

**Tri-State Memorandum of Agreement Regarding the
Management, Genetic Health, and Allocation of Discretionary Mortality
of Grizzly Bears in the Greater Yellowstone Ecosystem**

Among

**Wyoming Game and Fish Commission, Wyoming Game and Fish Department, Montana
Fish and Wildlife Commission, Montana Fish, Wildlife and Parks, Idaho Fish and Game
Commission, and Idaho Department of Fish and Game**

This Memorandum of Agreement (MOA) is made and entered into by and among the Wyoming Game and Fish Commission and the Wyoming Game and Fish Department (collectively WGFD), the Montana Fish and Wildlife Commission and Montana Fish, Wildlife and Parks (collectively MFWP), and the Idaho Fish and Game Commission and the Idaho Department of Fish and Game (collectively IDFG), collectively referred to as the Parties.

I. Purpose

The purpose of this MOA is to define the process by which the Parties will coordinate the management and allocation of discretionary mortality of grizzly bears in the Greater Yellowstone Ecosystem (GYE) to ensure the long-term genetic health, viability, and sustainability of the GYE grizzly bear population (GYE population). The Parties enter into this MOA in support of the designation of the Distinct Population Segment (DPS) of GYE grizzly bears and removal of the DPS from the Federal list of endangered and threatened wildlife under the Endangered Species Act. The Parties intend this MOA to be consistent with the *Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Ecosystem* (Strategy) and individual state management plans, as these documents may be revised in conjunction with the delisting process.

The Parties amend the 2016 version of their MOA to resolve items identified in the July 2020 Ninth Circuit Court decision warranting vacatur and remand of the U.S. Fish and Wildlife Service (USFWS) 2017 final rule designating and delisting the GYE DPS of grizzly bears: (1) to ensure long-term genetic diversity of the GYE population, Parties commit to mechanisms for genetic augmentation through translocation; and (2) should a new population estimation method be incorporated to estimate abundance and evaluate survival/mortality of the GYE population, the Parties commit to recalibrate GYE population metrics and mortality limits.

II. Background

The GYE Interagency Conservation Strategy Team, with the participation of the Parties and various federal agencies, developed the Strategy to implement regulatory mechanisms, interagency cooperation, population and habitat management and monitoring, and other actions to ensure continued recovery and sustainable management of the GYE population post-delisting. The Strategy was subject to public comment and scientific peer review. The Strategy's key mechanisms for maintaining a recovered GYE population are its population and habitat standards, which are based on USFWS recovery criteria for the GYE population. The Strategy incorporated the Parties' individual state management plans that have different, but compatible, management objectives.

For purposes of this MOA, the Parties adopt the Demographic Monitoring Area (DMA) identified in the USFWS 2017 Supplement to the Grizzly Bear Recovery Plan (Supplement) as the geographic area used to monitor continued achievement of population and distribution objectives for the GYE population. The Interagency Grizzly Bear Study Team (IGBST) and the Yellowstone Ecosystem Subcommittee (YES) of the Interagency Grizzly Bear Committee (IGBC) have recommended the use of the DMA for monitoring GYE population demographics.

The demographics and vital rates of the GYE population have changed over time, and the IGBST has periodically reviewed and adjusted mortality limits to ensure a total GYE population of at least 500 bears and to meet the occupancy criterion for female bears. The GYE population has far surpassed the minimum requirement for genetic diversity represented by 500 bears.

For purposes of this MOA, the Parties identified tiered limits (based on population size) for human-caused mortality to support managing the GYE population within the DMA at levels around 932 grizzly bears (the tri-state management objective for the DMA, based on the refined Chao2 average population estimate for 2002-2019; 95% Confidence Intervals = 831 to 1,033 grizzly bears) (see Paragraph IV below). Tiered mortality rates enable the Parties to address higher grizzly bear densities and human-bear conflict levels that may occur when the GYE population is above 932 grizzly bears in the DMA, which is well above the recovery criterion of a minimum population size of 500 animals in the GYE.

