

# RAC AGENDA – July/August 2021



1. Welcome, RAC Introductions and RAC Procedure  
- RAC Chair
2. Approval of Agenda and Minutes  
- RAC Chair **ACTION**
3. Wildlife Board Meeting Update  
- RAC Chair **INFORMATIONAL**
4. Regional Update  
- DWR Regional Supervisor **INFORMATIONAL**
5. Furbearer and Bobcat Harvest Recommendations for 2021-2022  
- Darren DeBloois, Mammals Coordinator **ACTION**
6. Cougar Recommendations and Rule R657-10 revisions for 2021-2022  
- Darren DeBloois, Mammals Coordinator **ACTION**

## Regional Presentations Only

- NER Strawberry River WMA Habitat Management Plan **INFORMATIONAL**  
Tory Mathis, NER Habitat Manager

**Presentations can be viewed at <https://wildlife.utah.gov/feedback.html>  
Public Comment can be provided by clicking the link under the presentation.**

**CR RAC** – July 27th, 6:00 PM  
Wildlife Resource Conference Room  
1115 N. Main Street, Springville  
<https://youtu.be/EF4v5OsQwHE>

**SER RAC** – August 4th, 6:30 PM  
John Wesley Powell Museum  
1765 E. Main St., Green River  
<https://youtu.be/xWeo-629MIU>

**NR RAC** – July 28th, 6:00 PM  
Weber County Commission Chambers  
2380 Washington Blvd. #240, Ogden  
<https://youtu.be/MVqq5jzdHwI>

**NER RAC** – August 5th, 6:30 PM  
Wildlife Resources Conference Rm  
318 North Vernal Ave, Vernal  
<https://youtu.be/f5VA1-ki2to>

**SR RAC** – August 3rd, 7:00 PM  
DNR Cedar City Complex  
646 N. Main St., Cedar City  
<https://youtu.be/fiDJvakgJQg>

**Board Meeting** – August 26th, 9:00 AM  
Dept. of Natural Resources  
1594 W. North Temple, SLC  
<https://youtu.be/jjtXvHdKVfE>



State of Utah

SPENCER J. COX  
*Governor*

DEIDRE M. HENDERSON  
*Lieutenant Governor*

## Department of Natural Resources

BRIAN C. STEED  
*Executive Director*

### Division of Wildlife Resources

J. RORY REYNOLDS  
*Division Director*

## MEMORANDUM

TO: Utah Wildlife Board/Regional Advisory Council Members

FROM: Darren DeBloois, Predatory Mammals and Furbearer Program Coordinator

DATE: July 7, 2021

### **SUBJECT: FURBEARER RECOMMENDATIONS**

The data we have collected for bobcats this year indicate improving population numbers. Two of the performance targets in the Bobcat Management Plan are now within management range. According to the plan, when two of these parameters are within management range, and the previous year had permit and season restrictions implemented, up to two additional permits per person may be offered and one extra week may be added to the season.

We are recommending 6 permits per person and lifting the permit cap. We are also recommending adding back one week to the beginning of the bobcat season for 2021-22 (November 18, 2021 to March 1, 2022).

Season dates for other furbearer species are adjusted for the calendar year as follows:

Beaver and mink: September 18, 2021 to April 1, 2022

Marten, badger, gray fox, kit fox, ringtail, spotted skunk and weasel: September 18, 2021 to March 1, 2022.





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MEMORANDUM

TO: Utah Wildlife Board/Regional Advisory Council Members

FROM: Darren DeBloois, Predatory Mammals and Furbearer Program Coordinator

DATE: July 7, 2021

SUBJECT: 2020-21 COUGAR PERMIT RECOMMENDATIONS

Because of new legislation (Utah Code 23-16-10) implemented in 2020, some actions have taken place under the authority of the Division Director. These actions include predator management plans for 33 of the 54 designated cougar hunting units in the state. Cougar units with predator management plans in place will be open for unlimited year-round harvest to decrease cougar population densities. The objective of this management action is to lower predation rates on mule deer and bighorn sheep populations that have seen significant declines in recent years. The Director implemented predator management plans on two additional units in July to address concerns for mule deer populations. Those units are **Beaver, East and Plateau, Fishlake.**

Units with predator management plans for bighorn sheep populations are:

Beaver, West
Book Cliffs, Rattlesnake Canyon/Nine Mile, South
Central Mtns, Nebo-West Face
Fillmore, Oak Creek
Fillmore, Pahvant
Henry Mtns
Kaiparowits
La Sal
Nine Mile, North
North Slope, Summit/West Daggett
North Slope, Three Corners
Oquirrh-Stansbury, West
Pine Valley, South
San Juan, Desert
San Rafael
Wasatch Mtns, Avintaquin/Currant Creek
Wasatch Mtns, Cascade
Wasatch Mtns, Timpanogos
Zion



Units with predator management plans for mule deer populations are:

Beaver, East
Book Cliffs, East
Cache
Central Mtns, Northeast Manti
Central Mtns, Northwest Manti
Central Mtns, Southeast Manti
Central Mtns, Southwest Manti
Ogden
Plateau, Boulder
Plateau, Fishlake
Plateau, Thousand Lakes
San Juan, Mountains
South Slope, Yellowstone
Southwest Desert

Additionally, the Division Director has declared a fall spot and stalk season for cougars beginning August 1, 2021 and ending December 31, 2022. Hunters who want to take advantage of this hunt may purchase a \$30 permit over the counter and take a cougar without the use of dogs during this season. This hunt has been authorized to continue annually.

The above actions have been implemented and will be presented as informational items during this year’s RAC and Board process.

The following recommendations will be presented for public input and Wildlife Board consideration:

This year the Division is recommending some changes to try to clarify regulations in the guidebook and we will be recommending changes to Cougar Rule (R657-10) and the Cougar Management Plan to reflect those changes. Rule and Plan changes can be found in the red line copies in your packet. We hope that with all the recent changes implemented by the Legislature and the Board, we can give people clear direction on how they can obtain permits and hunt in Utah.

Permit and harvest objective recommendations can be found in the chart in your packet. All 54 cougar management units will either have a harvest objective recommended, or will be under a predator management plans and no harvest objective will be recommended. Of the 20 units with harvest objectives, we will recommend limited entry seasons on designated units. The number of permits available through the draw will be equal to the harvest objective for that unit. In the chart, units with predator management plans will be designated



as “Unlimited”, units with harvest objectives will be indicated by “HO”, and “HO with LE” will indicate units with limited entry seasons. We have made these recommendations taking into consideration cougar harvest data from 2018-2021, prey population dynamics for mule deer and bighorn sheep, and using the Utah Cougar Management Plan. Except for the **East Canyon** unit, adjustments to permits are within the parameters set out in the Utah Cougar Management Plan, and will help ensure healthy cougar populations while addressing local issues of concern including impacts to specific prey populations, livestock depredation and maintaining cougar hunting opportunities across the State. In the case of the **East Canyon** unit, the Division feels like the reason older age class animals are not showing up in the harvest is due to limited access on a largely private land unit and the cougar population can sustain and increase in harvest objective.

The recommendation table includes several categories of management actions that a cougar unit can fall into depending on how the three-year average of harvest parameters aligns with the management goals for the unit. The table divides cougar units into those categories and indicates under the “Plan Action for Permits/Quota” column the options for permit or quota changes spelled out in the plan. You will also find a column for the difference from last year’s harvest objective, which shows how this year’s recommendation compares to last year.

We will be recommending a new recommendation time frame. Beginning this December, we are recommending bringing cougar recommendation out with bear recommendations. At this meeting we will make recommendation for July 1, 2022 through June 30, 2023. As with black bear, we propose a three year recommendation cycle with no changes to harvest objectives for three years unless a unit must be placed under predator management, or some other emergency situation arises. We still recommend meeting annually in December to discuss cougar and bear updates and trends. This would open up the July/August RAC and Board meetings for other topics.

Recommended season dates are as follows:

**Harvest objective and unlimited:**

November 3, 2021 through June 30, 2022

La Sal; San Juan, Mountains; and Book Cliffs, East: no dogs April 14 through June 30, 2022 except for people with valid bear permits

**Pursuit season:** November 3, 2021 through May 31, 2022

La Sal; San Juan, Mountains; and Book Cliffs East units November 3, 2021 through June 30, 2022 except for people with valid bear permits

Restrictions on the La Sal; San Juan, Mountains; and Book Cliffs, East are to avoid confusion during non-resident bear hunting restrictions on those units. Hunters with valid bear permits during this period can use dogs to pursue and/or hunt bears and cougars.



We are recommending some changes to cougar rule (R657-10). We have made some changes to clarify the rule for hunters and general housekeeping. We eliminated the text under legal weapon requirements and referred instead to Big Game Rule requirements. This change ensures that any weapon legal for the take of Big Game will also be legal for cougars and any changes to Big Game rule will automatically be captured in Cougar rule. We recommend changing the type language in the trapping section of the rule to require “authorization” from the DWR to remove a dead cougar accidentally caught in a trap instead of “written permission”. We are eliminating obsolete cougar control permits from the rule. Language restricting types of weapons a pursuer may have in their possession has been eliminated. We recommend eliminating the call in “hotline” to check on a units harvest status. Hunters can check out website for that information. Details of these changes can be seen in the red-line rule included with this packet.

According to the Cougar Management Plan, an review of the document would take place in 2020. We convened an internal group to begin that review and determine if we needed any major changes and should form a committee for that purpose. DWR determined that no major changes were needed at this time. We are recommending a few minor revisions to capture requirements of new legislation, and to mirror the changes we are recommending to clarify the guidebook. A red-line copy of the changes to the Plan are included with this packet.



Unit Number	Unit Name	Predator Management Plan	Summary of Harvest Data from last 3 Years					Plan Harvest Obj. Adjustment	Harvest Obj. Recommendation	Hunt Strategy	Recommended Harvest Obj. Change
			Males	Females	Total	% females (Target <40%)	% >5 yrs old (Target 15 - 20%)				
22a	Beaver, East	Deer	39	15	54	28%	35%	Unlimited	Unlimited	Unlimited	Unlimited
22b	Beaver, West	BHS	17	15	32	47%	20%	Unlimited	Unlimited	Unlimited	Unlimited
10a	Book Cliffs, East	Deer	41	20	61	33%	19%	Unlimited	Unlimited	Unlimited	Unlimited
10b/11b	Book Cliffs, Rattlesnake Canyon/Nine Mile, South	BHS/Deer	0	3	3	100%	0%	Unlimited	Unlimited	Unlimited	Unlimited
1b	Box Elder, Desert		26	19	45	42%	19%	Decrease	17	HO	-1
1c	Box Elder, Pilot Mtn		0	0	0	--	--	Biologist discretion	6	HO	0
1a	Box Elder, Raft River		10	7	17	41%	9%	Decrease	9	HO with LE	-1
2	Cache	Deer	40	47	87	54%	16%	Unlimited	Unlimited	Unlimited	Unlimited
16a	Central Mtns, Nebo (excludes West Face)		24	8	32	25%	21%	Maintain or increase	15	HO with LE	0
16a1	Central Mtns, Nebo-West Face	BHS	18	8	26	31%	17%	Unlimited	Unlimited	Unlimited	Unlimited
16b2	Central Mtns, Northeast Manti	Deer	20	20	40	50%	28%	Unlimited	Unlimited	Unlimited	Unlimited
16b1	Central Mtns, Northwest Manti	Deer	16	17	33	52%	0%	Unlimited	Unlimited	Unlimited	Unlimited
16c2	Central Mtns, Southeast Manti	Deer	33	24	57	42%	18%	Unlimited	Unlimited	Unlimited	Unlimited
16c1	Central Mtns, Southwest Manti	Deer	38	17	55	31%	10%	Unlimited	Unlimited	Unlimited	Unlimited
6	Chalk Creek		35	32	67	48%	13%	Decrease	28	HO	-2
10	East Canyon		22	10	32	31%	7%	Maintain or decrease	13	HO with LE	3
5a	East Canyon, Davis		8	4	12	33%	0%	Biologist discretion	5	HO with LE	0
21a	Fillmore, Oak Creek	BHS	6	0	6	0%	0%	Unlimited	Unlimited	Unlimited	Unlimited
21b	Fillmore, Pahvant	BHS	30	27	58	47%	32%	Unlimited	Unlimited	Unlimited	Unlimited
15	Henry Mtns	BHS	10	8	18	44%	8%	Unlimited	Unlimited	Unlimited	Unlimited
26	Kaiparowits	BHS	3	3	6	50%	25%	Unlimited	Unlimited	Unlimited	Unlimited
7	Kamas		3	8	11	73%	33%	Decrease	5	HO with LE	-2
13	La Sal	BHS/Deer	12	7	19	37%	7%	Unlimited	Unlimited	Unlimited	Unlimited
23	Monroe		29	9	38	24%	23%	Increase	22	HO with LE	0
4	Morgan-South Rich		32	31	63	49%	16%	Decrease	20	HO with LE	-2
24	Mt Dutton		15	10	25	40%	6%	Maintain or decrease	14	HO	0
11a	Nine Mile, North	BHS	35	25	60	42%	8%	Unlimited	Unlimited	Unlimited	Unlimited
8ab	North Slope, Summit/West Daggett	BHS	16	9	25	36%	0%	Unlimited	Unlimited	Unlimited	Unlimited
8c	North Slope, Three Corners	BHS	6	2	8	25%	17%	Unlimited	Unlimited	Unlimited	Unlimited
3	Ogden	Deer	38	22	60	37%	23%	Unlimited	Unlimited	Unlimited	Unlimited
18a	Oquirrh-Stansbury, East		13	9	22	41%	18%	Decrease	11	HO with LE	-1
18b	Oquirrh-Stansbury, West	BHS	10	9	19	47%	42%	Unlimited	Unlimited	Unlimited	Unlimited
28	Panguitch Lake		29	19	48	40%	15%	Maintain or increase	20	HO	2
27	Paunsaugunt		19	7	26	27%	33%	Maintain or increase	22	HO	8
30a	Pine Valley, North		34	16	50	32%	20%	Maintain or increase	26	HO	6
30b	Pine Valley, South	BHS	18	5	23	22%	20%	Unlimited	Unlimited	Unlimited	Unlimited
25c	Plateau, Boulder	Deer	36	26	62	42%	32%	Unlimited	Unlimited	Unlimited	Unlimited
25a	Plateau, Fishlake	Deer	24	15	39	38%	10%	Unlimited	Unlimited	Unlimited	Unlimited
25b	Plateau, Thousand Lakes	Deer	1	4	5	80%	0%	Unlimited	Unlimited	Unlimited	Unlimited
14b	San Juan, Desert	BHS	0	2	2	100%	0%	Unlimited	Unlimited	Unlimited	Unlimited
14a	San Juan, Mountains	BHS/Deer	31	22	53	42%	31%	Unlimited	Unlimited	Unlimited	Unlimited
12	San Rafael	BHS	3	1	4	25%	50%	Unlimited	Unlimited	Unlimited	Unlimited
9bcd	South Slope, Bonanza/Diamond Mtn/Vernal		35	22	57	39%	9%	Maintain or decrease	24	HO	0
9a	South Slope, Yellowstone	Deer	18	10	28	36%	10%	Unlimited	Unlimited	Unlimited	Unlimited
20	Southwest Desert	Deer	18	11	29	38%	13%	Unlimited	Unlimited	Unlimited	Unlimited
17bc	Wasatch Mtns, Avintaquin/Currant Creek	BHS	45	28	73	38%	19%	Maintain or increase	Unlimited	Unlimited	Unlimited
17a2	Wasatch Mtns, Cascade	BHS	13	6	19	32%	17%	Unlimited	Unlimited	Unlimited	Unlimited
17a4	Wasatch Mtns, Salt Lake		0	0	0	--	--	Biologist discretion	6	HO	0
17a1	Wasatch Mtns, Timpanogos	BHS	11	7	18	39%	20%	Unlimited	Unlimited	Unlimited	Unlimited
17a3	Wasatch Mtns, West-Strawberry		25	7	32	22%	16%	Maintain or increase	15	HO with LE	4
19a	West Desert, Mtn Ranges		9	3	12	25%	11%	Maintain or increase	8	HO	0
19b	West Desert, Tintic-Vernon		10	7	17	41%	20%	Decrease	11	HO with LE	-1
29	Zion	BHS/Deer	36	32	68	47%	19%	Unlimited	Unlimited	Unlimited	Unlimited
	STATEWIDE TOTALS		1,060	695	1,756	40%	17%		297		-17

## **R657. Natural Resources, Wildlife Resources.**

### **R657-10. Taking Cougar.**

#### **R657-10-1. Purpose and Authority.**

(1) Under authority of Sections 23-14-18 and 23-14-19, the Wildlife Board has established this rule for taking and pursuing cougar.

(2) Specific dates, areas, number of permits, limits, and other administrative details which may change annually are published in the guidebook of the Wildlife Board for taking cougar.

#### **R657-10-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2.

(2) In addition:

(a) "Canned hunt" means that a cougar is treed, cornered, held at bay or its ability to escape is otherwise restricted for the purpose of allowing a person who was not a member of the initial hunting party to arrive and take the cougar.

(b) "Compensation" means anything of economic value in excess of \$100 that is paid, loaned, granted, given, donated, or transferred to a dog handler for or in consideration of pursuing cougar for any purpose.

(c) "Cougar" means Puma concolor, commonly known as mountain lion, lion, puma, panther or catamount.

~~(d) "Cougar control permit" means a harvest objective permit that authorizes a person to take a second cougar on harvest objective units that have an unlimited quota.~~

~~(e)~~

(d) "Cougar pursuit permit" means a permit that authorizes a person to pursue cougar during designated seasons.

~~(f)~~(e) "Dog handler" means the person in the field that is responsible for transporting, releasing, tracking, controlling, managing, training, commanding and retrieving the dogs involved in the pursuit. The owner of the dogs is presumed the dog handler when the owner is in the field during pursuit.

~~(g)~~(f) "Evidence of sex" means the sex organs of a cougar, including a penis, scrotum or vulva.

~~(h)~~(g) "Green pelt" means the untanned hide or skin of any cougar.

(h) "Harvest objective" means an identified limit on the number of cougars that may be harvested during the season on a particular unit.

(i) "Harvest objective ~~(hunt)~~permit" means any ~~(hunt)~~permit that can be obtained without entering a drawing and is ~~identified as harvest objective in the hunt table of the guidebook for taking cougar.~~

~~(j) "Harvest objective permit" means any permit.]~~valid on ~~(harvest objective)]~~all units~~[-,including-]~~ during non-limited~~[-]~~ entry ~~(permits for split units after the split unit transition date)]~~seasons. A person may use dogs to hunt cougars with this permit.

~~(k)]~~ "Immediate family member" means a livestock owner's spouse, child, son-in-law, daughter-in-law, father, mother, father-in-law, mother-in-law, brother, sister, brother-in-law, sister-in-law, stepchild and grandchild.

~~(l)]~~ "Kitten" means a cougar that has obvious spots on its sides or its back or has obvious leg barring coloration.

(~~m~~) "Limited entry ~~[hunt]~~season" means any ~~[hunt]~~season listed in the hunt tables of the guidebook of the Wildlife Board for taking cougar, which is identified as limited entry and ~~[does not include harvest objective hunts]~~a person must draw a permit to hunt that season.

(~~n~~) "Limited entry permit" means any permit obtained for a limited entry ~~[hunt]~~season by any means, including conservation permits and sportsman permits. Limited entry permits may only be used on the specific unit they are issued for during the limited entry season. Limited entry permits may be used on any unit open to cougar hunting once the limited entry season for which the permit is valid ends.

(n) "Location of Harvest" means the exact location that the cougar is killed. GPS coordinates are preferred.

(o) "Private lands" means any lands that are not public lands, excluding Indian trust lands.

(p) "Public lands" means any lands owned by the state, a political subdivision or independent entity of the state, or the United States, excluding Indian trust lands, that are open to the public for purposes of engaging in pursuit.

(q) "Pursue" means to chase, tree, corner or hold a cougar at bay.

(r) "~~[Split unit means a cougar hunting unit that begins as a limited entry unit then transitions into a harvest objective unit.]~~Spot-and-stalk permit" means a cougar permit available over the counter for seasons and units designated by the Division Director as per Statute 23-16-10. A hunter who obtains this permit may not use dogs to take a cougar.

(s) "~~[Unlimited quota]~~Predator management unit" means a ~~[harvest objective]~~unit managed under direction of DWR W1AG-4 to reduce cougar densities. This type of unit~~[that]~~ does not have a limit on the number of ~~[cougar]~~cougars that may be harvested during the ~~[open-]~~season.

(t) "Waiting period" means a specified period of time that a person who has obtained a cougar permit must wait before applying for any other limited entry cougar ~~[permit]~~season.

(u) "Written permission" means written authorization from the owner or person in charge to enter upon private lands and must include:

- (i) the name and signature of the owner or person in charge;
- (ii) the address and phone number of the owner or person in charge;
- (iii) the name of the dog handler given permission to enter the private lands;
- (iv) a brief description of the pursuit activity authorized;
- (v) the appropriate dates; and
- (vi) a general description of the property.

### **R657-10-3. Permits for Taking Cougar.**

(1)(a) To harvest a cougar, a person must first obtain a valid limited entry cougar permit, harvest-objective cougar permit, or ~~[cougar control]~~spot and stalk permit, for the specified management units as provided in the guidebook of the Wildlife Board for taking cougar.

(b) Any person who obtains a limited entry cougar season permit, harvest objective cougar permit, or ~~[cougar control]~~spot and stalk permit, may pursue cougar ~~[on]~~during the ~~[unit]~~season for which the permit is valid.

- (2) A person may not apply for or obtain more than one cougar permit for the same season, except:
- (a) as provided in Subsection R657-10-25(3);
  - (b) as provided in ~~[Subsection]~~[Section](#) R657-10-33;
  - (c) if the person is unsuccessful in the limited entry drawing, the person may purchase a harvest objective or ~~[cougar control]~~[spot and stalk](#) permit; or
  - (d) a person may acquire and use a permit issued pursuant to Utah Code Section 23-16-10 in addition to another lawfully acquired cougar permit.
- (3) Any cougar permit purchased after the season opens is not valid until three days after the date of purchase.
- (4) To obtain a cougar limited entry permit, harvest objective permit, ~~[cougar control]~~[spot and stalk](#) permit, or pursuit permit, a person must possess a Utah hunting or combination license.

#### **R657-10-4. Permits for Pursuing Cougar.**

- (1)(a) To pursue cougar without a limited entry, harvest objective~~[-, or cougar control]~~ permit, the dog handler must:
- (i) obtain a valid cougar pursuit permit from a division office; or
  - (ii) possess the documentation and certifications required in [Subsection](#) R657-10-25(2) to pursue cougar for compensation.
- (b) A cougar pursuit permit or exemption there from does not allow a person to kill a cougar.
- (2) Residents and nonresidents may purchase cougar pursuit permits consistent with the requirements of this rule and the guidebooks of the Wildlife Board.
- (3) To obtain a cougar pursuit permit, a person must possess a Utah hunting or combination license.

