






2022-23 TETON COUNTY HUMAN-WILDLIFE

Coexistence

MONITORING REPORT

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Acknowledgements

Humans and wildlife have coexisted on the land currently known as Teton County, and throughout the Greater Yellowstone Ecosystem, for at least the last 10,000 years. Indigenous people are the original and ongoing leaders in human-wildlife coexistence. The Indigenous people of this land, including the present-day Eastern Shoshone, Northern Arapaho, and Shoshone-Bannock Tribes have lived alongside the buffalo, sagebrush, water, air, and other non-human relatives for generations. Socio-ecological violence against Indigenous people pervades the history of the American West and that of Teton County. The metrics and dialogue presented in this report are intended to be complimentary and deferential to the Traditional Ecological Knowledge of the many Indigenous people with connections to this land.

Contributions

Thank you to the following individuals for their time and contributions throughout this project: Tanya Anderson, Jason Baldes, Patti Baldes, Matt Bambach, Bryan Bedrosian, Mike Boyce, Susan Clark, Karyn Chin, Chris Colligan, Kristin Combs, Alyson Courtemanch, Mark Daluge, Sarah Dewey, Meta Dittmer, Derek Ellis, Sawyer Finley, Steffan Freeman, Drew Gath, Morgan Graham, Ryan Hostetter, William Hutt, Kyle Kissock, Wyatt Klipa, Erik Kramer, Scott Kosiba, Arlen Lancaster, David Lee, Emma Leither, Sue Lurie, Fain McGough, Holly McKinney, Linda Merigliano, Erin Monroe, Chris Neubecker, Tim O'Donoghue, Heather Overholser, Raena Parsons, Taylor Phillips, Kalisa Poinsett, Luther Propst, Sarah Pruden, Jonathan Schechter, Skye Schell, Jenalee Schupman, Justin Schwabedissen, Renee Seidler, Tyler Sinclair, Katie Smits, Leslie Steen, Kole Stewart, Cora Sutcliffe, Kevin Taylor, Kelly Thompson, Dawn Webster, Ben Williamson, and Kate Wilmot.

Authors: Grant Gallaher and Chelsea Carson

Designer: Maria Sengle

Editor: Kevin Krasnow

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Executive Summary

Human-wildlife coexistence is at the core of the ecosystem, economy, and culture of Teton County, Wyoming. To make informed decisions concerning human-wildlife coexistence, it is important to establish metrics to track our challenges, successes, and opportunities over time. Although many organizations collect data on singular aspects of human-wildlife coexistence, our community lacks a centralized resource to holistically evaluate community-level coexistence. The Teton County Human-Wildlife Coexistence Monitoring Report addresses this gap by compiling 20 metrics of human-wildlife coexistence. Metrics were determined through engagement of 40+ stakeholders, including land-mangers, elected officials, conservation professionals, scientists, and long-time residents, among others. Chapter 1 presents metrics related to **Land Use**, including Habitat Protection and Threats and Landscape Permeability. Chapter 2 focused on **Human-Wildlife Interactions** from Bear Feeding/Conflict and Recreation. Finally, Chapter 3 highlights the **Human Dimensions of Coexistence**, evaluating Strategies, Monitoring, and Funding as well as Stakeholder Perspectives. This report is intended to inform and advance ecosystem stewardship, monitoring, and conservation action in Teton County. The 20 metrics presented here represent a starting point for monitoring and stewarding the incredible biodiversity of this area. By establishing this baseline, future monitoring, research, dialogue and action can be targeted toward root challenges, evolving opportunities, and a united community vision of human-wildlife coexistence in Teton County.



Introduction

To provide a robust picture of how well humans and wildlife are coexisting, the Teton County Human-Wildlife Coexistence Monitoring Report compiles recent measures of 20 metrics indicative of the quality of human-wildlife coexistence. With ecosystem stewardship as one of Teton County's core common values, there is an urgent need to develop improved metrics to monitor ecosystem function, health, and human-wildlife coexistence. Many local organizations collect data on singular aspects of coexistence, but Teton County lacks a centralized resource to holistically evaluate community-level coexistence.

With 44 years of experience protecting the wildlife, wild places, and community character of the local ecosystem, the Jackson Hole Conservation Alliance is appropriately positioned to fill this gap. This report synthesizes quantitative and qualitative data from across organizations in consultation with 40+ coexistence stakeholders, experts, and leaders to inform the metrics presented here.

PURPOSE & OBJECTIVES

This report's purpose is to compile existing metrics of Teton County human-wildlife coexistence, establishing a baseline that can be used to track coexistence successes and challenges over time. This report is intended as a resource for land managers, conservation advocates, Tribes, elected officials, educators, researchers, and the public. Ask any of these Teton County stakeholders what it means for humans and wildlife to coexist, and you may receive many different answers. By assembling publicly available empirical metrics, this report provides common language for the community of stakeholders to engage in informed conversations about the present and future of coexistence. This builds on and supports other efforts to promote community-level coexistence dialogue, such as the [Mountain Neighbor Handbook](#) (Teton Conservation District et al., 2022), the [Recreation and Wildlife Forum](#) (Friends of the Bridger-Teton, 2021), the [Jackson Hole Wildlife Symposium](#) (Northern Rockies Conservation Cooperative, 2021), and the [State of Wildlife in Jackson Hole](#) (Jackson Hole Conservation Alliance, 2018). Readers of this report should additionally recognize the importance of the Traditional Ecological Knowledge of the original and present Indigenous stewards of this land, including but not limited to the Eastern Shoshone, Northern Arapaho, and Shoshone-Bannock Tribes.

Furthermore, this report identifies gaps in our coexistence knowledge, proposing future steps to develop improved metrics. This report complements the work of local partners that are developing metrics of other aspects of ecosystem stewardship, such as water quality and sustainability. This report aims to inform and advance dialogue, science, and action concerning human-wildlife coexistence, recognizing Teton County as a regional and global model of a community taking proactive steps to live in balance with its ecosystem and wildlife.



STAKEHOLDER CONSULTATION

To create this report, the Alliance consulted 40+ Teton County coexistence stakeholders, experts, and leaders. This process included 17 semi-structured interviews and 25+ additional correspondences to collect quantitative and qualitative data from stakeholders. The stakeholders represent local and regional non-profit organizations, Tribes, government agencies, land managers, elected officials, academic institutions, business owners, and researchers. Alliance staff conducted all interviews using a semi-structured methodology to encourage focused conversation while still allowing flexibility for the stakeholder to speak to the aspects of coexistence that felt most important to them. Interview questions covered coexistence topics such as stakeholder definitions, challenges and successes, goals, existing data, and gaps. Interviews were recorded, transcribed, and coded to identify common themes. We kept the identity of our interviewees confidential and included anonymized stakeholder quotes to add context and nuance to the metrics presented. Stakeholders engaged in this process were given the opportunity to review drafts of this report prior to publication.

ABOUT THE METRICS AND REPORT STRUCTURE

The metrics included in this report and the overall report structure aim to reflect what we learned from the stakeholder consultation process. Metrics included in this report met the following criteria: 1) The metric was identified as important by stakeholders; 2) The metric can be represented with currently existing data; and 3) The metric has potential to inform action or understanding around human-wildlife coexistence.

The 20 metrics that meet these criteria were organized into three chapters, each with two subsections:

- Chapter 1, Metrics of **Land Use** includes data on a) Habitat Protection and Threats and b) Landscape Permeability.
- Chapter 2, Metrics of **Human-Wildlife Interactions** focuses on two hotspots of human-wildlife conflict: c) Feeding and Bear Conflict and d) Recreation Coexistence.
- Chapter 3, Metrics of the **Human Dimensions of Coexistence** evaluates coexistence as a more-than-ecological process, synthesizing quantitative data on e) Strategies, Monitoring, and Funding and qualitative data on f) Stakeholder Perspectives.

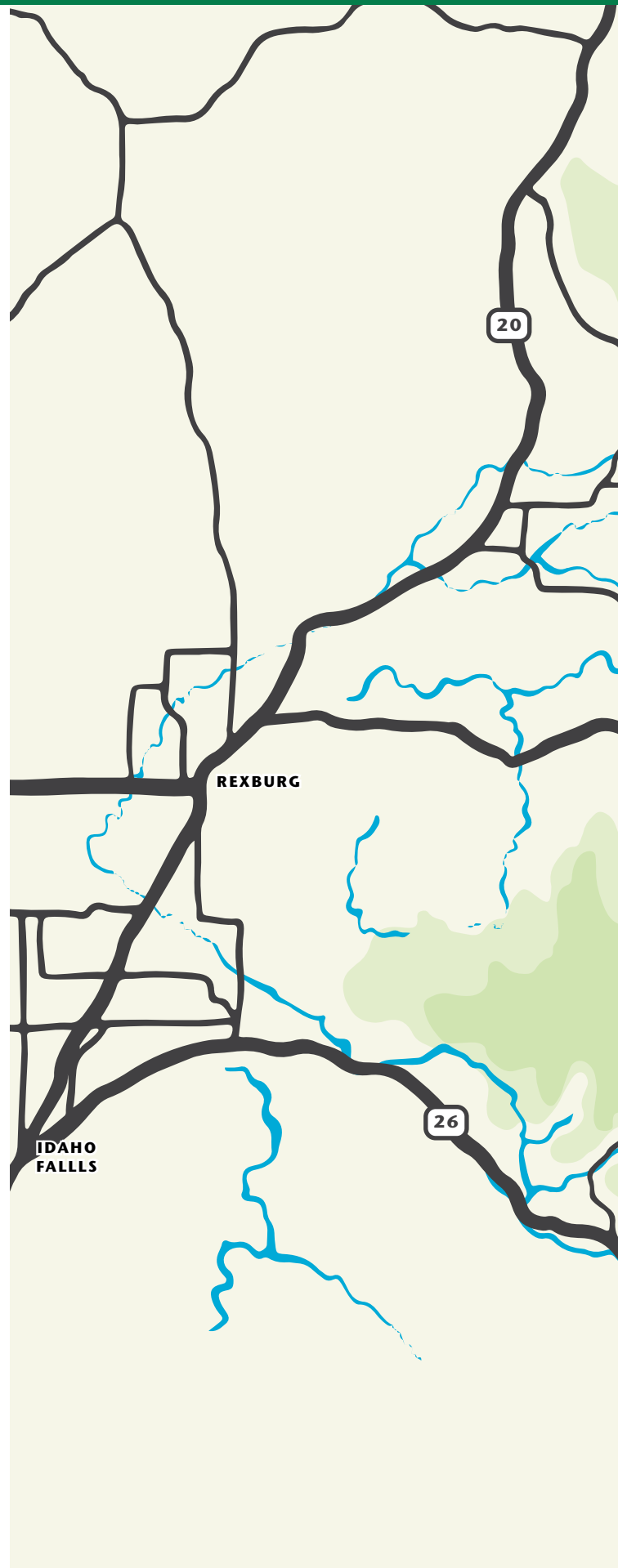
The most recent data were obtained for each metric, ranging from 2021-2023, with decadal trends included when possible. Each metric states the recency, timeframe, and source, along with any additional contextual notes. A full report could be written about any one of these metrics and in this report, we only present data, but do not attempt to interpret the data. For more information on the context, methodologies, and interpretation of each metric, please contact the data source.

