WDFW RESPONSE TO STATE ENVIRONMENTAL POLICY ACT (SEPA) COMMENTS ON MITIGATED DETERMINATION OF NON-SIGNIFICANCE (MDNS) 20-043

**1.0. Introduction.** The Washington Department of Fish and Wildlife (WDFW) Wildlife Program recently proposed changes to Washington Administrative Code (WAC) 220-500-200 through an APA rule making process, and also proposed changes to Fish and Wildlife Commission (FWC) Policy C-6003, for FWC consideration. In addition, WDFW staff developed an associated draft document entitled "Grazing Guidance and Grazing Management Tools," (hereinafter "draft grazing guidance/tools document" which summarized 1) the proposed WAC changes, 2) the proposed changes to FWC Policy C-6003, and 3) other non-binding guidance and current rationales and tools used by WDFW to implement rule and policy and to manage permitted livestock grazing on WDFW-managed lands. WDFW's Habitat Protection Division issued MDNS 20-043 (Sept. 3 2020 through Sept. 24 2020; hereinafter referred to simply as "MDNS"), pursuant to WAC 197-11-330 and WAC 197-11-350. WDFW initiated simultaneous Washington Administrative Procedure Act (APA) rule making and SEPA comment periods for the proposed APA rule change and the proposed SEPA non-project action, respectively, that ran from September 3 to September 24, 2020. [1] WDFW will respond separately to public comments received about the APA proposed rule changes and prepare a "Concise Explanatory Statement" in the event that the FWC votes to approve the proposed WAC amendments. SEPA does not specifically require a response to comments in the context of a MDNS, but WDFW has chosen to prepare one in this instance in light of the volume and nature of SEPA-related comments to demonstrate due consideration of public comments. The present document (hereinafter the "Response") contains an overview, classification, summary, and set of responses to these SEPA comments.

**2.0. General overview of comments.** The public was directed to submit comments applicable to the proposed APA rule change to WDFW's rules coordinator, and to submit SEPA comments about environmental effects to a separate SEPA portal. This is because the SEPA process is distinct from the APA-governed process pertaining to rule changes. Few responders, however, observed this thematic separation in their comments. Many comments contained suggestions on what should or should not be permitted, but WDFW often found it impracticable to determine whether these suggestions were directed at the proposed WAC amendment, Policy amendment, draft grazing guidance/tools document, or some combination. Therefore, although WDFW has described comments below according to how they were received, WDFW has reviewed all comments received regardless of their mode of submission and considered them as they appear to pertain to the rule change and/or environmental impacts associated with other aspects of the proposed non-project action, or neither. Following a general summary of the number, mode, and types of comments, this Response reflects WDFW's consideration of these comments at a more granular level.

In sum, WDFW received three types of substantive comments (those indicating some form of agreement or lack thereof and/or detailed written recommendations): 1) rule-change-associated comments (127 responses), 2) SEPA-associated comments (26 responses), and 3) FWC briefing-associated comments (8 responses), for a total of 161 "unique" substantive submissions. These submissions came from numerous private individuals, 17 non-governmental organizations (NGOs) or advocacy groups (5 of

[1] The proposed amendments to WAC 220-500-200 follow APA rule making procedures, RCW 34.05.310-395. FWC Policy C-6003 and the non-binding guidance document are not "rules" (RCW 34.05.010(14)), and thus are not subject to those APA rule making procedures.

which submitted two sets of comments and one of which submitted 3 sets of comments), and 2 government entities. Additionally, in May 2020, WDFW invited informal comments to aid its development of the proposed WAC amendment, FWC Policy amendment, and draft grazing guidance/tools document from wildlife area advisory committees, grazing permittees, and several groups already included in the tallies above. WDFW received 9 such comments, described below. Following Response section 2.5, WDFW lists each discrete event where internal and external review was solicited during development of the proposed WAC amendment, Policy amendment, and draft grazing guidance/tools document.

2.1. **Rule-change-associated comments.** Commenters were asked to indicate whether they agreed with the proposed WAC amendments (38 responders), disagreed (43 responders), or neither (23 responders). Many individuals (74+ responders) made no response to that question, but several of these submitted written comments. For responders who indicated agreement or disagreement with the proposed amendments, little correlation was apparent between commenters' responses and the details of their written comments, if they provided any. In several cases, for example, responders indicated that they generally supported the changes but then went on to state that livestock grazing should not be permitted on public lands. In all, 123 of the rule-change submissions included written commentary of some kind; of these, 78 were self-designated as coming from within Washington, 25 were self-designated as coming from outside Washington, and 20 did not designate locations.

2.2. **SEPA-associated comments.** No specific prompts were made in connection with the SEPA comment period. WDFW received 26 written submissions. These submissions were in some cases more multi-faceted and extensive than many rule-change comments. Some comments included lengthy discussions about ecological effects (which were occasionally sweeping and represented as indisputable), various scientific and non-scientific articles, and perspectives on the compatibility or lack thereof between WDFW's mission and livestock grazing in general. Overall, themes of these comments were relatively comparable to the comments submitted to WDFW's rules coordinator on the proposed rule-change.

2.3. **Comments received at FWC briefing on October 23 2020.** Eight individuals submitted public testimony at this briefing, which was recorded. WDFW subsequently replayed and summarized this testimony.

2.4. **Informal public comments**. Six of these ended up being reiterated through formal comments described above by the same organizations or individuals. The other three were also comparable in tone and content to many submissions during the formal comment period. Some of these comments cited scientific references; WDFW followed up on the majority of these references (all that were readily available online without subscriptions, which was the majority) and discusses them in Response section 4.3 below, but otherwise these informal comments are not discussed further.

2.5. **Methodology of comment review.** From October 2020 to January 2021, WDFW conducted a detailed review of all comments. Each iteration of a form letter from one NGO was read in full once; all other comments were read in full at least twice, and many were studied at length

repeatedly. Other resources consulted during this process include comments received in connection with the events listed in the table below, existing WDFW grazing permits, other WDFW planning documents, the 2009 Final Environmental Impact Statement for a managed grazing proposal on a Coordinated Resource Management (CRM) landscape including the Quilomene Wildlife Areas (FEIS) (WDFW and Inc 2009), the Biological Assessment (BA) resulting from WDFW's recent Endangered Species Act Section 7 consultation with the United States Fish and Wildlife Service (USFWS), and a wide range of scientific literature. WDFW staff met several times to review this material and considered whether and how any proposed language for WAC 220-500-200 or FWC Policy C-6003 should be changed, and how to address other changes suggested by the public to the draft grazing guidance/tools document. The FWC was briefed about general content of public comments, WDFW's progress in responding to them, and possible changes to WDFW staff recommendation on the proposed amendments to WAC 220-500-200 and FWC Policy C-60003 (as well as potential edits to the draft grazing guidance/tools document) on three occasions during this time: the briefing on October 23 2020, the FWC Wildlife Committee's meeting on December 3 2020, and the FWC meeting on January 29 2021.

**Presentations where WDFW sought public and/or staff input**

| **Audience** | **Date** | **Format** |
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| Producers, conservation-oriented groups, elected official (20+ total stakeholders) | February 2019 | Discussions about wolf-livestock conflict minimization measures |
| FWC Wildlife Committee | September 13 2019 | In-person meeting, Winthrop WA |
| WDFW Wildlife Program work group | November 6 2019 | Conclusion of multi-year cross-division work group activities |
| WDFW / Selected livestock producers/ Non-governmental conservation organizations | November 19 2020 | In-person invited work group to develop language for reducing wolf-livestock conflict |
| WDFW Wildlife Area Managers | December 18 2019 | Webinar + question and answer (Q&A) + in-person follow-up |
| WDFW Biologists from Fish and Habitat Programs | February 11 2020 | Webinar + Q&A |
| WDFW Executive Management Team | April 22 2020 | Webinar + Q&A |
| Wildlife Area Advisory Committee members and all WDFW grazing permittees | May 13 2020 | Letter inviting comment, first notification of Annual Operational Plans |
| Livestock producers (individual ranchers, representatives from Washington Cattlemens Association and Washington Farm Bureau) | May 20 2020 | Webinar + Q&A + invitation for comment |

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| Conservation NGOs (representatives from approximately 14 organizations) | May 21 2020 | Webinar + Q&A + invitation for comment |
| Tribal members | May 27 2020 | Webinar (no tribal invitees attended) |
| General public | September 3-24 2020 | Formal WAC and SEPA comment periods |
| FWC/general public | October 23 2020 | Formal briefing and item-specific public testimony |

**3.0. Introduction to WFDW's response to comments.** WDFW's mission is to preserve, protect, perpetuate, and manage fish and wildlife while providing sustainable recreational opportunities. In pursuit of this mission, WDFW currently manages over one million acres of public land throughout the state, the majority of which is organized into individual "Wildlife Areas." The primary purpose of WDFW lands—closely reflecting WDFW's overall mission and described in WAC 220-500-010—is the preservation, protection, perpetuation and management of fish and wildlife and their habitats. Actions to support this purpose are carried out at multiple spatial and temporal scales and are based on multiple factors. One such action is to permit livestock grazing on some department lands specifically to achieve the long-term preservation of fish and wildlife, their habitats, and related recreational opportunities at those various scales, which can exceed those of individual Wildlife Areas.

WDFW recognizes that members of the public hold diverging views on livestock grazing, particularly on public land. WDFW likewise recognizes that historical and/or largely unmanaged grazing practices in various areas throughout the western North America have led to degradation of fish and wildlife habitat. Poorly managed grazing tends to be notably manifest in riparian areas, which are vital to ecosystem structure, function, and biodiversity **(Poff et al. 2012)**. (Throughout this response, scientific citations sent to WDFW by commenters are depicted **in bold**.) WDFW staff have reviewed extensive scientific literature about livestock grazing impacts on fish and wildlife and find that with appropriate protective measures, grazing can be managed in a way that is consistent with WDFW's mission. All livestock grazing on WDFW lands is, and has long been, regulated by existing rule (WAC 220-500-200) and FWC Policy C-6003. As explained further below, WDFW's implementation of rule and policy is structured to benefit the long-term preservation of fish, wildlife, their habitats, and related recreational opportunities across a broad spatial scale and to avoid and/or minimize local risks of grazing to fish and wildlife and their habitats.

WDFW issues grazing permits in a variety of scenarios. In some cases, WDFW seeks a direct effect of grazing on habitat, for instance improved forage accessibility to big game. These kinds of permits can have positive ramifications for hunting and wildlife watching opportunities as well as for habitat. WDFW also issues grazing permits on occasion to ranchers who have lost pasture elsewhere due to events like wildfire or wolf-livestock conflict. These alternate-pasture permits are made available when compatible with WDFW's overall mission and have the potential to 1) provide some assistance to affected communities, and 2) spread out and reduce the grazing load on multiple land ownerships while burned areas recover. In several other instances, WDFW has issued permits in association with land acquisitions. For example, continuing use leases for grazing have been issued to sellers during some multi-year "phased" acquisition processes. This occurred when WDFW acquired acreage now included in the Big Bend Wildlife Area and 4-O Ranch Unit of the Chief Joseph Wildlife Area. Following the conclusion of those acquisitions and associated continuing use leases, WDFW chose to issue normal- 5-year grazing permits on that acreage. Community expectations about grazing were part of the public dialogue about those particular acquisitions. In those cases and others, WDFW chose to honor existing grazing leases on certain land acquisitions as an acknowledgement that existing management played some role in maintaining the habitat value of the acquired lands. It is incumbent upon WDFW to modify as necessary any renewal of such permits to ensure that they remain consistent with WDFW's mission. Taken together, WDFW grazing permits help achieve site-specific objectives and help facilitate landscape-scale protection of habitat and open space for perpetual use by fish and wildlife and Washington's citizens. Public land ownership offers long-term protection from subdivision, development, fragmentation, and loss of habitat.

Although the purpose of WDFW lands is constant around the state, site-specific objectives vary between, and sometimes within, different wildlife areas, none of which can be all things to all species. Management direction is often bound by unit-specific restrictions associated with the source of funds – be it federal, state, or private, including requirements associated with mitigation agreements and obligations. Additionally, WDFW lands exist in all counties of the state and are necessarily embedded in very different social and ecological contexts. Major historical disturbances occurred on the footprint of the Shillapoo Wildlife Area, which is today managed in part to support waterfowl. In contrast, many areas on the Scotch Creek Wildlife Area Complex (with a management focus on other species) retain a relatively high degree of ecological integrity and native flora. WDFW currently permits grazing on select portions of both wildlife areas for different reasons. Many other wildlife areas, on both sides of the Cascades, are devoid of grazing permits. Grazing is neither permitted nor envisioned in all areas, and WDFW does not interpret the capacity to permit grazing under rule and policy as an imperative to do so.

Many of the comments WDFW received from the public portrayed "grazing" as something that either occurred or did not occur, and thus leading to only two possible sets of outcomes. Little or no acknowledgement was made of what is in fact a large range of potential environmental outcomes due to or coincident with grazing, either by opponents or by supporters of grazing. Yet, "to use the term grazing in a generic sense is meaningless" (Borman 2005). WDFW observed that many of the scientific reports cited by commenters actually made clear distinctions between managed grazing and unmanaged (or poorly managed) grazing—distinctions that many commenters were either unaware of, or that they ignored, or in a few cases, that they attempted to blur or even refute. The differences between managed and unmanaged grazing are real and crucial. This is evident in the literature discussed below in section 4.3, as well as in the draft grazing guidance/tools document, section 1.5.

Some commenters demanded that the MDNS be changed to a determination of significance due to expected impacts, which would require an environmental impact statement (EIS) (WAC 197-11-736). This assertion is off-base because permitted grazing under rule and policy is an existing use of WDFW land, described more fully below in section 4.1.1. SEPA anticipates that an agency will consider potential environmental impacts where there is a change in the existing use in connection with an "agency action." Here, WDFW is considering a non-project action of amendments to WAC 220-500-200 and FWC Policy C-6003. Because livestock grazing currently occurs on WDFW lands and the contemplated amendments to WAC 220-500-200 and FWC Policy C-6003 are minor, WDFW's SEPA analysis did not assess potential environmental impacts from a baseline of "no grazing." Instead, WDFW considered the resource concerns noted by commenters against the baseline of WDFW's current practice of selective, case-by-case livestock grazing on WDFW lands through individually issued grazing permits. Through this lens, WDFW has considered the concerns expressed in light of the proposed amendments to WAC 220-500-200 and FWC Policy C-6003 and/or under the protective processes WDFW implements in connection with grazing permits (see draft grazing guidance/tools document, sections 1.5 and 2.1 – 2.5).

One proposed change in the language describing roles of grazing is a substitution of "managing" vegetation for "manipulating" vegetation. This is not a substantive change. Coordinated resource management would also remain a role in FWC Policy C-6003 as proposed, with some additional explanatory context compared to current language. Therefore, the new roles of grazing proposed in FWC Policy consist of recreational opportunity and protecting community character. WDFW's intent about the meaning of community character is clarified in Response section 4.4. This role would potentially be applicable to a range of different situations, so WDFW evaluated public comments and associated scientific references broadly to 1) determine whether the conservative grazing described by the

draft grazing guidance/tools document was consistent with protecting fish, wildlife, and habitat; and 2) to assure transparency of process. WDFW reviewed most of the scientific references cited by commenters in order to make this determination. This discussion is found in large part in Response section 4.3. Finally, even in the case of the Grazing Evaluation Framework outlined in the draft grazing guidance/tools document, section 2.4, where "new" grazing may be contemplated on WDFW lands, WDFW points out that new grazing has always been a possibility (rarely implemented) on WDFW lands. New grazing in this context means a grazing permit issued for WDFW lands with no history of grazing permits within the previous 10 years. The draft grazing guidance/tools document would standardize a thorough review process that would either discourage permit issuance or recommend appropriate protective measures.

**4.0. Detailed classification of comments.** WDFW summarized and grouped comments into eight general categories and in some cases into subcategories. Comments and responses are presented in tabular form with comments or groups of related comments on the left (*in italics*) and WDFW's responses on the right. WDFW notes that one of the comments was a form letter submitted by what one NGO purported to be responses from several hundred individuals. WDFW was unable to verify how the NGO framed the issue and solicited input from these purported responders, the vast majority of whom replied directly to the NGO (not WDFW) with the form letter exactly or nearly verbatim. One other form letter was posted on a different NGO's website that was accessible until at least December 2020, all or portions of which were cited verbatim by several commenters. Some NGOs cosigned a joint set of comments.