The IGBST uses the Chao2 estimator and a model averaging process to calculate GYE population size on an annual basis. As the GYE population has grown, the model-averaged Chao2 estimates have become increasingly conservative (*i.e.*, prone to underestimation). IGBST has recently conducted an in-depth analysis that revises ruleset parameters and averaging techniques based on current empirical data to derive a more accurate estimate of the GYE population while still using approved Chao2 methodologies. For purposes of this MOA, the Parties assume that USFWS will, as a matter of best available science, rely on the refined Chao2¹ population estimates. The Parties commit to implementing appropriate revisions to methods for GYE population estimation as new methods are scientifically vetted and accepted.

III. Definitions

1. “Discretionary mortality” is the amount of human-caused grizzly bear mortality over which agencies have discretionary authority, such as management removals and regulated harvest.
2. “Non-Discretionary mortality” is documented loss over which agencies do not have discretionary authority, such as naturally occurring mortality or human-caused mortality such as illegal shootings, defense-of-human-life shootings, and vehicle collisions.
3. “Greater Yellowstone Ecosystem” (GYE) is defined as that portion of Idaho that is east

¹ In 2021, the IGBST refined the Chao2 population estimator based on information from the report entitled *A reassessment of Chao2 estimates for population monitoring of grizzly bears in the Greater Yellowstone Ecosystem*. For the sake of this MOA, the 2002-2019 timeframe was chosen to reflect the period when population trajectory decreased and to reflect the data provided in the report.

of Interstate Highway 15 and north of U.S. Highway 30; that portion of Montana that is east of Interstate Highway 15 and south of Interstate Highway 90; that portion of Wyoming south of Interstate Highway 90, west of Interstate Highway 25, Wyoming State Highway 220, and U.S. Highway 287 south of Three Forks (at the 220 and 287 intersection), and north of Interstate Highway 80 and U.S. Highway 30. This is the same GYE definition that USFWS used in its 2007 and 2017 rules to designate and delist a DPS of grizzly bears under the Endangered Species Act, both of which rules USFWS vacated in response to court decisions based on grounds other than the DPS designation. The Parties assume USFWS will re-designate a grizzly bear DPS for the GYE geographic area as defined herein.

4. The “Primary Conservation Area” (PCA) is the area whose boundaries are approximately depicted on the map attached hereto as Attachment A; the PCA is divided into 18 Bear Management Units.

5. The “Demographic Monitoring Area” (DMA) is the area that includes the PCA and an additional area surrounding the PCA. The DMA is approximately 19,279 square miles in area, whose boundaries are depicted on the map attached hereto as Attachment A. The DMA is based on suitable habitat. The DMA is the area within which the GYE population is annually surveyed and estimated and within which the total mortality limits will apply.

6. “Chao2” is the population estimation technique currently used for the GYE population. IGBST recently conducted an in-depth analysis that revises ruleset parameters and averaging techniques based on current empirical data to derive a more accurate “refined Chao2” estimate of the GYE population while still using approved Chao2 methodologies.

IV. Responsibilities

1. **Science-based Adaptive Management.** The Parties will use best available science and adaptive management approaches to manage the GYE population collectively and cooperatively.

2. **Tri-State Population Management Objectives.** The Parties agree to monitor and manage the GYE population to ensure achievement of the three USFWS demographic recovery criteria (minimum population size, breeding female occupancy, and mortality limits).

As an additional level of protection, the Parties will manage the GYE population within the DMA to maintain a relatively stable population around 932 grizzly bears. This management objective is consistent with the refined Chao2 average grizzly bear population estimates in the DMA from 2002-2019 (associated 95% confidence intervals from 831 to 1,033 grizzly bears). To achieve this population objective for the DMA, the Parties will apply mortality limits (described in subparagraph 3c below) developed by the IGBST to maintain a relatively stable population around the 2002-2019 average population estimates in the DMA. If the estimated population falls below 932 bears, the mortality limits become more conservative, and should result in a population increase.

If the annual population estimate within the DMA falls below 831 (the lower bounds of the 95% confidence interval), the Parties will request IGBST biology and monitoring review, and the

Parties will close the DMA within their respective jurisdictions to hunting until the population increases. The Parties will consider the results of the IGBST review in determining appropriate changes to the management framework.