#### **R657-10-6. Firearms, Archery Equipment, Crossbows, and Airguns.**

- (1) ~~[For cougar hunt identified in the Wildlife Board's guidebook for taking cougar that allow harvest of a cougar, a]~~A person may only use ~~[the following]~~[weapons identified in Subsection R657-5-8 \(Taking Big Game\)](#) to take cougar~~[:]~~
- ~~[(a) any firearm not capable of being fired fully automatic, except a firearm using rimfire cartridge;]~~
  - ~~[(b) archery equipment meeting the following requirements:]~~
    - ~~[(i) the minimum bow pull is 30 pounds at the draw or the peak, whichever comes first;]~~
    - ~~[(ii) arrowheads used have two or more sharp cutting edges that cannot pass through a 7/8 inch ring;]~~
    - ~~[(iii) expanding arrowheads cannot pass through a 7/8 inch ring when expanded; and]~~
    - ~~[(iv) arrows must be a minimum of 20 inches in length from the tip of the arrowhead to the tip of the nock;]~~
  - ~~[(c) a crossbow meeting the following requirements:]~~
    - ~~[(i) a minimum draw weight of 125 pounds;]~~
    - ~~[(ii) a positive mechanical safety mechanism; and]~~
    - ~~[(iii) an arrow or bolt that is at least 16 inches long with;]~~

~~[(A) a fixed broadhead that is at least 7/8 inch wide at the widest point; or]  
[(B) an expandable, mechanical broadhead that is at least 7/8 inch wide at the widest point when the broadhead is in the open position; and]  
[(d) an airgun used to hunt cougar must:  
[(i) be pneumatically powered;]  
[(ii) be pressurized solely through a separate charging device; and]  
[(iii) may only fire a bolt or arrow: ]  
[(A) no less than 16 inches long;]  
[(B) with a fixed or expandable broadhead at least 7/8 inch wide at its widest position; and]  
[(C) traveling no less than 400 feet per second at the muzzle. ]  
(2) Arrows and bolts carried in or on a vehicle where a person is riding must be in an arrow quiver or a closed case. ]  
(3) A cougar hunt authorized pursuant to Utah Code Section 23-16-10 does not constitute a centerfire rifle hunt for the purposes of hunter orange requirements on any overlapping big game hunt in the area].~~

#### **R657-10-7. Traps and Trapping Devices.**

(1) Cougar may not be taken with a trap, snare or any other trapping device, except as authorized by the Division of Wildlife.

(2) Cougar accidentally caught in any trapping device must be released unharmed, and must not be pursued or taken.

(3)(a) ~~[Written permission]~~[Authorization](#) must be obtained from a division representative to remove the carcass of a cougar from any trapping device.

(b) The carcass shall remain the property of the state of Utah and must be surrendered to the division.

#### **R657-10-9. Prohibited Methods.**

(1) Cougar may be taken or pursued only during open seasons and using methods prescribed in this rule and the guidebook of the Wildlife Board for taking cougar. Otherwise, under the Wildlife Resources Code, it is unlawful for any person to pursue, possess, capture, kill, injure, drug, rope, trap, snare or in any way harm or transport cougar.

(2)(a) A person may not pursue a single cougar in repeated pursuits such that it renders the cougar physically unable to escape.

(b) After a cougar has been pursued, chased, treed, cornered or held at bay, a person may not, in any manner, restrict or hinder the animal's ability to escape.

(c) A person must make reasonable efforts to call dogs off of a cougar that has been cornered or held at bay.

(3) A person may not engage in a canned hunt.

(4) A person may not take any wildlife from an airplane or any other airborne vehicle or device or any motorized terrestrial or aquatic vehicle, including snowmobiles and other recreational vehicles.

(5) Electronic locating equipment may not be used to locate ~~[cougar]~~[cougars](#) wearing electronic radio devices.

## **R657-10-21. Livestock Depredation and Human Health and Safety.**

(1) If a cougar is harassing, chasing, disturbing, harming, attacking or killing livestock, or has committed such an act within the past 96 hours:

(a) in depredation cases, the livestock owner, an immediate family member or an employee of the owner on a regular payroll, and not hired specifically to take cougar, may kill the cougar;

(b) a landowner or livestock owner may notify the division of the depredation or human health and safety concerns, who shall authorize a local hunter to take the offending cougar or notify a USDA, Wildlife Services specialist; or

(c) the livestock owner may notify a USDA, Wildlife Services specialist of the depredation who may take the depredating cougar.

(2) Depredating cougar may be taken at any time by a USDA, Wildlife Services specialist, supervised by the Wildlife Services program, while acting in the performance of the person's assigned duties and in accordance with procedures approved by the division.

(3)(a) A depredating cougar may be taken by those persons authorized in Subsection (1)(a) with:

(i) any weapon authorized for taking cougar; or

(ii) with the use of snares only with written authorization from the director of the division and subject to each condition and restriction set out in the written authorization.

(b) The option in Subsection (3)(~~b~~a)(ii) may only be authorized in the case of a chronic depredation situation where numerous livestock have been killed by a depredating cougar and must be verified by Wildlife Services or division personnel.

(4)(a) The division may issue depredation permits to take cougar on specified private lands and public land grazing allotments with a chronic depredation situation where numerous livestock have been killed by cougar.

(b) The division may:

(i) issue one or more depredation permits to the affected livestock owner or a designee, provided the livestock owner does not receive monetary consideration from the designee for the opportunity to use the depredation permit;

(ii) determine the legal weapons and methods of take allowed; and

(iii) specify the area and season that the permit is valid.

(5)(a) Any cougar taken under Subsection (1)(a) or (4)(a) shall remain the property of the state and must be ~~delivered~~reported to a division office or employee within 96 hours.

(b) The division may issue a cougar damage permit to a person who has killed a depredating cougar under Subsection (1)(a) that authorizes the person to keep the carcass.

(c) A person that takes a cougar under Subsection (1)(a) or (4)(a) may acquire and use a limited entry permit or harvest objective cougar permit in the same year.

(d) Notwithstanding Subsections (5)(b) and (5)(c), a person may retain no more than one cougar annually taken with a cougar depredation permit.

(6)(a) A hunter interested in taking depredating cougar as provided in Subsection (1)(b) may contact the division.

(b) Hunters will be contacted by the division to take depredating cougar as needed.

### **R657-10-23. Taking Cougar.**

(1)(a) For each permit issued, a person may only take one cougar during the season and from the area specified on the permit.

(b) A limited entry permit may be obtained by following the application procedures provided in this rule and the guidebook of the Wildlife Board for taking cougar.

(c) A harvest-objective permit may be purchased on a first-come, first-served basis as provided in guidebook of the Wildlife Board for taking cougar.

~~[(d) A cougar control permit may be purchased as provided in the guidebook of the Wildlife Board for taking cougar.]~~

(2) A person may not:

(a) take or pursue a female cougar with a kitten; or

(b) repeatedly pursue, chase, tree, corner, or hold at bay, the same cougar during the same day after the cougar has been released.

(3) Any cougar may be taken during the prescribed seasons, except a kitten or any cougar accompanied by one or more kittens.

(4) A person may not take a cougar wearing a radio or gps collar on any unit identified in the guidebook of the Wildlife Board for taking cougar as being closed to the take of collared animals.

(5) The division may authorize a hunter who has obtained a valid cougar permit to take cougar in a specified area of the state in the interest of protecting wildlife from depredation.

(6) Season dates, closed areas, harvest objective~~[permit]~~ areas, ~~[unlimited quota]~~predator management units, and limited entry ~~[permit]~~season areas are published in the guidebook of the Wildlife Board for taking cougar.

(7)(a) A person who obtains a limited entry cougar permit~~[on a split unit]~~ may hunt on all ~~[harvest objective]~~open units after the end date ~~[split units transition into harvest objective units. The split unit transition date is]~~of the limited entry season. Limited entry season dates are provided in the guidebook of the Wildlife Board for taking cougar.

(b) A person who obtains a limited entry cougar permit~~[on a split unit]~~ and chooses to hunt on any ~~[harvest objective]~~open unit after the transition date is subject to all harvest objective unit closure requirements provided in ~~[Sections]~~Section R657-10-29.

### **R657-10-25. Cougar Pursuit.**

(1)(a) Except as provided in ~~[rule]~~Subsection R657-10-3(1)(b) and Subsection (2), cougar may be pursued only by persons who have obtained a cougar pursuit permit.

(b) The cougar pursuit permit does not allow a person to:

(i) kill a cougar; or

(ii) pursue cougar for compensation.

(c) A person may pursue cougar for compensation only as provided in Subsection (2).

(d) To obtain a cougar pursuit permit, a person must possess a Utah hunting or combination license.

(2)(a) A person may pursue cougar on public lands for compensation, provided the dog handler:

- (i) receives compensation from a client or customer to pursue cougar;
- (ii) is a licensed hunting guide or outfitter under Title 58, Chapter 79 of the Utah Code and authorized to pursue cougar;
- (iii) possesses on his or her person the Utah hunting guide or outfitter license;
- (iv) possesses on his or her person all permits and authorizations required by the applicable public lands managing authority to pursue cougar for compensation; and
- (v) is accompanied by the client or customer at all times during pursuit.

(b) A person may pursue cougar on private lands for compensation, provided the dog handler:

- (i) receives compensation from a client or customer to pursue cougar;
- (ii) is accompanied by the client or customer at all times during pursuit; and
- (iii) possesses on his or her person written permission from all private landowners on whose property pursuit takes place.

(c) A person who is an employee or agent of the Division of Wildlife Services may pursue cougar on public lands and private lands while acting within the scope of their employment.

(3) A pursuit permit is not required to pursue cougar under Subsection (2).

(4)(a) A person pursuing cougar for compensation under subsections (2)(a) and (2)(b) shall comply with all other requirements and restrictions in statute, rule and the guidebooks of the Wildlife Board regulating the pursuit and take of cougar.

(b) Any violation of, or failure to comply with the provisions of Title 23 of the Utah Code, this rule, or the guidebooks of the Wildlife Board may be grounds for suspension of the privilege to pursue cougar for compensation under this subsection, as determined by a division hearing officer.

(5) A cougar pursuit permit authorizes the holder to pursue cougar with dogs on any unit open to pursuing cougar during the seasons and under the conditions prescribed by the Wildlife Board in guidebook.

(6) A person may not:

- (a) take or pursue a female cougar with a kitten;
- (b) repeatedly pursue, chase, tree, corner or hold at bay, the same cougar during the same day; ~~or~~

~~[(c) possess a firearm or any device that could be used to kill a cougar while pursuing cougar.]~~

~~[(i) The weapon restrictions set forth in the subsection do not apply to a person licensed to carry a concealed weapon in accordance with Title 53, Chapter 5, Part 7 of the Utah Code, provided the person is not utilizing or attempting to utilize the concealed weapon to injure or kill cougar.]~~

~~[(7)~~

~~[(c) If eligible, a person who has obtained a cougar pursuit permit may also obtain a limited entry ~~cougar~~ season permit, harvest objective cougar permit, or ~~cougar control~~ spot and stalk permit.~~

~~[(8)7) Cougar may be pursued ~~only~~ on ~~limited entry~~ any units ~~, harvest objective units, or unlimited quota units~~ open to cougar hunting during the dates provided in the guidebook of the Wildlife Board for taking cougar.~~

(~~19~~8) A cougar pursuit permit is valid on a calendar year basis.

(~~140~~9) A person must possess a valid hunting or combination license to obtain a cougar pursuit permit.

#### **R657-10-27. Harvest Objective Permit General Information.**

(1) Harvest objective permits are valid only for open harvest objective management units or predator management units and for the specified seasons published in the guidebook of the Wildlife Board for taking cougar.

(2) Harvest objective permits are not valid in a specified management unit after the harvest objective has been met for that unit.

#### **R657-10-29. Units with Harvest Objective [~~Unit~~]Closures.**

(1) To hunt in a unit with a harvest objective[~~unit~~], a hunter must [~~call 1-888-668-LION or~~]visit the division's website to verify that the harvest objective unit is still open. The[~~phone line and~~] website will be updated each day by 12 noon. Updates become effective the following day thirty minutes before official sunrise.

(2) [~~Harvest~~]Units with harvest objective[~~units~~] are open to hunting until:

(a) the[~~quota for that~~] harvest objective for that unit is met and the division closes the unit; or

(b) the end of the hunting season as provided in the guidebook of the Wildlife Board for taking cougar.

(3) Upon closure of a unit with a harvest objective[~~unit~~], a hunter may not take or pursue cougar except as provided in Section R657-10-25.

#### **R657-10-30. Harvest Objective Unit Reporting.**

(1) Any person taking a cougar on a unit with a harvest objective[~~permit or a cougar control permit~~] must report to the division, within 48 hours, [~~where~~]the [~~cougar was taken~~]location of harvest and have a permanent tag affixed pursuant to Section R657-10-15.

(2) Failure to accurately report the correct[~~harvest objective~~] unit where the cougar was killed is unlawful.

(3) Any conviction for failure to accurately report, or aiding or assisting in the failure to accurately report as required in Subsection (1) shall be considered [~~prima facie~~]probable cause evidence of a knowing, intentional or reckless violation for purposes of permit suspension.

#### **~~[R657-10-33. Cougar Control Permits.]~~**

~~[——(1)(a) The division, with approval of the Wildlife Board, may identify a harvest objective unit as an unlimited quota unit.]~~

~~[——(b) An individual may acquire a cougar control permit to hunt on an unlimited quota unit if they first obtain:]~~

~~[——(i) a harvest objective permit; or]~~

~~[——(ii) a limited entry permit for a split unit and the split unit has transitioned to harvest objective status.]~~

~~[(c) An individual may retain a cougar lawfully harvested under a cougar control permit regardless of whether they lawfully harvested and retained a cougar under a permit listed in Subsections (1)(b)(i) or (ii).]~~

~~[(2) An individual may only acquire one cougar control permit each season.]~~

~~[(3) Cougar control permits are only valid within the boundaries of unlimited quota units and during the dates described on the permit and in the guidebook of the Wildlife Board for taking cougar.]~~

**KEY:** wildlife, cougar, game laws

**Date of Enactment or Last Substantive Amendment:** November 9, 2020

**Notice of Continuation:** August 1, 2016

**Authorizing, and Implemented or Interpreted Law:** 23-14-18; 23-14-19

# Utah Cougar Management Plan V.3

## 2015-2025



Photo Credit: Tom Becker, Utah Division of Wildlife Resources

Utah Division of Wildlife Resources  
and the  
Cougar Advisory Group

DWR Publication No. 15-28

## Utah Cougar Advisory Group Members

### Group Members

Byron Bateman	Sportsmen for Fish and Wildlife
Adam Bronson	Foundation for North American Wild Sheep
Mike Christensen	Sportsmen Representative – Mule Deer Working Group
Chad Coburn	United Wildlife Cooperative – Houndsmen representative
Dan Cockayne	Utah Houndsmen Association
Brett Guymon	Houndsmen – At Large
Garrick Hall	Utah Farm Bureau
Josh Horrocks	Houndsmen Guides and Outfitters
Mike King	Utah Wildlife Board
Mike Laughter	Mule Deer Foundation
Mike Linnell	USDA Wildlife Services
Robin Naeve	Bureau of Land Management
*Brian Perkes	Nonconsumptive – At Large
*Kirk Robinson	Western Wildlife Conservancy
Brett Selman	Utah Woolgrowers Association
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\* These members of the Cougar Advisory Group support the majority of the plan but are *of the opinion* that the approved targets allow for the possibility of excessive cougar harvest as judged from the standpoint of the best available science.

|

# Utah Cougar Management Plan V. 3 2015 – 2025

(Reviewed and Revised 2020)

PLAN GOAL: Maintain a healthy cougar population within their current distribution while considering human safety, economic concerns, other wildlife species, and maintaining hunting traditions through 2025.

Definition: A healthy cougar population is one that maintains: 1) a reasonable proportion of older age animals; 2) breeding females; 3) healthy individuals; 4) balance with its natural prey; 5) and genetic variability.

## Introduction

The purpose of the Utah Cougar Management Plan is to direct the management of cougars (*Puma concolor*) in accordance with the mission of the Utah Division of Wildlife Resources (Division or DWR) through 2025. An internal review of the plan will be completed 5 years after implementation to ensure that established targets, goals, and objectives meet both management and social needs.

The mission of DWR is:

Serve the people of Utah as trustee and guardian of the state's wildlife

In 1997, the DWR initiated a process to obtain public input on issues and concerns with cougar management. Individuals representing many diverse points of view were invited to form a Cougar Advisory Group. The mission of this group was to aid the Division in preparing a cougar management plan that would gain agreement from diverse groups. The first version of the Utah Cougar Management Plan (UDWR 1999) resulted from these meetings and was used to direct cougar management efforts from 1999 to 2009. In 2009, the DWR reformed the Cougar Advisory Group to review and update the plan.

The group met 8 times between December and May 2010 which resulted in Version 2 (UDWR 2010). After approval of this version several social and management issues led to an emergency meeting of the Wildlife Board. The outcome of the meeting was Version 2.1 of the Utah Cougar Management Plan (UDWR 2011). Subsequently, this version did not fully address the concerns of the public or wildlife managers and the Wildlife Board directed the Division to reform the Cougar Advisory Group with the goal of simplifying the cougar management plan.

The Cougar Advisory Group met 5 times between December and April 2015. The first meeting of the group focused on developing a list of issues and concerns that the group could focus on and address in this document (see Attachment [DA](#). Issues and Concerns).

In 2021, the Division undertook an internal review of the plan to make revisions and address changes to policies and Utah Code that have changed since 2015. These changes are intended to make regulations more easily understood by the public.

The natural history and ecology of cougars ~~is not included or described in this document because more detailed information on cougar ecology~~ can be found in “Managing Cougars in North America” (WAFWA 2011).

## Management History

Cougars were persecuted as vermin in Utah from the time of European settlement in 1847 until 1966. In 1967 the Utah State Legislature changed the status of cougars to that of protected wildlife, and since that time they have been considered a game species with established hunting regulations. The first Utah Cougar Management Plan (UDWR 1999) guided cougar management through 2009. ~~Consequently, two additional~~ Subsequently, the Wildlife Board has adopted updated versions of the plan ~~were adopted by the Wildlife Board to guide cougar management between 2010 and 2014 (UDWR 2010, 2011).~~

Cougars use very broad and diverse areas in Utah. The large-scale dynamics and interconnectivity of the ~~states~~state's cougar populations have been demonstrated through multiple telemetry and GPS radio collar studies (Stoner et al. 2006; 2008: 2013b). Evaluation of the genetic relatedness of cougars in Utah also provides evidence that gene flow occurs over large geographic areas (Sinclair et al. 2001). Cougar harvest has traditionally been controlled in specific geographic areas or hunting units. Version 2 of the management plan sought to tie smaller hunting units to larger home ranges or ecoregions to account for the large spatial scale and source-sink population dynamics (Stoner et al. 2013b; cougar management areas; Figure 1). However, implementation of the eco-region concept limited the ability of the Division to distribute hunters adequately which resulted in heavy hunting pressure and high harvest in easily accessible areas and low to no harvest in areas with limited access.

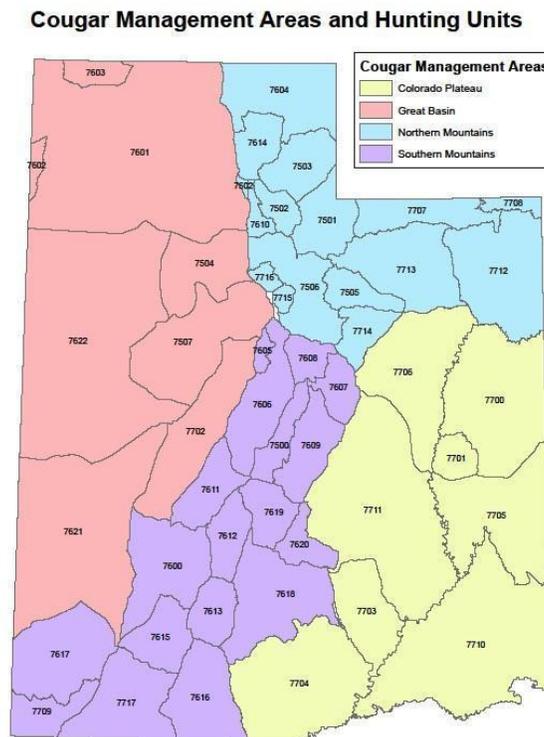


Figure 1. Cougar Management Areas and Hunting Units

Cougar harvest in Utah has been accomplished using three harvest strategies: harvest objective (quota), limited entry and split (limited entry followed by harvest objective). In 2020, the Division Director instituted a spot and stalk season that allows hunters to take cougars without the use of dogs. This additional hunt was mandated by legislation (UCA 23-16-10) in an effort to protect vulnerable mule deer populations when cougars are determined to be a contributing factor preventing populations from reaching objectives. Under the harvest objective strategy, managers prescribe a quota, or number of cougars to be harvested on the unit. An unlimited number of licensed hunters are allowed to hunt during a season ~~which~~that closes as soon as the quota is filled or when the season end date is reached. Hunters are required to check daily to ensure the quota has not been filled. Under the limited entry strategy, harvest is managed by limiting the number of hunters on a unit. The number of hunters is determined based upon an expectation of hunting success and the desired harvest size. Individuals are usually selected for hunting on the unit through a random drawing process. Under the split strategy, units start the season under the limited entry strategy and then transition to a harvest objective strategy on a set date using the number of limited entry permits that remained unfilled at the time of the transition as the quota for the remaining weeks of the season.

In an effort to help the public understand cougar hunting regulations, the Wildlife Board approved changes to the plan in 2021 that reconceptualizes the hunting strategies. Now all cougar units are open to harvest objective permit holders. Units under predator management plans have no harvest objectives and hunting may take place during the entire season on those units. Harvest objectives will be set on units without predator management plans in place according to the parameters set forth in this plan. On some of these harvest objective units biologists may set limited entry seasons with the number of permits available equal to the harvest objective. If the harvest objective is not reached by the end of the limited entry season, anyone who possesses a harvest objective permit may hunt that unit until the season ends or the harvest objective is met. In addition to these hunting opportunities, spot and stalk hunting will still be available during big game seasons with unlimited permits available. Because spot and stalk hunting has very low success, any spot and stalk harvest will not count toward a unit's

harvest objective. A hunter may take two cougars per season with any combination of a limited entry permit, harvest objective permits, or spot and stalk permits. A person may only possess one limited entry permit per season.

### Predator-Prey Relationships

Mule deer are known to be the preferred prey species of cougars (Seidensticker et al. 1973, Ackerman 1982, Mitchell 2013), and in Utah both deer and elk have been identified as primary prey species. In areas where both deer and elk co-exist cougars will usually select deer (Lindzey et al. 1989, Mitchell 2013). Other prey species include lagomorphs, turkey, skunk, fox, porcupines, rodents, bighorn sheep, feral horses, domestic sheep, cattle, bobcat and coyote (Russell 1978, Ackerman et al. 1982, Knopf 2010, Mitchell 2013).

Cougar populations may be limited by prey abundance, availability, and vulnerability (Pierce et al 2000b, Logan and Swenor 2001), and the relationship between predator and prey is very complex. Much controversy surrounds whether cougar predation can restrict or limit population growth of prey species; the majority of evidence is circumstantial, revolving around observations that deer are preferred prey, high cougar densities, and/or prey populations are declining. Most research indicates that cougars and predation alone are not a major limiting factor of prey species abundance (Hornocker 1970, Russell 1978, Lindzey et al. 1994, Logan et al. 1996, Pierce et al. 2012). Ballard et al. (2001) reviewed a total of 17 published studies and concluded that deer-predator relationships are confounded by many factors including the relationship of deer to available habitat and carrying capacity. For example in New Mexico, Logan et al. (1996) found that cougar predation was the major cause of mortality in mule deer but that habitat quality was the critical limiting factor. Conversely, when habitat quality was good and the deer population was below carrying capacity, cougar predation did not prevent the deer population from increasing. In Idaho, Hurley et al. (2011) examined mule deer survival in response to removal of both coyote and cougars. Their data indicated that winter severity had the largest influence on population growth rate and predator removal only resulted in slight prey population increases for short term periods.

