as “completed” by data providers.

CONIFER ENCROACHMENT	
TOTAL PROJECTS	556
TOTAL ACRES	363,303
WAFWA	Acres
Management Zone	
I	8,983
II	29,559
III	80,968
IV	86,341
V	133,476
VI	-
VII	25,629

Comment [hf2]: Summary map instead of table?

We determined that conifer encroachment is a primary threat in MZs III, IV, V, and VII. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. The acres assessed as effective in our review totaled more than half (55.6 percent) of the total completed acres addressing conifer encroachment in the CED (Table X-b). For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing conifer encroachment in Management Zones where it is a primary threat.

CONIFER ENCROACHMENT		
WAFWA Management Zone	Conservation Effort Assessed as Effective by USFWS Reviewers	Acres
III Southern Great Basin	unique acres (MZ & threat)	40,904
	same acres & MZ, > 1 threat	29,448
IV Snake River Plain	unique acres (MZ & threat)	65,497
	same acres & MZ, > 1 threat	6,040
	same acres, > 1 MZ, >1 threat	1,111
V Northern Great Basin	unique acres (MZ & threat)	51,123
	same acres & MZ, > 1 threat	3,411
	same acres, > 1 MZ, >1 threat	1,111
VII Colorado Plateau (CO)	unique acres (MZ & threat)	3,350
	same acres & MZ, > 1 threat	-

TOTAL	201,996
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*Projects in one Management Zone listing one threat.

**Projects in one Management Zone listing more than one threat (acres duplicated in other chapters)

***Projects in multiple Management Zones listing multiple threats (acres duplicated in this table and in other chapters).

Energy Development

Thirteen projects addressing conifer encroachment were entered in the CED as “completed” by data providers. These projects occur in Management Zones I through IV, and total more than 650,000 acres, with the greatest total amount of effort in Management Zones (MZs) I and II (Table X-a). The sum of acres provided for individual Management Zones is slightly higher than the “TOTAL ACRES” owing to a small number of projects with acres reported for more than once MZ.

Table X-a. Summary of projects addressing energy development entered in CED as “completed” by data providers.

ENERGY DEVELOPMENT	
TOTAL PROJECTS	13
TOTAL ACRES	683,648
MZ	Acres
I	390,244
II	292,605
III	1,799
IV	1,000
V	-
VI	-
VII	-

Comment [hf3]: Summary map instead of table?

We determined that energy development is a primary threat in MZs I, II, and VII. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. The acres assessed as effective in our review totaled 43 percent of the total completed acres addressing energy development in the CED (Table X-b). For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing energy development in Management Zones where it is a primary threat.

WAFWA Management Zone	ENERGY DEVELOPMENT	
	Conservation Effort Assessed as Effective by USFWS Reviewers	Acres
I Great Plains	unique acres (1 MZ, 1 threat)	207
	same acres & MZ, > 1 threat	-
	same acres, > 1 MZ, >1 threat	281,000
II Wyoming Basin	unique acres (MZ & threat)	-
	same acres & MZ, > 1 threat	12,435
VII Colorado Plateau (CO)	unique acres (MZ & threat)	[None in CED]

TOTAL	293,642
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Free-roaming Equids

Two completed projects addressing free-roaming equids in Management Zone V were entered in the CED, representing a total of 2,957 horses removed (Table X-a). Grazing/Range Management is not deemed a primary threat to sage-grouse or sage-grouse habitat in any Management Zone. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-a. Summary of projects addressing free-roaming equids entered in CED as “completed” by data providers.

FREE-ROAMING EQUIDS	
TOTAL PROJECTS	2
TOTAL # REMOVED	2,957
MZ	No. Removed
I	-
II	-
III	-
IV	-
V	2,957
VI	-
VII	-

Comment [hf4]: Summary map instead of table?

Fire

A total of 271 projects addressing fire were entered in the CED as “completed” by data providers. Of this total, eight projects were reported in miles (fire-breaks) and 263 in acres (mainly conifer removal projects). These projects occur the range of sage-grouse and total a little more than 275,000 acres and more than 1,000 linear miles, with the greatest total amount of effort in Management Zones (MZs) III and IV (Table X-a). The sum of acres provided for individual Management Zones is slightly higher than the “TOTAL ACRES” owing to a small number of projects with acres reported for more than one MZ.

Table X-a. Summary of projects addressing fire entered in CED as “completed” by data providers.

