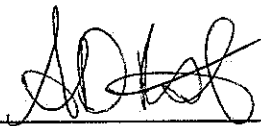




TODAGIN WILDLIFE MANAGEMENT AREA MANAGEMENT PLAN

Todagin Wildlife Management Area

Approved by:



Tony Pesklevits
Director, Resource Management
Skeena Region
Ministry of Forests, Lands & Natural Resource Operations

July 11, 2014
Date

Acknowledgements

The Ministry Forests, Lands and Natural Resource Operations (FLNRO) prepared this management plan in collaboration with the Tahltan Heritage Resources Environmental Assessment Team, Vera Asp, and Dwayne Day, and with input from the Ministry of Energy and Mines. Norm MacLean, LGL Limited, was instrumental in bridging the conversation between the BC government and the Tahltan. Irene Ronalds, RPBio, consultant, undertook the report writing. Karen Diemert, FLNRO, managed all contracts, administration, planning and editing. Thanks to everyone who contributed their time and knowledge to this management plan, from the time the Cassiar – Iskut – Stikine Land and Resource Management Plan (2000) first recommended the Todagin as a Wildlife Management Area, to present.

Cover photo: Brandin Schulz

Executive Summary

The Todagin Wildlife Management Area (WMA) was legally designated under the *Wildlife Act* in 2001 by an Order in Council as a result of the Cassiar Iskut-Stikine Land and Resource Management Plan (CIS LRMP), which was approved in 2000.

The principal management objective for the Todagin WMA in the CIS LRMP is to conserve Stone's sheep populations and habitat and other wildlife values integrated with mineral exploration and development. This management plan supports the principal management objective for the WMA by also providing guidance for land and resource use in the WMA, and by protecting Tahltan cultural heritage values related to use of natural resources. This management plan was completed in collaboration with the Tahltan Nation and stakeholders.

The Todagin WMA is approximately 122,800 hectares in size and is located in northwest British Columbia, adjacent to the Tahltan community of Iskut. The area remains an important part of the landscape upon which Tahltan people rely for cultural activities and uses. The Tahltan Nation has developed standards and procedures for archaeology and chance finds that may occur as a result of mineral exploration and other resource development activities. It is recommended that proponents contact the Tahltan Central Government early in the planning stages and directly share application information at a level of detail commensurate with the scale and scope of the proposed activity.

Imperial Metals' Red Chris Mine mineral title area occupies a portion of the Todagin Plateau. This area has been excluded from the WMA for the life of the mine. As a condition of its operating permit, Red Chris Mine has committed to an extensive list of mitigation measures within the mineral tenure area, and a comprehensive wildlife monitoring program within the WMA, to be overseen by government in collaboration with the Tahltan Central Government.

This management plan identifies appropriate uses of the Todagin WMA and provides management guidance to users of the area. Mineral exploration and development are recognized as appropriate activities. Mechanized industrial or commercial use of land and resources within a Wildlife Management Area requires a permit under the *Wildlife Act*. Applications for such permits should set out how the proposed land and resource use meets the objectives set out in this management plan. Non-mechanized (foot-based) industrial or commercial use will generally require notification to the Regional Manager that sets out the nature, location, means of access, and duration of the proposed use. Hunting and guide-outfitting are allowed in the Todagin WMA, subject to the applicable *Wildlife Act* regulations. A portion of the Todagin WMA is a No Shooting Area and is part of a larger area that is closed to mountain goat hunting.

An annual review of *Wildlife Act* permit documents and associated mineral exploration notice of work documents will be conducted in accordance with agreements between the Tahltan Nation and British Columbia. Wildlife issues arising from this review will be referred to the Parties under that agreement, for further consideration and recommendations.

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1.0 Introduction

The Todagin Wildlife Management Area (WMA) is a result of the Cassiar Iskut-Stikine Land and Resource Management Plan (CIS LRMP), which reflects the consensus reached as a result of a three-year interest-based negotiation process that involved public, First Nations, and provincial government representatives. The Todagin area was one of fifteen zones identified for area-specific management to address distinct values. The distinct values in the Todagin area include exceptionally productive Stone's sheep habitat and high wildlife values in general, as well as the area's high mineral potential.

The Todagin WMA is unique in that it is the largest WMA in the province. The principal management objective for the WMA in the CIS LRMP is:

To conserve Stone's sheep populations and habitat and other wildlife values integrated with mineral exploration and development.¹

This management plan supports the principal management objective for the Todagin WHA by protecting Tahltan cultural heritage values related to natural resources use, provides for a range of wildlife-related opportunities (hiking, hunting and fishing, and wildlife viewing), and ensuring that resource use meets this objective. This management plan was completed in collaboration with the Tahltan Nation.

