WILD SHEEP Foundation®

NORTH AMERICAN CONSERVATION VISION 2020

JANUARY 1, 2018

TAMMY LEWTON

MISSION STATEMENT

VISION - *Our desired future state*

To be the best managed, most respected and most influential conservation organization in the world, for the benefit of wild sheep worldwide.

PURPOSE - *Why we exist*

To Put and Keep Wild Sheep on the Mountain®

MISSION - *What we do*

We enhance wild sheep populations, promote scientific wildlife management, and educate the public and youth on sustainable use and the conservation benefits of hunting while promoting the interests of the hunter.

VALUES - *The principles that guide us*

Honesty • Integrity • Respect for Others • Teamwork • Positive Attitude
Respect for Wildlife • Hunting Ethics • Accountability • Stewardship • Loyalty

"Putting & Keeping Wild Sheep on the Mountain Since 1977"

adopted by the BOD October 27, 2016

North American WSF Conservation Vision 2020

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INTRODUCTION

The ***WSF Conservation Vision 2020*** is one of our most important documents. It reflects the very essence of WSF's combined Mission Statement (Vision, Purpose, Mission, Values), and prioritizes how WSF resources will be applied to year 2020 to drive wild sheep conservation and management in North America.

WSF Conservation Vision 2020 is a dynamic document that addresses priority goals to year 2020. This document will be updated, augmented, and improved as science, environmental, and social realities evolve, and as budgets allow, but no later than the end of Fiscal Year 2020. WSF believes these priority goals are practical, necessary, and achievable by 2020. WSF Committees (e.g., Conservation, Legislative Affairs, Development, Professional Resource Advisory Board, Grant-In-Aid Funding, Chapter & Affiliate, etc.) will prioritize their efforts and resources over the next three+ years to address and achieve goals identified in our ***WSF Conservation Vision 2020.***

By applying a goal-driven approach, and by tracking and measuring our mission impact in implementing ***WSF Conservation Vision 2020,*** WSF can remain the best managed, most respected, and most influential conservation organization in the world.

1.1. Overall Goal

North American wild sheep and their habitats are effectively managed, accessible, utilized, and supported by interested stakeholders.

1.2. Species/Subspecies Addressed

Stone's sheep and Dall's sheep (hereafter referred to as thinhorn sheep) Rocky Mountain/California and Desert bighorn sheep (hereafter referred to as bighorn sheep)

BOB KYNE

CURRENT STATUS OF WILD SHEEP IN NORTH AMERICA

2.1. Stone's Sheep

Recent genetic analyses (Sim et al. 2016) indicate Stone's sheep occur almost exclusively in northern British Columbia, with some Stone's sheep in the southern Yukon Territory. Current estimates suggest 10,000-12,000 Stone's sheep in northern BC and southern YT, and approximately 3,000 Fannin sheep (hybrid between Dall's and Stone's sheep) in southern YT. Annual Stone's sheep harvest averages approximately 300 rams/year. Comprehensive management plans have not yet been established and implemented in either of these jurisdictions. British Columbia's Ministry of Forests, Lands, Natural Resource Operations, and Rural Development (MFLNRORD) is currently writing a thinhorn sheep management plan for the province with anticipated completion by March 2019. Science-Based Guidelines for Management of Thinhorn Sheep in the Yukon have been drafted (November 2017).

2.2. Dall's Sheep

Estimates suggest there are 88,000-100,000 Dall's sheep in Alaska, Yukon Territory, Northwest Territories and northern British Columbia, with an annual ram harvest of approximately 1,200/year. Comprehensive management plans have not yet been implemented in these jurisdictions. Alaska Department of Fish and Game (ADF&G) is producing 14-16 operational plans for Dall's sheep management with anticipated posting to their ADF&G website by February 2018. British Columbia's MFLNRORD is currently writing a thinhorn sheep management plan for the province, with anticipated completion by March 2019. Science-Based Guidelines for Management of Thinhorn Sheep in the Yukon have been drafted (November 2017).

ROGER HILL

2.3. Thinhorn Sheep Goals By 2020

Goal #1: Comprehensive Management Plans (Table 1)

Management plans developed and implemented in Alaska and British Columbia. Current wild sheep managers in the Northwest Territories and the Yukon Territory do not foresee the need or likelihood for comprehensive thinhorn sheep management plans in their jurisdictions in the next 3 years. As a component of these plans and related documents (e.g., ADF&G operational plans), establish the best possible thinhorn sheep population estimates (annually, if possible) for each jurisdiction. These estimates will serve as a baseline reference point, and enable assessment of population trends through time. Plans should address current and historic wild sheep distribution, predator management to achieve agency objectives, habitat enhancement needs and opportunities, motorized and non-motorized travel management (aerial and ground) and enforcement, human footprint impacts, energy exploration and development, forage competition with native ungulates, and other challenges faced by thinhorn sheep. Support agencies in conducting inventory/surveys (i.e., fixed-wing and helicopter) in high-priority thinhorn sheep habitats, range-wide.