In contrast, predator-prey dynamics between cougar and bighorn sheep are less ambiguous because most bighorn sheep populations are small in number and isolated in space. Cougar predation on bighorn sheep typically occurs randomly and most often when one individual learns to specialize on bighorn sheep (Logan et al. 1996, Ross et al. 1997, Ernst et al. 2002, Sawyer and Lindzey 2002, Festa-Bianchet. et al. 2006). In a population of desert bighorn sheep radio collared in southeastern Utah, cougar predation was responsible for 53% of radio collared adult mortalities (UDWR unpublished data). In California and Arizona, cougars were implicated in the decline of bighorn sheep populations (Hayes et al. 2000, Schaefer et al. 2000, Kamler et al. 2002), and in Alberta, a single cougar was responsible for killing 9% of the early-winter bighorn sheep population including 26% of the lambs (Ross et al. 1997). Targeted removal of ~~cougar~~cougars that learn to specialize on bighorn sheep can be beneficial for both cougar and sheep populations (Ernest et al 2002).

The availability and abundance of different prey species in an area as well as the presence of other predators are also factors that may influence prey populations. In some cases a “predator pit” effect can occur when the primary prey experiences a reduction in numbers but an alternate prey source is available to the predator. This helps artificially keep predator populations high because the predator can switch to other prey, and their population size does not decrease in response to lower availability or preferred prey. The predator can then keep the primary prey species from recovering (Dale et al. 1994, Gassaway 1992).

In ~~1996~~2020, the Utah ~~Wildlife Board~~ approved a Predator Management Policy (DWR Policy No. W1AG-4, last updated in 2006) that authorizes State Legislature passed legislation (Utah Code 23-16-10) requiring the Division ~~to increase cougar harvest~~ on Director to take immediate action to reduce predator densities in management units where big game populations are ~~depressed, or where big game has recently been released to establish or supplement new populations.~~ The policy acts under the assumption below management objectives unless the Division determines that predators ~~can slow recovery of prey populations when they are depressed or that a not significantly contributing to~~ prey population ~~can be kept at a lower density due to~~

~~predation (Cougar Management Guidelines Working Group 2005). Predator management plans are reviewed by regional staff suppression. As a result of this legislative directive, and based on new information being generated by ongoing collaring studies, the Mammals Program Coordinator, and Utah Wildlife Board approved by both revisions to the Wildlife Section Chief and DWR Director. Predatory Species policy (W1AG-4) in August 2020.~~

Most predator management plans that affect cougars have been designed to benefit mule deer and/or bighorn sheep. Cougar harvest has been liberalized where mule deer or bighorn sheep are below population management objective, and adult survival is lower than normal under the assumption that large harvests will reduce cougar numbers and hence predation rates, therefore encouraging growth of populations by improving survival. ~~However, drought~~Drought, habitat alteration and loss and predation all substantially impact big game populations making and these confounding factors must be taken into account when evaluating the effectiveness of predator management plans ~~difficult to evaluate.~~

~~This version of the cougar management plan differs from previous versions in that aspects of the Divisions predator management policy are being incorporated into the plan. Mule deer and bighorn sheep population abundance and survival estimates will be used to help determine annual cougar harvest recommendations. This was one of the key social and management issues with previous versions of the Cougar Management Plan identified through both the public recommendations process and by the Cougar Advisory Group.~~

Units that have predator management plans applied will be managed according to guidelines in the revised Predatory Species policy for the duration of the predator management plan. This plan's parameters will be applied only to units without predator management plans in place. Predator management plans are evaluated for effectiveness and units that show recovery of big game species, or do not recover despite predator management, will be removed from those plans.

In ~~1999~~2021, UDWR ~~implemented~~updated a ~~Nuisance-Cougar~~ Complaints/Incidences policy (DWR Policy No. W5WLD-5, ~~last updated in 2006~~) to provide guidance for reducing damage to private property, reducing public safety concerns, and direction to Division personnel responding to cougar depredation, nuisance/conflicts, and human safety situations. Any cougar that poses a threat to human safety or preys upon livestock or pets is euthanized, as are sick or injured adult cougars and kittens that are unable to care for themselves in the wild. The Division does not rehabilitate cougars. The only cougars that are captured and translocated are healthy adults and subadults that wander into urban or suburban areas in situations where they have not been aggressive toward humans, pets, or livestock.

### Harvest Information

The Division began managing cougar harvests through statewide limited entry hunting in 1990 and increased numbers of permits through 1995-1996. In 1996-1997, additional harvest pressure was added by switching some management units to the harvest objective (quota) system ~~and a record high of 1,496 Permits were sold (Table 1 (data for harvest and permit sales can be found at <https://wildlife.utah.gov/annual-reports/?dc=cougar>)).~~

Utah's cougar population is monitored through mandatory reporting of all ~~hunterharvested~~hunter harvested cougars, cougars that are killed on highways or in accidents and those taken as a result of livestock depredation. Location of kill, sex and age (through a premolar for age estimation) are recorded for every cougar killed and provide the data used to assess management performance in relation to established target values that serve as indicators of population status. Since 1990 cougar mortality in Utah has ranged from 275 (1990) to 666 (1996) and has averaged ~~421~~437 animals (Figure 2).

	Limited Entry Permits	Harvest-Objective Permits	Total Permits	Pursuit Permits
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Year	Resident	Nonresident	Conservation / Expo	Total	Resident	Nonresident	Total		
1989-90	385	142		527				527	355
1990-91	383	142		525				525	364
1991-92	383	142		525				525	524
1992-93	431	160		591				591	570
1993-94	479	180		659				659	552
1994-95	559	232		791				791	505
1995-96	611	261		872				872	627
1996-97	425	170		595			901	1,496	638
1997-98	381	128		509	472	199	671	1,180	635
1998-99	337	109		446	386	189	575	1,021	630
1999-00	259	84		343	374	170	544	887	545
2000-01	206	66		272	880	290	1,170	1,442	692
2001-02	228	30	8	266	897	300	1,197	1,463	681
2002-03	326	36	12	374	685	266	951	1,325	703
2003-04	215	29	20	264	533	209	742	1,006	772
2004-05	233	30	10	273	841	290	1,131	1,404	703
2005-06	356	38	12	406	464	222	686	1,092	730
2006-07	313	35	18	366	600	245	845	1,211	714
2007-08	283	34	20	337	587	238	825	1,162	880
2008-09	271	34	18	323	543	220	763	1,086	855
2009-10	263	32	18	313	566	192	758	1,071	900
2010-11	330	38	15	383	595	190	785	1,168	909
2011-12	312	36	16	364	613	202	815	1,178	777
2012-13	312	36	17	365	564	226	790	1,096	769
Total	8,281	2,224	184	10,689	9,600	3,648	14,149	24,778	16,030
Mean	345	93	15	445	600	228	832	1,032	668

Table 1. Utah Cougar Permits 1990-2013.

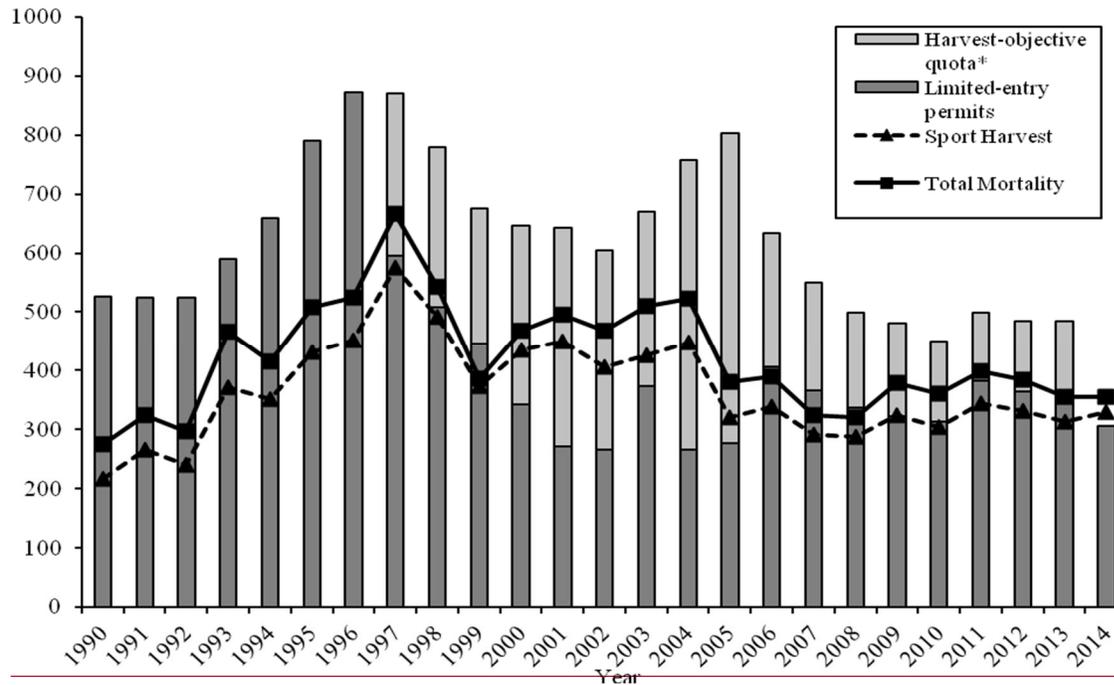


Figure 2. ~~Cougar Mortality 1990-2014~~

Nearly all cougars harvested in Utah are taken with the aid of dogs. An individual hunter ~~is restricted to holding either~~may possess a limited entry, cougar harvest, and/or spot and stalk permit ~~or a harvest objective permit per~~each season, and must wait 3 years to reapply ~~once they acquire~~for a limited entry ~~permit~~season once they draw a permit to hunt a limited entry season. The bag limit is ~~4 cougar~~2 cougars per season. Kittens and females accompanied by young kittens are protected from harvest. ~~The cougar~~Cougar hunting ~~season runs from late November through early June on both limited entry and most harvest objective units. Some units~~seasons are open year round and ~~some have earlier or later opening dates.~~all year and begin in November each year. Limited entry seasons can be set by biologists and usually begin in November and end in February. Spot and stalk seasons are open beginning in August and ending in December. Because units with harvest ~~objective units~~objectives close as soon as the objective (quota) is reached, hunters must ~~call a toll-free number or~~ check the Division website daily to ensure that the unit they plan to hunt is still open.

Pursuit (chase or no-kill) seasons provide additional recreational opportunities over most of the state. The pursuit season generally follows the hunt season, ~~but specific units have year round pursuit, and a few units are closed to pursuit.~~

A valuable way to assess cougar population response to hunting is to follow the trend of age structure in harvest over time. The effect hunting has on cougar populations depends on the level of harvest and the sex and age of cougars that are removed. In general transient males are most susceptible to harvest (Barnhurst 1996). Under more intensive harvest pressures fewer juveniles tend to be harvested, followed by a decrease in adult males, and then finally a steady increase in adult females. The longer and more intensive the harvest pressure the more young females will occur in the harvest. This happens because older age animals and males are not available in the population. Likewise, relatively light harvest allows hunters to be more selective and tends to produce more males and older animals (WAFWA 2011).

Most cougar populations can sustain harvest rates of 20-30% of the adult population depending on the age and sex composition of the harvest (Beck et al. 2005). However, recent work in Washington state suggests the natural rate of increase is approximately 12-14% per year (Beausoleil et al. 2013). Large and well connected cougar populations can recover rapidly from over-exploitation (Cougar Management Guidelines 2005) given relaxation from hunting pressure and an adequate influx of immigrants. Cougar populations are most sensitive to the survival or removal of adult females (Martorello and Beusoleil 2003) which may slow or reduce population growth and may eventually lead to population decline (Stoner et al. 2006, Robinson et al. 2008, Cooley et al. 2009a; 2009b). For example, evaluation of cougar harvest for two different hunting regimes in Utah demonstrated negative impacts on fecundity, density, and age structures when the annual harvest consisted of >30% of the adult population with ≥42% females for periods greater than 3 years (Stoner 2004). Harvest and population data from southern Wyoming indicates that cougar populations can maintain themselves with a harvest ~~comprised~~ of 10-15% adult females (Anderson and Lindzey 2005). For these reasons most states limit female hunting mortality to <50% of the total harvest.

## Distribution and Abundance

In Utah cougars occupy 92,696 km<sup>2</sup> (35,790 mi<sup>2</sup>) of habitat. Cougars are distributed throughout all available eco-regions (Figure 3) and exhibit a broad habitat tolerance occurring from the semi-arid low-elevation pinion-juniper belt, to the mesic, aspen and conifer dominated forests of the higher mountains and plateaus. Habitat quality varies by ecoregion with the Colorado Plateau and Great Basin containing smaller, naturally fragmented habitats with lower cougar densities, and the mountain ecoregions ~~comprised of~~ comprising relatively large, mesic patches (Stoner et al. 2013a).

Residential and commercial development is incrementally reducing cougar distribution through habitat alteration and destruction, particularly along the western border of the Wasatch Mountains in northern and central Utah.

The last statewide cougar population estimates were developed in conjunction with the Utah Cougar Management Plan in 1999 (UDWR 1999). These estimates used extrapolations of cougar densities from published studies in the southwestern United States to: 1) the total area within all management units that comprise cougar range, and 2) the total amount of occupied cougar habitat within Utah. The habitat quality within each management unit was classified as either high, medium or low based on vegetative characteristics, terrain ruggedness (Riley 1998) and prey density. Cougar densities derived from research within Utah, California and New Mexico were associated with each habitat quality level. High quality habitat was assigned a density range of 2.5-3.9 cougars/100 km<sup>2</sup>, medium quality habitat was assigned a density of 1.7-2.5 cougars/100 km<sup>2</sup> and a density of 0.26-0.52 cougar/100 km<sup>2</sup> was assigned to low quality habitat. The first statewide population estimate of 2,528-3,936 cougars resulted from summing unit population estimates.

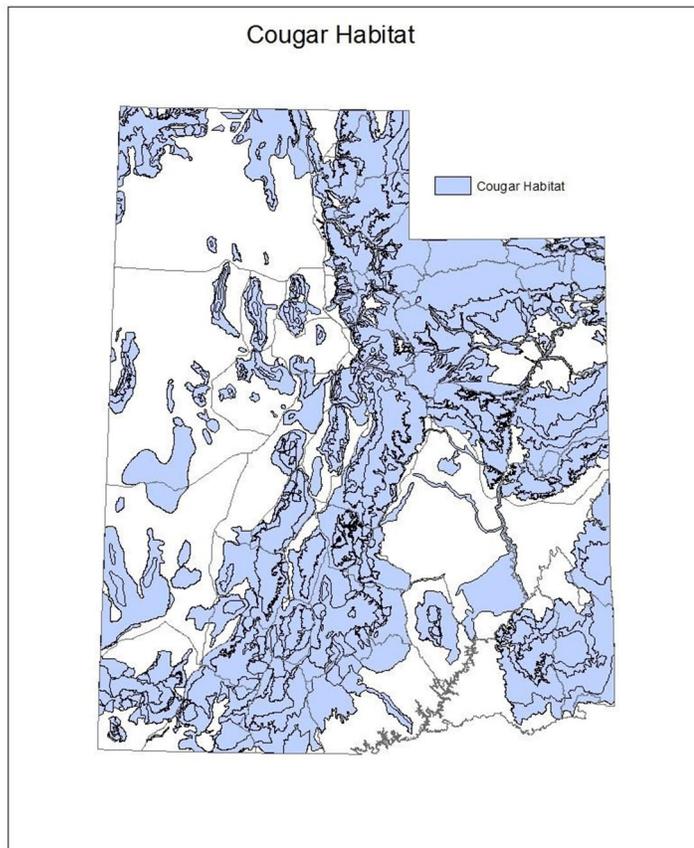


Figure 3. Cougar Habitat in Utah

For comparison, a second estimate of 2,927 cougars statewide was generated based upon mean cougar densities and total occupied cougar habitat within the state. Each management unit's cougar population was estimated by extrapolating the mean cougar density assigned to the unit (based on the respective range indicated above) to the amount of occupied cougar habitat within the unit, and unit estimates were summed to obtain the statewide figure. The two methods produced population estimates that show considerable agreement, but they should be only viewed as general approximations of the statewide cougar population.

## Research

Beginning with the observational work of Connolly (1949), up through current investigations of cougar-coyote-mule deer interactions by Julie Young and colleagues, Utah has a rich history of research on cougar ecology and management. Two topics dominate the literature on the species: predation effects on big game species, and

population estimation techniques. In Utah and most western states cougars are often managed from conflicting standpoints. As a predator of mule deer, elk, and bighorn sheep, cougars can be managed as a pest, in which ~~measureable~~measurable changes in density are desired in order to evaluate the numerical responses of prey. However, when prey survival is not a concern, cougars may be managed as a trophy game species, in which harvest can be fairly conservative. Under both conditions, the ability to estimate and track changes in local abundance is central to effective management.

Cougar research can be subdivided into a few broad topics; natural history, foraging habits and predation, habitat use, and population dynamics. The latter category has received the most attention and involves estimation of abundance, reproduction, and survival rates. In order for management to be effective, a solid understanding of these life history characteristics is essential. The earliest work in Utah was conducted by houndsman and district Predatory Animal and Rodent Control agent, Edward Connolly, who used snow tracking to evaluate predation rates and prey selection in the Wasatch Mountains. These efforts were followed in the 1950s by W. L. Robinette who made further evaluations of food habits by examining the stomach contents of harvested cougars (Robinette et al. 1959). Similarly, these authors used necropsy of females removed through harvest and depredation control to evaluate pregnancy rates, litter size, and breeding seasons (Robinette et al. 1961). Other investigations elaborated on causes of natural mortality (Gashwiler and Robinette 1957). Robinette et al (1977) summarized their findings about cougars and their role in mule deer population dynamics in their study, *The Oak Creek Mule Deer Herd in Utah*. Because of the large sample sizes and relatively simple analyses, some of these papers are still relevant as more recent efforts have only reinforced early findings.

The advent of radio-telemetry in the 1960's facilitated a detailed view of cougar behavior. This tool removed much of the speculation from field work by providing investigators a means of tracking animals in real time. Telemetry allowed for rigorous measures of home range size, sociality, movement behavior, and predation rates. The work of Lindzey et al. (1989) was the first use of radio-telemetry on cougars in the state. This project was conducted on the Boulder Plateau and adjacent Henry Mountains in

southern Utah from 1978 to 1989. By the time this study was initiated, cougars had been classified as a big game species for over a decade, and many of the uncertainties associated with managing a secretive carnivore were apparent. Lindzey focused on applied questions related to cougar predation impacts on deer, elk, and livestock (Ackerman et al. 1984, 1986), population dynamics (Hemker et al. 1984, 1986; Lindzey et al. 1988, 1994), and survey techniques (Van Dyke et al. 1986; Van Sickle and Lindzey 1991, 1992). During the latter years of the study, Lindzey and his students evaluated cougar demographic responses to typical harvesting regimes (Barnhurst and Lindzey 1989; Lindzey et al. 1992; Laing and Lindzey 1993). In 1991 Lindzey published a brief paper on recommendations for future research. Due largely to an inability to accurately census cougars and an increasing concern over human/cougar conflicts the development of reliable survey techniques and evaluation of cougar behaviors in and around urban settings were top among ~~managers~~managers' concerns.

As the human population in the west ~~have~~has increased and became progressively more urban, societal values have evolved. Along with these changes restructuring of wildlife management policy has changed to include greater public input. Wildlife commissions and advisory boards are the avenue for public input in most western states. Continued debate over abundance, reactions to hunting pressure, and the burgeoning issue of cougars living near people prompted the initiation of Utah's second radio-telemetry effort to examine cougars. This project was led by Dr. Michael Wolfe at Utah State University, and Clint Mecham, a veteran from Lindzey's fieldwork on the Boulder-management unit. This new project involved two study areas; one in central Utah on the Fishlake National Forest (Monroe Mountain), and the other due west of the rapidly expanding Salt Lake metro area in the Oquirrh Mountains. The primary difference between these sites was the pattern of land ownership. The Monroe Mountain site was public land and open to hunting whereas the Oquirrh Mountain site was a patchwork of private properties with restricted access, including large holdings by the Utah Army National Guard and the Kennecott Copper Company. This created a vast region of un-hunted habitat on the edge of an expanding metro area.

Wolfe's study had three central objectives: 1) evaluating cougar enumeration techniques under differing densities, 2) assessing the demographic effects of sustained harvest on cougar demographics, and 3) assessing cougar movement behavior and resource use in an urban-wildland setting. This project ran from 1996 to 2013 and represents the longest comparative study ever conducted on the species. Unlike many diurnally active, herding, or numerically abundant species, there are no robust and widely accepted techniques for cougar enumeration (Choate et al. 2006) and findings from this study underscored the severe limitations imposed by cougar behavior on the development and use of robust survey techniques. Stubbornly small sample sizes, the inherently open nature of cougar populations, and wide dispersal tendencies mean that classic mark-recapture techniques are of limited utility at scales relevant to management (Sinclair et al. 2001, Stoner et al. 2008).

During his Boulder Plateau study, Lindzey addressed the question of harvest effects, but it was an experiment in time on a single study area (before-after). ~~The Wolfe's~~ second objective ~~Wolfe's project~~ was an attempt to replicate the Boulder study in space. The effort here was the first to employ a Before-After-Control-Impact study design in which two populations were monitored simultaneously while varying harvest levels on one site. The Monroe-Oquirrh study lasted 12 years and demonstrated notable demographic differences between populations subjected to different management regimes. Based on these results and combined with the uncertainty of local abundance, Wolfe et al. (2004) recommended statewide implementation of a source-sink type management structure in which known behavioral tendencies, such as male-biased dispersal are used to backfill territories left vacant following harvest. This idea was developed further by Stoner et al. (2013a, 2013b), who parameterized cougar dispersal and identified a series of de facto refugia, i.e. areas of suitable habitat that exhibit low levels of hunting.

The third objective of this study was pursued by Rieth (2009), Stoner (2011) and Mitchell (2013). These authors looked at habitat use, movement patterns, and predation behavior in the Oquirrh Mountains- a region that encompassed military training, industrial activities, and suburban land-use. Rieth (2009) demonstrated a shift in cougar

habitat selection by behavior, which is correlated with time-of-day. Notably, cougars are farthest from human activity during diurnal hours when human activity is highest, and nearest at night when actively hunting. Subsequently, Stoner (2011) found cougars generally avoided areas of predictable human activity, but that aversion was not absolute and some individuals, particularly males and older females with dependent kittens ~~passed,~~ occasionally used human dominated landscapes. Mitchell (2013) followed on this work and noted that despite proximity to urban and mixed-use landscapes, cougar depredation on pets and hobby livestock were rare, and that most livestock depredations were on free-ranging cattle in wilderness parts of the study area.

The capstone of the Monroe-Oquirrh cougar project were the evaluations by Wolfe et al. (2015, in review) of commonly used cougar performance measures with respect to known demographics, and an assessment of the degree to which harvest mortality acts in an additive or compensatory manner in cougar populations. These analyses used radio-telemetry data to calibrate catch-per-unit-effort, survival rates, and percent females in the harvest as an index of population performance. Following these efforts the project moved into a second phase in which the Oquirrh Mountain site was closed and remaining resources were directed to a new study objective on the Monroe site.