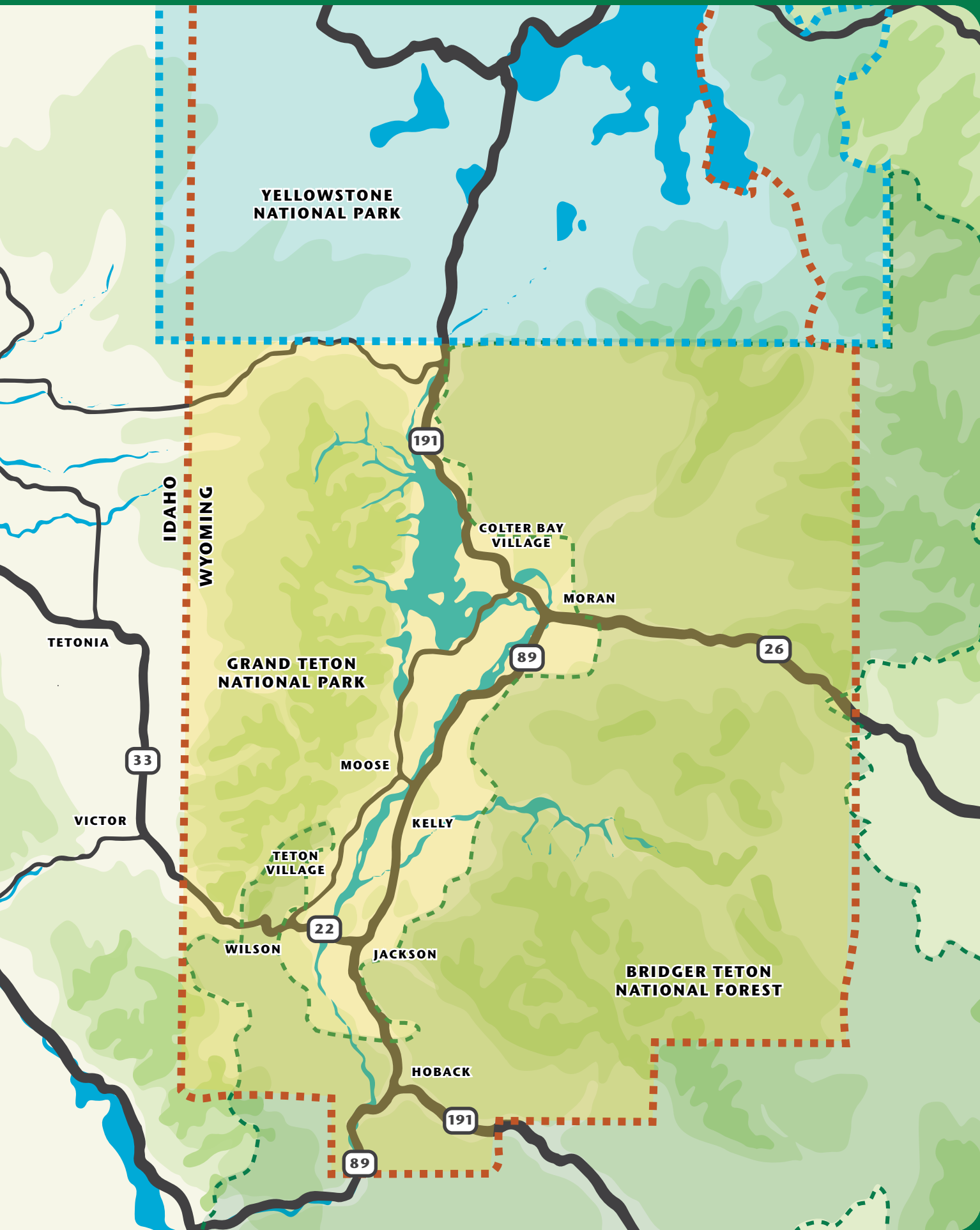
GEOGRAPHIC SCOPE

The geographic scope of this report consists of the boundaries of Teton County, including data regarding both public and private lands but excluding the section of Teton County that overlaps with Yellowstone National Park. Excluding Yellowstone, this scope consists of approximately 1.8 million acres (730,000 hectares).

LEGEND

-  — Bridger-Teton National Forest Boundary
-  — Yellowstone National Park Boundary
-  — Teton County Boundary
-  — Geographic Scope Area





**YELLOWSTONE
NATIONAL PARK**

**IDAHO
WYOMING**

TETONIA

33

VICTOR

**GRAND TETON
NATIONAL PARK**

191

**COLTER BAY
VILLAGE**

MORAN

89

26

MOOSE

KELLY

**TETON
VILLAGE**

22

WILSON

JACKSON

**BRIDGER TETON
NATIONAL FOREST**

HOBACK

191

89



“We’re not saying as a community that all wildlife should live in all places on private lands. We’re saying it should be permeable, and that’s an important distinction.”



CHAPTER 1

Metrics Of Land Use

Introduction

The physical landscape forms the foundation of human-wildlife coexistence in Teton County. For humans and wildlife alike, the land is a source of many essential needs, including habitat, shelter, food, water, open space, and corridors for movement. Just as humans need shelter, moose need suitable habitat to survive the winter. Mule deer can migrate hundreds of miles from season to season, and millions of humans drive through Grand Teton National Park every year. The respective relationships humans and wildlife have with the land influence our relationships with each other. That is, the land use decisions that Teton County and the state of Wyoming makes will underly future successes or failures of human-wildlife coexistence.

Are we protecting wildlife habitat while responsibly managing human impacts on the landscape? Are we conserving wildlife migration and movement corridors while promoting permeability and safety on our roads and the maintenance of our working lands? In this chapter, we present metrics of human-wildlife coexistence related to land use, organized into subsections of **Habitat Protection and Threats & Landscape Permeability**

Habitat Protection and Threats

Human land use practices have the potential to protect or threaten critical wildlife habitat. **Conservation Easements** and **Winter Wildlife Closures** are two land-use tools that protect habitat and open space for wildlife when and where they need it most. Development and rural sprawl pose significant threats to habitat. We can monitor development trends by comparing **Conservation vs. Subdivision of Rural Areas** and monitoring the **Location of Actual Growth**, encouraging density in complete neighborhoods instead of sprawl into available habitat. As human activity spreads, **Habitat Affected by Invasive Species** can be of lower quality, which can be mitigated through the **Treatment of Invasive Species**.

Landscape Permeability

Most wildlife in the Greater Yellowstone Ecosystem do not stay in one place; they follow instinctual patterns of migration and movement across the landscape. However, human modifications of the landscape, including roads and fences, can make the landscape less permeable, restricting wildlife movements, reducing available habitat, and creating a higher likelihood for conflict. **Wildlife-Vehicle Collisions** can be lethal and costly for wildlife and humans alike, and they are one of the most well-established coexistence metrics in Teton County today. We can mitigate these tragic occurrences by making Progress on **Wildlife Crossings**. Likewise, through fencing removal and improvement, we can reduce the number of wildlife that get caught in or deterred by nonwildlife-friendly fencing. This progress can also be tracked through **Cumulative Fence Miles Removed**, a reflection of community commitment and action toward a more permeable landscape.



METRICS OF LAND USE Habitat Protection & Threats

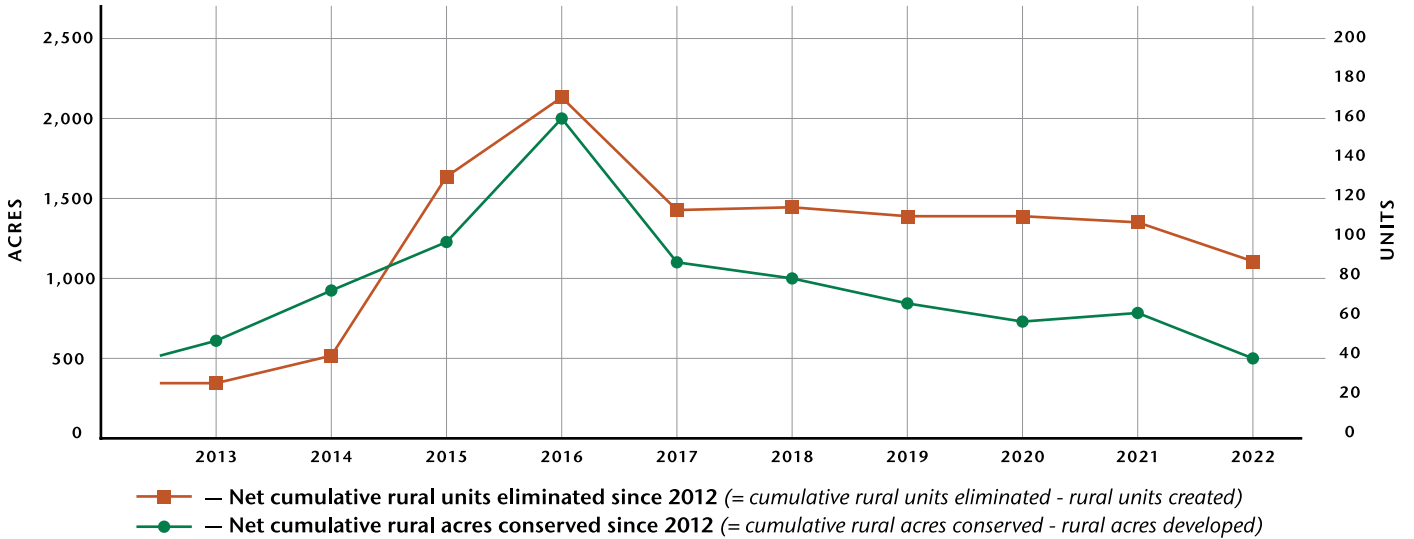
Conservation Vs. Subdivision Of Rural Open Spaces

2022



515 MORE ACRES conserved than developed in rural areas since 2012.

89 MORE UNITS eliminated in rural areas than developed since 2012.



Source: 2023 Teton County Indicator Report (p.4)

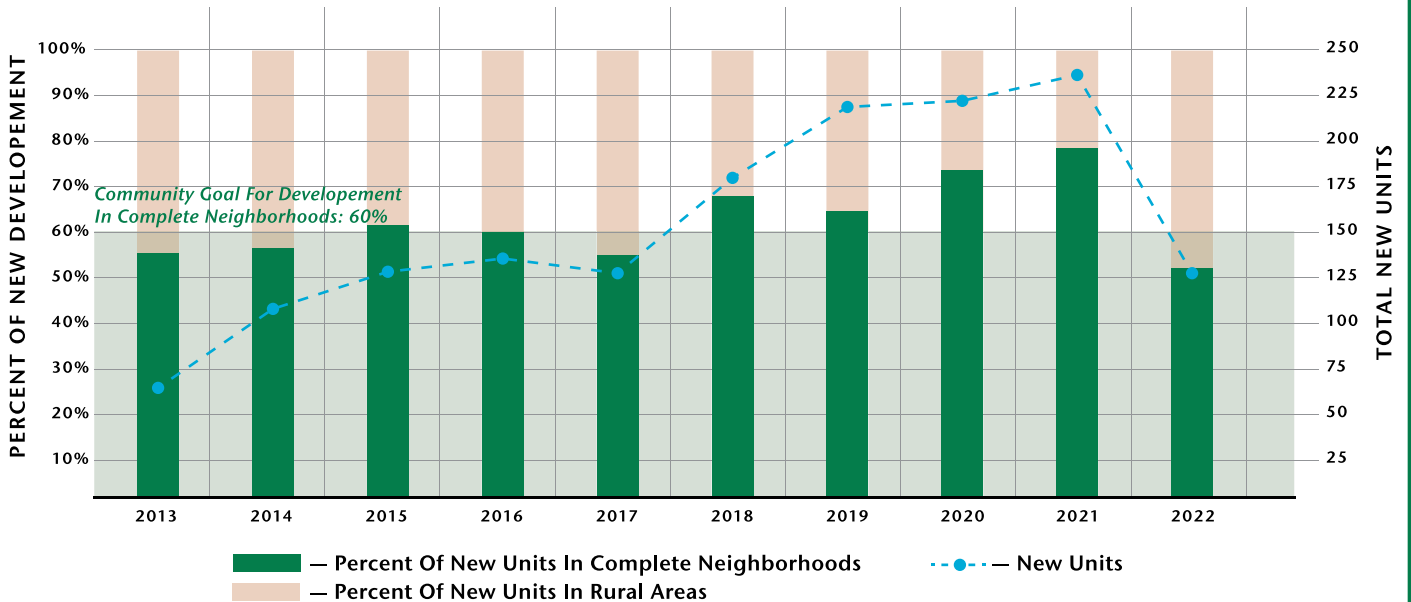
Location Of Actual Growth

2022



52% OF NEW RESIDENTIAL UNITS Built in complete neighborhoods

48% OF NEW RESIDENTIAL UNITS Built in rural areas.



