RAC AGENDA – April 2015

1. Welcome, RAC Introductions and RAC Procedure
   - RAC Chair

2. Approval of Agenda and Minutes
   - RAC Chair

3. Wildlife Board Meeting Update
   - RAC Chair

4. Regional Update **INFORMATIONAL**
   - DWR Regional Supervisor

5. Conservation and Sportsman Permits Rule R657-41 amendments **ACTION**
   - Justin Shannon Big Game Coordinator

6. Bucks, Bulls, and OIAL Permit Recommendations for 2015 **ACTION**
   - Justin Shannon Big Game Coordinator and
   - Regional Wildlife Manager

7. Antlerless Permit Recommendations for 2015 **ACTION**
   - Justin Shannon Big Game Coordinator and
   - Regional Wildlife Manager

8. 2015 CWMU Antlerless Permit Recommendations **ACTION**
   - Scott McFarlane, Private Lands/Public Wildlife Coordinator

9. Mountain Goat Unit Management Plans **ACTION**
   Uinta Mountains (Kamas, N. Slope, S. Slope)
   Wasatch and Central Mountains (Lone Peak, Box Elder Peak, Mt. Timp, Provo Peak, Mt. Nebo)
   Tushar Mountains (Beaver)
   Cache/Ogden/East Canyon
   - Dustin Schaible, Bighorn Sheep Biologist

Region Specific Items – to be presented in the specified region only.

NERO Rapid Response and Control Plans – Flaming Gorge & Starvation Reservoirs
Trina Hedrick, Aquatics Manager **INFORMATIONAL**

Meeting Locations

NR RAC – April 7th, 6:00 PM
Brigham City Community Center
24 N. 300 W., Brigham City

CR RAC – April 8th, 6:30 PM
City Civic Center
110 S. Main Street, Springville

SR RAC – April 14th, 5:00 PM
Beaver High School
195 E. Center Street, Beaver

SER RAC – April 15th, 6:30 PM
John Wesley Powell Museum
1765 E. Main St., Green River

NER RAC – April 16th, 6:30 PM
Wildlife Resources NER Office
318 North Vernal Ave, Vernal

Board Meeting – April 30th, 9:00 AM
DNR, Boardroom
1594 W. North Temple, SLC

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources

GREGORY J. SHEEHAN
Division Director

M E M O R A N D U M

Date: March 17, 2015

To: Utah Wildlife Board / Regional Advisory Council Members

From: Justin Shannon, Big Game Coordinator

SUBJECT: R657-41 Change – Conservation and Sportsman Permits

We are proposing changes to R657-41 (Conservation and Sportsman Permits). The purpose of this rule change is to add clarity and consistency to DWR and State Parks for mule deer and bighorn sheep permits on Antelope Island State Park. A cooperative agreement between DWR and State Parks will entered into for the purpose of setting season dates and permit numbers, outlining hunt regulations on the island, establishing protocols for issuing permits and conducting antlerless deer hunts if needed, and defining procedures and conditions of transferring revenue derived from conservation permits valid on Antelope Island.

Additionally, this rule change outlines requirements that organizations must abide by to participate in the conservation permit program. Specifically, participants must be a 501C-3 non-profit chartered organization that promotes the protection and preservation of one or more conservation permit species. This change does not affect any organizations that participate in the conservation permit program.

[]R657. Natural Resources, Wildlife Resources.
R657-41. Conservation and Sportsman Permits.
R657-41-1. Purpose and Authority.

(1) Under the authority of Section 23-14-18 and 23-14-19, this rule provides the standards and procedures for issuing:

(a) conservation permits to conservation organizations for sale at an auction, or for use as an aid to wildlife related fund raising activities; [~~and~~]

(b) sportsman permits;

(c) Special Antelope Island State Park Conservation Permits to a conservation organization for marketing and sale at the annual wildlife exposition held pursuant to R657-55; and

(d) Special Antelope Island State Park Limited Entry Permits to successful applicants through a general drawing conducted by the Division.

(2) The division and conservation organizations shall use all revenue derived from conservation permits under Subsections R657-41-9(4) and R657-41-9(5)(b) for the benefit of [~~the~~] species for which [~~the permit is~~] conservation permits are issued, unless the division and conservation organization mutually agree in writing that there is a higher priority use for other species of protected wildlife.

R657-41-2. Definitions.

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

(2) In addition:

(a) "Area Conservation Permit" means a permit issued for a specific unit or hunt area for a conservation permit species, and may include an extended season, or legal weapon choice, or both, beyond the season except area turkey permits are valid during any season option and are valid in any open area during general season hunt.

(i) Area Conservation permits issued for limited entry units are not valid on cooperative wildlife management units.

(b) "Conservation Organization" means a nonprofit chartered institution, foundation, or association founded for the purpose of promoting [~~wildlife~~] the protection and preservation of one or more conservation permit species and has established tax exempt status under Internal Revenue Code, Section 501C-3 as amended.

(c) "Conservation Permit" means any harvest permit authorized by the Wildlife Board and issued by the division for purposes identified in Section R657-41-1.

(d) “Conservation Permit Species” means the species for which conservation permits may be issued and includes deer, elk, pronghorn, moose, bison, Rocky Mountain goat, Rocky Mountain bighorn sheep, desert bighorn sheep, wild turkey, cougar, and black bear.

(e) “Multi-Year Conservation Permit” means a conservation permit awarded to an eligible conservation organization pursuant to R657-41-7 for three consecutive years to sell, market or otherwise use as an aid in wildlife related fund raising activities.

(f) "Retained Revenue" means 60% of the revenue raised by a conservation organizations from the sale of conservation permits that the organization retains for eligible projects, excluding interest earned thereon.

(g) “Special Antelope Island State Park Conservation Permit” means a permit authorized by the Wildlife Board to hunt bighorn sheep or mule deer on Antelope Island State Park which is issued pursuant to R657-41-12(3).

(h) "Special Antelope Island State Park Limited Entry Permit" means a permit authorized by the Wildlife Board to hunt bighorn sheep or mule deer on Antelope Island State Park which is issued by the division in a general drawing, requiring all applicants to pay an application fee and the successful applicant the cost of the permit

(i) "Sportsman Permit" means a permit which allows a permittee to hunt during the applicable season dates specified in Subsection ([~~i~~]k), and which is authorized by the Wildlife Board and issued by the division in a general drawing, requiring all applicants to pay an application fee and the successful applicant the cost of the permit.

([~~i~~]j) "Single Year Conservation Permit" means a conservation permit awarded to an eligible conservation organization pursuant to R657-41-6 for one year to sell, market or otherwise use as an aid in wildlife related fund raising activities.

([~~i~~]k) "Statewide Conservation Permit" means a permit issued for a conservation permit species that allows a permittee to hunt:

(i) big game species on any open unit with archery equipment during the general archery season published in the big game proclamation for the unit beginning before September 1, and with any weapon from September 1 through December 31, except pronghorn and moose from September 1 through November 15 and deer and elk from September 1 through January 15;

(ii) two turkeys on any open unit from April 1 through May 31;

(iii) bear on any open unit during the season authorized by the Wildlife Board for that unit;

(iv) cougar on any open unit during the season authorized by the Wildlife Board for that unit and during the season dates authorized by the Wildlife Board on any harvest objective unit that has been closed by meeting its objective;

(v) Antelope Island is not an open unit for hunting any species of wildlife authorized by a conservation or sportsman permit, except for the Special Antelope Island State Park Conservation [~~Permit~~]Permits and the Special Antelope Island State Park Limited Entry Permits; and

(vi) Central Mountain/Nebo/Wasatch West sheep unit is open to the Sportsmen permit holder on even number years and open to the Statewide Conservation permit holder on odd number years.

R657-41-3. Determining the Number of Conservation and Sportsman Permits.

(1) The number of conservation permits authorized by the Wildlife Board shall be based on:

(a) the species population trend, size, and distribution to protect the long-term health of the population;

(b) the hunting and viewing opportunity for the general public, both short and long term; and

(c) the potential revenue that will support protection and enhancement of the species.

(2) One statewide conservation permit may be authorized for each conservation permit species.

(3) A limited number of area conservation permits may be authorized as follows:

(a) the potential number of multi-year and single year permits available for Rocky

Mountain bighorn sheep and desert bighorn sheep, assigned to a hunt area or combination of hunt areas, will be calculated based on the number permits issued the year prior to the permits being awarded using the following rule:

(i) 5-14 public permits = 1 conservation permit, 15-24 public permits = 2 conservation permits, 25-34 public permits = 3 conservation permits, 35-44 permits = 4 conservation permits, 45-54 public permits = 5 conservation permits, 55-64 = 6 conservation permits, 65-74 public permits = 7 conservation permits and >75 public permits = 8 conservation permits.

(b) the potential number of multi-year and single year permits available for the remaining conservation permit species, for any unit or hunt area, will be calculated based on the number permits issued the year prior to the permits being awarded using the following rule:

(i) 11-30 public permits = 1 conservation permit, 31-50 public permits = 2 conservation permits, 51-70 public permits = 3 conservation permits, 71-90 permits = 4 conservation permits, 91-110 public permits = 5 conservation permits, 111-130 = 6 conservation permits, 131-150 public permits = 7 conservation permits and >150 public permits = 8 conservation permits.

(4) The number of conservation permits may be reduced if the number of public permits declines during the time period or which multi-year permits were awarded.

(5) The actual number of conservation and sportsman permits available for use will be determined by the Wildlife Board.

(6) Area conservation permits shall be deducted from the number of public drawing permits.

(7) One sportsman permit shall be authorized for each statewide conservation permit authorized.

(8) All area conservation permits are eligible as multi-year permits except that the division may designate some area conservation permits as single year permits based on the applications received for single year permits.

(9) All statewide permits will be multi-year permits except for a second statewide permit issued for a special event.

R657-41-4. Eligibility for Conservation Permits.

(1) Statewide and area conservation permits may be awarded to eligible conservation organizations to market and sell, or to use as an aid in wildlife related fund raising activities.

(2) To be eligible for multi-year conservation permits, a conservation organization must have generated in conservation permit sales during the previous three year period at least one percent of the total revenue generated by all conservation organizations in conservation permit sales during the same period. Conservation organizations eligible for multi-year permits may not apply for single year permits, and conservation organizations ineligible for multi-year permits may only apply for single year permits.

(3) Conservation organizations applying for single year permits may not:

(a) bid for or obtain conservation permits if any employee, officer, or board of director member of the conservation organization is an employee, officer, or board of director member of any other conservation organization that is submitting a bid for single year conservation permits; or

(b) enter into any pre-bidding discussions, understandings or agreements with any other conservation organization submitting a bid for conservation permits regarding:

(i) which permits will be sought by a bidder;

(ii) what amounts will be bid for any permits; or

(iii) trading, exchanging, or transferring any permits after permits are awarded.

R657-41-5. Applying for Conservation Permits.

(1)(a) Conservation organizations may apply for conservation permits by sending an application to the division.

(b) Only one application per conservation organization may be submitted. Multiple chapters of the same conservation organization may not apply individually.

(c) Conservation organizations may apply for single year conservation permits or multi-year conservation permits. They may not apply for both types of conservation permits.

(2) The application must be submitted to the division by September 1 to be considered for the following year's conservation permits. Each application must include:

[~~(a)~~](a) the name, address and telephone number of the conservation organization;

(b) a copy of the conservation organization's mission statement;

(c) verification of the conservation organization's tax exempt status under Internal Revenue Code, Section 501C-3 as amended; and

(d) the name of the president or other individual responsible for the administrative operations of the conservation organization;

(3) If applying for single year conservation permits, a conservation organization must also include in its application:

(a) the proposed bid amount for each permit requested. The proposed bid amount is the revenue the organization anticipates to be raised from a permit through auction or other lawful fund raising activity.

(b) certification that there are no conflicts of interest or collusion in submitting bids as prohibited in R657-41-4(3);

(c) acknowledgement that the conservation organization recognizes that falsely certifying the absence of collusion may result in cancellation of permits, disqualification from bidding for five years or more, and the filing of criminal charges;

(d) evidence that the application and bid has been reviewed and approved by the board of directors of the bidding conservation.

(e) the type of permit, and the species for which the permit is requested; and

(f) any requested variances for an extended season or legal weapon choice for area conservation permits.

(4) An application that is incomplete or completed incorrectly may be rejected.

(5) The application of a conservation organization for conservation permits may be denied for:

(a) failing to fully report on the preceding year's conservation permits;

(b) violating any provision of this rule, Title 23 of the Utah Code, Title R657 of the Utah Administrative Code, a division proclamation, or an order of the Wildlife Board; or

(c) violating any other law that bears a reasonable relationship to the applicant's ability to responsibly and lawfully handle conservation permits pursuant to this rule.

R657-41-6. Awarding Single Year Conservation Permits.

(1) The division shall recommend the conservation organization to receive each single year conservation permit based on:

(a) the bid amount pledged to the species, adjusted by:

(i) the performance of the organization over the previous two years in meeting proposed bids;

(ii) 90% of the bid amount;

(iii) the organizations maintaining a minimum two-year average performance of 70% to be eligible for consideration of permits. Performance of the organization is the proportion of the total revenue generated from permit sales, divided by 90% of the bid amount for all permits, calculated annually and averaged for the last two years.

(b) if two or more conservation organizations are tied using the criteria in Subsection (a), the closeness of the organization's purpose to the species of the permit; and

(c) if two or more conservation organizations are tied using the criteria in Subsection (a) and (b), the geographic closeness of the organization to the location of the permit.

(2)(a) Between the time the division recommends that a conservation permit be awarded to a conservation organization and the time the Wildlife Board approves that recommendation, a conservation organization may withdraw its application for any given permit or exchange its application with another conservation organization without penalty, provided the bid amount upon which the permit application was evaluated is not changed.

(b) If a conservation organization withdraws [~~it's~~]its bid and the bid is awarded to another organization at a lower amount, then the difference between the two bids will be subtracted from the organization making the higher bid for purposes of evaluating organization performance.

(3) The Wildlife Board shall make the final assignment of conservation permits at a meeting prior to December 1 annually.

(4) The Wildlife Board may authorize a conservation permit to a conservation organization, other than the conservation organization recommended by the division, after considering the:

(a) division recommendation;

(b) benefit to the species;

(c) historical contribution of the organization to the conservation of wildlife in Utah;

(d) previous performance of the conservation organization; and

(e) overall viability and integrity of the conservation permit program.

(5) The total of all bids for permits awarded to any one organization shall not exceed $20,000 the first year an organization receives permits.

(6) The number of permits awarded to any one organization shall not increase by more than 100% from the previous year.

(7) If the Wildlife Board authorizes a second statewide conservation permit for a species, the conservation organization receiving the permit must meet the division designated bid for that permit.

R657-41-7. Awarding Multi-Year Conservation Permits.

(1) Distribution of multi-year conservation permits will be based on a sequential selection process where each eligible conservation organization is assigned a position or

positions in the selection order among the other participating organizations and awarded credits with which to purchase multi-year permits at an assigned value. The selection process and other associated details are as follows.

(2) Multi-year permits will be awarded to eligible conservation organizations for no more than three years.

(3) The division will determine the number of permits available as multi-year permits after subtracting the proposed number of single year permits.

(a) Season types for multi-year area conservation permits for elk on any given hunt unit will be designated and assigned in the following order:

(i) first permit -- premium;

(ii) second permit -- any-weapon;

(iii) third permit -- any-weapon; (iv) fourth permit -- archery;

(v) fifth permit -- muzzleloader;

(vi) sixth permit -- premium;

(vii) seventh permit -- any-weapon; and

(viii) eighth permit -- any-weapon.

(b) Season types for multi-year area conservation permits for deer on any given hunt unit will be designated and assigned in the following order:

(i) first permit -- hunter choice of season;

(ii) second permit -- hunter choice of season;

(iii) third permit -- muzzleloader;

(iv) fourth permit -- archery; (v) fifth permit -- any-weapon;

(vi) sixth permit -- any-weapon;

(vii) seventh permit -- muzzleloader; and

(viii) eighth permit -- archery.

(4) The division will assign a monetary value to each multi-year permit based on the average return for the permit during the previous three year period. If a history is not available, the value will be estimated.

(5) The division will determine the total annual value of all multi-year permits.

(6)(a) The division will calculate a market share for each eligible conservation organization applying for multi-year permits.

[~~(b)~~](b) Market share will be calculated and determined based on:

(i) the conservation organization's previous three years performance;

(ii) all conservation permits (single and multi-year) issued to a conservation organization except for special permits allocated by the Wildlife Board outside the normal allocation process.

(iii) the percent of conservation permit revenue raised by a conservation organization during the three year period relative to all conservation permit revenue raised during the same period by all conservation organizations applying for multi-year permits.

(7) The division will determine the credits available to spend by each group in the selection process based on their market share multiplied by the total annual value of all multi-year permits.

(8) The division will establish a selection order for the participating conservation organizations based on the relative value of each groups market share as follows:

(a) groups will be ordered based on their percent of market share;

(b) each selection position will cost a group 10% of the total market share except the last selection by a group will cost whatever percent a group has remaining;

(c) no group can have more than three positions in the selection order; and

(d) the selection order will be established as follows:

(i) the group with the highest market share will be assigned the first position and ten percent will be subtracted from their total market share;

(ii) the group with the highest remaining market share will be assigned the second position and ten percent will be subtracted from their market share; and

(iii) this procedure will continue until all groups have three positions or their market share is exhausted.

(9) At least two weeks prior to the multi-year permit selection meeting, the division will provide each conservation organization applying for multi-year permits the following items:

(a) a list of multi-year permits available with assigned value;

(b) documentation of the calculation of market share;

(c) credits available to each conservation group to use in the selection process;

(d) the selection order; and

(e) date, time and location of the selection meeting.

(10) Between the establishing of the selection order and the selection meeting, groups may trade or assign draw positions, but once the selection meeting begins draw order cannot be changed.

(11) At the selection meeting, conservation organizations will select permits from the available pool according to their respective positions in the selection order. For each permit selected, the value of that permit will be deducted from the conservation organization's available credits. The selection order will repeat itself until all available credits are used or all available permits are selected.

(12) Conservation organizations may continue to select a single permit each time their turn comes up in the selection order until all available credits are used or all available permits are selected.

(13) A conservation organization may not exceed its available credits except a group may select their last permit for up to 10% of the permit value above their remaining credits.

(14) Upon completion of the selection process, but prior to the Wildlife Board meeting where final assignment of permits are made, conservation organizations may trade or assign permits to other conservation organizations eligible to receive multi-year permits. The group receiving a permit retains the permit for the purposes of marketing and determination of market share for the entire multi-year period.

(15) Variances for an extended season or legal weapon choice may be obtained only on area conservation permits and must be presented to the Wildlife Board prior to the final assignment of the permit to the conservation organization.

(16) Conservation organizations may not trade or transfer multi-year permits to other organizations once assigned by the Wildlife Board.

(17) Conservation organizations failing to comply with the reporting requirements in any given year during the multi-year period shall lose the multi-year conservation permits for the balance of the multi-year award period.

(18) If a conservation organization is unable to complete the terms of marketing the assigned permits, the permits will be returned to the regular public drawing process for the duration of the multi-year allocation period.

R657-41-8. Distributing Conservation Permits.

(1) The division and conservation organization receiving permits shall enter into a contract.

(2)(a) The conservation organization receiving permits must insure that the permits are marketed and distributed by lawful means. Conservation permits may not be distributed in a raffle except where the following conditions are met:

(i) the conservation organization obtains and provides the division with a written opinion from a licensed attorney or a written confirmation by the local district or county attorney that the raffle scheme is in compliance with state and local gambling laws;

(ii) except as otherwise provided in R657-41-8(5), the conservation organization does not repurchase, directly or indirectly, the right to any permit it distributes through the raffle;

(iii) the conservation organization prominently discloses in any advertisement for the raffle and at the location of the raffle that no purchase is necessary to participate; and

(iv) the conservation organization provides the division with a full accounting of any funds raised in the conservation permit raffle, and otherwise accounts for and handles the funds consistent with the requirement in Utah Admin. Code R657-41-9.

(3) The conservation organization must:

(i) obtain the name of the proposed permit recipient at the event where the permit recipient is selected; and

(ii) notify the division of the proposed permit recipient within 30 days of the recipient selection or the permit may be forfeited.

(4) If a person is selected by a qualified organization to receive a conservation permit and is also successful in obtaining a permit for the same species in the same year through the a division drawing, that person may designate another person to receive the conservation permit, provided the conservation permit has not been issued by the division to the first selected person.

(5) If a person is selected by a qualified organization to receive a conservation permit, but is unable to use the permit, the conservation organization may designate another person to receive the permit provided:

(a) the conservation organization selects the new recipient of the permit;

(b) the amount of money received by the division for the permit is not decreased;

(c) the conservation organization relinquishes to the division and otherwise uses all proceeds generated from the re-designated permit, pursuant to the requirements provided in Section R657-41-9;

(d) the conservation organization and the initial designated recipient of the permit, sign an affidavit indicating the initial designated recipient is not profiting from transferring the right to the permit; and

(e) the permit has not been issued by the division to the first designated person.

(6) Except as otherwise provided under Subsections (4) and (5), a person designated by a conservation organization as a recipient of a conservation permit, may not sell or transfer the rights to that designation to any other person. This does not preclude a person from bidding or otherwise lawfully acquiring a permit from a conservation organization on behalf of another person who will be identified as the original designated recipient.

(7) A person cannot obtain more than one conservation permit for a single conservation permit species per year, except for:

(a) elk, provided no more than two permits are obtained where one or both are antlerless permits; and

(b) turkey.

(8) the person designated on a conservation permit voucher must possess or obtain a current Utah hunting or combination license to redeem the voucher for the corresponding conservation permit.

R657-41-9. Conservation Permit Funds and Reporting.

(1) All permits must be marketed by September 1, annually.

(2) Within 30 days of the last event, but no later than September 1 annually, the conservation organization must submit to the division:

(a) a final report on the distribution of permits;

(b) the total funds raised on each permit;

(c) the funds due to the division; and-

(d) a report on the status of each project funded in whole or in part with retained conservation permit revenue.

(3)(a) Permits shall not be issued until the permit fees are paid to the division.

(b) If the conservation organization is paying the permit fees for the permit recipient, the fees must be paid from the 10% retained by the conservation organization as provided in Subsection (5)(a).

(4)(a) Conservation organizations shall remit to the division by September 1 of each year 30% of the total revenue generated by conservation permit sales in that year.

(b) The permit revenue payable to the division under Subsection (4)(a), excluding accrued interest, is the property of the division and may not be used by conservation organizations for projects or any other purpose.

(c) The permit revenue must be placed in a federally insured account promptly upon receipt and remain in the account until remitted to the division on or before September 1 of each year.

(d) The permit revenue payable to the division under this subsection shall not be used by the conservation organization as collateral or commingled in the same account with the organization's operation and administration funds, so that the separate identity of the permit revenue is not lost.

(e) Failure to remit 30% of the total permit revenue to the Division by the September 1 deadline may result in criminal prosecution under Title 76, Chapter 6, Part 4 of

the Utah Code, and may further disqualify the conservation organization from obtaining any future conservation permits.

(5) A conservation organization may retain 70% of the revenue generated from the sale of conservation permits as follows:

(a) 10% of the revenue may be withheld and used by the conservation organization for administrative expenses.

(b) 60% of the revenue may be retained and used by the conservation organization only for eligible projects as provided in subsections (i) through (ix).

(i) eligible projects include habitat improvement, habitat acquisition, transplants, targeted education efforts and other projects providing a substantial benefit to species of wildlife for which conservation permits are issued, unless the division and conservation organization mutually agree in writing that there is a higher priority use for other species of protected wildlife.

(ii) retained revenue shall not be committed to or expended on any eligible project without first obtaining the division director's written concurrence.

(iii) retained revenue shall not be used on any project that does not provide a substantial and direct benefit to conservation permit species or other protected wildlife located in Utah.

(iv) cash donations to the Wildlife Habitat Account created under Section 23-19-43, Division Species Enhancement Funds, or the Conservation Permit Fund shall be considered an eligible project and do not require the division director's approval, provided the donation is made with instructions that it be used for species of wildlife for which conservation permits are issued.

(v) funds committed to approved projects will be transferred to the division within 90 days of being committed

(A) if the project to which funds are committed is completed under the projected budget or is canceled, funds committed to the project that are not used will be kept by the division and credited back to the conservation organization and will be made available for the group to use on other approved projects during the current or subsequent year.

(vi) retained revenue shall not be used on any project that is inconsistent with division policy, including feeding programs, depredation management, or predator control.

(vii) retained revenue under this subsection must be placed in a federally insured account. All interest revenue earned thereon may be retained and used by the conservation organization for administrative expenses.

(viii) retained revenue shall not be used by the conservation organization as collateral or commingled in the same account with the organization's operation and administration funds, so that the separate identity of the retained revenue is not lost.

(ix) retained revenue must be completely expended on or committed to approved eligible projects by September 1, two years following the year in which the relevant conservation permits are awarded to the conservation organization by the Wildlife Board. Failure to commit or expend the retained revenue by the September 1 deadline will disqualify the conservation organization from obtaining any future

conservation permits until the unspent retained revenue is committed to an approved eligible project.

(x) all records and receipts for projects under this subsection must be retained by the conservation organization for a period not less than five years, and shall be produced to the division for inspection upon request.

(6)(a) Conservation organizations accepting permits shall be subject to annual audits on project expenditures and conservation permit accounts.

(b) The division shall perform annual audits on project expenditures and conservation permit accounts.

R657-41-10. Obtaining Sportsman Permits.

(1) One sportsman permit is offered to residents through a drawing for each of the following species:

(a) desert bighorn (ram);
(b) bison (hunter's choice);
(c) buck deer;
(d) bull elk;
(e) Rocky Mountain bighorn (ram);
(f) Rocky Mountain goat (hunter's choice);
(g) bull moose;
(h) buck pronghorn;
(i) black bear;
(j) cougar; and
(k) wild turkey.

(2) The following information on sportsman permits is provided in the proclamations of the Wildlife Board for taking protected wildlife:

(a) hunt dates;
(b) open units or hunt areas;
(c) application procedures;
(d) fees; and
(e) deadlines.

(3) a person must possess or obtain a current Utah hunting or combination license to apply for or obtain a sportsman permit.

R657-41-11. Using a Conservation or Sportsman Permit.

(1)(a) A conservation or sportsman permit allows the recipient to take only one individual of the species for which the permit is issued, except a statewide turkey conservation or sportsman permit allows the holder to take two turkeys.

(b) The species that may be taken shall be printed on the permit.

(c) The species may be taken in the area and during the season specified on the permit.

(d) The species may be taken only with the weapon specified on the permit.

(2) The recipient of a conservation or sportsman permit is subject to all of the provisions of Title 23, Wildlife Resources Code, and the rules and proclamations of the Wildlife Board for taking and pursuing wildlife.

(3) Bonus points shall not be awarded or utilized:

(a) when applying for conservation or sportsman permits; or

(b) in obtaining conservation or sportsman permits.

(4) Any person who has obtained a conservation or sportsman permit is subject to all waiting periods as provided in Rules R657-[~~62 .~~]62.

R657-41-12. Special Antelope Island State Park [~~Conservation Permit~~] Hunting Permits.

(1)(a) [~~If the~~]The Wildlife Board [~~authorizes~~]may authorize a hunt for bighorn sheep [~~or~~] and buck mule deer on Antelope Island State Park, with one [~~permit for each species will be made available as a~~]or more permits for each species made available as Special Antelope Island State Park Conservation Permits and an equal number of permits for each species made available as Special Antelope Island State Park Limited Entry Permits.

(b) The Division of Wildlife Resources and the Division of Parks and Recreation, through their respective policy boards, will enter into a cooperative agreement for the purpose of establishing:

(i) the number of permits issued annually for bighorn sheep and buck mule deer hunts on Antelope Island;

(ii) season dates for each hunt;

(iii) procedures and regulations applicable to hunting on Antelope Island;

(iv) protocols for issuing permits and conducting hunts for antlerless deer on Antelope Island when populations require management; and

(v) procedures and conditions for transferring Special Antelope Island State Park Conservation Permit revenue to the Division of Parks and Recreation.

(c) The cooperative agreement governing bighorn sheep and mule deer hunting on Antelope Island and any subsequent amendment thereto shall be presented to the Wildlife Board and the Parks Board for approval prior to holding a drawing or issuing hunting permits.

(2) (a) Special Antelope Island State Park [~~Conservation~~]Limited Entry Permits will be issued [~~for one year.~~]by the Division through its annual bucks, bulls, and once-in-a-lifetime drawing.

[~~(3) Special Antelope Island State Park Conservation Permits will be issued under this section and will not be limited by the requirements of R657-41-3 through R657-41-8.~~]

(i) The mule deer Special Antelope Island State Park Limited Entry Permit is a premium limited entry buck deer permit and subject to the regulations governing such permits, as provided in this rule, R657-5, and R657-62.

(ii) The bighorn sheep Special Antelope Island State Park Limited Entry Permit is a once-in-a-lifetime Rocky Mountain bighorn sheep permit and subject to the regulations governing such permits, as provided in this rule, R657-5, and R657-62.

(b) To apply for a Special Antelope Island State Park Limited Entry Permit, the applicant must:

(i) pay the prescribed application handling fee;

(ii) possess a current Utah hunting license or combination license;

(iii) not be subject to a waiting period under R657-62 for the species of wildlife applied for; and

(iv) otherwise be eligible to hunt the species of wildlife designated on the application;

(c) A person that obtains a Special Antelope Island State Park Limited Entry Permit:

(i) must pay the applicable permit fee;

(ii) may take only one animal of the species and gender designated on the permit;

(iii) may hunt only with the weapon and during the season prescribed on the permit;

(iv) may hunt the specified species within the areas of Antelope Island designated open by the Wildlife Board and the rules and regulations of the Division of Parks and Recreation; and

(v) is subject to the:

(A) provisions of Title 23, Wildlife Resources Code, and the rules and proclamations of the Wildlife Board for taking and pursuing wildlife; and

(B) statutes, rules, and regulations of the Division of Parks and Recreation for hunting on Antelope Island.

(d) Bonus points are awarded and utilized in applying for and obtaining a Special Antelope Island State Park Limited Entry Permit.

(e) A person who has obtained a Special Antelope Island State Park Limited Entry Permit is subject to all waiting periods applicable to the particular species, as provided in R657-62.

(f) A person cannot obtain a Special Antelope Island State Park Limited Entry Permit for a bighorn sheep or mule deer and any other permit for a male animal of the same species in the same year.

([~~4~~]3) Special Antelope Island State Park Conservation Permits will be provided to the conservation group awarded the wildlife expo permit series, as provided in R657-[~~55~~]55, for marketing at the wildlife exposition [~~where the wildlife expo permits are awarded~~]. ([~~5~~]a) The division and conservation organization receiving Special Antelope Island State Park Conservation Permits shall enter into a contract.

([~~6~~]b) The conservation organization receiving Special Antelope Island State Park Conservation Permits must insure that the permits are marketed and distributed by lawful means.

([~~7~~]c) The conservation organization must:

([~~a~~]i) obtain the name of the proposed permit recipient at the event where the permit recipient is selected; and

([~~b~~]ii) notify the division of the proposed permit recipient within 10 days of the recipient selection or the permit may be forfeited.

([~~8~~]d) If a person is selected by a qualified organization to receive a Special Antelope Island State Park Conservation Permit and is also successful in obtaining a permit for the same species in the same year through a division drawing, that person may designate another person to receive the Special Antelope Island State Park Conservation Permit, provided the permit has not been issued by the division to the first selected person.

([~~9~~]e) If a person is selected by a qualified organization to receive a Special Antelope Island State Park Conservation Permit, but is unable to use the permit, the conservation organization may designate another person to receive the permit provided:

([~~a~~]i) the conservation organization selects the new recipient of the permit; ([~~b~~]ii) the amount of money received by the division for the permit is not decreased;

([~~c~~]iii) the conservation organization relinquishes to the division and otherwise uses all proceeds generated from the re-designated permit, pursuant to the requirements provided below:

([~~i~~]A) the conservation organization and the initial designated recipient of the permit, sign an affidavit indicating the initial designated recipient is not profiting from transferring the right to the permit; and

([~~ii~~]B) the permit has not been issued by the division to the first designated person.

[~~(10) Except as otherwise provided under Subsections (8) and (9), a person designated by a conservation organization as a recipient of a Special Antelope Island State Park Conservation Permit, may not sell or transfer the rights to that designation to any other person.~~] [~~This does not preclude a person from bidding or otherwise lawfully acquiring a permit from a conservation organization on behalf of another person who will be identified as the original designated recipient.~~]

[~~(11) A person cannot obtain a Special Antelope Island State Park Conservation Permit for a bighorn sheep or mule deer and any other permit for a male animal of the same species in the same year.~~]

[~~(12) The person designated to receive a Special Antelope Island State Park Conservation Permit must possess or obtain a current Utah hunting or combination license before being issued the permit.~~]

([~~13~~]f) Within 30 days of the [~~wildlife~~]exposition, but no later than May 1 annually, the conservation organization must submit to the division:

([~~a~~]i) a final report on the distribution of the Special Antelope Island State Park Conservation Permits;

([~~b~~]ii) the total funds raised on each permit; and

([~~c~~]iii) the funds due to the division.

([~~14~~]g) ([~~a~~]i) Permits shall not be issued until the permit fees are paid to the division.

([~~b~~]ii) If the conservation organization is paying the permit fees for the permit recipient, the fees must be paid from the 10% retained by the conservation organization as provided in R657-41-9(5)(a).

([~~15~~]h)([~~a~~]i) Conservation organizations shall remit to the division 90% of the total revenue generated by the Special Antelope Island State Park Conservation Permit sales in that year.

([~~b~~]ii) Failure to remit 90% of the total permit revenue to the division by the September 1 deadline may result in criminal prosecution under Title 76, Chapter 6, Part 4 of the Utah Code.

([~~16~~]i) A conservation organization may retain 10% of the revenue generated by the permits for administrative expenses.

(j) Special Antelope Island State Park Conservation Permits will be issued under this section and will not be limited by the requirements of R657-41-3 through R657-41-8.

([~~17~~]k) Upon receipt of the permit revenue from the conservation organization, the division will transfer [~~the~~]revenue [~~in its entirety~~]to the Division of Parks

and Recreation, as provided in [a]the cooperative agreement under Subsection (1)(b) between the two divisions.

(4)(a) Except as otherwise provided under Subsections (3)(d) and (3)(e), a person designated by a conservation organization as a recipient of a Special Antelope Island State Park Conservation Permit, may not sell or transfer the rights to that designation to any other person. This does not preclude a person from bidding or otherwise lawfully acquiring a permit from a conservation organization on behalf of another person who will be identified as the original designated recipient.

(b) A person cannot obtain a Special Antelope Island State Park Conservation Permit for a bighorn sheep or mule deer and any other permit for a male animal of the same species in the same year.

(c) The person designated to receive a Special Antelope Island State Park Conservation Permit must possess or obtain a current Utah hunting or combination license before being issued the permit.

R657-41-13. Failure to Comply.

Any conservation organization administratively or criminally found in violation of this rule or the Wildlife Resources Code may be suspended from participation in the conservation permit program and required to surrender all conservation permit vouchers.

KEY: wildlife, wildlife permits
Date of enactment or last Substantive Change: March 16, 2015
Notice of Continuation: November 1, 2010
Authorizing, and Implemented or Interpreted Law: 23-14-18; 23-14-19

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources
GREGORY J. SHEEHAN
Division Director

M E M O R A N D U M

Date: March 16, 2015

To: Utah Wildlife Board / Regional Advisory Council Members

From: Justin Shannon, Big Game Coordinator

SUBJECT: Overview of 2015 Big Game Permit Recommendations

The attached tables summarize the Utah Division of Wildlife Resources recommended general season, limited entry, and antlerless permit allocations for the 2015 big game hunts. These recommendations are based upon evaluation of information from the 2014 harvests and post-hunting season herd composition classifications. The number of permits proposed for 2015 should help achieve or maintain desired objectives for harvest size, trophy quality, and hunting opportunity under Utah's big game management plans.

Highlights:

1) For general season deer hunting, we manage 16 units with a post season buck to doe ratio objective of 18–20 and 14 units with an objective of 15–17. We are recommending permit decreases on 1 unit, no changes on 17 units, and permit increases on 12 units. Statewide, we are recommending 87,050 general season permits, which is a 2,250 permit increase compared to last year.
2) Premium limited entry deer units are managed for ≥ 40% of bucks being 5 years or older. We recommend an increase of 1 draw permit on the Henry Mountains (49 permits, 3-year average of bucks 5 years or older is 72%) and no changes on the Paunsaugunt (135 permits, 3-year average of bucks 5 years or older is 58%).
3) Premium limited entry deer units are managed for 40-55 bucks per 100 does post season. We recommend a decrease of 5 draw management buck permits on the Henry Mountains (30 permits, 3-year average is 52 bucks per 100 does), and an increase of 2 draw management buck permits on the Paunsaugunt (16 permits, 3-year average is 44 bucks per 100 does).
4) We recommend an increase in limited entry deer permits from 811 to 1,068. The bulk of this increase (200 permits) occurs on the North Slope, Summit Unit (High Country buck hunt) and late season muzzleloader deer hunts on general season units (46 permits).
5) We recommend no change to the general season any bull and spike elk permits.
6) We recommend an increase in youth any bull permits from 300 to 500.
7) We recommend an increase in limited entry bull elk permits from 2,842 to 2,938.
8) We recommend an increase in buck pronghorn permits from 781 to 804.
9) We recommend a reduction in moose permits due to declining ages of bulls from 67 to 65.
10) We recommend increasing bison permits on the Book Cliffs from 10 to 16 and decreasing permits on the Henry Mountains from 74 to 57.
11) We recommend a 1 permit decrease in Rocky Mountain bighorn sheep permits from 38 to 37 and a 1 permit increase in desert bighorn sheep permits from 40 to 41.
12) We recommend a 1 permit decrease in mountain goat permits from 108 to 107.
13) Deer populations have again increased in many management units, and the statewide population estimate is about 355,600 deer.
14) We recommend an increase in antlerless deer permits from 410 to 625. Antlerless deer hunts are designed to reduce depredation on private lands and address declining range conditions. We are proposing 4 new hunts this year.

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15) Statewide elk populations slightly decreased in 2014. However, several elk populations are above management objectives, and antlerless elk permits are needed to reduce elk numbers on those units. Antlerless elk permits also slow the growth of elk on units approaching their management objectives. We are recommending 14,985 public antlerless elk permits in 2015, compared to 16,775 in 2014.
16) We are recommending changes to 7 antlerless elk hunts, unit names, or boundaries descriptions.
17) We are recommending that hunters who have any antlered big game permit can also purchase an antlerless elk control permit valid on 15 units:
    4 elk units where the population objective is 0 elk
    - -- Henry Mountains
    - -- North San Rafael
    - -- Vernon (New)
    - -- San Juan, East of US-191 and South of US-491

    11 units where we struggle to harvest enough antlerless elk to reach the population objective
    - -- Nine Mile, Range Creek
    - -- South Slope, Yellowstone
    - -- Chalk Creek
    - -- East Canyon
    - -- Morgan-South Rich
    - -- Wasatch, Avintaquin
    - -- Wasatch, Currant Creek
    - -- Wasatch,West
    - -- Ogden
    - -- Mt Dutton (New)
    - -- Pine Valley (New)
18) We recommend a decrease in doe pronghorn permits 669 to 644.
19) We recommend no new doe pronghorn hunts in 2015.
20) We recommend no public antlerless moose hunts or permits in 2015.