This segment of the project was ~~leadled~~ by Julie Young of the National Wildlife Research Center at Utah State University and changed focus from population demographics to the interaction between coyotes, cougars and mule deer. ~~Results are forthcoming.~~

## Objective, Strategies and Management Systems

### Outreach and Education Objective

1:

Increase awareness and appreciation within the general public for the role of cougars in Utah's ecosystems.

Strategy:

~~0-1.~~      Determine (survey) the general public's knowledge and attitudes toward the role of cougars in Utah's ecosystems.

~~0-2.~~      Implement the new Wild Aware Utah program; an effort generated by the Conservation Outreach Section.

Objective 2:

Educate and increase awareness of the public that utilize cougar habitat about cougar safety.

Strategy:

1. Implement the Wild Aware Utah program.

Objective 3:

Provide educational opportunities to the big game hunting public about the relationship between cougar and prey populations.

Strategies:

~~0-1.~~      Develop an educational presentation highlighting cougar-prey interactions geared toward hunting/conservation organizations such as Sportsmen for Fish and Wildlife, Mule Deer Foundation, Rocky Mountain Elk Foundation, Utah Bowman's Association and others.

~~0-2.~~      Write articles addressing cougar prey interactions for publication in sportsmen magazines/~~news letters~~newsletters published by hunting/conservation organizations such as: Sportsmen for Fish and Wildlife, Mule Deer Foundation, Rocky Mountain Elk Foundation, Utah Bowman's Association and others

~~0-3.~~      Explain cougar-prey interactions through radio, television and print media.

~~0-4.~~      Periodically assess big game hunter opinions about the effect of cougars on big game populations.

Objective 4:

Educate all cougar hunters on how to determine the age/sex of cougars to increase harvest selectivity and continue to educate Division employees tagging cougars.

Strategies:

- 0.1. \_\_\_\_\_ Continue to publish information about sex and age identification techniques in the Cougar Guidebook and online.
- 0.2. \_\_\_\_\_ Evaluate the effectiveness of the voluntary online orientation course to determine if desired results are being obtained.
- 0.3. \_\_\_\_\_ Modify the harvest reporting form to gather data on the effectiveness of the orientation course.
- 0.4. \_\_\_\_\_ Survey unsuccessful cougar hunters to gather data on the effectiveness of the orientation course.
- 0.5. \_\_\_\_\_ Obtain high quality digital photographs of cougars for sex and age identification education purposes. Examples: treed cougars, lactating females and track and paw sizes for sex and age differentiation.
- 0.6. \_\_\_\_\_ Explore ways to reward hunters for selective harvest.
- 0.7. \_\_\_\_\_ Train Division employees responsible for tagging cougars at least biannuallybiennially.

Objective 5:

Increase and develop educational opportunities for sportsmen and other user groups prior to the RAC and Board process

Strategy:

1. Hold informational meetings on recommendations prior to taking them through the public process.

## Population Management

### Objective 1

Maintain cougar populations within their current statewide distribution in a manner that: 1) recognizes the large geographic and temporal scales at which cougar populations operate, 2) stresses the importance of social structure for long-term viability, 3) directs hunter pressure on a management unit or subunit basis, and 4) manages cougar abundance with respect to their ungulate prey species.

### Performance Targets:

- Primary Target - Proportion of all females in the harvest < 40% (within a management unit averaged over 3 years)
- Secondary Target – Proportion of cougars ≥5 years old in harvest between 15-20% (within a management unit averaged over 3 years)

### Strategies ~~(See Attachment A: Cougar Management Tree):~~

1. Implement the management system based on data for the previous 3 years for all units that mule deer and bighorn sheep triggers are not met as follows:

a. Select ~~limited entry, harvest objective, or split strategy objectives~~ based on the needs of the unit and what type of hunting pressure is appropriate. ~~Limited entry seasons may be established on units when appropriate.~~

b. If the proportion of all females in the harvest <40% then:

1) ~~1)~~ Proportion of cougars ≥5 years old in harvest ≥ 20 % then ~~permits/quota~~ harvest objective may increase.

2) ~~2)~~ Proportion of cougars  $\geq 5$  years old in harvest = 15-20% then ~~permits/quota~~ harvest objective may be maintained or decrease/increase at biologist discretion.

~~4)3)~~ Proportion of cougars  $\geq 5$  years old in harvest < 15% then ~~permits/quota~~ the harvest objective may decrease.

~~2)4)~~ Small sample sizes may bias both sex and age data. In these instances the biologist may increase, decrease or maintain ~~permits~~ harvest objective at their discretion.

c. If the proportion of all females in the harvest  $\geq 40\%$  then:

1). Decrease ~~permits/quota~~ harvest objective

#### Objective 2:

Be responsive to prey population objectives. Manage cougar populations to reduce predation on big game herds that are below objective when cougar predation is considered a potential limiting factor for herd growth or recovery. Consider development of a predator management plan and implement it according to UDWR Managing Predatory Wildlife Species policy (W1AG-4) if annual recommendations are not meeting ~~the needs~~ prey species objectives of the unit: (see appendix I).

~~Performance Targets for units where mule deer or bighorn sheep triggers are met (See Attachment B: Predator Management Tree—Mule Deer):~~

- ~~• Primary Target – Proportion of female cougars in the harvest  $\geq 40\%$  (within a management area averaged over 3 years)~~

#### ~~Strategies:~~

- ~~1. Implement the management system based on data for the previous 3 years for all units that mule deer and bighorn sheep triggers are met as follows:~~

a. ~~— Select limited entry, harvest objective, or split strategy based on the needs of the unit and what type of hunting pressure is appropriate.~~

b. ~~— If mule deer populations are <90% of unit or subunit objective and conditions listed in 1) or 2) below are met:~~

~~1). Adult deer survival on the representative unit <84% for 2 of the past 3 years and the herd unit is demonstrating a declining population trend ( $\lambda$  is <1) or;~~

~~2). Adult deer survival on the representative unit is <80% in the previous year and the herd unit is demonstrating a declining population trend ( $\lambda$  is <1).~~

~~i. — Proportion of all females in the harvest <40% then permits/quota may be increased and may not exceed +100% of the previous years permits/quota.~~

~~ii. — Proportion of all females in the harvest  $\geq$ 40% then permits/quota may be maintained at the current level.~~

c. ~~— If mule deer populations are <65% of unit or subunit objective in the previous year.~~

~~1). Proportion of all females in the harvest <40% then permits/quota may be increased and may not exceed +100% of the previous years permits/quota.~~

~~2). Proportion of all females in the harvest  $\geq$ 40% then quota/permits should be maintained at the current level.~~

d. ~~— Bighorn sheep populations where any of the following conditions are met (See Attachment C: Predator Management Bighorn Sheep and Transplants):~~

~~1). Population is <90% of unit or subunit objective or; 2). Bighorn sheep population is below viable levels of <125 animals.~~

~~i.—— Proportion of all females in the harvest <40% then permits/quota may be increased and may not exceed +100% of the previous years permits/quota.~~

~~ii.—— Proportion of all females in the harvest  $\geq$ 40% then quota/permits may remain the same.~~

~~e. When a bighorn sheep, mountain goat, or mule deer transplant or reintroduction will occur in the next year then (See Attachment C:~~

~~Predator Management Bighorn Sheep and Transplants):~~

~~i.—— Proportion of all females in the harvest <40% then permits/quota may be increased and may not exceed +100% of the previous years permits/quota.~~

~~ii.—— Proportion of all females in the harvest  $\geq$ 40% then quota/permits may be maintained.~~

~~f.—— Evaluate ungulate population response annually (based on 3 year average) to determine the need to continue or discontinue predator management direction.~~

~~g.—— When a split unit transitions from limited entry to harvest objective the quota will equal the number of limited entry permits that were not filled during the limited entry season.~~

~~h.—— Bighorn sheep only management areas are management units that don't have an appreciable deer population. On these units the cougar prey base consists primarily of bighorn sheep. These units consist of low elevation primarily snow free habitat and~~

~~as a result too few cougars are harvested to analyze relative to performance targets. No quota is assigned to these management units (San Rafael, Kaiparowits, Book Cliffs-Rattlesnake).~~

~~i. Offer multiple permits or allow harvest of up to 2 cougars on units/subunits where harvest and access is limited.~~

~~j. In special circumstances where it is determined that a cougar may be preying on bighorn sheep the Division may use DWR employees, contract with USDA Wildlife Services (WS), or hire/authorize a contractor outside of the agency to remove the offending animal. The director may authorize removal of depredating cougars as needed.~~

#### Chronic Depredation Criteria:

- ~~• The depredation is occurring on private land and;~~
- ~~• The depredation has occurred in the same area for 3 consecutive years or 4 out of 5 years and;~~
- ~~• WS has attempted to remove the offending animal(s) but has been unsuccessful.~~

#### Strategies:

- ~~1. WS increase efforts and/or bring cougar specialists in from other areas to help resolve chronic depredation problems—option to implement after 2 years.~~
- ~~2. Division request that WS continue efforts to remove the offending animal after When livestock producers have left the area, or before experienced chronic losses, they have arrived to resolve chronic depredation problems—option to implement after 2 years.~~

~~3. The Division may authorize the livestock owner, an immediate family member or an employee of the owner (not someone specifically hired to take cougar) to remove the offending animal beyond the 72hr period stipulated in Utah Admin Code seek relief in accordance with regulations detailed in R657-10-21-~~

~~Conditions to the authorization to remove (4)(a cougar(s) should include:-),~~  
Taking Cougar.

- ~~i. The time period during which the cougar(s) can be removed;~~
- ~~ii. A description of the geographic area from which a cougar(s) can be removed;~~
- ~~iii. A description of the cougar(s) authorized to be removed (i.e. male, female.....)~~
- ~~iv. Other relevant conditions~~

~~Any cougars removed are considered depredating cougars and are subject to the reporting and possession requirements in the Utah Administrative Code R657-10-21.~~

~~4. DWR and WS will work with the houndsmen community to develop a list of houndsmen willing to volunteer their time to help livestock owners resolve chronic depredation issues.~~

#### Cougar Research Objective:

Increase base understanding through continued research designed to address questions relative to cougar management in Utah. Potential research projects are listed below in order of priority.

High Cost Research Priorities (> \$100,000 / Year)

- 0.1. Investigate alternative population estimation techniques for cougars using the relationships between primary productions, ungulate abundance, and cougar home range size.
- 0.2. Radio collar cougars in bellwether units to obtain adult survival estimates to monitor population trends. Consider using bellwether mule deer units to evaluate efficacy of predator control on mule deer survival.
- 0.3. Prey switching in cougars. In multi-prey systems, do cougars switch to alternative prey (e.g. livestock, elk, or feral horses) when mule deer numbers decline? To what extent is cougar predation additive to other sources of mule deer mortality?
- 0.4. Cougar habitat use and predation behavior in multi-prey communities (bighorn sheep, mule deer, elk, feral horses). Can we predict bighorn vulnerability to cougar predation in space?
- 0.5. Indirect effects of predation risk on foraging behavior of livestock.

#### Low to Moderate Cost Research Priorities (< \$100,000 / Year)

- 0.1. Examining DWR livestock depredation records to evaluate the influence or efficacy of cougar removal on depredation rates. Does cougar removal affect depredation losses in subsequent years? How does depredation risk vary in space, i.e. are there depredation hotspots? What are the demographic patterns in cougar depredation of livestock – cattle vs sheep vs. pets?
- 0.2. Examine DWR pet depredation and public safety complaints with respect to cougar management in adjacent units. Are conflicts ~~predicatable~~ predictable in time and space? What are management regimes in units defined by high and low complaints?
- 0.3. To what extent can we manipulate the cougar-deer relationship through habitat manipulation? For example, can we use prescribed fire to simultaneously increase forage and reduce stalking cover?
- 0.4. Evaluate cougar occupancy of military lands, national parks, and other de facto refugia during winter.

~~0.5.~~ Modeling the long-term data set to examine cougar population ecology and demographics; population persistence; possible PhD student interested in population models.

Strategies:

~~0.1.~~ Continue collaborative research efforts to maximize knowledge base, funding sources and available resources.

~~0.2.~~ Explore new funding sources and ways to leverage those resources.

~~0.3.~~ Whenever possible use Division employees enrolled in the educational assistance program to conduct research.

~~0.4.~~ Work closely with the big game program, and where possible, develop research projects that improve knowledge and understanding of mule deer and cougar.

Re-visit prioritized list every 5 years after implementation to determine if research direction or funding change or new opportunities become available.

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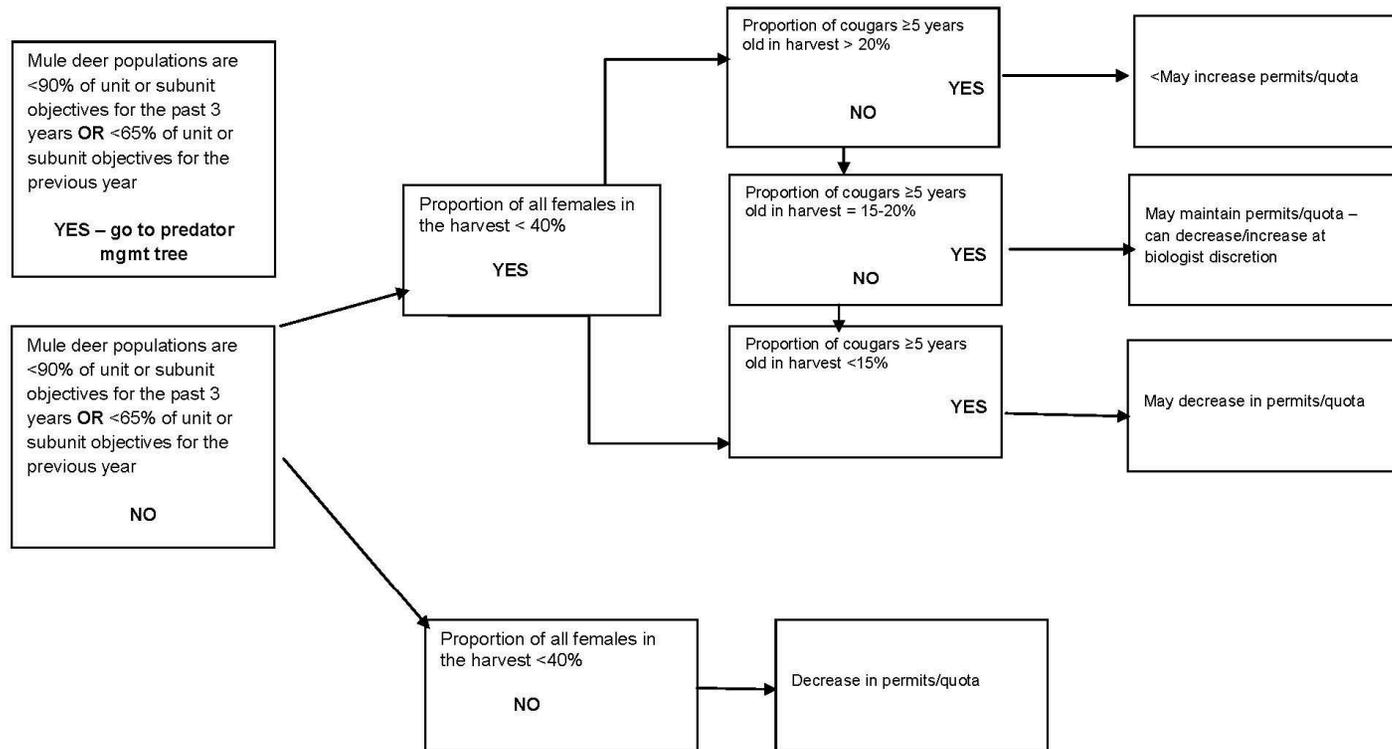
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## Attachment A: Cougar Management Tree

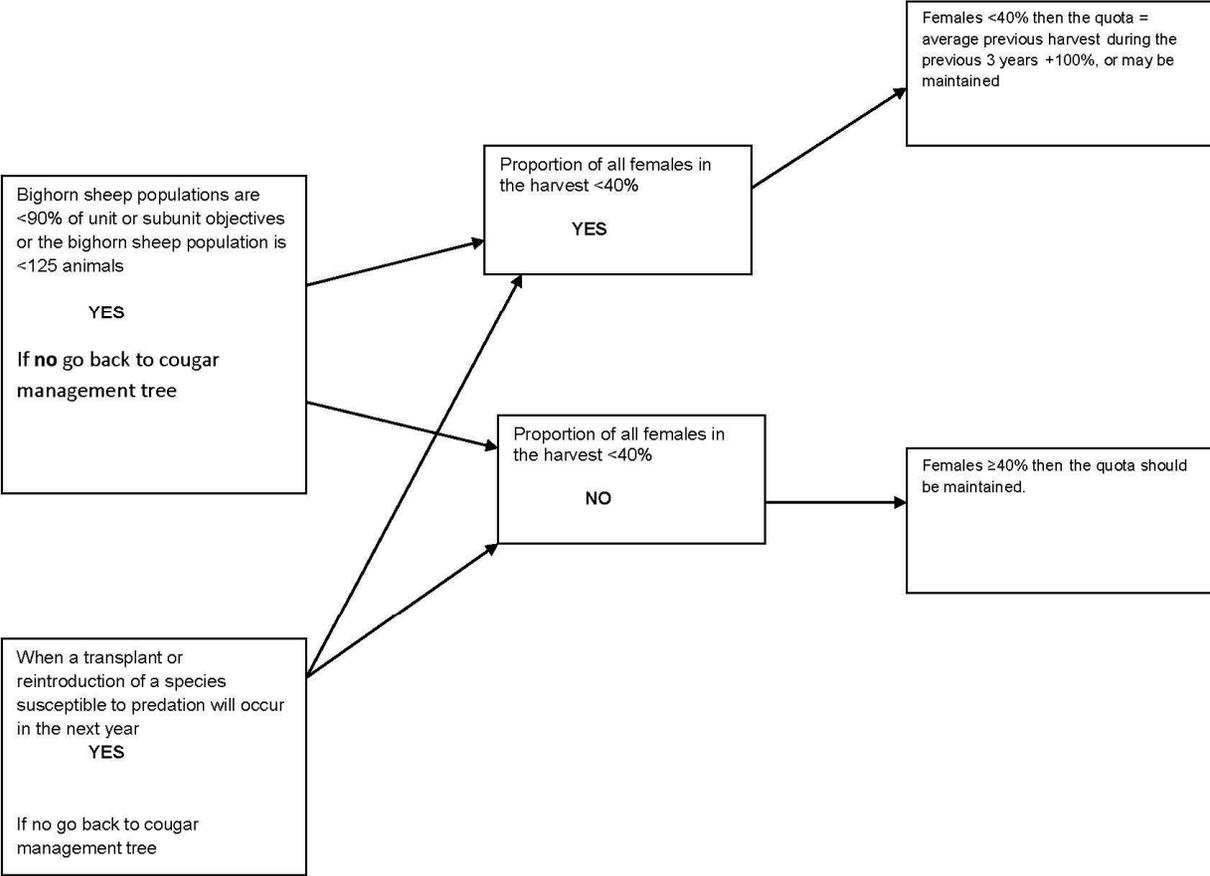
- **Primary Target** - Proportion of all females in the harvest < 40% (within a management area averaged over 3 years)
- **Secondary Target** – Proportion of cougars ≥5 years old in harvest between 15-20% (within a management area averaged over 3 years)





**Attachment C: Predator Management Tree Bighorn Sheep and Transplants**

- **Primary Target** - Proportion of cougar females in the harvest > 40% (within a management area averaged over 3 years)



## Appendix I

### W1AG-4 Managing Predatory Wildlife Species Policy

#### I. PURPOSE

The purpose of this policy is to provide direction in managing predator populations. The Division recognizes the need to efficiently and effectively manage predators and recognizes predator management as a legitimate wildlife management tool that must be available to wildlife managers when needed. The Division however also recognizes that predator management can be controversial both publicly and professionally.

Nothing herein shall be construed as limiting or modifying the statutorily granted authority of the Director or Wildlife Board to manage and conserve the State's wildlife resources.

Note: For guidance on appropriate responses to black bear and cougar incidents, refer to policies W5WLD-03 and W5WLD-05, respectively.

#### II. POLICY

When predator populations are determined to be inhibiting the ability of the Division to attain management objectives for other wildlife populations and the Division decides to implement predator management actions, these management actions will be directed by a predator management plan (PMP). Predator populations, as with all wildlife in Utah, will be managed to assure their future ecological, intrinsic, scientific, educational and recreational values.

When a PMP is implemented predator populations will be managed through sport hunting, depredation control, habitat manipulation and other programs. Wildlife managers and administrators implementing predator management options will consider the ecological relationships that will be affected. Management decisions will be consistent with the objectives or management plans of affected wildlife populations, predator species management plans, habitat, and other biological and social constraints.

The Division of Wildlife Resources does not have management authority over coyote and raccoon populations. The Division however may invoke predator management actions directed at coyote and raccoon populations when wildlife management objectives are not being met and predation by these species are determined to be a contributing factor.

The Division, when and where feasible, will rely on sportsmen to take predators. Circumstances requiring predator management efforts by USDA-Wildlife Services or Division personnel will be considered as needed. Management programs to reduce predator populations will be:

- A. Confined to specific treatment areas;
- B. Targeted toward the species and the offending animal whenever practical; and
- C. Initiated only after preparation of a predator management plan indicating the need for predator management .

Management programs will be evaluated biannually by January 15 and June 15 and discontinued when prey populations have recovered, or it is determined that predation is not limiting. This policy does not invalidate existing predator management policies and procedures used to administer livestock depredation issues. Predator management plans will be submitted to the Game Mammals Program Coordinator following biannual evaluations by February 1 and July 1 following the respective evaluation dates.

### III. DEFINITIONS

A. "Predation" means the act of an individual animal killing another live animal, normally for food as a means of maintaining its life.

B. "Predator" means any wild animal species subsisting, wholly or in part, on other living animals through its own efforts. For the purpose of this policy, predators only include terrestrial and avian wildlife species.

C. "Predator management" means the application of professional wildlife management techniques directed at predators (individually or at the population level) to accomplish specific management objectives.

D. "Prey" means a species consumed by the predator and for which predator management is initiated.

E. "Take" means to hunt, pursue, harass, catch, capture, possess, angle, seine, trap, or kill wildlife species.

### IV. PROCEDURES

The Division will not support any public fund-raising contests, or similar activities, involving the taking of predators that may portray hunting in an unethical fashion, devalue the predator or be offensive to the general public. Managers must recognize the role of predators in an ecological and conservation context. The effects of removing one predator species may result in a population increase of another predator species. Division actions must be based on the best available scientific information. In addition, prey populations are affected by a multitude of factors. If reducing predator populations does not have the desired effect on prey populations within a reasonable time frame, other overriding factors need to be addressed and further efforts to reduce predator populations may not be warranted.

A. Predator Management May Occur But Is Not Limited To The Following Circumstances:

1. In localized areas where introductions or transplants of potentially vulnerable wildlife species (e.g., bighorn sheep, wild turkeys, Utah prairie dogs, and black-footed ferrets) have occurred or are imminent. Control should be sufficient enough to allow transplanted populations to become established and self-sustaining.