Although WDFW strived to represent comments accurately, generalizations are clearly inherent in these summaries. WDFW notes additional comment detail in some of its responses, but some of the nuance present in original comments has been simplified for brevity. WDFW observed that comments on several topics were diametrically opposed to each other (for example, the idea that grazing negatively impacts habitat versus the idea that grazing is good for habitat).

4.1. **Broad support or opposition**. Comments typically worded to address any of the following: "wildlife" in general, WDFW's mission, or broad management priorities, or unspecified portions of, or the entirety of, the proposed amendments to WAC 220-500-200, FWC Policy C-6003, and the draft guidance/tools document .

4.1.1. **General comments on the relevance to WDFW's mission**.

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| *Do not allow grazing, and/or do not expand grazing, on public and/or WDFW land*<br><br>*Grazing, and/or proposed amendment of WAC 220-500-200 and FWC Policy C-6003, as well as the draft grazing guidance/tools document, is or should be* | The proposed amendment of WAC 220-500-200 and FWC Policy C-6003, as well as the draft grazing guidance/tools document, introduced several relatively modest changes to existing WAC 220-500-200 and Policy C-6003 designed to increase fish, wildlife, and habitat protection on WDFW lands. Most people who responded, however, did so under the apparent impression that the comment period constituted a referendum on grazing and livestock in general. In this vein, WDFW received many more public comments opposed to livestock grazing than in favor of it. Many of these individuals opposed to grazing argued that grazing on WDFW lands should not occur and/or that it is inconsistent with WDFW's mission. One NGO in particular urged WDFW to amend its rules to forbid livestock grazing and demanded that an |

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| *assumed to be incompatible with WDFW's mission and statutory authority (and/or that statutory authority doesn't mention grazing or most other commercial activities)*<br><br>*Questions why EIS was not produced and/or demands that EIS be prepared and SEPA determination be changed to Determination of Significance* | Environmental Impact Statement (EIS) be prepared because of numerous alleged significant environmental impacts of grazing. Changing the WAC 220-500-200 in this manner was never proposed. To evaluate the environmental consequences of the proposed amendments to WAC 220-500-200 against a scenario where grazing does not occur on WDFW lands would be contrary to SEPA case law. In the context of SEPA, environmental consequences must be analyzed against "existing uses, not theoretical uses" (Chuckanut Conservancy v. Washington State Dept. of Natural Resources, 2010; Wild Fish Conservancy, Center for Food Safety, Center for Biological Diversity, and Friends of the Earth v. Washington Department of Fish and Wildlife, 2020). A significant impact on environmental quality due to the proposed amendments of WAC 220-500-200 and FWC Policy C-6003, as well as the draft grazing guidance/tools document is not probable (see WAC 197-11-794), in part because the existing situation on WDFW lands for decades has been that grazing can be, and is, permitted under rule and consistent with Policy. WDFW maintains that environmental protections would be increased relative to existing rule and FWC Policy, improving outcomes for fish, wildlife, and habitat. Therefore, the MDNS is appropriate and no environmental impact statement is required.<br><br>Some commenters alleged that WDFW lacked statutory authority to permit grazing because grazing is not spelled out in WDFW's legislative mandate. Section 1.3 of the draft grazing guidance/tools document outlines the statutory authority for WDFW to lease land and sell products in furtherance of its mission. |
| *Don't support proposed amendments to WAC 220-500-200 and Policy C-6003, or draft grazing guidance/tools document because they favor livestock or because it favors wolves* | Some commenters rejected the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document outright for diametrically opposed reasons: in one case, in the belief that it favored livestock, and in the other, that it favored wolves. WDFW notes that it has no particular mandate to preserve livestock, but it does have a legal responsibility to fish, wildlife, and their habitats, and where WDFW permits grazing, it does so consistent with that responsibility. WDFW believes that livestock grazing has a role on its managed lands and has outlined a new process (section 2.5 of the draft guidance/tools document) that will minimize conflict between livestock and wolves, does not impose across-the-board requirements, and is suited to adaptive management. |
| *Support proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document and clarifications, and/or view it as a positive step toward some end* | Comments in this category included general statements of typically partial support. Most of these were qualified with cautions or recommendations captured in other sections of this Response. Also grouped here are comments by those suggesting that the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document constitute a positive change even though they might prefer the eventual elimination of public lands grazing. WDFW acknowledges these comments and notes that specific topics touching more directly on environmental effects are discussed in Response section 4.3. |

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| *Language in proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document is variously vague, unenforceable, non-transparent, unmeaningful, and/or of no substantial change* | WDFW agrees that the proposed changes to rule and Policy are not revolutionary, but WDFW believes they move WDFW land management uniformly in the direction of 1) increased protection for fish, wildlife, and habitat; and 2) increased consistency and transparency of process. WDFW sought to retain existing language in rule and FWC Policy to the extent possible while making recommended clarifications and improvements. The draft grazing guidance/tools document consists of detailed context and explanation for how WDFW currently strives to implement rule and FWC Policy, which WDFW had not previously published. |
| *Private interests must be subordinate to public interests/healthy ecosystems* | WDFW's mission applies. Per proposed rule and FWC Policy, grazing would only be permitted if consistent with WDFW's mission, desired ecological conditions, and the Strategic Plan. WDFW concludes that the proposed amendments to WAC 220-500-200 and Policy C-6003, and the draft grazing guidance/tools document—which were not developed at the behest of any private interest—provide increased protection to fish, wildlife, and habitat relative to existing regulation and guidance. |
| *Current WDFW grazing is unsustainable and is apparently permitted on 750,000 out of 1 million acres, or has negatively affected specific areas (Potholes and/or Okanogan County and/or Stemilt Basin and/or Colockum Game Reserve and/or Chesaw Wildlife Area) and/or some WDFW staff have given up on protecting certain sites* | Any claim that grazing is permitted on 750,000 acres is objectively false. WDFW was unable to determine whether additional claims by this commenter were based on that misinformation, but WDFW has never issued permits for an amount remotely approaching 750,000 acres. WDFW currently manages some 958,000 total acres within Wildlife Areas. Grazed acreages routinely fluctuate as permits expire and renew, but as of September 2020, grazing was permitted on approximately 123,000 acres. Effectiveness monitoring (see section 2.2 of draft grazing guidance/tools document) and the discussion of environmental effects in Response section 4.3 suggest that ecological integrity has been largely stable since implementation of effectiveness monitoring from 2010-present. As to the specifically mentioned locations, it is not clear where in "Okanogan County" or the "Potholes" that the commenters were referring to, and WDFW does not issue grazing permits on the Colockum Game Reserve or in the Stemilt Basin (which was a relatively recent acquisition by WDFW). It may be possible that these areas have been affected by unauthorized livestock grazing. WDFW will follow up with commenters about the Chesaw Wildlife Area and other sensitive sites that may be challenging WDFW staff. |
| *Mission should include requirement to be responsive to public* | WDFW's mission is defined by statute and is beyond the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and of the draft grazing guidance/tools document. WDFW strives to consider all public input, but there is no decision regarding livestock grazing that will satisfy all interested publics. |
| *Obligation to comply with laws protecting endangered species means WDFW has conflict of interest* | WDFW understands a conflict of interest as a situation where a public employee derives personal benefits (typically financial) as a consequence of actions in an official capacity. The allegation was not accompanied by any evidence of this. If the commenter intended to argue that grazing as permitted is at cross purposes with state or federal law, WDFW finds no evidence of that either. In 2020, a USFWS BA determined that with the exception of Spalding's |

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| | catchfly—an endangered plant—WDFW grazing permits may affect, but were not likely to adversely affect any of the ESA-listed, proposed, or candidate species occurring within Washington. In the case of Spalding's catchfly, USFWS found that WDFW grazing permits may adversely affect the species but did not pose any jeopardy to the species. |

#### 4.1.2. General and technical comments on WDFW management priorities.

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| *Prioritize wildlife* | Many of these comments were not clear about whether this meant "no grazing," or instead just a clear prioritization. The texts of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document, are clear that WDFW's wildlife and habitat conservation mission is paramount. |
| *Prioritize and/or increase livestock grazing, and/or proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document are too restrictive of grazing* | WDFW believes that livestock grazing has a role on WDFW lands, but WDFW's obligation is to fish and wildlife, not to any one specific management strategy, and WDFW has no agenda to increase or reduce the amount of land where grazing is permitted. Per the MDNS, draft grazing guidance/tools document section 1.5, and discussion in Response section 4.3, WDFW concludes (like many commenters) that the risk of negative environmental outcomes from poorly managed livestock grazing is substantial and necessitates measures to guard against such outcomes. WDFW does not permit grazing where protective measures are not assuredly in place. |
| *Proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document inappropriately emphasize certain species ("picking winners and losers") or user groups like hunters and ranchers, and instead should focus on ecosystem management* | WDFW agrees that its land management practices should be informed by a broad view of ecological integrity. This is why under the proposed amendment to FWC Policy C-6003, would continue to require ecological integrity to be maintained when grazing is permitted. Ecological integrity and the monitoring of it are described in the draft grazing guidance/tools document section 2.3. WAC 220-500-200, FWC Policy C-6003, and the draft grazing guidance/tools document should not be interpreted separately or collectively as a fundamental manual of land management; they deal only with permitted livestock grazing, which occurs on a minor subset of WDFW lands. Some commenters here might have been referring to waterfowl and big game, which are mentioned in section 1.4. That WDFW would occasionally implement management actions (such as grazing for instance) benefitting certain species or groups—which happens on grazed and ungrazed wildlife areas alike—does not restrict WDFW from pursuing a general strategy consistent with its overall conservation mission and with the Strategic Plan. Many wildlife areas are managed for the benefit of certain species, and indeed some properties were acquired with funding contingent on such action. Furthermore, the draft grazing guidance/tools document references hunting opportunities in section 1.4 because WDFW's statutory mandate includes maximizing hunting opportunities. Modifying that mandate is beyond the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. Finally, the current Strategic Plan identifies enhancing habitat for hunting and wildlife viewing opportunities as foundational work of WDFW. |

4.2. **Wolves**. Comments addressing general wolf management, risk of conflict with livestock, and technical aspects of Annual Operational Plans (hereafter "AOPs").

4.2.1. **Comments about lethal removal of wolves and the relative priority of wolves for WDFW**.

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| *Department's "lethal removal protocol" is flawed and clarification is needed about how proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document influences lethal removal decisions*<br><br>*Do not kill wolves and/or use only nonlethal measures on wolves and/or remove livestock instead of wolves and/or killing wolves is counterproductive and/or removing wolves is not a "necessary tool"* | WDFW agrees that clarity on this point is essential. The commenter may have been referring to the WDFW's Wolf-Livestock Interaction Protocol (https://wdfw.wa.gov/sites/default/files/2020-09/20200915_wdfw_wolf_livestock_interaction_protocol.pdf, hereinafter "WLIP"). The WLIP describes WDFW's decision-making process for lethal removal, and WDFW has indicated that this process does not vary according to underlying land ownership. It is not the subject of the proposed amendments to WAC 220-500-200 and Policy C-6003, neither of which addresses issues of wolf management in any way, and neither of which would have any bearing at all on WDFW's decision-making process for lethally removing wolves. The proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document would not authorize, encourage, or compel any lethal action whatsoever against wolves.<br><br>The section of the draft grazing guidance/tools document that specifically addresses conflict minimization planning (2.5) can only lead to three possible management outcomes: 1) no additional livestock management precautions beyond standard sanitation; 2) site-specific additional nonlethal measures short of removing livestock; and 3) temporary removal of livestock or delayed/canceled turnout of livestock. A recommendation to implement lethal removal of wolves would never be a possible outcome of the annual operational plan (AOP) process, FWC Policy C-6003, WAC 220-500-200, or any other element of the draft grazing guidance/tools document.<br><br>Incidentally, WDFW has initiated rule making regarding broader wolf-livestock conflict issues and wolf management – see Code Reviser (CR)-101 published as Washington State Register (WSR) 20-21-039) – on which interested parties are encouraged to comment at the appropriate time. Those broader issues remain outside the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document, which are restricted to concerns of livestock management and land management.<br><br>Accordingly, text in section 1.6 of the draft grazing guidance/tools document has been modified to clarify WDFW's original intent, which was to notify the public that wolves are managed consistent with the Wolf Management Plan (WMP) (Wiles et al. 2011), the WLIP, and other rules as applicable. WDFW grazing permits will be crafted to implement the non-lethal tools required to |

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| | meet our management goals given the specific circumstances surrounding that permit.<br><br>Implied or stated in some comments was the idea that the presence of livestock leads to conflict with wolves as a matter of course, and that conflict inexorably leads to lethal removal (with consequences for wolves and for ranchers). Please see Response section 4.2.2 for discussion of this idea. |
| *Wolves have positive environmental and riparian effects*<br><br>*Prioritize recovery of wolves and/or all native carnivores in general and/or include other carnivores besides wolves in AOPs*<br><br>*Nonlethal measure requirement exceeding that in WLIP is not meaningful* | WDFW concurs that wolves have intrinsic value and important ecological roles. Nothing in the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document excludes or harms wolves, as discussed above. WDFW is obligated to follow the law concerning federal- and state-listed endangered species, including wolves (which are state-listed at the time of this writing). The draft grazing guidance/tools document, section 2.5, promotes conflict minimization through a risk assessment process and associated potential contract terms—limited to nonlethal measures—where wolves are present. The AOP process was drafted to apply to grazing permits and wolves. Applying the process to other carnivores is outside the scope of the proposed amendments to WAC 220-500-200 and FWC Policy C-6003, and of the draft grazing guidance/tools document. Per the WMP a variety of approaches are more likely to be successful in reducing wolf-livestock conflict, and section 2.5 of the draft grazing guidance/tools document stipulates requirements above and beyond the WLIP. |
| *Prioritizing wolf conservation is at odds with WDFW's wolf management plan; wolves should be limited to remote wilderness* | WDFW is obligated to follow the law concerning federal- and state-listed endangered species, including wolves. Moreover, funds for portions of certain Wildlife Areas were granted to WDFW on the express condition that those acquisitions be managed for wolves (among other species). WDFW disagrees that the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document are inconsistent with the WMP. The question of whether wolves should be limited to wilderness areas is outside the scope of proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. |

4.2.2. **General comments about ramifications of wolf-livestock conflict and required nonlethal measures**.