3. **Relationship of Tri-State Management Objectives to USFWS Demographic Recovery Criteria.**

a. **USFWS Demographic Recovery Criterion 1 (Minimum Population Size)** is to maintain a minimum population size of at least 500 bears within the DMA (for genetic fitness). The Parties’ agreement in Paragraph IV.2 to manage the GYE population within the DMA around 932 grizzly bears, based on the refined Chao2 average GYE population estimates from 2002-2019 (95% CI = 831-1,033), provides an additional level of protection above USFWS Demographic Recovery Criterion 1 and will ensure this criterion is met.

b. **USFWS Demographic Recovery Criterion 2 (Breeding Female Occupancy)** is to ensure that 16 of the 18 Bear Management Units within the PCA are occupied by at least one female with offspring over a six-year period, with no two adjacent Bear Management Units unoccupied over a six-year period. The Parties’ agreement in Paragraph IV.2. to monitor and manage for breeding female occupancy will ensure it is met.

c. **USFWS Demographic Recovery Criterion 3 (Mortality Limits)²** is to ensure annual total mortality rates are not exceeded within the DMA for independent males, independent females and dependent young. In addition to the Parties’ agreement in Paragraph IV.2 to manage the GYE population within the DMA around 932 grizzly bears (95% CI = 831 - 1,033), the Parties agree to apply mortality limits as set forth in the following table to ensure achievement of this management objective.

Should the Parties adopt a new population estimation method to estimate abundance and evaluate survival/mortality of the GYE population, the Parties commit to recalibrate population metrics and mortality limits therein.

	Total Grizzly Bear Population Estimate in the DMA		
	≤ 932 (note: hunting closure < 831)	932-1033	>1033
Total mortality rate for independent <u>FEMALES</u>.	<7.6%	9%	10%
Total mortality rate for independent <u>MALES</u>.	<15%	20%	22%
Total mortality rate for dependent young.	<7.6%	9%	10%

²The GYE population estimates identified in this subparagraph applies the IGBST’s revised population estimates (refined Chao2 estimator) for 2002-2019; the 2017 USFWS Recovery Criterion 3 and Strategy have not yet been revised to incorporate these estimates.

4. **Additional Mortality Management.** In addition, the Parties' management will include, but not be limited to, the following:

- At a minimum of every 5 years, the Parties will coordinate with IGBST to review vital rates and demographics for the GYE population and make any appropriate adjustments to mortality rates (as presented in Paragraph IV.3 above).
- The Parties will prohibit hunting of females accompanied by young, and young accompanied by females, and discretionary mortality of such animals will only occur for management removals.
- At any population level greater than 831, if total allowable independent male or female mortality is exceeded, the number exceeding the total allowable mortality will be subtracted from the next year's discretionary mortality available for harvest for that sex.
- If a state meets any of its allocated regulated harvest limits at any time of the year (see IV.7 below), the respective state will close that state's portion of the DMA to hunting for the remainder of the year.
- If the population within the DMA is less than 600, which the Parties do not expect to occur based on their commitments under this MOA and other interagency commitments such as those described in the Strategy, discretionary mortality under the Parties' respective authorities will not occur, except for management removals to address human safety issues.

5. **Genetic Fitness.** The Parties agree to translocate grizzly bears between the GYE and other grizzly bear populations, when necessary for genetic fitness of a distinct grizzly bear population occurring within the three states, and subject to applicable requirements of federal, state, or tribal law and to consistency with applicable demographic recovery criteria for a population listed or previously listed under the ESA.

a. As a cooperative effort of the IGBST, the Parties will continue to conduct genetic sampling of GYE grizzly bears (*i.e.*, biological samples will be acquired from grizzly bear captures, mortality investigations, or other methods), and will analyze these samples to evaluate genetic diversity and connectivity with other grizzly bear populations.

b. To further ensure genetic viability of the GYE population, the Parties adopt the following mechanisms to provide for genetic augmentation through translocation:

By 2025, the Parties will translocate at least two grizzly bears from outside the GYE into the GYE, unless migration from outside the GYE is detected in the interim. Genetic monitoring of the GYE population will continue, and genetic diversity and effective population size (N_e) will be re-assessed at least every 14 years (*i.e.*, one generation). If effective migration is not detected, the Parties will continue to make additional translocations from outside the GYE.

6. **Monitoring.** The Parties will support the IGBST in the annual monitoring of the GYE population.