2. When prey populations are below carrying capacity and predation plays a significant role. For example, where survival or recruitment of mule deer populations is chronically low, but exhibit good body condition scores indicating habitat is not limiting, and there is evidence that predation is a significant factor. Predator control will not be implemented to compensate for other problems such as habitat deficiencies and natural population cycles of the prey species.

3. When an individual predator is consistently preying on prey populations of special management concern (e.g. when an individual cougar is consistently preying on a group of bighorn sheep).

4. On wildlife waterfowl management areas, especially those primarily managed for specific species and predation is significantly affecting the population.

B. Management Strategies

Three options are available to the Division to remove predators and are listed in order of preference:

1. Licensed or permitted hunters or trappers will take predators in the seasons provided;

2. Designated individuals, including Wildlife Service agents, will systematically take specified predators in a selected geographic area; or

3. Division personnel will take predators in a selected geographic area.

PMPs should consider options other than lethal removal. Various kinds of habitat manipulation, such as constructing nesting islands and providing cover plantings, can sometimes negate or minimize the effect of predators.

### C. Predator Management Plans

The Wildlife Section Chief and regional supervisor will review all PMPs when they are the basis for predator management, then be approved by the Division Director. PMPs will be reviewed and updated biannually by January 15 and June 15. Deer herd parameters will be considered and herds that show signs of recovery (increased fawn/doe ratios, reached carrying capacity, etc.), or fail to respond to predator management (indicating predation is not a limiting factor) will be removed from predator management actions. PMPs will be submitted to the Game Mammals Program Coordinator following biannual evaluations by February 1 and July 1 following the respective evaluation dates.

PMPs will be prepared using the following outline:

1. Definition of the area;
2. Definition of the problem - Using criteria established in Appendix A;
3. Identify strategies and management actions, including:
  - a. Predator species to be managed
  - b. Management strategies for each species

V. REVIEW  
DATE

This policy shall be reviewed on or before January 5, 2025.

### APPENDIX A: Predator Management Plans (PMP) CRITERIA

PMPs may be initiated when:

- 1) A transplant or reintroduction of a species susceptible to predation (e.g. bighorn sheep, black-footed ferret, etc.) will occur in the next year.
- 2) When bighorn sheep populations on a unit or subunit are below 90% of management objective and/or when bighorn populations are < 125 individuals.
- 3) Predators are negatively influencing Sensitive Species populations (e.g. sage-grouse, Utah prairie dogs, black-footed ferrets or other Sensitive Species.)
- 4) For mule deer, when one or both of the following concerns are present:
  - a) A deer population that is suppressed by predators, resulting in limited population growth, is considered to have top-down pressures. This is evidenced by deer populations with good body condition scores — indicating that habitat is not a limiting factor — but that are below carrying capacity, exhibiting chronic poor survival.
  - b) Mule deer and environmental metrics point to potential large population declines due to short term environmental conditions. These anticipated declines should be evaluated when the following conditions are present:
    - i) The population exhibits a negative annual growth rate (Lambda) that would take multiple years to recover from. (~0.85)

OR

- ii) When high adult deer mortality is anticipated. Factors to be considered may include, but are not limited to, the following:
  - (1) relationship of the deer population to carrying capacity ;
  - (2) deer body condition scores;
  - (3) habitat is not limiting population growth;
  - (4) fawn/doe ratios;
  - (5) past deer population performance and trend; or
  - (6) environmental concern such as severe winter conditions or drought.
- iii) Mule deer population status will be evaluated by January 15 and June 15 each year and PMPs drafted when warranted. PMPs will be submitted to the Game Mammals Program Coordinator following biannual evaluations by February 1 and July 1 following the respective evaluation dates.
- iv) A PMP template will be provided for this purpose (see Appendix B).

#### PMPs for Cougar:

If a unit qualifies for predator management for cougars, the unit will be managed either as 1) an open unit with no quota or 2) as a split unit with no quota following the limited- entry portion of the season. Female cougar harvest will be reviewed annually while under predator management to determine how the plan is impacting the cougar population on the unit. In order to reduce population density, percent female take needs to be greater than 40% overall.

Where deemed necessary, Wildlife Services or Division personnel may be used to remove cougars in order to meet harvest objectives defined in PMPs .

#### PMPs for Bear:

If a unit qualifies for predator management for bears, permits will be adjusted annually to meet the following parameters:

1. Less than 25% males 5 years and older in the harvest
2. Between 40% and 45% females in the harvest.

These parameters put the particular unit under a liberal harvest strategy as defined by the Utah Black Bear Management Plan V. 2.0 and are designed to produce a negative population growth rate of between 10% and 20%.

#### PMPs for Coyote:

If a unit qualifies for predator management for coyotes, management efforts will be focused on coyotes that use deer fawning grounds. Timing of removal will focus on periods when snow conditions allow for visibility of coyotes from the air and to also disrupt breeding pairs in late winter and early spring. The numbers of coyotes removed from fawning areas will be evaluated annually against fawn/doe ratios in fall classification to determine if cumulative removal of coyotes is contributing to an increase in fawn survival on the unit.

#### Procedures

1. Units qualifying for PMPs will generally be determined after mule deer population evaluations in January and June.
2. When a unit qualifies for predator management because top down pressure is determined to be causing negative pressure on prey populations (either declines or inhibited growth rates), predators will be managed under a unit PMP that targets only species of predators that have been determined to be limiting recovery objectives.
3. Under predator management a unit would receive additional permits/increased quota as described by species in the preceding paragraphs. This increase in permits/quota will be enacted by the Division Director to ensure the quickest response possible and will not be presented during the regular recommendation process.
4. For units where bear population reductions are required, permit increases will be submitted to licensing prior to February 1 if possible to be included in the draw.
5. On units where large environmentally-caused loss is anticipated, Wildlife Services predator management efforts may be re-prioritized and focus shifted to units of particular concern.

6. In order to streamline potential implementation of predator density reductions, cougar units will be managed as either Split or Harvest Objective units.

7. Deer survival and condition will be evaluated annually and a unit may be removed from predator management when it no longer meets the described criteria in Appendix A.

## Attachment ~~DA~~: Issues and Concerns

During the meetings of the Cougar Advisory Group the following list of issues and concerns were established by the group members. Subsequent meetings focused on discussion, perceptions, and developing, objectives, strategies and management systems to address issues and concerns.

### Outreach / Education

- Need to educate the public about the relationship between cougar and prey populations and the need to integrate management of both predator and prey.
- Need to educate hunters on sex/age identification to help protect females and kittens.
- Need to educate the general public about cougars and cougar safety. Especially in communities situated along the urban-wildland interface.
- Need to improve efforts to educate sportsmen and interest groups on our decision making and recommendations process – need more education prior to RAC and Wildlife Board meetings.

### Population Management / Harvest Management

- Need tools to solve non-resident issues (pursuit permits, commercial vs recreational).
- Three year plan and recommendation process was too inflexible and didn't allow for responsiveness to depredation, ~~nuisance~~conflict or population concern responses .
- Need to simplify the management criteria (performance targets).
- Revisit performance criteria.
- Need tools designed to protect all females.

- Female performance targets in previous plan made it difficult to address livestock damage and nuisanceconflict using sport harvest .
- Eco-region/cougar management areas were too broad for hunter management.
- Eco-region/cougar management area quotas shut down entire units too quickly and didn't allow for targeted harvest to address problem areas.
- Need to harvest more females in some situations – female subquota reduces ability to manage in balance with prey.
- Need to recognize the importance of adult males in the social demographic .
- Need to recognize social structure as a predictor of population.
- Need more knowledge and information on source-sink populations.
- Does transition on split units from limited entry to harvest objective lead to over harvest.
- Does harvest objective hunting lead to over harvest of females.
- Hard to encourage harvest in areas that are difficult to hunt.
- Belief that population estimates are too high – need to reevaluate population estimates.
- Would like to require GPS location on all cougar harvests.

### Predator Management

- Need to integrate cougar and prey (mule deer and bighorn sheep) management .
- Need to move away from predator management plans.
- Need for evaluation of predator management plans and their effectiveness.
- Need to reduce units under predator management and find a way to balance prey populations with predator populations.
- Need for triggers to be related to livestock depredation, deer survival and populations.

### Livestock Depredation

- Need to identify the sex of depredating cougars.
- Develop a way to deal with chronic depredation problems.
- Triggers need to be related to livestock depredation and deer survival.

### Research

- Compare ungulate and cougar populations
  - Develop monitoring system to measure deer herd response to variation in cougar abundance on units under predator management
  - Explore mark recapture population estimates (DNA sampling).
- Explore cougar survival estimates for population management in relation to representative deer survival units.
- Need more robust population estimates.
- Identify limiting factors for predator management units.

**NOTICE OF ADDITIONAL COUGAR SEASON  
IN THE UTAH COUGAR PROCLAMATION  
OF THE WILDLIFE BOARD FOR THE TAKING  
OF COUGAR**

I, Rory Reynolds, pursuant to Section 23-16-10 of the Wildlife Resources Code of Utah, open a fall "spot and stalk" cougar hunting season with the following restrictions:

- The cougar permit is restricted to "spot and stalk" hunting only. No dogs may be used to pursue or harvest a cougar under this permit
- Season dates shall open on August 1 and close on December 31 annually
- A hunter may use any legal weapon to harvest a cougar with a "spot and stalk" permit
- "Spot and stalk" cougar permits may be purchased for a fee of \$30 at any Utah Division of Wildlife Resources Office, license agent, or online
- A hunter may only purchase one "spot and stalk" cougar permit and may only harvest a single cougar with the permit
- A hunter may acquire one additional cougar permit of any kind (e.g. over the counter or limited entry) in addition to their "spot and stalk" cougar permit
- The "spot and stalk" cougar permit is valid on any unit listed in the current Cougar Guidebook approved by the Wildlife Board
- The three-day waiting period to begin hunting is waived for this "spot and stalk" cougar permit
- A hunter must report and check-in a cougar harvest to a Utah Division of Wildlife Resources office within 72 hours of harvest
- Cougars harvested during this "spot and stalk" season, using a "spot and stalk" permit, will not be counted towards unit harvest objectives
- Hunters must follow all other laws governing license and permit eligibility and the take of cougar

This change is necessary to comply with statutory requirements to provide additional cougar hunting opportunities during fall big game hunting seasons and to take actions that support mule deer population recovery.

This change is effective immediately.

UTAH DIVISION OF WILDLIFE RESOURCES

By *Rory Reynolds*  
Director

Date *6/18/21*

State of *Utah* County of *Salt Lake*



Subscribed and sworn to before me on this *18* day of *June* 2021.

*[Signature]*  
Notary

My Commission Expires: *April 23, 2024*

UTAH DIVISION OF WILDLIFE RESOURCES

# Strawberry River WMA

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## Habitat Management Plan

Northeastern Region Habitat Section

6/25/2021



# TABLE OF CONTENTS

I.	Background Information .....	3
	Introduction.....	3
	Purpose of Division Ownership .....	3
	Historic Uses .....	4
	Public Recreation Opportunities .....	4
	Public Access .....	4
	Camping .....	4
	OHV Use .....	4
	Key Wildlife Species.....	4
	Grazing .....	5
II.	Property Information .....	6
	Property Description .....	6
	Land Acquisition History.....	6
	Encumbrances .....	7
	Water Rights/Developments.....	7
	Grazing Rights .....	7
	Mineral Development .....	7
	Rights of Way .....	7
III.	Property Inventory .....	9
	Existing Capital Improvements.....	9
	Roads .....	9
	Fencing .....	9
	Physical Facilities.....	9
	Habitat Projects.....	10
	Irrigation.....	10
	Cultural Resources.....	10
	Species of Greatest Conservation Need .....	11
	Important Fish and Wildlife Habitats .....	12
	General Conditions of Habitats .....	12
	Habitat Types .....	12
	Range and Watershed Conditions.....	13
	Riparian Corridors and Wetlands .....	13
	Habitat Limitations.....	13
	Human Use Related Problems.....	13
	Adjacent Land Uses and Potential Impacts .....	14
	Zoning and Land Use Ordinances .....	14
IV.	Management Goals and Objectives .....	15
	DWR Strategic Plan.....	15
	Wildlife Action Plan .....	15
	Aspen-Conifer .....	15
	Gambel Oak.....	16

	Lowland Sagebrush .....	16
	Mountain Sagebrush .....	16
	Mountain Shrub .....	17
	Aquatic-Forested.....	17
	Aquatic-Scrub/Shrub.....	18
	Emergent.....	18
	Riverine .....	18
	Unit Management Plans for Wildlife Species .....	19
	Mule Deer .....	19
	Elk .....	19
	Strawberry River WMA Management Goals .....	19
	Local Resource Management Plans.....	20
V.	Strategies for Property Management .....	21
	Development and Annual Maintenance Activities .....	21
VI.	Strategies for Habitat Management.....	22
	Habitat Improvement Plan.....	22
	Access Management Plan.....	22
	Fire Management Plan .....	23
	Wood Products.....	23
	Livestock Grazing Plan .....	23
VII.	Summary Statement of Proposed Uses.....	24
VIII.	Monitoring and Evaluation.....	25
IX.	Appendices .....	26
	Appendix A – Deeds .....	26
	Appendix B – Maps.....	27
	Map 1 – Lands Comprising the New Strawberry River Wildlife Management Area .....	27
	Map 2 – Access Management Plan .....	28
	Map 3 – Strawberry River WMA by Deed .....	29
	Map 4 – Dollar Ridge Fire Perimeter .....	30
	Map 5 – Adjacent Land Owners .....	31
	Map 6 – Zoning on Private Lands surrounding the WMA .....	32
	Map 7 – Strawberry River Watershed, Request for Proposals (RFP) .....	33
	Appendix C – Water Rights Information.....	34

# I. BACKGROUND INFORMATION

## INTRODUCTION

This management plan has been developed to guide management on lands owned and managed by the Utah Division of Wildlife Resources (DWR) adjacent to the Strawberry River, downstream of Soldier Creek dam. These lands were previously managed as the Strawberry River WMA, the Timber Canyon WMA, and lands obtained by the Utah Reclamation Mitigation and Conservation Commission and the Bureau of Reclamation (see Appendix B, Map 1). This management plan also serves as the “specific management plan or operating agreement” required by the 2020 GENERAL PLAN FOR USE OF PROJECT LANDS AND WATERS FOR WILDLIFE CONSERVATION AND MANAGEMENT, BONNEVILLE UNIT – CENTRAL UTAH PROJECT.

All lands acquired by the Utah Reclamation Mitigation and Conservation Commission (URMCC) and Bureau of Reclamation (BOR) were obtained as mitigation or conservation properties with the intent of transferring ownership to the Utah Division of Wildlife Resources and have been managed by the DWR for many years. Upon official receipt of these lands, the DWR intends to manage all these parcels as a single block to be known simply as the Strawberry River WMA.

As various parcels have been acquired, different management plans, agreements, and memoranda have been developed to outline the intended uses, goals, and management activities to take place on these separate parcels. This management plan seeks to incorporate all the relevant information contained in those separate plans and to outline the management of the entire block as a single unit. Unless otherwise stated, further references in this plan to the “Strawberry River WMA” (or “the WMA”) will refer to the entire block of lands managed by the DWR under this plan.

The Dollar Ridge Fire of 2018 impacted approximately 70,000 acres within the Strawberry River watershed downstream of Soldier Creek Dam. The twenty-mile reach of Strawberry River within the Strawberry River WMA was severely impacted by erosion, mud and debris flows, and flooding as a result of the fire. Nonetheless, URMCC, BOR and Utah DWR are proceeding with transfer of the remaining federal lands within the Strawberry River WMA to the Utah DWR.

## PURPOSE OF DIVISION OWNERSHIP

Many of the parcels comprising the Strawberry River WMA were purchased as mitigation for fish and wildlife impacts of the Strawberry Aqueduct and Collection, Diamond Fork, and Municipal and Industrial Systems of the Bonneville Unit of the Central Utah Project (CUP). Part of the mitigation includes an angling easement through approximately 1 mile of private property along the Strawberry River surrounded by the WMA.

Other parcels obtained by the Utah Division of Wildlife Resources were purchased to provide access for hunting, fishing, recreation, and protection of fish and wildlife habitat.

All of these properties were acquired to preserve and enhance wildlife habitats and populations, as well as preserve public angler access to the Strawberry River between Soldier Creek Dam and its confluence with Red Creek near the Strawberry Pinnacles. Management actions on the WMA will be determined based on these purposes.

Consumptive recreation opportunities that occur on the WMA include angling and hunting of both upland game and big game. Non-consumptive recreation opportunities on the WMA include bird watching, wildlife viewing, and hiking. OHV use is allowed on existing roads only.

## HISTORIC USES

Prior to Division or BOR ownership, most of these lands were used as un-developed rangeland. The principal uses of the land were recreation (primarily fishing) and cattle grazing. Several pastures along the Strawberry River were irrigated for cattle grazing. A few parcels along the river were used as cabin sites.

## PUBLIC RECREATION OPPORTUNITIES

### PUBLIC ACCESS

There are no seasonal closures or other permanent restrictions on public access. However, motor vehicle access is limited primarily to the Strawberry River and Timber Canyon roads. Much of the WMA is accessible only by foot or horseback. Winter conditions may further limit access. Existing roads where motor vehicle access is allowed, as well as access points, are shown on Map 2 in Appendix B.

There are a dozen parking areas along the Strawberry River Road built to enhance angler access. Several of these parking areas were damaged or destroyed in the Dollar Ridge Fire in 2018. The DWR plans to rebuild these parking areas as access and resources allow. The angler parking points are shown on Map 2 in Appendix B.

Public road access on the Strawberry River Road terminates on its western end near the Duchesne County/Wasatch County line. Road access beyond that point is limited to private property owners that own cabin sites. However, angling easements were acquired from those owners and thus the Strawberry River is open to angling and passage within 20 feet of each streambank from Soldier Creek dam to the Strawberry Pinnacles.

Following the Dollar Ridge fire in July 2018, several severe flash flood events along the Strawberry River damaged the Timber Canyon and Strawberry River roads and rerouted the river channel into and across the roadways in several places. In 2020, Duchesne County, in consultation with the Natural Resources Conservation Service (NRCS), repaired the Timber Canyon road and the Strawberry River road from the Pinnacles to just above Timber Canyon. Repairs to the Strawberry River road above Timber Canyon are planned for 2021.

### CAMPING

Overnight camping is not permitted along the Strawberry River Corridor or in the bottom of Timber Canyon. These riparian areas are Day Use Only. Dispersed camping is allowed in other areas of the WMA, but limited access largely restricts camping to backpack/horseback access only. There are no formally established camp sites on the WMA. DWR limits camping to no more than 14 consecutive days on all WMA's unless otherwise specified.

### OHV USE

OHV use is limited to existing roads. Off road travel is prohibited on the WMA. Roads where motorized vehicle travel is permitted are shown in the Access Management Plan on Map 2 in Appendix B.

## KEY WILDLIFE SPECIES

The Strawberry River WMA provides habitat for mule deer, elk, moose, bighorn sheep, black bear, cougar, bobcats, gray fox, ringtail cats, beaver, raccoon, mink, cottontail rabbits, jack-rabbits, and the occasional river otter. Mule

deer often move to lower elevations for the winter, but can be found on portions of the WMA year-round. Bighorn sheep from the Lake Canyon herd occasionally visit the area. Elk, moose, bear and cougar use the area throughout the year.

Wild turkeys, dusky grouse, and ruffed grouse inhabit riparian and wooded areas of these properties. Several species of waterfowl are often found along the Strawberry River. Many species of passerine birds and raptors also nest in the area. Peregrine falcons and golden eagles are known to occasionally nest along the Strawberry River corridor. Bald eagle are frequent winter visitors.

Undetermined species and number of amphibians and reptiles also inhabit the WMA, including midget faded rattlesnakes.

For some of these wildlife species, such as mule deer, elk, and bighorn sheep, the Dollar Ridge fire resulted in some habitat improvements. For other species, there may have been significant losses of habitat. It is currently unknown what effects the fire had on population numbers for most of these species, but for mule deer, elk, and sage-grouse there has been no appreciable decline in population that can be attributed to the fire.

The Strawberry River provides habitat for several species of sport fish including Colorado River cutthroat trout, brown trout, and brook trout. Prior to the Dollar Ridge fire the Strawberry River from the Pinnacles to Soldier Creek Dam was designated as a Blue-Ribbon fishery. However, due to impacts from the fire and subsequent debris flows which eliminated trout in large portions of the river, it has been downgraded to a potential Blue Ribbon water. As habitat conditions improve, it is the intent of the DWR to re-obtain Blue-Ribbon status on the Strawberry River.

## GRAZING

The Utah Division of Wildlife Resources may use domestic livestock grazing to manage vegetation on Division lands if the Division determines that such grazing is beneficial for the maintenance or improvement of wildlife habitat. In recent years, grazing has been utilized as a management tool only on the unfenced Lion Hollow parcel within the adjacent USFS cattle allotment, where 25 AUMs are leased annually in conjunction with that allotment.

## II. PROPERTY INFORMATION

### PROPERTY DESCRIPTION

The Strawberry River Wildlife Management Area (WMA) is located on the border of Duchesne County and Wasatch County, UT. The majority of the property lies along the Strawberry River corridor, downstream of Soldier Creek Dam, between Red Creek at the Strawberry Pinnacles on the east and Soldier Creek Dam on the west. The portion of the WMA formerly managed as the Timber Canyon WMA lies to the South of the Strawberry River between Timber Canyon and Avintaquin Canyon.

The Strawberry River WMA is approximately 23,450 acres in size and includes approximately 20 miles of Strawberry River downstream of Soldier Creek Dam.

(See Appendix A for information concerning Deeds; see Appendix B for maps).

### LAND ACQUISITION HISTORY

On June 3, 1959, a fee simple patent was issued to the Utah State Department of Fish and Game, wherein was granted to the State of Utah approximately 5,718 acres, portions of which are currently part of the Strawberry River WMA. Other portions of this land are currently contained in the Tabby Mountain WMA.

On November 15, 1978, William R. Peatross and Jessie Peatross sold to the Utah Division of Wildlife Resources the southern-most parcel of the former Timber Canyon WMA, which lies west of Avintaquin Canyon.

On Dec 5, 1984, Fred L. Morris sold to the Utah Division of Wildlife Resources the eastern-most parcels of the Strawberry River WMA.

On February 19, 1988, a quitclaim deed from the United States of America transferred to the State of Utah, Division of Wildlife Resources approximately 9,523 acres as mitigation resulting from the Central Utah Project. Portions of this grant were formerly managed as part of the Timber Canyon WMA. Other portions of this land are currently contained in the Wildcat WMA.

In November of 1989, The Nature Conservancy entered into a contract with the Utah Division of Wildlife Resources to purchase property from Childs Ranches. This property would be divided into 4 parcels, and sold to the DWR in sequence. On April 16, 1990 the first parcel containing approximately 265 acres, was sold to the Utah Division of Wildlife Resources by The Nature Conservancy.

On June 22, 1990, the Utah Division of Wildlife Resources obtained from The Nature Conservancy the remaining three parcels of the Childs Ranches property, containing approximately 1,060 acres.

Between July 1987 and December 1989, approximately 3,070 acres known as the Camelot mitigation parcel, along the Strawberry River were purchased from Dynamic America Corporation in a series of transactions between the Bureau of Reclamation (BOR) and The Nature Conservancy. These lands were purchased to obtain and preserve angler access to the Strawberry River and to preserve wildlife habitat. This land was acquired and will be transferred to the DWR as partial mitigation for fish and wildlife losses attributed to the Central Utah Project.