Goal #2: Separation

Ensure legislative or regulatory policies are in place to provide effective temporal and spatial separation between thinhorn sheep and domestic sheep or goats, in all U.S. and Canadian jurisdictions with thinhorn sheep. In cooperation with WSF Chapters and Affiliates and partner agencies or organizations, and based on the WAFWA Wild Sheep Working Group 2012 document "Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitats," WSF will help develop comprehensive strategies to facilitate separation in jurisdictions with thinhorn sheep. Develop/disseminate a "thinhorn sheep-specific" brochure discussing implications of contact between domestic sheep and goats and thinhorn sheep. Promote Movi-surveillance/sampling protocol for domestic sheep and goats and thinhorn sheep, in all four northern jurisdictions. Based on recommendations of the September 2017 BC Camelid Risk Assessment, advocate for no use of domestic sheep, goats, llamas, alpacas, etc. as pack animals used in thinhorn sheep range for hunting, trekking, weed control, or other purposes.

Goal #3: Expand Knowledge of Thinhorn Sheep Health through Collection/Analysis of Biological Samples

Assist and actively promote timely agency distribution of sampling kits to thinhorn sheep hunters (whether DIY residents or guided non-residents) in all four northern jurisdictions, to assist management agencies in collection of useable biological samples (e.g., nasal swabs, fecal pellets, skulls processed at compulsory inspection stations and/or taxidermists) to further existing knowledge of thinhorn sheep health profiles. If necessary, develop and implement incentive-based programs to increase "return-rate" of samples from hunter-harvested thinhorn sheep. Advocate for the importance of "citizen-science" assistance to thinhorn sheep managers and wildlife veterinarians. Support wildlife veterinarians and wild sheep managers in collection and subsequent analysis of thinhorn sheep biological samples.

Goal #4: WAFWA Inclusion

Promote inclusion and active participation of the Northwest Territories in the Western Association of Fish and Wildlife Agencies Wild Sheep Working Group.

Goal #5: Public Outreach

Develop a strategy to build trust, partnerships, and awareness with all thinhorn sheep stakeholders to improve communication and enhance collaboration, particularly with indigenous peoples as co-managers of thinhorn sheep populations. Continue WSF involvement and participation in First Nations-led gatherings (e.g., Tahltan Wildlife Symposia).

Goal #6: Access for Population & Habitat Management

Advocate for federal land management agencies to programmatically address the needs of state, provincial, and territorial wildlife agencies to access (via ground, water, or air) and scientifically manage wild sheep populations and their habitats (particularly in designated wilderness), to achieve identified goals and objectives.

Goal #7: Motorized Access Management in THS Habitat

Develop/disseminate a WSF white paper/position statement on motorized access (aerial and ground) in thinhorn sheep habitat acceptable to wild sheep managers, WSF Chapters & Affiliates, outfitter associations, resident hunter constituent groups, and thinhorn sheep advocates in all four northern jurisdictions, recognizing unique, specific strategies and situations exist in each.

Goal #8: 2020 WSF Thinhorn Sheep Summit III

Conduct Wild Sheep Foundation Thinhorn Sheep Summit III by 2020 (to be held in Whitehorse, Yukon), to evaluate progress on thinhorn sheep goals and actions identified at Thinhorn Sheep Summit I (2014) and Thinhorn Sheep Summit II (2017).

Goal #9 Ungulate Enhancement

Continue/expand WSF financial support for ungulate enhancement in thinhorn sheep habitats, range-wide.

Goal #10 Thinhorn Sheep Staff Biologist

Seek funding to contract at least a part-time WSF Thinhorn Sheep Staff Biologist, based in a thinhorn sheep jurisdiction, to more effectively address thinhorn sheep challenges while developing and implementing WSF thinhorn sheep management priorities and strategies.

Table 1. Thinhorn Sheep Management Plan Status, by Jurisdiction

Jurisdiction	Plan Status	Name of Plan	Plan Date	Weblink to Plan (if available) As of 10/26/2018
Alaska		Dall Sheep Mgt. Plan	1976	ADF&G is producing 14-16 Dall's sheep operational plans, expected to be posted to ADF&G website by February 2018.
British Columbia		Status of Thinhorn Sheep	2004	http://www.synergyecology.ca/docs Demarchi2004Statusthinhorn_BC.pdf A thinhorn sheep management plan for BC is currently underway; expected completion by March 2019.
NW Territories		Not Found		No Territory-Wide Management Plan Available via Internet
Yukon Territory		Not Found		No Territory-Wide Management Plan Available via Internet. Science-Based Guidelines for Management of Thinhorn Sheep in Yukon have been drafted (November 2017).