2015 RECOMMENDED LIMITED ENTRY DEER PERMITS

3/6/2015

PREMIUM LIMITED ENTRY BUCK DEER

ARCHERY HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1000	Henry Mtns	15	9	1	10	9	1	10
1001	Paunsaugunt	27	24	3	27	24	3	27
	Total		**33**	**4**	**37**	**33**	**4**	**37**

ANY WEAPON HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1002	Antelope Island		1	0	1	1	0	1
1003	Henry Mtns	15	25	3	28	24	3	27
1004	Paunsaugunt	27	73	8	81	69	8	77
	Total		**99**	**11**	**110**	**94**	**11**	**105**

MUZZLELOADER HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1005	Henry Mtns	15	9	1	10	9	1	10
1006	Paunsaugunt	27	24	3	27	24	3	27
	Total		**33**	**4**	**37**	**33**	**4**	**37**

MULTI-SEASON HUNTS			Res			Res		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1007	Henry Mtns	15	0	0	0	2	0	2
1008	Paunsaugunt	27	0	0	0	4	0	4
	Total		**0**	**0**	**0**	**6**	**0**	**6**

MANAGEMENT BUCK HUNTS			Res			Res		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1009	Henry Mtns	15	31	4	35	27	3	30
1010	Paunsaugunt	27	13	1	14	14	2	16
	Total		**44**	**5**	**49**	**41**	**5**	**46**

LIMITED ENTRY BUCK DEER

ARCHERY HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1011	Book Cliffs	10	80	9	89	80	9	89
1012	Fillmore, Oak Creek LE	21c	6	1	7	6	1	7
1013	La Sal, Dolores Triangle	13b	4	0	4	4	0	4
1014	San Juan, Elk Ridge	14b	9	1	10	9	1	10
1015	South Slope, Diamond Mtn	9c	13	2	15	13	2	15
1016	West Desert, Vernon	19b	32	4	36	34	4	38
	Total		**144**	**17**	**161**	**146**	**17**	**163**

ANY WEAPON HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
1017	Book Cliffs, North	10ac	171	19	190	161	18	179
1018	Book Cliffs, South	10b	59	7	66	57	6	63
1019	Fillmore, Oak Creek LE	21c	18	2	20	17	2	19
1020	La Sal, Dolores Triangle	13b	10	1	11	10	1	11
1021	North Slope, Summit	8a				180	20	200
1022	San Juan, Elk Ridge	14b	28	3	31	26	3	29

1023	South Slope, Diamond Mtn	9c	40	5	45	40	4	44
1024	West Desert, Vernon	19b	98	11	109	98	11	109
Total			**424**	**48**	**472**	**589**	**65**	**654**

MUZZLELOADER HUNTS			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
1025	Book Cliffs	10	80	9	89	80	9	89
1026	Cache, Crawford Mtn	2d	15	2	17	15	2	17
1028	Fillmore, Oak Creek LE	21c	6	1	7	6	1	7
1030	La Sal, Dolores Triangle	13b	4	0	4	4	0	4
1033	San Juan, Elk Ridge	14b	9	1	10	9	1	10
1034	South Slope, Diamond Mtn	9c	13	2	15	13	2	15
1036	West Desert, Vernon	19b	32	4	36	34	4	38
Total			**159**	**19**	**178**	**161**	**19**	**180**

MULTI-SEASON HUNTS			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
1040	Book Cliffs	2d	0	0	0	13	1	14
1041	Fillmore, Oak Creek LE	21c	0	0	0	1	0	1
1042	San Juan, Elk Ridge	14b	0	0	0	2	0	2
1043	South Slope, Diamond Mtn	9c	0	0	0	2	0	2
1044	West Desert, Vernon	19b	0	0	0	5	1	6
Total			**0**	**0**	**0**	**23**	**2**	**25**

LATE SEASON MUZZLELOADER HUNTS			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
1027	Chalk Creek/East Canyon/Morgan-South Rich	4/5/6	0	0	0	9	1	10
1029	Kamas	7	0	0	0	4	1	5
1031	Nine Mile	11	0	0	0	9	1	10
1032	Pine Valley	30	0	0	0	7	1	8
1035	Southwest Desert	20	0	0	0	2	1	3
1037	Zion	29	0	0	0	9	1	10
Total			**0**	**0**	**0**	**40**	**6**	**46**

2015 RECOMMENDED GENERAL SEASON DEER PERMITS

3/6/2015

Hunt Name	Bucks Per 100 Does					Buck:Doe Trend	2014 permits	2015 permit rec
	Objective	2012	2013	2014	3 yr avg			
Beaver	18-20	16.4	17.8	19.2	17.8	Increasing	3,000	3,150
Box Elder	15-17	15.1	11.6	18.2	15.0	Increasing	3,800	3,800
Cache	15-17	15.8	13.2	18.8	15.9	Increasing	6,600	6,850
Central Mountains, Manti/San Rafael	15-17	15.6	18.7	22.8	19.0	Increasing	8,800	9,300
Central Mountains, Nebo	15-17	13.7	21.4	18.0	17.7	Decreasing	4,000	4,100
Chalk Creek/East Canyon/Morgan-South Rich	18-20	33.5	27.3	33.6	31.5	Increasing	6,800	6,800
Fillmore, Oak Creek	18-20	21.3	22.2	24.0	22.5	Increasing	450	450
Fillmore, Pahvant	18-20	16.4	23.9	19.9	20.0	Decreasing	1,550	1,650
Kamas	18-20	27.9	22.9	22.4	24.4	Stable	3,200	3,200
La Sal, La Sal Mtns	15-17	11.0	17.4	14.3	14.2	Decreasing	1,800	1,800
Monroe	15-17	18.3	23.3	22.2	21.3	Decreasing	1,400	1,500
Mt Dutton	18-20	13.7	22.2	22.7	19.5	Stable	650	700
Nine Mile	18-20	24.6	22.5	29.1	25.4	Increasing	1,300	1,300
North Slope	18-20	15.6	15.4	17.3	16.1	Increasing	3,250	3,100
Ogden	18-20	20.2	19.4	18.3	19.3	Decreasing	2,500	2,500
Oquirrh-Stansbury	15-17	12.3	20.2	18.4	17.0	Decreasing	2,500	2,500
Panguitch Lake	15-17	18.7	19.8	19.3	19.3	Stable	3,200	3,200
Pine Valley	18-20	23.9	20.6	20.1	21.5	Stable	3,900	3,900
Plateau, Boulder/Kaiparowits	15-17	24.7	16.4	19.9	20.3	Increasing	2,000	2,200
Plateau, Fishlake	18-20	13.7	19.3	22.9	18.6	Increasing	1,300	1,300
Plateau, Thousand Lakes	18-20	17.3	24.8	28.0	23.4	Increasing	200	200
San Juan	15-17	14.2	17.5	19.8	17.2	Increasing	2,500	2,500
South Slope, Bonanza/Vernal	15-17	9.8	12.8	17.2	13.3	Increasing	1,350	1,350
South Slope, Yellowstone	18-20	19.6	19.4	22.0	20.3	Increasing	1,500	1,650
Southwest Desert	18-20	29.9	29.2	24.5	27.9	Decreasing	750	750
Wasatch Mountains, Currant Creek/Avintaquin	18-20	20.0	21.0	28.2	23.1	Increasing	4,000	4,400
Wasatch Mountains, West	15-17	16.2	18.3	19.3	17.9	Increasing	7,900	8,200
West Desert, Tintic	15-17	—	26.4	—	26.4	Limited Data	900	900
West Desert, West	15-17	—	26.4	—	26.4	Limited Data	600	600
Zion	18-20	24.5	23.8	23.5	23.9	Stable	3,100	3,200
Totals							**84,800**	**87,050**

2015 RECOMMENDED LIMITED ENTRY BULL ELK PERMITS

3/6/2015

Archery Hunts (25% of Total)			2014 Permits			2015 Permits		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
3000	Beaver, East	22	7	1	8	7	1	8
3001	Book Cliffs, Bitter Creek/South	10	30	3	33	31	4	35
3002	Book Cliffs, Little Creek Roadless	10	13	1	14	13	1	14
3003	Box Elder, Grouse Creek	1	3	1	4	5	0	5
3004	Cache, Meadowville	02	17	2	19	18	2	20
3005	Cache, North	02	12	1	13	11	1	12
3006	Cache, South	02	32	4	36	36	4	40
3007	Central Mtns, Manti	16	102	11	113	102	11	113
3008	Central Mtns, Nebo	16	21	2	23	19	2	21
3009	Fillmore, Pahvant	21	13	2	15	13	1	14
3010	La Sal, La Sal Mtns	13	23	3	26	25	3	28
3011	Monroe	23	6	1	7	6	1	7
3012	Mt Dutton	24	22	3	25	22	3	25
3013	Nine Mile, Anthro	11	6	0	6	6	0	6
3014	North Slope, Three Corners	08	11	1	12	11	1	12
3015	Oquirrh-Stansbury	18	9	1	10	9	1	10
3016	Panguitch Lake	28	18	2	20	18	2	20
3017	Paunsaugunt	27	15	2	17	18	2	20
3018	Plateau, Boulder/Kaiparowits	25-26	19	2	21	19	2	21
3019	Plateau, Fishlake/Thousand Lakes	25	43	5	48	43	5	48
3020	San Juan	14	13	1	14	13	1	14
3021	South Slope, Diamond Mtn	09	11	1	12	11	1	12
3022	Southwest Desert	20	33	4	37	35	4	39
3023	Wasatch Mtns	17	190	21	211	205	23	228
3024	West Desert, Deep Creek	19	11	1	12	11	1	12
	Total		**680**	**76**	**756**	**707**	**77**	**784**

Any Weapon Hunts (57% of Total)			2014 Permits			2015 Permits		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
3025	Beaver, East (early)	22	8	1	9	8	1	9
3026	Beaver, East (late)	22	8	1	9	8	1	9
3027	Book Cliffs, Bitter Creek/South (early)	10	44	5	49	46	5	51
3028	Book Cliffs, Bitter Creek/South (late)	10	23	3	26	25	3	28
3029	Book Cliffs, Little Creek Roadless	10	21	2	23	19	2	21
3030	Box Elder, Grouse Creek	01	6	1	7	7	1	8
3031	Box Elder, Pilot Mtn	01	3	0	3	4	0	4
3032	Cache, Meadowville (early)	02	25	3	28	27	3	30
3033	Cache, Meadowville (late)	02	13	2	15	14	2	16
3034	Cache, North (early)	02	18	2	20	16	2	18
3035	Cache, North (late)	02	9	1	10	8	1	9
3036	Cache, South (early)	02	49	5	54	54	6	60
3037	Cache, South (late)	02	26	3	29	29	3	32
3038	Central Mtns, Manti (early)	16	139	16	155	139	16	155
3039	Central Mtns, Manti (late)	16	93	10	103	93	10	103
3040	Central Mtns, Nebo (early)	16	21	2	23	19	2	21
3041	Central Mtns, Nebo (late)	16	11	1	12	10	1	11
3042	Fillmore, Pahvant (early)	21	13	1	14	12	1	13
3043	Fillmore, Pahvant (late)	21	18	2	20	17	2	19
3044	La Sal, Dolores Triangle	13	5	0	5	5	0	5
3045	La Sal, La Sal Mtns (early)	13	35	4	39	37	4	41
3046	La Sal, La Sal Mtns (late)	13	19	2	21	20	2	22

3047	Monroe (early)	23	9	1	10	9	1	10
3048	Monroe (late)	23	4	1	5	4	1	5
3049	Mt Dutton (early)	24	31	3	34	31	3	34
3050	Mt Dutton (late)	24	20	2	22	21	2	23
3051	Nine Mile, Anthro (early)	11	6	1	7	6	1	7
3052	Nine Mile, Anthro (late)	11	5	1	6	5	1	6
3053	North Slope, Three Corners	08	17	2	19	17	2	19
3054	Oquirrh-Stansbury (early)	18	8	1	9	12	1	13
3055	Oquirrh-Stansbury (late)	18	12	1	13	8	1	9
3056	Panguitch Lake (early)	28	24	3	27	21	2	23
3057	Panguitch Lake (late)	28	16	2	18	21	2	23
3058	Paunsaugunt (early)	27	22	3	25	23	3	26
3059	Paunsaugunt (Late)	27	12	1	13	16	2	18
3060	Plateau, Boulder/Kaiparowits (early)	25-26	28	3	31	28	3	31
3061	Plateau, Boulder/Kaiparowits (late)	25-26	14	2	16	14	2	16
3062	Plateau, Fishlake/Thousand Lakes (early)	25	64	7	71	63	7	70
3063	Plateau, Fishlake/Thousand Lakes (late)	25	34	4	38	34	4	38
3064	San Juan (early)	14	19	2	21	19	2	21
3065	San Juan (late)	14	10	1	11	10	1	11
3066	South Slope, Diamond Mtn (early)	09	16	2	18	16	2	18
3067	South Slope, Diamond Mtn (late)	09	8	1	9	8	1	9
3068	Southwest Desert (early)	20	36	4	40	35	4	39
3069	Southwest Desert (late)	20	40	4	44	44	5	49
3070	Wasatch Mtns (early)	17	193	22	215	209	23	232
3071	Wasatch Mtns (late)	17	103	12	115	112	13	125
3072	West Desert, Deep Creek (early)	19	11	1	12	11	1	12
3073	West Desert, Deep Creek (late)	19	6	1	7	6	1	7
	Total		**1375**	**155**	**1530**	**1420**	**159**	**1579**

Muzzleloader Hunts (15% of Total)			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
3074	Beaver, East	22	4	1	5	4	1	5
3075	Book Cliffs, Bitter Creek/South	10	18	2	20	19	2	21
3076	Book Cliffs, Little Creek Roadless	10	9	1	10	8	1	9
3077	Box Elder, Grouse Creek	1	2	1	3	3	0	3
3078	Cache, Meadowville	02	10	1	11	11	1	12
3079	Cache, North	02	7	1	8	6	1	7
3080	Cache, South	02	20	2	22	22	2	24
3081	Central Mtns, Manti	16	61	7	68	61	7	68
3082	Central Mtns, Nebo	16	13	2	15	13	1	14
3083	Fillmore, Pahvant	21	8	1	9	8	1	9
3084	La Sal, La Sal Mtns	13	14	2	16	15	2	17
3085	Monroe	23	4	0	4	4	0	4
3086	Mt Dutton	24	13	2	15	13	2	15
3087	Nine Mile, Anthro	11	3	0	3	3	0	3
3088	North Slope, Three Corners	08	7	1	8	7	1	8
3089	Oquirrh-Stansbury	18	5	1	6	5	1	6
3090	Panguitch Lake	28	11	1	12	11	1	12
3091	Paunsaugunt	27	9	1	10	11	1	12
3092	Plateau, Boulder/Kaiparowits	25-26	11	1	12	11	1	12
3093	Plateau, Fishlake/Thousand Lakes	25	26	3	29	26	3	29
3094	San Juan	14	8	1	9	8	1	9
3095	South Slope, Diamond Mtn	09	6	1	7	6	1	7
3096	Southwest Desert	20	20	2	22	21	2	23
3097	Wasatch Mtns	17	127	14	141	137	15	152

3098	West Desert, Deep Creek	19	7	1	8	7	1	8
	Total		**423**	**50**	**473**	**440**	**49**	**489**

Multi-season Hunts (3% of Total)			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
3099	Beaver, East	22	1	0	1	1	0	1
3100	Book Cliffs, Bitter Creek/South	10	4	0	4	4	0	4
3101	Book Cliffs, Little Creek Roadless	10	1	0	1	1	0	1
3102	Cache, Meadowville	02	2	0	2	2	0	2
3103	Cache, North	02	2	0	2	1	0	1
3104	Cache, South	02	4	0	4	5	0	5
3105	Central Mtns, Manti	16	13	1	14	13	1	14
3106	Central Mtns, Nebo	16	2	0	2	2	0	2
3107	Fillmore, Pahvant	21	2	0	2	2	0	2
3108	La Sal, La Sal Mtns	13	3	0	3	3	0	3
3109	Monroe	23	1	0	1	1	0	1
3110	Mt Dutton	24	3	0	3	3	0	3
3111	Nine Mile, Anthro	11	1	0	1	1	0	1
3112	North Slope, Three Corners	08	1	0	1	1	0	1
3113	Oquirrh-Stansbury	18	1	0	1	1	0	1
3114	Panguitch Lake	28	2	0	2	2	0	2
3115	Paunsaugunt	27	2	0	2	2	0	2
3116	Plateau, Boulder/Kaiparowits	25-26	2	0	2	2	0	2
3117	Plateau, Fishlake/Thousand Lakes	25	5	1	6	5	1	6
3118	San Juan	14	2	0	2	2	0	2
3119	South Slope, Diamond Mtn	09	1	0	1	1	0	1
3120	Southwest Desert	20	4	0	4	5	0	5
3121	Wasatch Mtns	17	19	2	21	21	2	23
3122	West Desert, Deep Creek	19	1	0	1	1	0	1
	Total		**79**	**4**	**83**	**82**	**4**	**86**

General Season Youth Any Bull Elk Hunts			**2014 Permits**			**2015 Permits**		
2015 HUNT #	**Hunt Name**	**Unit #**	**Res**	**Nonres**	**Total**	**Res**	**Nonres**	**Total**
3498	Youth General Any Bull Elk		270	30	300	450	50	500
3499	Youth Late Season Any Bull		18	2	20	13	2	15
	Total		**288**	**32**	**320**	**463**	**52**	**515**

2015 Elk Permit and Age Trends

3/6/2015

		Average Age of Harvested Bulls				Permits			
Hunt name	**Objective**	**2012 Age**	**2013 Age**	**2014 Age**	**3 yr avg**	**Total 2012**	**Total 2013**	**Total 2014**	**Total 2015**
Beaver, East	7.75	6.7	6.8	7.9	7.1	40	36	32	32
Book Cliffs, Bitter Creek/South	6.75	7.1	7.3	7.9	7.4	130	129	132	139
Book Cliffs, Little Creek Roadless	7.75	7.1	7.3	7.9	7.4	57	51	48	45
Box Elder, Grouse Creek	4.75	6.3	5.2	5.3	5.6	2	2	14	16
Box Elder, Pilot Mtn	5.75	6.5	-	6.7	6.6	3	3	3	4
Cache, Meadowville	4.75	5.5	5.3	4.6	5.1	56	67	75	80
Cache, North	4.75	4.9	4.1	3.3	4.1	88	70	53	47
Cache, South	4.75	5.9	5.8	5.4	5.7	129	129	145	161
Central Mtns, Manti	5.75	6.2	6.2	6.1	6.2	406	430	453	453
Central Mtns, Nebo	6.75	5.8	6.2	5.6	5.9	100	82	75	69
Fillmore, Pahvant	7.75	6.9	7.3	7.6	7.3	71	65	60	57
La Sal, Dolores Triangle	5.75	—	9.0	-	9.0	5	5	5	5
La Sal, La Sal Mtns	5.75	6.0	6.8	6.5	6.4	95	95	105	111
Monroe	7.75	6.6	6.6	7.1	6.7	35	29	27	27
Mt Dutton	5.75	5.4	6.1	6.0	5.8	110	99	99	100
Nine Mile Anthro	5.75	6.0	6.1	4.7	5.6	21	21	23	23
North Slope, Three Corners	5.75	6.0	6.3	5.9	6.1	36	36	40	40
Oquirrh-Stansbury	5.75	6.1	6.0	6.2	6.1	37	39	39	39
Panguitch Lake	5.75	5.6	5.8	5.8	5.8	85	79	79	80
Paunsaugunt	4.75	4.9	6.5	5.3	5.6	56	59	67	78
Plateau, Boulder/Kaiparowits	7.75	7.4	7.6	7.9	7.6	85	82	82	82
Plateau, Fishlake/Thousand Lakes	5.75	6.1	6.3	5.9	6.1	180	180	192	191
San Juan	7.75	7.3	7.3	8.3	7.6	75	67	57	57
South Slope, Diamond Mtn	6.75	6.5	5.8	6.6	6.3	52	53	47	47
Southwest Desert	6.75	7.3	7.6	7.6	7.5	133	139	147	155
Wasatch Mtns	5.75	6.3	6.9	6.8	6.7	652	655	703	760
West Desert, Deep Creek	5.75	6.5	7.2	6.8	6.8	36	40	40	40
Total						**2775**	**2742**	**2842**	**2938**

2015 RECOMMENDED LIMITED ENTRY PRONGHORN PERMITS

3/6/2015

ARCHERY HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
5000	Beaver	22	4	0	4	3	0	3
5001	Book Cliffs, Bitter Creek	10	2	0	2	2	0	2
5002	Book Cliffs, South	10	5	0	5	4	1	5
5003	Box Elder, Pilot Mtn	01	1	0	1	1	0	1
5004	Box Elder, Promontory	01	2	0	2	2	0	2
5005	Box Elder, Puddle Valley	01	2	0	2	2	0	2
5006	Box Elder, Snowville	01	2	0	2	2	0	2
5007	Cache/Morgan-South Rich/Ogden	02	21	2	23	15	2	17
5008	Fillmore, Black Rock	21	2	0	2	2	0	2
5009	La Sal, Potash/South Cisco	13				1	0	1
5010	Mt. Dutton/Paunsaugunt, Johns Valley	24	6	1	7	6	1	7
5011	Nine Mile, Anthro	11	5	0	5	6	0	6
5012	North Slope, Three Corners/West Daggett	08	4	1	5	4	1	5
5013	Pine Valley	30	5	1	6	5	1	6
5014	Plateau	25	36	4	40	44	5	49
5015	San Rafael, North	12	7	1	8	7	1	8
5016	South Slope, Bonanza/Diamond Mtn.	09	4	0	4	4	0	4
5017	South Slope, Vernal	09	2	0	2	3	0	3
5018	Southwest Desert	20	18	2	20	19	2	21
5019	West Desert, Riverbed	19	4	1	5	3	1	4
5020	West Desert, Rush Valley	19	2	0	2	2	0	2
5021	West Desert, Snake Valley	19	4	0	4	5	0	5
	Total		**138**	**13**	**151**	**142**	**15**	**157**

MUZZLELOADER HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
5022	Cache/Morgan-South Rich/Ogden	**2**				15	2	17
5023	Plateau	25	36	4	40	44	5	49
5024	Southwest Desert	20				19	2	21
	Total		**36**	**4**	**40**	**78**	**9**	**87**

ANY WEAPON HUNTS			2014 Permits			2015 Permits		
2015 HUNT #	Hunt Name	Unit #	Res	Nonres	Total	Res	Nonres	Total
5025	Beaver	22	13	2	15	9	1	10
5026	Book Cliffs, Bitter Creek	10	5	1	6	5	1	6
5027	Book Cliffs, South	10	20	2	22	20	2	22
5028	Box Elder, Pilot Mtn	1	5	1	6	3	1	4
5029	Box Elder, Promontory	1	5	1	6	5	1	6
5030	Box Elder, Puddle Valley	1	9	1	10	8	1	9
5031	Box Elder, Snowville	1	7	1	8	7	1	8
5032	Cache/Morgan-South Rich/Ogden	2	82	9	91	45	5	50
5033	Fillmore, Black Rock	21	8	0	8	8	1	9
5034	Kaiparowits	26	1	0	1	1	0	1
5035	La Sal, Potash/South Cisco	13	5	0	5	4	0	4
5036	Mt. Dutton/Paunsaugunt, Johns Valley	24	25	3	28	25	3	28
5037	Nine Mile, Anthro	11	16	2	18	20	2	22
5038	Nine Mile, Range Creek	11	4	1	5	6	1	7
5039	North Slope, Summit	8	2	0	2	2	0	2
5040	North Slope, Three Corners/West Daggett	8	17	2	19	17	2	19
5041	Panguitch Lake	28	6	1	7	6	1	7
5042	Pine Valley	30	22	2	24	23	3	26
5043	Plateau	25	107	12	119	132	15	147
5044	San Juan, Hatch Point	14	3	0	3	3	0	3
5045	San Rafael, Desert	12	5	1	6	5	1	6
5046	San Rafael, North	12	30	3	33	30	3	33
5047	South Slope, Bonanza/Diamond Mtn.	9	14	2	16	14	2	16
5048	South Slope, Vernal	9	6	1	7	9	1	10
5049	Southwest Desert	20	73	8	81	57	6	63
5050	West Desert, Riverbed	19	19	2	21	13	1	14
5051	West Desert, Rush Valley	19	7	1	8	9	1	10
5052	West Desert, Snake Valley	19	13	2	15	16	2	18
	Total		**529**	**61**	**590**	**502**	**58**	**560**

2015 RECOMMENDED ONCE IN A LIFETIME PERMITS

3/6/2015

Desert Bighorn Sheep

2015 HUNT #	Hunt Name	Unit #	2014 Permits			2015 Permits		
			Res	Nonres	Total	Res	Nonres	Total
6600	Henry Mtns	15	3	0	3	3	0	3
6601	Kaiparowits, East	26	2	1	3	2	1	3
6602	Kaiparowits, Escalante	26	2	0	2	2	0	2
6603	Kaiparowits, West	26	5	0	5	6	0	6
6604	La Sal, Potash/South Cisco	13	2	0	2	2	0	2
6605	Pine Valley	30	2	0	2	2	0	2
6606	San Juan, Lockhart	14	1	0	1	1	0	1
6607	San Juan, South	14	2	0	2	1	0	1
6608	San Rafael, Dirty Devil	12	1	0	1	1	0	1
6609	San Rafael, North	12	1	0	1	1	0	1
6610	San Rafael, South	12	5	1	6	5	1	6
6611	Zion (early)	29	11	1	12	5	1	6
6612	Zion (late)	29	0	0	0	7	0	7
	Total		**37**	**3**	**40**	**38**	**3**	**41**

Rocky Mountain Bighorn Sheep

2015 HUNT #	Hunt Name	Unit #	2014 Permits			2015 Permits		
			Res	Nonres	Total	Res	Nonres	Total
6700	Antelope Island		1	0	1	1	0	1
6701	Book Cliffs, South	10	3	1	4	3	1	4
6702	Box Elder, Newfoundland Mtn (early)	1	9	1	10	5	0	5
6703	Box Elder, Newfoundland Mtn (late)	1	0	0	0	4	1	5
6704	Central Mtns, Nebo/Wasatch Mtns, West	16/17	1	0	1	1	0	1
6705	Nine Mile, Range Creek (early)	11	6	1	7	6	2	8
6706	Nine Mile, Range Creek (late)	11	7	1	8	7	0	7
6707	North Slope, Three Corners-Bare Top	8	1	0	1	1	0	1
6708	North Slope, West Daggett	8	3	0	3	2	0	2
6709	Stansbury	18	3	0	3	3	0	3
	Total		**34**	**4**	**38**	**33**	**4**	**37**

2015 RECOMMENDED ONCE IN LIFETIME PERMITS

3/6/2015

Mountain Goat

2015 HUNT #	Hunt Name	Unit #	2014 Permits			2015 Permits		
			Res	Nonres	Total	Res	Nonres	Total
6800	Beaver (early)	22	8	1	9	6	1	7
6801	Beaver (late)	22	8	1	9	6	1	7
6802	Beaver (Female Goat Only)	22	8	1	9	6	1	7
6803	Central Mtns, Nebo	16	1	0	1	1	0	1
6804	Chalk Creek/Kamas	06-07	5	0	5	4	1	5
6805	North Slope/South Slope, High Uintas Central	08-09	9	1	10	9	1	10
6806	North Slope/South Slope, High Uintas East	08-09	4	0	4	4	0	4
6807	North Slope/South Slope, High Uintas Liedy Peak	08-09	3	0	3	2	0	2
6808	North Slope/South Slope, High Uintas West	08-09	18	2	20	18	2	20
6809	Ogden, Willard Peak (early)	03	17	2	19	17	2	19
6810	Ogden, Willard Peak (late)	03	7	1	8	8	1	9
6811	Ogden, Willard Peak (Female Goat Only)	03	2	1	3	8	0	8
6812	Wasatch Mountains, Box Elder Peak/Lone Peak/Timpanogos	17	3	1	4	3	1	4
6813	Wasatch Mtns, Provo Peak	17	4	0	4	4	0	4
	Total		**97**	**11**	**108**	**96**	**11**	**107**

2015 RECOMMENDED ONCE IN LIFETIME PERMITS

3/6/2015

Bison

2015 HUNT #	Hunt Name	Unit #	2014 Permits			2015 Permits		
			Res	Nonres	Total	Res	Nonres	Total
6500	Antelope Island		6	1	7	6	1	7
6501	Book Cliffs, Hunter's Choice	10	3	0	3	6	0	6
6502	Book Cliffs, Wild Horse Bench, Hunter's Choice	10	7	0	7	9	1	10
6503	Henry Mtns, Hunter's Choice	15	18	2	20	15	2	17
6504	Henry Mtns, Hunter's Choice	15	18	2	20	15	2	17
6505	Henry Mtns, Cow Only	15	13	2	15	13	1	14
6506	Henry Mtns, Cow Only	15	17	2	19	8	1	9
	Total		**82**	**9**	**91**	**72**	**8**	**80**

2015 RECOMMENDED ONCE IN LIFETIME PERMITS

3/6/2015

Bull Moose

2015 HUNT #	Hunt Name	Unit #	2014 Permits			2015 Permits		
			Res	Nonres	Total	Res	Nonres	Total
6000	Cache	02	1	1	2	3	0	3
6001	Chalk Creek	06	2	0	2	3	0	3
6002	East Canyon	05	4	1	5	2	1	3
6003	East Canyon, Morgan-Summit	05	4	0	4	3	0	3
6004	Kamas	07	1	0	1	1	0	1
6005	Morgan-South Rich	04	3	0	3	3	0	3
6006	North Slope, Summit	08	7	1	8	7	1	8
6007	North Slope, Three Corners/West Daggett	08	4	1	5	3	1	4
6008	Ogden	03	2	1	3	3	0	3
6009	South Slope, Diamond Mtn/Vernal	09	1	0	1	1	0	1
6010	South Slope, Yellowstone	09	4	0	4	4	0	4
6011	Wasatch Mtns/Central Mtns	17	26	3	29	26	3	29
	Total		**59**	**8**	**67**	**59**	**6**	**65**

2015 DEER HERD STATUS AND ANTLERLESS PERMIT RECOMMENDATIONS

Updated 3/6/2015

	Plan	Population	Population	Population	Population	2012	2013	2014	2015
	Population	Estimate	Estimate	Estimate	Estimate	Antlerless	Antlerless	Antlerless	Antlerless
Unit Name	Objective	post-2011	post-2012	post-2013	post-2014	Permits	Permits	Permits	Permits
Box Elder	20,000	15,000	13,000	11,600	11,600	0	70	60	60
Cache	25,000	16,000	18,500	15,300	17,300	0	0	0	0
Ogden	11,000	7,000	7,000	8,700	8,500	0	0	0	0
Morgan-South Rich	18,000	10,000	15,250	15,300	15,500	0	0	0	0
East Canyon	13,500	9,100	11,200	11,100	12,400	0	0	0	0
Chalk Creek	10,500	8,000	9,800	12,200	15,000	0	0	0	0
Kamas	8,000	6,000	5,500	7,000	7,700	0	0	0	0
North Slope	6,200	5,700	6,200	7,400	8,300	0	0	0	50
South Slope, Yellowstone	13,000	7,000	7,200	8,700	9,800	0	0	0	0
South Slope, Diamond Mtn/Vernal	13,000	11,600	12,300	11,100	12,000	0	0	0	0
Book Cliffs	15,000	6,200	7,300	7,850	8,600	0	0	0	0
Nine Mile	8,500	4,600	4,700	5,400	6,200	0	0	0	0
San Rafael	1,000	No Data	No Data	No Data	No Data	0	0	0	0
La Sal, La Sal Mtns	13,000	7,200	6,300	7,100	6,900	0	0	0	0
La Sal, Dolores Triangle	5,100	No Data	2,600	2,600	2,300	0	0	0	0
San Juan	20,500	13,200	9,100	10,650	11,400	0	0	0	0
Henry Mtns	2,000	1,400	1,900	1,800	2,200	0	0	0	0
Central Mtns, Manti	38,000	20,900	23,600	23,500	25,100	0	0	0	0
Central Mtns, Nebo	22,600	10,500	14,000	15,900	13,900	0	0	0	0
Wasatch Mtns, West	22,600	19,200	20,250	18,700	20,500	0	0	0	0
Wasatch Mtns, Currant Creek	15,000	9,000	12,300	14,300	16,500	0	0	0	0
Wasatch Mtns, Avintaquin	3,200	1,500	2,300	2,500	3,500	0	0	0	0
Oquirrh-Stansbury	11,600	9,000	8,800	10,800	11,200	0	0	0	0
West Desert	11,200	8,900	9,000	8,900	9,000	0	0	0	0
Southwest Desert	3,200	1,600	1,700	2,100	3,000	0	0	0	0
Fillmore	12,000	9,000	9,900	10,100	10,100	0	0	0	0
Beaver	11,000	11,000	15,000	12,400	13,800	0	0	0	60
Monroe	7,500	5,200	6,800	7,800	7,200	50	50	150	150
Mt Dutton	2,700	1,900	2,250	2,600	2,900	0	0	0	30
Plateau	25,000	12,800	16,500	16,200	17,400	0	0	0	0
Kaiparowits	1,000	400	400	400	400	0	0	0	0
Paunsaugunt	5,200	5,200	5,200	5,200	5,200	0	0	0	0
Panguitch Lake	8,500	8,500	9,200	11,700	11,700	150	150	150	225
Zion	9,000	10,500	11,000	13,000	15,000	0	0	0	0
Pine Valley	12,800	13,000	12,500	13,000	13,500	0	35	50	50
STATEWIDE TOTALS	425,400	286,100	318,550	332,900	355,600	200	305	410	625

2015 ANTLERLESS DEER HUNT RECOMMENDATIONS

Updated 3/6/2015

HUNT NAME	HUNT INFORMATION	PERMITS	SEASON DATES
Beaver, Circleville North	New Hunt	60	10/3 - 10/25
Box Elder, West Bear River (early)	**ARCHERY, MUZZLELOADER, SHOTGUN ONLY**	40	8/29 - 10/18
Box Elder, West Bear River (late)	**ARCHERY, MUZZLELOADER, SHOTGUN ONLY**	20	12/1 - 12/31
Monroe/Plateau, Sevier Valley	**ARCHERY, MUZZLELOADER, SHOTGUN ONLY**	150	9/1-9/30
Mt Dutton – Circleville South	New Hunt	30	10/3 - 10/25
North Slope, Manila-Phil Pico	**ARCHERY, MUZZLELOADER, SHOTGUN ONLY** (New Hunt)	50	9/23-10/1
Panguitch Lake, Cottonwood		125	12/1-12/17
Panguitch Lake, Panguitch Valley	New Hunt	25	12/12 - 12/20
Panguitch Lake, Summit		75	12/1-12/17
Pine Valley, Enterprise		50	8/1-8/14

2015 ELK HERD STATUS AND ANTLERLESS PERMIT RECOMMENDATIONS

Updated 3/9/2015

Unit	Plan Population Objective	Population Estimate post-2011	Population Estimate post-2012	Population Estimate post-2013	Population Estimate post-2014	2012 Antlerless Permits	2013 Antlerless Permits	2014 Antlerless Permits	2015 Antlerless Permits
Box Elder	675	550	700	700	700	30	55	60	60
Cache	2,300	2,400	2,500	2,200	2,300	510	510	385	495
Ogden	800	600	600	2,000	2,100	10	10	500	600
Morgan-South Rich	3,500	5,000	5,000	5,000	4,100	280	300	325	330
East Canyon	1,000	3,000	3,100	3,000	3,100	575	550	550	580
Chalk Creek	2,400	4,600	4,200	4,200	4,300	590	650	700	700
Kamas	850	1,100	1,175	1,100	1,000	400	400	345	360
North Slope, Summit	300	340	500	850	875	50	90	130	160
North Slope, West Daggett	1,300	1,100	1,300	1,600	1,800	125	200	200	250
North Slope, Three Corners	500	550	400	600	600	75	50	50	35
South Slope, Yellowstone	5,500	5,900	7,500	7,500	7,500	1,165	2,220	1,700	950
South Slope, Diamond Mtn/Vernal	2,500	2,700	3,100	2,500	2,300	1,065	1,030	890	800
Book Cliffs	7,500	4,270	4,000	4,800	5,500	145	142	125	130
Nine Mile, Anthro	700	1,450	850	900	950	875	700	450	325
Nine Mile, Range Creek	1,600	1,700	1,700	1,550	1,400	320	325	200	100
San Rafael	0	60	25	25	20	25	10	10	5
La Sal	2,500	2,400	2,300	2,450	2,350	250	210	210	210
San Juan	1,300	1,500	1,300	1,100	1,200	360	300	280	280
Henry Mtns	0	20	25	25	25	8	10	10	5
Central Mtns, Manti	12,000	12,500	12,700	12,300	12,500	2,075	2,590	2,780	2,805
Central Mtns, Nebo	1,450	1,100	1,200	1,200	1,400	0	150	150	50
Wasatch Mtns, Currant Creek	1,200	2,200	3,750	3,500	3,000	1,925	2,000	2,000	1,350
Wasatch Mtns, Avintaquin	1,600	1,900	1,750	1,900	1,900	1,150	900	500	150
Wasatch Mtns, West	2,600	3,500	3,400	3,400	3,400	1,450	1,450	340	320
Oquirrh-Stansbury	900	600	950	850	850	40	60	50	50
West Desert	350	60	250	250	250	20	20	20	10
Southwest Desert	975	975	1,100	1,250	1,300	75	150	425	425
Fillmore	1,600	1,450	1,400	1,350	1,350	245	150	130	65
Beaver	1,050	1,100	1,150	1,175	1,100	150	195	145	235
Monroe	1,800	1,400	1,400	1,300	1,250	20	250	160	160
Mt Dutton	1,500	1,800	2,150	1,900	1,900	350	550	800	700
Plateau, Fish Lake/Thousand Lakes	5,600	4,800	5,100	5,600	5,400	0	550	800	800
Plateau, Boulder	1,500	1,350	1,600	1,700	1,700	240	700	950	950
Kaiparowitz	25	25	25	25	25	0	0	0	0
Paunsaugunt	140	150	175	175	175	50	75	90	125
Panguitch Lake	1,100	850	1,000	1,100	1,100	15	115	140	240
Zion	300	325	325	350	340	85	130	150	150
Pine Valley	50	50	50	50	75	15	20	25	25
STATEWIDE TOTALS	70,965	75,375	79,750	81,475	81,135	14,763	17,817	16,775	14,985

2015 RECOMMENDED ANTLERLESS ELK HUNTS

Hunt Name	Hunt Information	Total permits	Res permits	NR permits	Season dates
Beaver	New Hunt, Public Land	135	121	14	10/3-10/15
Beaver, Beaver Valley	Primarily Private Land, Private lands. Hunters should have permission before applying	100	90	10	11/21-12/31
Book Cliffs, Bitter Creek-McCook Ridge	Boundary Change	60	54	6	11/21-12/6
Book Cliffs, Little Creek	No Vehicle Access	30	27	3	10/3-10/15
Book Cliffs, San Arroyo		40	36	4	11/25-12/31
Box Elder, Grouse Creek	Primarily Private Land, Very Difficult, Low Success Hunt	25	22	3	8/1-8/14 and 10/3-10/11
Box Elder, Grouse Creek	Primarily Private Land, Very Difficult, Low Success Hunt	20	18	2	10/10-10/27
Box Elder, Snowville	Primarily Private Land, Very Difficult, Low Success Hunt	15	13	2	11/7-1/31/16
Cache		450	405	45	10/3-10/25
Cache, Richards Hollow	Very Difficult, Low Success Hunt, Limited Vehicle Access, Forest Service Roads are Closed to Public Access 11/15/2015	30	27	3	11/21-12/31
Cache, Richmond Hyde Park	Boundary Change, Private lands. Hunters should have permission before applying, Limited vehicle access	15	13	2	8/1-8/14 and 10/3-10/27 and 11/16-12/31
Central Mtns, Central Manti		350	315	35	10/3-10/15
Central Mtns, Ferron Canyon		350	315	35	10/3-10/15
Central Mtns, Ferron Lower	Primarily private lands, Infrequent elk herd in the hunting unit	5	4	1	1/16-1/31/16
Central Mtns, Gordon Creek-Price Cyn		200	180	20	11/25-1/15/16
Central Mtns, Gordon Creek-Price Cyn		50	45	5	1/16-1/31/16
Central Mtns, Horn Mountain		50	45	5	11/25-12/31
Central Mtns, Mohrland-Stump Flat		250	225	25	11/25-1/15/16
Central Mtns, Mohrland-Stump Flat		50	45	5	1/16-1/31/16
Central Mtns, Nebo		50	45	5	10/3-10/15
Central Mtns, North Manti		850	765	85	10/3-10/15
Central Mtns, South Manti		350	315	35	10/3-10/15
Central Mtns, South Manti		150	135	15	11/25-1/15/16
Central Mtns, West Manti		150	135	15	11/25-1/15/16
Chalk Creek	Primarily Private Land, Private lands. Hunters should have permission before applying	700	630	70	11/7-1/31/16
East Canyon, Davis-North Salt Lake	Primarily Private Land	250	225	25	10/3-10/16 and 11/7-1/24/16
East Canyon, Morgan	Primarily Private Land	150	135	15	10/3-10/16 and 11/7-1/24/16
East Canyon, Summit	Primarily Private Land	180	162	18	10/3-10/16 and 11/7-1/24/16
Fillmore, Chalk Creek		25	22	3	10/3-10/27
Fillmore, Pahvant North		20	18	2	12/15-12/31
Fillmore, Pahvant South		20	18	2	12/1-12/31
Henry Mtns	Very difficult, low success hunt, Very low elk number (20-30), Please research the area and herd before applying	5	4	1	10/3-10/17
Kamas	Primarily Private Land	130	117	13	10/3-10/16 and 11/7-1/31/16
Kamas, Francis	Primarily Private Land	50	45	5	11/7-1/31/16
Kamas, Oakley	Primarily Private Land	130	117	13	11/7-1/31/16
Kamas, West Hills	Primarily Private Land, Private lands. Hunters should have permission before applying	50	45	5	11/7-1/31/16
La Sal, Dolores Triangle		50	45	5	12/21-1/31/16
La Sal, La Sal Mtns		80	72	8	10/3-10/15
La Sal, La Sal Mtns		80	72	8	11/18-12/31
Monroe, Koosharem Valley	Infrequent Elk Herd in Hunt Unit, Limited Access through Private Property, New Hunt, Boundary overlaps with another antlerless elk hunt	20	18	2	8/1-8/14 and 10/3-10/27
Monroe, Koosharem Valley	Infrequent Elk Herd in Hunt Unit, Limited Access through Private Property, New Hunt, Boundary overlaps with another antlerless elk hunt	10	9	1	11/16-1/31/16
Monroe, South		130	117	13	10/3-10/15
Monroe/Mt Dutton/Plateau		150	135	15	11/16-1/31/16
Morgan-South Rich, East Lost Creek	Primarily Private Land	60	54	6	10/3-10/16 and 11/7-1/24/16