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| *Nonlethal conflict prevention measures including range riding are ineffective or insufficient to protect wolves from lethal removal following conflict and/or WDFW should not accept risk that conflict could occur* | The implication here is that conflict will be unavoidably followed by lethal removal, which is contrary to the WLIP and is not borne out by WDFW actions over the last few years. In multiple instances WDFW has not removed wolves even when consideration of such was authorized under the WLIP. Per the WMP, nonlethal measures should not be thought of as a permanent solution, but they can be useful in specific short-term situations. Most WDFW grazing permits allow grazing for a few weeks to a few months each year. |
| *Livestock removal won't stop depredations but will shift* | WDFW's internal work group identified this potential concern about possibly shunting problems to private property early in the drafting process. This is one |

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| *them to private property, effectively punishing or ruining ranchers after conflict*<br><br>Versus<br><br>*Livestock removal from public lands will stop depredations* | reason why default livestock removal in wolf habitat is not prescribed, despite narratives in some public comments, some media, and elsewhere suggesting otherwise. Instead, the focus is on proactive measures to prevent conflict while promoting coexistence on the landscape. The argument that depredation events will simply follow livestock from WDFW lands to private property implies that conflict is inevitable when wolves and livestock coexist. WDFW rejects this argument and finds it inconsistent with evidence in the WMP.<br><br>WDFW was unable to conclude from available evidence that a general cessation of depredations would result from livestock removal of public lands. While it is difficult to predict with certainty which actions might most successfully lead to a cessation in depredations in any particular case, it is possible that wolf-livestock conflict in a particular location could become chronic despite conscientious implementation of nonlethal measures on the part of all involved. WDFW's conservation mission is always primary, and therefore language in the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document about WDFW's conservation mission with respect to wolves will remain. WDFW believes that the AOP process will lead to appropriate identification and feasible implementation of nonlethal measures that minimize wolf-livestock conflict. WDFW has clarified the AOP process description in the draft grazing guidance/tools document, sections 1.6 and 2.5, so that it is understood that any requirement to remove livestock or delay turnout on account of wolves could only be authorized by the Director. This has always been the intent, as demonstrated by 1) WDFW's explanations in the presentations listed in Table 1 that only the Director could authorize livestock removal/turnout prohibition, and 2) the recognition in the draft grazing guidance/tools document, section 1.6, that only patterns of conflict over time at particular locations would be sufficient to conclude that specific permits were inherently inconsistent with wolf conservation. |
| *Measures unfairly burden permittees with chief responsibility to control depredations while limiting their tools of doing so and/or WDFW should actively manage wolves on WDFW land instead of removing livestock*<br><br>*Eastern Washington is experiencing "huge impacts" related to "these state rules," and rancher livelihoods are at stake* | WDFW wonders if there was some confusion on the part of these commenters, and notes that any Damage Prevention Cooperative Agreements that some ranchers might have with WDFW but applicable to other land ownerships are entirely separate from WFDW grazing permits. To the extent that the commenters might have implied that WDFW requires <u>its own permittees</u> to shoulder most of the effort in trying to minimize conflict <u>on WDFW lands</u>, WDFW concludes that the text of the AOP process in the draft grazing guidance/tools document, section 2.5, as well as WDFW's dealings with its grazing permittees to date, all decisively contradict the commenters' assertion based on the following factors: 1) the AOP process explicitly prescribes consensus of WDFW managers, conflict specialists, and permittees; 2) WDFW improved several miles of fence at considerable effort in order to facilitate a permittee's management of livestock in smaller grazing units on WDFW land in 2020, thus reducing pasture size and increasing the ability to maintain human presence around livestock; and 3) the Director chose not to |

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| | require livestock removal from grazing permit areas in 2020 despite some history of depredation in a nearby pack.<br><br>One commenter implied that "huge impacts" were financial—and possibly wolf-related—but was not specific as to which state rules were causing said impacts. In common vernacular, "rules" might encompass any and all directives to and from WDFW. Owing to the relatively small number of its grazing permittees on WDFW lands`, and to the fact that none of them have discussed any "huge impacts" from the contents of proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document with WDFW, WDFW concludes that the comment likely referenced wolves and/or finances in some capacity that 1) the proposed rule change does not affect, and 2) is not associated with an identifiable environmental outcome. |

**4.2.3. Technical comments on AOP measures and language.**

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| *Livestock removal should be default option and/or used whenever high-risk criteria are met or when consideration for lethal removal is imminent* | These commenters, like some in Response sections 4.2.1 and 4.2.2, appear to assume that when an elevated risk of conflict is perceived, one of two outcomes will ensue: 1) conflict occurs, and wolves are unavoidably removed; or 2) livestock are removed, and conflict necessarily ceases. Neither of these outcomes must logically follow from the scenario. The first was dismissed in 4.2.1, and the second was discussed in 4.2.2. Proposed amendments to Policy C-6003, and the draft grazing guidance/tools document section 1.4, explain that livestock grazing has a role on WDFW lands. A default response to conflict that requires livestock removal would 1) block the implementation of those roles of grazing and the associated benefits; 2) pre-empt the AOP process and the closest local experts, which as proposed would rapidly conduct a new risk assessment—including an evaluation of recent pack activity—following a high-risk criterion event and potentially recommend livestock removal or other remedies; and 3) disregard the fact that in scenarios with comparable risk, grazing has occurred on landscape scales within Washington without additional conflict. WDFW does not believe that wolves and grazing permits are, at least as a matter of principle, mutually exclusive. WDFW concludes that a default response of livestock removal following a high-risk event as described in the AOP process is therefore inappropriate. |
| *(Daily) human presence should be required on all permits in known wolf territory* | WDFW encourages human presence and low-stress livestock handling techniques to the extent possible. Standard permit language notes occasions in which greater human presence is needed, but WDFW recognizes that continuous human presence may be logistically infeasible in many situations. If human presence is determined to be required during the AOP process, but not feasible, WDFW retains the authority to alter grazing permits to protect and conserve wildlife. |
| *No alternate pasture should be allotted unless currently grazed and current environmental review* | All WDFW grazing permits are subject to ecosystem standards evaluations and all elements of WAC 220-500-200 and FWC Policy C-6003. This is the case regardless of whether a permit is issued for the purpose of alternate pasture due to wolf activity or for some other reason. The commenter's recommendation |

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| | that alternate pasture be limited to currently grazed areas is inherently problematic, because currently grazed areas already have defined objectives and forage allocated for other permittees. It would therefore very rarely be appropriate to issue additional permits on acreage already under permit. Alternate pasture has typically been provided on acreage with a history of grazing within the previous five years but not currently under permit. If WDFW were to offer alternate pasture on acreage without a recent history of grazing, SEPA requirements would be followed per WAC. |
| *Only WDFW staff should decide on required AOP measures OR what if no consensus?* | WDFW is obligated to manage in pursuit of its conservation mission. WDFW reached consensus with the permittees who have undergone the AOP process to date. WDFW realizes that failure to achieve consensus is a possibility but expects that consensus will continue to be the norm. Livestock grazing permits represent a management partnership where grazing is simultaneously a public management tool and a private business, and it is vital that WDFW understands its permittees' capabilities and constraints. In the end, WDFW issues grazing permits to the permittee, not the other way around. All WDFW grazing permits have, and would continue to have, language reserving the right to alter permits if necessary to fulfill WDFW's conservation mission. That would not change under the AOP process described in section 2.5 of the draft grazing guidance/tools document. |
| *Some areas are not conducive for both predators and large livestock* | WDFW agrees that this is possible and notes that the majority of WDFW lands are not grazed by livestock. This is one of several plausible outcomes at any given location and is explicitly addressed in the draft grazing guidance/tools document section 1.6. Because it is unfortunately difficult to identify these locations in advance, section 1.6 notes that a consistent pattern of conflict despite proactive nonlethal deterrent measures could result in the eventual termination of a given permit. Additionally, a history of depredation and/or wolf-livestock conflict is a risk factor in the Grazing Evaluation Framework (section 2.5 in the draft gr4azing guidance/tools document) that would inform a decision about whether to permit new grazing on WDFW lands. |
| *AOP step 5's "expeditious language" should be reinserted* | That wording was removed from an earlier draft reviewed by the commenter due to a perceived lack of specificity. However, because it illustrates the essence of time when responding to risk of conflict, WDFW agrees, and this wording has been restored to section 2.5 of the draft grazing guidance/tools document. |
| *Wildlife conflict specialist, in addition to WAM, should be consulted and reported to* | WDFW made minor changes to the wording of the standard sanitation measures in section 2.5 of the draft grazing guidance/tools document after consulting with Wildlife Conflict Specialists. While Wildlife Conflict Specialists are involved in risk assessments and development of recommended nonlethal measures, within the context of the grazing permit, documentation need only be reported to the Wildlife Area Manager. |
| *Boilerplate language in crossing permits describing conflicts that a "wolf has* | WDFW agrees with this comment and has modified section 2.5 of the draft grazing guidance/tools document accordingly. |

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| *caused" should be made more neutral* | |

4.2.4. **Other wolf-related comments largely beyond the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document**.

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| *Wolf-related measures undercut Wolf Advisory Group (WAG) and stems from pressure from Governor's office and/or non-governmental organizations (NGOs), not best available science* | WDFW disagrees that the draft grazing guidance/tools document undercuts WAG. It does not conflict with WAG or the Wolf Management Plan. It does recognize that WDFW has obligations on its lands that other landowners do not necessarily have, but this condition has always been the case. As noted in Table 1, WDFW sent the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document through more than 4 rounds of internal review, where it was subject to comments from biologists and managers in all WDFW resource Programs. WDFW is aware of 1) the Governor's statements on nonlethal measures (and the separate rule-making process mentioned in Response section 4.2.1) and 2) viewpoints of numerous NGOs and individuals supporting and opposing grazing on WDFW lands. Staff drafting the draft grazing guidance/tools document have not received pressure or instructions to bias the review process in a certain way to achieve a pre-determined outcome. Response section 4.3.4 addresses comments disparaging the validity of scientific resources consulted by WDFW. |
| *Diamond M Ranch's WDFW permits should have been revoked years ago and are responsible for much of the damage in Colville National Forest* | This comment is based on a false premise. WDFW has never issued a grazing permit to the Diamond M Ranch and lacks jurisdiction over leases issued by the United States Forest Service (USFS) on the federally owned and managed Colville National Forest. The proposed amendments to WAC 220-500-200 and Policy C-6003, draft grazing guidance/tools document, and MDNS are strictly limited to regulations, practices, and ensuing environmental effects of WDFW grazing permits which are issued solely on WDFW owned and managed lands. This comment is outside of that scope. |
| *A [new] federal law protecting all predators should be implemented* | The advisability of a theoretical federal law is not pertinent to SEPA or the rule, and this comment therefore does not address any effects of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. |
| *Policy change would set a "dangerous" precedent for other state-federal efforts* | WDFW recognizes that each public land management agency has its own purpose and requirements. No part of the proposed amendments to WAC 220-500-200 and Policy C-6003, or of the draft grazing guidance/tools document, constrains or obligates any aspect of state or federal authority outside of WDFW, and WDFW assumes that other agencies will manage pursuant to their unique legal requirements. |
| *Ungulate populations should be studied following wolf depredations of livestock* | This comment might presuppose that wolves ignore livestock unless other prey populations are somehow stressed. This idea is not consistent with the WMP, which notes that wolves are opportunistic and that depredations have occurred in a variety of circumstances. |

4.3. **Environmental consequences of grazing**. Categorizing public comments addressing this topic was difficult due to the inter-related nature of many of them. For example, one chain of logic was that grazing leads to high utilization, leading to soil and bunchgrass degradation, leading to weed invasion, leading to plant community changes, leading to habitat loss and effects on wildlife. The difficulty of classifying comments was compounded by unusual citation practices on the part of some commenters. One commenter, for example, grouped its comments into a series of sections—many of which invoked a variety of topics—that were each followed by only a single footnote. Those footnotes commonly included multiple citations, sometimes rendering the connection between a given argument and the relevant source unclear. In several other cases, commenters included "literature cited" sections that lacked references for some of their citations and included other references that were not cited. Virtually every scientific reference cited by public commenters (shown in **bold type**) was cited to advance an argument that grazing is (inherently) destructive. With one exception, WDFW reviewed all of these sources it could readily locate, which was the clear majority of them, and concluded that many of these publications clearly distinguished between appropriate grazing and inappropriate grazing practices. WDFW notes that it did not review all of the sources cited by one commenter concerning ESA-protected species. (Some of these sources were popular or editorial in nature.) This is because USFWS' BA (2020) of WDFW grazing permits in connection with Pittman-Robertson funding contains detailed analysis of ESA-protected species occurring on wildlife areas, known spatial extent of occurrence, and a set of required minimization measures that adequately address this commenter's concerns.

4.3.1. **Comments addressing utilization and vegetation structure**.

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| *Grazing has detrimental impacts to vegetation from forage and/or biomass loss* | One commenter appealed to **McKinney (1997)** to claim that single utilization events typically result in 70% utilization levels on individual bluebunch wheatgrass plants. On the surface this seems like a curiously chosen citation, because the main point of McKinney's paper is that <u>average</u> utilization levels of ~50% (which for him implied individual plant utilization levels of up to 70%) do not negatively affect bunchgrass populations so long as that utilization represents a "single" grazing event, i.e. livestock are not allowed to graze subsequent regrowth of previously grazed plants. McKinney's conclusion directly contradicts the presumable reason for this commenter's citation of him in the first place, which WDFW assumes was to depict a scenario in which grazing unavoidably results in heavy/severe defoliation of 50% and more, from which it can then take years for affected plants to recover **(Mueggler 1975)**. WDFW concurs that severe defoliation can lead to a prolonged period of reduced production (Anderson 1991) or even mortality, although clipping experiments like Anderson's are not a direct proxy for actual herbivory **(Hempy-Mayer and Pyke 2008)**. WDFW disagrees that single grazing events commonly result in 70% utilization based on its own monitoring procedures. Furthermore the literature is clear that forage utilization is properly assessed only at the end of the growing season (McKinney 1997, BLM 1999, Smith et al. 2007), not at the instantaneous moment of herbivory. Smith et al. (2007) went on to conclude that considerable research tends to indicate that about 35% utilization of total forage production is an appropriate conservative stocking |

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| | level that will maintain or improve vegetation condition. Livestock "move triggers" in some WDFW permits slightly exceed this level, but WDFW notes that 1) actual utilization rarely does, and 2) those permits typically have specific objectives of promoting growth of woody forage for big game, which may require moderate rather than light utilization. One commenter cited a study cited from a Grecian chaparral-type environment that is apparently consistent with this general idea (**Lazaro et al. 2016**), as the study found that moderate grazing should play a role in maintaining overall diversity.<br><br>**Filazolla et al. (2020)** found that grazing in certain instances can help maintain grassland structure and suppress woody invasion, although WDFW finds that most studies on that topic report that heavy livestock grazing is more likely to increase woody species, which would have implications for fire severity. Response section 4.3.5 discusses this topic in more detail. |
| *Any grazing in arid areas is excessive, and/or WDFW "asserts [problems with grazing] are only the result of overgrazing", and/or harvest coefficients exceeding 25% "invariably" lead to land degradation* | WDFW was unable to verify this NGO's claim regarding 25% harvest coefficients and land degradation (**Holechek et al. 2011)**, but Galt et al. (2000) characterize a 25% harvest coefficient as a "sound idea" for many western rangelands that allows for a margin of error. This makes sense given that one review of grazing research (Holechek et al. 1999) reported that across studies, moderate grazing intensity averaged 43% utilization, light intensity averaged 32% utilization, and "conservative" intensity averaged 35% utilization, so a harvest coefficient of 25% would indeed seem to offer a margin of error. WDFW typically allots forage on grazing permits by starting with 25% of net primary production then modifying that amount with appropriate reductions for terrain and water availability (see draft grazing guidance/tools document section 1.5). Occasional exceptions have been made depending on management objectives or site-specific forage composition.<br><br>One commenter averred that research indicates that stocking rate is the only relevant grazing variable in terms of range condition, yet this commenter also recommended rest rotations (which WDFW often uses, especially in shrubsteppe). Those two comments are inconsistent with each other because rotational grazing systems are implemented precisely because of expected benefits to range condition, so the commenter's actual intent was difficult to ascertain. As explained in the draft grazing guidance/tools document section 1.5, however, WDFW implements protective measures involving stocking rate and timing/frequency of grazing. WDFW considers principles of the "Grazing Response Index" (Steffens et al. 2013) in formulating rotations. The Grazing Response Index (1997) is consistent with other resources about the importance of post-grazing recovery periods (Bohn and Buckhouse 1985, McKinney 1997, Hudson 2019). The FEIS (WDFW and Inc 2009) for lands in Kittitas County contained similar guidance on timing, emphasizing the use of regular rest and deferral, and found that minor overall effects were expected to shrubsteppe and riparian vegetation grazed on a rest-rotation system, with a 35% utilization |

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| | ceiling, and with appropriate mitigation measures including fencing where necessary. |

4.3.2. **Comments addressing effects on soils, soil biota, and biological soil crusts**.