7. **Coordination and Allocation of Discretionary Mortality.**

a. The Parties will meet annually (preferably in the month of January) to review population

monitoring data supplied by IGBST and collectively establish discretionary mortality limits for maximum regulated harvest for each jurisdiction (MT, ID, WY) in the DMA, so DMA mortality limits not exceeded, based upon the following allocation protocol:

- i. Begin with the refined Chao2 total population estimate and estimates for independent males, independent females, and dependent young (demographic classes) in the DMA for the previous calendar year, as reported by the IGBST.
- ii. Determine the maximum allowable mortality limit for each demographic class based on the mortality rates identified in the table above (IV.3).
- iii. Determine total mortality during the previous calendar year for each demographic class.
- iv. Subtract the previous year's total mortality from the maximum allowable mortality limit for each demographic class. If the difference is negative (*i.e.*, a DMA annual mortality limit is exceeded for any of the three classes), the number of mortalities above the limit will be subtracted from the corresponding DMA discretionary mortality limit for that class for the current year.
- v. Allocate maximum discretionary mortality available for regulated harvest for independent males and females to each management jurisdiction as provided in the following table.

Management Jurisdiction*	% of DMA outside NPS lands
WY inside DMA	58%*
MT inside DMA	34%
ID inside DMA	8%

*Four percent (4%) of the DMA outside of National Park System lands in Wyoming is under the jurisdiction of the Tribes governing the Wind River Reservation.

- b. The Parties may agree to adjust their respective individual allocation of discretionary mortality based on management objectives and spatial and temporal circumstances. Each party has discretion as to how it applies its allocation of discretionary mortality pursuant to its respective regulatory processes and management plan.
- c. If, for any reason, a state opts not to implement some or all of its allocation for regulated harvest, that harvest is not available to another state for additional harvest unless agreed to by the state with unused allocation.
- d. The Parties will confer with the National Park Service (NPS) and United States Forest Service (USFS) annually. The Parties will invite representatives of both GYE National Parks, the NPS regional office, GYE USFS Forest Supervisors, and the Wind River Reservation to attend the states' annual meeting.
- e. The Parties will monitor mortality throughout the year, and will communicate and coordinate with each other, tribal and federal land management agencies as appropriate to minimize the likelihood of exceeding mortality limits.

- f. Each Party will designate one representative as a respective Point of Contact for purposes of achieving the objectives of this MOA.

V. Authorities and Regulatory Mechanisms

The Parties enter into this MOA pursuant to their respective state authorities as set forth in Title 87, Montana Code Annotated; Title 23, Wyoming Statutes Annotated; and Title 36, Idaho Code.

The Parties have the authority, capability and biological data to implement appropriate hunting restrictions, management relocations and removals, and population management. The Parties will use their respective individual authorities to regulate discretionary mortality as allocated to their jurisdictions under this MOA. The Parties' respective regulatory mechanisms to manage, monitor, restrict, and adjust mortality include, but are not limited to, those identified in Attachment B.

This MOA in no way restricts the Parties from participating in similar activities with other states, agencies, tribes, local governments, or private entities.

Each Party has discretion to manage grizzly bears within its jurisdiction of the GYE that are outside the DMA pursuant to its respective regulatory processes and state management plan.

VI. No Obligation of Funds

This MOA is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds among the Parties will be handled in accordance with applicable laws, regulations, and procedures and such endeavors will be outlined in separate agreements or contracts made in writing by representatives of the Parties. This MOA does not provide such authority.

VII. Term, Termination and Effective Date

This MOA will become effective upon the date of signature of all Parties. It will remain in effect until it is terminated by the Parties. Any Party may terminate its participation in the MOA by providing one hundred-eighty (180) days' written notice to the other Parties, which notice shall be transmitted by hand or other means of delivery confirmation.

VIII. Amendment

The Parties will meet annually to review implementation of the MOA and to recommend any appropriate modifications to the MOA based on changes to the Strategy, state management plans or other pertinent regulatory documents. Any modification to the MOA will only become effective upon the written consent of all Parties.

IX. No Third-Party Beneficiary

Nothing contained herein shall be construed as granting, vesting, creating or conferring any right of action or any other right or benefit upon any third party.

X. Severability

Should any portion of this MOA be judicially determined to be illegal or unenforceable, the remainder of the MOA will continue in full force and effect.

XI. Sovereign Immunity

The states of Wyoming, Montana, and Idaho do not waive their sovereign immunity by entering into this MOA, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this MOA.