Source: 2023 Teton County Indicator Report (p.6)

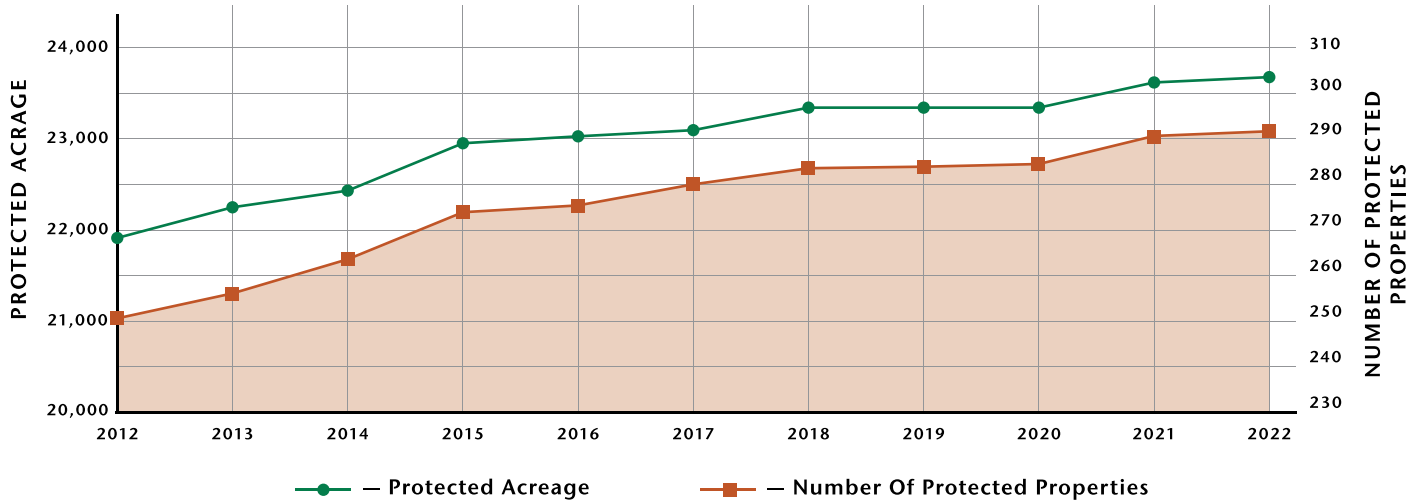
Private Lands Protected Through Conservation Properties

2022



23,684

TOTAL ACRES of private lands protected in 292 conservation easements*
(*and other forms of conservation properties)



Source: Teton County Planning Dept., Jackson Hole Land Trust, The Nature Conservancy, Teton County Scenic Preserve Land Trust, Wyoming Game & Fish Dept.

Public Lands Protected Through Winter Wildlife Closures

2023



170,047

ACRES of public land protected through winter wildlife closures
(12% of 1,391,526 total acres of public land).

*An additional **762,579 ACRES** of public land (55% of 1,391,526 total acres of public land) are managed as Wilderness and are permanently closed to motorized use, both in the winter and summer.

Source: Teton Conservation District

Habitat Affected By & Treated For Invasive Species

2022

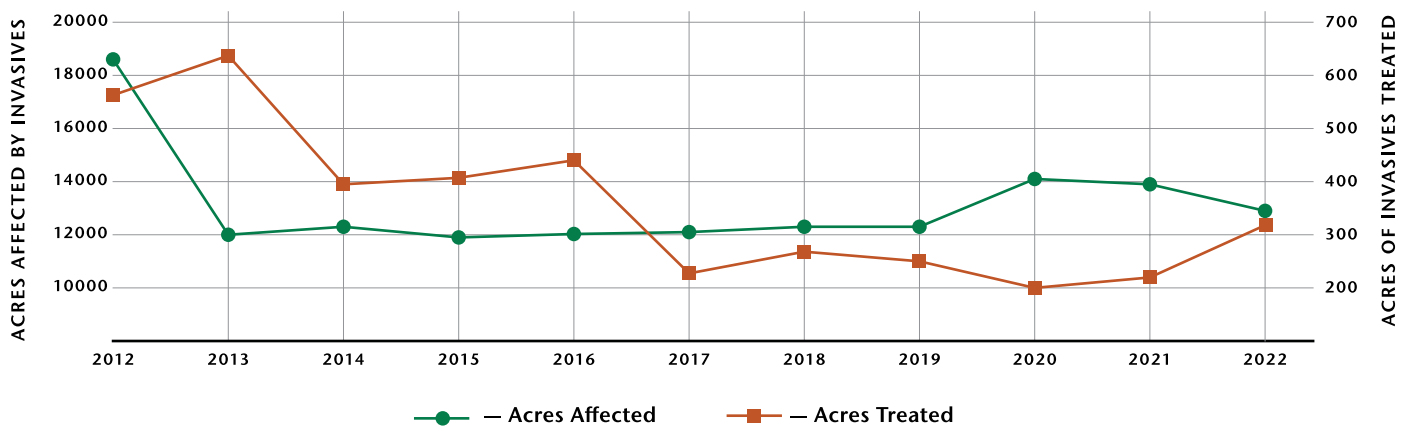


12,933

TOTAL ACRES of public lands affected by invasive species (an 8% decrease from 2021)

324

TOTAL ACRES of weeds treated (a 50% increase from 2021)



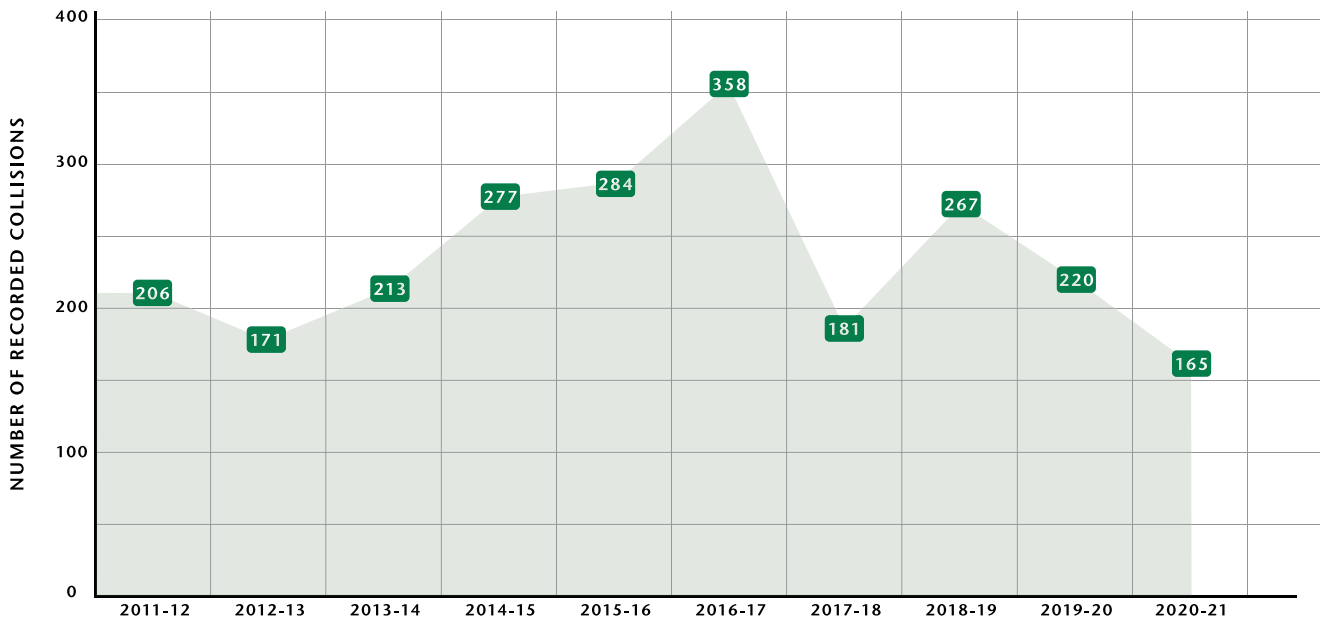
Source: Teton County Weed and Pest



METRICS OF LAND USE Landscape Permeability

Wildlife-Vehicle Collisions

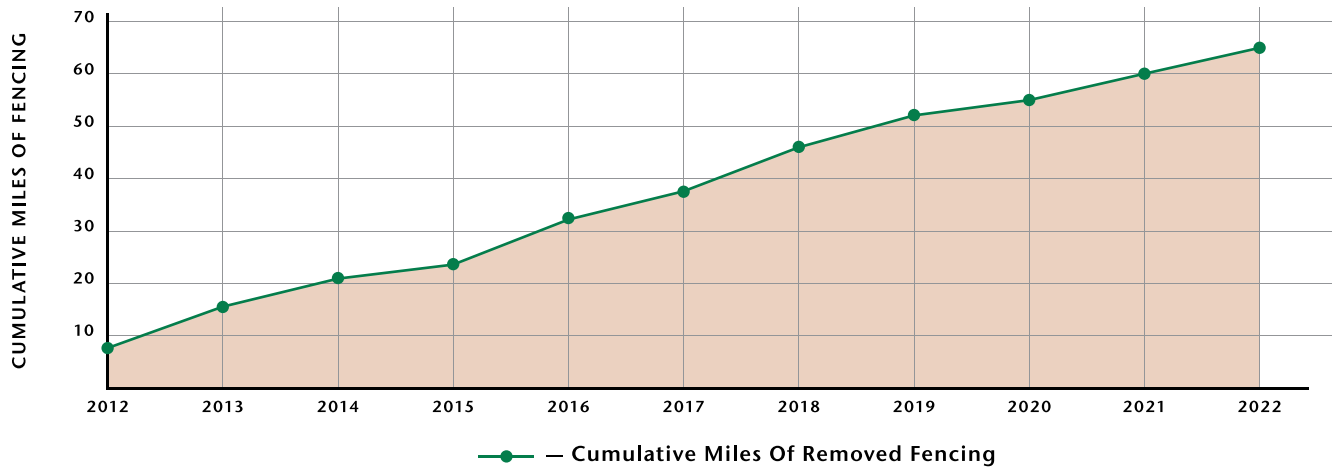
2021  **165 WILDLIFE-VEHICLE COLLISIONS** between May 2020-April 2021. 2,342 collisions since 2011