FIRE			
TOTAL PROJECTS		271	
TOTAL ACRES	275,788	TOTAL MILES	1,084
MZ	Acres	Miles	
I	5,319	-	
II	30,488	696	
III	46,854	-	
IV	176,468	131	
V	3,599	257	
VI	70	-	
VII	3,960	-	

Comment [hf5]: Summary map instead of table?

We determined that fire is a primary threat in MZs III, IV, V, and VI. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. Most of the acres assessed as effective in our review (Table X-b) were acres assessed as effective for conifer removal as well. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing fire in Management Zones where it is a primary threat.

WAFWA Management Zone	FIRE Conservation Effort Assessed as Effective by USFWS Reviewers	Acres	Miles
III Southern Great Basin	unique acres (MZ & threat)	1,107	71
	same acres & MZ, > 1 threat	31,103	
IV Snake River Plain	unique acres (MZ & threat)	4,100	
	same acres & MZ, > 1 threat	6,040	
V Northern Great Basin	unique acres (MZ & threat)	587	
	same acres & MZ, > 1 threat	4,355	
VI Columbia Basin (WA)	unique acres (MZ & threat)	None reviewed-	

	same acres & MZ, > 1 threat	70 ac.total
TOTALS		
	47,292	71

Grazing/Range Management

Our partners reported more than 800 completed projects, representing nearly 19 million acres, addressing grazing practices deleterious to sage-grouse habitat with variables levels of effectiveness (Table X-a). Of these, 745 projects and more than 18 million acres address only Grazing and Range Management, and no other threats. Numerous large projects listed more than one Management Zone (MZ) in the CED, but the total acres for each are not allocated among MZ in the CED. We have not allocated them here; instead we have included these acres in the sum for each MZ listed by the data providers. Therefore, acres listed for individual MZs in Table X-a cannot be summed. Grazing/Range Management is not deemed a primary threat to sage-grouse or sage-grouse habitat in any MZ.

Table X-a. Summary of projects addressing grazing/range management entered in CED as “completed” by data providers.

Comment [hf6]: Summary map instead of table?

GRAZING/RANGE MANAGEMENT		
TOTAL PROJECTS		804
TOTAL ACRES		18,977,326
WAFWA Management Zone	Acres	
I	760,404	681,000 duplicated in II & IV
II	2,375,437	681,000 duplicated in I & IV
III	10,221,745	7,367,592 duplicated in IV
IV	10,995,977	681,000 duplicated in I & II; 7,367,592 duplicated in III
V	3,399,101	
VI	-	
VII	32,969	

Infrastructure

A total of 156 projects addressing the threat of infrastructure was entered in the CED as “completed” by data providers. These projects were conducted in every Management Zone (MZ). The variety of activities represented by these projects resulted in metrics reported in acres, miles, and structures (structures removed) (Table X-a). The total (rangewide) number of projects and metric value for each metric type are provided in Table X-a, as well as totals for each MZ. Note that in each metric category, one or more large projects listed more than one MZ in the CED, but the total acres, miles, or structures reported for those projects were not allocated among MZs in the data provided in the CED. Therefore, the MZ totals listed in each column in Table X-a cannot be summed. For example, a single powerline retrofitting project conducted across six states accounts for 88.2 percent of the total project miles addressing infrastructure. However, the total miles reported for that project are not allocated by state or MZ, and we have not allocated them here, but instead repeated them for all MZs reported in the project information.

Table X-a. Summary of projects addressing infrastructure entered in CED as “completed” by data providers.

Comment [hf7]: Summary map instead of table?

INFRASTRUCTURE						
TOTALS	ACRES		MILES		STRUCTURES REMOVED	
	No. Projects	Acres	No. Projects	Miles	No. Projects	No. Structures
	51	378,988	91	17,771	14	53
MZ	Acres		Miles		Number of Structures Removed	
I	282,378*		729		2	
II	353,244*		16,322**		4	
III	7,478		16,005**		37	
IV	292,977*		937		11	
V	-		130		28	
VI	-		102		-	
VII	10,606		15,680**		-	

*The total acres reported for MZs I, II, and IV each include 281,000 acres duplicated from the same two projects, which each reported a single total for these three MZs. A breakdown of the total acres by MZ is not currently available.

**The total miles reported for MZs II, III, & VII each include 15,674 miles duplicated for the same project, which occurred in multiple states. A breakdown of the total mileage by state or MZ is not currently available.

We determined that infrastructure is a primary threat in all MZs. Therefore all completed projects in the CED addressing this threat were eligible for review by Service biologists. Most of the project acres (96 percent), miles (92 percent), and removed structures (59 percent) entered as completed by data providers were assessed as effective in our review (Table X-b). For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing infrastructure in Management Zones where it is a primary threat.