2015 RECOMMENDED ANTLERLESS ELK HUNTS

Hunt Name	Hunt Information	Total permits	Res permits	NR permits	Season dates
Morgan-South Rich, Henefer-Echo WMA	Primarily Private Land, No vehicle access	150	135	15	11/7-1/24/2016
Morgan-South Rich, South Rich	Primarily Private Land	40	36	4	10/3-10/16 and 11/7-1/24/16
Morgan-South Rich, South Weber	Primarily Private Land	25	22	3	10/3-10/16 and 11/7-1/24/16
Morgan-South Rich, West Lost Creek	Primarily Private Land	55	49	6	10/3-10/16 and 11/7-1/24/16
Mt Dutton		100	90	10	10/3-10/15
Mt Dutton		100	90	10	12/5-12/18
Mt Dutton, Deep Creek	No Vehicle Access	125	112	13	11/16-12/4
Mt Dutton, East	Limited Vehicle Access	125	112	13	12/19-1/1/16
Mt Dutton, East	Limited Vehicle Access	100	90	10	1/2/16-1/31/16
Nine Mile, Avintaquin-West Anthro	Excludes Tribe Lands, Very Difficult, Low Success Hunt	150	135	15	1/16-1/31/16
Nine Mile, Range Creek	Limited Access	50	45	5	11/7-12/31
Nine Mile, Range Creek	Limited Access	50	45	5	1/1-1/31/2016
Nine Mile, West Anthro	Excludes Tribe Lands, Very Difficult, Low Success Hunt	25	22	3	10/3-10/15
Nine Mile, West Anthro	Excludes Tribe Lands, Very Difficult, Low Success Hunt	150	135	15	12/12-12/27
North Slope, Greendale	Public Land	20	18	2	10/3-10/15
North Slope, Greendale	Public Land	20	18	2	11/25-12/10
North Slope, Henry's Fork-Burnt Fork		80	72	8	10/3-10/27 and 11/7-11/30
North Slope, Henry's Fork-Burnt Fork		80	72	8	12/1-1/31/16
North Slope, Manila-Phil Pico	Private lands. Hunters should have permission before applying. Date change	40	36	4	1/1-1/31/16
North Slope, Three Corners	Public Land	10	9	1	11/7-11/17
North Slope, Three Corners	Public Land	15	13	2	11/25-12/6
North Slope, Three Corners	Public Land	10	9	1	12/19-12/31
North Slope, West Daggett	Muzzleloader Only, Public Land	20	18	2	9/23-10/1
North Slope, West Daggett	Muzzleloader Only, Public Land	50	45	5	10/28-11/5
North Slope, West Daggett	Public Land	100	90	10	12/19-12/31
Ogden	Private lands. Hunters should have permission before applying	200	180	20	10/3-10/25
Ogden	Private lands. Hunters should have permission before applying, Limited Vehicle Access	200	180	20	11/21-12/31
Ogden	Private lands. Hunters should have permission before applying, Limited Vehicle Access	200	180	20	1/1-1/31/16
Oquirrh Stansbury, Oquirrh Mtns	Excludes East Heaston CWMU, Excludes Tribe Lands	50	45	5	11/23-12/31
Panguitch Lake	New Hunt	120	108	12	10/3-10/15 and 11/16-12/4
Panguitch Lake		120	108	12	12/5-12/31
Paunsaugunt	New Hunt	80	72	8	10/3-10/15 and 11/16-12/6
Paunsaugunt, Skutumpah	Limited Access, Private lands, Hunters should have permission before applying	45	40	5	8/1-8/13 and 11/16-1/31/16
Pine Valley	Infrequent Elk Herd in Hunt Unit, Very Low Elk Numbers, Low Success Hunt	25	22	3	10/3-10/25 and 11/6-12/31
Plateau, Boulder		200	180	20	10/3-10/15
Plateau, Boulder East		150	135	15	11/16-12/4
Plateau, Boulder Parker Mtn		100	90	10	11/16-1/17/16
Plateau, Boulder West		250	225	25	11/16-12/4
Plateau, Boulder West		200	180	20	12/19-1/31/16
Plateau, Boulder-Circle Cliffs	Limited Vehicle Access, Very Difficult, Low Success Hunt, Excludes Capitol Reef National Park	50	45	5	10/3-1/31/16
Plateau, Fishlake/Thousand Lake East		250	225	25	11/16-12/6
Plateau, Fishlake/Thousand Lakes West		150	135	15	11/16-12/17
Plateau, Fishlake/Thousand Lakes		400	360	40	10/3-10/15
San Juan		110	99	11	10/3-10/15
San Juan		110	99	11	11/18-12/31
San Juan, East of US-191	Primarily Private Land	10	9	1	10/3-10/15 and 11/18-12/31
San Juan, North Elk Ridge		50	45	5	10/3-10/15 and 11/18-12/31

2015 RECOMMENDED ANTLERLESS ELK HUNTS

Hunt Name	Hunt Information	Total permits	Res permits	NR permits	Season dates
San Rafael, North	Very difficult, low success hunt, Very low elk number (20-30), Please research the area and herd before applying	5	4	1	11/7-1/31/16
South Slope, Bonanza-Vernal	Muzzleloader Only	100	90	10	9/23-10/1
South Slope, Bonanza-Vernal		100	90	10	10/3-10/15
South Slope, Bonanza-Vernal		100	90	10	10/17-10/25
South Slope, Bonanza-Vernal	Muzzleloader Only	100	90	10	10/28-11/5
South Slope, Diamond Mountain	Primarily Private Land	90	81	9	10/28-11/12
South Slope, Diamond Mountain	Primarily Private Land	80	72	8	11/28-12/11
South Slope, Diamond Mountain	Primarily Private Land	80	72	8	12/19-12/31
South Slope, Little Mtn-Buckskin Hills	Primarily Private Land	75	67	8	12/1-12/31
South Slope, Little Mtn-Buckskin Hills	Primarily Private Land	75	67	8	1/1-1/31/16
South Slope, Yellowstone	Very Difficult, Low Success Hunt	300	270	30	10/3-10/15
South Slope, Yellowstone	Muzzleloader Only, Excludes Tribe Lands, Very Difficult, Low Success Hunt	50	45	5	10/28-11/5
South Slope, Yellowstone	Very Difficult, Low Success Hunt	150	135	15	11/7-11/15
South Slope, Yellowstone	Very Difficult, Low Success Hunt	150	135	15	11/21-11/29
South Slope, Yellowstone	Very Difficult, Low Success Hunt	100	90	10	12/5-12/13
South Slope, Yellowstone	Very Difficult, Low Success Hunt	100	90	10	12/19-1/3/16
South Slope, Yellowstone	Very Difficult, Low Success Hunt	100	90	10	1/16-1/31/16
Southwest Desert	Excludes Indian Peaks WMA	375	337	38	11/16-12/31
Southwest Desert, NW Part		50	45	5	10/3-10/25 and 11/16-12/31
Wasatch Mtns, Alpine	Primarily Private Land	30	27	3	11/16-1/31/16
Wasatch Mtns, Avintaquin	Excludes Tribe Lands, Very Difficult, Low Success Hunt	50	45	5	10/3-10/15
Wasatch Mtns, Avintaquin	Excludes Tribe Lands, Very Difficult, Low Success Hunt	100	90	10	11/21-11/29
Wasatch Mtns, Currant Creek	Excludes Tribal Lands	500	450	50	10/3-10/15
Wasatch Mtns, Currant Creek	Excludes Tribal Lands	350	315	35	11/21-11/29
Wasatch Mtns, Currant Creek	Limited Access, Excludes Tribal Lands	250	225	25	12/12-12/27
Wasatch Mtns, Currant Creek	Limited Access, Excludes Tribal Lands	250	225	25	1/16-1/31/16
Wasatch Mtns, East Heber	Primarily Private Land	40	36	4	10/3-10/15
Wasatch Mtns, East Heber	Primarily Private Land	40	36	4	11/16-12/20
Wasatch Mtns, East Heber	Primarily Private Land	40	36	4	12/21-1/31/16
Wasatch Mtns, Park City	No Public Land	10	9	1	11/16-1/31/16
Wasatch Mtns, Salt Lake	No Vehicle Access	40	36	4	11/16-1/31/16
Wasatch Mtns, Timpanogos	Limited Vehicle Access	20	18	2	11/16-1/31/16
Wasatch Mtns, Wallsburg	Limited Vehicle Access	40	36	4	11/16-12/20
Wasatch Mtns, Wallsburg	Limited Vehicle Access	40	36	4	12/21-1/31/16
Wasatch Mtns, West Heber	Limited Vehicle Access	20	18	2	11/16-1/31/16
West Desert, Deep Creek	Excludes Tribal Lands	10	9	1	8/1-8/14
Zion	Excludes Zion National Park, Private lands, Hunters should have permission before applying	50	45	5	10/3-10/25
Zion	Excludes Zion National Park, Private lands, Hunters should have permission before applying	100	90	10	11/6-12/31

2015 Doe Pronghorn Permit Summary and Recommendations

	Doe Permits	
Unit	2014 Draw Permits	2015 Draw Permits
Cache/Morgan-South Rich/Ogden (Early)	55	55
Cache/Morgan-South Rich/Ogden (Middle)	80	55
Cache/Morgan-South Rich/Ogden (Late)	55	55
Mt Dutton/Paunsaugunt; John's Valley	40	40
North Slope, Lucerne Point	14	14
North Slope, Summit	5	5
Plateau	400	400
Southwest Desert, Milford Flat	20	20
Statewide Totals	669	644

2015 Antlerless Moose Permit Summary and Recommendations

	Antlerless Permits	
Unit	2014 Draw Permits	2015 Draw Permits
Statewide Totals	0	0

2015 DOE PRONGHORN HUNTS **Updated 3/6/2015**

HUNT NAME	HUNT INFORMATION	TOTAL PERMITS	RESIDENT PERMITS	NONRES PERMITS	SEASON DATES
Cache/Morgan-South Rich/Ogden (Early)		55	49	6	9/12 - 9/22
Cache/Morgan-South Rich/Ogden (Late)		55	49	6	12/12 - 12/31
Cache/Morgan-South Rich/Ogden (Middle)		55	49	6	10/3 - 10/25
Mt Dutton/Paunsaugunt, John's Valley		40	36	4	10/3 - 10/16
North Slope, Lucerne Point	**MUZZLELOADER ONLY**	14	13	1	11/7-12/31
North Slope, Summit		5	4	1	9/12 - 9/22
Plateau		400	360	40	11/16-12/6
Southwest Desert, Milford Flat		20	18	2	8/1-8/14

HUNT NAME	HUNT INFORMATION	TOTAL PERMITS	RESIDENT PERMITS	NONRES PERMITS	SEASON DATES

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Wildlife Resources
GREGORY SHEEHAN
Division Director

MEMORANDUM

Date: March 18, 2015

To: Utah Wildlife Board / Regional Advisory Council Members

From: Scott McFarlane, Private Lands / Public Wildlife Coordinator

SUBJECT: SUMMARY OF 2015 CWMU ANTLERLESS RECOMMENDATIONS

The attached table lists the Division of Wildlife's 2015 recommendations for CWMU big game antlerless vouchers and permits. Also included is a list of all CWMUs that have antlerless permits requiring Wildlife Board approval, with previously approved buck/bull numbers, recommended antlerless numbers, private : public permit ratios, and acreage information. Fifty-five new or renewed CWMUs require Wildlife Board approval for antlerless permit numbers on new 3-year management plans. Thirteen CWMU's antlerless voucher/permit numbers have been previously approved on 3-year management plans, and no action is required. Two CWMUs are requesting changes to previously approved numbers.

The antlerless voucher/permit summary is as follows:

DEER		ELK		PRONGHORN	
Private	Public	Private	Public	Private	Public
0	7(2-doe)	255	1125	64	106
0	5(1-doe)				

A recommended total of 1,569 CWMU antlerless permits are recommended for 2015, of which 79.7% will be public permits available through the drawing process.

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2015 CWMU Antlerless Recommendations

CWMU_Name	Manag_Unit	County	Species	Anim_Gender	Rcmnd_Private	Rcmnd_Public	BB_Final_Ratio	
Junction Valley	1	Box Elder	DEER	2 Doe	0	7	90:10	
Mt Carmel	29	Kane	DEER	Antlerless	0	5	90:10	
Total Deer Private/Public					0	12		
Alton	27	Kane	ELK	Antlerless	3	7	80:20	
Bar J Ranch	25	Sevier	ELK	Antlerless	4	6	80:20	
Bastian Ranch	4	Weber	ELK	Antlerless	0	2	90:10	
Bear Mountain	16	Sanpete	ELK	Antlerless	5	15	85:15	
Boobe Hole	25	Sevier	ELK	Antlerless	0	10	90:10	
Cedar Canyon	4	Morgan	ELK	Antlerless	0	20	90:10	
Chimney Rock	4	Summit	ELK	Antlerless	0	10	90:10	
Coldwater Ranch	3	Cache	ELK	Antlerless	0	5	90:10	
Conover-Jensen	11	Carbon	ELK	Antlerless	0	0	80:20	
Coyote Little Pole	17	Wasatch	ELK	Antlerless	24	36	80:20	
Crab Creek	16	Utah	ELK	Antlerless	1	4	85:15	
Deer Haven	14	San Juan	ELK	Antlerless	4	4	75:25	
Deseret	4	Morgan/Rich/Weber	ELK	Antlerless	0	150	90:10	
Double Cone	1	Box Elder	ELK	Antlerless	3	17	85:15	
Durst Mountain	4	Morgan	ELK	Antlerless	0	20	90:10	
East Fork Chalk Creek	6	Summit	ELK	Antlerless	0	20	90:10	
Emma Park	17	Carbon/Duchesne	ELK	Antlerless	5	14	85:15	
Ensign Ranches	6	Morgan/Rich/Weber	ELK	Antlerless	25	75	85:15	
Folley Ridge	4	Morgan	ELK	Antlerless	0	5	90:10	
Grass Valley/Clark Canyon	6	Summit	ELK	Antlerless	0	40	90:10	
Grazing Pasture	25	Sevier	ELK	Antlerless	6	9	80:20	
Guildersleeve	4	Morgan	ELK	Antlerless	0	8	90:10	
Hardscrabble	5	Davis/Morgan/Salt Lake	ELK	Antlerless	0	15	90:10	
Heaston East	18	Salt Lake	ELK	Antlerless	12	38	85:15	
Hell Canyon	4	Morgan	ELK	Antlerless	0	28	90:10	
Hiawatha	16	Carbon/Emery	ELK	Antlerless	8	12	80:20	
Indian Head	17	Utah	ELK	Antlerless	4	12	85:15	
J.B. Ranch	13	Grand/San Juan	ELK	Antlerless	14	21	80:20	Add 5
Jacob's Creek	5	Davis/Morgan	ELK	Antlerless	0	5	90:10	
Johnson Mountain Ranch	25	Sevier	ELK	Antlerless	0	20	90:10	
Jump Creek	16	Carbon	ELK	Antlerless	8	11	80:20	
Little Red Creek	17	Wasatch	ELK	Antlerless	8	22	85:15	
Lone Tree Taylor Hollow	5	Morgan/Summit	ELK	Antlerless	0	20	90:10	
Minnie Maud Ridge	11	Carbon/Duchesne	ELK	Antlerless	0	20	90:10	
Missouri Flat	21	Millard/Sevier	ELK	Antlerless	12	18	80:20	

Moon Ranch	17	Duchesne	ELK	Antlerless	5	15	85:15
Mountain Top	5	Morgan/Summit	ELK	Antlerless	0	10	90:10
Old Woman Plateau	16	Sevier	ELK	Antlerless	0	4	90:10
Patmos Ridge	11	Carbon	ELK	Antlerless	2	3	80:20
Powder Mountain	3	Weber, Cache	ELK	Antlerless	5	5	75:25
Preston Nutter Ranch	11	Carbon	ELK	Antlerless	0	15	90:10
Redd Ranches	13	Grand/San Juan	ELK	Antlerless	0	25	90:10
Riverview Ranch LLC	1	Box Elder	ELK	Antlerless	1	5	80:20
Roan Cliffs	11	Carbon	ELK	Antlerless	0	14	90:10
Sand Creek	17	Duchesne	ELK	Antlerless	4	11	85:15
Scofield Canyons	16	Carbon/Utah	ELK	Antlerless	10	14	80:20
Scofield East	16	Carbon	ELK	Antlerless	12	17	80:20
Scofield West	16	Carbon/Utah	ELK	Antlerless	10	30	80:20
SJ Ranch	2	Cache	ELK	Antlerless	0	6	90:10
Skull Crack	4	Morgan/Weber	ELK	Antlerless	0	15	90:10
Soldier Summit	16	Carbon/Utah/Wasatch	ELK	Antlerless	6	18	85:15
South Canyon	3	Box Elder/Cache	ELK	Antlerless	0	5	90:10
Spring Creek/Dodge	14	San Juan	ELK	Antlerless	20	30	80:20
State Corner	6	Summit	ELK	Antlerless	0	20	90:10
Strawberry Ridge	2	Cache/Rich	ELK	Antlerless	0	10	90:10
Summit Point	14	San Juan	ELK	Antlerless	20	30	80:20
Three C	17	Wasatch	ELK	Antlerless	12	18	80:20
Twin Peaks/Goose Creek	1	Box Elder	ELK	Antlerless	0	10	90:10
Two Bear	6	Summit	ELK	Antlerless	0	20	90:10
Wallsburg	17	Wasatch	ELK	Antlerless	2	8	85:15
Weber Florence Creek	6	Summit	ELK	Antlerless	0	40	90:10
Woodruff Creek South	4	Rich	ELK	Antlerless	0	8	90:10
Total Elk Private/Public					255	1125	
Black Point	21	Millard	PRONGHORN	Doe	2	3	60:40
Deseret	4	Morgan/Rich/Weber	PRONGHORN	Doe	48	82	60:40
Middle Ridge	4	Rich	PRONGHORN	Doe	4	6	60:40
Rabbit Creek	2	Rich	PRONGHORN	Doe	1	2	60:40
RLF Deep Creek	1	Box Elder	PRONGHORN	Doe	1	2	60:40
SJ Ranch	2	Cache	PRONGHORN	Doe	2	3	60:40
Strawberry Ridge	2	Cache/Rich	PRONGHORN	Doe	2	3	60:40
Zane	20	Iron	PRONGHORN	Doe	4	5	60:40
Total Pronghorn Priv./Pub.					64	106	
				Total Private/Public	319	1250	

New or renewals needing approval

Previously approved-change request

2015 COOPERATIVE WILDLIFE MANAGEMENT UNITS
ANTLERLESS RECOMMENDATIONS

CENTRAL REGION

Bear Mountain

Private Acres 8900 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	6	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	5	15	8/15/2015-1/31/2016	25:75				
ELK	Bull	6	1	9/01-10/31/2015	85:15				

Coyote Little Pole

Private Acres 13211 100 % Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	**Antlerless**	24	36	8/15/2015-1/31/2016	40:60				
ELK	Bull	8	2	9/01-10/31/2015	80:20				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Crab Creek

Private Acres 10200 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	4	1	9/01-10/31/2015	85:15				
ELK	**Antlerless**	1	4	8/15/2015-1/31/2016	25:75				

Heaston East

Private Acres 57880 100 % Public Acres 0 0 %

Unit # 18

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	22	2	9/11-11/10/2015	90:10				
ELK	Bull	20	3	9/01-11/15/2015	85:15				
ELK	**Antlerless**	12	38	8/15/2015-1/31/2016	25:75				

CWMU is granted an elk season variance to 11/15.

Three C

Private Acres 14676 100 % Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	Bull	8	2	9/01-10/31/2015	80:20				
ELK	**Antlerless**	12	18	8/15/2015-1/31/2016	40:60				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

CENTRAL REGION

Wallsburg

Private Acres 8170 100 % Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	2	8	8/15/2015-1/31/2016	25:75				
ELK	Bull	6	1	9/01-10/31/2015	85:15				
MOOSE	Bull	0	1	9/01-10/31/2015	60:40				

Westlake

Private Acres 23637 100 % Public Acres 0 0 %

Unit # 19

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
PRONGHORN	Buck	2	1	9/01-10/31/2015	60:40				
PRONGHORN	**2 Doe**			9/01-10/31/2015	40:60	0	0		

NORTHEASTERN REGION

Little Red Creek

Private Acres 18100 100 % | Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	Bull	12	2	9/01-10/31/2015	85:15				
ELK	**Antlerless**	8	22	8/15/2015-1/31/2016	25:75				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Moon Ranch

Private Acres 11976 100 % | Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	9	2	9/01-10/31/2015	85:15				
ELK	**Antlerless**	5	15	8/15/2015-1/31/2016	25:75				
MOOSE	Bull	0	0	9/01-10/31/2015	60:40				

Sand Creek

Private Acres 10200 100 % | Public Acres 0 0 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	8	1	9/01-10/31/2015	85:15				
ELK	**Antlerless**	4	11	8/15/2015-1/31/2016	25:75				

NORTHERN REGION

Cedar Canyon

Private Acres 12500 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
ELK	Bull	9	1	9/01-10/31/2015	90:10				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Chimney Rock

Private Acres 11240 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	9	1	9/01-11/30/2015	90:10				
ELK	**Antlerless**	0	10	8/15/2015-1/31/2016	0:100			8/15/2013-1/31/2	
MOOSE	Bull	0	0	9/01-10/31/2015	60:40				

Granted bull elk season variance 9/1 - 11/30.

Coldwater Ranch

Private Acres 31925 100 % Public Acres 0 0 %

Unit # 3

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/01-10/31/2015	90:10				
ELK	Bull	9	1	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	5	8/15/2015-1/31/2016	0:100				

Deseret

Private Acres 215357 93 % Public Acres 15359 6.7 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	85	17	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	150	8/15/2015-1/31/2016	0:100				
ELK	Bull	98	19	9/01-11/22/2015	90:10				
MOOSE	Bull	2	2	9/01-10/31/2015	60:40				
PRONGHORN	**Doe**	48	82	9/01-10/31/2015	40:60				
PRONGHORN	Buck	45	36	9/01-10/31/2015	60:40				

Compensation for inclusion of public land - 6 deer, 5 elk, 2 buck pronghorn and 3 doe pronghorn.Granted bull elk variance to 11/22.

Double Cone

Private Acres 5329 55 % Public Acres 4365 45 %

Unit # 1

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
ELK	Bull	4	3	9/01-10/31/2015	85:15				
ELK	**Antlerless**	3	17	8/15/2015-1/31/2016	25:75				

Compensation for inclusion of public land - 2 bull elk, 2 antlerless elk, 1,120 acres not posted

NORTHERN REGION

Durst Mountain

Private Acres 26358 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
ELK	Bull	27	3	9/01-10/31/2015	90:10				
MOOSE	Bull	2	2	9/01-10/31/2015	60:40				

East Fork Chalk Creek

Private Acres 10080 100 % Public Acres 0 0 %

Unit # 6

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	27	3	9/11-11/10/2015	90:10				
ELK	Bull	18	2	9/01-11/20/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
MOOSE	Bull	1	2	9/01-10/31/2015	60:40				

CWMU is granted an elk season variance 9/01 - 11/10.

Ensign Ranches

Private Acres 84609 100 % Public Acres 0 0 %

Unit # 6

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	36	4	9/11-11/10/2015	90:10				
ELK	**Antlerless**	25	75	8/15/2015-1/31/2016	25:75				
ELK	Bull	20	3	9/01-11/20/2015	85:15				
MOOSE	Bull	2	2	9/01-10/31/2015	60:40				
PRONGHORN	Buck	2	1	9/01-10/31/2015	60:40				

Bull Elk Season Variancegranted 9/1 - 11/20.

Folley Ridge

Private Acres 17660 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	27	3	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	5	8/15/2015-1/31/2016	0:100				
ELK	Bull	18	2	9/01-10/31/2015	90:10				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Guildersleeve

Private Acres 8000 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	8	8/15/2015-1/31/2016	0:100				
ELK	Bull	9	1	9/01-10/31/2015	90:10				

NORTHERN REGION

Hell Canyon

Private Acres 10522 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	28	8/15/2015-1/31/2016	0:100				
ELK	Bull	18	2	9/01-10/31/2015	90:10				
MOOSE	Bull	1	0	9/01-10/31/2015	60:40				

Lone Tree Taylor Hollow

Private Acres 10725 100 % Public Acres 0 0 %

Unit # 5

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	45	5	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
ELK	Bull	27	3	9/01-10/31/2015	90:10				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Middle Ridge

Private Acres 5108 80 % Public Acres 1274 20 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	12	3	9/11-11/10/2015	90:10				
PRONGHORN	Buck	5	5	9/01-10/31/2015	60:40				
PRONGHORN	**Doe**	4	6	9/01-10/31/2015	40:60				

640 acres of trade land provided and 2 deer permits,1 buck pronghorn

Powder Mountain

Private Acres 11800 100 % Public Acres 0 0 %

Unit # 3

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	3	1	9/01-10/31/2015	75:25				
ELK	**Antlerless**	5	5	8/15/2015-1/31/2016	50:50				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

RLF Deep Creek

Private Acres 11129 100 % Public Acres 0 0 %

Unit # 1

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
PRONGHORN	Buck	3	2	9/01-10/31/2015	60:40				
PRONGHORN	**Doe**	1	2	9/01-10/31/2015	40:60				

NORTHERN REGION

SJ Ranch

Private Acres 6476 100 % Public Acres 0 0 %

Unit # 2

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
ELK	**Antlerless**	0	6	8/15/2015-1/31/2016	0:100				
ELK	Bull	6	1	9/01-10/31/2015	90:10				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				
PRONGHORN	**Doe**	2	3	9/01-10/31/2015	40:60				
PRONGHORN	Buck	3	2	9/01-10/31/2015	60:40				

Skull Crack

Private Acres 27979 100 % Public Acres 0 0 %

Unit # 4

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	15	8/15/2015-1/31/2016	0:100				
ELK	Bull	9	1	9/01-10/31/2015	90:10				
MOOSE	Bull	3	2	9/01-10/31/2015	60:40				

South Canyon

Private Acres 16084 98 % Public Acres 360 2.2 %

Unit # 3

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	2	9/11-11/10/2015	90:10				
ELK	Bull	9	2	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	5	8/15/2015-1/31/2016	0:100				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

1 additional public buck deer and 1 additional public bull elk in three years-2%

State Corner

Private Acres 14006 100 % Public Acres 0 0 %

Unit # 6

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	27	3	9/01-10/31/2015	90:10				
ELK	Bull	27	3	9/01-11/20/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
MOOSE	Bull	1	1	9/01-10/31/2015	60:40				

Granted Bull Elk season variance - 9/1 - 11/20.

Twin Peaks/Goose Creek

Private Acres 9406 47 % Public Acres 10400 53 %

Unit # 1

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
ELK	**Antlerless**	0	10	8/15/2015-1/31/2016	0:100				
ELK	Bull	5	3	9/01-10/31/2015	90:10				

Compensation for inclusion of public land 6,115 private acres open to public, and 2 elk permits.

NORTHERN REGION

Two Bear

Private Acres 35351 100 % Public Acres 0 0 %

Unit # 6

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	20	8/15/2015-1/31/2016	0:100				
ELK	Bull	27	3	9/01-10/31/2015	90:10				
MOOSE	Bull	2	2	9/01-10/31/2015	60:40				

Weber Florence Creek

Private Acres 36915 100 % Public Acres 0 0 %

Unit # 6

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	72	8	9/01-10/31/2015	90:10				
ELK	Bull	63	7	9/01-11/20/2015	90:10				
ELK	**Antlerless**	0	40	8/15/2015-1/31/2016	0:100				
MOOSE	Bull	4	3	9/01-10/31/2015	60:40				

CWMU is granted a bull elk season variance 9/1 - 11/20.

SOUTHEASTERN REGION

Conover-Jensen

Private Acres 10805 100 % | Public Acres 0 0 %

Unit # 11

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	27	3	9/01-10/31/2015	90:10				
ELK	Bull	6	1	9/01-10/31/2015	80:20				
ELK	**Antlerless**	0	0	8/15/2015-1/31/2016	40:60				

Deer Haven

Private Acres 15394 100 % | Public Acres 0 0 %

Unit # 14

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	13	2	9/01-10/31/2015	90:10				
ELK	**Antlerless**	4	4	8/15/2015-1/31/2016	50:50				
ELK	Bull	1	1	9/01-10/31/2015	75:25				

Emma Park

Private Acres 11888 96 % | Public Acres 440 3.6 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	10	2	9/01-10/31/2015	90:10				
ELK	Bull	7	1	9/01-10/31/2015	85:15				
ELK	**Antlerless**	5	14	8/15/2015-1/31/2016	25:75				

Compensation for inclusion of public land - 520 private acres open to public access.

Hiawatha

Private Acres 14700 100 % | Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	8	12	8/15/2015-1/31/2016	40:60				
ELK	Bull	5	1	9/01-11/30/2015	80:20				

CWMU is granted a bull elk season variance 9/1 - 11/30.

Indian Head

Private Acres 10005 96 % | Public Acres 460 4.4 %

Unit # 17

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/01-10/31/2015	90:10				
ELK	Bull	7	1	9/01-10/31/2015	85:15				
ELK	**Antlerless**	4	12	8/15/2015-1/31/2016	25:75				

527 acres private open to public for 460 acres public lands included

SOUTHEASTERN REGION

J.B. Ranch

Private Acres 9162 100 % | Public Acres 0 0 %

Unit # 13

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/01-10/31/2015	90:10				
ELK	**Antlerless**	14	21	8/15/2015-1/31/2016	40:60				
ELK	Bull	6	1	9/01-10/31/2015	80:20				

Jump Creek

Private Acres 7500 100 % | Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
ELK	**Antlerless**	8	11	8/15/2015-1/31/2016	40:60				
ELK	Bull	4	1	9/01-10/31/2015	80:20				

Applied for acreage variance through CWMU Adv. Committee and conditionally granted by Wildlife Board through 2018.

Patmos Ridge

Private Acres 14620 99 % | Public Acres 80 0.5 %

Unit # 11

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	7	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	2	3	8/15/2015-1/31/2015	40:60				
ELK	Bull	5	1	9/01-10/31/2015	80:20				

120 acres of private land opened to public for compensation of 80 acres inside CWMU

Preston Nutter Ranch

Private Acres 26851 100 % | Public Acres 0 0 %

Unit # 11

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	15	8/15/2015-1/31/2016	0:100				
ELK	Bull	18	2	9/01-10/31/2015	90:10				

Roan Cliffs

Private Acres 22620 97 % | Public Acres 760 3.3 %

Unit # 11

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	36	4	9/01-10/31/2015	90:10				
ELK	**Antlerless**	0	14	8/15/2015-1/31/2016	0:100				
ELK	Bull	18	2	9/01-10/31/2015	90:10				

680 acres of exchange land provided for 760 of public lands

SOUTHEASTERN REGION

Scofield Canyons

Private Acres 15610 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	**Antlerless**	10	14	8/15/2015-1/31/2016	40:60				
ELK	Bull	6	1	9/01-10/31/2015	80:20				

Scofield East

Private Acres 10100 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
ELK	**Antlerless**	12	17	8/15/2015-1/31/2016	40:60				
ELK	Bull	5	1	9/01-10/31/2015	80:20				

Scofield West

Private Acres 11521 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	13	2	9/01-10/31/2015	90:10				
ELK	Bull	7	1	9/01-10/31/2015	80:20				
ELK	**Antlerless**	10	30	8/15/2015-1/31/2016	40:60				

Soldier Summit

Private Acres 25618 100 % Public Acres 0 0 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/01-10/31/2015	90:10				
ELK	Bull	13	2	9/01-10/31/2015	85:15				
ELK	**Antlerless**	6	18	8/15/2015-1/31/2016	25:75				

Spring Creek/Dodge

Private Acres 76301 100 % Public Acres 0 0 %

Unit # 14

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	54	6	9/01-10/31/2015	90:10				
ELK	**Antlerless**	20	30	8/15/2015-1/31/2016	40:60				
ELK	Bull	9	2	9/01-10/31/2015	80:20				

Summit Point

Private Acres 37586 100 % Public Acres 0 0 %

Unit # 14

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	27	3	9/01-10/31/2015	90:10				
ELK	**Antlerless**	20	30	8/15/2015-1/31/2016	40:60				
ELK	Bull	5	1	9/01-10/31/2015	80:20				

SOUTHERN REGION

Alton

Private Acres 38443 91 % Public Acres 3845 9.1 %

Unit # 27

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Managemen	2	1	9/01-10/31/2015	90:10				
DEER	Buck	19	5	9/01-10/31/2015	90:10				
ELK	**Antlerless**	3	7	8/15/2015-1/31/2016	40:60				
ELK	Bull	4	1	9/01-10/31/2015	80:20				

Compensation for inclusion of public land, 2 additional public deer permits.

Bar J Ranch

Private Acres 6300 95 % Public Acres 330 5 %

Unit # 25

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2013	90:10				
ELK	**Antlerless**	4	6	8/15/2015-1/31/2016	40:60				
ELK	Bull	9	2	9/01-10/31/2015	80:20				

Equal trade lands used to make a definable boundary for public and private. 370 private acres open to public to include 330 public acres in CWMU.

Boobe Hole

Private Acres 12000 100 % Public Acres 0 0 %

Unit # 25

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	18	2	9/11-11/10/2015	90:10				
ELK	**Antlerless**	0	10	8/15/2015-1/31/2016	0:100				
ELK	Bull	14	1	9/01-11/20/2015	90:10				

Bull elk season variance is granted 9/1 - 11/20.

Missouri Flat

Private Acres 21535 100 % Public Acres 0 0 %

Unit # 21

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	1	9/11-11/10/2015	90:10				
ELK	Bull	5	1	9/01-10/31/2015	80:20				
ELK	**Antlerless**	12	18	8/15/2015-1/31/2016	40:60				

Mt Carmel

Private Acres 14891 97 % Public Acres 460 3 %

Unit # 29

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	**Antlerless**	0	5	8/15-12/31/2015	0:100			8/15-12/31/2013	
DEER	Buck	13	2	9/11-11/10/2015	90:10				

SOUTHERN REGION

Old Woman Plateau

Private Acres 6840 84 % Public Acres 1280 16 %

Unit # 16

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
DEER	Buck	9	3	9/11-11/10/2015	90:10				
ELK	Bull	8	2	9/01-11/15/2015	90:10				
ELK	**Antlerless**	0	4	8/15/2015-1/31/2016	0:100				

Compensation for inclusion of public land -1 deer and1 elk. CWMU is granted a bull elk season variance 9/1 - 11/20.

Zane

Private Acres 9635 100 % Public Acres 0 0 %

Unit # 20

		CWMU Request				DWR Recommendation (if Different)			
		Private	Public	Season Dates	Ratio	Private	Public	Season Dates	Ratio
PRONGHORN	Buck	3	2	9/01-10/31/2015	60:40				
PRONGHORN	**Doe**	4	5	9/01-10/31/2015	40:60				

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Wildlife Resources
GREGORY J. SHEEHAN
Division Director

M E M O R A N D U M

Date: March 23, 2015

To: Utah Wildlife Board / Regional Advisory Council Members

From: Dustin Schaible, Bighorn Sheep/Mountain Goat Biologist

SUBJECT: Overview of Mountain Goat Unit Management Plans

The following summarizes the Utah Division of Wildlife Resources recommended management plans for mountain goats for the Tushar Mountains, Uinta Mountains, Wasatch and Central Mountains, and the Cache/Ogden/East Canyon area:

Highlights:

1) Each unit plan addresses local issues and concerns.
2) Each unit plan was discussed with local USFS offices.
3) Each unit plan was based on available habitat as determined through habitat modeling and evaluation.
4) We recommend an increase in the population objective for the Tushar Mountains from 150 to 175 due the highly productive nature of this unit. While this unit is usually over objective, no habitat damage has been documented from mountain goats on this mountain range.
5) We recommend an expansion of the management plan for Willard Peak to include adjacent ranges where mountain goats have naturally dispersed. The expansion area includes the Ogden unit, Cache – Wellsville, Cache – Middle Cache, and East Canyon. As part of the natural dispersal from Willard Peak, we recommend a population objective of 700 for this area.
6) Each unit plan is supportive of cooperative habitat monitoring efforts and habitat enhancement projects.
7) Each unit plan will be consistent with the 2013-2018 Mountain Goat Statewide Management Plan in recreational use objectives.

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UTAH DNR WILDLIFE RESOURCES

MOUNTAIN GOAT UNIT MANAGEMENT PLAN
UINTA MOUNTAINS (Kamas, N. Slope, S. Slope)
Wildlife Management Units #7, #8, #9
April 2015

BOUNDARY DESCRIPTION

Boundary begins at the Junction of Highway US-40 and Highway SR-87 in Duchesne; then north on SR-87 to Highway SR-35; west on SR-35 to Francis and Highway SR-32; west on SR-32 to Highway US-40 near Jordanelle; north on US-40 to Interstate 80; north on I-80 to the junction with SR-32 (Wanship); then south on SR-32 to the Weber Canyon road at Oakley; east on this road to Holiday Park and the Weber River Trail; east on the Weber River Trail to Highway SR-150 near Pass Lake; north along SR-150 to the Utah-Wyoming state line; east along this state line to the Utah-Wyoming-Colorado state line (Three Corners); south along the Utah-Colorado state line to the White River; west along the White River to the Green River; north along the Green River to the Duchesne River; west along the Duchesne River to US-40 at Myton; west along US-40 to SR-87 in Duchesne.
(See Appendix A for individual Wildlife Management Unit descriptions).
(See Appendix B for individual hunt unit descriptions).

LANDOWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP OF POTENTIAL MODELED MOUNTAIN GOAT HABITAT ≥ 9,000 FT ELEVATION

LANDOWNERSHIP	AREA (Acres)	PERCENT OWNERSHIP
U.S. Forest Service	516,637	98.43%
Private	8,136.06	1.55%
SITLA	81.7	0.02%
BLM	5.65	<0.01%
Tribal	3.26	<0.01%
TOTALS	524,861.6	100%

HISTORY

A total of 90 mountain goats were transplanted onto the Uinta Mountains between 1987 and 2000. At least one radio collared female left the unit soon after release and never returned back in1996.

Mountain goats are not known for pioneering well into new areas on their own but they do well in new areas when transplanted into suitable habitat. Small supplemental transplants were used

to improve goat population distribution throughout available habitat across the Uintas to preclude any detrimental resource impacts that may have resulted from localized high animal densities prior to natural pioneering across the Uintas. See Table 1 for history of mountain goat transplants into the Uinta Mountains.

Sport hunting is the primary population management strategy on the Uinta Mountains. Hunting was initiated on the Uintas in 1997. The Uinta Mountains are currently divided into 5 hunt units (Figure 1, Appendix B) to distribute hunters and harvest pressure. Mountain goat permits are an Once-In-A-Lifetime permit.