Source: Jackson Hole Wildlife Foundation

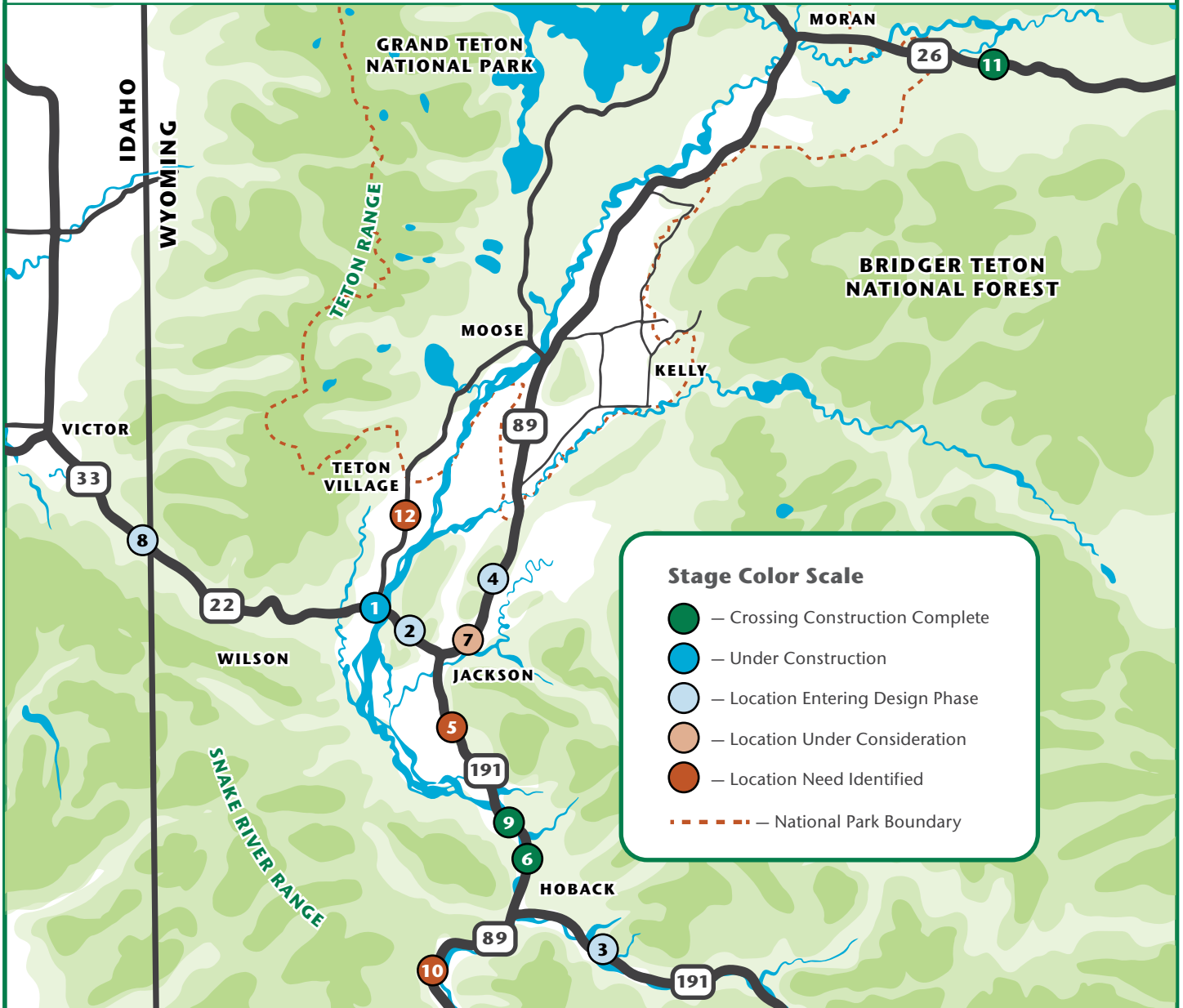
Fencing Removal & Improvement

2022  **65.14 CUMULATIVE MILES** of fencing removed or modified to be made wildlife friendly in teton county, 3.82 miles removed or modified in 2022



Source: Jackson Hole Wildlife Foundation

Wildlife Crossings Progress

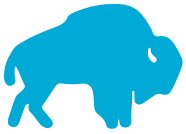


- 1** **Hwy 22/390 Intersection / Snake River Bridge:** Under Construction
- 2** **Hwy 22 Spring Creek to Bar Y:** Included in WYDOT Hwy 22 Corridor Plan
- 3** **Camp Creek:** Under contract for conceptual designs
- 4** **North of Jackson to Fish Hatchery:** Under contract for 30% design plans
- 5** **South of Jackson to Rafter J:** Low feasibility currently / Needs land-use planning
- 6** **Horse Creek to Hoback Junction:** Construction complete, monitoring began November 2022
- 7** **Broadway Flat Creek Bridge:** Looking at lighting as part of Town inventory process
- 8** **Teton Pass West Side:** Under contract for 30% design plans
- 9** **Game Creek:** Construction and monitoring completed, final report Spring 2023
- 10** **Dog Creek:** No progress
- 11** **Blackrock/Togwotee:** Completed in 2012
- 12** **WY 390:** This stretch is not a good candidate for crossing structures and fencing per the Teton County Wildlife Crossings Master Plan
- 13** *(Not on Map)* **Aquatic Passage:** Multiple locations under consideration (Cabin Creek, Boyles Hill Road/Spring Creek).

Source: Teton County Public Works Department

“If we keep our food secured, then bears have no reason to stay in a neighborhood, and they’ll pass through. If we don’t, then that’s what causes the problems, and then it becomes a safety concern for your neighborhood.”





CHAPTER 2

Metrics Of Human-Wildlife Interactions

Introduction

Throughout Teton County, humans and wildlife interact every day in ways that may be positive, negative, or neutral for either or both parties. A grizzly bear tips over a garbage can in your front yard, in search of leftovers. You whizz by a moose on your mountain bike, sending it running into the willows. In each of these scenarios and myriad others, these wildlife interactions with humans and our human-modified landscape can lead to detrimental outcomes to humans and wildlife alike. In recent Teton County discourse on human-wildlife interactions, two recurring topics emerge again and again: **Wildlife Feeding**, particularly as it relates to conflicts with grizzly bears, and **Recreation In Wildlife Habitat**. For both topics, following best practices can reduce the chances of human behavior having negative impacts on wildlife, while also promoting personal and public safety for residents and recreationists of Teton County.

Are we securing food and other attractants sufficiently to reduce the risk of attracting wildlife into our communities? Are we recreating responsibly to mitigate disturbances to wildlife, especially in critical habitats and seasons? In this chapter, we present metrics of human-wildlife coexistence related to these interaction hotspots, organized into subsections of **Bear Feeding & Conflict** and **Recreation**.

Bear Feeding and Conflict

With shrinking habitat, an increasing development footprint, rising populations, and interactions between grizzly bears and humans are predicted to increase, especially on private lands. In 2020-2021, residents of Teton County became accustomed to seeing Grizzly 399 and her four cubs outside of Teton County's public lands and roaming through residential neighborhoods in search of food – ultimately finding sources such as livestock feed, birdseed, trash, and honey from domestic beehives. We don't have to look far to see the results of these incredibly intelligent bears learning that human developments provide food – in summer 2022, grizzly 1057, one of 399's four cubs was killed after 13 documented conflicts with humans in May 2022 (in Sublette County). Joe Szuszwalak, public affairs specialist for the U.S. Fish and Wildlife Service Mountain-Prairie Region wrote, "The U.S. Fish and Wildlife Service authorized this action out of concern for human safety as this bear became more emboldened in their behavior while seeking food rewards and habituation to the presence of humans." **Human-Bear Conflicts** occur when food attractants are improperly stored and managed, giving bruins motivation to come into our communities and opportunities for habituation. When bears learn to expect food rewards in human-dominated areas, it can lead to behaviors that are threatening to all parties, in some cases resulting in **Bear Captures, Relocations & Removals**. **Bear-Resistant Trash Cans** are one well-established method of reducing wildlife feeding conflicts. Likewise, tracking of **Feeding Compliance Violations** may be a useful coexistence indicator as new wildlife feeding regulations take effect.

Recreation

Teton County is a world-renowned destination for outdoor recreation, with many people choosing to live or visit for the access to hiking, skiing, mountain biking, dog walking, sightseeing, birding, camping, mountaineering, kayaking, rock climbing, camping, rafting, and more. Much of this recreation takes place in or adjacent to wildlife habitat, creating opportunities for conflict between humans and wildlife or the shrinking of available habitat to wildlife as they attempt to avoid humans. Managing recreation behaviors and areas to be sustainable for people, wildlife, and the land is a key challenge for Teton County's coexistence future. In part, a central factor in this balance is raw **Recreation Intensity**, or the rates of recreational use. However, wildlife-recreation coexistence also depends on awareness of and compliance with best practices, such as **Dog Leash Compliance** and adherence to **Winter Wildlife Closures**. Ultimately, land managers and recreation stakeholders must look for compromise, protecting both wildlife habitat and recreation values for the benefit of future generations of humans and wildlife. This is highlighted in the case study of Bighorn Sheep Habitat and Backcountry Ski Terrain.