In Witness Whereof, the Parties hereto have executed this MOA as of the last written date below.

President, Wyoming Game and Fish Commission

Date

Director, Wyoming Game and Fish Department

Date

Chairman, Montana Fish and Wildlife Commission

Date

Director, Montana Fish, Wildlife and Parks

Date

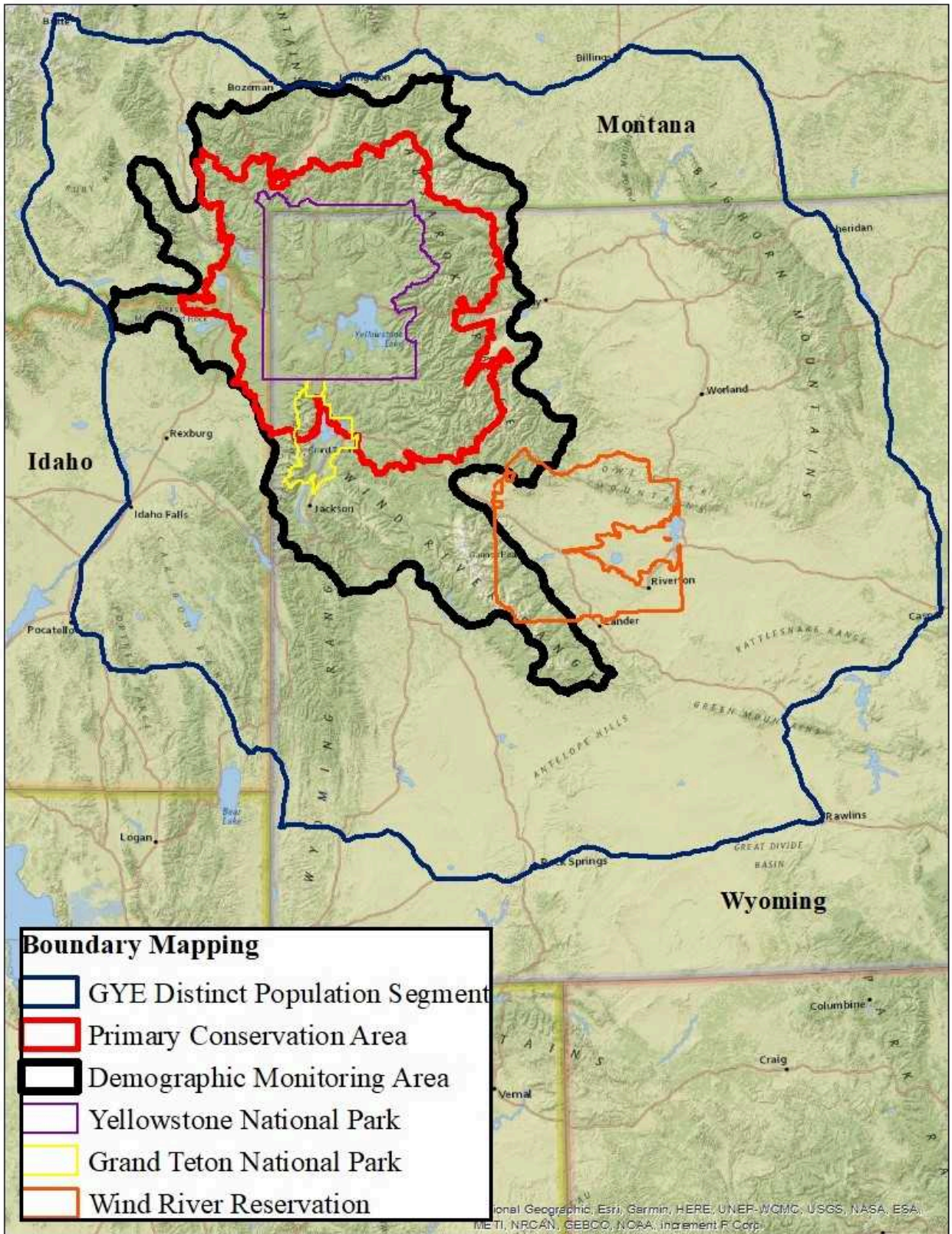
Chair, Idaho Fish and Game Commission

Date

Director, Idaho Fish and Game Department

Date

ATTACHMENT A



ATTACHMENT B

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	Montana MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	Idaho IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
Protected Classification	W.S. 23-1-101 (a)(xii)(A) (classified as trophy game animal)	MCA 87-2-101 (4) (classified as a game animal)	IC 36-201 IDAPA 13.01.06.100.05 (classified as big game animal)
No Take without Statutory/Commission/Director Authorization	W.S.23-3-102(a)	MCA 87-1-301; MCA 87-1-304; MCA 87-5-302	IC 36-1101(a)
Commission restriction of season, location boundaries, limits, gender, age	W.S. 23-1-302(a)(ii), WGBMP	MCA 87-1-304 (1); MCA 87-5-302	IC 36-104(b)(2) seasons, locations, sex, limits, methods of take; ISP
Commission limit of harvest to automatically close season, including gender-based limits	W.S. 23-1-302(a), WGBMP	MCA 87-1-304; MCA 87-5-302	IC 36-104(b)(2); ISP
Commission authority to restrict hunter effort (e.g., controlled hunts, tag limits)	W.S. 23-1-302(a)(i), WGBMP	MCA 87-1-201(8); MCA 87-1-304 (1); MCA 87-2-702; MCA 87-5- 302;	IC 36-104(b)(2) IC 36-104(b)(5) authority to designate controlled hunt IC 36-408(1),(2); ISP
Prohibition against take of females with young present	W.S. 23-1-302(a)	MCA 87-1-304; MCA 87-5-302; MCA 87-5-302	IC 36-104(b)(2) (Commission authority to prohibit in conjunction with season setting via proclamation or rulemaking); IDAPA 13.01.08.300.01.d
Requirement for license and tag	W.S. 23-3-102(a)	MCA 87-1-201(8); MCA 87-2-701; MCA 87-2-702; MCA 87 2-814; MCA 87-5-302	IC 36-401 IC 36-409(c)
Mandatory Check/Report to Monitor Harvest	W.S. 23-1-302(a)	MCA 87-1-301; MCA 87-5-302	IC 36-104(b)(3) (Commission authority for rules for mandatory check and report requirements); IDAPA 13.01.08.420, 422