The Ute Tribe also issues Exterior Boundary Permits for mountain goats based on a formula in the Cooperative Agreement between the Ute Tribe and the State of Utah. Those permits are in addition to the public permits the Division issues. See Table 2 for a summary on harvest of mountain goats on the Uinta Mountains. Harvest data from the Tribal permits is very limited so it is not included in this table.

POPULATION STATUS

The mountain goat population on the Uinta Mountains has been increasing slowly but steadily for the last 10 years. Most of the increase in recent years has been on the western portion of the Uintas. The population appears to have stabilized on the east end of the Uintas in the Leidy Peak and High Uintas East hunt units. The Uinta Mountains were most recently surveyed by helicopter in late August 2014. A total of 717 adult mountain goats were found with 117 kids. See Table 3 for a history of population trend count and classification surveys on the Uinta Mountains.

ISSUES AND CONCERNS

High Uintas Wilderness Area and Native Status - Mountain goats are currently found throughout the High Uintas Wilderness Area. Mountain goats were first observed and documented in this area in 1918 (USFS 1918) prior to any transplant efforts. UDWR will continue to work with USFS on wilderness issues and active management of mountain goats utilizing wilderness areas.

The native status of mountain goats is discussed in detail in the current Utah Mountain Goat Statewide Management Plan in Appendix A. The UDWR's position is that mountain goat habitat exists in Utah, as indicated by the success of introduced populations. As such, the UDWR views mountain goats as a valuable addition to the diversity of wildlife in the state and a legitimate part of our modern Utah faunal landscape. As with any other ungulate species in our now pervasively human-altered ecosystem, they require pro-active management.

Habitat monitoring - The U.S. Forest Service and the Utah Division of Wildlife Resources have developed a cooperative agreement for monitoring mountain goat utilization and impacts on alpine habitat and ecosystems (1998). This plan utilizes hundreds of USFS habitat monitoring study sites across the Uinta Mountains. To date, this habitat monitoring has found no negative impacts from mountain goats (See Appendix C).

Non-consumptive use - There is great public interest in mountain goat viewing opportunities in the Uintas. Mountain goat viewing opportunities have significantly increased over the last 10 years. Many visitors come to the Uintas each year with the primary goal of viewing mountain goats. In early 2014, UDWR sponsored a "mountain goat-viewing day" on the South Slope which was well attended with people traveling from as far as Logan and the Wasatch Front to attend. The UDWR hopes to make it an annual event to inform the public and increase non-consumptive wildlife opportunities through the UDWR's new Recreation Outreach program.

Predation - Predation does not appear to be a limiting factor to mountain goats on the Uintas. The population has continued to increase despite the presence of predators. Mountain lions, coyotes, and golden eagles are the most common predators of mountain goats on the Uintas.

Disease: Mountain goats have been documented in Utah since 1918 and established in other areas since 1967, and have not experienced any known disease related die-offs. There are no known disease transmission issues between livestock and mountain goats in Utah.

Competition - The steep cliffy nature of mountain goat habitat limits the potential for competition with livestock, deer and elk. There is currently no recognized competition between mountain goats and Rocky Mountain bighorn sheep within the unit. There is potential competition between the two species because of high dietary overlap and use of similar escape terrain particularly when seasonal habitat overlap occurs (Hobbs et al. 1990, Laundre 1994, Gross 2001). However, even where both are present, resource partitioning appears to minimize conflicts (Laundre 1994). Specifically, there is enough disparity in site selection, seasonal use, and forage preference such that range overlap does not result in as much direct competition as expected when each species' habitat requirements are considered separately. As mountain goats have increased on the Uintas they seem to have segregated somewhat or have different habitat preferences than bighorn. The core use area by bighorn is between Gunsight Pass and Divide Pass. That area has the lowest density of mountain goats across the Uintas. Bighorn sheep in the Uintas will be monitored closely for areas of potential competition with mountain goats.

Pika habitat and mountain goat habitat overlap on the Uinta Mountains, although pika are also found in many areas not used by mountain goats on the Uintas. Pika and mountain goats share ranges over much of the western US and Canada, and there is no evidence of mountain goats adversely impacting pika populations. Pika surveys conducted on the Uinta Mountains in 2011 found that pika were well distributed and had high occupancy rates even in areas with high goat use.

Habitat Modeling: Mountain goats are currently known to be utilizing an area of around 332,000 acres across the Uinta Mountains. To identify the potential mountain goat habitat on the Uintas the UDWR used a simplified GIS analysis approach as described by Gross et al. (2002). Mountain goats are highly associated with escape terrain, which has been defined as slopes from >25° (Varley 1994) to $\geq$ 33° (Gross et al. 2002). We used slopes >30° as potential mountain goat escape terrain. Gross et al. found that applying a 258m (846ft) buffer to escape terrain correctly classified 87% of active mountain goat habitat. We applied a 258m buffer to all slopes $\geq$ 30º on the Uinta Mountains and calculated potential habitat acreage at the $\geq$

8,000ft, ≥ 9,000ft, and ≥10,000ft elevations resulting in 633,000 acres, 525,000 acres, and 358,000 acres, respectively. The vast majority of mountain goats on the Uinta Mountains have been found above 10,000' but in some areas goats are consistently found down to 8,000', especially during the winter. A map of the modeled goat habitat above 10,000' across the Uinta Mountains is provided in Figure 1.

MANAGEMENT GOAL

Manage for an optimal population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Maintain a population that is sustainable within the available habitat.

A. POPULATION MANAGEMENT OBJECTIVES

The mountain goat population on the Uinta Mountains will continue be managed in the long term so as not to exceed the densities found in native populations of Southeastern Alaska or 6.0 goats/sq. mile of habitat (approximately 3,300 animals). The existing goat population is well distributed, yet has not filled all available habitats.

1) Target Summer Herd Size: This herd will continue to be managed towards **a** minimum population of 1,500 counted adults (summer helicopter count).

2) Maintain a healthy proportion of older age classes of males (4-8 yr.) in the mountain goat populations across the Uinta Mountains.

POPULATION MANAGEMENT STRATEGIES

a. Monitoring: A helicopter census of the entire Uinta Mountains will be flown every 2-3 years to assess recruitment, population status, billy/nanny ratios, and distribution of mtn. goats on the Uinta Mountains. A fixed wing and/or ground classification sample of mtn. goats will be collected annually to estimate kid production.

b. Harvest: Utilize sport hunting as the primary method to meet management objectives. Either sex permits may be issued in proportion to the number of adult goats observed in each hunt unit during helicopter surveys. Once population objectives are reached, nanny-only hunts or transplants may be used to maintain the population level while protecting the mature billies in the population.

c. Transplants: Consider transplants into modeled mountain goat habitat consistent with the Statewide Management Plan as a means to promote genetic diversity and meet population objectives. Transplants from this unit may also be necessary to reduce local densities.

B. HABITAT MANAGEMENT OBJECTIVES

Provide good quality habitat for healthy populations of mountain goats that are in balance with the existing habitat.

HABITAT MANAGEMENT STRATEGIES

a. Continue to work cooperatively with the US Forest Service to monitor and manage mountain goat habitat within the unit as per the 1998 cooperative agreement. Utilize the USFS habitat monitoring in areas of high mountain goat use to identify potential habitat impacts as the herd increases.
b. Continue to monitor mountain goat habitat use and distribution and identify critical use areas through aerial and ground surveys.

c. If habitat monitoring identifies areas of serious detrimental habitat impacts that are confirmed to be caused by mountain goats, the population in that area may be targeted for reduction through harvest or transplants.

C. RECREATION MANAGEMENT OBJECTIVES

Provide high quality opportunities for hunting and viewing of mountain goats.

1. Harvest: Recommend any-goat permits based on 5-15% of the counted adults on each hunt unit. Maintain a hunter success rate of at least 90%. Continue to utilize five hunt units (See Appendix B and Figure 1) to distribute harvest across the entire unit including remote areas. Continue to monitor sex and age class of harvested goats to ensure an appropriate age distribution of males is being maintained. If hunter density becomes an issue, split seasons or additional splitting of hunt units may be instituted through the RAC process.

2. Non-consumptive Use: Increase public knowledge of and expand viewing opportunities of mountain goats. Continue efforts to increase mountain goat viewing through viewing events or installation of informational kiosks.

Literature Cited

Gross, J. E., M. C. Kneeland, D. F. Reed, and R. M. Reich. 2002. GIS-Based habitat models for mountain goats. Journal of Mammalogy 83:218-228.

Hobbs, N. T., J. A. Bailey, D. F. Reed, and M. W. Miller. 1990. Biological criteria for introductions of large mammals: using simulation models to predict impacts of competition. Transactions of the 55th North American Wildlife and Natural Resources Council 1990:620–632.

Laundre, J. W. 1994. Resource overlap between mountain goats and bighorn sheep. Great Basin Naturalist 54:114–121.

Varley, N. C. 1994. Summer-fall habitat use and fall diets of mountain goats and bighorn sheep in the Absaroka Range, Montana. Biennial Symposium of the Northern Wild Sheep and Goat Council 9:131-138.

USFS, 1918. 12th Biennial Report of the Fish and Game Commissioner of the State of Utah (1917-1918).

TABLE 1

MOUNTAIN GOAT TRANSPLANT HISTORY ON THE UINTA MOUNTAINS

Release Site	Source	Year Released	Number Released
Bald Mtn.	Lone Peak, Utah	1987	7
Bald Mtn.	Olympic NP, Washington	1988	16
Whiterocks Cyn.	Olympic NP, Washington	1989	10
Whiterocks Cyn.	Lone Peak, Utah	1992	13
Liedy Peak	Tushar Mountains, Utah	1996	3
Marsh Peak	Tushar Mountains, Utah	1996	5
Chepeta Lake	Tushar Mountains, Utah	1996	7
S.Fk. of Rock Crk.	Tushar Mountains, Utah	1997	5
Duck Peak	Tushar Mountains, Utah	1997	7
Jefferson Park	Tushar Mountains, Utah	2000	9
Center Park	Tushar Mountains, Utah	2000	8

TABLE 2

Sport harvest history of mountain goats on the Uinta Mountains.
(Additional harvest from Tribal permits is unknown)

Year	13	12	11	10	09	08	07	06	05	04	03	02	01	00	99	98	97
Public Permits	43	43	37	37	30	35	35	29	29	15	15	11	5	3	2	2	2
Public Harvest	42	43	39	36	30	33	33	28	27	15	15	10	5	3	2	2	2
Billies	27	36	24	29	23	24	26	23	18	12	13	7	3	2	2	2	2
Nannies	15	7	15	7	7	9	7	5	9	3	2	3	2	1	0	0	0
Additional Tribal Permits	7	7	6	6	6	6	6	5	5	4	4	1	1	1	1	0	0

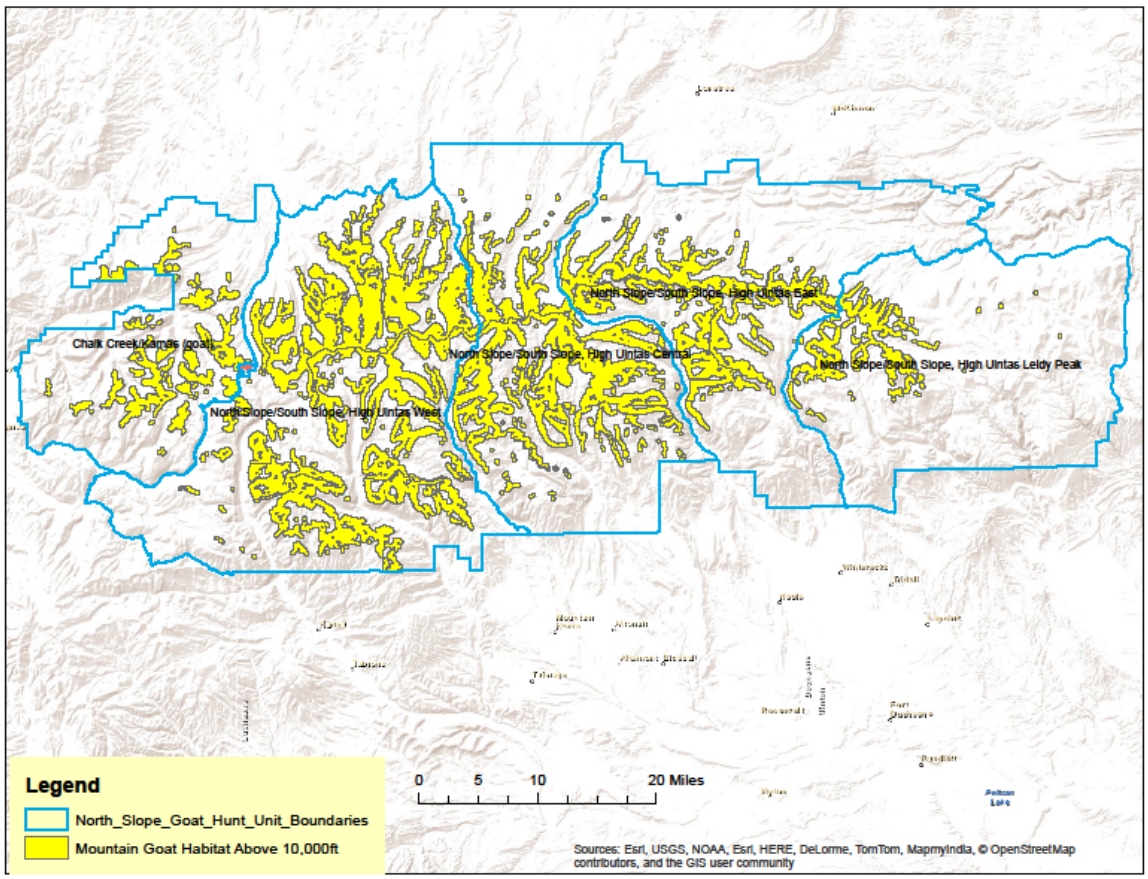
TABLE 3

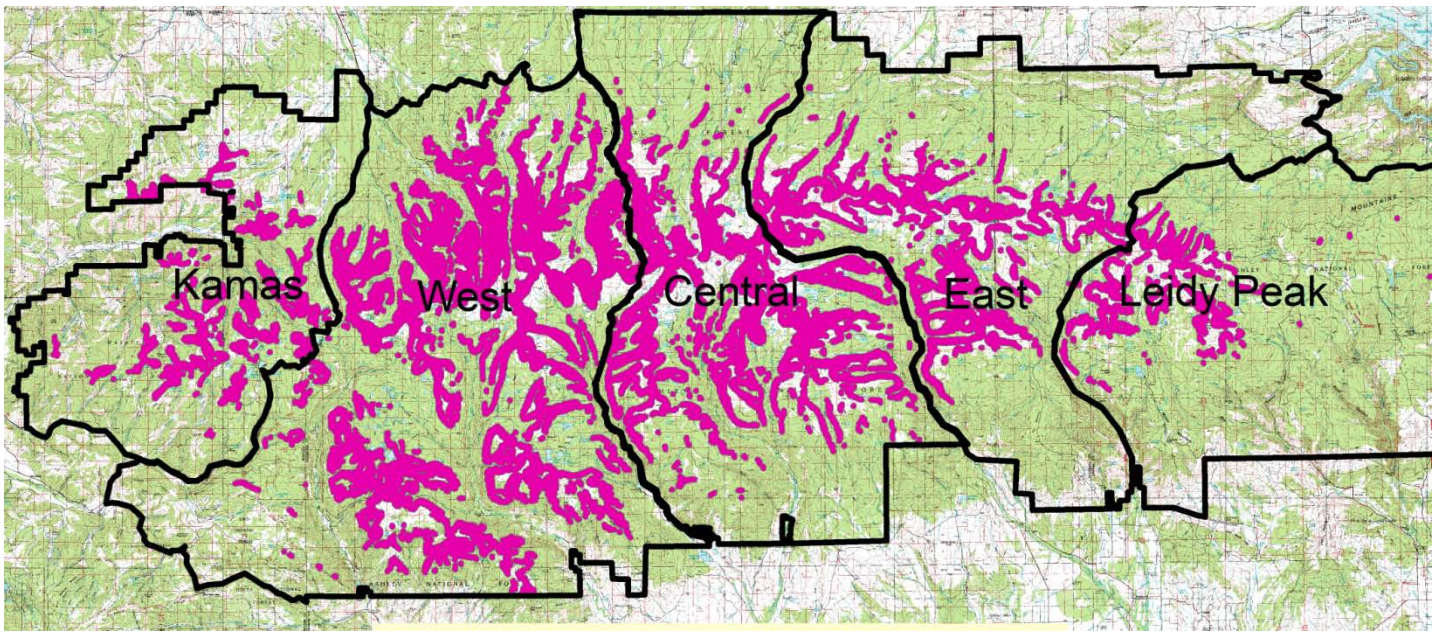
Summary of mountain goat helicopter trend count and classification surveys 2001-2014.

Hunt Unit	YEAR OF SURVEY	TOTAL GOATS	TOTAL ADULTS	KIDS	KIDS /100 ADULTS
High Uintas Leidy Peak	2014	44	31	12	39
	2011	41	34	7	21
	2009	77	62	15	24
	2008	58	47	11	23
	2006	111	76	35	46
	2004	96	72	24	33
	2001	40	31	9	29
High Uintas East	2014	64	60	4	7
	2011	89	81	8	10
	2009	81	65	16	25
	2008	95	81	14	17
	2006	166	128	38	30
	2004	139	105	34	32
	2001	59	45	14	31
High Uintas Central	2014	206	165	41	25
	2011	197	167	30	18
	2009	210	173	37	21
	2008	153	131	22	17
	2006	228	160	68	43
	2004	183	136	47	35
	2001	62	47	15	32
High Uintas West	2014	392	347	45	13
	2011	440	382	58	15
	2009	294	233	61	25
	2008	236	193	44	22
	2006	169	130	39	30
	2004	131	98	33	34
	2001	46	35	11	31
Kamas/Chalk Creek	2014	129	114	15	13
	2011	91	77	14	18
	2009	108	89	19	21
	2008	37	28	9	32
	2006	24	21	3	14
	2004	34	26	8	31
	2001	8	6	2	33
TOTAL Uinta Mountains	2014	835	717	117	16
	2011	858	741	117	16
	2009	770	622	148	24
	2008	579	480	10	21
	2006	698	515	183	36
	2004	583	437	146	33
	2001	215	165	50	31

FIGURE 1.

Maps of modeled mountain goat habitat by hunt unit on the Uinta Mountains over 10,000'





APPENDIX A

Wildlife Management Unit Boundaries

7 KAMAS

Summit and Wasatch counties - Boundary begins at the junction of Interstate 80 and Highway SR-32 (Wanship); then south on SR-32 to the Weber Canyon road at Oakley; east on this road to Holiday Park and the Weber River Trail; east on the Weber River Trail to Highway SR-150 near Pass Lake; south on SR-150 to the North Fork Provo River; south along the North Fork Provo River to the Provo River; south along the Provo River to Highway SR-35; west on SR-35 to Francis and Highway SR-32; west on SR-32 to Highway US-40 near Jordanelle; north on US-40 to Interstate 80; north on I-80 to SR-32 and Wanship. Boundary Questions? Call DWR Ogden office,801-476-2740.

8 NORTH SLOPE (3 subunits)

Summit, Daggett counties - Boundary begins at the junction of SR-150 and the Summit-Duchesne county line (summit of the Uinta Mountains); north along SR-150 to the Utah-Wyoming state line; east along this state line to the Utah-Wyoming-Colorado state line (Three Corners); south along the Utah-Colorado state line to the Green River; west along the Green River to Flaming Gorge Reservoir; west along the south shoreline of this reservoir to Cart Creek; south along Cart Creek to US-191; south along US-191 to the Uintah-Daggett County line (summit of the Uinta Mountains); west along the summit of the Uinta mountains to SR-150. USGS 1:100,000 maps: Kings Peak, Dutch John. Boundary Questions? Call DWR Vernal office, 435-781-9453 or DWR Ogden office 801-476-2740.

9 SOUTH SLOPE (4 subunits)

Wasatch, Summit, Daggett, Uintah, Duchesne counties -- Boundary begins at the Junction of Highway US-40 and Highway SR-87 in Duchesne; then north on SR-87 to Highway SR-35; then northwest on SR-35 to the Provo River; north along the Provo River to the North Fork Provo River; north along the North Fork Provo River to Highway SR-150; northerly along SR-150 to the Summit/Duchesne county line (summit of the Uinta Mountains); east along the summit of the Uinta Mountains to Highway US-191; north along US-191 to Cart Creek; north along Cart Creek to Flaming Gorge Reservoir; east along Flaming Gorge Reservoir to the Green River; east along the Green River to the Utah-Colorado state line; south along the Utah-Colorado state line to the White River; west along the White River to the Green River; north along the Green River to the Duchesne River; west along the Duchesne River to US-40 at Myton; west along US-40 to SR-87 in Duchesne. **EXCLUDING ALL INDIAN TRUST LANDS WITHIN THIS BOUNDARY**. USGS 1:100,000 maps: Kings Peak, Duchesne, Vernal, Dutch John. Boundary Questions? Call DWR Vernal office, 435-781-9453.

APPRENDIX B

Hunt Area Boundary Descriptions:

Kamas/ Chalk Creek

Boundary begins at the junction of SR-150 and the Summit-Duchesne county line (summit of the Uinta Mountains); north along SR-150 to the Forest boundary; west and south along this boundary to SR-150 near Samak; east and north on SR-150 to the Summit/Duchesne county line. USGS 1:100,000 maps: Kings Peak, Salt Lake. Boundary Questions? Call DWR Ogden office 801-476-2740.

High Uintas West

Boundary begins at the junction of SR-150 and the Summit-Duchesne county line (summit of the Uinta Mountains); north along SR-150 to the North Slope road (USFS 058); east along this road to the East Fork of the Blacks Fork River; south along the East Fork of the USFS trail #103; south on this trail (Little East Fork of Blacks Fork River) to Squaw Pass and USFS trail #42; south on this trail to Oweep Creek; south along this creek to the Lake Fork River; south along this river to the Forest boundary; west along this boundary to SR-35; northwest on SR-35 to the Soapstone basin road (USFS 037); north along this road to Highway SR-150; north on SR-150 to the Summit/Duchesne county line. USGS 1:100,000 maps: Kings Peak. Boundary Questions? Call DWR Vernal office, 435-781-9453 or DWR Ogden office 801-476-2740.

High Uintas Central

Boundary begins where the Lake Fork River crosses the Forest boundary; north along the Lake Fork River to Oweep Creek; north along Oweep Creek to USFS trail #42; north on this trail to Squaw Pass and USFS trail #103; north on this trail and the Little East Fork to the East Fork of the Blacks Fork River; north along this fork to the Blacks Fork River; north along this river to Meeks Cabin Reservoir and the Utah-Wyoming state line; east along this state line to the Henrys Fork River; south along this river to USFS Trail # 117; south on this trail to Gunsight Pass and USFS Trail #068; east on this trail through Painter Basin to USFS Trail # 044; east on this trail to the Uinta River; south along this river to the Forest boundary; west along the Forest boundary to the Lake Fork River. USGS 1:100,000 maps: Kings Peak. Boundary Questions? Call DWR Vernal office, 435-781-9453 or DWR Ogden office 801-476-2740.

High Uintas East

Boundary begins where the Uinta River crosses the Forest Boundary; then north along the Uinta River to USFS Trail # 044 near Painter Basin; west on this trail to USFS Trail #068; north on this trail to Gunsight Pass and USFS Trail #117; north on this trail to the Henrys Fork River; north along this river to the Utah-Wyoming state line; east on this state line the Forest boundary; south and east on the Forest boundary SR 44; west along SR 44 to Crater Creek; west along this creek to Brownie Lake and Weyman Creek; south along this creek to USFS Trail # 019 in Weyman Park; south on this trail over an unnamed pass to USFS Trail # 025; west on this trail to Whiterocks Lake and the Whiterocks River; south along this river to the Forest boundary; west on this boundary to the Uinta River. USGS 1:100,000 maps: Kings Peak, Dutch John. Boundary Questions? Call DWR Vernal office, 435-781-9453 or DWR Ogden office 801-476-2740.

High Uintas Liedy Peak

Boundary begins where the Whiterocks River crosses the Forest boundary; north along the Whiterocks River to Whiterocks Lake and USFS Trail #025; east on this trail to USFS Trail #019; north on this trail over an unnamed pass to Weyman Park and Weyman Creek; northeast along Weyman Creek to Brownie Lake and Carter Creek; east along this creek to SR 44; east on SR 44 to SR191; south on this road to the Forest boundary; west along this boundary to the Whiterocks River. USGS 1:100,000 maps: Dutch John. Boundary Questions? Call DWR Vernal office, 435-781-9453.

APPENDIX C

Randall Thacker
Utah Division of Wildlife Resources
Vernal, Utah

Randall:

Since 2005, the number of long-term studies has increased in the alpine areas across the Uinta Mountains, adding to the numerous studies that existed prior to that time. These studies are found in every major drainage on the south slope of the Uintas from Marsh Peak to Grandaddy Lake Basin and many if not most are located within existing or potential mountain goat habitat. Repeat photography is the most common sampling method used to determine trend, but other sampling methods used include ocular macroplot, line intercept, and point ground cover. Data from these studies continue to show ground cover meeting or surpassing desired condition with trends typically stable. Low willows in alpine settings continue to show no change or increase in canopy cover, which indicates desired condition. Plant species composition in a variety of vegetation communities remains unchanged. At this time, monitoring does not show downward trend in ground cover, plant species composition, or shrub canopy cover in areas where mountain goats are present.

The Ashley National Forest believes that there are adequate number and distribution of studies in alpine to track future mountain goat impacts, but more monitoring sites are expected to be established in the years to come. Current studies are located in areas where mountain goats are currently not found or rarely frequent, in areas where goats are commonly found and populations continue to show increase, and in areas that are near or adjacent to existing goat populations, but receive limited use. We believe that we are prepared to track future and possible expanding impacts of mountain goats. As stated above there appears to be no apparent trend associated with mountain goats in the Uinta Mountains as of this date.

/S/ Allen Huber

Allen Huber 6 June 2013
Ecologist
Ashley National Forest

MOUNTAIN GOAT UNIT MANAGEMENT PLAN
Wasatch and Central Mountains
Lone Peak, Box Elder Peak, Mt Timpanogos
Provo Peak
Mt Nebo
(April 2015)

Boundary Descriptions for Mountain Goat Management Units on the Wasatch and Central Mountains.

LONE PEAK -SALT LAKE COUNTY - Boundary begins a the junction of I-15 and I-80 in Salt Lake City; east on I-80 to the Salt Lake-Summit county line; south along this county line to the Salt Lake-Wasatch county line; southwest along this county line to the Salt Lake-Utah county line; southwest along this county line to I-15; north on I-15 to I-80 in Salt Lake City.

BOX ELDER PEAK - UTAH COUNTY - Boundary begins at I-15 and the Salt Lake-Utah county line; east along this county line to the Utah-Wasatch county line; south along this county line to "Pole Line Pass" on the Snake Creek-North Fork American Fork Canyon road; west on this road to SR-92; west on SR-92 to I-15; north on I-15 to the Salt Lake-Utah county line.

TIMPANOGOS - UTAH COUNTY - Boundary begins at the junction of SR-92 and SR-146; southeast on SR-92 to US-189; southwest on US-189 to SR-52; west on SR-52 to US-89; north on US-89 to SR-146; north on SR-146 to SR-92.

PROVO PEAK - UTAH COUNTY - Utah County—Boundary begins at the junction of I-15 and US-6 at Spanish Fork; north on I-15 to SR-52; east on SR-52 to US-189; northeast on US-189 to the South Fork Drainage of Provo Canyon; east along this drainage bottom to the Berryport trail; south along this trail to the Left Fork of Hobble Creek road; south on this road to the Right Fork of Hobble Creek road; east on this road to Cedar Canyon; south along this canyon bottom to Wanrhodes Canyon; south along this canyon bottom to Diamond Fork Creek; southwest along this creek to US-6; northeast on US-6 to I-15.

CENTRAL MOUNTAINS, MT NEBO - JUAB and SANPETE COUNTIES - Boundary begins at the junction of US-6 and I-15 at Spanish Fork; southeast on US-6 to US-89; south on US-89 to SR-28 at Gunnison; north on SR-28 to I-15 at Nephi; north on I-15 to US-6 at Spanish Fork.

LAND OWNERSHIP

Table 1. Range area and approximate ownership of potential modeled mountain goat habitat above 9,000ft on the Wasatch mountain goat units.

Landowner	Box Elder Peak, Lone Peak, Timpanogos	Wasatch Mnts, Provo Peak	Central Mnts, Nebo
USFS	51,360.70	14,785.50	40,826.54
Private	7,512.17	90.35	369.45
UDWR			4,620.46
BLM			77.38
SITLA	14.37		
TOTAL ACRES	58,887.24	14,875.85	45,893.83
TOTAL SQUARE MILES	92.01	23.24	71.71

Land ownership of Rocky Mountain goat summer and winter range is almost exclusively US Forest Service lands in the Uinta and Wasatch/Cache National Forest. There are two wilderness areas on the unit, Lone Peak and Mt. Timpanogos. Active management of goats utilizing these areas is essential to understanding population trends and habitat use. UDWR will continue to cooperate with the USFS in management actions within wilderness areas.

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Balance mountain goat herd impacts with other uses such as local economies. Maintain the population that is sustainable within the available habitat as determined by acreage delineated from actual mountain goat utilization.

HISTORY AND CURRENT STATUS

The first mountain goat transplant on the Wasatch West unit was in 1967. Six mountain goats were brought into the state form Wanatchee Washington and released on Lone Peak. The next mountain goat transplant took place in 1981 with 10 mountain goats from Mt. Olympic National Park being released on Mt. Timpanogos. Since that release, the mountain goat population on Mt. Timpanogos has grown to 100 animals, and the population has been stable (see Appendix A).

In 1982, 10 mountain goats were brought into the state from Mt. Olympic National Park and released on Mt. Olympus. Provo peak received an additional 12 goats from Mt Olympic National Park in 1989 and was supplemented with six additional goats from Mt Timpanogos in 1990. The mountain goat population on Provo Peak has grown to approximately 100 animals, and the population is also currently stable.

Since the first release on the Lone Peak and Box Elder Peak subunits in 1969, mountain goats flourished to over 300 animals. Subsequently, within the past 10 years, the

population has declined to an estimated population of less than 80 mountain goats (see Appendix A). To better understand the cause for the mountain goat population decline on Lone Peak and Box Elder Peak, and understand the reasons for little to no population growth on Mt Timpanogos and Provo Peak, an intensive study has been proposed and is awaiting approval to capture goats within the wilderness areas. In this study, mountain goats will be collared and disease tested over several years across all the sub-units to determine migration movements, vital rates, and disease prevalence. The UDWR is currently working with the USFS to capture goats using a net gun from a helicopter, since this is the most effective and least-invasive capture method for this area.

ISSUES AND CONCERNS

Native Status: The native status of mountain goats is discussed in detail in the current Utah Mountain Goat Statewide Management Plan in Appendix A. The following is an excerpt from this plan: Regardless of their native status to Utah, they are certainly native to the North American continent and the Northern Rocky Mountains. The UDWR's position is that Utah is part of the Rocky Mountains and that mountain goat habitat exists in Utah, as indicated by the success of introduced populations. As such, the UDWR believes mountain goats are a valuable addition to our wildlife resource diversity and are a legitimate part of our modern Utah faunal landscape. As with any other ungulate species in our now pervasively human-altered ecosystem, they require pro-active management.

Habitat Modeling: Potential mountain goat habitat has been modeled on the Wasatch and Central Mountains units using a simplified GIS analysis approach as described by Gross et al. (2002). Mountain goats are highly associated with escape terrain, which has been defined as slopes from >25° (Varley 1994) to $\geq$ 33° (Gross et al. 2002). We used slopes >30° as potential mountain goat escape terrain. Gross et al. found that applying a 258m (846ft) buffer to escape terrain correctly classified 87% of active mountain goat habitat. We applied a 258m buffer to all slopes $\geq$ 30º on the Wasatch and Central Mountains and calculated potential habitat acreage at the $\geq$ 8,000ft, > 9,000ft, and >10,000ft elevations resulting in 263,566 acres, 119,656.9 acres, and 41,436 acres, respectively. A map of the modeled goat habitat at all elevations across the Wasatch and Central mountains is provided in Figures 1 and 2.

There are 99,400 acres of habitat on the Box Elder Peak, Lone Peak, Mt Timpanogos unit at 8,000 feet, which was used to calculate population densities. There are 32,710 acres of habitat on the Provo Peak unit at 8,000 feet, which was also used to calculate population densities. Mountain goats in these areas have been documented as low as 6,000ft.

Interspecific Competition and Disease Concerns: Interactions of mountain goats with other ungulates are anticipated seasonally, but due to their specific habitat requirements, mountain goats are not likely to impact these other species. Competition for forage between goats and deer or elk has never been considered important since the bulk of goat

range is unavailable to deer and elk due to elevation and terrain. Additionally, there is no grazing of domestic livestock in mountain goat habitats on the Wasatch West.

There may be potential for some competition and disease transmission between bighorn sheep and mountain goats. There are remnant bighorn sheep throughout the area and it is suspected these sheep have been exposed to several pathogens due to occasional contact with domestic sheep. Due to the potential for mountain goats to become infected with some of these pathogens, particularly *Mycoplasma* spp., periodic disease testing may be necessary. *Mycoplasma* spp.. has not shown to negatively impact other wildlife or livestock species.

Although little interaction has been documented between bighorn sheep and goats on this unit, an evaluation of habitat use and preferences should occur in conjunction with disease assessments for both species.

Sensitive Plants: The USFS has identified three sensitive (rare) plants species within the management unit; Cliff jamesii (*Jamesii americana var.Macracalyx*), Garrett's bladderpod (*Lesquerella garrettii*), and King woody aster (*Aster kingii var. kingii*). These three sensitive plant species occurred in the Wasatch mountains before pioneer settlement when bighorn sheep grazed the area. The potential for significant impacts on these sensitive plants by big game animals and/or by grazing livestock is apparently low, possibly because of poor palatability.

Soils: There has been some speculation that Rocky Mountain goat populations could over-populate and cause destruction to high alpine soils from over grazing and summer dusting. However, Rocky Mountain goat populations on Mt. Timpanogos and Lone Peak have stabilized or declined before growing beyond existing habitat capacity. There have been goat movements from Lone Peak to Box Elder Peak and from Mount Timpanogos to Provo Peak. Little evidence has surfaced to indicate goats have any significant direct effect on soils, vegetative resources, or watershed values.

Non-Consumptive Use: There is great public interest in mountain goat viewing opportunities as has been demonstrated on other goat management units within Utah. On Mt. Timpanogos, an average of 50 people per day, hike the mountain to view mountain goat throughout the summer months. Approximately 100 people have annually attended the UDWR sponsored "goat-viewing day" which typically occurs in January at the mouth of Little Cottonwood Canyon. The increase of tourism for mountain goat viewing on Wasatch is very likely given the proximity of Salt Lake City and the ski resorts in the area.

Predation: Cougars are likely the main predator of mountain goats on the Wasatch unit. If predation is identified as a limiting factor, predator control work will be administered within the guidelines of the UDWR predator management policy and guidelines.

A. POPULATION MANAGEMENT OBJECTIVES

The mountain goat population on the Uinta Mountains in northern Utah has been managed so as not to exceed the densities found in wild populations of Southeastern Alaska (6.0 goats/sq. mile). Mountain goats on the Wasatch unit should also be managed within this recommended density.

Table 1. Summary of mountain goat population densities in Utah based on modeled habitat.

Unit	Subunit	Model Elevation	Square Miles of Habitat	Objective	Density at Objective
Cache/Ogden/East Canyon	Middle Cache/Wellsville/ Willard Peak/Ogden/East Canyon	8000	341.01	700	2.05
Central Mnts	Nebo	9000	71.71	200	2.79
La Sal Mnts	La Sals	9000	62.18	200	3.22
Mt Dutton	Dutton	9000	73.82	125	1.69
Tushar Mnts	Tushars	9000	154.75	175	1.13
Uinta Mnts	East, West, Central, Chalk Creek, Leidy Peak	9000	820.10	1500	1.83
Wasatch Mnts	Box Elder/Lone Peak/Mt Timpanogos	8000	155.31	600	3.86
	Provo Peak	8000	51.11	200	3.91
Total			**1729.98**	**3700**	**2.14**

a. Target Herd Size: Achieve a minimum viable population objective of at least 125 mountain goats on all sub-units.

b. Manage for up to 1,000 mountain goats across the Wasatch and Central Mountains:
    a. Box Elder Peak/Lone Peak/Mt Timpanogos – 375 - 600
    b. Provo Peak – 125 - 200
    c. Mt Nebo – 125 - 200

c. Since there is more room for growth on the Mt Nebo unit, consider evaluating this unit for future population objective increases if there are no adverse impacts to the area.

Population Management Strategies

a. Monitoring: Aerial classification of current resident mountain goats will be conducted every 1-3 years to determine kid recruitment, population status, billy/nanny ratios, and range distribution. A summary of trend count data is included in Appendix A.

b. Harvest: Regulated hunting for billies and/or nannies will be recommended annually as needed to meet management objectives. Nanny hunts or transplants will be the primary methods for maintaining the total population objective.

c. Transplants: Consider transplants into modeled mountain goat habitat consistent with the Statewide Management Plan as a means to promote genetic diversity and meet population objectives.

d. Research: Continue to promote and conduct research throughout the entire unit to gain understanding of habitat use, seasonal movements, and pathogen exposure.

B. HABITAT MANAGEMENT OBJECTIVES

a. Vegetation: Actively participate in the development and execution of proposed habitat restoration projects and monitoring efforts with agencies and other groups to improve wildlife habitat and increase forage.

b. Habitat Monitoring – UDWR and USFS should coordinate habitat monitoring efforts on areas utilized by goats. UDWR will seek opportunities to study areas utilized by mountain goats using GPS telemetry to guide habitat monitoring efforts.

Habitat Management Strategies

a. Support UDWR and USFS efforts in vegetation monitoring. Use vegetation data and radio telemetry when possible to identify range changes and possible overuse. Develop additional range trend transects that may be used to monitor habitat specifically used by goats.

b. Recommend range improvement and restoration projects when deemed necessary. Maintain and/or enhance forage production through direct range improvements throughout the unit. Support timber management practices designed to improve habitat for wildlife.

c. Provide improved habitat security and escapement opportunities for mountain goats by support and cooperation of approved Wasatch/Cache National Forest Management Plans.

d. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas on sources such as guzzlers, ponds, and springs that can benefit wildlife.

C. RECREATION MANAGEMENT OBJECTIVES

a. Harvest: Recommend any-goat permits to harvest 5-15% of the counted population. Maintain any weapon season success rate at a minimum of 90%.

b. Non-consumptive Use: Seek opportunities to expand the goat viewing outreach programs on the Wasatch West and Mt Nebo units. A kiosk placed near areas frequented by goats should be created to promote these goat-viewing opportunities and should be coordinated with USFS.

Literature Cited

Brandborg, S. M. 1955. Life history and management of the mountain goat in Idaho. State of Idaho Department of Fish and Game Wildlife Bulletin 2:1-142.

Gross, J. E., M. C. Kneeland, D. F. Reed, and R. M. Reich. 2002. GIS-Based habitat models for mountain goats. Journal of Mammalogy 83:218-228.

Varley, N. C. 1994. Summer-fall habitat use and fall diets of mountain goats and bighorn sheep in the Absaroka Range, Montana. Biennial Symposium of the Northern Wild Sheep and Goat Council 9:131-138.

Figure 1. Modeled mountain goat habitat within the Wasatch Mountains hunt units.