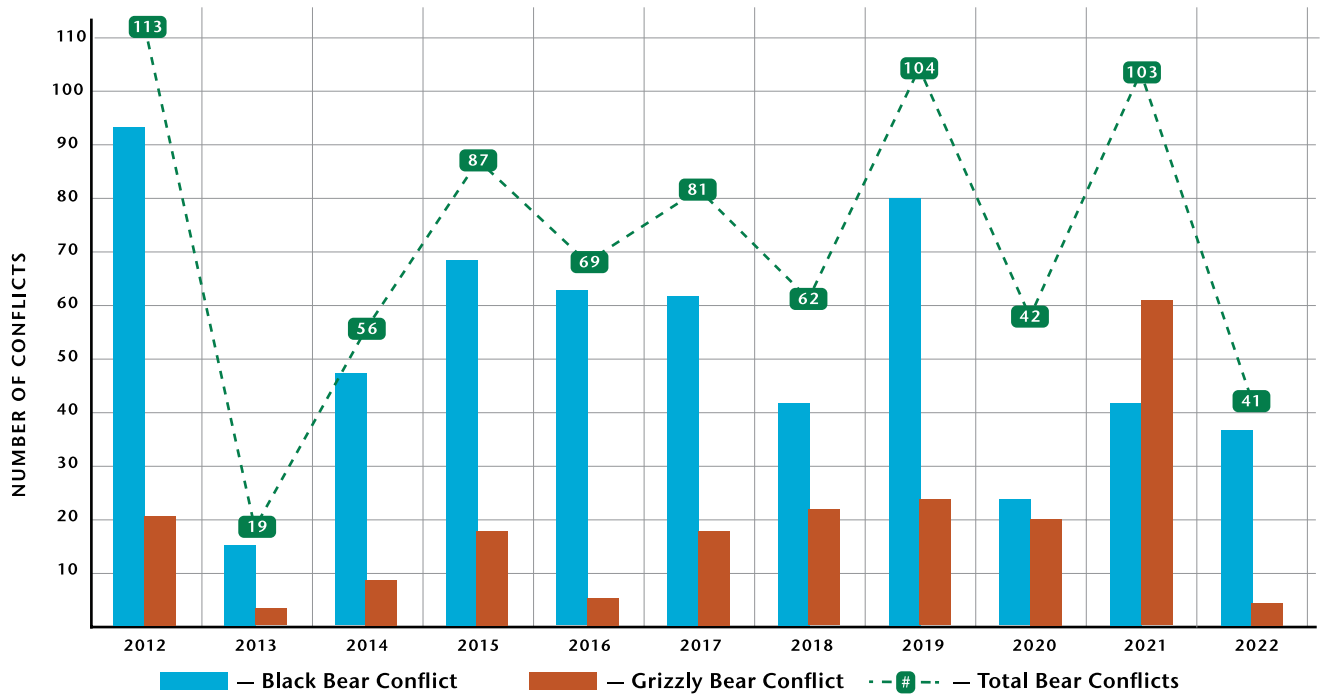


METRICS OF HUMAN-WILDLIFE INTERACTIONS

Feeding and Bear Conflict

Human-Bear Conflicts

2022  **37** BLACK BEAR CONFLICTS  **4** GRIZZLY BEAR CONFLICTS



Source: Wyoming Game and Fish Department

Bear-Resistant Trash Cans

2022  **2,603*** **COUNTY-WIDE BEAR REGULATIONS** went into effect on July 1, 2022 (The Town of Jackson implemented similar regulations within a Bear Conflict Zone at the Town's perimeter starting April 1, 2023)

+ 603
Bear-resistant cans in use from 2018

Source: Data compiled from: JH Bear Solutions, Yellow Iron Excavation, Teton Trash Removal, and Westbank Sanitation.

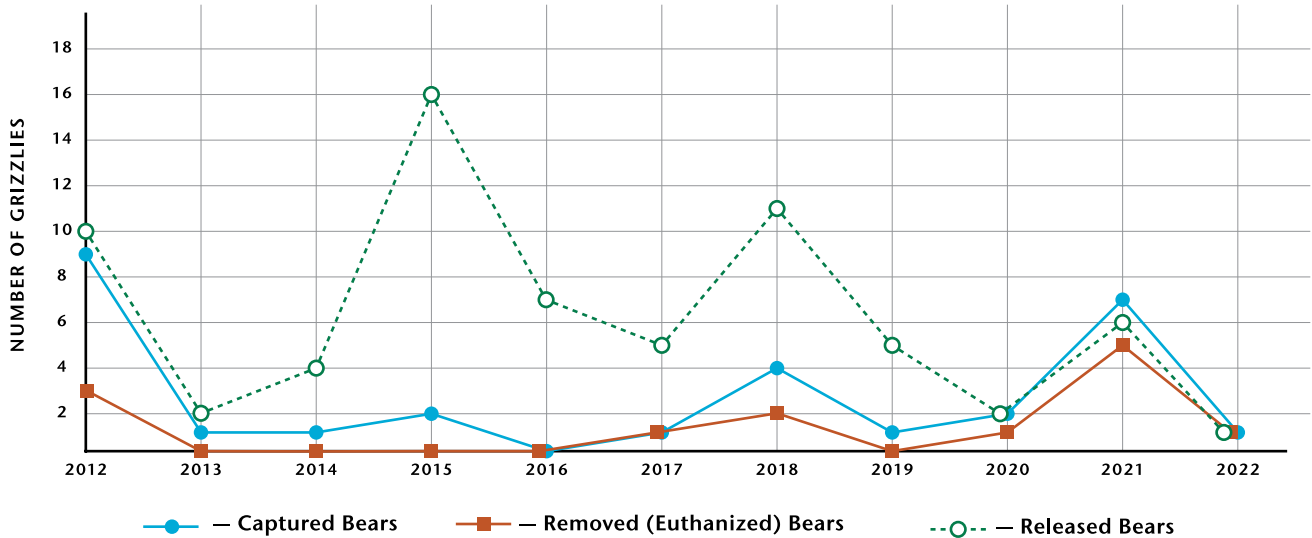
Grizzly Bear Captures, Relocations & Removals

2022

1 CAPTURED

1 REMOVED

1 RELEASED



Source: Wyoming Game and Fish Department

Feeding Compliance Violations

2022



4 WILDLIFE FEEDING VIOLATIONS*

**We recognize that this metric likely does not adequately represent the scale of this problem county-wide. We chose to include this metric as a baseline to track future enforcement of wildlife feeding regulations.*

COUNTY-WIDE BEAR REGULATIONS went into effect on July 1st, 2022 (The Town of Jackson implemented similar regulations within a Bear Conflict Zone starting April 1, 2023):

- Trash containers and dumpsters anywhere in Teton County and at the Town's perimeter (withing a Bear Conflic Zone) are required to be bear-resistant (IGBC approved).
- Feeding of wildlife is prohibited and bird feeders need to be unavailable to wildlife at all times of year.
- All attractants must be unavailable to wildlife (livestock feed, apiaries, chicken coops, compost, etc.).
- Planting new ornamental fruit bearing trees and shrubs, like crabapples, are prohibited. Existing ornamental, non-native fruit trees shall be managed by harvesting ripe and fallen fruit or fencing to prevent wildlife access. A local company, Farmstead Cider, is producing cider from local crab apples, and will assist community members by harvesting their crabapples.

Teton County Land Development Regulation Amendments



METRICS OF HUMAN-WILDLIFE INTERACTIONS

Recreation

Bighorn Sheep Habitat & Backcountry Ski Terrain

2022



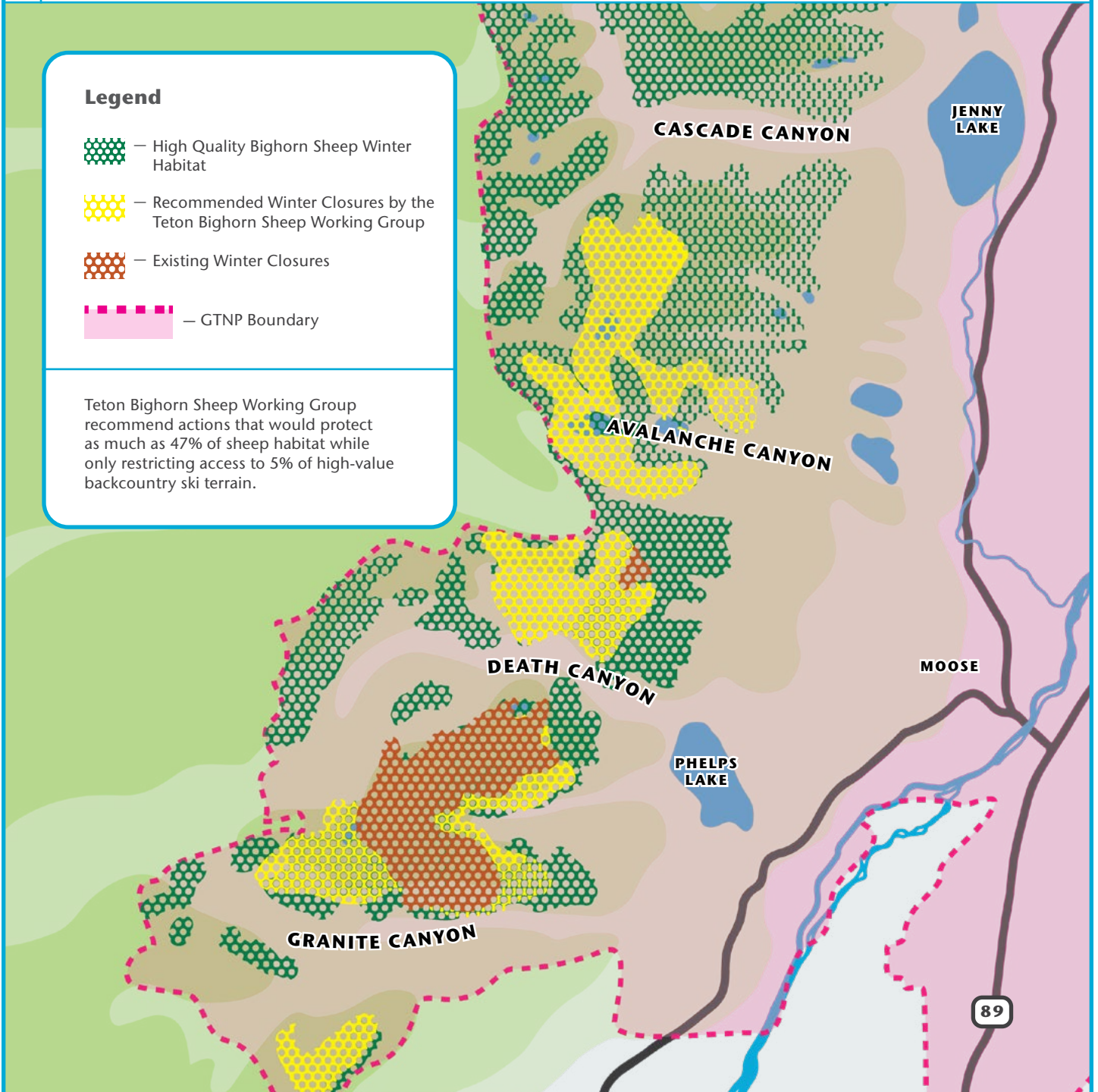
4%

OF THE TETON BIGHORN SHEEP HERD winter habitat is protected from winter recreation disturbance as of 2022 in Grand Teton National Park (GTNP), no wildlife closures exist in Caribou-Targhee National Forest (CTNF) or Bridger-Teton National Forest (BTNF).

Legend

- High Quality Bighorn Sheep Winter Habitat
- Recommended Winter Closures by the Teton Bighorn Sheep Working Group
- Existing Winter Closures
- GTNP Boundary

Teton Bighorn Sheep Working Group recommend actions that would protect as much as 47% of sheep habitat while only restricting access to 5% of high-value backcountry ski terrain.