Since 1992 and the passage of the Central Utah Project Completion Act (CUPCA), the Utah Reclamation Mitigation and Conservation Commission (URMCC) and the Bureau of Reclamation (BOR) have acquired approximately 6,176 acres along the Strawberry River for this same purpose including the Giles and Hayes mitigation parcels.

The URMCC is responsible for designing, funding and implementing projects to offset the impacts to fish, wildlife and related recreation resources caused by the Central Utah Project (CUP) and other federal reclamation projects in Utah. As part of these duties, the Mitigation Commission has obtained an additional 7,364 acres of property. These lands will also be transferred to the DWR for management as part of the Strawberry WMA. These lands include the Fitzgerald, Golinski, Moon, Peterson, and Currant Creek Ranch parcels.

(See Appendix B, map 3)

## ENCUMBRANCES

### WATER RIGHTS/DEVELOPMENTS

The DWR, BOR, and URMCC hold stockwatering rights in Jensen Canyon stream, Water Hollow, Strawberry River, Slab Canyon, Timber Canyon, Beaver Creek, and in unnamed springs. These rights are listed in Table 1 in Appendix C.

Several irrigation water rights along the Strawberry River are currently held by the Utah DWR, BOR and URMCC. These rights are listed in Table 2 in Appendix C.

Other parties also hold water rights on lands managed by the DWR under this plan. These rights are listed in Table 3 in Appendix C.

### GRAZING RIGHTS

When the Utah Division of Wildlife Resources obtained the Childs Ranches portion of the property, a Cattle Foraging/Grazing Deed Reservation was included, which allows Childs Ranches, along with “its heirs, successors and assigns” to annually allow cattle to graze and forage on the portion of the property “which is located south of the Strawberry River and is higher than 7,800 feet in elevation, together with that portion which lies within Willow Creek Canyon”. This deed reservation is binding until the southern boundary of the property is fenced. Nothing in the deed prohibits or limits the construction of such a fence.

An annual grazing lease for 25 AUMS is currently offered for the Lion Hollow parcel to the permittee running cattle on the adjacent USFS allotment.

### MINERAL DEVELOPMENT

There is currently no mineral development on the Strawberry River WMA. However, oil and gas development has occurred on nearby lands in recent years. Old reclaimed exploratory oil well pads are on the Currant Creek Ranch parcel of the WMA.

The Ute Indian Tribe holds mineral rights on parcels granted to the Utah Division of Wildlife Resources under a fee simple patent issued by the United States of America (see Appendix B, map 3).

### RIGHTS OF WAY

The Childs Ranches parcel of the Strawberry River WMA has a perpetual easement and right of way to allow the Deseret Generation & Transmission Cooperative to erect, construct, reconstruct, rephase, enlarge, repair, operate,

maintain, place, relocate and/or replace electric transmission and/or electric distribution lines and/or pipelines and/or other underground facilities. A high-voltage transmission line intersects this portion of the WMA at its far western edge.

The private property owners that own the parcels in Sec. 17 and 20, T4S R9W near the mouth of Beaver Canyon are granted an access right to drive the 1 mile to their properties beyond the gate at the west end of the Strawberry River road. The one-mile stretch of private road was closed by URMCC to public access in 2007 in cooperation with those landowners.

Angler access easements have been acquired along the Strawberry River through the private parcels near the mouth of Beaver Canyon.

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### III. PROPERTY INVENTORY

*NOTE:* In July of 2018, the Dollar Ridge Fire burned about 70,000 acres in Duchesne and Wasatch Counties, including the majority of the lands managed under this plan. This section describes the baseline conditions of the WMA prior to the fire and includes notes relative to impacts on the existing structures. (See Appendix B, Map 4)

#### EXISTING CAPITAL IMPROVEMENTS

##### ROADS

The vast majority of this property is accessible only by foot or horseback (See Appendix B, Map 2).

The Strawberry River Road provides access along the Strawberry River until it is closed to public vehicle access approximately one half mile west of the Duchesne/Wasatch county line. This road is traditionally well used, but sometimes becomes impassible during winter months. Authorized access has been permitted to the private property owners beyond the closed gate. The closure was implemented to protect the private property rights of those landowners. Erosion events following the Dollar Ridge fire significantly impacted the Strawberry River Road, including bridges crossing the river. In 2020, Duchesne County, in consultation with the Natural Resources Conservation Service (NRCS), repaired the Strawberry River road from the Pinnacles to just above Timber Canyon. Additional repairs to the Strawberry River road above Timber Canyon are planned for 2021.

The Timber Canyon road provides limited access to portions of the WMA in that canyon. This road is well used, but can become impassible during winter months.

The portion of the WMA on Currant Creek Mountain can be accessed from the North through private property. Open roads, and roads that are closed, are shown on the Access Management Plan on Map 2 Appendix B.

##### FENCING

Currently, most of the property is not fenced except a two-mile portion along the Fitzgerald parcel boundary, which is fenced with pole fencing. In 1998, the BOR installed chain link fences to identify property boundaries along the Strawberry River where the road crosses a corner of Tribal land and where it crosses two private parcels. They also installed a chain link fence and cattle guards at the private property boundary in Timber Canyon. An old wire fence is in place at the Forest Service boundary in Timber Canyon. Other fences include small stretches where the parcels have common boundaries with private land.

Numerous internal cross fence lines have been removed along the Strawberry River corridor on the various mitigation parcels.

In July of 2018, the Dollar Ridge Fire burned through the majority of lands managed under this plan. Damage to existing fence lines is unknown but likely. DWR intends to assess the condition of these fences and will repair or replace as necessary and as resources allow. Repairs or replacement of pole fencing along the Fitzgerald/URMCC boundary were completed in 2019.

##### PHYSICAL FACILITIES

No physical facilities currently exist on the Strawberry River WMA.

Twelve parking areas along the Strawberry River Road were constructed to provide angler access. In addition, there is a fishing access parking lot on USFS property near Soldier Creek Dam. From this parking area, the WMA can be

accessed on foot via a short trail. These access points are shown on Map 2 in Appendix B. No facilities exist at any of these parking areas.

## HABITAT PROJECTS

In the spring of 1994 approximately 60 acres in the bottom of Lion Hollow was burned and later reseeded. This was a cooperative project between the DWR, USFS, and the Rocky Mountain Elk Foundation (a total of about 90 acres treated). The treatment removed a decadent stand of sagebrush (about 5-6 feet tall) and the area was reseeded using a grass, forb, and shrub mixture.

In 1995, the old fields on the Camelot mitigation parcel were disked and re-seeded with a wildland seed mix.

In 1999, over 2,000 shrub seedlings were planted in the old fields on the Camelot mitigation parcel along the Strawberry River to improve wildlife habitat values.

In 2006, streambank repairs were installed by URMCC on a stretch of the Strawberry River where it was cutting into the Strawberry River Road on the Giles mitigation parcel.

In 2017, approximately 80 acres of decadent Mountain Big Sagebrush was mechanically removed from several old fields on the Giles mitigation parcel along the Strawberry River.

In July of 2018, the Dollar Ridge Fire burned the majority of the WMA (See Map 4 in Appendix B). The following November, seed was applied using a fixed-wing aircraft to approximately 13,200 acres of the WMA and adjacent private lands. This seeding occurred primarily on the burned slopes north and south of the Strawberry River, and to portions of the riparian corridor.

In 2020, Duchesne County, working with the NRCS, repaired the Strawberry River road from the pinnacles to just above Timber Canyon. This work required some impacts to the Strawberry River, including hardening banks in some locations. Some in-stream improvements, including cross-vanes, J-hooks, and root wads, were installed to help mitigate those impacts, but further work needs to be done to improve fish habitat.

## IRRIGATION

Numerous irrigation diversions and associated ditches are located along the Strawberry River corridor on the Camelot, Hayes, and Giles mitigation parcels. Due to the Dollar Ridge fire and subsequent erosion events, these diversions and ditches were heavily damaged or destroyed. It is the intent of the DWR to rebuild these as access and resources allow. Diversion reconstruction will be included in projects to restore stream function and fish habitat.

## CULTURAL RESOURCES

The property acquired by the BOR and the URMCC includes a parcel known as the “Simmons Ranch complex” which contained historic structures listed on the National Register of Historic Places. In 2005, the BOR, the URMCC, the DWR, and the Utah State Historic Preservation Officer (SHPO) entered into a Memorandum of Agreement regarding the protection of this property. This agreement was set to expire after 10 years (in 2015) at which time the structures would be allowed to deteriorate without active intervention. Following that period of time, the DWR would be allowed to remove structures in this complex if it is determined that they present an unacceptable risk to the public. Most of this complex was destroyed in the Dollar Ridge Fire in 2018. The Simmons Ranch Complex is no longer eligible for the National Register of Historic Places. If an unacceptable public risk warrants removal of debris, the DWR will do so.

Other existing trailers and cabins on the Giles and Hayes mitigation parcels were documented and removed in 2004 by URMCC.

A small cabin site in lower Slab Canyon was destroyed in the Dollar Ridge Fire.

Prior to any new surface disturbing activities on the WMA, a cultural resource survey will be conducted to locate and document any and all cultural resources. Any significant cultural resources found in such surveys will be avoided during maintenance or improvement projects.

## SPECIES OF GREATEST CONSERVATION NEED

The Utah Wildlife Action Plan has been created “to manage native wildlife species and their habitats, sufficient to prevent the need for additional listings under the Endangered Species Act. The State of Utah has created a list of 141 Species of Greatest Conservation Need (SGCN), which “do, or potentially could, present the possibility of an ESA listing.” Threats to these species are described in the Utah Wildlife Action Plan. Of the 141 listed Species of Greatest Conservation Need, up to 26 potentially could occur, at least occasionally, on lands managed under this plan. For many of these, very little is known about the species and surveys have not been conducted in this area. For those with known information, the following are of note:

### Bald eagle (*Haliaeetus leucocephalus*)

Wintering bald eagles frequently use the area. No nesting is currently known to occur on the WMA.

### Bluehead sucker (*Catostomus discobolus*)

Surveys conducted in 2004 show a moderate occurrence of bluehead sucker in the Strawberry River downstream of the WMA, becoming more abundant in downstream sections of the river. The State of Utah has a conservation and management plan for bluehead sucker. A range-wide conservation agreement is also in place. Erosion events following the Dollar Ridge Fire in 2018 severely impacted water quality and fish populations downstream. The DWR will continue to conduct fish surveys to determine status of aquatic species and will work to recover species as needed.

### Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*)

Extensive work has been done to protect and enhance Colorado River cutthroat trout populations in tributaries of the Strawberry River, including those in Timber Canyon, Avintaquin Canyon, Willow Creek and Lake Canyon. Colorado River cutthroat trout also occur in the Strawberry River. There is a Tri-State conservation strategy for Colorado River cutthroat trout. Fishing for cutthroat trout is allowed; see the most recent guidebook for regulations. Debris flows resulting from heavy thunderstorms following the Dollar Ridge Fire in 2018 severely impacted water quality and eliminated the trout population from the pinnacles upstream to approximately two miles below Soldier Creek Dam. In October 2019, the DWR restocked portions of the Strawberry River with Colorado River cutthroat trout. The DWR will continue to conduct fish surveys to determine status of aquatic species and will work to recover species as needed.

### Flannelmouth sucker (*Catostomus latipinnis*)

Surveys conducted in 2004 show that flannelmouth sucker are abundant in lower sections of the Strawberry River, downstream of the WMA. The State of Utah has a conservation and management plan for flannelmouth sucker. A range-wide conservation agreement is also in place. Erosion events following the Dollar Ridge Fire in 2018 severely impacted water quality and fish populations downstream. The DWR will continue to conduct fish surveys to determine status of aquatic species and will work to recover species as needed.

### Golden eagle (*Aquila chrysaetos*)

Golden eagles have been consistently documented nesting at various locations along the Strawberry River.

### Northern leopard frog (*Rana pipiens*)

Northern leopard frogs are known to exist along the Strawberry River, but information about their presence on the WMA is limited. Erosion events following the Dollar Ridge Fire in 2018 severely impacted water quality and fish populations downstream. The DWR will continue to conduct surveys to determine status of aquatic species and will work to recover species as needed.

### Peregrine falcon (*Falco peregrinus*)

Peregrine falcons have been documented nesting in the cliffs along the Strawberry River near Timber Canyon.

### Pinyon jay (*Gymnorhinus cyanocephalus*)

Pinyon jays have been observed in the Strawberry River corridor and likely use the conifer covered slopes on the WMA. Much of the pinyon and juniper woodlands they rely on were destroyed during the Dollar Ridge fire in 2018.

## IMPORTANT FISH AND WILDLIFE HABITATS

In addition to the species of greatest conservation need listed above, these lands provide crucial habitat for mule deer, elk, and moose. The entire WMA is summer range for these species and much of the WMA is winter range as well. Elk and moose use the wind-blown ridges, even on the hardest of winters. Mule deer wintering along the Strawberry River spend their summers in the Strawberry Valley to the west. Similar migration patterns are found in elk, too. Wild turkey, dusky grouse, and ruffed grouse also utilize the area. The riparian corridor along the Strawberry River provides habitat for many species of game and non-game species.

The Strawberry River provides good habitat for both native fish and sport fish, though the habitat in much of the Strawberry River above the Pinnacles was severely impacted by the Dollar Ridge fire, subsequent erosion events, and efforts to rebuild the Strawberry River road.

## GENERAL CONDITIONS OF HABITATS

### HABITAT TYPES

Prior to the Dollar Ridge fire, pinyon-juniper woodlands dominated the hillsides with Douglas-fir/mixed conifer, aspen, sagebrush, and mountain brush habitat types forming a minor component. Pinyon-juniper habitat types were found on the drier slopes with western and southern aspects. Slopes with northern and eastern aspects host Douglas-fir types.

Small stands of aspen are found on the higher elevations and in some of the canyon bottoms.

Upland areas of the WMA are dominated by sagebrush. Other shrub species, such as Saskatoon service berry, bitter brush, and curl-leaf mountain-mahogany are scattered throughout the general area. Gambel Oak communities are small and localized.

Prior to the Dollar Ridge fire, riparian habitat along the Strawberry River was characterized by cottonwood and Douglas-fir in the over story with occasional white fir, blue spruce, and box elder. The riparian understory was made up of willows, river birch, red-osier dogwood, golden currant, and Oregon grape.

## RANGE AND WATERSHED CONDITIONS

Prior to the Dollar Ridge fire, range conditions were generally good for the area. In the time since the fire, many areas have experienced new growth, and seeded species applied during initial restoration efforts have been found. Variables such as burn severity, slope, soil type, and pre-fire vegetation type have resulted in different outcomes at different locations on the WMA. Areas with aspen, Gambel oak and other mountain brush communities appear to be recovering relatively quickly. Areas previously dominated by conifers are more severely impacted, and will likely exist as a grass and shrub dominated community for years to come, interspersed by pockets of unburned conifers.

Erosion is a concern. Multiple storm events produced large debris flows and flash flooding in the Strawberry River even before the fire was fully contained. Storm events in July and August 2019 caused significant erosion in Timber Canyon. Further debris flows from monsoon storm events are likely. Erosion potential should gradually improve with revegetation of the burned area, but may continue to have impacts for some time.

## RIPARIAN CORRIDORS AND WETLANDS

Prior to the Dollar Ridge fire, the riparian areas along the Strawberry River and Timber Canyon Creek were generally in good condition. The fire burned several areas in the riparian zone along the Strawberry River and many large trees were lost. Other riparian vegetation, however, showed quick re-growth after the fire. Some areas of the riparian zone were un-burned and in good condition. Flash flooding and debris flows shortly after the fire impacted the riparian zone further and changed the stream channel in some areas, but riparian and wetland vegetation appear to be recovering well.

Increased erosion may continue to impact riparian corridors and wetlands for some time.

Weeds, especially tamarisk and musk thistle, appear to be expanding following the impacts due to the Dollar Ridge fire.

The Strawberry River is recovering following major debris flows in 2018 and 2019. In many places incised channels were aggraded and the river spilled onto the floodplain and began forming braided channels. However, efforts to reconstruct the Strawberry River road re-channelized the river and hardened the banks with rip-rap along much of the channel between the pinnacles and Timber Canyon. DWR biologists worked with engineers and construction crews to try to limit the impacts, and some in-stream structures were placed, but much more work needs to be done to improve fish habitat in areas where construction occurred.

## HABITAT LIMITATIONS

The wildlife habitat on the WMA is limited by steep, rocky slopes. These slopes were previously dominated by pinyon-juniper woodlands or other conifers. In areas that burned during the Dollar Ridge fire, these slopes are now dominated by grasses, and may be more suitable to big game species, including elk and Rocky Mountain bighorn sheep.

## HUMAN USE RELATED PROBLEMS

Few problems related to human use exist on the WMA.

Prior to the Dollar Ridge Fire, the Strawberry River corridor was heavily utilized by fishermen and parking areas were created to provide access points to the river.

There is a concern that off-road OHV use could become a problem in the Long Ridge area, Beaver Canyon, and on the ridges north of the Strawberry River where illegal OHV use from adjacent private properties are becoming an issue. Enforcement patrols are difficult in these areas due to the remoteness and property ownership.

## ADJACENT LAND USES AND POTENTIAL IMPACTS

The Strawberry River WMA is bordered primarily by US Forest Service Lands to the South, Ute Tribal lands on the Southeast and Private or other DWR lands to the North (See Appendix B, Map 5).

There is some potential for the Strawberry River WMA to be impacted by oil and gas extraction activities. Every effort will be made to move oil and gas development out of the river flood plain to avoid potential pollution of the Strawberry River, a major source of drinking water for Duchesne County.

There is high potential for development on adjacent private property. This development would be primarily seasonal cabins and is not likely to significantly impact hunting opportunities in the short term; however, as more of these cabins become used year round the impacts to wildlife will increase.

## ZONING AND LAND USE ORDINANCES

In Duchesne County, private lands surrounding the Strawberry River WMA are zoned for agricultural purposes. In general, private lands to the north of the WMA are zoned for a minimum lot size of 10 acres (A10 zoning). Private lands to the south of the WMA are zoned for a minimum lot size of 5 acres (A5 zoning). Tribal lands, federal, and state lands are not zoned by Duchesne County. See Appendix B, Map 6.

In Wasatch County, many of the lands surrounding the Strawberry River WMA are zoned for preservation (P-160 zoning). This zone establishes “areas where development may be limited due to remoteness of service, topography, and other sensitive environmental issues.” This zoning allows only one unit for every 160 acres. The only exception is the large Strawberry Recreation Zone south of the WMA near Strawberry Reservoir. This zone allows recreational development “in harmony with mountain settings” and dictates “adverse impacts shall be mitigated”. This zoning allows for up to 1,230 units. See Appendix B, Map 6.

## IV. MANAGEMENT GOALS AND OBJECTIVES

The management of the Strawberry River WMA takes into account the goals, objectives, and strategies of other Division of Wildlife Resources planning efforts, as well as county and state resource management plans. These plans include, but are not limited to, the DWR strategic Plan, the Utah Wildlife Action Plan, and species specific management plans. Some of these plans are briefly discussed below. *Note: this is not a comprehensive review of the listed plans, but a summary of relevant objectives and strategies contained within those plans.*

### DWR STRATEGIC PLAN

The management of the Strawberry River WMA will be consistent with the goals and objectives of the Utah Division of Wildlife Resources Strategic Plan:

- Constituency Goal: Strengthen support for wildlife management by demonstrating the value and importance of wildlife to all Utahns.
  - Objective C6 – Increase hunting and fishing opportunities.
- Resource Goal: Conserve, enhance and actively manage Utah’s protected wildlife populations.
  - Objective R1- Increase, decrease or maintain wildlife populations, as needed, to meet the objectives in our management plans.
  - Objective R2- Maintain existing wildlife habitat and increase the quality of critical habitats and watersheds throughout the state.
  - Objective R4 – Decrease risks to species and their habitats through integrated implementation of the Wildlife Action Plan, species recovery plans, conservation agreements and other management plans.

### WILDLIFE ACTION PLAN

The 2015 Utah Wildlife Action Plan (WAP) was created with the goal “to manage native wildlife species and their habitats, sufficient to prevent the need for additional listings under the Endangered Species Act.” The WAP identifies wildlife species most in need of conservation attention and the habitats they require for survival. The WAP includes a statewide threat assessment, which identifies threats to each key habitat and then ranks the impact of that threat according to the number of species of greatest conservation need that could be affected from that threat. The Strawberry River WMA contains the following key habitat types. The threats listed below are not a comprehensive list of statewide threats identified for these habitats, but are those that may be most relevant to the habitats on the WMA. Management activities on the WMA will attempt, to the extent possible, to address these priority threats, and will utilize the suggested strategies for management as outlined in the WAP.

#### ASPEN-CONIFER

Priority threats include:

- Inappropriate Fire Frequency and Intensity (Very High)
- Droughts (Medium)
- Problematic Animal Species – Native (Medium)
- Improper Grazing (current) (High)

Strategies for management include:

- Increasing disturbance from either prescribed or natural fire to stimulate aspen regeneration.
- Applying mechanical disturbance agents such as timber harvest. This can be used to stimulate aspen regeneration and avoid resource losses to conifer beetles.
- Monitoring smaller, naturally-occurring or human-created disturbances for ungulate damage, and taking follow-up actions such as fencing, hazing, hunting, and/or domestic grazing management.
- Promoting policies that reduce improper browsing and grazing by domestic livestock and wildlife.

#### GAMBEL OAK

Priority threats include:

- Invasive Plant Species – Non-native (Medium)
- Inappropriate Fire Frequency and Intensity (High)

Strategies for management include:

- Promoting policies and management that allow fire to return to a more natural regime.
- Promoting and funding restoration that reduces the Uncharacteristic class, including cutting/mulching of invading pinyon and juniper trees, and herbicide or mechanical treatment of non-native invasive species such as cheatgrass and smooth brome.
- Continuing the funding and support for weed abatement programs, including “early detection – rapid response” programs.

#### LOWLAND SAGEBRUSH

Priority threats include:

- Inappropriate Fire Frequency and Intensity (Very High)
- Droughts (High)
- Invasive Plant Species – Non-native (Very High)

Strategies for management include:

- Promoting policies and management that allow fire to return to a more natural regime.
- Promoting policies that reduce inappropriate grazing by domestic livestock, feral domesticated animals, and wildlife.
- Promoting and funding restoration that reduces the Uncharacteristic class, including cutting/mulching/chaining of invading pinyon and juniper trees, herbicide or mechanical treatment of non-native invasive species such as cheatgrass and secondary perennial weed species, and rehabilitation of burned areas following wildfire.
- Developing and deploying techniques to diversify the understory species composition and age classes of decadent even-aged sagebrush stands.
- Developing and deploying techniques to diversify species composition in monoculture or near monoculture stands of seeded non-native plants (e.g. crested wheatgrass).
- Promoting management that includes seeding a diversity of grasses, forbs and shrubs that will lead to increased resiliency and resistance in the plant community.

#### MOUNTAIN SAGEBRUSH

Priority threats include:

- Invasive Plant Species – Non-native (Medium)
- Roads – Transportation Network (Medium)

- Droughts (High)
- Inappropriate Fire Frequency and Intensity (Medium)
- Improper Grazing (current) (High)

Strategies for management include:

- Promoting policies and management that allow fire to return to a more natural regime.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Promoting and funding restoration that reduces the Uncharacteristic and surpluses of older age class, including: Dixie/chain harrow, brush mowing or other treatments that reduce the older age class and stimulate the younger/mid age classes; herbicide or mechanical treatment of non-native invasive species such smooth brome; single tree mulching/cutting of invading conifer.
- Promoting policies that lead to responsible human/energy intrusion and development.
- Promoting management that includes seeding a diversity of grasses, forbs and shrubs that will lead to increased resiliency and resistance in the plant community.