1.1 Legal and Policy Framework

The Todagin WMA was designated in March of 2001 under s.4(2) of the *Wildlife Act* via OIC 304/2001 and BC Reg. 63/2001. The designation of a WMA reflects government's intention to manage land and resource use in the Todagin WMA to ensure the conservation of wildlife values.

Consistent with the CIS LRMP, this management plan recognizes mineral exploration and mine development as allowable activities within the Todagin WMA. According to the Province's *Two Zone Land Use System for Mineral Exploration and Mining in BC* (2003), the WMA is part of mineral zone lands where mining activities are subject to the *Mines Act* and/or the *Environmental Assessment Act*. Any mine development proposal in the WMA will undergo an environmental assessment process that will consider the significant wildlife values of the WMA and will identify appropriate measures to minimize and mitigate impacts.

This management plan supplements, but does not replace, existing policy guidance or regulatory requirements for land and resource use in the Todagin WMA. Proponents

¹ CIS LRMP management direction for the Todagin WMA is summarized in Appendix B.

are advised to consult government agencies to identify all of the potential guidance and requirements that apply to their proposed land or resource use. If any part of this management plan is inconsistent with provisions of legislation or with an order under s.7(4) of the *Wildlife Act*, the legislation or order, as the case may be, takes precedence to the extent of the inconsistency.

Permitting requirements in WMAs

WMAs fall under the administration of the minister responsible for the *Wildlife Act*. Under s.4(4) of the *Wildlife Act*, a person may not use land or resources in a WMA without the written permission of the regional manager. This requirement is in addition to the requirement for authorizations under other relevant statutes, such as the *Land Act*, *Forest and Range Practices Act*, or *Mines Act*.

Under s.5(1) of the *Wildlife Act Permit Regulation*, the regional manager must be satisfied that issuing the permit is not contrary to the proper management of wildlife resources in British Columbia.

Authorities of the Regional Manager in WMAs

Section 2(a) of the *Permit Regulation* provides the regional manager with the authority to issue a permit for land and resource use in a WMA. Sections 19(1) and 19(4) of the *Wildlife Act* give the regional manager the authority to set conditions, limits and periods in a permit, and to amend the conditions of a permit. Section 25 of the *Wildlife Act* gives the regional manager the authority to suspend or cancel a permit for any cause he or she considers sufficient, after providing an opportunity for the permit holder to be heard.

Section 7(4) of the *Wildlife Act* gives the regional manager the authority to make orders prohibiting a person from (a) entering, (b) cutting, picking, removing, altering, destroying, or damaging vegetation in, (c) disturbing or harassing wildlife in, (d) releasing or abandoning an animal in, and (e) allowing an animal to enter a WMA.

Offences under the *Wildlife Act* related to WMAs

Under s.7(1) of the *Wildlife Act* it is an offence to (a) alter, destroy or damage wildlife habitat or (b) deposit on land or water a substance or manufactured product or by product in a manner that is harmful to wildlife or wildlife habitat within a WMA, except as permitted in a permit issued by the regional manager. Contravention of an order made under s.7(4) of the *Wildlife Act* also constitutes an offence.

Under s.27(3) of the *Wildlife Act* it is an offence to herd or harass wildlife with the use of a motor vehicle, aircraft, boat or other mechanical device. Under the *Wildlife Act*, “harass” includes worry, exhaust, fatigue, annoy, plague, pester, tease or torment, but does not include the lawful hunting, trapping or capturing of wildlife.

Regulation of recreation and hunting in the WMA

For the purposes of this management plan, “use of land or resources” focuses primarily on industrial or commercial activities.

The setting of population objectives, definition of annual allowable harvest, and establishment of regulations related to hunting seasons, methods, and limits are undertaken through government’s ongoing wildlife management program, consistent with relevant regulations and policies. This management plan and permitting for land and resource use in the WMA may be informed by and are intended to complement, but do not duplicate or replace, ongoing wildlife management programs and associated regulation of guided and licensed hunting.

Prohibitions against damaging wildlife habitat, contravening orders made by the regional manager, and harassing wildlife in a WMA apply to all uses and are subject to enforcement under the *Wildlife Act*.

Stone’s Sheep and Mountain Goat Harvest Management

The harvest of wildlife is guided by the provincial Wildlife Harvest Strategy, for determining the level and type of harvest for licensed hunters, and by the Harvest Allocation Policy, for determining the split of annual allowable harvest between resident and guided hunters. Hunting regulation is based on the principles that (1) harvest will be sustainable over the long-term and will not change the natural distribution of species; and (2) harvest opportunities will be shared among users, giving priority consideration to aboriginal rights to harvest.