Source: Teton Bighorn Sheep Working Group

Recreation Intensity

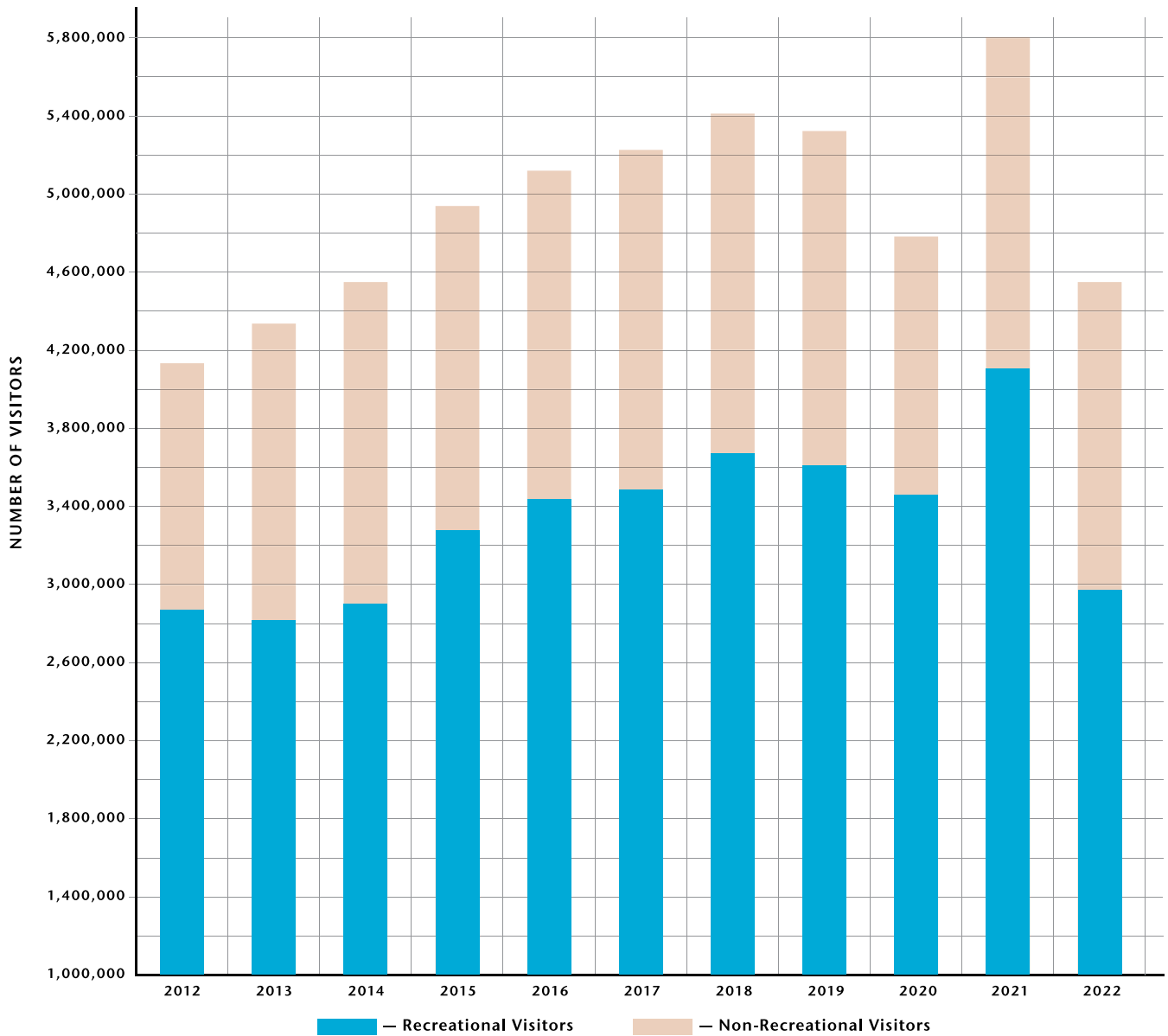
2022



2,806,223

RECREATIONAL VISITORS
to Grand Teton National Park

4,342,986 RECREATIONAL +
NON-RECREATIONAL VISITORS
to Grand Teton National Park



Source: National Park Service

Dog Leash Compliance

2022



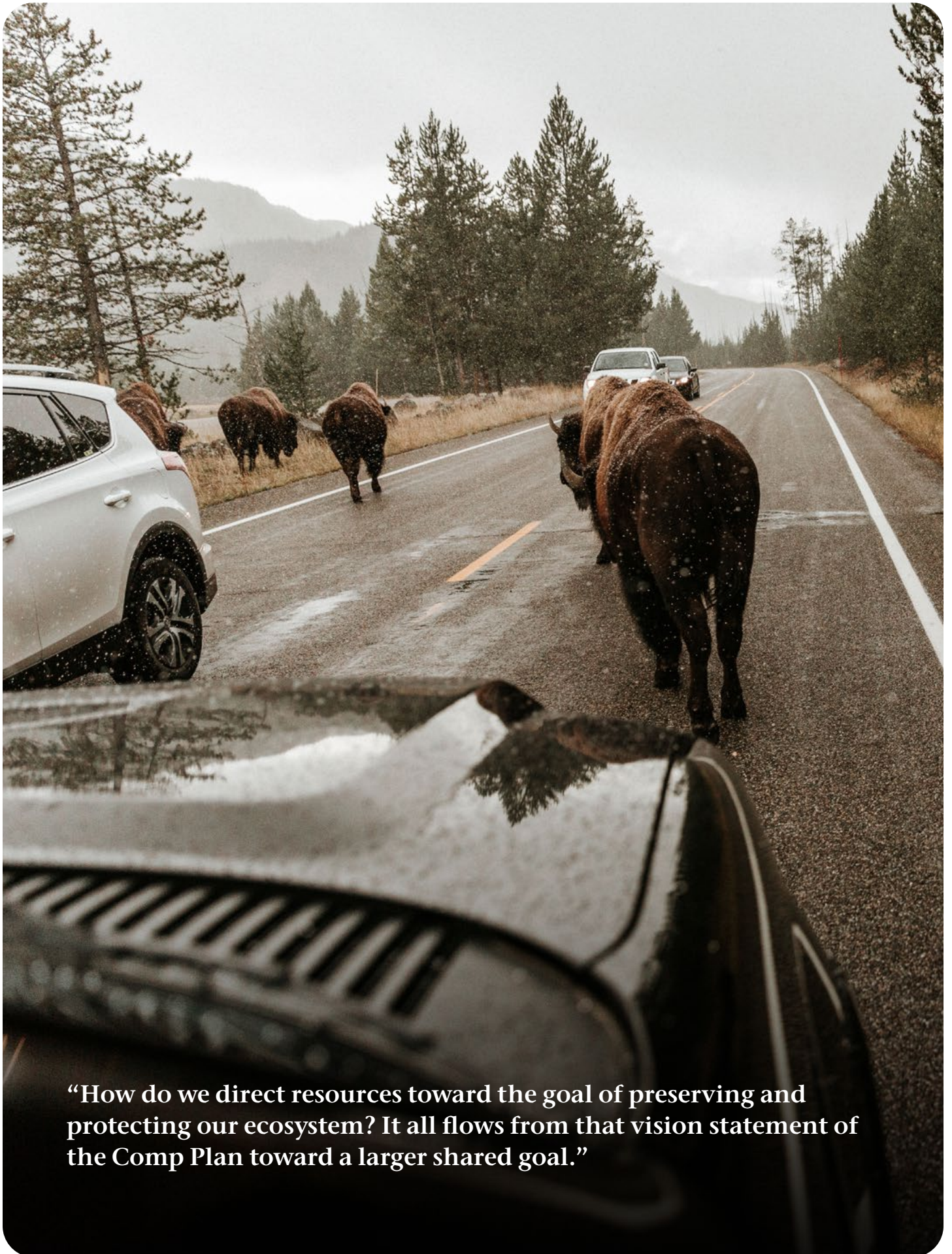
80

OFF-LEASH DOGS Observed in leash zones of the Bridger-Teton National Forest (Cache Trail, Nelson Trail, Putt-Putt Trail, Game Creek Trail) during winter 2021-2022

2.06% NON-COMPLIANCE out of 3,883 dog walkers 2021-2022.

Unleashed dogs are perceived as predators and cause wildlife increased stress, force them to move more than necessary (especially in the winter), and may exclude wildlife from valuable habitat.

Source: Bridger-Teton National Forest



“How do we direct resources toward the goal of preserving and protecting our ecosystem? It all flows from that vision statement of the Comp Plan toward a larger shared goal.”



CHAPTER 3

Metrics Of Human Dimensions of Coexistence

Introduction

Beyond ecological considerations, our state of coexistence with wildlife is heavily influenced by the attitudes, beliefs, values, emotions, systems of power, funding sources, research paradigms, rhetorical discourse, enforcement systems, community organizations, and decision-making frameworks of the people and institutions of Teton County. These are some of the “human dimensions” of coexistence. Our individual and collective relationships to wildlife and wild places are rooted in sociological, political, and economic paradigms that continuously evolve over time. To holistically understand coexistence, Teton County must consider and develop metrics that go beyond the purely ecological, incorporating the critical human element.

Are we adequately strategizing, monitoring, and allocating public resources regarding coexistence? To which coexistence themes, values, challenges, and recommendations should we be paying attention to? In this chapter, we present metrics of human-wildlife coexistence related to human dimensions of coexistence, in subsections of **Strategies, Monitoring, and Funding** and **Stakeholder Attitudes**.

Strategies, Monitoring & Funding

The governments of Teton County and the Town of Jackson are important stakeholders in local human wildlife coexistence. The elected officials and staff that make up these entities play a significant role in setting public policy and direction, establishing monitoring systems for community goals, and allocating funds to realize those policies and goals. With ecosystem stewardship and “maintaining healthy populations of all native species” as central tenets of the Jackson/Teton County Comprehensive Plan (2020), metrics of coexistence strategy, monitoring, and funding can hold local governments accountable to these values. The **Progress on Ecosystem Stewardship Strategies** tracks how well we are pursuing coexistence strategies as outlined in the Comprehensive Plan. The Town/County Annual Indicator Report seeks to track progress toward the Comprehensive Plan’s goals but has historically lacked adequate ecosystem stewardship and coexistence-specific indicators. Through the **Town/County Coexistence Indicators**, we evaluate the present state of Town/County indicators related to wildlife and habitat. In government, budgeting often reflects prioritization; thus, increases in the **Town of Jackson Ecosystem Stewardship Funding** and **Teton County Ecosystem Funding** are positive metrics moving us toward coexistence.

Stakeholder Attitudes

Beyond government entities, the many other stakeholders interviewed for this report each brought their own perspectives on the past, present, and future of coexistence in Teton County. These stakeholders represent local and regional non-profit organizations, Tribes, government agencies, land managers, elected officials, academic institutions, business owners, and researchers. Among hundreds of topics discussed with stakeholders, five key themes emerged: **#1. Trans-Boundary Collaboration & Coordination; #2. Indigenous Recognition, Inclusion & Co-management; #3. Prioritization of Ecosystem Values; #4. Threat of Unmitigated Growth & Development; #5. Long-term Coexistence and Sustainability**. For each theme, we present common values, challenges, and recommendations from stakeholders.



METRICS OF HUMAN DIMENSIONS OF COEXISTENCE Strategies, Monitoring & Funding

Progress On Ecosystem Stewardship Strategies (General And Principle 1.1)

The Strategies listed below are intended to accomplish The Teton County Comprehensive Plan Chapter 1 Goal of Ecosystem Stewardship and Principle 1.1 - maintaining healthy populations of all native species.