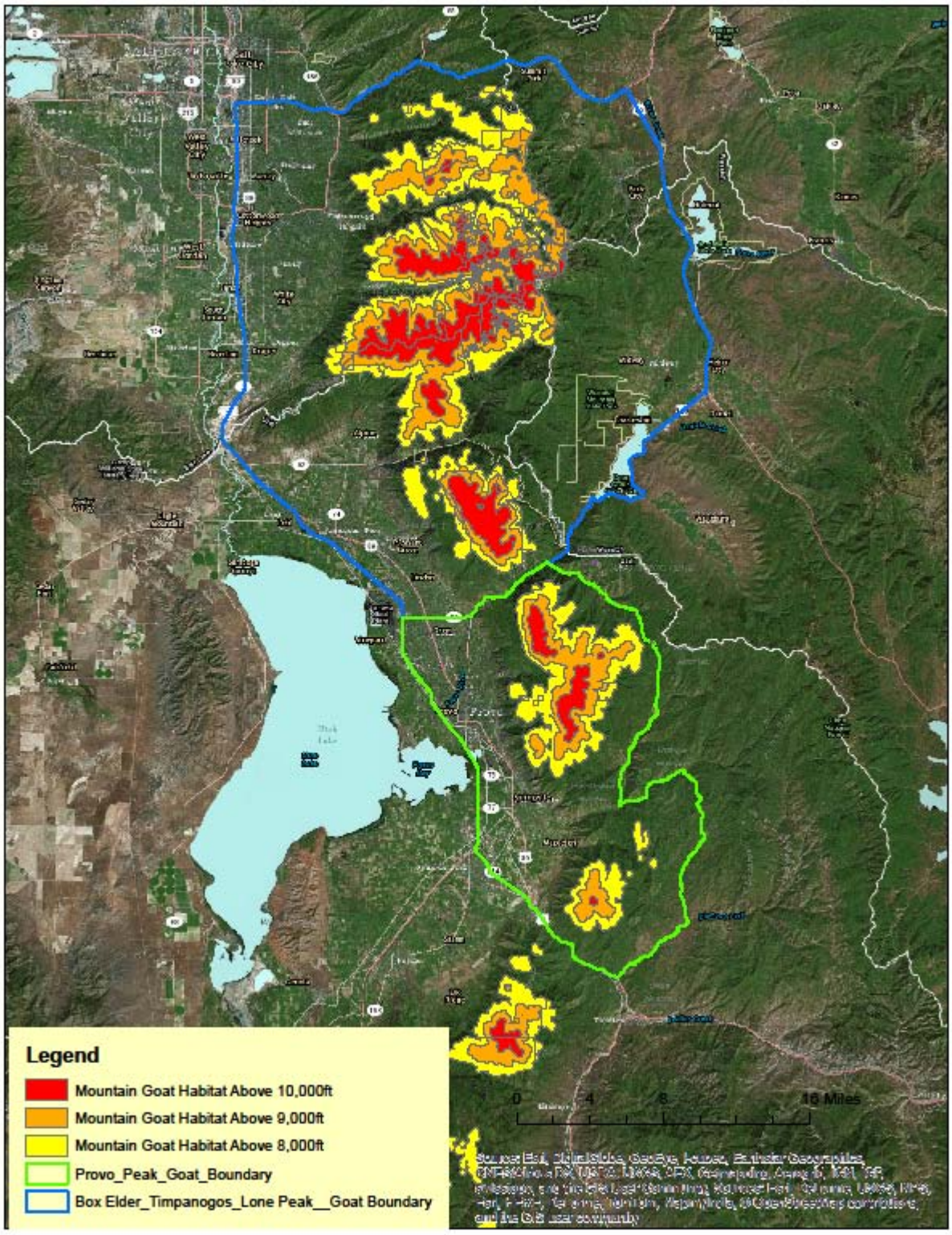
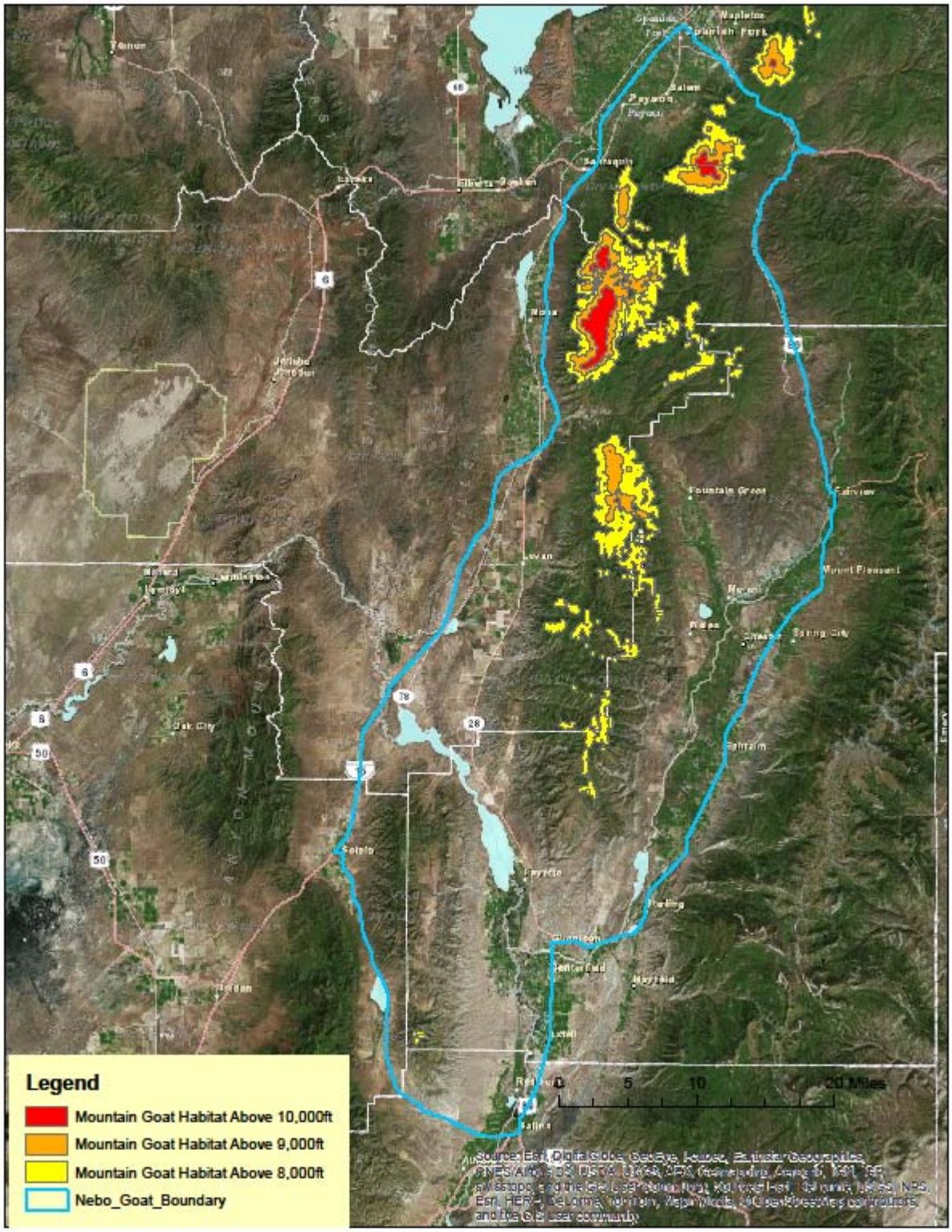


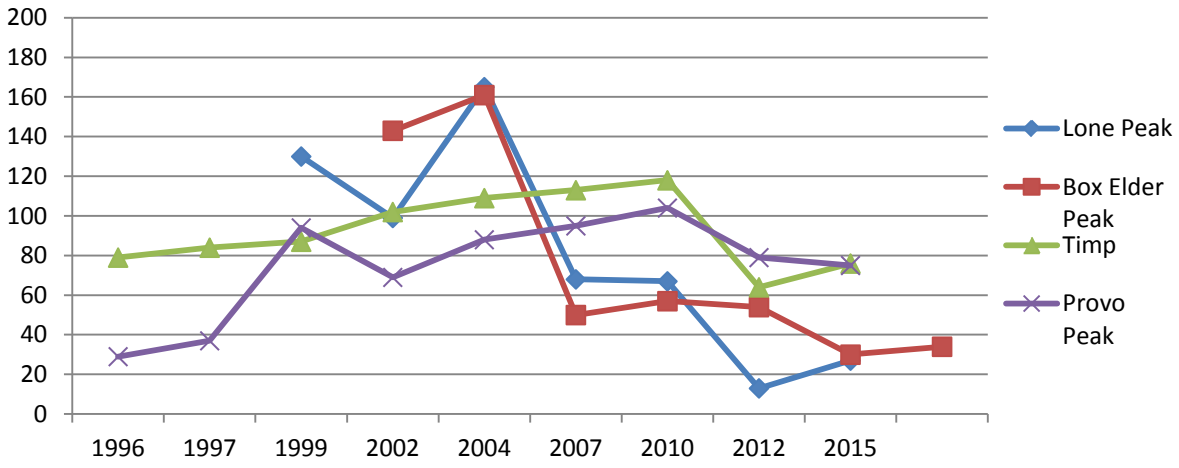
Figure 2. Modeled mountain goat habitat within the Central Mountains, Nebo hunt unit.



Appendix A. Summary of mountain goat trend count data on the Wasatch Mountains, 1996 – present.

Subunit	Year	Number Counted	Billies	Nannies/Immature Males	Kids	Uncl	Kids per 100 Adults
Lone Peak	1996	227	0	0	77	150	
Lone Peak	1999	130	25	69	36	0	0.38
Lone Peak	2002	99	0	0	0	99	
Lone Peak	2004	165	20	77	42	26	
Lone Peak	2007	68	26	23	18	1	
Lone Peak	2010	67	26	23	17	1	
Lone Peak	2012	13	9	0	0	4	
Lone Peak	2015	27	4	14	9	0	0.50
Box Elder Peak	1999	143	16	85	42	0	0.42
Box Elder Peak	2002	161	0	0	0	161	
Box Elder Peak	2004	50	8	16	4	22	
Box Elder Peak	2007	57	7	32	16	2	
Box Elder Peak	2010	54	8	36	10	0	0.23
Box Elder Peak	2012	30	10	12	6	2	
Box Elder Peak	2015	34	0	24	10	0	0.42
Timpanogos	1996	79	0	0	21	58	
Timpanogos	1997	84	0	0	0	84	
Timpanogos	1999	87	18	40	29	0	0.50
Timpanogos	2002	102	0	0	0	102	
Timpanogos	2004	109	7	72	23	7	
Timpanogos	2007	113	14	4	28	67	
Timpanogos	2010	118	15	12	28	63	
Timpanogos	2012	64	4	19	7	34	
Timpanogos	2015	76	17	45	14	0	0.23
Provo Peak	1996	29	0	0	0	29	
Provo Peak	1997	37	0	0	0	37	
Provo Peak	1999	94	12	54	28	0	0.42
Provo Peak	2002	69	0	0	0	69	
Provo Peak	2004	88	3	16	11	58	
Provo Peak	2007	95	18	5	23	49	
Provo Peak	2010	104	15	14	25	50	
Provo Peak	2012	79	5	29	22	23	
Provo Peak	2015	75	16	19	6	34	

Appendix A (con't). Summary of mountain goat trend count data on the Wasatch Mountains, 1996 – present.



MOUNTAIN GOAT UNIT MANAGEMENT PLAN
Herd Unit #22
Tushar Mountains, Beaver WMU #22
April 2015

I. **BOUNDARY DESCRIPTION-** Iron, Garfield, Piute, Beaver, and Millard counties: Boundary begins at SR-130 and I-15; north on SR-130 to SR-21; north on SR-21 to SR-257; north on SR-257 to the Black Rock road; east on the Black Rock road to I-15; south on I-15 to I-70; east on I-70 to US-89; south on US-89 to SR-20; west on SR-20 to I-15; south on I-15 to SR-130.

II. **LAND OWNERSHIP**- Land ownership of potential modeled mountain goat habitat above 9,000 feet elevation.

Landowner	Acres	Square Miles	Percent Ownership
USFS	92,080.94	143.88	92.98%
Private	6,587.51	10.29	6.65%
SITLA	369.48	0.58	0.37%
Total	99,037.93	154.75	100.00%

III. **HISTORY AND CURRENT STATUS**

Mountain goats were transplanted to the Tushar Mountains in 1986, when 7 goats were taken from the Lone Peak area of the Wasatch Mountains and released on the south side of Mt. Holly. In 1988, a total of 17 goats were released to supplement this herd (9 from Olympic National Park and 8 from the state of Washington). Since that time the population has steadily increased to a point that animals have been transplanted from the area to other parts of the state to augment or start new populations.

ISSUES AND CONCERNS

A. Predation

Although some predation of mountain goats occurs from mountain lions, coyotes, and golden eagles, predation does not appear to be a significant limiting factor for mountain goats on the Tushar Mountains. If predation becomes a limiting factor, predator control work will be administered within the guidelines of the UDWR predator management policy.

B. Habitat

Potential mountain goat habitat was modeled using a simplified GIS analysis approach as described by Gross et al. (2002). Mountain goats are highly associated with escape terrain, which has been defined as slopes from >25° (Varley 1994) to $\geq$ 33° (Gross et al. 2002), therefore we used slopes >30° as potential mountain goat escape terrain. Gross et al. (2002) found that applying a 258m (846ft) buffer to escape terrain correctly classified 87% of active

mountain goat habitat. We applied a 258m buffer to all slopes $\geq 30^{o}$ on the Tushar Moutnains and calculated potential habitat acreage at the $\geq$ 8,000ft, $\geq$ 9,000ft, and $\geq$10,000ft elevations resulting in 167,104 acres, 99,038 acres, and 40,131 acres, respectively (Figure 1).

As with any sensitive habitat types, monitoring should continue to occur in coordination with the USFS to avoid any potential habitat changes or overuse of sensitive and threatened plant species, such as Tushar Indian Paintbrush (*Castilleja parvula* var. *parvula*).

C. Competition

Dietary overlap between livestock and mountain goats does not appear to be affecting mountain goats or their habitat at this time with very limited cattle use in these high elevation areas and no sheep use. Mule deer and elk use this area during the summer, but negative interactions between these species and mountain goats appear to be minimal.

D. Poaching

Poaching can have a detrimental effect on recreational viewing and hunting opportunities for mountain goats. Currently, the UDWR and local law enforcement agencies work together to eliminate any illegal activity relating to goats on the Tushar Mountain range. These agencies spend significant time patrolling since there are substantial outdoor recreation and wildlife viewing opportunities in this area.

IV. UNIT MANAGEMENT GOALS AND OBJECTIVES.

A. Population Management Goal: Establish an optimum population of mountain goats, composed of various sub-populations in all suitable habitats across the unit (Figure 1). Allow for a calculated strategic surplus of goats to provide for transplants and/or increased hunter opportunities.

Objective 1: Maintain a viable mountain goat population on the Tushar Mountains. The population objective for the unit will be to manage for approximately 175 mountain goats. Since this herd will be used as source stock for transplants as needed, the population may be allowed to exceed this number and be brought back into objective in successive years. Coordination with the USFS on population monitoring, habitat condition, nanny hunts, and transplant planning efforts should be a priority.

Strategies:

1) Monitor population size and composition using statewide survey protocols. Consider aerial trend counts every 1-2 years and annual ground classification as increased monitoring on a source population. This information will be useful in evaluating transplants and nanny hunts in achieving population objectives.

2) Utilize population or sight-ability models to determine the relationship between surveys and population size.

3) Support law enforcement efforts to reduce illegal taking of mountain goats.

4) When populations surpass objective, implement a transplant or increase nanny hunting opportunities to regulate population numbers.

Table 1. Summary of mountain goat population densities in Utah based on modeled habitat.

Unit	Subunit	Model Elevation	Square Miles of Habitat	Objective	Density at Objective
Cache/Ogden/East Canyon	Middle Cache/Wellsville/ Willard Peak/Ogden/East Canyon	8000	341.01	700	2.05
Central Mnts	Nebo	9000	71.71	200	2.79
La Sal Mnts	La Sals	9000	62.18	200	3.22
Mt Dutton	Dutton	9000	73.82	125	1.69
Tushar Mnts	Tushars	9000	154.75	175	1.13
Uinta Mnts	East, West, Central, Chalk Creek, Leidy Peak	9000	820.10	1500	1.83
Wasatch Mnts	Box Elder/Lone Peak/Mt Timpanogos	8000	155.31	600	3.86
	Provo Peak	8000	51.11	200	3.91
Total			**1729.98**	**3700**	**2.14**

Table 2. Aerial trend count data of mountain goats on the Tushar Mountains, 2007-2013.

Year	Total Counted	Total Adults	Total Kids	Kid Ratio
2007	232	187	45	0.24
2008	206	167	39	0.23
2009	206	176	30	0.17
2011	240	198	42	0.21
2013	222	166	56	0.34

B. Habitat Management Goal: Provide good quality habitat for a healthy population of mountain goats.

Objective 1**:** Maintain or improve sufficient mountain goat habitat to achieve population objectives.

Strategies:

1) Continue to identify critical mountain goat habitats and work with land managers and private landowners to protect these areas.

2) Assist land management agencies in monitoring goat habitat to detect changes in habitat quantity or quality.

3) Work with land managers to minimize and mitigate loss of goat habitat due to human disturbance and development.

4) Inform and educate the public concerning the needs of mountain goats including the effects of human disturbance and the need for habitat improvements.

5) Identify specific habitat restoration projects to immediately benefit mountain goats.

6). Encourage land management agencies and private landowners to protect alpine tundra habitats from overuse in recreational activities.

7). Support UDWR and USFS vegetation monitoring efforts on the Tushar Mountain sampling sites to identify any range changes.

Objective 2: Support and encourage regulated livestock grazing on all identified mountain goat habitat within approved grazing allotments.

C. Recreation Goal: Provide high quality opportunities for hunting and viewing of mountain goats.

Objective 1: Provide quality hunting opportunities.

Strategies:

1) Continue to educate the public about the difference between a nanny and billy to encourage hunters to harvest quality males on an either sex hunt.

2) Recommend any-goat permits to harvest 5-15% of the counted population. Maintain any weapon season success rate at a minimum of 90%.

3) Recommend hunting seasons to provide maximum recreational opportunity while not imposing on UDWR management needs.

Objective 2: Increase public awareness and expand viewing opportunities of mountain goats.

. **Strategies:**

1) Work with the USFS to install and maintain interpretive signs in mountain goat areas for public information.

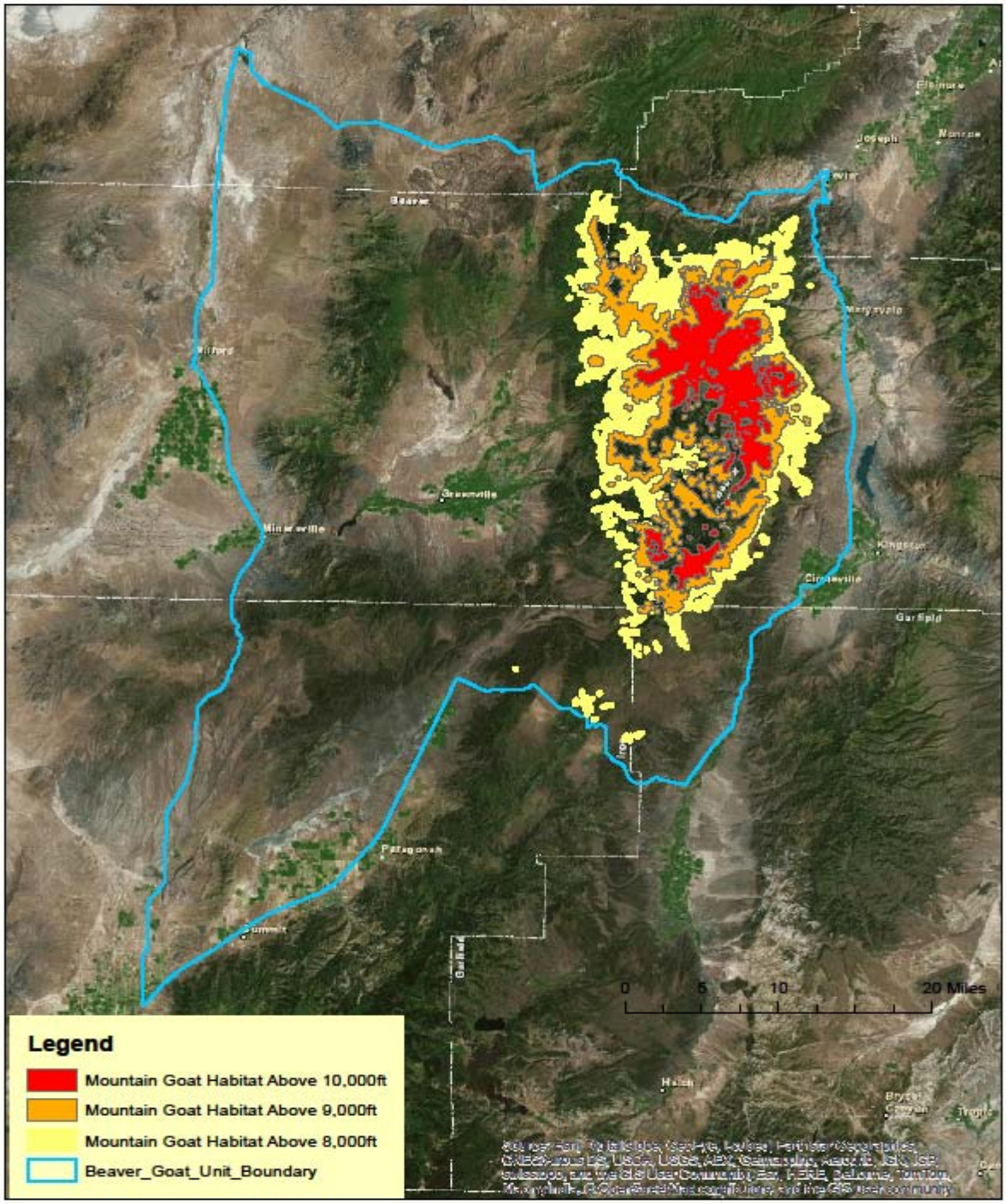
2) Continue to expand mountain goat viewing events for interested publics. Recreational use and demand for hunting and viewing mountain goats on the Tushar Mountains is extremely high and increasing.

Lit Cited

Gross, J. E., M. C. Kneeland, D. F. Reed, and R. M. Reich. 2002. GIS-Based habitat models for mountain goats. Journal of Mammalogy 83:218-228.

Varley, N. C. 1994. Summer-fall habitat use and fall diets of mountain goats and bighorn sheep in the Absaroka Range, Montana. Biennial Symposium of the Northern Wild Sheep and Goat Council 9:131-138.

Figure 1. Modeled mountain goat habitat on the Tushar Mountains, Beaver WMU 22.



Appendix A. Summary of UDWR Range Trend Monitoring on the Tushar Mountains (1997-2011).

Tushar Mountain Goat - Trend Studies No. 22R-1 & 2

These studies are located in an alpine community approximately 1/3 mile below Mount Holly at an elevation of 11,500 feet. Two study plots were established in 1997 to monitor a small Tushar paintbrush (*Castilleja parvula* var. *parvula*) population and to determine if mountain goats were having an effect on this population. The Tushar paintbrush is not listed by the U.S. Fish and Wildlife Service as threatened or endangered. It is listed by the Utah Rare Plant guide as imperiled (G2 global conservation status ranks) (Utah Native Plant Society 2013). G2 is defined as Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors (NatureServe 2013). The Tushar paintbrush is an endemic to south-central and west-central Utah in Beaver, Piute, and Garfield counties. It is found growing on alpine ridgetops and talus slopes above timberline on sandy, gravelly soils derived from igneous parent material (Welsh et al. 1993).

One plot (22R-1) was placed in a saddle below Mt. Holly and a second plot (22R-2) was located downhill several hundred feet from the first. Plot 22R-1 is somewhat steep and rocky, dropping off to the east near the end of plot. Plot 22R-2 slopes toward the west at 3-5% and is less rocky. The vegetation in plot 22R-2 is comprised of an alpine community of primarily low growing grasses and forbs. There were no browse species sampled in either study plot.

On both study plots cover and nested frequency data were collected for total vegetation, litter, rock, pavement, cryptogams, bare ground, perennial grasses and perennial forbs using 20, 1/4 m^2 modified daubenmire quadrats read along a 100 foot baseline. Tushar paintbrush density was determined by counting the number of plants rooted within a 100 foot radius circular plot (0.72 of an acre) centered on the permanent plot marker. Utilization was categorized on each plant sampled. Mountain goat pellet groups were also counted within the 100 foot radius circular plot.

Plot 22R-1 is characterized by moderate vegetation cover, low litter cover, and a high amount of rock and pavement. Bare ground was relatively low in all readings. Perennial grass cover has ranged from 7%-18% over the four readings, while perennial forb cover was highest in 2011 at 24% (Table 3).

Tushar paintbrush density has been stable within plot 22R-1. Within the sampling area 52 plants were sampled in 1997, 63 in 2001, 57 in 2003, and 60 in 2011. None of the plants sampled in 1997 appeared to have been utilized. In 2001, 2003, and 2011 most plants were classified as lightly or moderately grazed (Table 1). Mountain goat pellet groups have increased since the initial reading in 1997. Only 25 goat pellet groups were sampled in 1997, increasing to 56 in 2001, 160 in 2003, and decreasing to 54 in 2011 (Table 2).

Plot 22R-2 is characterized by very high vegetation cover, moderate litter cover, with much lower amounts of rock, pavement, and bare ground. Perennial grass cover has ranged from 23%-56%. Perennial forb cover was lowest in 2003 at 15% and highest in 2001 at 27% (Table 3).

Tushar paintbrush density has decreased at this location. Fourteen plants were sampled in 1997, 6 in 2001, 9 in 2003, and 0 plants were sampled in 2011. As with 22R-1, none of the plants sampled in 1997 appeared to have been utilized. In 2001, 67% (4 of the 6 plants sampled) showed light use and a single plant showed moderate use. No plants were classified as being heavily used in either year. In 2003, 44% (5 out of 9) of the plants sampled were heavily utilized, while 22% showed moderate use. Thirty-three percent of the plants sampled had either no use or light use in 2003 (Table 1). Only seven mountain goat pellet groups were sampled in 1997, increasing to 35 in 2001, 82 in 2003, and 62 in 2011 (Table 2).

It appears that study 22R-1 is more representative of ideal habitat for the Tushar paintbrush, while study 22R-2 would be best categorized as marginal. An examination of the habitat characteristics of these two plots is important. Study 22R-1 lies in a saddle on the ridgetop and has lower vegetation and litter cover and a higher amount of rock, pavement, and bare ground. It appears the paintbrush would have less competition on this study plot compared to the lower study plot (22R-2) which is located down off of the ridge top and is composed of a thick, uniform mat of low growing perennial grasses and forbs. Rock, pavement, and bare ground are much less abundant on plot 22R-2, thus competition between the paintbrush and other low growing species would be much greater. Higher competition results in fewer safe sites being available for the paintbrush to become established and persist.

Overall, the Tushar paintbrush population at this site appears to be stable since establishment of the study plots in 1997. The sample size is small and not intended to be extrapolated for Tushar paintbrush across this mountain range. The paintbrush density is greater on the rockier plot (22R-1) with fewer found on the plot where vegetation cover is higher (22R-2). The distribution and amount of ground cover appear to influence paintbrush density and thus, areas that are more open and rocky will likely contain a higher density of paintbrush plants. This paintbrush population does not appear to be very competitive and/or abundant where the vegetative and litter cover are relatively high.

NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed:August 29, 2013).

Utah Native Plant Society. 2013. Utah rare plant guide. [Internet]. A.J. Frates editor/coordinator. Salt Lake City, UT: Utah Native Plant Society. Available from: http://www.utahrareplants.org. (Accessed:August 29, 2013).

Welsh, S. L., et al. 1993. A Utah Flora. Brigham Young University. Provo, Utah.

Plot	Year	Total Density (0.72 acre plot)	Utilization (Percent of Total Density)			
			No Use	Light	Moderate	Heavy
22R-1	1997	52	100	0	0	0
	2001	63	17	54	29	0
	2003	57	16	56	19	9
	2011	60	17	28	43	12
22R-2	1997	14	100	0	0	0
	2001	6	17	67	17	0
	2003	9	22	11	22	44
	2011	0	-	-	-	-

Table 1. Tushar paintbrush (*Castilleja parvula* var. *parvula*) density and utilization by year for the two mountain goat plots below Mount Holly. Density was sampled in a 100 ft radius circular plot and a utilization category determined for each sampled plant.

	Goat Pellet Groups (0.72 acre plot)			
Plot	1997	2001	2003	2011
22R-1	25	56	160	54
22R-2	7	35	82	62

Table 2. Mountain goat pellet group density by year for the two mountain goat plots below Mount Holly. Pellet groups were counted in a 100 ft radius circular plot.

		Percent Cover						
Plot	Year	Total Vegetation	Litter	Rock/ Pavement	Cryptogamic Crusts	Bare Ground	Perennial Grass	Perennial Forb
22R-1	1997	34.3	3.8	74.3	3.8	8.5	7.0	16.9
	2001	38.1	0.8	68.9	-	5.1	17.7	21.7
	2003	28.3	4.9	63.3	0.0	11.0	7.8	19.9
	2011	30.9	1.9	54.7	0.0	11.3	8.0	24.4
22R-2	1997	39.6	13.1	46.3	5.2	6.1	23.1	18.2
	2001	76.2	8.8	20.3	0.0	0.4	48.2	26.5
	2003	56.1	31.8	20.5	0.4	0.4	36.0	15.0
	2011	69.0	4.8	38.7	3.3	2.7	55.9	16.0

Table 3. Percent cover of basic ground cover by year for the two mountain goat plots below Mount Holly.

		Nested Frequency (100 is maximum value)						
Plot	Year	Total Vegetation	Litter	Rock/ Pavement	Cryptogamic Crusts	Bare Ground	Perennial Grass	Perennial Forb
22R-1	1997	85	84	88	93	36	61	79
	2001	93	50	80	94	0	76	77
	2003	87	76	75	100	3	68	79
	2011	77	62	65	90	0	55	70
22R-2	1997	98	92	74	89	64	61	97
	2001	100	90	38	86	4	9	100
	2003	98	87	40	74	9	16	96
	2011	100	67	51	82	25	30	100

Table 4. Nested frequency of basic ground cover by year for the two mountain goat plots below Mount Holly.

Figure 1. Photos of Transcect 22R-1 in 2001 (above) and 2011 (below).

Figure 2. Photos of Transcect 22R-2 in 2001 (above) and 2011 (below).

MOUNTAIN GOAT UNIT MANAGEMENT PLAN
Wildlife Management Unit 2, 3 and 5
Cache/Ogden/East Canyon
April 2015

BOUNDARY DESCRIPTIONS

Cache (Middle Cache) - Cache County -- Boundary begins at the Utah/Idaho State line and the Cache/Rich County line; south on the county line to SR 39; west on SR 39 to the Ant Flat Road; North on Ant Flat Road to SR 101 at Hardware Ranch WMA; west on SR101 to SR 23 in Wellsville; North on SR 23 to SR 142 in Newton; north on SR 142 to Clarkston and continuing north on the unpaved road past the city cemetery (Stink Creek Rd.) to 8800 west; north on 8800 west to the Utah/Idaho State line; east on the Utah/Idaho State line to the Cache/Rich county line.

Cache (Wellsville) - Cache and Box Elder Counties -- Boundary begins at the Utah/Idaho State line and I-15; South on I-15 to US 91 (1100 South) at Brigham City; east and north on US 91 to SR23 in Wellsville; North on SR 23 to SR 142 in Newton; north on SR 142 to Clarkston and continuing north on the unpaved road past the city cemetery (Stink Creek Rd.) to 8800 west; north on 8800 west to the Utah/Idaho State line; west on the Utah Idaho State line to I-15.

Ogden - Box Elder, Cache, Morgan and Weber counties—Boundary begins at US-91 and SR-101 west of Hyrum; east on SR-101 to Hardware Ranch and USFS Road 054 (Ant Flat Road); south on this road to SR-39; southwest on SR-39 to SR-167 (Trappers Loop Road); south on SR-167 to I-84 (Exit 92); west on I-84 to I-15; north on I-15 to US-91; northeast on US-91 to SR-101 west of Hyrum.

Willard Peak – Box Elder, Cache, and Weber counties—Boundary begins at US-89 and Pleasant View Drive in Pleasant View; north along US-89 to US-89/91; east and north along US-89/91 to SR-101; east along SR-101 to Avon and Canyon Road (Avon to Liberty road); south along Canyon Road to USFS/County Road 162; south on this road to Liberty and 4100 North; west on 4100 North to the North Ogden Canyon Road; west on this road to North Ogden and 1050 East; south on 1050 East to 2600 North; west on 2600 North to Pleasant View Drive; northwest on this drive to US-89.

East Canyon - Davis, Morgan, Salt Lake and Summit counties--Boundary begins at Echo Junction and I-80; southwest along I-80 to I-15; north on I-15 to its junction with I-84 near Ogden; east on I-84 to Echo Junction.

LAND OWNERSHIP

Table 1. Range area and approximate land ownership across all subunits of potential modeled mountain goat habitat at 8,000ft and above.

Landownership	Acres	Square Miles	Percent Ownership
USFS	157,098.3	245.47	71.89%
Private	57,101.53	89.22	26.16%
SITLA	2,385.36	3.73	1.09%
UDWR	1,664.32	2.6	0.76%
Total	**218,249.5**	**341.01**	**100%**

Table 2. Summary of land ownership in mountain goat habitat above 8,000ft in the Ogden area.

	Cache - Middle Cache		Cache - Wellsville		Ogden/Willard Peak		East Canyon	
Landowner	Acres	Square Miles	Acres	Square Miles	Acres	Square Miles	Acres	Square Miles
USFS	101351.30	158.36	9144.17	14.29	19207.40	30.01	27395.41	42.81
Private	4250.71	6.64			20531.99	32.08	32318.84	50.50
SITLA	2385.36	3.73						
UDWR	9.53	0.01			1478.75	2.31	176.03	0.28
Total	107996.90	168.75	9144.17	14.29	41218.14	64.40	59890.28	93.58

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Balance mountain goat herd impacts with other uses such as authorized livestock grazing and local economies. Maintain the population that is sustainable within the available habitat as determined by acreage delineated from actual mountain goat utilization.

CURRENT STATUS

The Willard Peak mountain goat population was established in 1994 with a transplant of 5 animals. An additional 4 goats were moved from Provo to Willard Peak in September 2000. The goat population has been steadily increasing since its establishment in 1994. On August 21, 2013 the population of goats on and around Willard peak was estimated to be about 260 animals. During this time period, goats have regularly begun to disperse to surrounding areas of suitable habitat including the Wellsville Range, Mount Ogden, Lewis Peak, Thurston Peak, Logan Canyon, and Cherry Peak. Since mountain goats have begun to move to other areas on their own, this plan will address these movements and management actions on a larger scale than previous plans for this area (Figure 1). A land ownership table for all areas of mountain goat management covered under this plan is included in Tables 1 and 2. Photographs of documented mountain goat dispersal to adjacent ranges are included in Appendix B.

ISSUES AND CONCERNS

Native Status: The native status of mountain goats is discussed in detail in the current Utah Mountain Goat Statewide Management Plan. The following is an excerpt from this plan: Regardless of their native status to Utah, they are certainly native to the North American continent and the Northern Rocky Mountains. The UDWR's position is that mountain goat habitat exists in Utah, as indicated by the success of introduced populations. As such, the UDWR believes mountain goats are a valuable addition to our wildlife resource diversity and are a legitimate part of our modern Utah faunal landscape. As with any other ungulate species in our now pervasively human-altered ecosystem, they require pro-active management.

Habitat Modeling: We modeled potential mountain goat habitat across all potential mountain goat subunits in the Ogden area using a simplified GIS analysis approach as described by Gross et al. (2002). Mountain goats are highly associated with escape terrain, which has been defined as slopes from >25° (Varley 1994) to $\geq$ 33° (Gross et al. 2002). We used slopes >30° as potential mountain goat escape terrain. Gross et al. (2002) found that applying a 258m (846ft) buffer to escape terrain correctly classified 87% of active mountain goat habitat. We applied a 258m buffer to all slopes $\geq$ 30º and calculated potential habitat acreage at the $\geq$ 8,000ft and $\geq$ 9,000ft elevations resulting in 218,249.5, and 37,731.5 acres, respectively.

Mountain goats may use lower elevation habitat with good visibility and escape terrain (Brandborg 1955). Although winter habitat on Willard Peak may be as low as 6,000 ft, we used the 8,000 ft model based on the majority of observations of goat use and their tendency to use the highest elevation habitat. If goat habitat acreage was estimated using 6,000 ft and above, the total acreage would be substantially higher and goat densities would be much lower. A map of the modeled goat habitat above 8,000 ft is provided in Figure 1.

Competition and Disease Concerns: Interactions of mountain goats with other ungulates occur seasonally, but due to their specific habitat requirements, mountain goats are not likely to impact these other species.

Dietary overlap between livestock and mountain goats does not appear to be an adverse factor with the Willard goat population, and therefore is not expected on in other parts of the range. Similarly, mule deer and elk may also have interactions with goats but as with livestock, adverse impacts are not expected due to habitat quality and quantity, as well as the likely spatial and temporal differences in habitat use. If seasonal altitudinal migration occurs, it is still very likely that most areas frequented by mountain goats will be unavailable to livestock, deer, and elk due to terrain. Observations of goats are in areas too steep for most other ungulates including livestock to access. Additionally, there are few disease transmission concerns amongst livestock and goats.

Non-Consumptive Use: There is great public interest in mountain goat viewing opportunities. Goats can be observed most days during the summer from the trail

between Inspiration Point and Ben Lomand Peak. Increased populations in other suitable habitat will add the ability for goat observation from areas of high public use from Mt. Naomi to Farmington Peak.

Sensitive Plants: The native, endemic species snowbasin draba (*Draba burkei*) and Utah mousetail (*Ivesia utahensis*) are found in the area. Utah mousetail is listed by the Utah Rare Plant guide as imperiled (G2 global conservation status ranks) (Utah Native Plant Society 2013). G2 is defined as Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors (NatureServe 2013). Snowbasin draba is listed as is listed by the Utah Rare Plant guide as vulnerable (G3 global conservation status ranks) (Utah Native Plant Society 2013). G3 is defined as Vulnerable - At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. Sensitive species in new areas of goat dispersal and/or transplants will need to be identified and monitoring coordinated with the USFS.

Predation: If predation occurs on Willard Peak, it is rare based on population models and observed numbers. As goats move to new areas, this could change especially in areas with higher numbers of ungulates like mule deer and elk. If predation is having an adverse impact on goats, predator management will be handled as per UDWR policy and guidelines.

A. POPULATION MANAGEMENT OBJECTIVES

The mountain goat population on the Uinta Mountains in northern Utah has been managed so as not to exceed the densities found in wild populations of Southeastern Alaska (6.0 goats/sq. mile). Goats in the Cache/Ogden/East Canyon should also be managed within this recommended density.

1) Target Herd Size: Achieve a target population objective of up to 700 total mountain goats (summer helicopter count) at all elevations using the following subunit objectives:
    a. Cache – Middle Cache – 190

    b. Cache – Wellsville – 75

    c. Ogden – 360 total with the following local maximums:
        i. Willard Peak – 160
        ii. Remaining Ogden unit – 200

    d. East Canyon – 75

Table 3. Summary of mountain goat population densities in Utah based on modeled habitat.

Unit	Subunit	Model Elevation	Square Miles of Habitat	Objective	Density at Objective
Cache/Ogden/East Canyon	Middle Cache/Wellsville/ Willard Peak/Ogden/East Canyon	8000	341.01	700	2.05
Central Mnts	Nebo	9000	71.71	200	2.79
La Sal Mnts	La Sals	9000	62.18	200	3.22
Mt Dutton	Mt Dutton	9000	73.82	125	1.69
Tushar Mnts	Tushars	9000	154.75	175	1.13
Uinta Mnts	East, West, Central, Chalk Creek, Leidy Peak	9000	820.10	1500	1.83
Wasatch Mnts	Box Elder/Lone Peak/Mt Timpanogos	8000	155.31	600	3.86
	Provo Peak	8000	51.11	200	3.91
Total			**1729.98**	**3700**	**2.14**

Table 4. Summary of Cache, Ogden, and East Canyon mountain goat densities and modeled habitat above 8,000ft.