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| *Grazing has detrimental impacts on soils, especially in riparian areas* | One commenter suggested that livestock "clear" vegetation and invoked **Belsky and Gelbard (2000)** who identified several deleterious effects on soils (specifically on cover, biological crusts, mycorrhizae, nutrients, and erosion) that could promote weed invasion. WDFW agrees that destruction of biological soil crusts can lead to cheatgrass invasion and habitat degradation (**Reisner et al. 2013)**, and that bare ground is problematic (Rigge et al. 2013), especially in riparian areas (Hudson 2019). WDFW disagrees that grazing must be assumed to result in "cleared" vegetation and "destroyed" crust, and WDFW regularly monitors these resources. Veblen et al. (2015a) found some effects of wildlife and livestock on biological soil crusts, noting that even though their results likely fell within the range of natural variation and did not amount to a "state" change (conversion), reduced biological soil crusts could be an early indicator of concern. The FEIS (WDFW and Inc 2009) concluded that minor to moderate compaction and loss of biological soil crust could occur as a result of prescribed grazing on shrubsteppe, and be partially mitigated by rest rotations and good livestock distribution.<br><br>Grazing intensity appears strongly related to existence and/or magnitude of that effect (as with many other effects of grazing). In southwestern Idaho, high grazing intensity significantly reduced biological soil crust species richness compared to low or moderate grazing intensities, and it significantly increased cheatgrass cover compared to low or moderate grazing intensities **(Root et al. 2020).** That study also found no significant differences in perennial grass cover across grazing intensities. WDFW has been tracking biological soil crust for several years as part of effectiveness monitoring described in the draft grazing guidance/tools document sections 2.2 – 2.3. Reductions are uncommon and are shared with district teams for cross-program consideration for potential changes to the terms of the grazing permit.<br><br>Rest rotations were recommended over other grazing systems (Bohn and Buckhouse 1985) for maximizing positive soil properties such as infiltration. **Kauffman et al. (2004)** reported that rest from grazing could reduce soil bulk density and water infiltration, increasing water storage; this study was in Oregon, all on flood plain meadows, with a high level of utilization – a situation WDFW does not prescribe. In another study **Kaufman et al. (1983)** (unsurprisingly) found that increasing utilization resulted in increased stream erosion, although interestingly not during the overwinter period, when most precipitation occurs in eastern Oregon. These studies underscore the importance of careful, conservative grazing management in the event that grazing occurs in riparian areas. Frequently, but not always, riparian areas are |

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| | excluded from WDFW grazing permits. Consistent with USFWS' BA, WDFW does not permit grazing where interactions could reasonably be expected to occur between livestock and ESA-listed salmonid fishes or their redds.<br><br>In a review, Jones (2000) concluded that soil and some vegetation traits were the most sensitive variables to grazing in arid lands, but that different grazing systems can have differential effects, and she suggested that multiple response categories (including biological soil crust cover) could be measured to track condition. WDFW does this. The increased proportion of WDFW permits requiring grazing management plans under the proposed amendments to WAC 220-500-200, combined with mitigation measures in the MDNS, would result in requirements that are more resource-protective for soils than are currently in place for WDFW permits. |

4.3.3. **Comments focused on plant communities**. These comments addressed invasive weeds, plant community changes, or riparian areas.

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| *Grazing has detrimental impacts to plant communities, browse, cover, biodiversity, tree understories, and/or riparian areas/water/fish resources, and/or it promotes invasive weeds and/or is incompatible with ecological integrity* | WDFW recognizes that livestock pose particular risks to riparian areas and aquatic systems in the draft grazing guidance/tools document section 1.5 **(Belsky et al. 1999)**. Like Belsky et al., **Krueper (1993)** cited numerous examples of grazing-induced damage in such systems, but unlike Belsky et al., he clearly attributed this damage to "improper" grazing, beginning with the severe overgrazing common in western North America during the 19th century. Proper grazing is subject to restricted timing, and full exclusion may be needed to reverse damage in severely affected areas **(Krueper 1993)**. **Batchelor et al. (2015)** reinforced the risk of heavy riparian grazing as well as the capacity of riparian systems to recover following rest, although WDFW observes that their study was not controlled by observing grazed systems over the same time frame, nor did it include a baseline of non-heavily grazed areas.<br><br>One commenter invoked **Fleischner (1994)**, but did not mention Brown and McDonald's work (1995)—in the same refereed journal—pointing out problematic assumptions and potentially biased citation selection in Fleischner's paper. One commenter's citation of **Fleischner (1994)** would have been more appropriately attributed to Rummel (1951) whose underlying work on central Washington forest canopies and understories acknowledged that long-term management of the site in previous years consisted of "continued heavy grazing," which WDFW does not permit or propose. In specific rare instances, WDFW has permitted heavy utilization of non-forested areas dominated by invasive common reed; even in these cases, however, season of grazing has been limited. Heavy utilization in areas of moderate or high ecological integrity would be.<br>contrary to grazing management plans for those areas.<br><br>Following a combination of grazing and burning treatments, **Kerns et al. (2011)** found no change in grazed versus ungrazed post-fire grass cover. They |

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| | did find less total plant cover in grazed treatments as well as less cover of some native shrubs and reduced grass reproductive capacity, but the authors noted that no post-fire rest from grazing was applied. Strangely, they claimed that post-fire rest is atypical for systems in ponderosa pine systems in criticizing Bates et al. (2009), whose results suggested that appropriate grazing following low-severity fire would not hinder post-fire plant recovery. Perhaps this claim is accurate for prescribed fires in such systems, but WDFW's observation is that most public land management agencies implement rest from grazing following wildfire in forested systems.<br><br>Several commenters alerted WDFW to the work of **Reisner et al. (2013)**. WDFW did in fact cite that paper in the draft grazing guidance/tools document, section 1.5, in discussing the risk of perennial grass decline due to inappropriate grazing. One commenter wrote that the 2013 study does not support the use of grazing to suppress cheatgrass, noting an allusion to weed control in the draft grazing guidance/tools document. That conclusion from Reisner et al.'s study is accurate, but WDFW does not propose to suppress cheatgrass through grazing, at least in the sense of moving toward eradication from a given site. What the draft grazing guidance/tools document does explain in section 1.4 is that grazing for weed control is uncommon and typically done to reduce biomass of weed-dominated systems. As **Pyke et al. (2016)** note, there is no evidence that grazing has led to simultaneously increasing perennial plants and reducing cheatgrass (and they also note that invasive-dominated lands are unlikely to recover simply due to removal of disturbance, a concept that is consistent with the FEIS (WDFW and Inc 2009)). Furthermore, the **Reisner et al. (2013)** study endorsed guidance from a different study (Pyke 2011), which recommended passively restoring those systems retaining some native biodiversity. This could be accomplished by maintaining bunchgrass and biological soil crust cover, and by reducing, not necessarily eliminating, grazing. The guidance from Pyke (2011) that was specifically endorsed advised appropriate timing and intensity of grazing, and even warned that complete elimination of grazing might not yield the desired result. WDFW concurs that bunchgrasses are vital to the ecological integrity of these semi-arid systems **(Chambers et al. 2016)**. WDFW grazing permits include a combination of light stocking rates and timing that allows tiller production of perennial species—similar to guidance in the FEIS (WDFW and Inc 2009)—and avoid the repeated high-intensity grazing that can push systems toward cheatgrass dominance **(Pyke et al. 2016)**.<br><br>Bunchgrass decline and cheatgrass invasion in the West have consequences for fire. A commenter claimed that **Chambers et al. (2014)** tied grazing to cheatgrass spread, but the 2014 paper clearly distinguishes between proper grazing and "overgrazing," and in a separate paper **(Chambers et al. 2016)**, "overgrazing" was defined as a stressor. Similarly, **Pyke et al. (2016)** specified that "unrestricted" livestock grazing reduced native plant populations. WDFW |

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| | does not permit unrestricted livestock grazing. Comments from another commenter took a similar tack, citing **Reisner et al. (2013)** to argue that grazing increases fire risk due to concomitant increases in cheatgrass, often arising from soil disturbance (discussed in Response section 4.3.3). WDFW recognizes the findings of **Williamson et al. (2019)** and **Condon and Pyke (2018)** linking grazing with cheatgrass occurrence. WDFW points out however, that the conclusion of Williamson et al. was very similar to that of the Reisner et al. paper: that their work provided "no support for the notion that contemporary grazing regimes or grazing in conjunction with fire can suppress cheatgrass." WDFW reiterates that it does not believe grazing can "suppress" cheatgrass in any other sense than current-year biomass reduction, which would primarily constitute a fuels management objective. The 2018 paper **(Condon and Pyke)** recommends 1) grazing practices that enhance plants and soil crusts, and 2) monitoring several potential "early warning" indicators, including cover of shrubs, perennial grasses, bare soil, and biological soil crust components. WDFW does this.<br><br>Other cited studies presented a potpourri of results. In one of them, a global model was discussed looking at extent of used rangeland and mean species abundance; no dramatic differences were apparent, with no obvious implications for the Pacific Northwest or Great Basin (**Alkamade et al. 2013)**. Another cited study was from the Himalaya using almost all sheep and/or goats **(Apollo et al. 2018)**, which WDFW deemed not sufficiently relevant for further consideration. **Bock (2007)** found a link between invasive species and grazing, though it was in southeastern Arizona with very different soils and with invasive warm-season grasses, which are rare or unknown on most WDFW lands. Predictably, heavy grazing reduced cool season bunchgrasses on the Colorado Plateau **(Munson et al. 2016)**. The predominance of cool-season bunchgrasses in Washington is the reason why rotations are designed the way they are. One commenter did not think there was much evidence that grazing affected forbs as identified in the draft grazing guidance/tools document; this agreed with at least one other study in Arizona (Loeser et al. 2005), and WDFW has consequently added a reference to the 2005 paper to the draft guidance/tools document. WDFW found no evidence in the literature (Anderson 1991) for an argument sometimes repeated by ranchers that grazing improves establishment of bunchgrasses through "hoof action" or some other mechanism. Defoliation did, however, result in increased above-ground plant production in a semi-arid grassland (Loeser et al. 2004), contradicting the idea promoted by some commenters that grazing "cleared vegetation" (see Response section 4.3.1). **Anderson and Holte (1981)** were interested in successional models on Idaho's Snake River Plain, and explicitly stated that no difference was apparent between plots that were open to grazing and plots that were not. Similar observations were made in Nevada, where few differences were found between sites excluded from grazing and sites where light to moderate grazing occurred: species richness and aboveground biomass were |

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| | very similar, and perennial grass height was the same **(Courtois et al. 2004)**. WDFW concludes that while there are limits to the types of (positive) plant community objectives that can be accomplished directly through grazing, permits issued as proposed are consistent with WDFW mission and the purpose of WDFW lands. |
| *Native species did not evolve with large-hooved ungulate grazing as currently managed, (thus) any such grazing is excessive in arid shrubsteppe except in weed-converted areas* | It is generally accepted that large mammal herbivory was typically low, patchy, or infrequent in the evolution of semi-arid western North American floras, and that historical grazing practices disturbed or damaged many systems in these areas (Mack and Thompson 1982). Nevertheless, as discussed above, research indicates that livestock grazing managed under appropriate constraints is consistent with functional, diverse communities, as discussed throughout section 4 of this Response. |

#### 4.3.4. **Comments specifically addressing grazing for fuels management or reduction in some aspect of fire effect**.

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| *Grazing has particular value for fuels management and/or forest health* | WDFW addressed the idea of grazing for fuels management in the draft grazing guidance/tools document, section 1.4. Many commenters supporting the idea of grazing on WDFW lands mentioned fuels management and/or wildfire prevention, and several other commenters disputed the value of the concept. Upon review of comments and additional sources, WDFW finds that its treatment of fuels management in the above-referenced section 1.4 remains consistent with available knowledge. Additional detail on this subject appears below, portions of which have been added to the draft grazing guidance/tools document for context.<br><br>Work in the northern Great Basin suggested that even light grazing can break up fuel distribution and interfere with how a prescribed fire carries (Bunting et al. 1987), but prescribed fire typically occurs under milder conditions than wildfire and these results might not be directly analogous. In Nevada, Freese et al. (2013) indicated that reducing fire frequency is crucial for sage-grouse, and that a lack of grazing was correlated with increased burned area, especially on higher-precipitation pastures. If grazing for fuels management is undertaken, seasonality could make a difference. Davies et al. (2017) observed that spring grazing (40%-50% utilization) affected fire behavior and spread more than fall grazing did.<br><br>Overall, however, WDFW approaches the grazing as a form of fuels management with considerable caution. Multiple sources suggest that grazing either cannot exclude fire, or that it cannot do so without deleterious effects on habitat. A global review found that grazing heavily enough to substantially reduce fuel loads could reduce vegetation heterogeneity on the pasture level (Adler et al. 2001). In northern Nevada, flame length and rate of spread in ungrazed cheatgrass-dominated areas exceeded that of grazed areas in midsummer, but this was where grazing utilization was >80%, which the authors suggest was limited to degraded sites with little or no native perennial |

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| | cover (Diamond et al. 2009). This level of utilization poses too much risk to native perennials to safely permit on WDFW lands that retain ecological integrity, and perhaps anywhere else as well.<br><br>A commenter acknowledged the relatively limited amount of literature on the topic and cited **Launchbaugh et al. (2008)**, who examined patterns of a large wildfire in southern Idaho and northern Nevada. The authors found that reducing herbaceous biomass such that fire behavior is strongly affected—particularly under severe weather, and on a landscape scale—could negatively affect habitat and ecosystems. More specifically, though, the paper concluded that 1) grazing at moderate or lower intensities probably had no effect on fire under extreme weather conditions; and 2) in moderate weather conditions, moderate grazing likely does have an effect on reducing likelihood of burning. WDFW concurs with this paper, and notes that this paper was cited in the draft grazing guidance/tools document (section 1.4).<br><br>In Australia, grazing was "only likely to reduce the probability of fire where the bulk of the vegetation consists of potential food for herbivores" (Leonard et al. 2010). Absent abnormal conditions, potential food for cattle during most of the spring and summer in western North America is herbaceous forage, so this appears to be consistent with other results finding that the utility of grazing to reduce fuel loads tends to decrease as woody vegetation on a site increases (Strand and Launchbaugh 2013). These same results also suggest that grazing to reduce fuels depends on soils, precipitation, grazing intensity, etc., and is most effective immediately prior to season of greatest fire risk. In eastern Washington, that would usually imply grazing during late spring or early summer, but perennial bunchgrasses should generally not be grazed annually during this period to a degree that would influence fire. Therefore, on any given permit, fuel reduction objectives might only be met on a portion of the overall landscape. This is not necessarily problematic, but it should be clearly understood in advance.<br><br>McAdoo et al. (2007)—also cited in the draft grazing guidance/tools document, like Strand and Launchbaugh (2013)—concluded in Nevada that landscape-level fuel reduction using livestock is unlikely owing to the many variables and logistical challenges, but McAdoo et al. (2007) suggested that livestock can be used to alter fuels, manage weeds, and improve wildlife habitat. In areas free of cheatgrass, this would mean avoiding grazing that is heavy enough to promote cheatgrass invasion, because perversely, cheatgrass would itself increase the risk of fire (Chambers et al. 2007).<br><br>WDFW reiterates that it does not find that grazing can "prevent" fire, echoing Washington State University Extension (Hudson), but Hudson also advises that appropriate grazing—meaning not grazing at the same time and place every year during the bunchgrass critical period—can reduce the risk of intense |

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| | wildfire. Davies et al. (2009), noting that litter buildup might have promoted increased fire-induced perennial plant mortality on grazed sites, suggested that low-severity disturbance like grazing could ameliorate the severity of fire, even in grasslands and shrublands.<br><br>WDFW concludes that caution is indeed warranted, but that fuels management should be an available site-specific objective when managing vegetation with grazing. As McAdoo et al. (2013) advised, the status quo of passive management is leading to permanent undesirable vegetation in too many areas, and that thoughtful, active management with the goal of preventing, rather than reversing, cheatgrass invasion may be the best strategy in some areas. WDFW agrees that active management may benefit some areas and considers appropriate grazing as one form of active management. |
| *Research supporting grazing is outdated/insufficient and/or inappropriate/unclear and/or absent*<br><br>*Grazing does not reduce fire danger because livestock don't eat "combustible material"* | WDFW evaluates and measures the potential ecological effects of grazing. WDFW finds that the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document are consistent with most of these references regarding the effects of light or moderate grazing as well as the risks of heavy grazing. As noted repeatedly in this Response, the <u>changes</u> to existing WAC 220-500-200, FWC Policy C-6003, and practice will not lead to adverse environmental impact; in fact, WDFW expects these changes would help ensure improved environmental outcomes. WDFW also refers here to sections 1.4 and 1.5 of the draft grazing guidance/tools document, which in addition to SEPA review underwent cross-program review and include a reasonably representative set of scientific citations. Neither these sections nor this Response, however, were intended to be an exhaustive review of the scientific grazing literature, which is voluminous. In the case of the draft grazing guidance/tools document, they were intended to highlight those reasons why managed grazing in certain situations does in fact advance WDFW's mission, and to call attention to major known risks associated with livestock grazing and how to avoid and minimize those risks. In the case of this Response, the intent was to specifically review and respond to those scientific references and associated comments submitted by the public.<br><br>One commenter's claim about combustible material is not accurate. Recent wildfires have made it abundantly clear that <u>all</u> vegetation and plant litter remaining on wildlife areas in eastern Washington by late summer (or even earlier) will burn readily under certain conditions. |

4.3.5. **Comments about effects on wildlife and related sensitive species**.