STRATEGY & DESCRIPTION	STATUS	
	2020	2023
1.G.S.1 Identify appropriate indicators that measure achievement of the Chapter goal. For example, measuring stewardship of natural resources may include establishing indicators for percent change of site development within the Town and County, or tracking contaminant loading from wastewater discharge at the Town of Jackson treatment facility.	Incomplete	In Progress
1.G.S.2 Establish an Ecosystem Stewardship target for an Adaptive Management Program that will be used to track the Town and County's progress toward goals related to this chapter.	Incomplete	Incomplete
1.1.S.1 Create a vegetation cover map that can be used to help inform the identification of relative criticalness of habitat types. In the interim, as focal species are being identified, work with Wyoming Game and Fish and other partnering agencies and entities to update the mapping that provides a general indication of the location of the Natural Resources Overlay (NRO), based on current protection of critical "species of special concern" habitat.	Complete	Complete
1.1.S.2 Identify focal species that are indicative of ecosystem health and determine important habitat types for those species. Evaluate habitat importance, abundance, and use to determine relative criticalness of various habitat types. The study is completed, but the products have not yet been incorporated into the planning process.	In Progress	In Progress
1.1.S.3 Establish a monitoring system for assessing the singular and cumulative impacts of growth and development on wildlife and natural resources. Implement actions in response to what is learned to provide better habitat and movement corridor protection.	Incomplete	In Progress
1.1.S.4 Evaluate and amend wildlife protection standards for development density, intensity, location, clustering, permeability, and wildlife-human conflict.	Incomplete	In Progress
1.1.S.5 Evaluate mitigation standards for impacts to critical habitat and habitat connectivity and update as needed.	Incomplete	Incomplete
1.1.S.6 Identify areas for appropriate ecological restoration efforts.	Incomplete	Incomplete
1.1.S.7 Identify areas appropriate for roadway underpasses, overpasses, speed reductions, or other wildlife-vehicle collision mitigation measures in heavy volume wildlife-crossing areas.	Complete	Complete
1.1.S.8 Develop an ecosystem stewardship education program to further the goals of the community and establish community buy-in.	Incomplete	Incomplete
1.1.S.9 Explore hiring a staff ecologist and/ or additional staff infrastructure and capacity to promote the implementation of strategies and plans.	Incomplete	In Progress

Source: Teton County Comprehensive Plan.

Town/County Coexistence Indicators

3 COEXISTENCE (WILDLIFE AND HABITAT) RELATED INDICATORS AS OF 2023

2023



Wildlife-Vehicle Collisions



Conservation Vs. Subdivision Of Rural Open Space



Location Of Actual And Potential Growth

COEXISTENCE METRICS YET TO BE DEVELOPED: Health of native species, water quality, and air quality.

Source: Jackson/Teton County 2023 Annual Indicator Report

Town Of Jackson Ecosystem Stewardship Funding

2023

\$1,415,947

ALLOCATED TOWARD THE ENVIRONMENT

in FY2023 ToJ Budget, from the \$40,000,000 Program Budget



\$112,953

ALLOCATED TOWARD ECOSYSTEM STEWARDSHIP

from the \$1.4M Environment budget allocation

Source: Town of Jackson Ecosystem Administrator: Town of Jackson Budget

Teton County Ecosystem Funding

2023

\$3.2M

ALLOCATED TOWARD ENVIRONMENTAL PROGRAMS

in FY2023 Teton County Budget



\$15,000

PUBLIC OUTREACH & ENGAGEMENT

(Related to bear regulations, water quality, and wildlife crossings)



\$500,000

VEGETATION MITIGATION/ HABITAT ENHANCEMENT

(Cattleman's Bridge)



\$777,749

WATER QUALITY PLANNING



\$1,915,000

WILDLIFE CROSSINGS

Source: Teton County Public Works



METRICS OF HUMAN DIMENSIONS OF COEXISTENCE

Stakeholder Perspectives

Theme #1: Trans-Boundary Collaboration & Coordination



VALUE: Coexistence management is based on trans-boundary, trans-organization collaboration, coordination, and inclusive community dialogue.

CHALLENGE: Wildlife and humans move and are managed across many different land types, boundaries, and jurisdictions.

RECOMMENDATIONS :

- Identify an organization or facilitator that can coordinate all Teton County coexistence efforts to prevent overlap and increase consistency.
- Build relationships with diverse stakeholders within and outside of Teton County.
- Recently re-activated Systems of Conservation (SysCon) Group in Teton County may play a role in facilitation of collaboration and coordination for coexistence.
- The Ecosystem Administrator position at the Town (and any similar positions at the County in the future) can play a role in collaboration and coordination for coexistence.

STAKEHOLDER PERSPECTIVES:

- “When there’s so many voices screaming out their opinions, it’s really hard for anybody to know which is the right voice to be listening to. So I’d love to see closer coordination, better collaboration between the nonprofit groups and our agencies, and for our nonprofit groups to be playing a greater role in that positive messaging.”
- “I feel like agencies, elected, NGO’s and community members are synergizing towards those coexistence goals really well together, and I guess I hope that that collaboration continues to grow and support each other.
- “I think it’s important to be talking to Town and County officials in Teton County and outside Teton County. Teton County, ID, Sublette County, Lincoln County, Fremont County, Park County. There’s a lot of stakeholders here.”

Stakeholder input was analyzed and aggregated into five key themes that we were unable to capture in quantitative data in this report. Each theme is presented below, including the coexistence values, challenges, and recommendations that emerged from stakeholder perspectives. Selected stakeholder quotes are intended to represent recurring messages we heard concerning each theme.

Theme #2: Indigenous Recognition, Inclusion & Co-Management



VALUE: Traditional Ecological Knowledge (TEK) is valued, restored, and centered in coexistence dialogue and management.

CHALLENGE: Historical and ongoing settler colonial narratives, legal structures, and management practices erase and exclude Indigenous people from the land and decision making in a way that is counterproductive to coexistence.

RECOMMENDATIONS :

- Combine Traditional Ecological Knowledge with Western scientific understanding to find common ground and synergies
- Create opportunities for Indigenous co-management and repatriation (Land Back).

STAKEHOLDER PERSPECTIVES:

- “For us, as Native people, we always lived with the other animals that were here. We didn’t try to domesticate or dominate or manipulate the lands the way that colonization is promoted, with agriculture, with fencing it in, plowing it up, paving it over. This notion of progress, of land privatization, these collectively work to disintegrate our relationship to our foods or medicines, the plants, the animals that we historically relied upon.”
- “Traditional knowledge, Indigenous knowledge has been combined with scientific understanding and ecology and biology, environmental science to find common ground in conservation as it pertains to water or land use.”
- “I would like to see coexistence as more inclusive to Indigenous perspectives, in how we relate to the land but also those animals that rely upon those areas that are islands left of what once was.”

Theme #3: Prioritization Of Ecosystem Values

VALUE: Ecosystem values are fairly weighed alongside economic and social values.

CHALLENGE: Economic and social values are often prioritized over ecosystem values, especially when considering development proposals and growth.

RECOMMENDATIONS :

- Build the capacity of local government to measure, understand, and protect ecosystem values by hiring more staff with ecological training and creating a Department of Natural Resources.
- Revise decision-making procedures to require fair weighing of ecosystem, economic, and social values, possibly employing tools like the Natural Resource Overlay and Focal Species Habitat Map to represent ecosystem values.

STAKEHOLDER PERSPECTIVES:

- “When we’re looking at things around development, in my experience and, again, from my perspective, ecosystem stewardship is the first thing to go over the railing. And I do understand it, when we’re talking about growth management and quality of life, those are important. But when it’s taken as the three values, then other things around development, to me, too often take precedence over saying, we literally drew a line here, so it’s important that we respect what that means.”
- “We prioritize economic health and human health over that, and as a result, we end up degrading our ecosystem. And so we have just been in a 100-year habit as a community of taking the ecosystem’s health for granted. And the ecosystem is very resilient, and there’s a lot of it, very few of us. But taking it for granted, both as people and institutionally, is catching up with us.”
- “From the government perspective, I’d like to see the county develop a Department of Natural Resources.”

Theme #4: Threat Of Unmitigated Growth & Development



VALUE: Land-use practices align with the Comprehensive Plan’s vision to “protect and preserve the area’s ecosystem,” including responsible, equitable, and coexistence-minded growth and development.

CHALLENGE: Insufficiently mitigated growth and development—driven in part by the exponentially growing value of land and real estate threaten ecosystem health and the social fabric of Teton County.

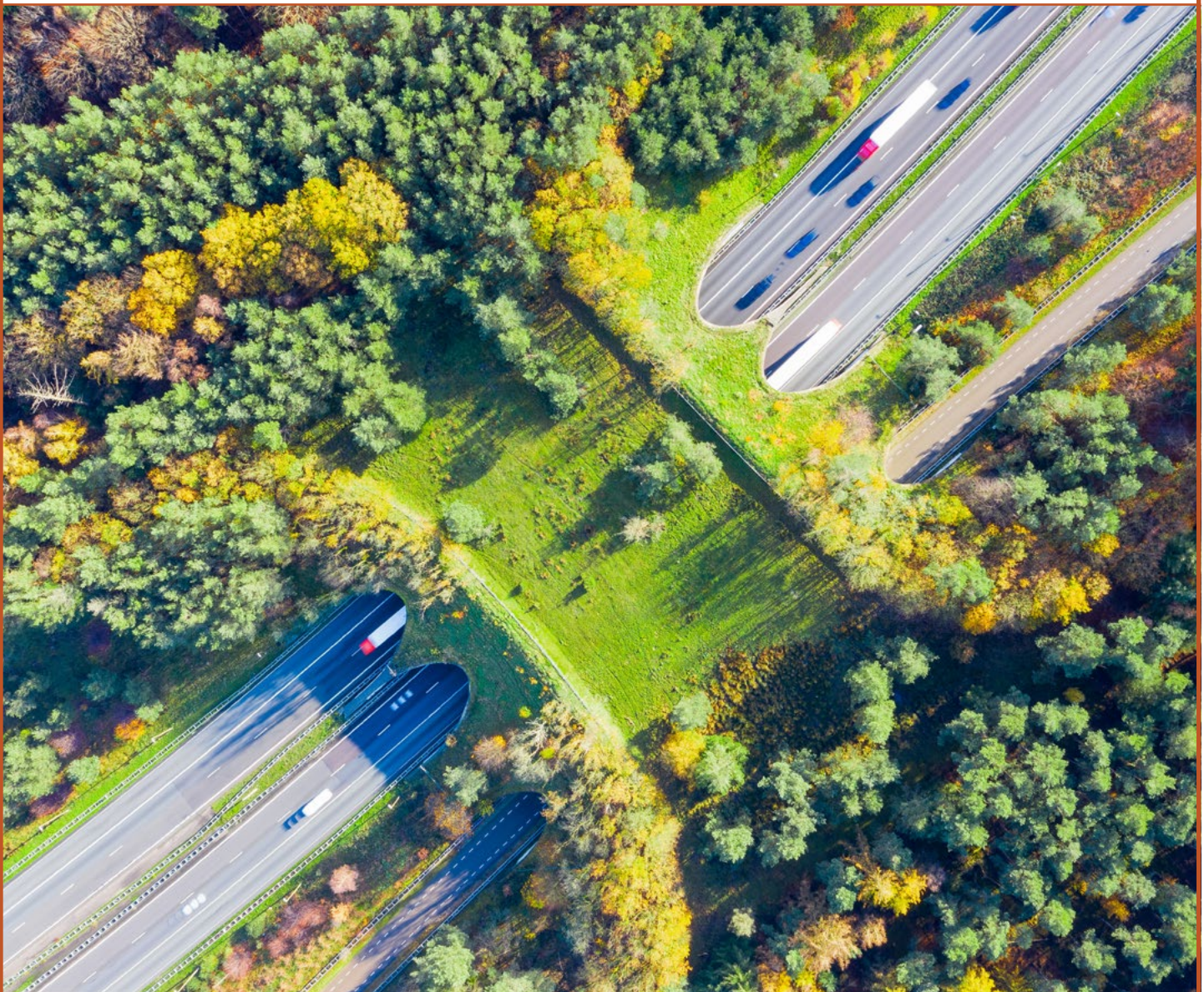
RECOMMENDATIONS :

- Strengthen the protection of ecosystem values in the natural resource Land Development Regulations (LDRs) to reduce the impacts of development on wildlife and people.
- Explore community models, tools, and goals that are built on principles of coexistence and conservation rather than economic growth.
- Explore a real-state transfer tax to fund coexistence related efforts.