KEY

- Wild Sheep Management Plan Not Found/Not Available/Not Current (>10 years old)
- Wild Sheep Management Plan Found/Not Current (>10 years old)
- Wild Sheep Management Plan Found/Current (<10 years old)

VICTOR CLARK

2.4. Rocky Mountain Bighorn Sheep

Estimates suggest there are ~49,000 Rocky Mountain bighorn sheep in 14 U.S. states (ND, SD, NE, MT, WY, CO, NM, AZ, UT, ID, NV, WA, OR, CA) and 2 Canadian provinces (AB, BC). Annual harvest averages approximately 1,000 rams/year.

Throughout their range and over the past century or more, bighorn sheep have been susceptible to, and impacted by, respiratory diseases. Current knowledge has implicated a suite of disease agents, most notably *Mycoplasma ovipneumoniae, Mannheimia haemolytic*a and other Pasteurellaceae bacteria as the agents of greatest concern. Die-offs are frequent events in many bighorn ranges. Disease vaccine research is a slow and costly undertaking, and to date, positive results remain beyond researchers grasp. Efforts must focus on prevention or minimization of bacterial transmission and post-transmission management to limit further spread.

2.5. Desert Bighorn Sheep

Estimates suggest there are ~39,000 desert bighorn sheep in 7 U.S. states (AZ, CA, CO, NV, NM, TX, UT) and 6 states in Mexico (Baja California, Baja California Sur, Chihuahua, Coahuila, Nuevo Leon, Sonora). Annual harvest averages approximately 500 rams/year.

2.6. Bighorn Sheep Goals By 2020

Goal #1: Comprehensive Management Plans (Table 2)

Management plans developed, updated, and implemented in each of 23 U.S., Canada and Mexico jurisdictions with a bighorn sheep resource. Plans should address current and historic wild sheep distribution, predator management to achieve agency objectives, habitat enhancement needs and opportunities, motorized and non-motorized travel management (aerial and ground) and enforcement, human footprint impacts, energy exploration and development, forage competition with native ungulates, and other challenges faced by bighorn sheep.

Goal #2: Separation

Ensure legislative or regulatory policies are in place to ensure effective temporal and spatial separation between domestic sheep and goats, infected bighorn sheep and/or mountain goats and healthy bighorn sheep in all U.S., Canada and Mexico jurisdictions with bighorn sheep. In cooperation with WSF Chapters and Affiliates and partner agencies or organizations, and based on the WAFWA Wild Sheep Working Group 2012 document "Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitats," WSF will help develop comprehensive strategies to facilitate separation within jurisdictions with bighorn sheep. Based on recommendations of the September 2017 BC Camelid Risk Assessment, advocate for no use of domestic sheep, goats, llamas, alpacas, etc. as pack animals used in thinhorn sheep range for hunting, trekking, weed control, or other purposes.

Goal #3: Applied Disease Research

Support applied research designed to reduce impacts of respiratory disease on bighorn sheep. On-the-ground solutions to high-risk contact situations are of highest importance. Priorities include development and maintenance of *Mycoplasma ovipneumoniae*-free domestic sheep and goats, "animal-side" diagnostic techniques, developing protocols to eliminate or reduce Movi from chronically-infected bighorn sheep populations, evaluation of commonly-recommended Best Management Practices (BMPs), standardized sampling and/or surveillance techniques, portable/mobile laboratory sampling protocols, shareable Disease Outbreak Response (DOR) protocols, and other efforts that produce tangible results.

Goal #4: Agency Education

Educate North American wildlife and land management agency leadership and elected officials in the U.S., Canada, and Mexico on the risks associated with transmission between wild and domestic sheep and impacts of pneumonia in bighorn sheep.

Goal #5: Public Outreach

Develop and implement outreach programs (e.g., Movi-Tested™) and effective social media campaigns to inform and educate stakeholders and the general public about risks associated with contact between domestic sheep or goats, infected bighorn sheep and/or mountain goats, and healthy bighorn sheep. Recognize and advocate for constituent use of, and access to, bighorn sheep populations and their habitats.