## MOUNTAIN SHRUB

Priority threats include:

- Invasive Plant Species – Non-native

Strategies for management include:

- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds and annual grasses, including “early detection – rapid response” programs.

## AQUATIC-FORESTED

Priority threats include:

- Presence of Dams (High)
- Sediment Transport Imbalance (Medium)
- Roads – Transportation Network (Medium)
- Improper Grazing (current) (Medium)
- Channelization / Bank Alteration (direct, intentional) (High)
- Presence of Diversions (Very High)
- Dam / Reservoir Operation (Medium)
- Droughts (High)
- Water Allocation Policies (Very High)
- Agricultural / Municipal / Industrial Water Usage (Very High)
- Invasive Plant Species – Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Promoting policies that reduce inappropriate siting of roads in riparian zones.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection – rapid response” programs.

## AQUATIC-SCRUB/SHRUB

Priority threats include:

- Sediment Transport Imbalance (Medium)
- Roads – Transportation Network (Medium)
- Improper Grazing (current) (High)
- Channelization / Bank Alteration (direct, intentional) (High)
- Presence of Diversions (Very High)
- Dam / Reservoir Operation (Medium)
- Inappropriate Fire Frequency and Intensity (Medium)
- Droughts (High)
- Water Allocation Policies (Very High)
- Agricultural / Municipal / Industrial Water Usage (Very High)
- Invasive Plant Species – Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Promoting policies that reduce inappropriate siting of roads in riparian zones.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection – rapid response” programs.

## EMERGENT

Priority threats include:

- Channelization / Bank Alteration (direct, intentional) (Medium)
- Droughts (High)
- Water Allocation Policies (High)
- Agricultural / Municipal / Industrial Water Usage (Medium)
- Invasive Plant Species – Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection – rapid response” programs.

## RIVERINE

Priority threats include:

- Presence of Dams (High)
- Sediment Transport Imbalance (Medium)
- Roads – Transportation Network (Medium)
- Improper Grazing (current) (High)
- Channelization / Bank Alteration (direct, intentional) (High)
- Presence of Diversions (Very High)
- Dam / Reservoir Operation (Medium)

- Inappropriate Fire Frequency and Intensity (Medium)
- Droughts (High)
- Water Allocation Policies (Very High)
- Agricultural / Municipal / Industrial Water Usage (Very High)
- Invasive Plant Species – Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection – rapid response” programs.

## UNIT MANAGEMENT PLANS FOR WILDLIFE SPECIES

The Strawberry River WMA is a part of the Wasatch Mountains Wildlife Management Unit. As such, management activities on these properties will be consistent with the objectives and strategies within the herd unit management plans, outlined below.

### MULE DEER

The Wasatch Mountains Deer Herd Unit Management Plan (2016) contains the following habitat management objectives:

- Maintain mule deer habitat throughout the unit by protecting and enhancing existing crucial habitats and mitigating for losses due to natural and human impacts.
- Improve the quality and quantity of vegetation for mule deer on crucial range.
- Provide improved habitat security and escapement opportunities for deer.

These objectives are to be met by a combination of strategies including broad scale vegetative treatment projects to improve mule deer habitat with emphasis on drought or fire damaged sagebrush winter ranges, ranges that are being taken over by invasive annual grass species, and ranges being diminished by encroachment of conifers into sagebrush or aspen habitats.

### ELK

The Wasatch Mountains Elk Herd Unit Management Plan (2016) contains the following habitat management objectives:

- Within the next five years, enhance forage production on a minimum of 20,000 acres of elk habitat, through direct range improvements to maintain population management objectives.

This objective is to be met by a combination of strategies including re-instituting natural fire interval in conifer zones, increasing vegetative understory and reducing pinyon/juniper invasion of sagebrush habitats, and implementing other habitat enhancements when opportunities arise.

## STRAWBERRY RIVER WMA MANAGEMENT GOALS

In 1995, the Utah Division of Wildlife Resources, the Bureau of Reclamation, and the Utah Reclamation Mitigation and Conservation Commission signed an operating agreement outlining management goals and objectives for the

CUP parcels under DWR management. While some of these objectives outlined activities to occur within a specific timeframe that has now lapsed, other objectives are still applicable to all the properties under this plan.

The following management goals for all lands managed under this plan were outlined in the 1995 operating agreement and are still in effect for the WMA:

- Maintain and promote use of the area by big game, upland game, fish and non-game wildlife through protecting and improving critical wildlife habitats, rehabilitating burned areas and mitigating for long-term stream impacts due to wildfire and subsequent erosion events.
- Maintain public access to the property for hunting, fishing, and wildlife watching. This access will preserve a primitive condition and wild setting. Any improvements will be the minimum necessary to protect wildlife habitat from increases in recreational use.
- Maintain a level of law enforcement necessary to assure acceptable compliance with all public-use laws and regulations pertinent to the property.
- Utilize livestock grazing only when necessary for the enhancement of wildlife values and habitat quality.
- Allow the natural expansion of beaver in areas where such expansion does not compromise necessary facilities or conflict with other specific wildlife or habitat goals.
- Prohibit construction of new roads and limit all vehicular use to existing roads and dedicated parking areas.
- Evaluate existing spur roads and effectively close or obliterate said roads as deemed necessary for habitat protection.
- Install and maintain appropriate regulatory and interpretive signing necessary for management of public use.
- Monitor instream flows and fish populations regularly to determine the status of the sport fishery.
- Protect and preserve the appurtenant water rights to the property for fish and wildlife purposes as appropriate.

## LOCAL RESOURCE MANAGEMENT PLANS

In 2015 the Utah Legislature passed H.B. 323, which required each county to develop a resource management plan (RMP) as part of the county's general plan. The State of Utah aggregated the land use decisions and directives that emerged from the county plans and, in 2018, published a resource management plan for the state of Utah. These local resource management plans were created to address and remedy a disconnect between local land use needs and desires and federal land use planning. The county and state RMPs are intended to provide a basis for coordinating with the federal government. Counties also utilize their RMP's as a basis for coordinating with State planning activities.

Under Utah State Code 63L-10-104, "State agencies and political subdivisions shall refer to and substantially conform with the statewide resource management plan when making plans for public lands or other public resources in the state."

Local Resource Management Plans applicable to the Strawberry River WMA include the statewide RMP and those for Duchesne and Wasatch Counties. Management of the Strawberry River WMA will be consistent with these local resource management plans to the extent possible.

## V. STRATEGIES FOR PROPERTY MANAGEMENT

### DEVELOPMENT AND ANNUAL MAINTENANCE ACTIVITIES

Annual maintenance on these properties consists of weed control, fence maintenance, and monitoring for problems. New fencing may be constructed if monitoring of habitat and trespass shows that fencing is needed. Signs will be placed and maintained as needed. Fire-damaged fences, parking areas and signage will be re-built as needed. Diversion structures and ditches will be rebuilt along with stream restoration as needed.

Specific strategies are listed below.

- Maintain signs to show ownership and inform the public.
- Maintain and construct fencing around property boundaries and riparian areas as needed.
- Construct boundary fence along southern boundary of the Childs Ranches parcel.
- Maintain parking areas for public access. Rebuild fishing access points as needed.
- Continue to develop low-impact public use and access.
- Inform and educate the public about the value of habitat protection and enhancement.
- Monitor and control livestock trespass. Solve any chronic problems through fencing.
- Monitor and discourage the use of OHV's on the property, except for their legal use on existing roads.
- Monitor for tamarisk and musk thistle, along with other weeds. Coordinate weed control efforts as needed.
- Acquisitions which would facilitate management of this property and better protect the area's resources should be pursued when opportunities arise and funds permit. To comply with county policies, any acquisitions will be coordinated with county commissioners and may coincide with the disposal of other DWR properties in the county.

## VI. STRATEGIES FOR HABITAT MANAGEMENT

### HABITAT IMPROVEMENT PLAN

In late 2020, the DWR issued a Request for Proposals (RFP) to solicit proposals from private contractors to develop, design, and oversee the development a watershed scale restoration plan for the Strawberry River Watershed, which includes most of the Strawberry River WMA (See Appendix B, Map 7). This will begin a transparent, public process to assess the watershed and riparian conditions, prepare a rehabilitation and implementation plan, and to guide affected agencies and communities in restoring the fishery, riparian corridor, and associated watershed. In 2021, the DWR will begin evaluating these proposals and move forward with hiring a contractor. Once complete, the resulting restoration plan will be used to guide DWR's efforts to improve habitat for fish and wildlife on the WMA. It is anticipated that this plan will focus on reducing erosion to protect infrastructure, improving stream function, restoring fish habitat, and controlling noxious weeds.

Until this restoration plan is complete, DWR will work on improving habitat for fish and wildlife through the following specific priorities:

- Improve the riparian corridor and in-stream fish habitat by placing in-stream structures (J-hooks, cross vanes, etc.) and through planting riparian vegetation, with a focus on areas where the river was impacted during reconstruction of the Strawberry River road.
- Monitor and treat invasive weeds, especially musk thistle and tamarisk.

It is understood that Duchesne and Wasatch counties will pursue reconstruction of the Strawberry River road west of Timber Canyon. The DWR will coordinate with the counties on this process and provide guidance to assist in protecting riparian and in-stream habitat quality. Consistent with county resource management plans, the DWR will:

- Promote the use of bio-engineering methods that facilitate riparian vegetation growth for bank stabilization in lieu of hardened structures and surfaces.
- Encourage construction methods that will help reestablish floodplain connectivity.
- Work with the county to offset the road alignment from riparian areas and wetlands where practicable.

Any future habitat improvement projects will be developed and proposed through the Habitat Council and/or Watershed Restoration Initiative processes and other eligible funding sources.

### ACCESS MANAGEMENT PLAN

Public vehicle access on the WMA is limited by few access points and the limited number of developed roads. The majority of the WMA is accessible only by foot or horseback. OHV use will be restricted to existing open roads identified on Map 2, Appendix B. Fencing or other barriers have been used to control illegal OHV use in problem areas. Additional fencing or barriers may be constructed if necessary.

The Strawberry River Road provides access along the Strawberry River until it is closed to public vehicle access approximately one half mile west of the Duchesne/Wasatch county line. This road is traditionally well used, but sometimes becomes impassible during winter months. Authorized access has been permitted to the private property owners beyond the closed gate. The closure was implemented to protect the private property rights of those landowners.

It is understood that Duchesne and/or Wasatch counties will pursue reconstruction of the Strawberry River road west of Timber Canyon. Until the road is repaired public vehicle access along the Strawberry River west of Timber Canyon is limited. It is the intent of the DWR to allow recreational access to the greatest extent possible while protecting fish and wildlife habitat values, reducing erosion and ensuring public safety.

Appendix B, Map 2 shows all the public access roads that are open to motorized vehicles on the WMA. No other trails or roads are open to motorized vehicle use.

Fishing access points along the Strawberry River will be re-built and maintained as access and resources allow. Additional access points may be added if needed. See Appendix B, Map 2 for roads and fishing access points.

## **FIRE MANAGEMENT PLAN**

Fire management will be carried out in partnership with the Utah Division of Forestry, Fire, and State Lands, Duchesne County office of Fire and Emergency Management, Wasatch County Fire District and Emergency Management, and Ashley National Forest, which owns property adjacent to the WMA. Fire suppression plans are developed in coordination with the Division of Forestry, Fire and State Lands.

Given the large-scale impact of the Dollar Ridge fire, the DWR has no plans to use prescribed fire as a management tool in the foreseeable future. Wildfires will be managed to protect life and property, protect vulnerable habitats and, if deemed appropriate, to enhance existing habitats subject to other suppression priorities.

To reduce the risk of wildfire, target shooting is not permitted on the WMA. Shooting may only occur during valid hunting seasons with a valid hunting permit. The use of tannerite or other exploding targets is strictly prohibited.

## **WOOD PRODUCTS**

The Dollar Ridge fire left many burned trees within the riparian corridor and adjacent hillsides. The dead trees are weakened and could be a hazard to recreational users of the river or contribute to future flooding events, but many still have value as wood products. The DWR may issue firewood cutting permits or a timber sale contract to remove some of these hazardous trees if needed.

Other opportunities for harvesting of wood products are limited by steep slopes and lack of road access.

## **LIVESTOCK GRAZING PLAN**

Under terms of the agreement with Childs Ranches described in the “grazing rights” section of this document, grazing is permitted on part of the Childs Ranches parcel of the Strawberry River WMA until such time as the DWR constructs a fence on the southern boundary. To comply with management goals from the 1995 operating agreement between the Utah Division of Wildlife Resources, the Bureau of Reclamation, and the Utah Reclamation Mitigation and Conservation Commission to “utilize grazing only when necessary for the enhancement of wildlife values and habitat quality,” the Utah Division of Wildlife Resources is making plans to construct this fence and will proceed as resources are available to do so.

Under DWR policy, carefully planned grazing may be used as a tool in managing wildlife habitat. To maximize feed for wildlife and protect the sensitive riparian habitat, the WMA is not being grazed except for the unfenced Lion Hollow parcel that is grazed in association with the surrounding Forest allotment. Regional DWR personnel will periodically evaluate the property and determine if the WMA could benefit from additional grazing.

## VII. SUMMARY STATEMENT OF PROPOSED USES

The Strawberry River WMA will be used to provide aquatic habitat and a trout fishery for the public, as well as habitat for both game and non-game wildlife. Human uses that will be allowed include hunting, fishing, wildlife viewing, hiking, and horseback riding, with motorized recreation on existing roads only.

Destruction and/or degradation of habitat from any of these uses may result in further restrictions to protect resources.

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## VIII. MONITORING AND EVALUATION

As priorities allow, regional aquatics biologists will assess the aquatic habitat in the Strawberry River and tributaries and make recommendations for improvement projects. Wildlife biologists, with help from the Habitat Section, will perform periodic evaluations of terrestrial habitat condition and prepare any habitat improvement proposals. The district Conservation Officer, with help from other biologists, will monitor human use and trespass livestock grazing and propose management modifications where problems are occurring with input from regional aquatics, wildlife, and habitat biologists. The Habitat Section of the Northeastern Region of the Utah Division of Wildlife Resources will present improvement projects to the Habitat Council and/or the Watershed Restoration Initiative for approval and funding.

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## IX. APPENDICES

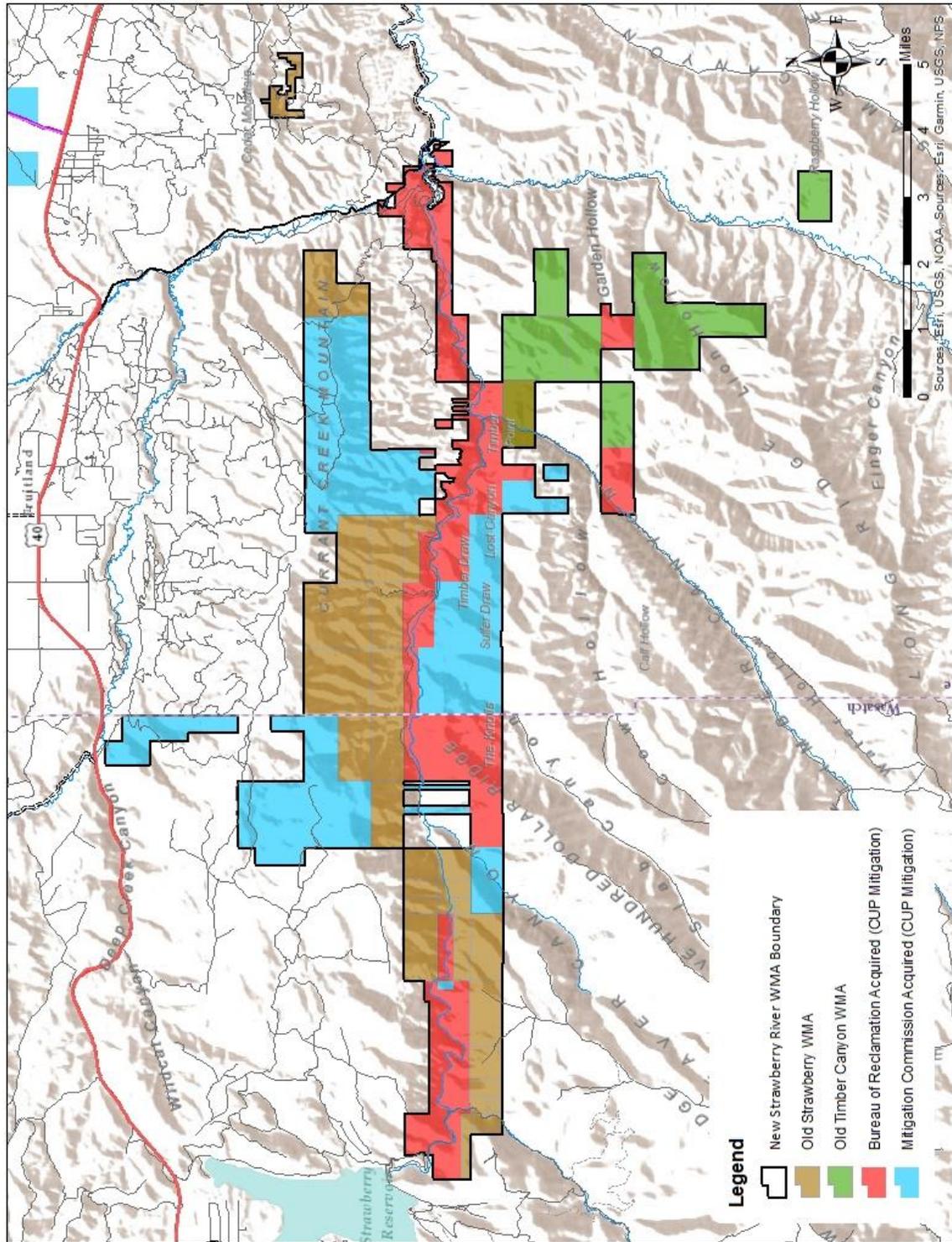
### APPENDIX A – DEEDS

Copies of deeds associated with the Strawberry River WMA can be found at the Northeastern Regional Office of the Utah Division of Wildlife Resources, 318 N. Vernal Ave., Vernal, UT 84078.

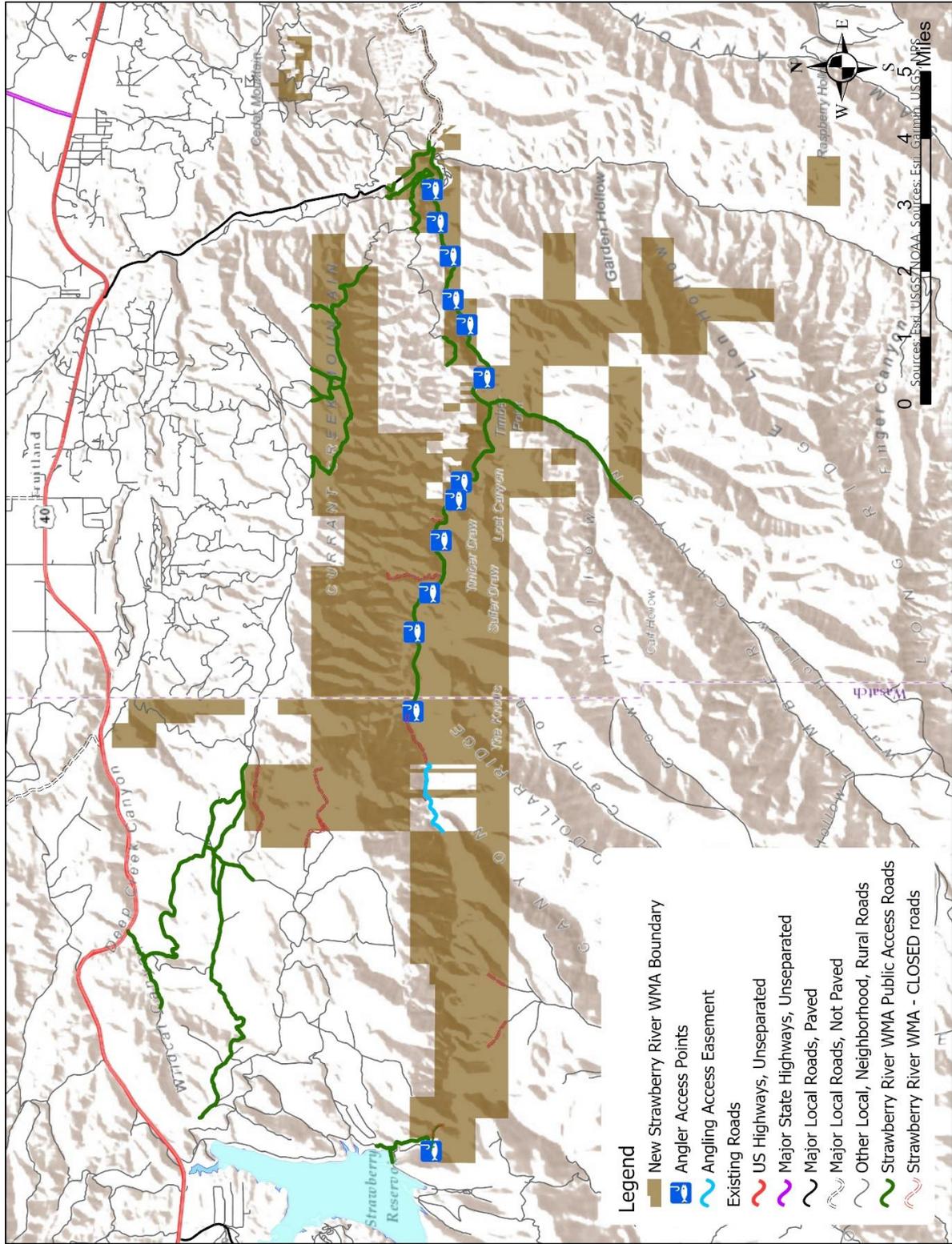
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APPENDIX B – MAPS