Unit	Subunit	Population Objective	Square Miles of Habitat	Goats per Square Mile at Objective
Cache	Middle Cache	190	168.75	1.13
	Wellsville	75	14.29	5.25
Ogden	Willard Peak	160	21.42	7.47
	Ogden	200	42.98	4.65
East Canyon	East Canyon	75	93.58	0.80
Total		**700**	**341.02**	**2.05**

Population Management Strategies

a. Monitoring: Aerial and/or ground classification of current resident mountain goats will be conducted annually to determine kid recruitment, population status, billy/nanny ratios, and range distribution. Aerially monitor any transplanted goats with radio collars to evaluate movements and range establishment. Census the entire unit every 1-2 years.

b. Harvest: Regulated hunting for billy and/or nannies will be recommended annually as needed to meet management objectives. Nanny hunts or transplants will be the primary methods for maintaining the total population objective. Sub-population objectives will be to maintain at or below 6 goats per square mile at all elevations of documented habitat use throughout the range.

c. Transplants: Consider transplants into modeled mountain goat habitat consistent with the Statewide Management Plan as a means to promote genetic diversity and meet population objectives. Work with USFS on wilderness issues in transplanting efforts. Transplant areas could include the Ogden WMU in the area between North Ogden Pass and Weber Canyon, East Canyon WMU north of Farmington Peak, and Middle Cache in the area of Left Hand Fork and Logan Peak.

d. Research: Continue to promote and conduct mountain goat research throughout the entire unit to gain understanding of habitat use, seasonal movements, and pathogen exposure.

B. HABITAT MANAGEMENT OBJECTIVES

1) Livestock Grazing: Support and encourage regulated livestock grazing on all identified mountain goat habitat within approved grazing allotments.

2) Vegetation: Actively participate in the development and execution of proposed habitat restoration projects and monitoring efforts with agencies and other groups to improve wildlife habitat and increase forage.

3) Habitat Monitoring: Monitoring is essential to understanding habitat conditions. UDWR will cooperatively work with the USFS to monitor habitat throughout mountain goat range. A summary of mountain goat habitat monitoring on Willard Peak is included in Appendix A.

Habitat Management Strategies

a. Support UDWR and USFS efforts in vegetation monitoring. Use vegetation data and radio telemetry when possible to identify range changes and possible overuse. Seek opportunities to develop additional range trend transects that may be used to monitor habitat specifically used by goats.

b. Recommend range improvement and restoration projects when deemed necessary. Maintain and/or enhance forage production through direct range improvements throughout the unit. Support timber management practices designed to improve habitat for wildlife and livestock.

c. Encourage land management agencies and private landowners to monitor summer livestock grazing in established mountain goat ranges. Encourage and aid land management agencies and private landowners in identifying and eradicating invasive plant species.

d. Provide improved habitat security and escapement opportunities for mountain goats by support and cooperation of approved Wasatch/Cache National Forest Management Plans.

e. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned / sources such as old water trough's, ponds, and tanks that can benefit both livestock and wildlife.

3. RECREATION MANAGEMENT OBJECTIVES

1. Harvest: Recommend any-goat permits to harvest 5-15% of the counted population. Maintain any weapon season success rate at a minimum of 90%.

2. Non-consumptive Use: Seek opportunities to expand the goat viewing outreach programs to promote newly inhabited areas. A kiosk placed near areas frequented by goats should be created to promote these goat-viewing opportunities. As mountain goats establish across the unit, appropriate places for kiosks should be coordinated with USFS.

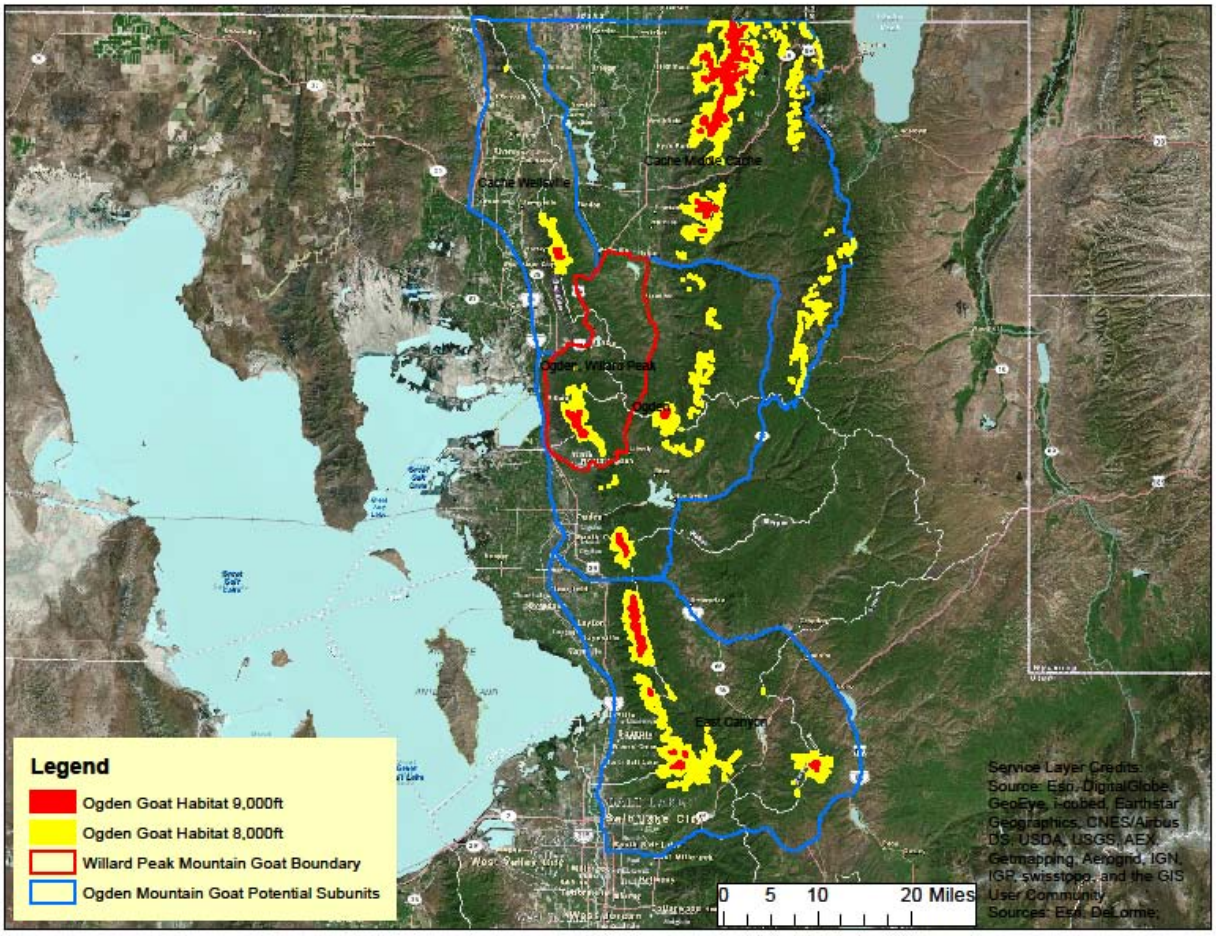
Literature Cited

Brandborg, S. M. 1955. Life history and management of the mountain goat in Idaho. State of Idaho Department of Fish and Game Wildlife Bulletin 2:1-142.

Gross, J. E., M. C. Kneeland, D. F. Reed, and R. M. Reich. 2002. GIS-Based habitat models for mountain goats. Journal of Mammalogy 83:218-228.

Varley, N. C. 1994. Summer-fall habitat use and fall diets of mountain goats and bighorn sheep in the Absaroka Range, Montana. Biennial Symposium of the Northern Wild Sheep and Goat Council 9:131-138.

Figure 1. Modeled mountain goat habitat on Cache/Ogden/East Canyon Units above 8,000 feet.



Appendix A. Summary of vegetation monitoring in mountain goat habitat on Willard Peak.

WILLARD GOAT SUMMARY - TREND STUDY NO. 3R-3-11

The study was established to monitor habitat for the mountain goat herd in the Willard Peak area. The study is comprised of ten transects spread along the ridgeline from just north of the parking area at Inspiration Point to just south of Willard Peak. Data collection methods are similar to other range trend studies, but each transect was reduced to one, 100 ft sample belt, with associated measurements reduced to this sample area. The individual transects fall within a variety of vegetation and ecological sites ranging from subalpine meadow to steep, talus slopes. The transects sampled multiple settings located between 9,100-9,440 feet in elevation, on slopes varying from 10-75%, and on northwest, northeast, and southwest aspects.

Overall, basic ground cover characteristic changed very little from 2007 to 2011. Perennial forbs were much more abundant than grasses on most of the transects. Sum of nested frequency for perennial grasses and perennial forbs also showed very little change between 2007 and 2011. Percent cover of perennial grasses, forbs, and shrubs were stable. Cover data show the sites are dominated by forbs and in some cases shrubs.

Snowbasin draba was sampled on two (Transect 4 and Transect 5) of the ten transects in both 2007 and 2011. With the very low occurrence of this species it is difficult to make inferences from the data collected in these plots. UDWR will seek opportunities to add additional permanent range trend transects that will be read every 5 years by the UDWR range trend crew in areas where goats disperse and/or are transplanted. If concerns are generated about adverse impacts to the habitat by goats, UDWR may initiate annual habitat monitoring to aid in goat management decisions.

Appendix B: Photos of Dispersing Goats within Cache/Ogden/East Canyon Unit.

Figure 1: Goat in Wellsville Canyon 2014

Figure 2: Mountain Goats in Logan Canyon 2009

Figure 3: Mountain Goats near Cinnamon Creek 2010

Figure 4: Mountain Goat on Cherry Peak 2011

Figure 5: Mountain Goat on Wellsville Range 2007

Flaming Gorge Rapid Response and Control Plan
For *Dreissena* Mussels

Gregory Sheehan, Director Utah Division of Wildlife Resources	Date
Scott Talbott Wyoming Game and Fish Department	Date
John Erickson, Ashley Forest Supervisor U.S. Forest Service	Date
Brent Rhees, Acting Regional Director U.S. Bureau of Reclamation	Date

Executive Summary

This Rapid Response (RRP) and Control Plan for *Dreissena* mussels – specifically quagga and zebra – at Flaming Gorge Reservoir (FGR), located in southwest Wyoming and northeast Utah (see Maps, Appendix C), was developed as a collaborative effort by the Utah Division of Wildlife Resources (UDWR), the Wyoming Game and Fish Department (WGFD), the U.S. Forest Service (USFS), and U.S. Bureau of Reclamation (USBR). The RRP and Control Plan provide an overview of the management actions required if there is a confirmed detection of *Dreissena* mussels in FGR. Currently aquatic invasive species (AIS) activities at FGR focus on the prevention of inoculation and establishment of all AIS with a particular focus on *Dreissena* mussels. In the event of Dreissenid detection, AIS management must shift to contain any invasive mussels in the reservoir while maintaining some focus on preventing further inoculation of AIS. Containment activities will focus on preventing the further spread of *Dreissena* mussels through coordination, education, monitoring, inspections, and decontaminations. This RRP is intended to be implemented quickly and act as the guiding document for initial decision making when Dreissenids have been confirmed. The RRP may be used as a tool to quickly communicate with FGR stakeholders to implement the Control Plan. In the event of a confirmed *Dreissena* in FGR, the organizations (WGFD, USFS, UDWR, and USBR) in control of operations of FGR should work in conjunction to implement the Control Plan for containing and controlling the spread of *Dreissena* mussels.

The Utah Aquatic Invasive Species Act, codified as Chapter 27 of Section 23 in the Utah Code and Rule R657-60-8 (Appendix D) provides authority to Utah Division of Wildlife Resources in the event of a water body being affected by a *Dreissena* species in part as follows:

1. To close ingress and/or egress at a water body, facility or water supply system to terrestrial or aquatic vehicles and equipment capable of moving Dreissenid species for protection of Utah from their spread; and
2. To maintain the closure until an acceptable control plan for containment and/or control of the Dreissenid species is developed and implemented.

The Wyoming Aquatic Invasive Species Act, W.S. 23-4-201 through 23-4-206 (Appendix E) states: the Wyoming Game and Fish Commission may restrict watercraft usage on a specific body of water upon finding that introduction of an invasive species is imminent or has already occurred.

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Reason for Heightened Concern

With the recent quagga mussel detection at Lake Powell Reservoir (UT/AZ), resulting in an "infested" designation (see Appendix D, R657-60-2), there is a need for a RRP and Control Plan at FGR, and at other major waters in order to be proactive in the response to a confirmed Dreissenid finding. Development of a RRP will make implementation of a Control Plan to contain and/or control *Dreissena* mussels more rapid in the event of a confirmed detection. Objectives 1-10 and their actions apply to both the RRP and Control Plan. They are as follows:

Objective 1: Immediately verify a reported *Dreissena* mussel detection.

1) Contact UDWR/WGFD AIS Biologist/Specialist if mussel is detected
2) Interview source and gather information
3) Record details of mussel location
4) Visually validate adult *Dreissena* within 48 hours by UDWR/WGFD AIS Biologist/Specialist
5) Validate all forms of *Dreissena* through laboratory analysis

Objective 2: Upon verification for the presence of Dreissenid mussels, immediately notify relevant local natural resource personnel, pulling their technical personnel together as a "Response Team".

- Response Team determines the extent of the mussel colonization, minimizes vectors and pathways, implements HACCP plan, sets up signage, implements eradication/containment actions, and installs decontamination stations
- UDWR's AIS Coordinator notifies all members of the Response Team, and UDWR's Director's Office, once identification has been verified, or detection has been confirmed
- Response Team meets via conference call and initiates a media response led by UDWR's Outreach personnel once approved by the UDWR's Director and Utah Wildlife Board to list a waterbody as affected (suspect, detected/positive, or infested).

Objective 3: Establish internal and external communication systems.

- The process of disseminating information to internal and external stakeholders, including the media and public, will be developed by the UDWR/WGFD AIS Coordinators in conjunction with Regional and Statewide Outreach personnel, federal public affairs staff, and Response Team
- Develop and disseminate general public education and outreach material

Objective 4: Set up an appropriate leadership structure to guide Response Team activities for implementing containment and/or control methods for Dreissenid infestation.

- UDWR & WGFD AIS Coordinators will be the Control Plan leaders. They will convene the meetings of the Response Team and facilitate the decision making process
- Additional Response Team personnel will be brought in as needed to assist in the Control Plan efforts

Objective 5: Organize available resources (personnel, equipment, funds, etc.), including compliance with laws and permitting requirements.

- Secure resource commitment from Response Team's home agencies and others for needed staff, facilities, equipment and funds by the UDWR/WGFD AIS Coordinators
- Ensure compliance with the broad array of applicable local, state and federal laws and permitting processes

Objective 6: Prevent further spread of Dreissenids using quarantine and pathway management via coordination, education, monitoring, inspections and decontaminations.

- Minimize vectors and pathways
- Monitor movement of human activity – Hazard Analysis Critical Control Point (HACCP) plan
- Temporary closure of reservoir to boaters until Control Plan is implemented
- Partial closure of reservoir once containment plan is initiated
- Inspection and decontamination stations designated and functional
- Signage installation

Objective 7: The Response Team should immediately begin surveys to define the extent of a Dreissenid infestation (this will happen concurrently with closure activities).

Objective 8: Apply available, relevant eradication, control and/or containment actions and implement mitigation.

- Method for mussel eradication, control and/or containment to be determined by the UDWR/WGFD AIS Coordinators and Response Team
- Cost of mussel eradication, control and/or containment to be determined by the UDWR/WGFD AIS Coordinators with assistance from the Response Team

Objective 9: Institute long-term monitoring.

- UDWR/WGFD AIS Coordinators and Response Team need to collect and document data from long-term monitoring of mussels, including the post treatment period
- Real-time dataset will be used for disseminating information

Objective 10: Evaluate RRP and Control Plan effectiveness, modify strategies as needed, and pursue long-term funding for *Dreissena* management.

Objective 1: Immediately verify a reported *Dreissena* mussel detection.

1) Contact proper authorities. In the event that a *Dreissena* mussel is detected (visual or microscopy), the UDWR and WGFD's AIS Coordinators, and Northeastern Region AIS Biologist and WGFD's Green River AIS Specialist should be contacted immediately to begin confirming the report's validity and to initiate implementation of the RRP, if necessary. If a visible *Dreissena* mussel is found on a watercraft, law enforcement for UDWR's Clay Basin or Manila districts, or WGFD's Green River region should be contacted for possible law violations; the importation or interstate transport of zebra mussels is prohibited by the federal Lacey Act, 18 U.S.C. 42. The importation or interstate transport of quagga mussels is prohibited by state statutes for both Wyoming (23-4-201) and Utah (27-23-201).
2) Interview the source and gather information of reported *Dreissena* mussel. For visible *Dreissena* mussels, first responders should specifically request a picture, specimen (if attached to a substrate do not detach until evidenced has been collected by law enforcement), and precise coordinates for location of sighting. Collect permanent contact information from report's source (name, address, telephone, and email).

3) Record details of the *Dreissena* mussel find location. Use GPS delineation, prominent landmarks, highway mile marker, or other information about where the mussels (adult and veligers) were found. Document the date and time of finding.
4) Visually validate adult *Dreissena* mussel identification within 48 hours. For visible *Dreissena*, UDWR's Northeastern Region AIS Biologist and/or WGFD Green River AIS Specialist should obtain a digital photograph (with scale indicator), secure and preserve dead samples, and arrange an immediate site visit.
5) Laboratory analysis. Both veligers and adult *Dreissena* will be examined via microscopy and DNA polymerase chain reaction (PCR) for verification.
6) Corroborate laboratory evidence. Following a positive microscopy laboratory analysis, UDWR/WGFD's AIS Coordinator will request that the lab forward a portion of the original sample to a second, separate lab so that two independent molecular DNA PCR tests for the presence of *Dreissena* mussels can be confirmed.
    - One microscopy and two independent PCR analyses are required for detection of *Dreissena* mussels.
    - Two consecutive sampling events for *Dreissena* mussels must be done and found positive via PCR and microscopy for a detected/positive status.
    - Multiple consecutive sampling events of attached mussels will constitute an infested status.

Objective 2: Upon verification for the presence of *Dreissena* mussels, immediately notify relevant local natural resource personnel, pulling their technical personnel together as a "Response Team".

- Response Team personnel. The Response Team is comprised of technical personnel from WGFD (AIS Coordinator, Green River AIS Specialist, Green River Fisheries Specialist), UDWR (AIS Coordinator, Northeastern AIS Biologist, Flaming Gorge Project Leader), USFS (Intermountain Region Aquatic Ecologist, Ashley National Forest Fish and Wildlife Manager), and USBR (Regional AIS Coordinator, Area AIS Coordinator).
- Response Team roles and responsibilities. The Response Team will be the on-the-ground personnel that perform and oversee all field work associated with the RRP and Control Plan. Their duties include:
    - Surveys to define the extent of the Dreissenid colonization (this not only refers to the initial surveys, but also all future surveys that will be performed while the water is affected);
    - Minimize vectors and pathways of Dreissenids;
    - Hazard Analysis Critical Control Point Plan implementation;
    - Signage installation;
    - Implementation of Dreissenid eradication, control/containment actions;
    - Decontamination station implementation and operations;

- Assist in determining the cost of implementation of the eradication, control and/or containment efforts;
- Collect and document data for long-term monitoring of Dreissenid infestation;
- Evaluate the effectiveness, and find areas for improvement of the RRP and Control Plan for adaptive management on future Dreissenid introductions; and
- Initiate statewide media response.

- Confirmed positive verification. Once *Dreissena* mussel has been confirmed, UDWR and WGFD's AIS Coordinators will notify all members of the Response Team who will then meet via conference call and initiate a media response to be led by UDWR and WGFD Outreach personnel. The time between the confirmed positive and the media response should be less than two weeks. The state agency's AIS Coordinator that receives the initial *Dreissena* verification will be responsible for ensuring that all members of the Response Team are notified.
    - When just a PCR *or* microscopy test is confirmed positive for *Dreissena* mussels, only the Response Team will be notified. Both microscopy and PCR (two independent lab PCR tests and one microscopy analyses), along with two positive consecutive sampling events of *Dreissena* mussel must be completed to issue a media response, and only after Director's Office approval.
- UDWR Director and Utah Wildlife Board Approval. Action by the Director of the UDWR is needed to list a water body as affected (suspect, detected/positive, or infested; see Appendix B for classification definitions). Action by the Utah Wildlife Board is required in order to list any water in Rule R657-60 as "infested" with *Dreissena* mussels.
    - Director's Office informed. Once the presence of Dreissenids has been confirmed, UDWR's AIS Coordinator will then take the information to the Director's Office and under the direction of the Director's Office the information will be disseminated.
- Wyoming Game and Fish action. Wyoming Game and Fish may enact an emergency rule as necessary to list a water as positive with AIS (Appendix E).
- Notification list. A notification call list comprised of FGR stakeholders will be maintained by UDWR's northeastern region AIS Biologist and updated at least twice annually (see Appendix A).
    - The Notification List will be housed in Google Docs and shared with all relevant personnel.

Objective 3: Establish internal and external communication systems.

- Circulation of information. The AIS Coordinators in conjunction with Regional and Statewide Outreach personnel, federal public affairs staff, and Response Team will develop an information dissemination process to ensure consistent and effective communication to interested internal and external stakeholders, including the media and public.

- Outreach. Develop and disseminate general public education and outreach material that is agreed upon between state and federal agencies.
    - Brochures, signage, media stories, and web material
    - Agency emblems on signs (USFS, BLM, USBR, WGFD, UDWR)

Objective 4: Set up an appropriate leadership structure to guide Response Team activities for implementing containment and/or control methods for *Dreissena* mussel infestation.

- Control Plan leaders. WGFD and UDWR's AIS Coordinators will be the Control Plan leaders. They will be the voice to represent the Response Team. WGFD and UDWR's AIS Coordinators will convene the meetings of the Response Team and facilitate the decision making process.
- Additional Response Team personnel. Additional agency personnel will be brought in as needed (outreach, recreation staff, etc.) to assist in the Control Plan efforts.

Objective 5: Organize available resources (personnel, equipment, funds, etc.), including compliance with laws and permitting requirements.

- Resource commitment. UDWR and WGFD's AIS Coordinators will secure commitment from the Response Team's home agencies and others for needed staff, facilities, equipment and funds. The UDWR and WGFD's AIS Coordinators and the Response Team will identify and secure sufficient resources for the Dreissenid control and/or containment, or eradication actions, and ensure mechanism for dispersal of funds is in place.
    - Develop Memoranda of Agreement for transferring money between agencies
    - Develop Memoranda of Understanding with Counties and other agencies as needed for use of employees and donation of in-kind services.
- Laws and permits. A broad array of local, state and federal laws and permitting processes will need to be recognized and complied with. A complete list of permitting requirements can be found in Appendix G. In an effort to streamline the process, where feasible we will modify existing agency permits as opposed to securing new ones.

Objective 6: Prevent further spread using quarantine and pathway management via coordination, education, monitoring, inspection and decontaminations.

- Minimize vectors and pathways. The WGFD and UDWR's AIS Coordinators and the Response Team will evaluate risks for dispersal, and minimize all vectors and pathways to avoid further spreading the original infestation.
- Monitor movement of human activity. Special care should be taken so human activity does not further spread the Dreissenids in the form of boating, construction, firefighting, water-hauling, recreational equipment, movement of fish and wildlife, and other physical processes.

    - Hazard Analysis Critical Control Point plan (HACCP). UDWR has developed a HACCP plan (Appendix F) to ensure that private and local, state, and federal personnel do not further spread the original infestation. Each agency will have a copy of this plan and issue a signed commitment that they will follow the plan. Signatories will be individuals on the Response Team.
- Temporary closure order. Under authority of Utah Rule R657-60-8 (see Appendix H), the Response Team will pursue the closure of the reservoir until the Control Plan has been implemented. During a closure order, access to the reservoir will temporarily be restricted to boaters. Only authorized personnel will be allowed to launch their watercraft until the threat can be assessed, and the Control Plan can be implemented.
- Partial closure of reservoir. Once the Control Plan has been implemented and the threat assessed, the temporary closure order will be lifted, and a partial closure of the reservoir may then ensue via reduction in the boating season, closing of any ramp that does not have an inspection station, closing of ramps outside of inspection hours, and prohibiting of shoreline launching from non-developed launch points.
    - Only selected high use developed ramps will remain open, for example in Wyoming, Firehole Canyon, Anvil Draw, Buckboard Marina, and/or Brinegar Ferry Crossing would likely remain open, depending on available personnel. In Utah, Lucerne Valley Marina, Sheep Creek Bay, Cedar Springs Marina, and Mustang Ridge would be the most likely ramps to remain open (see Maps, Appendix C).
    - A partial closure will require closures during the dates and times with the least amount of usage and the greatest staffing shortages, meaning weekdays, winter months, and/or selected times of day. Other options may be considered depending on staffing levels.
    - Estimated timeline for the partial closure to be implemented can take up to five weeks. Events that must be completed can be found in Appendix H.
- Inspection and decontamination stations. Establish inspection and decontamination stations. We expect that highway checkpoints will eventually be established. However, if inspection stations prove to be most functional at boat ramps, we will not move them to highway checkpoints. See Appendix I for a list of potential locations and infrastructure needs at these locations.
- Unified state agency (WGFD and UDWR) inspection and decontamination protocols prior to the implementation of the Control Plan. Establish inspection requirements and decontamination protocols for watercrafts and equipment leaving the reservoir.
    - MOU between agencies. Agreed upon protocols will be followed and will be reviewed annually.

Objective 7: The Response Team should immediately begin surveys to define the extent of a *Dreissena* mussel infestation (this will happen concurrently with closure activities).

- Rapidly determine the extent of colonization. Survey reservoir to determine the geographic extent of population infestation. Starting first with and focusing efforts on the immediate area around the detection site, and expand outward as necessary, including increasing detection efforts on the Green River if infestation is near the dam.
- Survey methods. The kind of sampling method performed will vary depending on whether the Dreissenids are visible juvenile/adult mussels, or veligers. For visible *Dreissena*, shorelines and natural and artificial substrates will be surveyed. SCUBA dive teams will be used to survey substrates located in greater water depths (docks, buoys, canyon walls, etc.). Veligers will be surveyed using plankton nets. See Appendix J for detailed sampling methods.
- Veliger sampling frequency. For affected (suspect, detected/positive, and infested) status waters, veliger sampling will increase to at least once per month during the main boating season (May – September).
- Survey immediacy. Ensure surveys are completed as soon as possible and the results are reported to the AIS Coordinators for both state agencies. The AIS Coordinators will provide updates to the entire Response Team.

Objective 8: Apply available, relevant and legally defensible eradication, control and/or containment actions and implement mitigation.

- Determine appropriate method. The UDWR and WGFD's AIS Coordinators and the Response Team will decide whether eradication via the use of Zequanox, EarthTechQZ, or other EPA approved chemical; control; or containment is possible based on the rapid analysis of population dynamics, Dreissenid life stage to be treated, extent of distribution and analysis of vectors and pathways for *Dreissena* mussel spread, and available management options.
- Determine cost of implementation. The UDWR and WGFD's AIS Coordinators, with assistance from the Response Team needs to estimate the cost of eradication, control and/or containment effort, and follow up monitoring relative to available funding.

Objective 9: Institute long-term monitoring.

- Long-term monitoring. The UDWR and WGFD's AIS Coordinators and the Response Team will develop and implement a long-term monitoring plan.
- Real-time dataset. Disseminate findings through an easily accessible, consolidated, coordinated real-time dataset

Objective 10: Evaluate response effectiveness, modify the Rapid Response Strategy as needed, and pursue long-term funding for *Dreissena* management.

- Evaluate effectiveness. The UDWR and WGFD's AIS Coordinators and the Response Team, in order to allow for adaptive management by assuring feedback on the efficacy of

response actions and the effectiveness of the RRP, can enhance long-term preparedness for responses to other *Dreissena* mussel introductions.

- Find areas for improvement. Conduct a follow-up evaluation by Response Team to identify opportunities for improving the RRP.
- Living document**.** As circumstances dictate, the RRP and Control Plan will be revised at least every five years to improve on its efficiency and effectiveness.

Literature Cited

Wyoming Game and Fish Department, 2012. Wyoming Game and Fish Commission, Chapter 62, Regulations for Aquatic Invasive Species.

Utah Division of Wildlife Resources. 2010. Utah aquatic invasive species management plan.

Utah Division of Wildlife Resources. 2010. Wildlife administrative rule R657-60 aquatic invasive species interdiction. R657-60-9.

Western Regional Panel on Aquatic Nuisance Species. 2010. Mussel Acton Plan for Western U.S. Waters.

California Fish and Wildlife. 2014. Quagga/Zebra Mussel Plankton Tow Sampling Protocol.

Appendix A

Notification List

Wyoming Game & Fish Dept.	Position	Phone	Email
Beth Bear	AIS Coordinator	307.745.5180	beth.bear@wyo.gov
Wes Gordon	Green River AIS Specialist	307.708.0561	wes.gordon@wyo.gov
Robert Keith	Green River Fisheries Supervisor	307.870.8846	robert.keith@wyo.gov
Andy Roosa	Green River Game Warden	307.870.8816	andy.roosa@wyo.gov
Steve DeCecco	Green River Wildlife Supervisor	307.870.8088	steve.dececco@wyo.gov
Lucy Diggins	Regional Information Specialist	307.875.3225	lucy.diggins@wyo.gov
Utah Division of Wildlife Res.			
Jordan Nielson	AIS Coordinator	801.850.1221	jordannielson@utah.gov
Richard Gibbs	AIS Biologist Northeast Region	435.790.8938	richardgibbs@utah.gov
Trina Hedrick	Aquatics Mgr. Northeast Region	435.790.2283	trinahedrick@utah.gov
Ryan Mosley	Flaming Gorge Project Leader	435.621.2546	ryanmosley@utah.gov
Jack Lytle	Conservation Officer, Clay Basin	435.790.0129	jacklytle@utah.gov
Shane Kitchen	Conservation Officer, Manila	435.621.1227	skitchen@utah.gov
Ron Stewart	Outreach Mgr. Northeast Region	435.790.0207	ronstewart@utah.gov
Boyde Blackwell	Regional Supvr. Northeast Region	435.219.4043	boydeblackwell@utah.gov
Torrey Christophersen	Regional Lieutenant	435.790.2291	torreychristophersen@utah.gov
U.S. Forest Service			
Cynthia Tait	Aquatic Ecologist	801.625.5358	ctait@fs.fed.us
Rowdy Muir	Flaming Gorge District Ranger	435.790.7078	rmuir@fs.fed.us
Dan Abeyta	Fish & Wildlife Manager	435.790.7059	djabeyta@fs.fed.us
DeeDee Orr	Law Enforcement	435.790.7060	dawnorr@fs.fed.us
Travis Hawkins	Law Enforcement	435.790.5957	tghawkins@fs.fed.us
Molly Ryan	Recreation Program Manager	435.790.5961	mollymryan@fs.fed.us
Kathy Paulin	Recreation Staff Officer	435.654.8298	kpaulin@fs.fed.us
Louis Haynes	Public Affairs Officer	435.790.7055	ljhaynes@fs.fed.us
U.S. Bureau of Reclamation			
C. Shane Mower	Area AIS Coordinator	801.379.1081	cmower@usbr.gov
Steve Hulet	Flaming Gorge Dam Superintendent	435.790.3551	chulet@usbr.gov
Robert Radtke	Regional AIS Coordinator	801.524.3719	rradtke@usbr.gov
Jane Blair	Power Office Manager	801.524.3628	jblair@usbr.gov
Daggett County Reps.			
Jack Lytle	Daggett County Commissioner	435.784.3218	jlytle@daggettcounty.org
Sweetwater County Reps.			
Wally Johnson	Sweetwater County Board Chairman	307.872.3899	johnsonw@sweet.wy.us
Concessionaires			
Jerry and Jill Taylor	Lucerne Valley Marina	435.784.3483	
Les and Loretta Tanner	Buckboard Marina	307.875.6927	less@buckboardmarina.com
Stacy and John Rauch	Cedar Springs Marina	435.889.3795	sportfishingadventures@hotmail.com

Appendix B

Levels of *Dreissena* Detection Definitions, and Personnel Notification Based on the Levels

Inconclusive: *Dreissena* mussel confirmed by only microscopy or PCR, but not both, and only indicated in a single sampling event

- AIS Coordinators → Director's Office → Response Team

Suspect: *Dreissena* mussel indicated in a single sampling event and confirmed by both microscopy and PCR.

- AIS Coordinators → Director's Office → Response Team → Media Response

Detected/Positive: *Dreissena* mussel indicated in two consecutive sampling events and confirmed by both microscopy and PCR.

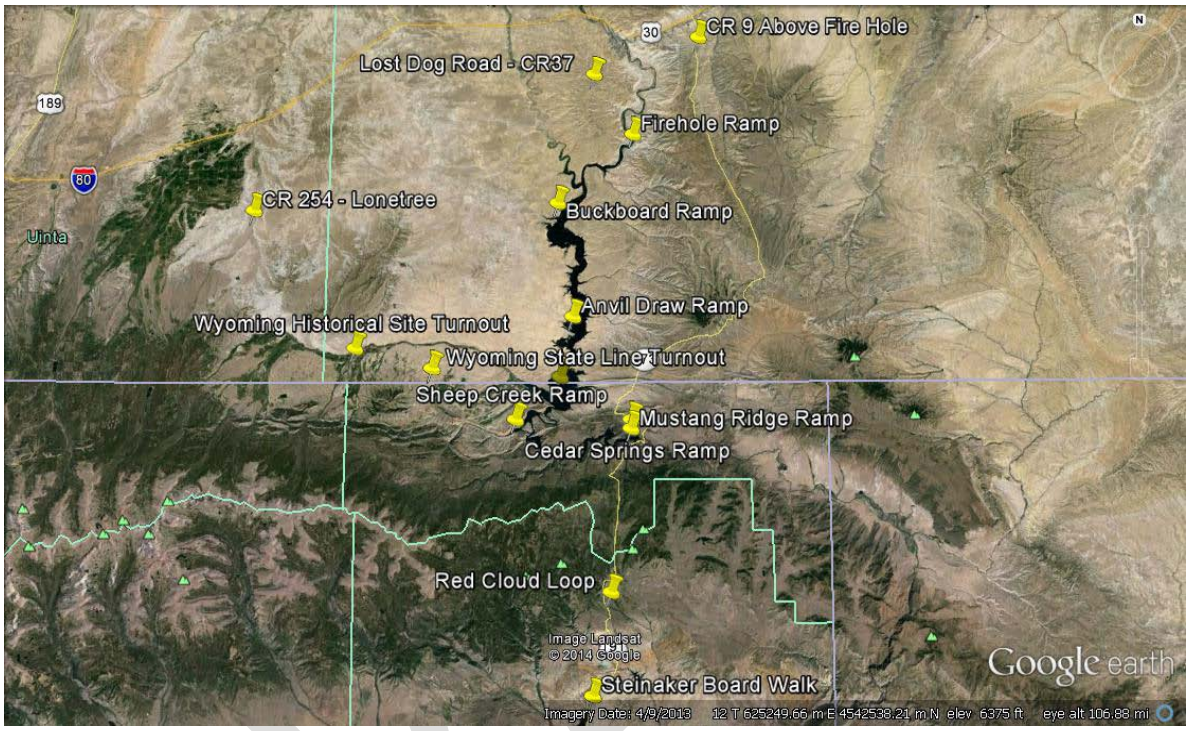
- AIS Coordinators → Director's Office → Response Team → Notification list → Media Response

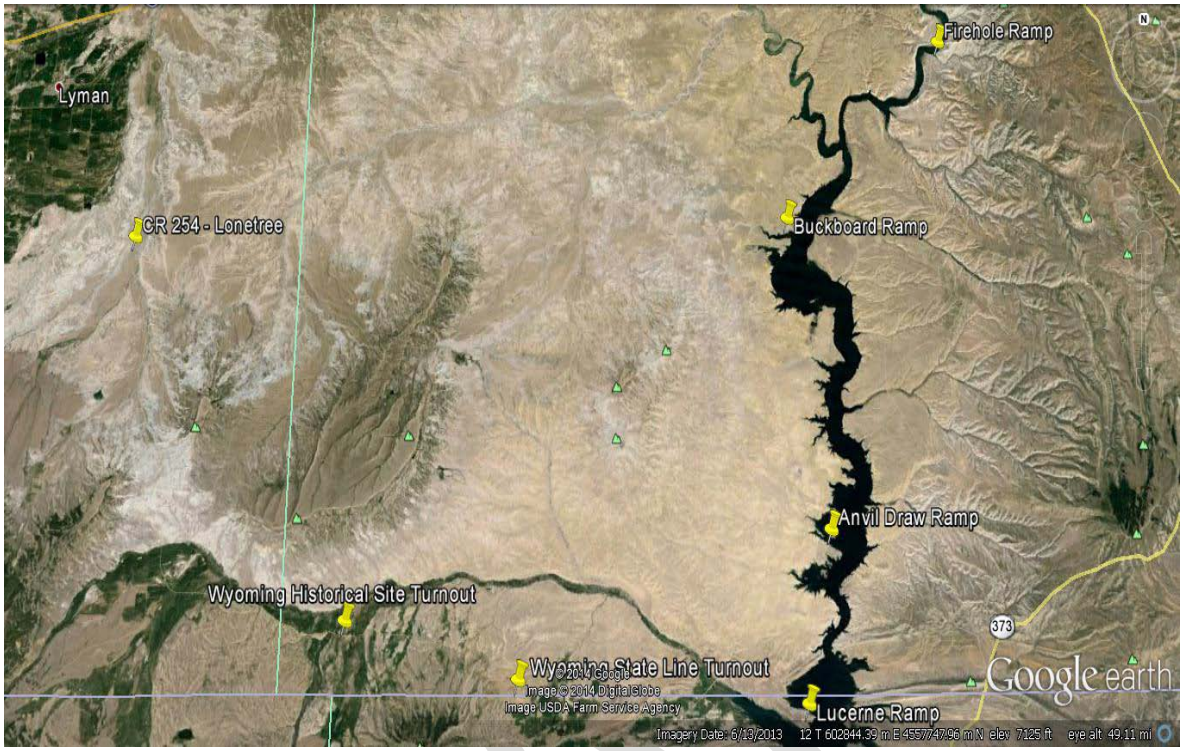
Infested: Multiple age classes of attached *Dreissena* mussels indicated in two or more consecutive sampling events and an established (recruiting or reproducing) population of mussels, confirmed by both microscopy and PCR.

- AIS Coordinators → Director's Office → Response Team → Notification list → Media Response

Appendix C

Maps of Flaming Gorge Reservoir




Firehole Ramp
Lyman
CR 254 - Lonetree
Buckboard Ramp
Anvil Draw Ramp
Wyoming Historical Site Turnout
373
Wyoming State Line Turnout
Lucerne Ramp
Google earth
Image © 2014 DigitalGlobe
Image USDA Farm Service Agency
Imagery Date: 6/13/2013 12 T 602844.39 m E 4557747.96 m N elev 7125 ft eye alt 49.11 mi

Appendix D

State of Utah, R657. Natural Resources, Wildlife Resources. R657-60. Aquatic Invasive Species Interdiction.

R657-60-1. Purpose and Authority.

(1) The purpose of this rule is to define procedures and regulations designed to prevent and control the spread of aquatic invasive species within the State of Utah.

(2) This rule is promulgated pursuant to authority granted to the Wildlife Board in Sections 23-27-401, 23-14-18, and 23-14-19.

R657-60-2. Definitions.

(1) Terms used in this rule are defined in Section 23-13-2 and 23-27-101.

(2) In addition:

(a) “Conveyance” means a terrestrial or aquatic vehicle, including a vessel, or a vehicle part that may carry or contain a Dreissena mussel.

(b) "Decontaminate” means to:

(i) Self-decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:

(A) removing all plants, fish, mussels and mud from the equipment or conveyance;

(B) draining all water from the equipment or conveyance, including water held in ballast tanks, bilges, livewells, and motors; and

(C) drying the equipment or conveyance for no less than 7 days in June, July and August;18 days in September, October, November, March, April and May; 30 days in December, January and February; or expose the equipment or conveyance to sub-freezing temperatures for 72 consecutive hours; or

(ii) Professionally decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:

(A) Using a professional decontamination service approved by the division to apply scalding water (140 degrees Fahrenheit) to completely wash the equipment or conveyance and flush any areas where water is held, including ballast tanks, bilges, livewells, and motors.

(c) “Detected Water” or “Detected” means a water body, facility, or water supply system where the presence of a Dreissena mussel is indicated in two consecutive sampling events using visual identification or microscopy and the results of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(d) “Dreissena mussel” means a mussel of the genus Dreissena at any life stage, including a zebra mussel, a quagga mussel and a Conrad’s false mussel.

(e) “Controlling entity” means the owner, operator, or manager of a water body, facility, or a water supply system.

(f) “Equipment” means an article, tool, implement, or device capable of carrying or containing water or Dreissena mussel.

(g) “Facility” means a structure that is located within or adjacent to a water body.