WAFWA Management Zone	INFRASTRUCTURE Conservation Effort Assessed as Effective by USFWS Reviewers	Acres	Miles	Structures Removed
I Great Plains	unique metrics (1 MZ, 1 threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ, >1 threat	2,728 970 281,000	156 - -	
II Wyoming Basin	unique metrics (MZ & threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ, >1 threat same metrics, > 1 MZ	2,956 64,778 281,000	54 - 15,674	1
III Southern Great Basin	unique metrics (MZ & threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ	40 - -	142 - 15,674	28
IV Snake River Plain	unique metrics (MZ & threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ, >1 threat	- 1,000 281,000	310	2
V Northern Great Basin	unique metrics (MZ & threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ	- - -	51 - -	28
VI Columbia Basin (WA)	unique metrics (MZ & threat) same metrics & MZ, > 1 threat	None reviewed- 102 ac. total		
VII Colorado Plateau (CO)	unique metrics (MZ & threat) same metrics & MZ, > 1 threat same metrics, > 1 MZ	10,606 - 15,674	- - 15,674	
TOTALS*		364,078	16,386	31

*The metrics for several projects were reported for multiple MZs; these numbers of acres, miles, and structures (in boldface above) are reflected only once in the table totals.

Isolated/Small Population

Three projects entered as “completed” in the CED include the translocation of a total of 601 sage-grouse to augment populations in Utah (Strawberry Valley) and Alberta.

Invasive Plants

A total of 1,181 projects addressing the threat of invasive plants was entered in the CED as “completed” by data providers. These projects totaled more than 1.3 million acres rangewide, with the greatest total effort in Management Zone (MZ) V (Table X-a). Totals provided for each MZ cannot be summed; one or more projects listed more than one MZ in their CED entry, but the total number of acres reported for those projects were not allocated among MZs in the data provided in the CED (Table X-a). For example, one large project (170,000 acres) in Montana listed MZs I, II, and IV, but the acres in each MZ were not available. We have not allocated them here, but instead repeated them for all MZs where they were reported by the data provider.

Table X-a. Summary of projects addressing invasive plants entered in CED as “completed” by data providers.

Comment [hf8]: Summary map instead of table?

INVASIVE PLANTS		
TOTAL PROJECTS	1,181	
TOTAL ACRES	1,304,782	
MZ	Reported Acres	
I	210,268	170K duplicated
II	181,953	170K duplicated
III	15,621	
IV	519,232	170K duplicated
V	750,526	
VI	403	
VII	171	

We determined that invasive plants are a primary threat in all MZs. Therefore all completed projects in the CED addressing this threat were eligible for review by Service biologists. The acres assessed as effective in our review (Table X-b) represent a subset of the largest (> 500 acres) projects in the CED. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing invasive plants in Management Zones where it is a primary threat.

WAFWA Management Zone	INVASIVE PLANTS Conservation Effort Assessed as Effective by USFWS Reviewers	Acres	Miles
I Great Plains	unique acres (1 MZ, 1 threat)	-	
	same acres & MZ, > 1 threat	-	
	same acres, > 1 MZ, >1 threat	170,000	
II Wyoming Basin	unique acres (MZ & threat)	2,072	
	same acres & MZ, > 1 threat	-	
	same acres, > 1 MZ, >1 threat	170,000	
III Southern Great Basin	unique acres (MZ & threat)	5,576	

	same acres & MZ, > 1 threat	1,654	
IV Snake River Plain	unique acres (MZ & threat)	34,984	
	same acres & MZ, > 1 threat	52,653	
	same acres, > 1 MZ, >1 threat	170,000	
V Northern Great Basin	unique acres (MZ & threat)	-	1.30
	same acres & MZ, > 1 threat	-	
VI Columbia Basin (WA)	unique acres (MZ & threat)	None reviewed-	
	same acres & MZ, > 1 threat	403 ac. total	
VII Colorado Plateau (CO)	unique acres (MZ & threat)	None reviewed-	
	same acres & MZ, > 1 threat	171 acres total	
TOTALS		266,939*	1.30

*The acres for one project were reported for multiple MZs (in boldface above); this number of acres is reflected only once in the table total.

Mining

Fifteen projects addressing mining were entered in the CED as “completed” by data providers (Table X-a). Totals provided for each MZ cannot be summed; two projects in Montana (totaling 281,000 acres) listed more than one MZ in their CED entry, but the total number of acres reported for these projects were not allocated among MZs in the data provided in the CED (Table X-a). We have not allocated those acres here, but instead repeated them for all MZs where they were reported by the data provider.