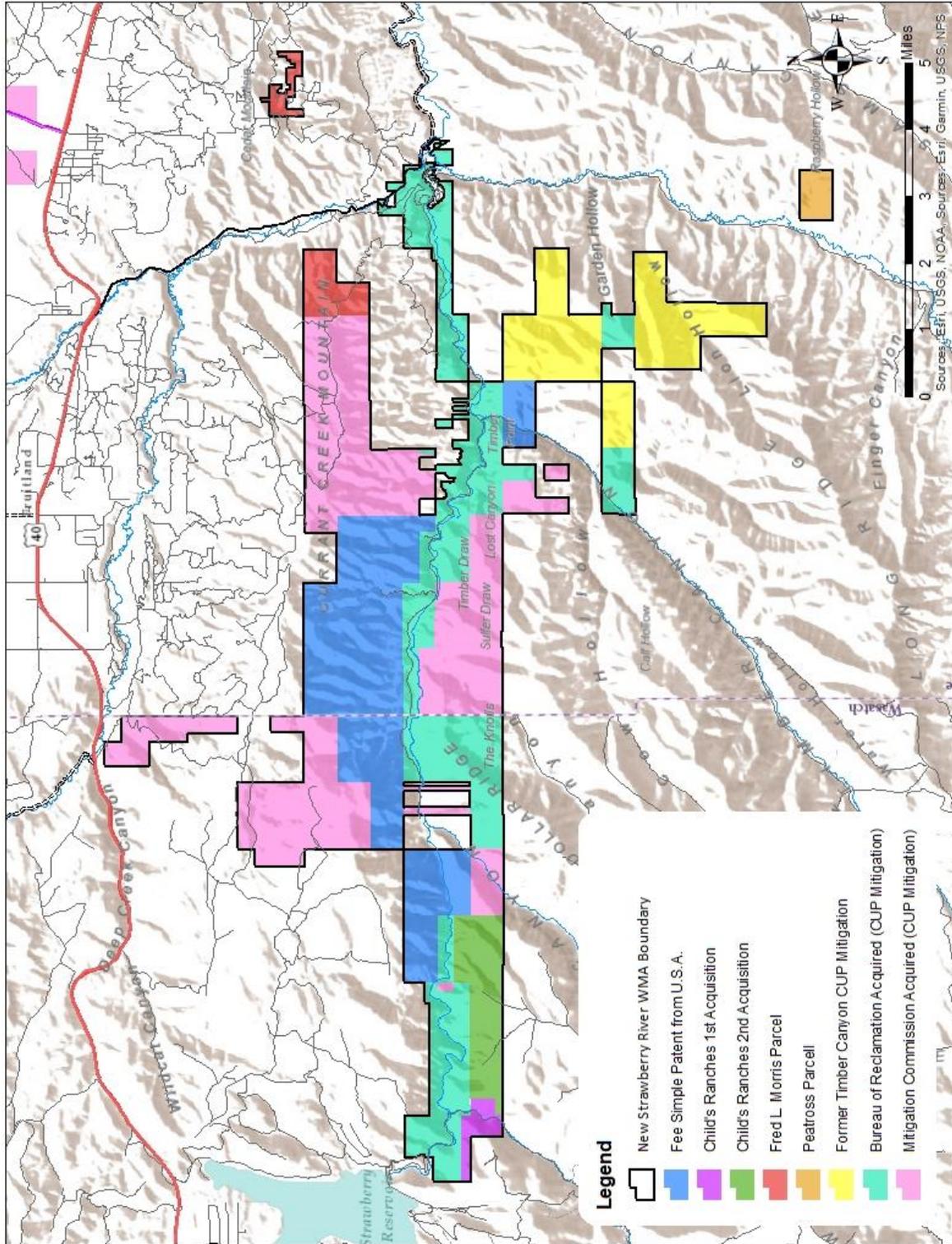
MAP 1 – LANDS COMPRISING THE NEW STRAWBERRY RIVER WILDLIFE MANAGEMENT AREA



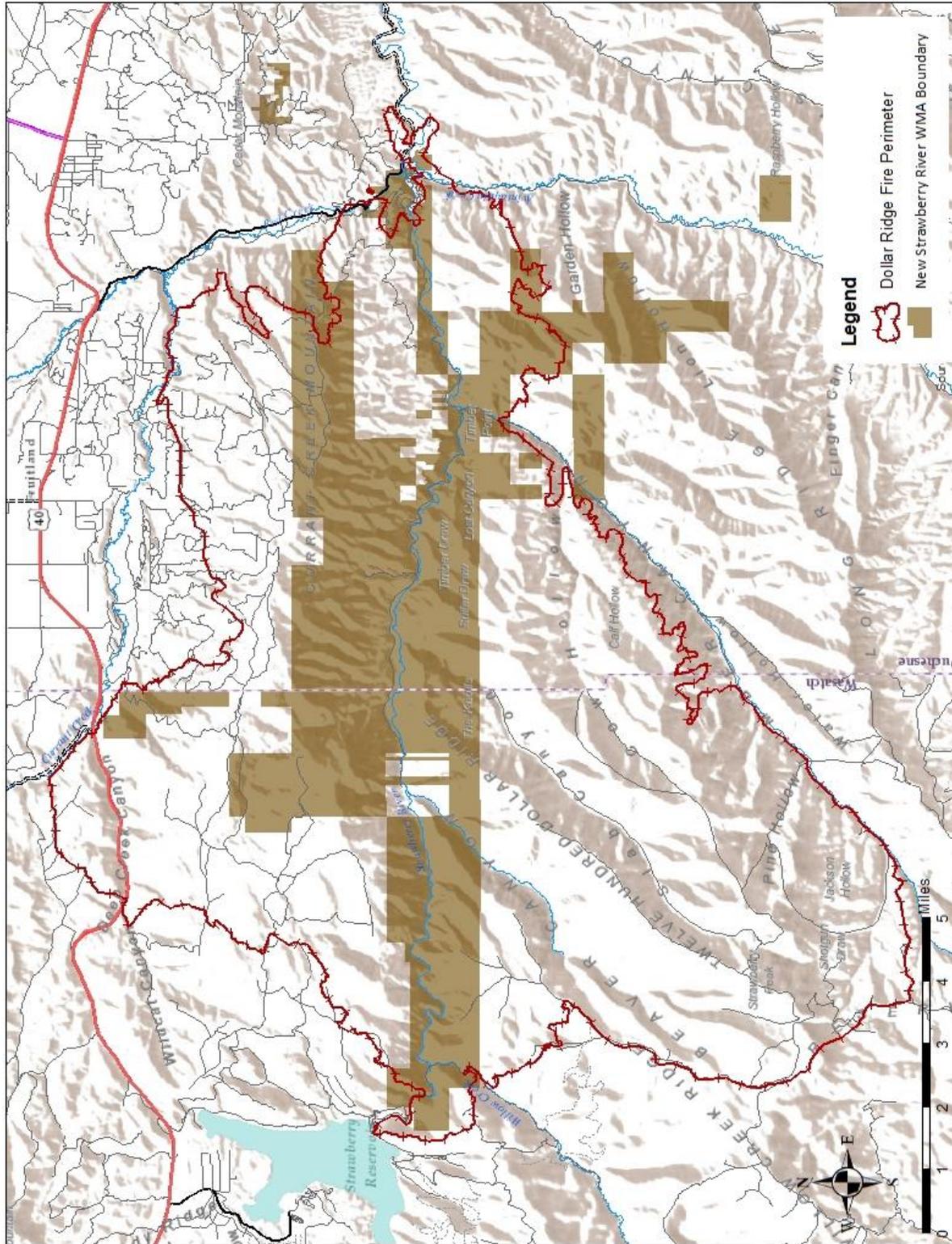
MAP 2 – ACCESS MANAGEMENT PLAN



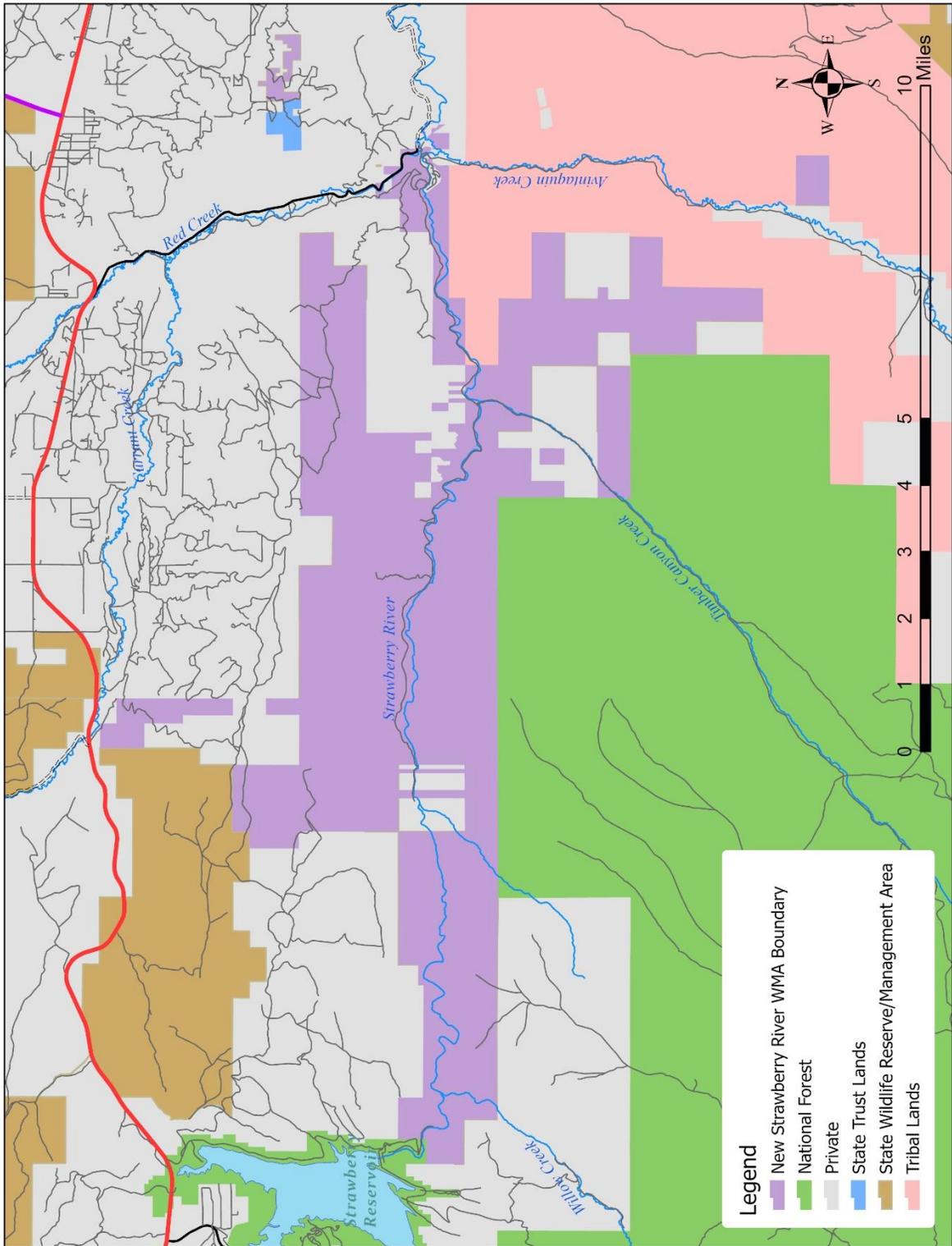
MAP 3 – STRAWBERRY RIVER WMA BY DEED



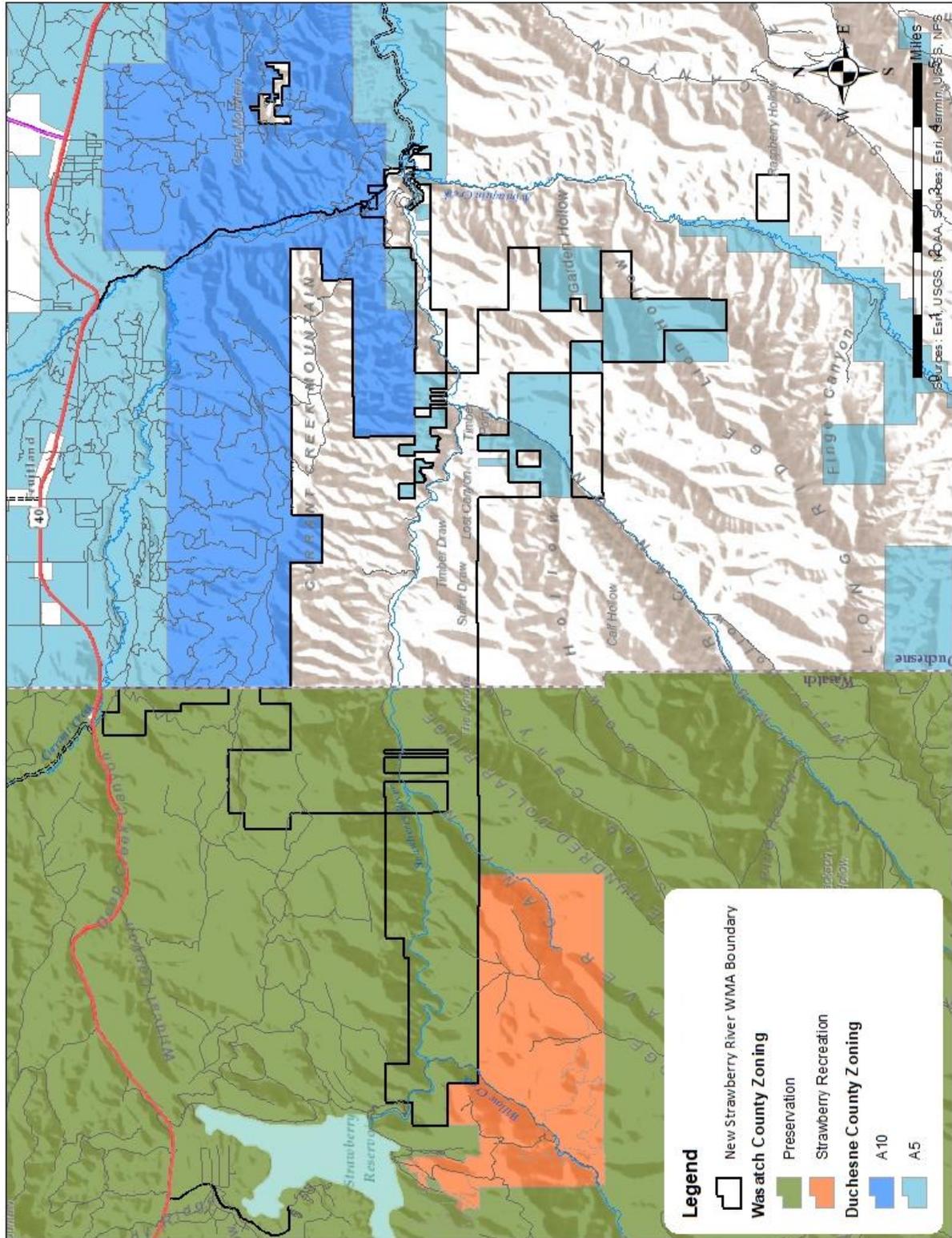
MAP 4 – DOLLAR RIDGE FIRE PERIMETER



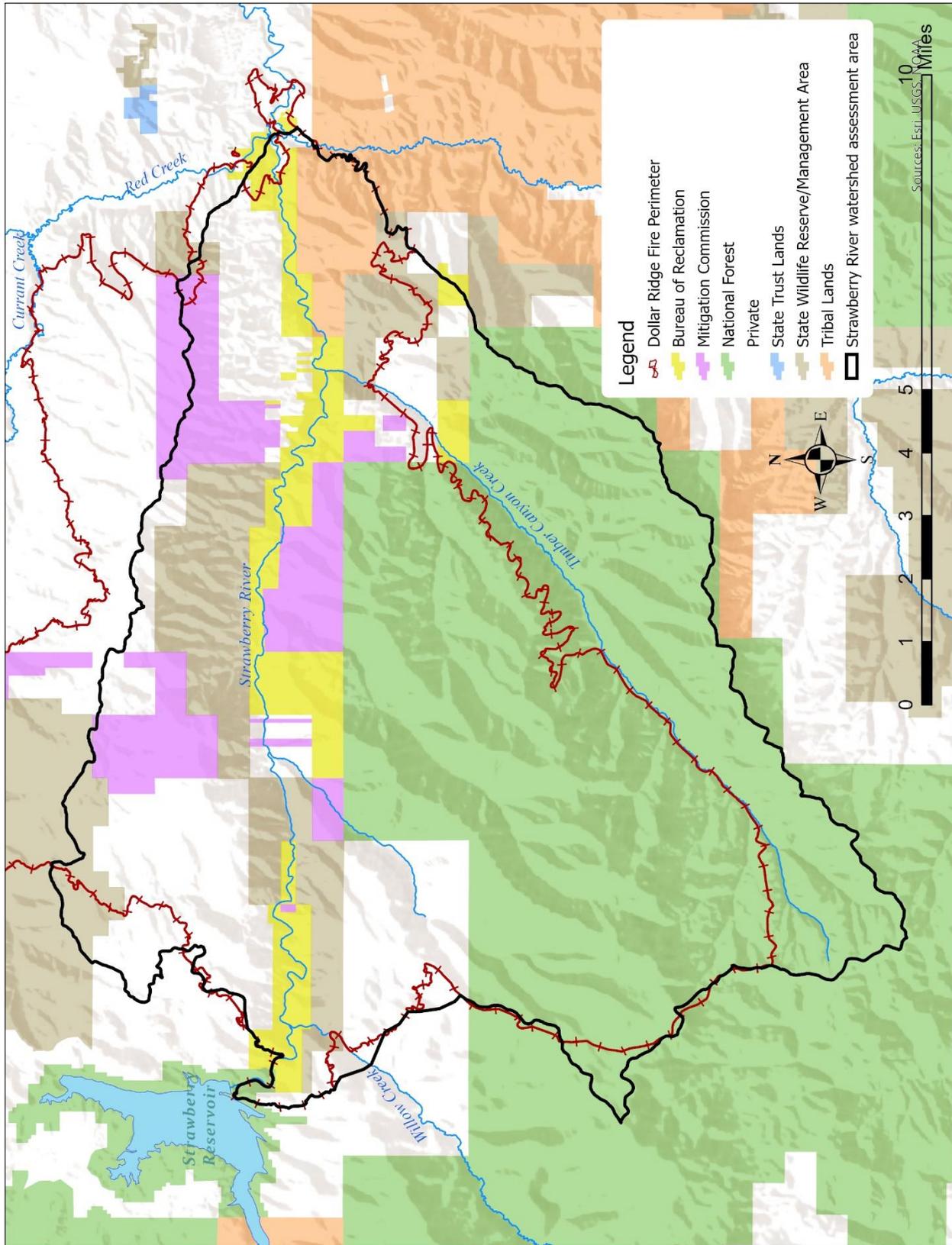
MAP 5 – ADJACENT LAND OWNERS



MAP 6 – ZONING ON PRIVATE LANDS SURROUNDING THE WMA



MAP 7 – STRAWBERRY RIVER WATERSHED, REQUEST FOR PROPOSALS (RFP)



## APPENDIX C – WATER RIGHTS INFORMATION

TABLE 1 - STOCKWATERING RIGHTS HELD BY DWR, BOR, OR MITIGATION COMMISSION

WUC No.	Owner	Source	Beneficial Use	Priority
43-849	DWR	Unnamed Spring	21 ELU's*	1861
43-1099	DWR	Jensen Canyon	42 ELU's	1861
43-1102	DWR	Jensen Canyon Stream	1200 ELU's	1861
43-1137	BOR	Water Hollow	135 ELU's	1861
43-1141	DWR	Water Hollow Stream	2200 ELU's	1861
43-1151	BOR	Unnamed Spring	135 ELU's	1861
43-1177	BOR	Strawberry River	1015 ELU's	1861
43-1398	BOR	Strawberry River	135 ELU's	1861
43-2005	BOR	Strawberry River	270 ELU's	1861
43-2006	BOR	Strawberry River	850 ELU's	1861
43-2007	BOR	Slab Canyon Stream	135 ELU's	1861
43-2008	BOR	Strawberry River	600 ELU's	1861
43-2010	DWR	Strawberry River	1000 ELU's	1861
43-2011	BOR	Strawberry River	300 ELU's	1861
43-2012	BOR	Strawberry River	300 ELU's	1861
43-2013	BOR	Strawberry River	300 ELU's	1861
43-2014	BOR	Unnamed Tributary to Strawberry River	850 ELU's	1861
43-2015	BOR	Unnamed Tributary to Strawberry River	300 ELU's	1861
43-2018	BOR	Timber Canyon	600 ELU's	1861
43-2021	DWR	Timber Canyon	1000 ELU's	1861
43-2024	BOR	Rough Canyon Stream	300 ELU's	1861
43-2025	BOR	Timber Canyon Stream	300 ELU's	1861
43-2026	BOR	Strawberry River	300 ELU's	1861
43-2027	BOR	Strawberry River	300 ELU's	1861
43-2028	BOR	Strawberry River	300 ELU's	1861
43-2031	BOR	Unnamed Tributary to Strawberry River	300 ELU's	1861
43-2034	BOR	Unnamed Tributary to Strawberry River	300 ELU's	1861
43-2037	BOR	Unnamed Tributary to Strawberry River	300 ELU's	1861
43-2038	BOR	Strawberry River	300 ELU's	1861
43-2039	BOR	Strawberry River	300 ELU's	1861
43-2040	BOR	Strawberry River	300 ELU's	1861
43-2042	BOR	Strawberry River	300 ELU's	1861
43-2043	BOR	Strawberry River Tributary	300 ELU's	1861
43-2044	BOR	Tributary to Strawberry River	300 ELU's	1861
43-2048	BOR	Red Creek	425 ELU's	1861
43-2050	BOR	Strawberry River Tributary	300 ELU's	1861
43-7100	BOR	Strawberry River	800 ELU's	1861
43-7102	DWR	Strawberry River	1200 ELU's	1861
43-7103	BOR	Strawberry River	1015 ELU's	1861
43-7104	DWR	Strawberry River	1000 ELU's	1861
43-7108	DWR	Beaver Creek	1000 ELU's	1861
43-7112	BOR	Unnamed Spring	425 ELU's	1861
43-7113	BOR	Unnamed Spring	425 ELU's	1861
43-7114	BOR	Unnamed Spring	425 ELU's	1861
43-7144	BOR	Strawberry River	425 ELU's	1861

43-7145	BOR	Unnamed Spring	425 ELU's	1861
43-7146	BOR	Unnamed Spring	425 ELU's	1861
43-7147	BOR	Strawberry River	425 ELU's	1861
43-7194	DWR	Unnamed Spring	2000 ELU's, 1 domestic	1861

\*ELU means equivalent stockwatering units

**TABLE 2 - IRRIGATION RIGHTS HELD BY UNITED STATES BUREAU OF RECLAMATION**

WUC No.	Owner	Source	Flow (CFS)	Beneficial Use	Priority
43-389	BOR	Strawberry River	1.11	27 acres	1946
43-510	BOR	Strawberry River	0.32	7.80 acres	1946
43-1140	BOR	Strawberry River	0.30	7.40 acres	1946
43-1225	BOR	Avintaquin Creek	0.50	32.18 acres	1913
43-1275	BOR	Strawberry River	1.21	29.30 acres	1946
43-1278	BOR	Strawberry River	0.93	16.70 acres	1950
43-1581	BOR	Strawberry River	0.17	3.0 acres	1950
43-1582	BOR	Strawberry River	0.57	10.20 acres	1950
43-2447	BOR	Strawberry River	0.33	5.90 acres	1950
43-2806	BOR	Strawberry River	0.06	1.40 acres	1946

**TABLE 3 - STOCKWATERING RIGHTS HELD BY OTHER OWNERS**

WUC No.	Owner	Source	Beneficial Use	Priority
43-1145	Fitzgerald	Water Hollow Stream	240 ELU's, 5 domestics	1861
43-1147	Fitzgerald	Water Hollow Stream	240 ELU's, 5 domestics	1861
43-1150	Fitzgerald	Water Hollow Stream	240 ELU's, 5 domestics	1861
43-1300	Childs/Marshall Farlen LLC	Willow Creek Stream	PTP 1015 ELU's	1861
43-7106	Ingersoll	Strawberry River	PTP 240 ELU's 5 domestics	1861
43-7107	Ingersoll	Beaver Canyon Stream	PTP 240 ELU's, 5 families	1861
43-7109	Ingersoll	Beaver Creek	PTP 240 ELU's, 5 families	1861
43-7143	Hayes	Spring	425 ELU's	1861