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| *Grazing has detrimental impacts on wildlife, habitat, and/or predator-prey dynamics and/or cows destroy the land and eat wildlife forage* | Some studies cited by commenters were not entirely conclusive when reviewed by WDFW. **Filazolla et al. (2020)** conducted a meta-analysis showing that grazing could affect multiple trophic levels, but effects on diversity were mixed; also, native herbivores (usually rodents and lagomorphs) tended to be less common when livestock were immediately present. Deer could deposit chronic wasting disease prions at mineral licks (potentially also used by livestock), but |

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| Versus<br><br>*Properly managed grazing is a useful management tool in certain settings and can benefit wildlife, habitat, weed control, and/or recreational management costs (and/or permits should be renewed)* | whether this leads to transmission in wild populations is unknown **(Plummer et al. 2018)**. One NGO cited **Wilcove et al. (1998)** in reporting that grazing harmed 22% of federal threatened/endangered species, although the paper's conclusions were somewhat confusing owing to the methodology: 1) examined species consisted of a pool including federally threatened or endangered species/subspecies/distinct population segments, and species designated by the Nature Conservancy as imperiled, critically imperiled, or possibly extinct; and 2) conclusions were declared to be not necessarily based on experimental or even quantitative data.<br><br>Some commenters noted that grazing was identified by **Fleischner (2010)** as the most important factor in degrading western fish and wildlife habitats. Several authors repeated that improved grazing practices (not necessarily the elimination of grazing) represent the largest opportunity for improving rangeland condition, which is in part precisely because livestock grazing is so widespread on federal lands. Substantial ecological changes ensued following historical introduction of large herbivores to the intermountain West (Young 1994), and **Pyke et al. (2016)** reminded that widespread severe damage had occurred by the 1930's, and that multiple use legislation recognizing the important of non-grazing uses of rangelands did not pass Congress until the 1970's. Between 1954 and 2016, the Bureau of Land Management (BLM) reduced the number of permitted animal unit-months (AUMs) by over 50% (CRS 2017)—suggesting a reduction of impacts on federal land—but grazing remains common especially on federally managed lands and research there can be instructive.<br><br>One commenter cited **Freilich (2003)** about fence mortality, though the paper contained no data, but some ungulate mortality has been documented with fences (Harrington and Conover 2006), especially net fence (commonly used for domestic sheep). Fence markers **(Van Lanen et al. 2017)** are of course a widespread and recommended measure in sage-grouse habitat, and WDFW uses these. WDFW notes that even in the absence of grazing permits, fencing is often necessary or helpful on the wildlife areas. WDFW rarely installs new fence in permit areas but depending on the spatial configuration of a permit area, increased fence and/or maintenance could be needed. Recent examples occurred on Okanogan County wildlife areas with Federal Emergency Management Agency-funded replacement of fence destroyed by certain wildfires, and on the Chief Joseph Wildlife Area. Resources are available for designing fence that minimizes impacts to wildlife, but this is an example of a matter that would be considered by district teams in the development of grazing management plans. WDFW notes that for any new grazing proposals received by WDFW, the risks and costs of fencing are identified in the Grazing Evaluation Framework in Appendix B (section 3.2) of the draft grazing guidance/tools document. |

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| | One commenter asked for clarification on forage conditioning. Forage conditioning is the idea that previously grazed forage will eventually cure in a condition of higher nutrient availability or digestibility for wildlife. Forage quality is more limiting in Blue Mountains than forage quantity (Clark et al. 1998), and forage quality is one potential reason WDFW permits grazing. Other results on forage conditioning are mixed, though (Bernatowicz 2006), and the FEIS (WDFW and Inc 2009) noted that under moderate or lower intensity, effects of forage conditioning might not be significant. Still, apparently some mechanism has attracted elk to previously grazed areas in several instances noted in the draft grazing guidance/tools document (section 1.4)—perhaps, for example, forage accessibility. Burritt and Banner (2013) found that 1) cattle can improve habitat for elk; and 2) elk are unlikely to use areas with poor forage conditions—possibly due to long-term livestock removal—without fire, grazing, or some mechanical disturbance occurring first.<br><br>Several commenters mentioned grazing-related displacement of wildlife, which has been reported, although the displacement is often temporary and can be followed by increased wildlife use in subsequent seasons. In Arizona, cattle displaced elk but not deer (**Wallace and Krausman 1987**), while Kramer (1973) found that some deer avoided cattle in southern Alberta. **Clegg (1994)** reported a 92% reduction in deer and elk density while cattle were present, but when cattle were removed, density rebounded and sometimes increased above prior levels. Moser and Whitmer (2000) found no general differences between grazed and ungrazed herbaceous plant metrics in Oregon, but elk numbers doubled over 20 years of managed grazing (though small mammal diversity declined somewhat). And as described in the draft grazing guidance/tools document, section 1.4, elk preferred previously cattle-grazed areas in the Blue Mountains in Oregon. When cattle were not immediately present in Oregon, elk preferred areas previously grazed by cattle; when cattle were present, elk tended to avoid them in early summer, but not in late summer, leading to potential competition between elk and cattle at that time (**Coe et al. 2001)**. **Coe et al. (2005)** noted that cattle can be a tool to manage wild ungulate density, and recommended reducing cattle stocking in late summer where high ungulate overlap occurs to maximize both values.<br><br>Other studies presented by commenters are decidedly more cautionary. Significantly reduced nesting success due to grazing was reported in Arizona **(Walsberg 2005)**; **Ammon and Stacy (1997)** also found lower nest success in grazed willow systems in Nevada, although the effect appeared more pronounced on artificial nests than actual nests. In Oregon, the abundance of some riparian birds increased in following cessation of cattle grazing **(Poessel et al. 2020)**. And in Idaho, livestock increased the probability of raven presence in sage-grouse habitat independent of terrain and anthropogenic factors **(Coates et al. 2016)**. WDFW recognizes these outcomes and the need for caution, especially when considering ground-nesting birds. Other outcomes |

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| | have occurred, though. Results from Foster et al. (2015) in Montana showed somewhat greater nest success for sage-grouse in pastures with livestock present than in pastures without livestock, and they recommended maintaining large expanses of habitat, implementing rotational grazing, implementing conservation on a landscape scale, and minimizing project impacts and West Nile virus. Interestingly they concluded that sage-grouse persists in Montana because "traditional landowners" have managed to maintain intact habitat (Foster et al. 2015).<br><br>Many authors suggest that light to moderate grazing regimes are compatible with wildlife and habitat. Ungulate grazing is important in many areas and can benefit some species if done at moderate levels; indeed, removal of livestock grazing can destabilize some ecosystems (West 1993). A study cited by one commenter from a subtropical Australian eucalyptus system found that a "rich and abundant bird fauna can coexist with grazing" **(Martin and McIntyre 2007)**. **Tomecek and Russell (2016)**, who were cited by a commenter in support of an argument that grazing reduced cover for wildlife and increased heat stress in Texas, in fact concluded that managed grazing can promote habitat benefitting many species of wildlife. Davies (2014) found that 1) moderate grazing generally has little effect on songbirds in sagebrush steppe rangelands; 2) small mammal populations showed no reproductive or biomass improvements from long-term rest from grazing; 3) light to moderate grazing on arid ranges generally has a negligible effect on wildlife habitat; and 4) transitioned sagebrush systems generally cannot revert to previous desirable state through passive restoration (long-term rest from grazing). In northeastern Oregon, (Adams et al. 2009) found that fencing breeding ponds did not improve habitat for Oregon spotted frog, and that deleterious nutrients associated with moderate livestock use were very low regardless of whether cattle were excluded or not. WDFW concludes that a light to moderate stocking rate is generally compatible with maintaining sagebrush, grasses, forbs, and cover needed by sage-grouse and upland birds (Anderson and McCuistion 2008) and quotes from a study on Pacific Northwest bunchgrass prairie songbirds: "the absence of negative responses of density to low and moderate stocking rates suggests such grazing regimes generally provided suitable habitat for all [examined] species" Johnson et al. (2011). |
| *Concern about, or request to identify presence and potential impact of, grazing effects on rare plants, native ecosystems, species protected by the Endangered Species Act, pollinators, and/or WDFW Priority Habitats and Species in draft grazing guidance/tools document and* | Several commenters expressed concern about protection of sensitive species. Presence and protections for PHS species are mentioned in grazing plans, which are subject to cross-program review. This implies the same for ESA-protected species. There are no required legal protections afforded to rare/state-listed plant species (identified by WNHP), but WDFW identifies these in grazing plans as well. Some commenters suggested specifically noting presence of pollinator resources and protective measures within additional areas in grazing management plans (draft grazing guidance/tools document section 2.1). Typically, specific knowledge of pollinators will be sparse at any given location. Grazing can pose risks to pollinators, but light to moderate |

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| *in grazing management plans if applicable* | grazing can have positive effects on a plant community, supporting wide pollinator diversity **(Black et al. 2011)**. **Kimoto et al. (2012)** found that grazing reduced abundance and diversity of bumblebees (but not bees overall) in June, and suggested carefully considering livestock rotations timing.) And **Tadey (2015)** found that intermediate livestock stocking densities in Patagonia were associated with the highest levels of insect diversity and abundance, and that livestock had an apparently net neutral effect on pollinator visitation frequencies despite reductions in some floral resources. Livestock use of and effect on forbs in general can sometimes be characterized, but that is not always the case for individual species. Some grazing plans distinguish between effects on wildlife and effects on vegetation. In conclusion, WDFW has added language in section 2.1 to include pollinator resources if these are known and precautionary measures if appropriate. One commenter suggested that pollinator, nest sites, and floral resources should be monitored in association with grazing permits. WDFW conducts some monitoring of pollinators currently but does not distinguish between grazed and ungrazed areas; the draft grazing guidance/tools document would not change that status quo, but individual permits could be subject to additional requirements as determined by District Teams (cross program review). WDFW has not specifically monitored wildlife population responses to grazing effects due to the difficulty of experimentally separating effects of grazing from the numerous other factors (on and off WDFW lands) influencing those populations.<br><br>For ESA-protected species in particular, WDFW notes that the USFWS BA, which concluded that grazing may affect but is not likely to adversely affect ESA-protected fish and wildlife species.<br><br>An associated USFWS Biological Opinion found that one plant species (Spalding's catchfly) could be adversely affected by certain WDFW grazing permits, but the USFWS determination was that the permits posed no jeopardy to Spalding's catchfly. These determinations were based on an analysis of where and how WDFW manages livestock grazing. |
| *Wildlife abandon WDFW lands when WDFW "kick[s] the livestock off" following acquisition* | Over the last decade, WDFW has acquired through public funds a variety of properties, and in at least most—and possibly all—cases where WDFW was aware of livestock grazing legally occurring prior to acquisition, a permit for ongoing grazing was issued, with adjustments for habitat protection if needed. |

4.3.6. **Comments about climate change**.

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| *Grazing exacerbates climate change and/or climate change should be considered* | These comments included various claims about the effects of climate change on plants and wildlife, which are not individually considered. The relevant question for this Response is the extent to which managed rangeland livestock grazing under the proposed amendments to WAC 200-500-200 and FWC Policy C-6003, and the draft grazing guidance/tools document, might exacerbate climate change in a way that differs from current rule, Policy, and practice. Individual commenters cited several studies, some of which did not |

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| | support commenters' claims about effects of grazing in general. For example, **Robinson et al. (2018)** examined warming in Iceland but did not address livestock grazing so far as WDFW could ascertain. **Ripple et al. (2013)** noted that ruminants emit greenhouse gases (GHGs), and that reducing demand for ruminant meat and accompanying grazing pressure could have soils and vegetation benefits. WDFW reiterates that light to moderate livestock grazing does not result in the highly negative soil and vegetation effects that heavy grazing does. Most GHG emissions from livestock, however, come from 1) fossil fuel use and fertilizer-associated methane releases involved with producing livestock feed; 2) land-use changes like deforestation and land degradation; and 3) refrigerating and transporting animal products (**Steinfeld et al. 2006)**. Naturally occurring wildland plant communities are not included in "livestock feed." **Griscom et al. (2017)** also found that conversion of forested land to agricultural land was a strong driver of grazing-related emissions. In the United States, grazing is often associated with increasing the prevalence of woody plant biomass rather than reducing it (Rummel 1951, Madany and West 1983), and in any case WDFW grazing permits are designed to reduce the severity of fire as discussed in Response section 4.<br><br>WDFW recognizes that as a whole, the livestock industry does contribute to global GHG emissions, including from rangeland grazing to some extent **(Garnett et al. 2017)**, although Garnett et al. did not account for soil carbon sequestration on grazed rangelands. Studies tend to be inconclusive in this regard. **Abdalla et al. (2018)** found that low to medium intensity grazing actually increased soil organic carbon in dry cool climate zones (which includes the cold deserts of western North America), but Joyce et al. (2013) found that grazing at recommended rates only had a minor effect on soil carbon, and that other strategies such as moderate stocking rates and alternative pasture when necessary—which WDW practices—are strategies that help minimize emissions. A precise carbon accounting for WDFW's grazing permits is unknown and would almost certainly be dominated by, and vary substantially according to, 1) permittees' unique situations involving winter feed, distance to auction, and other factors; and 2) the likelihood of sale and/or development of lands where grazing might otherwise occur. WDFW finds that the factors in (1) would not be obviously altered by the proposed amendments to WAC 220-500-200 and FWC Policy C-6003, or the draft grazing guidance/tools document, and that the likelihood of (2) (sale or development) could be reduced in some situations. |

4.3.7. **Miscellaneous environmentally-oriented comments**.

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| *Presence of livestock increases ungulate disease transmission and disease vectors* | **Craft et al. (2015)** acknowledged that disease transmission between livestock and wildlife was a consideration, but their purpose was to discuss ways to model that phenomenon, and they did not present primary data. They also noted frequent knowledge gaps surrounding the relationship between animal |

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| | contact networks and individual health outcomes. **Morgan et al. (2006)** undertook a similar effort highlighting the utility of disease modeling and applied it to pathogens of the Saiga antelope in central Asia. Ramifications for WDFW grazing permits are not clear, but transmission of known diseases bears consideration. WDFW notes that the GEF identifies the proximity of domestic sheep to native bighorns as a potential risk factor. WDFW has modified this text in the GEF to include the possibility and consideration of other known livestock-borne diseases as well. |
| *80% of western surface waters are contaminated with harmful microorganisms* ***(Suk et al. 1986)*** | WDFW found that the Suk et al. paper does not support a claim made by one NGO. The paper reported that 1) 27 of 78 samples, from 69 streams in the Sierra Nevada, had *Giardia;* 2) 26 individual cattle out of 309 total cattle tested positive for *Giardia;* and 3) *Giardia* near areas of high recreational use was a potential concern. WDFW did not locate any broad statements about Western surface waters in this paper. |
| Spraying herbicides has assorted negative ramifications for the environment **(Freilich et al. 2003)** | Herbicide use is essentially beyond the scope of the proposed amendments to WAC 220-500-200 and FWC Policy C-6003, and the draft grazing guidance/tools document. WDFW grazing permits typically identify the importance of weed control—a legal obligation that WDFW strives to fulfill on grazed and ungrazed lands alike—but nothing in the proposed agency actions or the draft grazing guidance/tools document would commit WDFW to any particular method of weed control. The question of whether grazing would lead to increased weed presence on WDFW lands is addressed in Response section 4.3.2. Recurring weed proliferations (regardless of mode of treatment) due to livestock grazing would be cause for evaluating potential management changes of a permit. |
| *Nitrogen deficiency is both a cause and effect of cattle grazing, and any new permits should require nitrogen fertilization* | WDFW was unable to verify the claim that grazing reduces nitrogen. Nitrogen is a naturally limiting nutrient in many semi-arid systems, but it is generally accepted that invasive annual grasses derive an advantage over native vegetation from excess nitrogen (Monaco et al. 2003, Vasquez et al. 2008), and management practices minimizing available nitrogen in these systems are encouraged (Orloff et al. 2013). |

4.4. **Comments addressing specific aspects of FWC Policy C-6003**.