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	Montana MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	Idaho IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
Authority for Emergency Season Closure based on Change in Conditions affecting mortality/habitat	W.S. 16-3-103(b)	MCA 87-1-304 (5); MCA 87-5-302	IC 36-104(b)(3) Commission emergency closure authority IC 36-106(e)(6) Director authority, closure in emergency effective upon written order
Permit required for response to depredation unless self-defense/defense of others/defense of property under threat to human life or domestic animals	W.S. 23-1-302(a)(viii)	MCA 87-1-201(8); MCA 87-1-304(1)(e); ARM 12.9.103(1)(d)	IC 36-1107 (carcass remains property of state)
Mandatory Education	W.S. 23-1-302(a)(xxii)	MCA 87-1-301; MCA 87-1-304 MFWC Black Bear Regulations	IC 36-412(a) Hunter education mandatory for those born after 1/1/1975 IDAPA 13.01.02.200 Recommended additional materials and exam regarding bear identification available on-line.
Penalties	W.S. 23-3-102(d), W.S. 23-6-202, W.S. 23-6-206, W.S. 23-6-208	MCA 87-6-413. (Hunting or killing over limit)	IC 36-1402(c) Misdemeanor IC 36-1402(d) Felony IC 36-1402(e) Hunting license revocation for certain violations, including take during closed season, exceeding bag/possession limit IC 36-1402(g) License revocation in Idaho revokes hunting privileges in all 44 states participating in the Interstate Wildlife Violator Compact

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	Montana MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	Idaho IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
			Compact
Civil Penalty	W.S 23-6-204(e)		IC 36-1404(a)
Procedural Aspects of State Regulatory Mechanisms	W.S. 16-3-101, Wyoming Administrative Procedures Act	MCA 2-4-101, et seq., Montana Administrative Procedures Act	IC 74, Chapter 2, Open Meeting Requirements, including notice for all meetings of Idaho Fish and Game Commission IC Title 67, Chapter 52 (Idaho Administrative Procedure Act), requirements for public notice and comment, legislative review IC 36-105(3) Public Notice & Publication requirements for season setting