STAKEHOLDER PERSPECTIVES:

- “Coexistence means that the commercial sector, the capitalistic mindset doesn’t dominate the fabric of life.”
- “Given the American real estate system and recreation system and just capitalism in general, I don’t see any other path than just increased impact.”
- “I think that there needs to be some check or stem on future developments, and that’s a hard thing to ask with American private property rights.”

Theme #5: Long-Term Coexistence & Sustainability



VALUE: Present and future generations of humans and wildlife can coexist in sustainable balance.

CHALLENGE: Rapid local and global change, population growth, land-use and climate change, will continue to put pressure upon wildlife and people, threatening coexistence efforts.

RECOMMENDATIONS :

- Develop and implement a long-term, community-wide coexistence monitoring and action plan.
- Include proactive climate action into coexistence efforts.

STAKEHOLDER PERSPECTIVES:

- “Climate change is the overarching elephant in the room. Talking about 399, she’s down in neighborhoods because she’s not up eating gut piles right now, because there’s no snow.”
- “Climate change is going to completely rewire what the landscape and ecosystem looks like here. It is already. I think the term climate refugee will easily be applied to wildlife in the next 30 to 50 years, not being able to live here. And we see that with all the high alpine species right now.”
- “There are so many factors right now that are contributing to population declines; I mean, habitat loss, climate change, human encroachment. And so, if we keep adding things in here, they’re just more nails in the coffins to these populations, and eventually you’re going to hit a tipping point.”

What's Missing?

GAPS IN COEXISTENCE METRICS

Although the 20 metrics presented in this report cover a wide range of coexistence topics, there were many promising metrics for which we were unable to obtain sufficient data, that we chose to not include this report, or that simply do not exist in Teton County at the moment.

a. Metrics of Spatial Analysis: This report mainly focused on numerical representations of metrics, but there exists a wealth of maps, charts, and other spatial representations of wildlife and human activity in Teton County. Spatial layers like the Focal Species Habitat map, the Natural Resource Overlay, winter wildlife closures, wildfire probability and effects, alien invasive species, and wildlife migrations are invaluable resources in understanding and planning coexistence.

b. Metrics of Traditional Ecological Knowledge (TEK): Further consultation with regional Tribes should lead how to incorporate TEK into coexistence efforts. Some forms of TEK may not be suited for representation numerically or spatially, but others may be, like metrics of bison reintroduction and land restoration as they relate to Indigenous coexistence values.

c. Metrics of Water Quality, Air Quality, and other facets of Ecosystem Stewardship:

This report focused on terrestrial coexistence metrics, with the understanding that other partners within Teton County are developing and implementing equivalent metrics related to other aspects of ecosystem stewardship, which should be considered as additional coexistence indicators in the future.

d. Metrics of Wildlife Diseases: The spread and impacts of chronic wasting disease (CWD) and other wildlife diseases are highly related to human activities, such as the ongoing use of elk feedgrounds. Other intersections of wildlife health and human activity include the use of non-lead ammunition in hunting in comparison to lead blood levels in raptors.

e. Metrics of Climate Change and Coexistence: Climate change is intertwined with all aspects of human-wildlife coexistence, and future metrics should more specifically investigate these impacts and how Teton County might strategically adapt.

f. Metrics of Collaboration and Coordination: Many stakeholders emphasized the value of collaborating and coordination within the Teton County conservation community, but how do we know if we are doing so effectively? Future monitoring should consider developing metrics to measure the rate and efficacy of collaboration between coexistence stakeholders.

g. Metrics of Decision-Making Frameworks: Likewise, do our decision-making frameworks lend themselves to effective action on coexistence? Mixed-methods metrics of decision-making frameworks may help guide the big-picture vision and future of coexistence.

h. Metrics of Social Attitudes: Although this report presented qualitative perspectives from a small sample of key stakeholders, many stakeholders expressed a desire for community-wide metrics of social attitudes toward coexistence. How do people feel about wildlife? How might they prioritize their own desires vs. the needs of wildlife or natural processes? How do their values, emotions, beliefs, and experiences shape the actions they take, individually and institutionally, on coexistence?

i. Other proposed metrics: Restoration of wildlife habitat; Encroachment of development into the Natural Resource Overlay; Tracking the spatial distribution of unrealized build-out or changes in migration routes related to development; Proper use of bear-resistant trash cans; Compliance with food storage in wilderness areas; Wildlife habituation to human activities; Discourse analysis of coexistence (how have our stories of coexistence changed over time?).

What's Next?

CONCLUSION



It should be obvious to anyone who has lived in, visited, or heard about Teton County, Wyoming, that coexistence between humans and wildlife is central to the past, present, and future of this unique place. The metrics, stakeholder perspectives, and gaps presented here aim to expand and focus our understanding of coexistence, establishing a common baseline upon which future monitoring and action can build. Building upon generations of coexistence efforts, this report is only a beginning, adding nuance to the dialogue as the people of Teton County push for more comprehensive and holistic monitoring of coexistence and ecosystem health.

This work will continue in partnership with community partners who are similarly invested in understanding and protecting our ecosystem, recognizing it as the bedrock of all other wellbeing in Teton County. In the coming months, led by the Town of Jackson Ecosystem Stewardship Administrator (ESA), stakeholder working groups will convene to discuss ecosystem indicators related to wildlife, land, water, vegetation, and air. Collaborating with the ESA and other stakeholders, metrics from this report will be discussed, scrutinized, and evaluated. Whether conducted by the Alliance, local government, or other entities, our hope is that future monitoring of these metrics will provide an ongoing snapshot of the trends in coexistence.

The future of human-wildlife coexistence in Teton County rests in our collective hands. It is up to us, using all the relationships, tools, and information available, to shape that future. Will it be one of irresponsible growth, wildlife decline, ecosystem collapse, and loss of community character? Many stakeholders would argue, and many metrics would agree, that this is the tipping point upon which we presently teeter. Or will we reimagine a future of human-wildlife coexistence premised on equitable participation, sustainable balance, and communal wellbeing? However we define and pursue our goals, the metrics presented here will help Teton County track whether we are moving toward that vision or not. To all stakeholders, please consider these goals and their implications as you evaluate these metrics. The Jackson Hole Conservation Alliance looks forward to continuing this dialogue as your partner in coexistence.

2022 SUMMARY

Table Of Coexistence Metrics



CHAPTER 1: METRICS OF LAND USE

Habitat Protection and Threats

Pages 10-11

METRIC	STATUS	SOURCE
Conservation Vs. Subdivision Of Rural Open Spaces	515 more acres conserved than developed in rural areas since 2012, 89 more units eliminated in rural areas than developed since 2012.	Jackson/Teton County 2023 Annual Indicator Report (p. 4)
Location of Actual Growth	52% of new residential units built in complete neighborhoods vs. 48% built in rural areas (2022)	Jackson/Teton County 2023 Annual Indicator Report (p. 6)
Private Lands Protected Through Conservation Properties	23,684 total acres of private land protected in 292 conservation properties (2022).	Teton County Scenic Preserve Land Trust Teton County Planning Department , Jackson Hole Land Trust , The Nature Conservancy , Wyoming Game & Fish Department
Winter Wildlife Closures	170,047 total acres of public land protected through winter wildlife closure (2023).	Teton Conservation District
Habitat Affected By & Treated For Invasive Species	12,933 total acres of public lands affected by invasive species as of 2023. 324 new acres of weeds treated.	Teton County Weed and Pest

Landscape Permeability

Pages 12-13

Wildlife-Vehicle Collisions	165 wildlife-vehicle collisions between May 2020-April 2021. 2,342 collisions since 2011.	Jackson Hole Wildlife Foundation
Fencing Removal & Improvement	65.14 cumulative miles of fencing removed or modified to be made wildlife friendly in teton county, 3.82 miles removed or modified in 2022.	Jackson Hole Wildlife Foundation
Wildlife Crossing Progress	23% of defined projects complete.	Teton County Public Works Department



CHAPTER 2: METRICS OF HUMAN-WILDLIFE INTERACTIONS

Feeding & Bear Conflict

Pages 16-17

Human-Bear Conflicts	41 Human-Bear Conflicts recorded in 2022.	Wyoming Game and Fish Department
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METRIC	STATUS	SOURCE
Bear-Resistant Trash Cans	2,603 total bear-resistant trash cans serviced (2022).	Yellow Iron Excavation, Teton Trash Removal , and Westbank Sanitation.
Grizzly Bear Captures, Relocations & Removals	One grizzly bear captured, one grizzly bear removed, one grizzly bear released in 2022.	Wyoming Game and Fish Department
Feeding Compliance Violations	Four wildlife feeding violations.	Code Compliance Officer, Teton County

Recreation

Pages 18-19

Bighorn Sheep Habitat & Backcountry Ski Terrain	4% of bighorn sheep winter habitat protected from winter recreation disturbance (2022).	Teton Bighorn Sheep Working Group
Recreation Intensity	2,806,223 total recreation visitors to Grand Teton National Park (2022).	National Park Service
Dog Leash Compliance	80 new off-leash dogs in leash zones in the Bridger-Teton National Forest (estimated to be 2% of dog walkers in winter 2021-22).	Bridger-Teton National Forest



CHAPTER 3: METRICS OF HUMAN DIMENSIONS OF COEXISTENCE

Strategies, Monitoring, and Funding

Pages 22-23

METRIC	STATUS	SOURCE
Progress on Ecosystem Stewardship Strategies	Two ecosystem stewardship strategies completed, five in progress, and four with no progress (2023).	Town of Jackson Ecosystem Stewardship Administrator; Town of Jackson/Teton County Long-Range Planning Department ; Teton County Comprehensive Plan
Development of Coexistence Indicators	Three coexistence indicators in the Jackson/Teton County Annual Indicator Report (2022).	Jackson/Teton County 2023 Annual Indicator Report
Town of Jackson Ecosystem Stewardship Funding	\$112,953 allocated for ecosystem stewardship out of \$1.4M environment budget (2022).	Town of Jackson Ecosystem Administrator: Town of Jackson Budget
Teton County Ecosystem Program Funding	\$3.2M allocated for ecosystem funding.	Teton County Public Works