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| *FWC Policy obligates WDFW to issue permits* | This claim is inaccurate, regardless of whether it was meant to apply to current or proposed FWC Policy C-6003. Language in both versions clearly states that grazing "may be permitted" under certain circumstances. See also Response section 4.1.1 for discussion of how grazing is not currently permitted on the vast majority of WDFW-managed acreage. |
| *Prioritize and/or clarify ecological integrity, and/or retain ecological integrity as most important resource value in FWC Policy C-6003* | FWC Policy stipulates, and would continue to do so under proposed language, that ecological integrity will be maintained where grazing is permitted. As noted in the draft grazing guidance/tools document section 2.3, ecological integrity comprises the totality of ecosystem structure and function and can only be approximated through various proxy measurements. WDFW recommended deleting the language about ecological integrity constituting the |

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| | "most important resource value" 1) because of the difficulty of measuring it in a way that captures all of its meaning, and 2) to acknowledge that any given management action (be it grazing or otherwise) has inherent trade-offs with differential effects on various natural resources. WDFW has refined its process of assessing ecological integrity based on internal and external published research and remains open to additional refinements as they are available. The priority of maintaining ecological integrity implies that if and when WDFW becomes aware of reductions to ecological integrity, WDFW would strive to correct any grazing-related drivers of these reductions. An inability to do so would mean a significant change to, or suspension of, a permit. |
| *Grazing is inconsistent with the Policy rationale of managing vegetation and/or habitat* | WDFW notes that existing FWC Policy C-6003 stipulates that grazing may be permitted to "manipulate" vegetation or to facilitate "habitat" objectives. The proposed language for the first listed role of grazing in the Policy does not represent a material change—and thus no adverse effects are expected—but avoids negative connotations associated with the word "manipulate." Otherwise, WDFW refers to Response section 4.3 for discussion of effects on vegetation and habitat. |
| *Grazing is inconsistent with the rationale of enhancing recreation and/or livestock can be dangerous*<br><br>*The rationale of enhancing recreation should result in protection of vulnerable habitats and/or species*<br><br>*Recreation - public lands should be managed for wildlife watchers, not hunters or ranchers (and WDFW lands should be closed to hunting)* | Several commenters used language found in form letters. One NGO also submitted comments citing occupational deaths due to livestock as well as several news articles from Europe about cow-hiker interactions. Peer reviewed research on the subject in western North America is scant, but one commenter wrote that he had been threatened by a bull in the "Cub Creek area" in Okanogan County, so these interactions may be possible. In California, Wolf et al. (2017) found that despite very low total accident numbers, particularly in relation to visitor frequency, it is not currently possible to quantify the overall risk of aggressive livestock encounters on western public lands owing to the lack of organized capacity for absorbing public input on the subject. Still, they concluded that concurrent livestock grazing and recreation were "entirely plausible." A few comments mentioned concerns such as manure and flies. WDFW recognizes that most people have no interest in encountering these while engaged in hunting or other recreational pursuits, but notes that 1) light-moderate-intensity rangeland grazing is distinct from heavy grazing and especially from feedlot situations, 2) WDFW's grazing permits only allow grazing for a relatively short proportion of each year in any given location, and 3) as cited in the draft grazing guidance/tools document section 1.4, some hunters find that the use of grazing adds to their experiences (Brunson and Gilbert 2003). WDFW finds that the risk of dangerous encounters between recreationalists and livestock is likely very low and reminds all users of WDFW lands that all wild and domestic animals on rangelands and forestlands should be treated with caution and regarded as potentially unpredictable.<br><br>Very little public comment was received challenging the indirect benefits of livestock grazing to recreation that are outlined in section 1.4 of the draft grazing guidance/tools document. Some commenters criticized the draft grazing guidance/tools document's language connecting land management with |

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| | hunting, accusing WDFW of favoring hunting and ranching over other groups, and in some cases they suggested that WDFW should manage for wildlife watchers and/or close WDFW lands to hunting. Although WDFW limits and regulates hunting on WDFW lands in different ways, general closure of WDFW lands to hunting—aside from being beyond the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and the draft grazing guidance/tools document—would unquestionably interfere with WDFW's mission and legislative mandate, contradict the intent of the Strategic Plan, and is unacceptable. Fish- and wildlife-related recreation is an end in and of itself of WDFW land management because that is WDFW's mission. |
| *Community character should not be a rationale and/or is unclear* | Several commenters interpreted in this role possible favoritism of ranching communities at the implied inevitable expense of other communities. WDFW acknowledges that its intent was not sufficiently clear in the proposed amendment of FWC Policy C-6003 and an earlier version of the draft grazing guidance/tools document, and clarifies that intent here and in the draft grazing guidance/tools document, section 1.4, to demonstrate how protecting community character as a role of grazing is within WDFW's authority. WDFW does not assert that communities of all types throughout Washington are disposed to prefer livestock grazing, or that some communities merit more consideration by the state than other communities. WDFW identified "protecting community character" as a potential grazing management objective for multiple reasons.<br><br>1) This concept appeared verbatim in the 2017-2019 WDFW Strategic Plan (which, like this document, did not attempt to delineate the many possible definitions of "community"), and existing Policy C-6003 specifically states that grazing may be permitted if determined to be consistent with WDFW's Strategic Plan;<br><br>2) WDFW has neither the authority nor the ability to accomplish its conservation mission of its own accord, an idea clearly expressed in the current Strategic Plan, which explicitly places an imperative on collaborating with all types of entities including farmers and private landowners;<br><br>3) The current Strategic Plan calls out WDFW Policy 5004 (Conservation Principles), which includes the integration of ecological, social, economic, and institutional perspectives in decision making; and<br><br>4) in appropriate situations on public lands, permitted grazing can promote operational stability that enables communities to maintain private lands in an undeveloped state, which can have the added benefit of reducing usage pressure on adjacent public lands (Brunson and Huntsinger 2008).<br><br>The continuation of agricultural activities is important to the rural character of some communities in close proximity to agriculture (Resnik et al. 2006). Privately owned rangelands provide valuable habitat and are generally |

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| | characterized by substantially higher net and average primary productivity values than publicly owned rangeland (Robinson et al. 2019), and are thus of interest to WDFW. In Colorado, Maestas et al. (2003) found that biodiversity on private ranchlands exceeded that on state wildlife reserves where grazing was prohibited, perhaps due in part to the fact that ranches tend to occupy relatively well-watered sites with productive soils in any given locality—meaning their development could pose disproportionate risks to fish and wildlife. Habitat fragmentation and conversion is already a daunting challenge to fish and wildlife management in Washington, and private ranchlands adjacent to public lands are particularly vulnerable to sale and development (Riebsame et al. 1996). Most of WDFW's grazing permits are issued to producers with operations adjacent to, or in very close proximity of, a wildlife area. Private development in agricultural communities can beget additional development and is more likely when the number of producers and their associated needs drops below some threshold (Brunson and Huntsinger 2008). This could be due to actual development, or simply due to reduced stewardship on the part of remaining producers who perceive no utility in, for example, controlling weeds on a landscape dominated by other landowners who are themselves not controlling weeds (Neill et al. 2007). In the face of quickly changing land use, ownership, and development pressure, permitted livestock grazing on WDFW lands can constitute an investment in these agricultural livelihoods that yields a return of conserved habitat well beyond the footprint of individual wildlife areas.<br><br>The existence of these permits provides some assurance to producers that pasture will continue to be available. Such assurance is not necessarily available on leased private land, and loss of public pasture will often force producers to sell their private ranch land (Sulak and Huntsinger 2007) out of economic necessity because of some minimum land base needed to sustain a viable ranching operation, especially for those operations grazing at intensities sufficiently low to be compatible with fish and wildlife habitat. Gentner and Tanaka (2002) note the connection between grazing permits on federal land and the private rangelands associated with them, which suggests that the consequences of public and private rangeland use in the West are not fully separable. For example, the loss of some federal grazing privileges, if realized, could result in the associated loss of over 100,000 ha of privately owned sage-grouse habitat by 2050, with Washington habitat at elevated risk of cropland conversion (Runge et al. 2018). The reason for this is again that loss of grazing privileges may force private landowners to sell their private land if a grazing operation is no longer viable due to reduced pasture. Many types of land use, including recreation (Wilcove et al. 1998), may be less amenable to sensitive fish and wildlife than ranching. Carefully planned and monitored grazing can help maintain open spaces on public land and private land to the benefit of fish and wildlife (Maestas et al. 2003) and the citizens of Washington. "Open space" as used in the draft grazing guidance/tools document denotes lands with habitat value that are not under pressure from development, subdivision, or other types |

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| | of management driven by revenue generation. WDFW notes that just as it is unable to achieve its mission alone, it is unable to "protect" or support ranching as an industry per se, nor is that part of WDFW's mandate or Strategic Plan. WDFW simply permits grazing on WDFW lands, in cases where ecological integrity can be maintained, in pursuit of its mission without restricting realized benefits to WDFW lands. |
| *More stakeholder outreach needed and/or collaborate with other land managers and/or conservation districts, which are best able to implement conservation*<br><br>*CRMs should include conservation representative* | Table 1 lists the outreach WDFW conducted in association with the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. This included the letter sent to all existing permittees. WDFW notes that WDFW staff frequently coordinate with Conservation Districts and the USDA Natural Resource Conservation Service, which helps facilitate some CRM arrangements to which WDFW is party.<br><br>WDFW believes that the reference to CRM in FWC Policy C-6003 (in current language and amended as proposed) emphasizes the value WDFW places on collaborating with other land managers and ownerships. Language in the draft grazing guidance/tools document about CRM does not minimize the importance of collaboration. It does explicitly connect CRM with conservation as a collaborative endeavor, which is consistent with the Strategic Plan, and with landscape-scale conservation, which should improve environmental outcomes by excluding any possible interpretation of CRM as a rationale to accept habitat damage.<br><br>As WDFW is charged with conserving fish, wildlife, and habitats, every CRM in which WDFW participates *has* at least one conservation representative. WDFW also finds that this comment implicitly and inappropriately excludes permittees from being considered as potential conservationists. CRMs assume a variety of forms depending on location, size, number of involved landowners, facilitation resources, and other factors. Composition of CRMs are place-based and individually determined, and WDFW is unable to unilaterally appoint external parties to positions within CRMs. |
| *CRM: clarify protections for sensitive species and considerations for nonlethal measures on private lands*<br><br>*CRM: identify emergency pasture to be held in reserve following fire/depredation* | Protections for sensitive species on WDFW lands are discussed in the draft grazing guidance/tools document, sections 1.5 and 2.1. On private lands, WDFW does not have jurisdiction over livestock management. WDFW can place conditions on incentives and support for Damage Prevention Cooperative Agreements as discussed elsewhere in this Response, but those arrangements are regulated by other sections of WAC, not 220-500-200. In CRM situations, WFDW seeks the highest conservation benefit over the largest area, but one of the principles of CRM is that it is voluntary and consensus-based. If the overall implication of this comment was that grazing permits on WDFW land be conditioned on protective actions taken on private land, WDFW believes that it would be inappropriate to institute such a blanket requirement in all CRM situations, some of which do not necessarily include private land. |

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| | WDFW notes that temporary fire- or predator-induced forage loss has been addressed in multiple CRM-type scenarios in Washington in recent years. This capacity is inherent within CRM and does not require additional text within FWC Policy C-6003. |
| *Cross-program review and/or best available science review either hasn't been happening or timelines should require this review every 1-5 years and involve all resource specialists* | FWC Policy C-6003 does not define "best available science" except to express that it is associated with "cross-program review." This is appropriate given that cross-program review occurs in the context of district teams nested within defined regions that include local fish, wildlife, and habitat biologists. The claim that it hasn't been happening is inaccurate: all non-temporary permits have a record of district team review and in fact this has occurred every 1-5 years. The proposed amendment would update language in FWC Policy C-6003 that 1) recognizes that cross-program review should continue to happen, rather than merely being a procedure WDFW should develop at some undetermined point; as the current language states and 2) retains the existing practice of excluding temporary permits. |
| *Clarify how adaptive management will be used to learn from negative outcomes* | Adaptive management can encompass a range of processes depending on who is describing it (Herrick et al. 2012, Fischman and Ruhl 2016, Allen et al. 2017). These processes can range from simple post-hoc adjustments following unexpected outcomes to pre-defined actions to be taken in the event of non-attainment of objectives. WDFW's implementation of adaptive management is probably at an intermediate location on this spectrum. As described in the draft grazing guidance/tools document, section 2.1, pre-defined actions in response to utilization triggers and noncompliance actions are frequently listed. Specific actions that are responsive to effectiveness-related outcomes may also be listed. WDFW's response in cases involving significant changes in ecological integrity, for example, would almost certainly vary according to the magnitude of the change and any known grazing-related drivers. Even significant improvements in ecological integrity do not preclude addressing issues that could arise on the permit but fail to be captured by quantitative monitoring. WDFW notes that district teams review grazing management plans prior to permit implementation or renewal, at which time they also consider ecological integrity monitoring data and any modifications to previous grazing practices. |

4.5. C**omments addressing specific aspects of WAC 220-500-200**.

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| *Prioritize "desired ecological conditions" and/or retain this text at top of WAC*<br><br>*Proposed amendment to WAC cannot be evaluated until Strategic Plan is approved* | WDFW agrees that "desired ecological conditions" should be reinstated to the beginning of the rule to ensure that all permits are subject to desired ecological conditions. (WDFW notes that "desired ecological conditions" would remain, as it is currently, a required component of grazing management plans under the proposed rule.) WDFW's original intent was to reduce redundancy and repetition within rule and FWC Policy, not to remove requirements affording environmental protections. WDFW originally concluded that because the number of temporary permits that are <u>not</u> required to have grazing management plans (and thus desired ecological conditions) is very small, it was not necessary for this text to appear in both locations within the rule. Based on |

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| *Include consistency with Strategic Plan atop WAC* | public comment, WDFW now concludes that it is more appropriate to retain this requirement within the rule that would clearly apply to <u>all</u> permits as opposed to only the vast majority of permits.<br><br>Although one commenter found it impossible at the time to verify that the rule and Strategic Plan are consistent, that question is distinct from whether they should be consistent. Current rule allows grazing to be permitted when consistent with "desired ecological condition for those lands <u>or</u> the department's strategic plan." The proposed WAC amendment would change the word "or" to "and." This could only have the effect of increasing environmental protection and alignment of grazing permits with WDFW's mission. WDFW adds that the FWC approved the Strategic Plan in late 2020. |
| *Grazing should only be permitted on previously cultivated areas and/or acquisitions from private owners where prior agreements allowed grazing* | Commenters offered no specific rationales for these suggested stipulations. These comments may have been alternative ways of expressing the idea that grazing on WDFW lands, or public lands in general, should not be expanded. Please see Response section 4.3 for expanded discussions of the ecological effects of grazing. WDFW notes that much or most of the technical grazing literature is based on work on lands not previously cultivated. Based on this and on the fact that a history of cultivation appears to have a more pronounced long-term effect on vegetation than a history of grazing (Morris et al. 2011), WDFW does not recommend any changes in response to these comments. |
| *Temporary permit requirements are not sufficiently detailed, and/or unclear about environmental review standards (which are themselves unclear or inaccessible), and/or could be used to bypass FWC review*<br><br>*Temporary grazing permit language constitutes a negative and concerning change, and/or should be eliminated because all permits should have the same standards and protections*<br><br>*Temporary permits should only be issued on SEPA-reviewed acreage, should include forage limits, and should exclude sensitive sites* | Temporary permits appear to have confused many commenters. One, for example, might have been unaware that existing language in WAC 220-500-200 already exempts temporary permits from FWC review and from a requirement to charge fees. WDFW proposes no change to that status quo, and therefore environmental outcomes associated with that status quo would also remain unchanged. As context, WDFW notes that, except for brief crossing permits, where AUMs are allotted (even on temporary permits) fees or in-lieu services are typically billed.<br><br>One commenter wondered why temporary permits might be issued without environmental assessment. Contrary to the commenters' presumption, no permit, temporary or otherwise, is issued without ecosystem standards evaluation, as required by RCW 79.13.610. WDFW notes that 1) temporary permits are currently, and would be as proposed, subject to the same SEPA regulations as any other WDFW grazing permit, and that 2) grazing management plans, which under the proposed amendment of WAC 220-500-200 would be required of all grazing permits where grazing occurs for more than 14 days, would define grazing locations and forage requirements as described in draft grazing guidance/tools document, section 2.1. These standards apply to grazing permits as explained in the Committee's report, which is publicly available. In conclusion, the only proposed change to the rule even indirectly affecting temporary permits is the adjusted definition of the duration of permits exempted from needing a grazing management plan (14 days). |