Goal #6: Industry Partnership

Work collaboratively with industry to develop:

1) U.S. Department of Agriculture funding sources and land-grant university collaboration for surveillance, research and application to address respiratory diseases (specifically Movi) in domestic sheep and goats for the benefit of both the industry and bighorn sheep;
2) effective spatial and temporal separation practices; and
3) informational materials to educate private-land operations (i.e., hobby herds, farm flocks, 4-H or FFA youth programs) about risks of contact between domestic sheep or goats and bighorn sheep.

Goal #7: WAFWA DMV Support

Support efforts of the WAFWA Wild Sheep Working Group and WAFWA Wildlife Health Committee's Adaptive West-Wide Disease Management Venture, designed to address varying bighorn sheep demographic responses to respiratory disease challenges. Promote sharing of information and exchange of Disease Outbreak Response (DOR) protocols between jurisdictions. Seek funding to help WAFWA WSWG and WAFWA WHC hire a DMV project coordinator, to help implement intensive disease monitoring and to help develop adaptive management strategies. Seek funding to contract a WSF Wild Sheep Disease Specialist, to lead WSF efforts on disease issues, implications, disease management, and coordinate WSF assistance to agency partners on wild sheep disease surveillance.

Goal #8: Risk Assessment/Healthy Bighorn Sheep Populations

Advocate for healthy and productive bighorn sheep populations through assessment, monitoring, prevention, and management. Regular risk assessments should be conducted within all bighorn sheep jurisdictions, and within source- and recipient-bighorn herds, prior to translocations. Translocations of bighorn sheep into areas occupied by domestic sheep or goats and/or infected mountain goats, where risk of contact cannot be adequately mitigated, will be opposed. Work with willing private landowners to transplant bighorn sheep into suitable habitat, where some measure of public access to those bighorns is agreed upon.

Goal #9: Access for Population & Habitat Management

Advocate for federal land management agencies to programmatically address the needs of state and provincial wildlife agencies to access and scientifically manage wild sheep populations and their habitats (particularly in designated wilderness), to achieve identified goals and objectives.

Goal #10: Management of Feral Horses & Burros and Exotic Ungulates

Advocate for active management to maintain numbers of feral equids or exotic ungulates at established, acceptable levels (e.g., BLM's Appropriate Management Level for wild horses and burros). Seek funding for documentary film addressing adverse impacts from feral horses and burros on desert bighorn sheep and other native wildlife.

Goal #11: Population Management

Encourage bighorn sheep populations to be managed in alignment with quality and quantity of available habitat through translocations or harvest (both ewes and rams as needed).

Goal #12: Expanded Hunting Opportunity

Advocate for increased hunting opportunity. Seek additional hunting opportunity such as harvest of ewes and wandering sub-adult rams (to reduce disease transmission risks), within scientifically- recognized off-take/harvest rates.

Goal #13: Expand Recruitment of Future Wild Sheep Conservationists

Support efforts to increase participation by youth in bighorn sheep conservation activities, including hunting.

Goal #14: Restore Desert Bighorn Sheep to Historic, Suitable Habitat in Mexico

Work for viable and sustainable bighorn sheep populations through science-based restoration and management of habitat and populations. Cooperate with private landowners and the governments of 6 states in Mexico with bighorn sheep (Baja California, Baja California Sur, Sonora, Chihuahua, Coahuila, Nuevo Leon), Mexico's federal wildlife agency (SEMARNAT), and WSF partners. Strongly promote inclusion of state and federal Mexico government agencies in the Western Association of Fish and Wildlife Agencies Wild Sheep Working Group. Information concerning historic and current desert bighorn sheep population estimates and distribution, past translocations, harvest, and potential suitable habitat for restoration and management of desert bighorn sheep in Mexico will serve as the foundation for restoration and management efforts. Create opportunity (although recognizing this will be very limited) for citizens of Mexico to participate in conservation and hunting of desert bighorns, to help cultivate interest in and support for active population and habitat management of desert bighorn sheep in Mexico.

Goal #15: Protect, Restore and Manage Habitat

Minimize human impacts, encourage science-based management of habitat, and establish partnerships and collaborative approaches with land management agencies, tribes, First Nations, industry, private landowners, and non-governmental organizations to pro-actively enhance bighorn sheep habitat and resultant bighorn sheep populations.

Goal #16 Wild Sheep Economic Analysis, West-Wide

Improve understanding by the public concerning the important economic role of wild sheep to state and local communities. Contract with qualified natural resource economist/human dimensions professional to conduct a comprehensive analysis for the purpose of documenting the economic benefit(s) of consumptive and non-consumptive use of wild sheep, west-wide.