(h) “Infested Water” or “Infested” means a water body, facility, water supply system, or geographic region where the presence of multiple age classes of attached Dreissena mussels is indicated in two or more consecutive sampling events using visual detection or microscopy and the result of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(i) “Juvenile or adult Dreissena mussel” means a macroscopic Dreissena mussel that is not a veliger.

(j) “Suspected Water” or “Suspected” means a water body, facility, or water supply system where the presence of a Dreissena mussel is indicated through a single sampling event using visual identification or microscopy and the result of that sampling event is confirmed in two independent polymerase chain reaction tests, each conducted at independent laboratories.

(k) “Veliger” means a microscopic, planktonic larva of Dreissena mussel.

(l) “Vessel” means every type of watercraft used or capable of being used as a means of transportation on water.

(m) “Water body” means natural or impounded surface water, including a stream, river, spring, lake, reservoir, pond, wetland, tank, and fountain.

(n) “Water supply system” means a system that treats, conveys, or distributes water for irrigation, industrial, wastewater treatment, or culinary use, including a pump, canal, ditch or, pipeline.

(o) “Water supply system” does not include a water body.

R657-60-3. Possession of Dreissena Mussels.

(1) Except as provided in Subsections R657-60-3(2) and R657-60-5(2), a person may not possess, import, ship, or transport any Dreissena mussel.

(2) Dreissena mussels may be imported into and possessed within the state of Utah with prior written approval of the Director of the Division of Wildlife Resources or a designee.

R657-60-4. Reporting of invasive species required.

(1) A person who discovers a Dreissena mussel within this state or has reason to believe a Dreissena mussel may exist at a specific location shall immediately report the discovery to the division.

(2) The report shall include the following information: (a) location of the Dreissena mussels;

(b) date of discovery;

(c) identification of any conveyance or equipment in which mussels may be held or attached; and

(d) identification of the reporting party with their contact information. (3) The report shall be made in person or in writing:

(a) at any division regional or headquarters office or;

(b) to the division’s toll free hotline at 1-800-662-3337; or

(c) on the division’s website at www.wildlife.utah.gov/law/hsp/pf.php.

R657-60-5. Transportation of equipment and conveyances that have been in waters containing Dreissena mussels.

(1) The owner, operator, or possessor of any equipment or conveyance that has been in an infested water or in any other water subject to a closure order under R657-60-8 or control plan under R657-60-9 that requires decontamination of conveyances and equipment upon leaving the water shall:

(a) immediately drain all water from the equipment or conveyance at the take out site, including water held in ballast tanks, bilges, livewells, motors, and other areas of containment; and

(b) immediately inspect the interior and exterior of the equipment or conveyance at the take out site for the presence of Dreissena mussels.

(2) If all water in the equipment or conveyance is drained and the inspection undertaken pursuant to Subsection (1)(b) reveals the equipment and conveyance are free from mussels or shelled organisms, fish, plants and mud, the equipment and conveyance may be transported in or through the state directly from the take out site to the location where it will be:

(a)(i) professionally decontaminated; or

(ii) stored and self-decontaminated; or

(b) temporarily stored and subsequently returned to the same water body and take out site as provided in Subsection (5).

(3) If all the water in the equipment or conveyance is not drained or the inspection undertaken pursuant to Subsection (1)(b) reveals the equipment or conveyance has attached mussels or shelled organisms, fish, plants, or mud, the equipment and conveyance shall not be moved from the take out site until the division is contacted and written or electronic authorization received to move the equipment or conveyance to a designated location for professional decontamination.

(4) Except as provided in Subsection (5), a person shall not place any equipment or conveyance into a water body or water supply system in the state without first decontaminating the equipment and conveyance when the equipment or conveyance in the previous 30 days has been in:

(a) an infested water; or

(b) other water body or water supply system subject to a closure order under R657-60-8 or control plan under R657-60-9 that requires decontamination of conveyances and equipment upon leaving the water.

(5) Decontamination is not required when a conveyance or equipment is removed from an infested water or other water body subject to decontamination requirements, provided the conveyance and equipment is:

(a) inspected and drained at the take out site, and is free from attached mussels, shelled organisms, fish, plants, and mud as required in Subsections (1) and (2);

(b) returned to the same water body and launched at the same take out site; and

(c) not placed in or on any other Utah water body in the interim without first being decontaminated.

R657-60-6. Certification of Decontamination

(1) The owner, operator or possessor of a vessel desiring to launch on a water body in Utah must:

(a) verify the vessel and any launching device, in the previous 30 days, have not been in an infested water or in any other water subject to closure order under R657-60-8 or control plan under R656-60-9 that requires decontamination of conveyances and equipment upon leaving the water; or

(b) certify the vessel and launching device have been decontaminated.

(2) Certification of decontamination is satisfied by:

(a) previously completing self-decontamination since the vessel and launching device were last in a water described in Subsection (1)(a) and completely filling out and dating a decontamination certification form which can be obtained from the division; or

(b) providing a signed and dated certificate by a division approved professional decontamination service verifying the vessel and launching device were professionally decontaminated since the vessel and launching device were last in a water described in Subsection (1)(a).

(3) Both the decontamination certification form and the professional decontamination certificate, where applicable, must be signed and placed in

open view in the window of the launching vehicle prior to launching or placing the vessel in a body of water.

(4) It is unlawful under Section 76-8-504 to knowing falsify a decontamination certification form.

R657-60-7. Wildlife Board designations of Infested Waters.

(1) The Wildlife Board may designate a geographic area, water body, facility, or water supply system as Infested with Dreissena mussels pursuant to Section 23-27-102 and 23-27-401 without taking the proposal to or receiving recommendations from the regional advisory councils.

(2) The Wildlife Board may designate a particular water body, facility, or water supply system within the state as Infested with Dreissena mussels when sampling indicates the water body, facility, or water supply system meets the minimum criteria for an Infested Water as defined in this rule.

(3) The Wildlife Board may designate a particular water body, facility, or water supply system outside the state as Infested with Dreissena mussels when it has credible evidence suggesting the presence of a Dreissena mussel in that water body, facility, or water supply system.

(4) Where the number of Infested Waters in a particular area is numerous or growing, or where surveillance activities or infestation containment actions are deficient, the Wildlife Board may designate geographic areas as Infested with Dreissena mussels.

(5) The following water bodies and geographic areas are classified as infested:

(a) all coastal and inland waters in:

(i) Colorado;

(ii) California;

(iii) Nevada;

(iv) Arizona;

(v) all states east of Montana, Wyoming, Colorado, and New Mexico;

(vi) the provinces of Ontario and Quebec Canada; and

(vii) Mexico;

(b) Lake Powell and that portion of the:

(i) Colorado River between Lake Powell and Spanish Bottoms in Canyonlands National Park;

(ii) Escalante River between Lake Powell and the Coyote Creek confluence;

(iii) Dirty Devil River between Lake Powell and the Highway 95 bridge; and

(iv) San Juan River between Lake Powell and Clay Hills Crossing; and

(c) other waters established by the Wildlife Board and published on the DWR website.

(6) The Wildlife Board may remove an infested classification if:

(a) the division samples the affected water body for seven (7) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies in writing that Dreissena mussels are no longer present.

R657-60-8. Closure Order for a Water Body, Facility, or Water Supply System.

(1)(a) The division may classify a water body, facility, or water supply system as suspected or detected if it meets the minimum criteria for suspected or detected, as defined in this rule.

(b) If the division classifies a water body, facility, or water supply system as either suspected or detected, the division director or designee may, with the concurrence of the executive director, issue an order closing the water body, facility, or water supply system to the introduction or removal of conveyances or equipment.

(c) The director shall consult with the controlling entity of the water body, facility, or water supply system when determining the scope, duration, level and type of closure that will be imposed in order to avoid or minimize disruption of economic and recreational activities.

(d) A closure order may;

(i) close the water entirely to conveyances and equipment;

(ii) authorize the introduction and removal of conveyances and equipment subject to the decontamination requirements in R657-60-2(2)(b) and R657-60-5; or

(iii) impose any other condition or restriction necessary to prevent the movement of Dreissena mussels into or out of the subject water.

(iv) a closure order may not restrict the flow of water without the approval of the controlling entity.

(2)(a) A closure order issued pursuant to Subsection (1) shall be in writing and identify the:

(i) water body, facility, or water supply system subject to the closure order;

(ii) nature and scope of the closure or restrictions;

(iii) reasons for the closure or restrictions;

(iv) conditions upon which the order may be terminated or modified; and

(v) sources for receiving updated information on the presence of Dreissena mussels and closure order.

(b) The closure order shall be mailed, electronically transmitted, or hand delivered to:

(i) the controlling entity of the water body, facility, or water supply system; and

(ii) any governmental agency or private entity known to have economic, political, or recreational interests significantly impacted by the closure order; and

(iii) any person or entity requesting a copy of the order.

(c) The closure order or its substance shall further be:

(i) posted on the division's web page; and

(ii) published in a newspaper of general circulation in the state of Utah or the affected area.

(3)(a) If a closure order lasts longer than seven days, the division shall provide the controlling entity and post on its web page a written update every 10 days on its efforts to address the Dreissena mussel infestation.

(b) The 10 day update notice cycle will continue for the duration of the closure order.

(4)(a) Notwithstanding the closure authority in Subsection (1), the division may not unilaterally close or restrict a suspected or detected water supply system where the controlling entity has prepared and implemented a control plan in cooperation with the division that effectively controls the spread of Dreissena mussels from the water supply system.

(b) The control plan shall comply with the requirements in R657-60-9.

(5) Except as authorized by the Division in writing, a person may not violate any provision of a closure order.

(6) A closure order or control plan shall remain effective so long as the water body, water supply system, or facility remains classified as suspected or detected.

(7) The director or his designee may remove a Suspected classification if:

(a) the division samples the affected water body for three (3) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.

; or

(8) The director or his designee may remove a detected classification if:

(a) the division samples the affected water body for five (5) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.

R657-60-9. Control plan required.

(1) The controlling entity of a water body, facility, or water supply system may develop and implement a control plan in cooperation with the division prior to infestation designed to:

(a) avoid the infestation of Dreissena mussels; and

(b) control or eradicate an infestation of Dreissena mussels that might occur in the future.

(2) A pre-infestation control plan developed consistent with the requirements in Subsection (3) and approved by the division will eliminate or minimize the duration and impact of a closure order issued pursuant to Section 23-27-303 and R657-60-8.

(3) If a water body, facility, or water supply system within the state is classified as infested, detected, or suspected, and it does not have an approved control plan, the controlling entity shall cooperate with the division in developing and implementing a control plan to address the:

(a) scope and extent of the presence of Dreissena mussels;

(b) actions proposed to control the pathways of spread of Dreissena mussels;

(c) actions proposed to control the spread or eradicate the presence of Dreissena mussels;

(d) methods to decontaminate the water body, facility, or water supply system, if possible;

(e) actions required to systematically monitor the presence of Dreissena mussels; and

(f) requirements and methods to update and revise the plan with scientific advances.

(4) All control plans prepared pursuant to Subsection (3) shall be approved by the Division before implementation.

(5) A control plan prepared pursuant to this Section may require that all conveyances and equipment entering or leaving the subject water to comply with the decontamination requirements in R657-60-2(2)(b) and R657-60-5.

(6) Except as authorized by the Division and the controlling entity in writing, a person may not violate any provision of a control plan.

R657-60-10. Procedure for Establishing a Memorandum of Understanding with the Utah Department of Transportation.

(1) The division director or designee shall negotiate an agreement with the Utah Department of Transportation for use of ports of entry for detection and interdiction of Dreissena Mussels illegally transported into and within the state. Both the Division of Wildlife Resources and the Department of Transportation must agree upon all aspects of Dreissena Mussel interdiction at ports of entry.

(2) The Memorandum shall include the following:

(a) methods and protocols for reimbursing the department for costs associated with Dreissena Mussel interdiction;

(b) identification of ports of entry suitable for interdiction operations;

(c) identification of locations at a specific port of entry suitable for interdiction operations;

(d) methods and protocols for disposing of wastewater associated with decontamination of equipment and conveyances;

(e) dates and time periods suitable for interdiction efforts at specific ports of entry;

(f) signage notifying motorists of the vehicles that must stop at the port of entry for inspection;

(g) priorities of use during congested periods between the department's port responsibilities and the division's interdiction activities;

(h) methods for determining the length, location and dates of interdiction;

(i) training responsibilities for personnel involved in interdiction activities; and

(j) methods for division regional personnel to establish interdiction efforts at ports within each region.

R657-60-11. Conveyance or Equipment Detainment.

1) To eradicate and prevent the infestation of a Dreissena mussel, the division may:

(a) temporary stop, detain, inspect, and impound a conveyance or equipment that the division reasonably believes is in violation of Section 23-27-201 or R657-60-5;

(b) order a person to decontaminate a conveyance or equipment that the division reasonably believes is in violation of Section 23-227-201 or R657-60-5.

(2) The division, a port-of-entry agent or a peace officer may detain or impound a conveyance or equipment if:

(a) the division, agent, or peace officer reasonably believes that the person transporting the conveyance or equipment is in violation of Section 23-27-201 or R657-60-5.

(3) The detainment or impoundment authorized by Subsection (2) may continue for:

(a) up to five days; or

(b) the period of time necessary to:

(i) decontaminate the conveyance or equipment; and

(ii) ensure that a Dreissena mussel is not living on or in the conveyance or equipment.

R657-60-12. Penalty for Violation.

(1) A violation of any provision of this rule is punishable as provided in Section 23-13-11.

(2) A violation of any provision of a closure order issued under R657-60-8 or a control plan created under R657-60-9 is punishable as a criminal infraction as provided in Section 23-13-11.

KEY: fish, wildlife, wildlife law
Date of Enactment or Last Substantive Amendment: August 9, 2010
Notice of Continuation: New Rule
Authorizing, and Implemented or Interpreted Law: 23-27-401; 23-14-18; 23-14-19

Appendix E

WYOMING GAME AND FISH COMMISSION

CHAPTER 62

REGULATION FOR AQUATIC INVASIVE SPECIES

Section 1. Authority. These regulations are promulgated by authority of W.S. §23-1-102, W.S. §23-4-201 through W.S. §23-4-205.

Section 2. Regulation. The Wyoming Game and Fish Commission (Commission) hereby adopts the following regulations governing Aquatic Invasive Species. This regulation shall remain in effect until modified or rescinded by the Commission.

Section 3. Purpose. The purpose of this regulation is to provide for the prevention, management, and control of aquatic invasive species.

Section 4. Definitions. For the purpose of this regulation, definitions shall be as set forth in Title 23, Wyoming Statutes, and the Commission also adopts the following definitions:

(a) "Aquatic invasive species" means exotic or non-native aquatic organisms that have been determined by the Commission to pose a significant threat to the aquatic resources, water supplies, or water infrastructure of the state. Aquatic invasive species include some species known to be present in Wyoming and species with a high potential to invade, survive and reproduce.

(i) Aquatic invasive species include:

(A) All members of the genus *Dreissena*, including, but not limited to, zebra mussel *D. polymorpha* and quagga mussel *D. rostriformis*;

(B) New Zealand mudsnail - *Potamopyrgus antipodarum*;

(C) Asian clam - *Corbicula fluminea*;

(D) Rusty crayfish - *Orconectes rusticus*;

(E) Brook stickleback - *Culaea inconstans*;

(F) All members of the genus *Hypophthalmichthys*, including, but not limited to, bighead carp *H. nobilis*, silver carp *H. molitrix*, and largescale silver carp *H. harmandi*;

(G) Black carp - *Mylopharyngodon piceus*;

(H) All members of the genera *Channa* and *Parachanna* in the family Channidae (snakeheads);

(I) Hydrilla - *Hydrilla verticillata;*

(J) Eurasian watermilfoil - *Myriophyllum spicatum*; and,

(K) Curly pondweed – Potamogeton crispus.

(b) "Authorized inspector" means an authorized aquatic invasive species inspector who has a valid certification from an aquatic invasive species inspection training course that meets the requirements62-2 established by the Wyoming Game and Fish Department (Department) to certify inspectors for aquatic invasive species inspections and decontaminations.

(c) "Certified inspection location" means a location or an address where a Department authorized inspector may be available to conduct an inspection.

(d) "Conveyance" means a motor vehicle, boat, watercraft, raft, vessel, trailer, or any associated equipment or containers, including but not limited to live wells, ballast tanks, bilge areas, and water hauling equipment that may contain or carry aquatic invasive species.

(e) "Decontaminate" means to wash, drain, dry, or chemically, thermally or otherwise treat a conveyance in order to remove or destroy aquatic invasive species.

(f) "Equipment" means an article, tool, implement, or device capable of containing or transporting water or aquatic invasive species.

(g) "High risk infested water" means a water in any state or province known or suspected to contain *Dreissena* mussels. A list of all high risk infested waters will be available on the Department website.

(h) "Inspect" means to examine a conveyance in order to determine whether an aquatic invasive species may be present, and includes examining and draining water in the conveyance.

(i) "Interstate water" means Big Horn Lake downstream from the causeway (Highway 14A) in Bighorn County, Flaming Gorge Reservoir in Sweetwater County, and Palisades Reservoir and the Snake River (South Fork Snake River) between the Greys River in Lincoln County and the Heise Bridge crossing in Bonneville County, Idaho.

(j) "Mandatory aquatic invasive species check station" means a location established by the Department at ports of entry, other department of transportation facilities located near the

borders of this state that meet established state and national safety and commerce requirements for the traveling public or other appropriate facilities where stopping is mandatory and an authorized inspector may conduct an inspection.

(k) “Seal” means a locking device affixed to a conveyance that has been inspected or decontaminated.

(l) “Valid seal receipt” means a written document issued by an authorized inspector in conjunction with a seal that contains a number matching the number on the seal and information regarding the conveyance.

(m) “Watercraft” for the purpose of this regulation means any contrivance used or designed primarily for navigation on the water that is designed to be propelled by paddles, oars, sails or motors, except for sailboards, float tubes, kite boards or any aid to swimming or fishing that is not designed primarily for navigation. Amphibious vehicles designed for travel over land and water with propeller or jet propulsion systems shall be considered watercraft for the purpose of this regulation.

(n) “Water of the state” means all waters under the jurisdiction of the state of Wyoming.

Section 5. Inspection.

(a) Compliance with aquatic invasive species inspection requirements is an express condition of allowing a conveyance to contact or enter any water of the state.

(i) Any person who refuses to permit inspection of their conveyance or refuses to complete any required removal and disposal of aquatic invasive species shall be prohibited from allowing the conveyance to contact or enter any water of the state.

(ii) If a person refuses to allow inspection of a conveyance or to complete any required removal and disposal of aquatic invasive species prior to departure from any water of the state known to contain an aquatic invasive species, the conveyance is subject to impoundment until an aquatic invasive species inspection and decontamination is completed.

(b) Authorized inspectors may inspect any conveyance. Authorized inspectors shall perform decontaminations at the direction of a peace officer or with the voluntary consent of the person transporting the conveyance.

(c) Inspections shall be conducted by:

(i) any peace officer; or,

(ii) any authorized inspector.

(d) Inspections shall be conducted in accordance with Department procedures at:

(i) a mandatory aquatic invasive species check station; or,

(ii) a certified inspection location; or,

(iii) another location where an authorized inspector is available to conduct an inspection.

(e) Any person transporting a conveyance that within the past thirty (30) days HAS BEEN in contact with a high risk infested water in any state or province, shall have the conveyance inspected by an authorized inspector prior to contacting or entering any water of the state.

(f) Any person transporting a conveyance into the state by land from March 1 through November 30, that HAS NOT BEEN in contact with a high risk infested water within the past thirty (30) days, shall have the conveyance inspected by an authorized inspector prior to contacting or entering any water of the state, unless exempted by (i) below.

(i) Any person transporting a watercraft who did not encounter a mandatory aquatic invasive species check station prior to reaching a water of the state may launch without inspection if the watercraft bears a properly affixed seal applied by an authorized inspector and is accompanied by a valid seal receipt during transit. The person transporting the watercraft may remove the seal immediately prior to launching on the destination water and must retain the seal and valid seal receipt while on the water.

(g) Any person transporting a conveyance into the state by land from December 1 through the last day of February that has not been in contact with a high risk infested water within the past thirty (30) days and did not encounter a mandatory aquatic invasive species check station prior to reaching a water of the state, is exempted from mandatory inspection.

(h) All conveyances are subject to inspection in accordance with Department procedures upon encountering a mandatory aquatic invasive species check station.

(i) Authorized inspectors shall determine if there is reason to believe that aquatic invasive species are present by interviewing the person transporting the conveyance or using visual and tactile inspection methods. As part of all inspections, all compartments, equipment, and containers that may hold water, including, but not limited to, live wells, ballast and bilge areas shall be completely drained as directed by authorized inspectors.

(j) A conveyance suspected to contain an aquatic invasive species shall be decontaminated using Department approved procedures before said conveyance shall be allowed to contact or enter any water of the state.

(k) Any person operating a conveyance may be ordered to remove the conveyance from any water of the state or any conveyance staging area by any peace officer if there is reason to believe the conveyance may contain aquatic invasive species or was not properly inspected prior to contacting or entering the water. Once removed from the water, the conveyance shall be subject to inspection and decontamination for the removal and disposal of aquatic invasive species.

(l) Any authorized inspector who, through the course of an inspection, determines that aquatic invasive species are present shall document the inspection, including but not limited to the type and number of aquatic invasive species suspected or detected and identification of the conveyance, including license plate numbers and watercraft registration number, if available. The authorized inspector shall advise the operator that the conveyance shall be required to be decontaminated according to Department procedures as soon as possible. Only peace officers have the authority to order decontamination, impoundment, or quarantine of a conveyance.

(m) Once a conveyance is inspected or decontaminated, a seal may be affixed to the conveyance by a peace officer or authorized inspector. A copy of the completed valid seal receipt shall accompany all seals. Seals shall be affixed to a conveyance in accordance with Department procedures. A seal, once properly affixed to a conveyance and when accompanied by the valid seal receipt, certifies a proper inspection or decontamination procedure. The person transporting a conveyance sealed by an authorized inspector may remove the seal at their discretion. The Department may recognize a properly affixed seal applied by an authorized inspector from a state or province with a Department approved aquatic invasive species program if the seal is accompanied by a valid seal receipt. It shall be a violation of this regulation for any person to attempt to reattach any seal once it is removed from a conveyance.

Section 6. Decontamination.

(a) The Department shall only recognize decontamination methods described in this Section as proper Department procedures. All decontaminations shall be completed following all applicable laws, disposal methods, recommended safety precautions, safety equipment, and Department approved procedures.

(b) Decontamination shall be achieved by removal of the conveyance from any water body and eliminating the water from all compartments, equipment, and containers that may hold water, including but not limited to live wells, ballast tanks and bilges for a length of time as determined by the Department not to exceed thirty (30) days.

(c) If decontamination is not achieved by removal of the conveyance from any water body for at least thirty (30) days, the following requirements apply:

(i) Decontamination of water compartments, equipment or containers in a conveyance to address the potential presence of an aquatic invasive species shall be accomplished by rinsing and flushing with water of at least 120 degrees Fahrenheit.

(ii) Decontamination of the exterior of a conveyance shall be accomplished by removing or destroying all aquatic invasive species, mud, plants, and organisms. The entire exterior of the conveyance and all intakes shall be thoroughly washed with water of at least 140 degrees Fahrenheit. A high pressure (minimum of 2500 psi) water wash or scrubbing will be used as necessary.

(iii) All compartments, equipment and containers that hold water including, but not limited to live wells, ballast and bilge areas, shall be flushed with water of at least 120 degrees Fahrenheit but not at high pressure. If a bilge pump is present, it shall be operated until the bilge appears to be empty. The lower unit of the engine shall be thoroughly flushed with water of at least 140 degrees Fahrenheit.

(iv) After decontamination an authorized inspector or peace officer shall re-inspect the conveyance to ensure complete decontamination has occurred prior to the release of the conveyance.

(v) Proof of decontamination shall consist of a properly affixed seal and valid seal receipt or a copy of the Department decontamination form if no seal was applied.

Section 7. Impoundment and Quarantine.

(a) All conveyances are subject to impoundment and quarantine by a peace officer if:

(i) the person transporting the conveyance refuses to allow an inspection of the conveyance to be conducted by an authorized inspector or peace officer;

(ii) a peace officer or an authorized inspector finds that an aquatic invasive species is present after conducting an inspection;

(iii) the person transporting the conveyance refuses to allow a decontamination of the conveyance when decontamination is ordered by a peace officer; or,

(iv) a peace officer determines a quarantine is necessary following decontamination.

(b) If the person in charge of the conveyance is not the registered owner, the registered owner shall be notified by mail, return receipt requested, within ten days of the location of the

impounded conveyance. Such notification shall also include contact information for the peace officer ordering the impoundment. If the registered owner is present when the conveyance is ordered impounded, then the same information shall be provided to the registered owner at the time the impound order is issued.

(c) All impounded conveyances shall be held at the risk and expense of the owner. A conveyance held under impound for non-compliance with this regulation shall only be released after a peace officer is satisfied by inspection or quarantine that the conveyance is no longer a threat to the aquatic resources, water supplies, and water infrastructure of the state.

(d) Duration of conveyance quarantine shall be determined by the Department, shall be sufficient to allow decontamination, and shall not exceed thirty (30) days.

(e) An impounded conveyance shall not be released until a Department impound release form is signed and executed by a peace officer. It is the responsibility of the owner to coordinate with the Department for the release of the conveyance.

Section 8. Mandatory Reporting of Aquatic Invasive Species.

(a) Identification of an aquatic invasive species through sampling and monitoring procedures at a location where that species has not been known to exist shall be reported immediately to the Department.

(b) Any person who knows that an unreported aquatic invasive species is present at a specific location in Wyoming shall report the aquatic invasive species presence within forty-eight (48) hours to the Commission, the Department, or any peace officer. An aquatic invasive species report shall include the date and time of the detection of the aquatic invasive species, the exact location of sighting (water body and specific location on the water body), the suspected species, and the name and contact information of the reporter. Samples collected of suspected aquatic invasive species shall be submitted to the Department within forty-eight (48) hours.

Section 9. Aquatic Invasive Species Check Stations.

(a) All persons transporting a conveyance shall stop at mandatory aquatic invasive species check stations that are established on their route of travel.

(b) All mandatory aquatic invasive species check stations shall be signed.

(c) Check stations shall be operated in accordance with Department procedures.

(d) Lists of mandatory aquatic invasive species check stations and certified inspection locations shall be provided on the Department website.

Section 10. Aquatic Invasive Species Program Decal.

(a) An aquatic invasive species program fee may be assessed as part of the Department's motorized watercraft registration fee. A current, properly affixed motorized watercraft registration decal shall be proof of payment of this fee.

(b) All owners or operators of motorized watercraft registered outside of Wyoming, any owners or operators of Wyoming registered watercraft that have not paid the aquatic invasive species program fee as part of their watercraft registration fee and all owners or operators of non-motorized watercraft shall purchase and display an Aquatic Invasive Species Program Decal valid for the current calendar year on their watercraft prior to contacting or entering any water of the state. For the purpose of this Section, all non-motorized inflatable watercraft ten (10) feet in length or less are exempt from this decal provision.

(c) Aquatic Invasive Species Program Decals shall not be limited in number and shall be sold through the Electronic Licensing System (ELS), designated license selling agents, and authorized personnel. The price of the decal shall be ten dollars ($10) for motorized watercraft registered in Wyoming and thirty dollars ($30) for motorized watercraft registered outside of Wyoming. The price of the decal shall be five dollars ($5) for non-motorized watercraft owned by a Wyoming resident and fifteen dollars ($15) for non-motorized watercraft owned by a nonresident.

(i) Owners or operators of motorized watercraft required to purchase an Aquatic Invasive Species Program Decal shall display the decal on the starboard (right) side of the bow six (6) inches left of and directly in line with the watercraft registration decal. Non-motorized watercraft owners or operators shall display the decal on the bow in such a manner that the decal shall be visible when the watercraft is underway. Only the Aquatic Invasive Species Program Decal which is currently valid shall be displayed.

(ii) In the case of rental watercraft, it shall be the responsibility of the rental watercraft owner to ensure that a valid Aquatic Invasive Species Program Decal is properly displayed on the watercraft.

Section 11. Violation of Commission Regulations. Failure to abide by the provisions this regulation shall be punishable as provided by Wyoming statutes for violation of Commission regulations.

Section 12. Savings Clause. If any provision of this regulation shall be held to be illegal or unconstitutional, such a ruling shall not affect other provisions of this regulation which can be given effect without the illegal or unconstitutional provision; and, to this end, the provisions of this regulation are severable.

WYOMING GAME AND FISH COMMISSION

By: _____
Aaron Clark, President

Dated: November 15, 2012

Appendix F

Flaming Gorge Reservoir Hazard Analysis Critical Control Point (HACCP) Plan

Management Objective: Prevent the inadvertent spread of Dreissenids from FGR to other waters.

Activity Description: *Dreissena* sampling and surveys, along with other management activities conducted on FGR. The timing and frequency of these activities will occur repeatedly. The locations of where activities will be conducted will be reservoir wide, with a concentration of activity at the site of inoculation (where *Dreissena* sampling has proven positive).

Activity Flow Chart

- Task 1: Load gear and drive to site – Arrive at home base and load appropriate gear for activity. Drive to FGR.
- Task 2: Unload gear and conduct activity – Unload gear from vehicle. Load gear into boat. Prepare gear to conduct activity. Conduct activity by entering FGR and perform survey, and/or take samples.
- Task 3: Reload gear – Return to vehicle, decontaminate and pack up gear.
- Task 4: Return to home base and unload gear – Return to home base. Unload gear from vehicles. Decontaminate any remaining gear.

Potential Non-Targets Species

- Vertebrates: Burbot, other fish species found in the reservoir
- Invertebrates: NZMS, other invertebrates found in the reservoir
- Plants: Tamarisk, Curly-leaf Pondweed, and other plants found in the reservoir

Control Measures

- Summary
    - To contain an infestation, the reservoir will be split East/West and North/South. Movement between un-infested quadrants can continue unimpeded.
    - Clean and disinfect all equipment before moving from an infested quadrant to another quadrant on Starvation Reservoir, or other location. Movement to and from the boat ramp is still allowed regardless of quadrant, although if the boat ramp is not in a quadrant considered infested, all care should be given to minimize inoculation (e.g., trailer the boat as quickly as possible, not allowing it

to idle very long; Clean, Drain, and Dry the boat AWAY from the water's edge once out of the water, etc.) .

- Clean all applicable equipment before returning to home base (waders, watercrafts, etc.).
- Clean and disinfect all equipment that was not done on location at home base, before the equipment is used again (nets, sampling equipment, etc.).

- Methods for Disinfecting Equipment
  - In the field (carried in vehicles)
    - Heavy brush for mud
    - Two portable hand-pump sprayers: one with disinfecting solution to decontaminate equipment (see below), and one with culinary water to rinse equipment after the proper soaking time has been met.
  - Home base
    - Heavy brush for mud
    - Plastic tub or tank for submersion of boots and other equipment
    - High pressure decontamination spraying unit for vehicles, watercrafts, and other equipment
      - 140°F to 160°F scalding water temperatures needed to properly decontaminate.
      - DNR personnel will provide and operate the decontamination units. All FGR stakeholders should schedule a decontamination after completing their sampling or other activities on the reservoir.
- Disinfection Protocol
  - In the field
    - All equipment in contact with water must be cleaned with a brush to remove debris, and disinfect with a field sprayer prior to leaving sample site.
    - Maintain effective disinfecting solution in sprayers and record mixing dates
      - Quat 128: 6.4 ounces per gallon of water. Equipment needs to be repeatedly sprayed, keeping damp for 10 minutes, then spray rinsed with culinary water, followed by drying in the sun for one hour before reuse.
  - Home base
    - All equipment must be dry before it leaves home base.
    - All watercrafts, along with vehicles that come in contact with affected water must be fully decontaminated prior to leaving home base (e.g.,

professional decontamination or cleaned, drained, and dried for appropriate time).

- Maintain effective disinfecting solutions in plastic tub or tank and keep mixture dates updated.
    - Quat 128: 6.4 ounces per gallon of water. Equipment needs to be immersed for 10 minutes, and then spray rinsed with culinary water, followed by drying in the sun for one hour before reuse.
- In addition to field disinfection, it is recommended to re-dip waders, probes, and other equipment before reuse

Appendix G

Permitting Requirements for Implementation of the Control Plan

Federal permits. BLM or USFS permits for short-term decontaminating/inspection site development.

USFS Special Use permits. Permits needed for containment facilities on USFS land.

Encroachment permits. Permits needed for decontamination stations along the roadside; identifies activities and safety precautions.

Department of Environmental Quality discharge permits. Permits needed for an increase of discharge water due to in boat decontaminations.

Utah magistrate approval. Needed if considered an administrative checkpoint rather than an inspection station.

USBR FIFRA license. License needed for EarthTecQZ or Zequanox application.

- Good for only five years – will need to be renewed regularly
- Develop a Pesticide Management Plan when further details are available

UPDES and WYPDES. Pollutant Discharge Elimination Systems are for controlling water pollution by regulating point sources of pollution

- Add Flaming Gorge to State of Utah and State of Wyoming pesticide permits for EarthTecQZ or Zequanox
- When further details are available, a Treatment Plan will be developed

NEPA. NEPA will likely require some level of NEPA for all potential treatments resulting in major impacts (e.g., treatments, construction, etc.). NEPA will not be required for changes to management.

USFS closure order. Needs developed prior to a possible confirmed *Dreissena* finding.

Appendix H

Closure Order Tasks and Their Estimated Time for Completion

Threat assessment and extent of colonization: Determining the threat and the extent of the colonization will take approximately three to four weeks to complete.

Signage installation: Installation of all signs warning of the Dreissenid threat will take up to two weeks to complete, depending on sign availability. Design of signage should occur in advance of a positive confirmation.

Boat ramp closures: Ramps that do not have inspection stations, and closure of all shoreline launching will take one to four weeks; depending on temporary or permanent Jersey barriers at developed ramps. This includes their enforcement (personnel and funding).

Inspection and decontamination stations: Getting inspection and decontamination stations up and running at designated boat ramps will take approximately two to five weeks. Highway inspection and decontamination stations can take six months to a year to be completed and functional.

Appendix I

Inspection and Decontamination Station Locations and Requirements

Boat ramp inspection and decontamination stations: Buckboard Marina, Anvil Draw, Firehole Canyon, Brinegar Crossing, Lucerne Valley Marina, Sheep Creek Bay, Cedar Springs Marina, and Mustang Ridge (see Map, Appendix B).

Highway inspection and decontamination station away from reservoir: UT-191 South, WY-414 North, WY- 530 North, and WY- 373 North (see Map, Appendix B).

- UT-191 South: Red Cloud Loop turnaround
- WY-414 North: Wyoming state line turnout – on south side of road; north side will need developed, or Wyoming historical site turnout – on south side of road; north side will need developed, or between Lonetree and CR 254
- WY- 530 North: between Lost Dog Road and CR 37; will need developed
- WY-373 North: above Firehole, between CR 9 and CR 64, and south of interstate 80; will need developed
- Infrastructures. All locations will need restrooms (vault toilets or port-a-potties), shelter from the elements, secure enclosure for decontamination units and signs, and water for decontamination units. Exact locations will be finalized by December 2015. Permitting and surveys should be completed in advance, as feasible (e.g., arch surveys, NEPA).
- Footprint. Minimum footprint for inspection/decontamination locations is 180’ x 160’.

Appendix J

Sampling Methods for *Dreissena* Veligers

Purpose of Sampling

Plankton tow sampling is a form of early detection monitoring *Dreissena* veligers, the planktonic larval life stage, whereby small organisms (plankton) are collected by pulling a fine-mesh net through the water column (referred to as a "tow"). The plankton collected is then analyzed in a laboratory for the presence of veligers using cross-polarized light microscopy (CLPM) and/or DNA using PCR analysis. To optimize the potential for detecting veligers, if present, plankton tows should follow a standardized sampling method, sample a large volume of water, and target the times and locations where veligers are most likely to occur. Of equal importance, samples must be preserved and handled properly in order to maintain their integrity so analysis yields accurate results. To enhance early detection, monitoring for adult mussels should be conducted along with plankton tow sampling. Monitoring for adult mussels can be achieved by conducting monthly inspections of artificial substrate samplers and by surveying surfaces of shoreline, multiple habitat types and structures located in high use areas.

Water Temperature

Plankton monitoring is typically conducted when water temperatures are between 9°C - 18°C (48°F - 64°F); when spawning would be occurring. In warmer regions, where water temperatures remain within this range throughout the year, mussels can spawn year round. It is recommended tows be conducted monthly when temperatures are conducive to spawning.

Locations

Veliger distribution can be highly localized; therefore sampling should occur throughout the waterbody at multiple sites to increase the potential for detection. Sampling sites should include areas of high use and likely sites of mussel introductions such as around docks, boat launch ramps, floating restrooms, marinas, at inlets and outlets of the waterbody (mouth of tributaries; dams).

Depth

To increase the probability of capturing veligers if they are present, tow depths of 15 meters are recommended.

Number of Sites and Number of Tows

The number of sites within a waterbody should be based on the size of the waterbody. A minimum of three sites in small waterbodies, and up to 15 sites in larger water bodies are recommended. The number of tows at each site should be based on the net diameter and the depth of each tow. A minimum total volume of 1000 liters per site should be filtered through the net.

Plankton Tow Nets

Plankton tow nets should be 64 micron mesh size, and 12 inch diameter

Starvation Rapid Response and Control Plan
For *Dreissena* Mussels

Gregory Sheehan, Director Utah Division of Wildlife Resources	Date
Fred Hayes, Director Utah Division of Parks and Recreation	Date
Gene Shawcroft, General Manager Central Utah Water Conservancy District	Date
Brent Rhees, Acting Regional Director U.S. Bureau of Reclamation	Date
Reed Murray, Director Central Utah Completion Act U.S. Department of Interior	Date

Executive Summary

This Rapid Response (RRP) and Control Plan for *Dreissena* mussels – specifically quagga and zebra – at Starvation Reservoir, located in northeast Utah (see Map, Appendix C), was developed as a collaborative effort by the Utah Division of Wildlife Resources (UDWR), the Utah Division of Parks and Recreation (UDPR), the Central Utah Water Conservancy District (CUWCD), the U.S. Bureau of Reclamation (USBR), and the U.S. Department of the Interior (DOI). This RRP provides an overview of the management actions required if there is a confirmed detection of *Dreissena* mussels in Starvation Reservoir. Currently aquatic invasive species (AIS) activities at Starvation Reservoir focus on the prevention of inoculation and establishment of all AIS with a particular focus on *Dreissena* mussels. In the event of Dreissenid detection, AIS management must shift to contain any invasive mussels in the reservoir while maintaining some focus on preventing further inoculation of AIS. Containment activities will focus on preventing the further spread of *Dreissena* mussels through coordination, education, monitoring, inspections, and decontaminations. This RRP is intended to be implemented quickly and act as the guiding document for initial decision making when Dreissenids have been confirmed. The RRP may be used as a tool to quickly communicate with Starvation Reservoir stakeholders to implement the Control Plan. In the event of a confirmed *Dreissena* in Starvation Reservoir, the organizations (UDWR, UDPR, CUWCD, USBR, and DOI) in control of operations of Starvation Reservoir should work in conjunction to implement the Control Plan for containing and controlling the spread of *Dreissena* mussels.

The Utah Aquatic Invasive Species Act, codified as Chapter 27 of Section 23 in the Utah Code and Rule R657-60-8 (Appendix D) provides authority to Utah Division of Wildlife Resources in the event of a water body being affected by a *Dreissena* species in part as follows:

1. To close ingress and/or egress at a water body, facility or water supply system to terrestrial or aquatic vehicles and equipment capable of moving Dreissenid species for protection of Utah from their spread; and
2. To maintain the closure until an acceptable control plan for containment and/or control of the Dreissenid species is developed and implemented.

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Reason for Heightened Concern

With the recent quagga mussel detection at Lake Powell Reservoir (UT/AZ), resulting in an "infested" designation (see Appendix D, R657-60-2), there is a need for a RRP and Control Plan at Starvation Reservoir, and at other major waters in order to be proactive in the response to a confirmed Dreissenid finding. Development of a RRP will make implementation of a Control Plan to contain and/or control *Dreissena* mussels more rapid in the event of a confirmed detection. Objectives 1-10 and their actions apply to both the RRP and Control Plan. They are as follows:

Objective 1: Immediately verify a reported *Dreissena* mussel detection.