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| *No permittee should receive multiple temporary permits within one year* | It is uncommon for permittees to receive multiple temporary permits within one year, but it has happened in cases when a permittee briefly crossed WDFW lands on the way to non-WDFW pasture at the beginning of the season, then re-crossed WDFW lands returning home at the end of the season. Although WDFW does not find any observable negative ecological effect arising from this situation of multiple temporary permits within a year, proposed language in subsection 5 of WAC 220-500-200 would in fact address this scenario (see below). |
| *Permits on newly acquired lands should only last 12 OR 24 months* | WDFW finds that a period of 12 or 24 months is not necessarily sufficient to appreciate the effects of, and effects on, a livestock grazing operation on newly acquired land. Many permits incorporate rotations that span years, and given 1) the different sizes and locations of various grazing units and the roughly similar-sized herds belonging to any one permittee, and 2) the considerable inherent variability in annual precipitation in semi-arid areas, it cannot be assumed that a single year of WDFW staff exposure to grazing on newly acquired land is enough to appreciate the range of likely effects on plant, soil, and wildlife resources. Hastening to continue—or discontinue—a permit after a too-brief evaluation increases the probability that either inappropriate strategies or lost opportunities will remain in effect for longer than they would otherwise need to. Additionally, WDFW notes that it only has jurisdiction over livestock grazing when WDFW owns the grazing rights to the associated acreage. In rare cases, sellers reserve grazing rights during transactions. |
| *FWC should review all permits including temporaries and renewals, without exception*<br><br>*FWC should approve grazing permits and renewals*<br><br>Versus<br><br>*FWC should not need to approve grazing requests* | In some cases commenters made this recommendation of universal FWC review in order to facilitate public comment on all grazing permits and renewals. For discussion on this point, please see below. Regarding the sole question of whether the FWC should review all permits, WDFW notes that existing rule contains no such requirement, nor was one proposed by WDFW. WDFW concludes this recommendation is unnecessary to avoid adverse environmental effects for similar reasons as discussed above concerning SEPA review of individual grazing permits.<br><br>Further, upon review, WDFW agrees with comments about FWC not needing to actively approve permits. FWC Commissioners generally address policy-making issues and there is limited time at each FWC meeting for the many agenda items. Though Commissioners may identify resource concerns with potential permits, they are not necessarily natural resource professionals and should not be expected to have to endorse the technical details of each permit and renewal. WDFW staff thus plans to recommend that the FWC retain the current WAC language, which would allow permits to be issued in the event that the FWC does not disapprove within 30 days. There would be no adverse environmental impacts in retaining the current process and associated WAC language. |
| *FWC should specifically not approve any domestic sheep or goat grazing* | Some commenters were opposed to sheep and goat grazing for unspecified reasons, while others referenced disease transmission. The implication of that comment (at least with respect to FWC) is that the risk of disease from sheep is |

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| | always unacceptable regardless of location. WDFW acknowledges that domestic sheep herds commonly carry *Mycoplasma ovipneumoniae* bacteria, and should an infected animal interact with wild bighorn sheep, risk of transmission is high. A rule that would take any such decision out of the FWC's (and therefore WDFW's) hands, however, would eliminate scenarios where risk of interaction is low or where WDFW could work cooperatively with potential producers to direct domestic sheep from elevated-risk areas to reduced-risk areas. WDFW prefers to retain the ability to permit sheep grazing if appropriate, which are typically better able to utilize steeper slopes than cattle, eat a lower proportion of herbaceous biomass than cattle, require water less frequently than cattle, and are typically under relatively close continuous human supervision (Holechek et al. 2011). |
| *Ability to cancel permits is necessary and noncompliance terms should be clear*<br><br>*"Higher and better use" language in rule conflicts with importance of accounting for local/community values*<br><br>*Permits should be canceled if grazing increases risk of wildfire or threatens federal- or state-protected species*<br><br>*Permits should be canceled if permittees violate any fish/wildlife law, state hydraulics law, Clean Water Act, environmental protection statutes, of are convicted of domestic violence* | Currently, WAC 220-500-200 already provides for the ability to cancel permits in certain circumstances, including permittee noncompliance. As drafted, the proposed rule change would add discontinuance of a permit to the existing possible actions upon expiration of any permit and require notice to be provided to the affected permittee no later than the end of the calendar year of permit expiration.<br><br>WDFW appreciates the concern over the meaning of this language, which the rule has included since at least 2006. WDFW construes "higher and better use" language in the rule not as a justification to disregard local perspectives on public land management, but instead as an acknowledgement that some land use plans could arise that are important and could theoretically exclude grazing. WDFW reiterates that the language is unchanged relative to current rule, and therefore is not associated with any new effects. WDFW further notes that the "higher and better use" language is consistent with leases facilitated by other public landowners, and that grazing permit cancellations on WDFW lands have been exceedingly rare.<br><br>Adding a basis for cancellation related to the final comment at left was not proposed by WDFW and is beyond the scope of this review. |
| *Permits should not last more than 5 years, and the 10-year SEPA exemption in WAC 197-11-800 nullifies this*<br><br>*Require SEPA for all permits and renewals, period* | The first comment at left involves three distinct issues: maximum WDFW permit durations, SEPA exemption periods for grazing leases, and FWC review requirements. This commenter appears to have either 1) confused the maximum allowed permit duration—which has been, and as proposed would remain, 5 years—with the SEPA exemption for grazing permits issued within the last 10 years as spelled out in WAC 197-11-800 (24)(a); or 2) taken it for granted that WDFW would accept this commenter's suggestion (addressed below) that every permit and renewal would undergo SEPA review and FWC review. Existing language in WAC 220-500-200 exempts permit renewals from FWC review but does not state how much time may elapse following permit expiration before a renewal would need to come before the FWC again. Due |

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| *Permits should be evaluated ecologically before re-permitting* | to CRM schedules, staff workloads, and producer cycles, the period between permit expiration and renewal commonly runs from a few weeks to a year or more. The effect of proposed WAC language on this subject would not change or affect maximum WDFW permit durations (5 years) or SEPA exemption periods (10 years); it would only have the effect of clarifying that FWC would need to review issuance of any permit for acreage not permitted for grazing during the previous 10 years. It is sensible to align the FWC review exemption period in WAC Title 220 with the SEPA exemption period in WAC Title 197.<br><br>WAC 197-11-800 (24)(a) explicitly exempts grazing leases with state agencies from SEPA threshold determination and EIS requirements on lands subject to a lease within the previous 10 years. WAC Title 197 is obviously beyond the scope of this review. While the reason for the exemption in Title 197 isn't listed within WAC, grazing is often a recurring use over long time scales with relatively predictable effects at a given intensity. Renewal of existing grazing permits can reasonably be assumed to have largely comparable effects in the context of SEPA, thus rendering a universal SEPA review requirement on all grazing permits unnecessary.<br><br>The absence of a full SEPA threshold determination requirement does not preclude ecological evaluations. First, the processes of monitoring and assessment—described in the draft grazing guidance document—and cross-program review—required in FWC Policy C-6003—form an appropriate oversight structure and provide WDFW with the information necessary to take corrective action even when exempt from making SEPA determinations. This is confirmed by ecological integrity monitoring results on grazing permits. Second, nothing in the proposed amendments to WAC 220-500-200 would modify statutory requirements for ecological evaluation. Ecosystem standards evaluations developed from RCW 79.13.610 apply to all WDFW grazing permits and renewals as discussed previously in this section.<br><br>WDFW concludes that adding additional language to WAC 220-500-200 that would impose SEPA requirements contradicting those found in WAC 197-11-800 would be environmentally unnecessary, confusing, and ill-advised. |
| *Proposed WAC Amendment to section 5 is arbitrary, adding oversight for some and removing it for others*<br><br>*All permits should require a grazing plan, even when shorter than 14 days OR 14-day permit should be consecutive not cumulative* | The rationale for proposing amendment of WAC 220-500-200(5) (see text in draft grazing guidance/rule document, section 1.3) was twofold: 1) a discrepancy between the rule and FWC Policy C-6003 would be resolved and most permits—see following paragraph—would require grazing management plans; 2) the single exception (for permits with a duration of "less than two weeks") would be clarified to mean "fewer than 14 cumulative days." Current language does not clearly specify whether two weeks means a single consecutive period of time, or cumulative time on site of a given permit areas. This minor proposed change would provide clarity and is not expected to have negative ecological effects, because 1) it is possible that the clarified meaning was in fact intended in the current language, and 2) while some effects of grazing over a |

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| | period of 14 days are possible, they are not more likely to be adverse when those days are cumulative rather than consecutive because grazing effects largely result from the combination of time and intensity of grazing.<br><br>WDFW notes that despite this proposed rule change, the current text of FWC Policy C-6003 exempts <u>all</u> temporary permits—which can last up to one year—from needing an attached grazing management plan. This is confusing, which is why WDFW has 1) heretofore adhered to the binding language in the rule, and 2) proposed to delete the contradictory language from FWC Policy as described in the draft grazing guidance/tools document, section 1.3. WDFW feels that without question, for all permits where grazing occurs over a significant portion of the season (>14 days), grazing management plans are needed. For permits lasting fewer than 14 days, which WDFW reiterates have up to now only described crossing permits, a detailed schedule and plan is not necessary to affect livestock management defined in a permit. Additionally, environmental effects of livestock crossing over the course of a few days are likely to be either minimal, or if not minimal than easily attributable to livestock management, which would enable WDFW staff to properly determine whether the short-term permit would ever get renewed. |
| *Existing rule should not be changed and/or the changes would inappropriately increase government regulation* | These comments *per se* have no bearing on environmental impacts of the proposed WAC amendment, and WDFW concludes based on Response section 4.3 (see also discussion in the draft grazing guidance/tools document sections 1.4 – 1.5) that grazing as proposed advances WDFW's mission of protecting fish, wildlife, and habitats and improving related recreation and are therefore sufficient reason for the proposed changes to WAC 220-500-200 and FWC Policy. |
| *Proposed WAC language bad for public and/or big game except sections 1 and 4* | This commenter did not provide a rationale. WDFW concludes based on section 4.3 (as well as discussion in the draft grazing guidance/tools document sections 1.4 and 1.5) that grazing as proposed advances WDFW's mission of protecting fish, wildlife, and habitats and improving related recreation and are therefore sufficient reason for the proposed changes to WAC 220-500-200 and FWC Policy. |
| *Grazing permits should undergo public review (30-45 days) and/or maintain public database of permits/plans* | During outreach recorded in Table 1, WDFW discussed the possibility of public review of permits with representatives of multiple NGOs, some of whom acknowledged to WDFW that they were relatively unfamiliar with state grazing processes and were more accustomed to the National Environmental Policy Act (NEPA)-associated processes that apply to federal land management agencies. Public review is part of certain NEPA steps, as is explicit consideration of "no-management" strategies such as an absence of any permitted grazing, for example.<br><br>Formal public review of individual WDFW permits is not required by current WAC 220-500-200 or FWC Policy C-6003. Although information about permits under review by the FWC would be publicly accessible as discussed |

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| | above, many grazing permits are currently exempt from FWC review and would remain so as proposed.<br><br>WDFW appreciates these comments about public review and recognizes the value of public transparency. WDFW will remain in dialogue with stakeholders interested in public review to explore possibilities for transparency and public input on grazing permits. WDFW does not, however, recommend that WAC 220-500-200 be amended to explicitly require public review of permits. In the context of the present SEPA-analysis, public review would presumably be used as a tool to identify possible negative environmental impacts of a proposed permit. WAC 197-11-800 (24)(a), however, explicitly exempts grazing lease renewals from SEPA analysis. Public benefits are likely associated with such exemptions, such as (for example) timely processing of renewals and efficient use of state resources for actions unlikely to pose adverse environmental impacts described by SEPA. For the purposes of the present SEPA-analysis for this non-project action (the proposed WAC and Policy amendments), WDFW has identified mitigation measures to address potential adverse environmental impacts associated with future grazing permits (project actions). |
| *Grazing permits should not be discontinued without public review and transparency* | As with the above comment, WDFW concludes that WAC and FWC Policy should not formally require public review in matters of permit issuance or discontinuance. WDFW reiterates that cancellation of grazing permits on WDFW lands has been extremely rare, but WDFW will explore ways to provide maximum transparency in the event that a termination becomes necessary for whatever reason. WDFW appreciates that permittees will benefit from as much notice as possible.. |

4.6. **Comments addressing economic aspects of grazing permits**.

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| *Conduct economic analysis of each permit and/or permit income should offset cost of permit administration* | A benefit-cost analysis only comparing permit income versus costs of administration and monitoring ignores ecological effects, which may be difficult to quantify. WDFW does not require permittees to divulge the details of their operations' economic state of affairs. It is important, however, that WDFW understand the extent to which various management actions are feasible for permittees to ensure that grazing plans can be designed that are acceptable to WDFW and permittees alike, but this cannot fairly be described as an "analysis." Regardless, WDFW is authorized to pursue its conservation mission through the use of grazing permits. If grazing is managed appropriately, its relative return on investment is beyond the scope of this SEPA determination because an economic analysis would have no necessary effect on ecological outcomes. |
| *Don't manage for rancher profits and/or don't accept habitat damage in exchange for grazing and/or impose sufficient fines to threaten* | WDFW manages grazing in pursuit of its mission. WDFW does not take rancher profitability into account except to understand permittees' operational constraints. As to the recommendation about implementing significant fines, it is doubtful that WDFW has the authority to impose such fines. WAC 220-500-190 stipulates a liability of up to one dollar/head/day for owners of |

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| *ranch solvency in event of noncompliance* | unpermitted livestock on WDFW lands. WDFW does have the authority to cancel grazing permits if necessary for cause. Additionally, under proposed language the rule would no longer automatically presume renewal of expiring permits, but instead introduce non-renewal as one of several options (see Response section 4.5). WDFW concludes that cancellation and non-renewal are effective remedies for non-compliance that would certainly represent a serious problem to permittees without access to alternative grazing areas. |
| *Ranchers should be supported and/or permits should be economically feasible for permittees* | WDFW's mission is defined in statute and is restricted to conservation and fish- and wildlife-related recreation. WDFW finds that although it is important to support communities, it cannot determine or make decisions specifically on what is economically feasible for potential permittees. Nevertheless, WDFW is unlikely to accomplish its mission without the habitat provided on private lands, as discussed in Response section 4.4. This includes grazed rangelands. This is why WDFW proposes to retain the discussion in section 1.4 that cites the modeled conversion of some of these rangelands (which could be precipitated by financial insolvency)—possibly leading to reduced habitat for species such as greater sage-grouse—that could accompany a cessation of public lands grazing. This recognition underscores WDFW's position of owning and managing lands within a landscape context. |
| *Bid out grazing and/or charge full market rate (not federal rate) for forage* | Existing WAC language provides for the option of offering grazing permits at public auction. WDFW does not believe that changing this from an optional to a required element of grazing permits would improve environmental outcomes. In fact, multiple WDFW field staff have indicated that it is beneficial to have the option of continuing to work with permittees they trust. As to the specific rate, WDFW does not charge the federal rate (recently $1.35/AUM). WDFW has long applied a small discount to the NRCS published average rate for private unirrigated pasture within Washington. In 2020, WDFW billed $12.32/AUM. |
| *WDFW permittees/ranchers are freeloading and/or neglectful, and WDFW is either unable to monitor and enforce compliance or are doing so dishonestly* | One commenter claimed to have spoken with ranchers who "joked" about how using a WDFW grazing permit was a "free ride." It is perhaps unsurprising that WDFW fields comments of a quite different nature when interacting with producers around the state on a firsthand basis. Without further documentation, WDFW is unable to offer further response to the comment at left. WDFW strongly disputes the insinuation, which was unaccompanied by any evidence, of dishonesty on its part with respect to grazing management. |
| *Create procedure for permanently retiring grazing permits and compensating permittees to enable more "secure" opportunities* | This comment might owe some context to a recent bill introduced by Adam Smith, D-WA (HR 5737, Voluntary Grazing Permit Retirement Act, 116th Congress) that did not make it out of congressional subcommittee but bears some discussion here. It would have permanently reduced or eliminated livestock grazing on a federally managed permit if voluntarily surrendered by the permittee. Federal land management agencies have multiple-use mandates and livestock grazing is its own reason for being on such lands unless otherwise incompatible. |

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| | The notion that a federal permittee should receive compensation or even a right of refusal for loss of use of a federal permit relies on a somewhat complicated legal-social context (Raymond 1997), including the ideas that federal permittees have 1) exclusive grazing rights on a given acreage (supported by court decisions) and 2) herds and base properties to which permits are attached, and such permittees therefore have a fundamental right to graze that the federal government cannot impinge upon (not generally supported by court decisions, but this concept has enjoyed some political traction at times). None of these considerations, however, apply on WDFW lands, and in WDFW's case statute clearly spells out WDFW's mission.<br><br>WDFW has a conservation mandate, meaning that 1) grazing permits are issued only when consistent with this conservation mandate; 2) permits are not associated with specific herds or base properties, and may not be transferred, sold, or subleased; and 3) under the proposed amendment to WAC 220-500-200 there would be no automatic presumption of renewal when a permit expires. Permits are revocable, and if canceling or discontinuing a permit is necessary for fish, wildlife, and/or habitat conservation, WDFW is fully authorized to do so without arranging compensation. If a permittee decides to walk away from a permit of his/her own accord, WDFW may negotiate a new permit with a new permittee if appropriate. Except in connection with certain deed restrictions, there is no imperative that grazing occur at any given location. Establishing a legal precedent of permanently retiring a grazing permit on state land would seem to require an *a priori* conclusion that livestock grazing is inherently inconsistent with WDFW's mission, and that WDFW is unwilling or unable to exercise its existing authority when needed. Because neither of these conclusions is borne out by the record, and because it does not make sense to permanently disregard a potential management option that could be useful in the future, WDFW does not agree with this commenter's recommendation. |
| *WDFW's website goals section can account for lack of science requirement and "sound business practices" benefits livestock industry* | In this comment, one NGO raised a grievance dating from 2011 dealing with how goals are expressed on WDFW's website. The commenter lamented that language about science and decision-making seems to have been removed from the website at some point during 2011, and the commenter concluded that website language about customer service could account for an alleged "blatant" pandering to "the livestock industry." WDFW notes that in this complaint, the commenter neglected to mention WDFW's multiple commitments to the role of science in continuous effect for years: 1) the "best available science language" of Policy C-6003 has been in place since 2002, and if updated as proposed, would be reinforced; 2) WDFW Policy 5004 (Conservation Principles) was implemented in 2013 and committed WDFW to use best science in making management decisions; 3) these Conservation Principles have been included in at least the last two iterations of WDFW's Strategic Plan; and 4) that the current WDFW Strategic Plan includes language to "deliver science that informs Washington's most pressing fish and wildlife questions" as one of its four strategies. |

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| *Public wildlife funding should not be used to pay ranchers to protect livestock on public lands* | This commenter might have been referring to certain grants and/or Damage Prevention Cooperative Agreements, which in certain cases are accompanied with incentives or other forms of assistance for ranchers to implement specific nonlethal measures to reduce wolf-livestock conflict. Such arrangements are regulated by WAC 220-440-040 and are outside the purview of how WDFW implements WAC 220-500-200 and FWC Policy C-6003 on WDFW lands, and thus beyond the scope of this review. |

**4.7. Comments addressing likely or proposed measures applicable to the draft grazing guidance/tools document sections 2.1 - 2.4.** These sections include the "Grazing Management Tools:" grazing management plans, monitoring, ecological integrity, and the GEF.