Table X-a. Summary of projects addressing mining entered in CED as “completed” by data providers.

MINING		
TOTAL PROJECTS	15	
TOTAL ACRES	311,241	
MZ	Reported Acres	
I	282,698	281K duplicated
II	308,503	281K duplicated
III	1,040	
IV	281,000	281K duplicated
V	-	
VI	-	
VII	-	

Comment [hf9]: Summary map instead of table?

We determined that mining is a primary threat in MZs II, III, and V. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. However, the total of acres assessed as effective in our review (Table X-b) represent 94 percent of all completed projects addressing mining entered in the CED. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing mining in Management Zones where it is a primary threat.

WAFWA Management Zone	FIRE Conservation Effort Assessed as Effective by FWS Reviewers	Acres
II Wyoming Basin	unique acres (MZ & threat)	5
	same acres & MZ, > 1 threat	11,434
	same acres, > 1 MZ, >1 threat	281,000
III Southern Great Basin	unique acres (MZ & threat)	-
	same acres & MZ, > 1 threat	1,040
V Northern Great Basin	unique acres (MZ & threat)	None in CED
	same acres & MZ, > 1 threat	-
TOTAL		293,479

Recreation

Thirteen projects addressing recreation, representing 282,000 acres were entered in the CED as “completed” (Table X-a). Of this total number of acres, 250,000 represent one large project in Montana that listed three Management Zones (MZs). The total acres reported for this project was not allocated among MZs in the CED, and we have not allocated them here. Instead we include them in the sum for each MZ reported by the data provider. Recreation is not deemed a primary threat to sage-grouse or sage-grouse habitat in any Management Zone.

Table X-a. Summary of projects addressing recreation entered in CED as “completed” by data providers.

RECREATION		
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TOTAL PROJECTS	13	
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TOTAL ACRES	281,996	
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MZ	Reported Acres	
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I	250,970	250K duplicated
II	274,254	250K duplicated
III	6,772	
IV	250,000	250K duplicated
V	-	
VI	-	
VII	-	
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Comment [hf10]: Summary map instead of table?

Urbanization

A total of 498 projects addressing the threat of urbanization was entered in the CED as “completed” by data providers. These projects totaled more than a million acres rangewide (Table X-a). Totals provided for each MZ cannot be summed; several projects listed more than one MZ in their CED entry, but the total numbers of acres reported for those projects were not allocated among MZs in the data provided in the CED. Four large project (511,000 acres) in Montana listed MZs I, II, and IV, but the allocation of acres in each MZ were not available. We have not allocated them here, but instead repeated them for all MZs where they were reported by the data provider.

Table X-a. Summary of projects addressing invasive plants entered in CED as “completed” by data providers.

URBANIZATION	
TOTAL PROJECTS	498
TOTAL ACRES	1,094,251
MZ	Reported Acres
I	53,710
II	1,039,511
III	12,517
IV	511,000
V	10,606
VI	-
VII	-

Comment [hf11]: Summary map instead of table?

We determined that urbanization is a primary threat in MZs II, III, IV, and V. Therefore only those projects in the CED addressing this threat in the relevant MZs were eligible for review by Service biologists. The total of acres assessed as effective in our review (Table X-b) represent 94 percent of all projects addressing urbanization entered as “completed” in the CED by data providers. For a description of our approach to assessing and summarizing the projects entered as “completed” in CED, see the “Regulatory Mechanisms” chapter.

Table X-b. Acres evaluated as effective in USFWS review of completed CED projects addressing urbanization in Management Zones where it is a primary threat.

WAFWA Management Zone	URBANIZATION Conservation Effort Assessed as Effective by FWS Reviewers	Acres
II Wyoming Basin	unique acres (MZ & threat)	434,666
	same acres & MZ, > 1 threat	71,995
	same acres, > 1 MZ, >1 threat	511,000
III Southern Great Basin	unique acres (MZ & threat)	-

	same acres & MZ, > 1 threat	6,802
	same acres, > 1 MZ, >1 threat	5,715
IV Snake River Plain	unique acres (MZ & threat)	-
	same acres & MZ, > 1 threat	-
	same acres, > 1 MZ, >1 threat	511,000
V Northern Great Basin	unique acres (MZ & threat)	None in CED
	same acres & MZ, > 1 threat	-
TOTAL*		1,030,178

*The acres for several project were reported for multiple MZs (in boldface above); this number of acres is reflected only once in the table total.