1) Contact UDWR's AIS Biologist, and/or UDPR's Ranger if mussel is detected
2) Interview source and gather information
3) Record details of mussel location
4) Visually validate adult *Dreissena* within 48 hours by UDWR's AIS Biologist
5) Validate all forms of *Dreissena* through laboratory analysis

Objective 2: Upon verification for the presence of Dreissenid mussels, immediately notify relevant local natural resource personnel, pulling their technical personnel together as a "Response Team".

- Response Team determines the extent of the mussel colonization, minimizes vectors and pathways, implements HACCP plan, sets up signage, implements eradication/containment actions, and installs decontamination stations
- UDWR's AIS Coordinator notifies all members of the Response Team, and UDWR's Director's Office, once identification has been verified, or detection has been confirmed
- Response Team meets via conference call and initiates a media response led by UDWR's Outreach personnel once approved by the UDWR's Director and Utah Wildlife Board to list a waterbody as affected (suspect, detected/positive, or infested).

Objective 3: Establish internal and external communication systems.

- The process of disseminating information to internal and external stakeholders, including the media and public, will be developed by the UDWR's AIS Coordinator in conjunction with Statewide Outreach personnel, and the Response Team
- Develop and disseminate general public education and outreach material

Objective 4: Set up an appropriate leadership structure to guide Response Team activities for implementing containment and/or control methods for Dreissenid infestation.

- UDWR's AIS Coordinator will be the Control Plan leader. He/she will convene the meetings of the Response Team and facilitate the decision making process
- Additional Response Team personnel will be brought in as needed to assist in the Control Plan efforts

Objective 5: Organize available resources (personnel, equipment, funds, etc.), including compliance with laws and permitting requirements.

- Secure resource commitment from Response Team's home agencies and others for needed staff, facilities, equipment and funds by the UDWR's AIS Coordinator
- Ensure compliance with the applicable broad array of local, state and federal laws and permitting processes

Objective 6: Prevent further spread of Dreissenids using quarantine and pathway management via coordination, education, monitoring, inspections and decontaminations.

- Minimize vectors and pathways
- Monitor movement of human activity – Hazard Analysis Critical Control Point (HACCP) plan
- Temporary closure of reservoir to boaters until Control Plan is implemented
- Partial closure of reservoir once containment plan is initiated
- Inspection and decontamination stations designated and functional
- Signage installation

Objective 7: The Response Team should immediately begin surveys to define the extent of a Dreissenid infestation (this will happen concurrently with closure activities).

Objective 8: Apply available, relevant eradication, control and/or containment actions and implement mitigation.

- Method for mussel eradication, control and/or containment to be determined by the UDWR's AIS Coordinator and Response Team
- Cost of mussel eradication, control and/or containment to be determined by the UDWR's AIS Coordinator with assistance from the Response Team

Objective 9: Institute long-term monitoring.

- UDWR's AIS Coordinator and Response Team need to collect and document data from long-term monitoring of mussels, including the post treatment period
- Real-time dataset will be used for disseminating information

Objective 10: Evaluate RRP and Control Plan effectiveness, modify strategies as needed, and pursue long-term funding for *Dreissena* management.

Objective 1: Immediately verify a reported *Dreissena* mussel detection.

1) Contact proper authorities. In the event that a *Dreissena* mussel is detected (visual or microscopy), the UDWR's AIS Coordinator and the northeastern region AIS Biologist should be contacted immediately to begin confirming the report's validity and to initiate implementation of the RRP, if necessary. If a visible *Dreissena* mussel is found on a watercraft, law enforcement for UDPR's Starvation State Park, or UDWR's Duchesne district should be contacted for possible law violations; the importation or interstate transport of zebra mussels is prohibited by the federal Lacey Act, 18 U.S.C. 42. The importation or interstate transport of quagga mussels is prohibited by Utah state statute (27-23-201).

2) Interview the source and gather information of reported *Dreissena* mussel. For visible *Dreissena* mussels, first responders should specifically request a picture, specimen (if attached to a substrate do not detach until evidenced has been collected by law enforcement), and precise coordinates for location of sighting. Collect permanent contact information from report's source (name, address, telephone, and email).

3) Record details of the *Dreissena* mussel find location. Use GPS delineation, prominent landmarks, highway mile marker, or other information about where the mussels (adult and veligers) were found. Document the date and time of finding.

4) Visually validate adult *Dreissena* mussel identification within 48 hours. For visible *Dreissena*, UDWR's northeastern region AIS Biologist should obtain a digital photograph (with scale indicator), secure and preserve dead samples, and arrange an immediate site visit.
5) Laboratory analysis. Both veligers and adult *Dreissena* will be examined via microscopy and DNA polymerase chain reaction (PCR) for verification.
6) Corroborate laboratory evidence. Following a positive microscopy laboratory analysis, UDWR's AIS Coordinator will request that the lab forward a portion of the original sample to a second, separate lab so that two independent molecular DNA PCR tests for the presence of *Dreissena* mussels can be confirmed.
    - One microscopy and two independent PCR analyses are required for detection of *Dreissena* mussels.
    - Two consecutive sampling events for *Dreissena* mussels must be done and found positive via PCR and microscopy for a detected/positive status.
    - Multiple consecutive sampling events of attached mussels will constitute an infested status.

Objective 2: Upon verification for the presence of *Dreissena* mussels, immediately notify relevant local natural resource personnel, pulling their technical personnel together as a "Response Team".

- Response Team personnel. The Response Team is comprised of technical personnel from UDWR (AIS Coordinator, and Northeastern AIS Biologist), UDPR (Starvation Park Manager, and Starvation Park Ranger), CUWCD (Duchesne Area Manager, and Duchesne Valley Water Treatment Plant Manager), SBR (Regional AIS Coordinator, Area AIS Coordinator), and DOI (Program Coordinator).
- Response Team roles and responsibilities. The Response Team will be the on-the-ground personnel that perform and oversee all field work associated with the RRP and Control Plan. Their duties include:
    - Surveys to define the extent of the Dreissenid colonization (this not only refers to the initial surveys, but also all future surveys that will be performed while the water is affected);
    - Minimize vectors and pathways of Dreissenids;
    - Hazard Analysis Critical Control Point Plan implementation;
    - Signage installation;
    - Implementation of Dreissenid eradication, control/containment actions;
    - Decontamination station implementation and operations;
    - Assist in determining the cost of implementation of the eradication, control and/or containment efforts;
    - Collect and document data for long-term monitoring of Dreissenid infestation;

    - Evaluate the effectiveness, and find areas for improvement of the RRP and Control Plan for adaptive management on future Dreissenid introductions; and
    - Initiate statewide media response.
- Confirmed positive verification. Once *Dreissena* mussel has been confirmed, UDWR's AIS Coordinator will notify all members of the Response Team who will then meet via conference call and initiate a media response to be led by UDWR's Outreach personnel. The time between the confirmed positive and the media response should be less than two weeks.
    - When just a PCR *or* microscopy test is confirmed positive for *Dreissena* mussels, only the Response Team will be notified. Both microscopy and PCR (two independent lab PCR tests and one microscopy analyses), along with two positive consecutive sampling events of *Dreissena* mussel must be completed to issue a media response, and only after Director's Office approval.
- UDWR Director and Utah Wildlife Board Approval. Action by the Director of the UDWR is needed to list a water body as affected (suspect, detected/positive, or infested; see Appendix B for classification definitions). Action by the Utah Wildlife Board is required in order to list any water in Rule R657-60 as "infested" with *Dreissena* mussels.
    - Director's Office informed. Once the presence of Dreissenids has been confirmed, UDWR's AIS Coordinator will then take the information to the Director's Office and under the direction of the Director's Office the information will be disseminated.
- Notification list. A notification call list comprised of Starvation Reservoir stakeholders will be maintained by UDWR's northeastern region AIS Biologist and updated at least twice annually (see Appendix A).
    - The Notification List will be housed in Google Docs and shared with all relevant personnel.

Objective 3: Establish internal and external communication systems.

- Circulation of information. The UDWR's AIS Coordinator, in conjunction with Regional and Statewide Outreach personnel, federal public affairs staff, and Response Team will develop an information dissemination process to ensure consistent and effective communication to interested internal and external stakeholders, including the media and public.
- Outreach. Develop and disseminate general public education and outreach material that is agreed upon between state and federal agencies.
    - Brochures, signage, media stories, and web material
    - Agency emblems on signs (USBR, CUWCD, DOI, UDPR, UDWR)

Objective 4: Set up an appropriate leadership structure to guide Response Team activities for implementing containment and/or control methods for *Dreissena* mussel infestation.

- Control Plan leader. UDWR's AIS Coordinator will be the Control Plan leader. He/she will be the voice to represent the Response Team. The UDWR's AIS Coordinator will convene the meetings of the Response Team and facilitate the decision making process.
- Additional Response Team personnel. Additional agency personnel will be brought in as needed to assist in the Control Plan efforts.

Objective 5: Organize available resources (personnel, equipment, funds, etc.), including compliance with laws and permitting requirements.

- Resource commitment. UDWR's AIS Coordinator will secure commitment from the Response Team's home agencies and others for needed staff, facilities, equipment and funds. The UDWR's AIS Coordinator and the Response Team will identify and secure sufficient resources for the Dreissenid control and/or containment, or eradication actions, and ensure mechanism for dispersal of funds is in place.
    - Develop Memoranda of Agreement for transferring money between agencies
    - Develop Memoranda of Understanding with Counties and other agencies as needed for use of employees and donation of in-kind services.
- Laws and permits. A broad array of local, state and federal laws and permitting processes will need to be recognized and complied with. A complete list of permitting requirements can be found in Appendix F. In an effort to streamline the process, where feasible we will modify existing agency permits as opposed to securing new ones.

Objective 6: Prevent further spread using quarantine and pathway management via coordination, education, monitoring, inspection and decontaminations.

- Minimize vectors and pathways. The UDWR's AIS Coordinator and the Response Team will evaluate risks for dispersal, and minimize all vectors and pathways to avoid further spreading the original infestation.
- Monitor movement of human activity. Special care should be taken so human activity does not further spread the Dreissenids in the form of boating, construction, firefighting, water-hauling, recreational equipment, movement of fish and wildlife, and other physical processes.
    - Hazard Analysis Critical Control Point plan (HACCP). UDWR has developed a HACCP plan (Appendix E) to ensure that private and local, state, and federal personnel do not further spread the original infestation. Each agency will have a copy of this plan and issue a signed commitment that they will follow the plan. Signatories will be individuals on the Response Team.
- Culinary water source. Starvation Reservoir provides culinary water to Duchesne City, East Duchesne Culinary Water Improvement District, Johnson Water Improvement

District, and Duchesne County Water Conservancy District within Duchesne County. Additional efforts need to be taken to ensure that culinary water use is not compromised.

- Temporary closure order. Under authority of Utah Rule R657-60-8 (see Appendix D), the Response Team will pursue the closure of the reservoir until the Control Plan has been implemented. During a closure order, access to the reservoir will temporarily be restricted to boaters. Only authorized personnel will be allowed to launch watercraft until the threat can be assessed, and the Control Plan can be implemented.
    - U.S. Department of Interior. Approval from the DOI is needed to close the reservoir. The DOI has the authority to close the reservoir if necessary.
- Partial closure of reservoir. Once the Control Plan has been implemented and the threat assessed, the temporary closure order will be lifted, and a partial closure of the reservoir may then ensue via reduction in the boating season, closing of any ramp that does not have an inspection station, closing of ramps outside of inspection hours, and prohibiting of shoreline launching from non-developed launch points.
    - In the event that a partial closure is maintained, only the main boat ramp would remain open (see Map, appendix C). All other boat ramps and shoreline launching would be prohibited.
    - A partial closure may require closures during the dates and times with the least amount of usage and the greatest staffing shortages, meaning weekdays, winter months, and/or selected times of day. Other options may be considered depending on staffing levels.
    - Estimated timeline for a partial closure to be implemented can take up to five weeks. Events that must be completed can be found in Appendix G.
- Inspection and decontamination stations. Implementation of the Control Plan will include the designation and use of at least one decontamination/inspection station. The following rules will apply depending on presence or absence of DNR personnel.

  If DNR personnel are present:
    - DNR personnel will inspect all watercraft coming off the reservoir.
    - DNR personnel will initiate the mandatory clean, drain, dry process on all watercraft before they leave the boat ramp, including draining water from livewells, motors, etc.
    - DNR personnel will perform a professional decontamination on any watercraft not returning to Starvation Reservoir on their next visit *and* planning to launch at another waterbody before the required dry time.
    - DNR personnel will not professionally decontaminate watercraft that will return to Starvation Reservoir on their next visit. Rather, they will be inspected by DNR personnel and marked with a wire seal, accompanied with documentation stating the location, date, and other relevant information.

  If DNR personnel are not present:

- Watercraft owners are required by law to initiate the mandatory clean, drain, dry process on their watercraft before they leave the boat ramp, including draining water from livewells, motors, ballast tanks, etc.
- Upon leaving Starvation Reservoir, all watercraft owners will be required to have their watercraft decontaminated via professional decontamination or self-decontamination (having to wait the required dry time before lunching at another waterbody) IF they are not returning to Starvation Reservoir on their next visit.

Objective 7: The Response Team should immediately begin surveys to define the extent of a *Dreissena* mussel infestation (this will happen concurrently with closure activities).

- Rapidly determine the extent of colonization. Survey reservoir to determine the geographic extent of population infestation. Starting first with and focusing efforts on the immediate area around the detection site, and expand outward as necessary.
- Survey methods. The kind of sampling method performed will vary depending on whether the Dreissenids are visible juvenile/adult mussels, or veligers. For visible *Dreissena*, shorelines and natural and artificial substrates will be surveyed. SCUBA dive teams will be used to survey substrates located in greater water depths (docks, buoys, canyon walls, etc.). Veligers will be surveyed using plankton nets. See Appendix H for detailed sampling methods.
- Veliger sampling frequency. For affected (suspect, detected/positive, and infested) status waters, veliger sampling will increase to at least once per month during the main boating season (May – September).
- Survey immediacy. Ensure surveys are completed as soon as possible and the results are reported to the UDWR's AIS Coordinator. The UDWR's AIS Coordinator will provide updates to the entire Response Team.

Objective 8: Apply available, relevant and legally defensible eradication, control and/or containment actions and implement mitigation.

- Determine appropriate method. The UDWR's AIS Coordinator and the Response Team will decide whether eradication via the use of Zequanox, EarthTechQZ, or other EPA approved chemical; control; or containment is possible based on the rapid analysis of population dynamics, Dreissenid life stage to be treated, extent of distribution and analysis of vectors and pathways for *Dreissena* mussel spread, and available management options.
- Determine cost of implementation. The UDWR's AIS Coordinator, with assistance from the Response Team, needs to estimate the cost of eradication, control and/or containment effort, and follow up monitoring relative to available funding.

Objective 9: Institute long-term monitoring.

- Long-term monitoring. The UDWR's AIS Coordinator and the Response Team will develop and implement a long-term monitoring plan.
- Real-time dataset. Disseminate findings through an easily accessible, consolidated, coordinated real-time dataset

Objective 10: Evaluate response effectiveness, modify the Rapid Response Strategy as needed, and pursue long-term funding for *Dreissena* management.

- Evaluate effectiveness. The UDWR's AIS Coordinator and the Response Team, in order to allow for adaptive management by assuring feedback on the efficacy of response actions and the effectiveness of the RRP, can enhance long-term preparedness for responses to other *Dreissena* mussel introductions.
- Find areas for improvement. Conduct a follow-up evaluation by Response Team to identify opportunities for improving the RRP.
- Living document**.** As circumstances dictate, the RRP and Control Plan will be revised at least every five years to improve on its efficiency and effectiveness.

Literature Cited

Utah Division of Wildlife Resources. 2010. Utah aquatic invasive species management plan.

Utah Division of Wildlife Resources. 2010. Wildlife administrative rule R657-60 aquatic invasive species interdiction. R657-60-9.

Western Regional Panel on Aquatic Nuisance Species. 2010. Mussel Acton Plan for Western U.S. Waters.

California Fish and Wildlife. 2014. Quagga/Zebra Mussel Plankton Tow Sampling Protocol.

Appendix A

Notification List

Utah Division of Wildlife Res.			
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Appendix B

Levels of *Dreissena* Detection Definitions, and Personnel Notification Based on the Levels

Inconclusive: *Dreissena* mussel confirmed by only microscopy or PCR, but not both, and only indicated in a single sampling event

- UDWR's AIS Coordinator → Director's Office → Response Team

Suspect: *Dreissena* mussel indicated in a single sampling event and confirmed by both microscopy and PCR.

- UDWR's AIS Coordinator → Director's Office → Response Team → Media Response

Detected/Positive: *Dreissena* mussel indicated in two consecutive sampling events and confirmed by both microscopy and PCR.

- UDWR's AIS Coordinator → Director's Office → Response Team → Notification list → Media Response

Infested: Multiple age classes of attached *Dreissena* mussels indicated in two or more consecutive sampling events and an established (recruiting or reproducing) population of mussels, confirmed by both microscopy and PCR.

- UDWR's AIS Coordinator → Director's Office → Response Team → Notification list → Media Response

Appendix C

Map of Starvation Reservoir

Appendix D

State of Utah, R657. Natural Resources, Wildlife Resources. R657-60. Aquatic Invasive Species Interdiction.

R657-60-1. Purpose and Authority.

(1) The purpose of this rule is to define procedures and regulations designed to prevent and control the spread of aquatic invasive species within the State of Utah.

(2) This rule is promulgated pursuant to authority granted to the Wildlife Board in Sections 23-27-401, 23-14-18, and 23-14-19.

R657-60-2. Definitions.

(1) Terms used in this rule are defined in Section 23-13-2 and 23-27-101.

(2) In addition:

(a) “Conveyance” means a terrestrial or aquatic vehicle, including a vessel, or a vehicle part that may carry or contain a Dreissena mussel.

(b) "Decontaminate” means to:

(i) Self-decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:

(A) removing all plants, fish, mussels and mud from the equipment or conveyance;

(B) draining all water from the equipment or conveyance, including water held in ballast tanks, bilges, livewells, and motors; and

(C) drying the equipment or conveyance for no less than 7 days in June, July and August;18 days in September, October, November, March, April and May; 30 days in December, January and February; or expose the equipment or conveyance to sub-freezing temperatures for 72 consecutive hours; or

(ii) Professionally decontaminate equipment or a conveyance that has been in an infested water in the previous 30 days by:

(A) Using a professional decontamination service approved by the division to apply scalding water (140 degrees Fahrenheit) to completely wash the equipment or conveyance and flush any areas where water is held, including ballast tanks, bilges, livewells, and motors.

(c) “Detected Water” or “Detected” means a water body, facility, or water supply system where the presence of a Dreissena mussel is indicated in two consecutive sampling events using visual identification or microscopy and the results of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(d) “Dreissena mussel” means a mussel of the genus Dreissena at any life stage, including a zebra mussel, a quagga mussel and a Conrad’s false mussel.

(e) “Controlling entity” means the owner, operator, or manager of a water body, facility, or a water supply system.

(f) “Equipment” means an article, tool, implement, or device capable of carrying or containing water or Dreissena mussel.

(g) “Facility” means a structure that is located within or adjacent to a water body.

(h) “Infested Water” or “Infested” means a water body, facility, water supply system, or geographic region where the presence of multiple age classes of attached Dreissena mussels is indicated in two or more consecutive sampling events using visual detection or microscopy and the result of each sampling event is confirmed in two polymerase chain reaction tests, each conducted at independent laboratories.

(i) “Juvenile or adult Dreissena mussel” means a macroscopic Dreissena mussel that is not a veliger.

(j) “Suspected Water” or “Suspected” means a water body, facility, or water supply system where the presence of a Dreissena mussel is indicated through a single sampling event using visual identification or microscopy and the result of that sampling event is confirmed in two independent polymerase chain reaction tests, each conducted at independent laboratories.

(k) “Veliger” means a microscopic, planktonic larva of Dreissena mussel.

(l) “Vessel” means every type of watercraft used or capable of being used as a means of transportation on water.

(m) “Water body” means natural or impounded surface water, including a stream, river, spring, lake, reservoir, pond, wetland, tank, and fountain.

(n) “Water supply system” means a system that treats, conveys, or distributes water for irrigation, industrial, wastewater treatment, or culinary use, including a pump, canal, ditch or, pipeline.

(o) “Water supply system” does not include a water body.

R657-60-3. Possession of Dreissena Mussels.

(1) Except as provided in Subsections R657-60-3(2) and R657-60-5(2), a person may not possess, import, ship, or transport any Dreissena mussel.

(2) Dreissena mussels may be imported into and possessed within the state of Utah with prior written approval of the Director of the Division of Wildlife Resources or a designee.

R657-60-4. Reporting of invasive species required.

(1) A person who discovers a Dreissena mussel within this state or has reason to believe a Dreissena mussel may exist at a specific location shall immediately report the discovery to the division.

(2) The report shall include the following information: (a) location of the Dreissena mussels;

(b) date of discovery;

(c) identification of any conveyance or equipment in which mussels may be held or attached; and

(d) identification of the reporting party with their contact information. (3) The report shall be made in person or in writing:

(a) at any division regional or headquarters office or;

(b) to the division’s toll free hotline at 1-800-662-3337; or

(c) on the division’s website at www.wildlife.utah.gov/law/hsp/pf.php.

R657-60-5. Transportation of equipment and conveyances that have been in waters containing Dreissena mussels.

(1) The owner, operator, or possessor of any equipment or conveyance that has been in an infested water or in any other water subject to a closure order under R657-60-8 or control plan under R657-60-9 that requires decontamination of conveyances and equipment upon leaving the water shall:

(a) immediately drain all water from the equipment or conveyance at the take out site, including water held in ballast tanks, bilges, livewells, motors, and other areas of containment; and

(b) immediately inspect the interior and exterior of the equipment or conveyance at the take out site for the presence of Dreissena mussels.

(2) If all water in the equipment or conveyance is drained and the inspection undertaken pursuant to Subsection (1)(b) reveals the equipment and conveyance are free from mussels or shelled organisms, fish, plants and mud, the equipment and conveyance may be transported in or through the state directly from the take out site to the location where it will be:

(a)(i) professionally decontaminated; or

(ii) stored and self-decontaminated; or

(b) temporarily stored and subsequently returned to the same water body and take out site as provided in Subsection (5).

(3) If all the water in the equipment or conveyance is not drained or the inspection undertaken pursuant to Subsection (1)(b) reveals the equipment or conveyance has attached mussels or shelled organisms, fish, plants, or mud, the equipment and conveyance shall not be moved from the take out site until the division is contacted and written or electronic authorization received to move the equipment or conveyance to a designated location for professional decontamination.

(4) Except as provided in Subsection (5), a person shall not place any equipment or conveyance into a water body or water supply system in the state without first decontaminating the equipment and conveyance when the equipment or conveyance in the previous 30 days has been in:

(a) an infested water; or

(b) other water body or water supply system subject to a closure order under R657-60-8 or control plan under R657-60-9 that requires decontamination of conveyances and equipment upon leaving the water.

(5) Decontamination is not required when a conveyance or equipment is removed from an infested water or other water body subject to decontamination requirements, provided the conveyance and equipment is:

(a) inspected and drained at the take out site, and is free from attached mussels, shelled organisms, fish, plants, and mud as required in Subsections (1) and (2);

(b) returned to the same water body and launched at the same take out site; and

(c) not placed in or on any other Utah water body in the interim without first being decontaminated.

R657-60-6. Certification of Decontamination

(1) The owner, operator or possessor of a vessel desiring to launch on a water body in Utah must:

(a) verify the vessel and any launching device, in the previous 30 days, have not been in an infested water or in any other water subject to closure order under R657-60-8 or control plan under R656-60-9 that requires decontamination of conveyances and equipment upon leaving the water; or

(b) certify the vessel and launching device have been decontaminated.

(2) Certification of decontamination is satisfied by:

(a) previously completing self-decontamination since the vessel and launching device were last in a water described in Subsection (1)(a) and completely filling out and dating a decontamination certification form which can be obtained from the division; or

(b) providing a signed and dated certificate by a division approved professional decontamination service verifying the vessel and launching device were professionally decontaminated since the vessel and launching device were last in a water described in Subsection (1)(a).

(3) Both the decontamination certification form and the professional decontamination certificate, where applicable, must be signed and placed in

open view in the window of the launching vehicle prior to launching or placing the vessel in a body of water.

(4) It is unlawful under Section 76-8-504 to knowing falsify a decontamination certification form.

R657-60-7. Wildlife Board designations of Infested Waters.

(1) The Wildlife Board may designate a geographic area, water body, facility, or water supply system as Infested with Dreissena mussels pursuant to Section 23-27-102 and 23-27-401 without taking the proposal to or receiving recommendations from the regional advisory councils.

(2) The Wildlife Board may designate a particular water body, facility, or water supply system within the state as Infested with Dreissena mussels when sampling indicates the water body, facility, or water supply system meets the minimum criteria for an Infested Water as defined in this rule.

(3) The Wildlife Board may designate a particular water body, facility, or water supply system outside the state as Infested with Dreissena mussels when it has credible evidence suggesting the presence of a Dreissena mussel in that water body, facility, or water supply system.

(4) Where the number of Infested Waters in a particular area is numerous or growing, or where surveillance activities or infestation containment actions are deficient, the Wildlife Board may designate geographic areas as Infested with Dreissena mussels.

(5) The following water bodies and geographic areas are classified as infested:

(a) all coastal and inland waters in:

(i) Colorado;

(ii) California;

(iii) Nevada;

(iv) Arizona;

(v) all states east of Montana, Wyoming, Colorado, and New Mexico;

(vi) the provinces of Ontario and Quebec Canada; and

(vii) Mexico;

(b) Lake Powell and that portion of the:

(i) Colorado River between Lake Powell and Spanish Bottoms in Canyonlands National Park;

(ii) Escalante River between Lake Powell and the Coyote Creek confluence;

(iii) Dirty Devil River between Lake Powell and the Highway 95 bridge; and

(iv) San Juan River between Lake Powell and Clay Hills Crossing; and

(c) other waters established by the Wildlife Board and published on the DWR website.

(6) The Wildlife Board may remove an infested classification if:

(a) the division samples the affected water body for seven (7) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies in writing that Dreissena mussels are no longer present.

R657-60-8. Closure Order for a Water Body, Facility, or Water Supply System.

(1)(a) The division may classify a water body, facility, or water supply system as suspected or detected if it meets the minimum criteria for suspected or detected, as defined in this rule.

(b) If the division classifies a water body, facility, or water supply system as either suspected or detected, the division director or designee may, with the concurrence of the executive director, issue an order closing the water body, facility, or water supply system to the introduction or removal of conveyances or equipment.

(c) The director shall consult with the controlling entity of the water body, facility, or water supply system when determining the scope, duration, level and type of closure that will be imposed in order to avoid or minimize disruption of economic and recreational activities.

(d) A closure order may;

(i) close the water entirely to conveyances and equipment;

(ii) authorize the introduction and removal of conveyances and equipment subject to the decontamination requirements in R657-60-2(2)(b) and R657-60-5; or

(iii) impose any other condition or restriction necessary to prevent the movement of Dreissena mussels into or out of the subject water.

(iv) a closure order may not restrict the flow of water without the approval of the controlling entity.

(2)(a) A closure order issued pursuant to Subsection (1) shall be in writing and identify the:

(i) water body, facility, or water supply system subject to the closure order;

(ii) nature and scope of the closure or restrictions;

(iii) reasons for the closure or restrictions;

(iv) conditions upon which the order may be terminated or modified; and

(v) sources for receiving updated information on the presence of Dreissena mussels and closure order.

(b) The closure order shall be mailed, electronically transmitted, or hand delivered to:

(i) the controlling entity of the water body, facility, or water supply system; and

(ii) any governmental agency or private entity known to have economic, political, or recreational interests significantly impacted by the closure order; and

(iii) any person or entity requesting a copy of the order.

(c) The closure order or its substance shall further be:

(i) posted on the division's web page; and

(ii) published in a newspaper of general circulation in the state of Utah or the affected area.

(3)(a) If a closure order lasts longer than seven days, the division shall provide the controlling entity and post on its web page a written update every 10 days on its efforts to address the Dreissena mussel infestation.

(b) The 10 day update notice cycle will continue for the duration of the closure order.

(4)(a) Notwithstanding the closure authority in Subsection (1), the division may not unilaterally close or restrict a suspected or detected water supply system where the controlling entity has prepared and implemented a control plan in cooperation with the division that effectively controls the spread of Dreissena mussels from the water supply system.

(b) The control plan shall comply with the requirements in R657-60-9.

(5) Except as authorized by the Division in writing, a person may not violate any provision of a closure order.

(6) A closure order or control plan shall remain effective so long as the water body, water supply system, or facility remains classified as suspected or detected.

(7) The director or his designee may remove a Suspected classification if:

(a) the division samples the affected water body for three (3) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.

; or

(8) The director or his designee may remove a detected classification if:

(a) the division samples the affected water body for five (5) consecutive years without a single sampling event producing evidence sufficient to satisfy the criteria for a "suspected" classification, as defined in this rule; or

(b) the controlling entity eradicates all Dreissena mussels at the water body, facility, or water supply system through chemical or biological treatments, desiccation, or freezing, and the division verifies that Dreissena mussels are no longer present.

R657-60-9. Control plan required.

(1) The controlling entity of a water body, facility, or water supply system may develop and implement a control plan in cooperation with the division prior to infestation designed to:

(a) avoid the infestation of Dreissena mussels; and

(b) control or eradicate an infestation of Dreissena mussels that might occur in the future.

(2) A pre-infestation control plan developed consistent with the requirements in Subsection (3) and approved by the division will eliminate or minimize the duration and impact of a closure order issued pursuant to Section 23-27-303 and R657-60-8.

(3) If a water body, facility, or water supply system within the state is classified as infested, detected, or suspected, and it does not have an approved control plan, the controlling entity shall cooperate with the division in developing and implementing a control plan to address the:

(a) scope and extent of the presence of Dreissena mussels;

(b) actions proposed to control the pathways of spread of Dreissena mussels;

(c) actions proposed to control the spread or eradicate the presence of Dreissena mussels;

(d) methods to decontaminate the water body, facility, or water supply system, if possible;

(e) actions required to systematically monitor the presence of Dreissena mussels; and

(f) requirements and methods to update and revise the plan with scientific advances.

(4) All control plans prepared pursuant to Subsection (3) shall be approved by the Division before implementation.

(5) A control plan prepared pursuant to this Section may require that all conveyances and equipment entering or leaving the subject water to comply with the decontamination requirements in R657-60-2(2)(b) and R657-60-5.

(6) Except as authorized by the Division and the controlling entity in writing, a person may not violate any provision of a control plan.

R657-60-10. Procedure for Establishing a Memorandum of Understanding with the Utah Department of Transportation.

(1) The division director or designee shall negotiate an agreement with the Utah Department of Transportation for use of ports of entry for detection and interdiction of Dreissena Mussels illegally transported into and within the state. Both the Division of Wildlife Resources and the Department of Transportation must agree upon all aspects of Dreissena Mussel interdiction at ports of entry.

(2) The Memorandum shall include the following:

(a) methods and protocols for reimbursing the department for costs associated with Dreissena Mussel interdiction;

(b) identification of ports of entry suitable for interdiction operations;

(c) identification of locations at a specific port of entry suitable for interdiction operations;

(d) methods and protocols for disposing of wastewater associated with decontamination of equipment and conveyances;

(e) dates and time periods suitable for interdiction efforts at specific ports of entry;

(f) signage notifying motorists of the vehicles that must stop at the port of entry for inspection;

(g) priorities of use during congested periods between the department's port responsibilities and the division's interdiction activities;

(h) methods for determining the length, location and dates of interdiction;

(i) training responsibilities for personnel involved in interdiction activities; and

(j) methods for division regional personnel to establish interdiction efforts at ports within each region.

R657-60-11. Conveyance or Equipment Detainment.

1) To eradicate and prevent the infestation of a Dreissena mussel, the division may:

(a) temporary stop, detain, inspect, and impound a conveyance or equipment that the division reasonably believes is in violation of Section 23-27-201 or R657-60-5;

(b) order a person to decontaminate a conveyance or equipment that the division reasonably believes is in violation of Section 23-227-201 or R657-60-5.

(2) The division, a port-of-entry agent or a peace officer may detain or impound a conveyance or equipment if:

(a) the division, agent, or peace officer reasonably believes that the person transporting the conveyance or equipment is in violation of Section 23-27-201 or R657-60-5.

(3) The detainment or impoundment authorized by Subsection (2) may continue for:

(a) up to five days; or

(b) the period of time necessary to:

(i) decontaminate the conveyance or equipment; and

(ii) ensure that a Dreissena mussel is not living on or in the conveyance or equipment.

R657-60-12. Penalty for Violation.

(1) A violation of any provision of this rule is punishable as provided in Section 23-13-11.

(2) A violation of any provision of a closure order issued under R657-60-8 or a control plan created under R657-60-9 is punishable as a criminal infraction as provided in Section 23-13-11.

KEY: fish, wildlife, wildlife law
Date of Enactment or Last Substantive Amendment: August 9, 2010
Notice of Continuation: New Rule
Authorizing, and Implemented or Interpreted Law: 23-27-401; 23-14-18; 23-14-19

Appendix E

Starvation Reservoir Hazard Analysis Critical Control Point (HACCP) Plan

Management Objective: Prevent the inadvertent spread of Dreissenids from Starvation Reservoir to other waters

Activity Description: *Dreissena* sampling and surveys, along with other management activities conducted on Starvation Reservoir. The timing and frequency of these activities will occur repeatedly. The locations of where activities will be conducted will be reservoir wide, with a concentration of activity at the site of inoculation (where *Dreissena* sampling has proven positive).

Activity Flow Chart

- Task 1: Load gear and drive to site – Arrive at home base and load appropriate gear for activity. Drive to Starvation Reservoir.
- Task 2: Unload gear and conduct activity – Unload gear from vehicle. Load gear into boat. Prepare gear to conduct activity. Conduct activity by entering Starvation Reservoir and perform survey, and/or take samples.
- Task 3: Reload gear – Return to vehicle, decontaminate and pack up gear.
- Task 4: Return to home base and unload gear – Return to home base. Unload gear from vehicles. Decontaminate any remaining gear.

Potential Non-Targets Species

- Vertebrates: Fish species found in the reservoir, bullfrogs
- Invertebrates: Invertebrates found in drainage
- Plants: Plants found in drainage

Control Measures

- Summary
    - To contain an infestation, the reservoir will be split East/West and North/South. Movement between un-infested quadrants can continue unimpeded.
    - Clean and disinfect all equipment before moving from an infested quadrant to another quadrant on Starvation Reservoir, or other location. Movement to and from the boat ramp is still allowed regardless of quadrant, although if the boat ramp is not in a quadrant considered infested, all care should be given to

minimize inoculation (e.g., trailer the boat as quickly as possible, not allowing it to idle very long; Clean, Drain, and Dry the boat AWAY from the water's edge once out of the water, etc.)

- Clean all applicable equipment before returning to home base (waders, watercrafts, etc.).
- Clean and disinfect all equipment that was not done on location at home base, before the equipment is used again (nets, sampling equipment, etc.).

- Methods for Disinfecting Equipment
  - In the field (carried in vehicles)
    - Heavy brush for mud
    - Two portable hand-pump sprayers: one with disinfecting solution to decontaminate equipment (see below), and one with culinary water to rinse equipment after the proper soaking time has been met
  - Home base
    - Heavy brush for mud
    - Plastic tub or tank for submersion of boots and other equipment
    - High pressure decontamination spraying unit for vehicles, watercrafts, and other equipment
      - 140°F to 160°F scalding water temperatures needed to properly decontaminate
      - DNR personnel will provide the decontamination unit, and perform the decontamination on watercrafts and other equipment. All Starvation Reservoir stakeholders should schedule a decontamination after completing their sampling or other activities on the reservoir.
- Disinfection Protocol
  - In the field
    - All equipment in contact with water must be cleaned with a brush to remove debris, and disinfect with a field sprayer prior to leaving sample site
    - Maintain effective disinfecting solution in sprayers and record mixing dates
      - Quat 128: 6.4 ounces per gallon of water. Equipment needs to be repeatedly sprayed, keeping damp for 10 minutes, then spray rinsed with culinary water, followed by drying in the sun for one hour before reuse.
  - Home base
    - All equipment must be dry before it leaves home base

- All watercrafts, along with vehicles that come in contact with affected water must be fully decontaminated prior to leaving home base (e.g., professional decontamination or cleaned, drained, and dried for appropriate time).
- Maintain effective disinfecting solutions in plastic tub or tank and keep mixture dates updated
    - Quat 128: 6.4 ounces per gallon of water. Equipment needs to be immersed for 10 minutes, then spray rinsed with culinary water, followed by drying in the sun for one hour before reuse
- In addition to field disinfection, it is recommended to re-dip waders, probes, and other equipment before reuse

Appendix F

Permitting Requirements for Implementation of the Control Plan

Department of Environmental Quality discharge permits. Permits needed for an increase in discharge water due to boat decontaminations.

Utah magistrate approval. Needed if considered an administrative checkpoint rather than an inspection station.

USBR FIFRA license. License needed for EarthTecQZ / Zequanox application.

- Good for only five years – will need to be renewed regularly
- Develop a Pesticide Management Plan when further details are available

UPDES. Pollutant Discharge Elimination Systems are for controlling water pollution by regulating point sources of pollution

- Add Starvation Reservoir to State of Utah pesticide permits for EarthTecQZ / Zequanox
- When further are details available, a Treatment Plan will be developed

NEPA. NEPA will likely require some level of NEPA for all potential treatments resulting in major impacts (e.g., treatments, construction, etc.). NEPA will not be required for changes to management.

Appendix G

Closure Order Tasks and Their Estimated Time for Completion

Threat assessment and extent of colonization: Determining the threat and the extent of the colonization will take approximately three to four weeks to complete.

Signage installation: Installation of all signs warning of the Dreissenid threat will take up to two weeks to complete, depending on sign availability.

Boat ramp closures: Ramps that do not have inspection stations, and closure of all shoreline launching will take one to four weeks; depending on temporary or permanent Jersey barriers at developed ramps. This includes their enforcement (personnel and funding).

Inspection and decontamination stations: Getting inspection and decontamination stations up and running at designated boat ramps will take approximately two to five weeks. Highway inspection and decontamination stations can take six months to a year to be completed and functional.

Appendix H

Sampling Methods for *Dreissena* Veligers

Purpose of Sampling

Plankton tow sampling is a form of early detection monitoring *Dreissena* veligers, the planktonic larval life stage, whereby small organisms (plankton) are collected by pulling a fine-mesh net through the water column (referred to as a "tow"). The plankton collected is then analyzed in a laboratory for the presence of veligers using cross-polarized light microscopy (CLPM) and/or DNA using PCR analysis. To optimize the potential for detecting veligers if present, plankton tows should follow a standardized sampling method, sample a large volume of water, and target the times and locations where veligers are most likely to occur. Of equal importance, samples must be preserved and handled properly in order to maintain their integrity so analysis yields accurate results. To enhance early detection, monitoring for adult mussels should be conducted along with plankton tow sampling. Monitoring for adult mussels can be achieved by conducting monthly inspections of artificial substrate samplers and by surveying surfaces of shoreline, multiple habitat types and structures located in high use areas.

Water Temperature

Plankton monitoring is typically conducted when water temperatures are between 9°C - 18°C (48°F - 64°F); when spawning is occurring. In warmer regions, where water temperatures remain within this range throughout the year, mussels can spawn year round. It is recommended tows be conducted monthly when temperatures are conducive to spawning.

Locations

Veliger distribution can be highly localized; therefore sampling should occur throughout the waterbody at multiple sites to increase the potential for detection. Sampling sites should include areas of high use and likely sites of mussel introductions such as around docks, boat launch ramps, floating restrooms, marinas, at inlets and outlets of the waterbody (mouth of tributaries; dams).

Depth

To increase the probability of capturing veligers if they are present, tow depths of 15 meters are recommended.

Number of Sites and Number of Tows

The number of sites within a waterbody should be based on the size of the waterbody. A minimum of three sites in small waterbodies, and up to 15 sites in larger water bodies are recommended. The number of tows at each site should be based on the net diameter and the depth of each tow. A minimum total volume of 1000 liters per site should be filtered through the net.

Plankton Tow Nets

Plankton tow nets should be 64 micron mesh size, and 12 inch diameter