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| *Protect sensitive sites and/or forests and/or streams and ponds (which are disproportionately vulnerable to livestock), and/or acknowledge vegetated stream buffers and notify permittees of applicable total maximum daily loads (TMDLs)* | In the draft grazing guidance/tools document section 1.5 and above in Response section 4.3, WDFW recognizes the vulnerability of riparian areas to uncontrolled livestock use. These areas are important for numerous species of fish and wildlife. Livestock are often excluded from such areas altogether, which is implicit in permitted grazing areas defined in grazing management plans (draft grazing guidance/tools document section 2.1). Literature cited in section 1.5 suggests, however, that blanket exclusion is not always necessary to achieve diverse, functional habitat. It is infeasible for the draft grazing guidance/tools document to anticipate which tools best address all individual permit situations. However, the draft grazing guidance/tools document section 1.5 discusses considerations that address commenters suggestions ("protective measures include restrictions associated with stocking rate, *spatial and temporal extent of grazing*, and intensity of grazing; requirements for rest and/or other types of grazing rotations; riparian area and streambank protections; and various categories of monitoring, including utilization monitoring and long-term monitoring to assess ecological integrity") [emphasis added].<br><br>WDFW agrees with the comment that permittees should be notified of TMDLs when applicable and has modified the draft grazing guidance/tools document section 2.1 accordingly. |
| *Clarify and/or require some combination of the following: appropriate livestock density and/rotations, critical period precautions, appropriate available forage, post-fire precautions, and herding* | The grazing management plan for any given permit (draft grazing guidance/tools document section 2.1) is where these elements of management would be described, along with any others required by the district team. Anticipated effects of rotations, including those that may occur during bunchgrass critical periods, are also discussed in grazing plans. Herding is mentioned in at least a general way in most permits, and if required as part of an AOP, it would be described in more detail. Except for some crossing permits, WDFW specifies allowed limits on intensity for all permits.<br><br>In response to comments suggesting additional post-fire rest from grazing, WDFW has added text to the draft grazing guidance/tools document, |

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| | section 1.5, to provide additional context and explanation. WDFW previously proposed that one or two seasons of rest could be required following wildfire on a permit area. WDFW removed this overly specific reference. According to Bunting et al. (1998), one growing season of post-fire rest was enough for bluebunch wheatgrass and Idaho fescue to recover, but that one growing season of rest was important. On the other hand, WDFW has rested individual grazing units for multiple years when the level of bare ground following fire remained elevated. A review of fire effects notes the paucity of long-term studies on effects of post-fire grazing and cautions that they could be affected by many different edaphic, climatic, and biological factors (Miller et al. 2013). Prescribing the minimum amount of post-fire rest for any given site is not practical, but WDFW 1) agrees with Veblen et al. (2015b) that grazing following fire may need to be light and restricted during the growing season, and 2) will continue to require appropriate post-fire rest as a matter of course and consider new information on the subject as it becomes available.<br><br>WDFW calls attention to the draft grazing guidance/tools document, section 1.5, which describes how WDFW accounts for plant needs, effects of terrain and water availability, recent disturbances, and other factors when developing forage estimates (which inform stocking rate/livestock number decisions). |
| *Good stewardship and/or low-stress livestock handling is needed from permittees* | WDFW agrees that good stewardship is necessary, and suspects that most of its permittees and ranchers in general would also concur. The draft grazing guidance/tools document discusses WDFW's expectations in a manner that would make this stewardship easier to verify (draft grazing guidance/tools document sections 2.2, 2.3, and 2.5 – dealing with monitoring, ecological integrity, and records associated with AOPs, etc.). Permittees may well find that specific techniques used in low-stress livestock handling help achieve grazing permit objectives and minimize wolf-livestock conflict, but as long as permit objectives are met it is unnecessary for WDFW to over-prescribe particular techniques unless jointly agreed upon within individual AOPs. |
| *Fencing has impacts that should be reduced and/or mitigated, and/or fencing and regulations are insufficient to adequately control grazing*<br><br>*Do not block wildlife access to water* | WDFW recognizes that fences can affect wildlife as discussed in Response section 4.3.5. Several resources are available that WDFW considers in connection with new fence. To do as one commenter suggested, however, and mitigate all new stock fence by removing an equivalent amount of stock fence elsewhere, would seem to require that WDFW make the same presupposition underlying most of this NGO's comments, which is that grazing is inherently destructive, contrary to WDFW's mission, and not an appropriate management intervention—which are concepts that WDFW rejects. WDFW maintains that grazing has a role on some WDFW lands, and as such, management actions and infrastructure to effectively control it while minimizing adverse indirect effects, such as affecting water access routes used by wildlife, are appropriate. |

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| | WDFW acknowledges that any element of infrastructure (such as fencing) has a finite life span. WDFW grazing permits include shared responsibility for infrastructure between WDFW and permittees, and at some point capital expenditures may be required to ensure the efficacy of grazing management. WDFW believes that the draft grazing guidance/tools document addresses the necessary components to regulate grazing and alter management if demonstrated to be ineffective or harmful. |
| *Consistent monitoring is needed on grazing permits (multiple times/year, and/or quantitative/randomized/statistical in nature, and/or addressing ecological integrity)*<br><br>*Exhaustive (exclosure-based) research sufficient to evaluate causal ecological relationships is needed in management* | Numerous commenters remarked on monitoring of grazing permits. WDFW finds that the draft grazing guidance/tools document is broadly consistent with these remarks with exceptions noted below. Monitoring is discussed in the draft grazing guidance/tools document, section 2.2, which cites qualitative and quantitative methods for compliance monitoring and effectiveness monitoring.<br><br>WAC 220-500-200 requires, and as proposed would continue to require, at least twice-annual "inspection," for which WDFW has developed standard monitoring forms. Quantitative utilization monitoring is an element of the inspection and compliance monitoring where certain bunchgrasses exist, and confidence intervals are constructed around average values.<br><br>As noted in the draft grazing guidance/tools document section 2.2, effectiveness monitoring provides information by which ecological integrity can be evaluated. Effectiveness monitoring is based on randomized sampling, and confidence intervals are constructed around statistics as reported in grazing management plans. Some commenters urged WDFW to adopt quantitative benchmarks for certain Multiple Indicator Monitoring (MIM) indicators. It is not yet clear from the literature what values these benchmarks should take and how widely they might vary between different types of riparian areas, but WDFW has modified language in section 2.2 such that rather than stating that "specific objectives can be chosen where appropriate," it would state "WDFW will develop site-specific objectives for riparian and (if applicable) in-stream indicators". WDFW will contact USFS, BLM, and NOAA-Fisheries to determine whether they have working benchmarks or expectations for MIM.<br><br>WDFW notes that monitoring and research are two different things. Careful, exclosure-based before-after controlled impact (BACI)-designed research would likely—though not certainly (Tueller and Tower 1979)—provide a basis on which to draw conclusions about specific causal questions. WDFW rejects the idea that this is needed for a MDNS particularly (see: below; Response section 4.1) or for WDFW grazing management generally (see the draft grazing guidance/tools document sections 2.2 and 2.3 describing monitoring and ecological integrity). Under |

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| | the proposed non-project action at issue here (proposed amendments to WAC 220-500-200 and FWC Policy C-6003), WDFW would be aware of the dynamics of ecological integrity without necessarily knowing which specific factors are driving changes. This means that cross-program district teams have the responsibility of evaluating any changes in ecological integrity and reacting appropriately, which is currently the case.<br><br>WDFW concludes that the combination of its own monitoring with appropriate application of available scientific publications provides sufficient basis to make decisions about livestock grazing. Although scientists are typically cautious about overestimating the inference space of any given experiment, broad patterns within ecosystems indicate that vegetation communities tend to respond to livestock grazing type, intensity, and timing in relatively consistent ways. As discussed in Response section 4.3, if livestock grazing can be limited to a light to moderate intensity, functional and diverse ecosystems can be maintained. |
| *Livestock on-off counts should be conducted* | WDFW staff counts of livestock as they enter and leave WDFW lands are not currently required under WAC 220-500-200 or FWC Policy C-6003, nor would they be under proposed amendments. Some situations render regular staff counts impracticable due to fencing and ownership configurations. Permittees are required to account for all livestock use of WDFW lands and report use numbers, and wildlife area managers and permittees are required to maintain regular contact with managers following up on any concerns. WDFW concludes that no appreciable environmental improvement would be gained by introducing required staff counts as a matter of WAC, FWC Policy, or standard procedure. |
| *Make specific requirements as clear as possible* | WDFW agrees with this comment and notes that this sentiment motivated development generally of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. WAC 220-500-200 and FWC Policy C-6003 have applied to WDFW grazing permits for many years, but the draft grazing guidance/tools document provides more detail about the rationales and methods WDFW currently applies in the process of implementing WAC 220-500-200 and FWC Policy C-6003. Individual grazing plans and AOPs provide space for delineating specific requirements for any given permit. |
| *Implement specific standards for post-grazing stubble height, bank alteration, maximum woody and herbaceous forage utilization* | One commenter provided a set of quantitative standards for WDFW to adopt. Although WDFW considers this commenter's suggested values for these parameters as useful guidelines in many circumstances, site-specific conditions make it inappropriate to apply the suggested standards universally. Take for example suggested maximum woody browse utilization of 15%. Elk use alone exceeding this amount has been observed, and would have minimal or no relevance for a spring cattle grazing permit. Furthermore, because utilization per se is not generally an ideal objective of a permit (Smith et al. 2007), allowed utilization ceilings may (and do) vary between permits and are identified in individual plans. |

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| *Adopt Ecological Site Description "parameters for cover" and conduct restoration with native plant materials* | WDFW refers to the use of NRCS Ecological Site Descriptions (ESDs) to characterize soils and vegetation within a given area. The commenter, however, appears to have either misunderstood the content of ESDs or to have confused the format of ESDs applicable to Washington rangelands with ESDs in other states. EDSs in Washington do not have "parameters for cover" at the time of this writing. Washington ESDs can currently be found archived at NRCS' electronic Field Office Technical Guide website. ESDs have multiple sections, one of which is known as a "reference sheet," as well as another that list components of the "historical climax plant community." The reference sheets in existing ESDs for Washington are considerably more generic than in some other western states and contain general language about relative departure from undisturbed conditions. The historical climax plant community section has percentage values associated with some vegetation groups and individual species, and these percentages may resemble cover values at first glance. In fact, they represent maximum allowed proportions of biomass in a sample that can be recorded when constructing a similarity index, a tool sometimes used by NRCS on private lands but rarely used by public land management agencies. Even for purposes of similarity indices, biomass and cover cannot be assumed to be interchangeable.<br><br>Cover values for various Washington ecosystems <u>do</u> appear in the references cited in the ecological integrity discussion found in section 2.3 of the draft grazing guidance/tools document and constitute the basis for how several aspects of ecological integrity are quantified.<br><br>Appropriate plant materials for the purposes of ecological restoration are beyond the scope of the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document. |
| *Federal policy should be followed* | The commenter was not clear about which aspect(s) of federal "policy" should be followed (e.g. monitoring procedures, 10-year permit durations, NEPA processes, base property requirements, etc.). Some of his conclusions were apparently based on a claim that the Bureau of Land Management (BLM) monitors grazing more closely than WDFW, a claim that WDFW doubts, if for no other reason than the duration of BLM leases (10 years) exceeds the maximum 5-year duration of WDFW permits. WDFW notes that its monitoring procedures are closely based on federal AIM protocols (draft grazing guidance/tools document section 2.2). WDFW also reiterates that its obligation is to fulfill its state-defined mission, and that its managed lands have different purposes and constraints than federally managed lands do. |
| *Grazing Evaluation Framework is burdensome and would prevent managers from having more* | WDFW assumes that this commenter was not attempting to suggest that WDFW should allow new grazing without careful review. Rather, it appears that the concern was that the GEF as drafted requires so much paperwork as to be unworkable relative to some other more efficient |

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| *worthwhile meetings with producers in the field* | process. This outcome has not been observed in tests of this process with WDFW staff, which have in fact involved field conservations. WDFW respectfully disagrees with the claim that the defined and consistent process of reviewing proposals to graze state land as described in the draft grazing guidance/tools document (section 2.4) would somehow prevent wildlife area managers from 1) performing their jobs, or 2) spending time in the field with producers in order to understand all relevant considerations. The GEF would provide predictability for WDFW staff, prospective permittees, and the public alike. |

**4.8. Miscellaneous comments.**

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| *WDFW should not be acquiring land and/or adding grazing land acquisition to "RCW"* | WDFW does not have the authority to modify RCW. Proposed amendments referenced herein would only modify WAC 220-500-200 and FWC Policy C-6003, neither of which regulates land acquisition. WDFW does not acquire land as "grazing land" or as an addition to a grazing portfolio. Land acquisitions are made with the goal of conserving fish, wildlife, and habitat. |
| *Animal agriculture should not continue and/or there are many cattle in the world* | Statute addresses livestock husbandry in numerous instances, but WDFW was unable to identify any requirement that the state of Washington discourage animal agriculture as a matter of principle. It does not logically follow that because cattle exist elsewhere in the world, cattle must therefore not be permitted in Washington or more specifically on WDFW-managed lands. Whether animal agriculture should exist at all is well beyond the scope of this review. |
| *A variety of public media condemns USDA removal of wildlife and of federal grazing management* | WFDW reiterates that WDFW is a branch of Washington state government that has no jurisdiction to manage federal lands. This comment is not relevant to the proposed amendments of WAC 220-500-200 and FWC Policy C-6003 (or the related draft grazing guidance/tools document). |
| *WDFW must follow up with all commenters and tell them how to appeal the proposed amendments to WAC 220-500-200 and Policy C-6003, and draft grazing guidance/tools document* | WDFW does not have an administrative appeal process for SEPA threshold determinations. Where commenters indicated they had information about specific permits, WDFW will make contact. |
| *WDFW staff do not benefit wildlife and should resign* | WDFW notes this commenter's frustration, but WDFW was unable to identify any concerns specific to the proposed amendments of WAC 220-500-200 and FWC Policy C-6003 (or the draft grazing guidance/tools document). |

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