WILD SHEEP POPULATION ESTIMATES AND HARVEST

(WAFWA WSWG 2017)

	Stone's/Fannin Sheep			Dall's Sheep			RM/CA Bighorn Sheep			Desert Bighorn Sheep		
End of CY	Population Estimate	Harvest		Population Estimate	Harvest		Population Estimate	Harvest		Population Estimate	Harvest	
		Rams	Ewes		Rams	Ewes		Rams	Ewes		Rams	Ewes
1990	11,600	466	0	101,150	1,882	0	43,675	1,010	0	22,505	266	0
2000	12,600	280	0	95,100	1,124	0	45,153	893	0	26,048	330	0
2010	12,550	333	0	90,150	1,151	0	48,063	1,058	0	28,935	451	0
2015	13,100	298	0		1,110	7	50,171	978	219	36,351	496	99
2016	13,100	334	0	88-100,000	1,217	2	48,743	1,011	191	37,758	478	101

Table 11. Bighorn Sheep Management Plan Status, by Jurisdiction

Jurisdiction	Plan Status	Name of Plan	Plan Date	Weblink to Plan (if available) As of 12/15/2017
Alberta		BHS Mgt. Plan Draft	2015	http://esrd.alberta.ca/fish-wildlife/wildlife-management/documents/BighornSheepMgmtPlan-Draft-Jun25-2015A.pdf
Arizona		BHS Mgt. Guidelines	2016	http://www.azgfd.gov/w_c/conservation/CGMP/Bighorn%20Sheep%20Species%20Management%20Guidelines%209-15-2011.pdf
British Columbia		Status of RM & CA BHS	2000	http://www.env.gov.bc.ca/wld/documents/statusrpts/b99.pdf http://www.env.gov.bc.ca/wld/documents/statusrpts/b98.pdf
California		Desert BHS Conservation Plan (outside Peninsular Ranges) Draft	2012	The 2012 draft plan is currently being finalized. Expected completion during Calendar Year 2016.
		Sierra Nevada BHS Recovery Plan	2007	https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=27634&inline=true
		Recovery Plan for BHS in the Peninsular Ranges, CA	2000	http://ecos.fws.gov/docs/recovery_plan/001025.pdf
Colorado		BHS Mgt. Plan 2009-2019	2009	http://cpw.state.co.us/Documents/Commission/2009/Jan/bighornSheepPlan1208.pdf
Idaho		BHS Mgt. Plan 2010	2010	http://fishandgame.idaho.gov/public/wildlife/planBighorn.pdf
Montana		BHS Conservation Strategy	2010	http://fwp.mt.gov/fishAndWildlife/management/bighorn/
Nebraska		BHS Mgt. Approach	2008	http://www.wildsheepworkinggroup.com/resources/jurisdictional-management-plans/nebraska/
Nevada		BHS Mgt. Plan	October 2001	http://www.ndow.org/uploadedFiles/ndoworg/Content/publicdocuments/Wildlife_Education/Publications/bighorn_management_plan.pdf
New Mexico		BHS Mgt. Plan	Not Found	
North Dakota		BHS Mgt. Plan 2013-2023	2016	http://gf.nd.gov/publications/3451

Jurisdiction	Plan Status	Name of Plan	Plan Date	Weblink to Plan (if available) As of 12/15/2017
Oregon		BHS & Mountain Goat Mgt. Plan	December 2003	http://www.wafwa.org/Documents%20and%20Settings/37/Site%20Documents/Working%20Groups/Wild%20Sheep/Jurisdictional%20Plans/sgplan_1203.pdf
South Dakota		BHS Action Plan Draft	2013	http://gfp.sd.gov/wildlife/management/plans/docs/2013-bighornsheep-draftplan.pdf
Texas		Bighorn Restoration Priorities	2006	No State-Wide Management Plan Available via Internet; hard copies on file @ WSF HQ
		Revised BHS Mgt. Plan Draft	2002	
Utah		Statewide BHS Mgt. Plan	June 2013	http://www.wafwa.org/Documents%20and%20Settings/37/Site%20Documents/Working%20Groups/Wild%20Sheep/Jurisdictional%20Plans/bighorn-plan.pdf
Washington		Game Mgt. Plan 2015-2021	2015	http://wdfw.wa.gov/publications/01676/wdfw01676.pdf http://wdfw.wa.gov/publications/01676/revised_bighorn_sheep_herd_objectives_091415.pdf
Wyoming		Not Found		No State-Wide Management Plan Available via Internet
Baja California		Not Found		No State-Wide Management Plan Available via Internet
Baja CA Sur		Not Found		No State-Wide Management Plan Available via Internet
Chihuahua		Not Found		No State-Wide Management Plan Available via Internet
Coahuila		Not Found		No State-Wide Management Plan Available via Internet

KEY

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