Stone's Sheep

The following conservative hunting regulations were in place in the Todagin WMA when this management plan was approved:

- Harvest opportunities are limited to “full curl” Stone’s sheep. This means only male Stone’s sheep which have attained the age of eight years or older, or whose horn tip extends upwards beyond the forehead-nose bridge may be harvested. It is unlawful for licensed hunters to harvest ewes. Given that full curl rams generally represent about 3-5% of the population, a full curl regulation ensures that only a small percent of the population can be harvested, thus ensuring minimal impact to the population.
- There is a general open season between August 1 and October 15. This limited season avoids disturbance to Stone’s sheep from licensed hunting activity during sensitive periods.
- There is a bag limit of one. This limits the potential harvest to a maximum of one sheep per hunter participating in the hunt each year.
- The Todagin Plateau is a No Shooting Area. Harvest is by bow-hunting only. This is a more challenging form of hunting and generally has a lower hunter success rate than hunting with firearms.

Mountain Goat

The following conservative regulations were in place in the Todagin WMA when this management plan was approved:

- The Todagin Zone was closed to mountain goat harvest.
- Within the Tsatia Zone, there is a general open season for mountain goats between August 1 and October 15. This limited season avoids disturbance to Mountain Goats from licensed hunting activity during sensitive periods.
- It is unlawful for licensed hunters to harvest a nanny that is accompanying a kid, or a female mountain goat in a group that contains one or more kids. This regulation differs from that for Stone’s sheep because it can be difficult to distinguish billies from nannies. Hunters are nonetheless encouraged to only harvest billies.

Licensed Stone’s sheep and mountain goat hunting will continue to be managed sustainably, in accordance with the Wildlife Harvest Strategy and Harvest Allocation Policy.

Role of the WMA Management Plan in Permitting

This management plan sets out objectives for the management of the WMA against which applications for *Wildlife Act* permits, and potentially for other authorizations under applicable statutes, will be evaluated.

The strategies set out in management guidance in this management plan are considered default best management practices that, if implemented, are expected to meet the management objectives for the WMA. Applicants may propose alternate strategies to meet the objectives when applying for a *Wildlife Act* permit. These strategies will be evaluated for their effectiveness in meeting the objectives on a case-by-case basis.

A tiered approach will generally be applied to permissions under section 4(4) of the *Wildlife Act*:

1. Mechanized industrial or commercial use, including activities supported by air access, will generally require a permit from the regional manager that sets out strategies for how the proposed use meets the objectives in this management plan. This includes mechanized mineral exploration (e.g. drilling, blasting, trenching, trail building) and other mechanized land use. A mitigation plan prepared by a professional biologist may be required as part of the application, depending on the risks the proposed use presents to wildlife.
2. Non-mechanized (foot-based) industrial or commercial use will generally require notification to the regional manager. This notification should set out the nature, location, means of access, and duration of the proposed use. This includes non-mechanized mineral exploration, commercial recreation, and commercial film production.

1.2 Management Plan Purpose

The purpose of this management plan is to define objectives and identify management strategies for land and resource use, and recreational activities, in the Todagin WMA. This is a guidance document for any users of the WMA and will be considered in permitting decisions. This management plan:

- sets out a vision for the future state of the land base and its values;
- addresses current issues affecting that long term vision;
- sets objectives and provides management guidance to resource users within the Todagin WMA;
- identifies social, heritage, and cultural uses by the Tahltan Nation; and,
- defines appropriate levels and types of recreational activities.

The desired outcomes of this management plan are to:

- Achieve the vision for the WMA;
- Improve certainty for land and resource users by proactively defining management objectives and best management practices to achieve those objectives; and
- Prevent or reduce conflicts between resource users.

1.3 Planning Area

The Todagin WMA is located just south of Iskut, roughly 150 kilometres south of Dease Lake (Figure 1 and 2), in northwest British Columbia. The WMA is approximately 122,800 hectares in size and is situated in proximity to a complex of protected areas that includes Spatsizi Plateau Wilderness Park (696,000 ha), Stikine River Park (217,000 ha) and Mount Edziza Park (230, 000 ha), within the Southern Boreal Plateau Ecoprovince. The WMA surrounds Todagin South Slope Park (3,490 ha).

The planning area is made up of the Todagin Plateau and Tsatia Mountain Zones (Figure 2), which straddle the Iskut and Klappan watersheds. These mountains are characterized by open, gently rolling plateaus and highlands, incised by steep cliffs and side valleys, giving way to broad valley bottoms. Elevation range is from about 840 meters to 2400 meters above sea level. The juxtaposition of alpine tundra grasslands and dwarf birch scrub with steep cliff bands and rocky talus slopes results in excellent habitat for Stone's sheep and mountain goat.

The WMA is within the Tahltan Nation traditional territory. The Tahltan people have traditionally travelled and hunted throughout these mountains and plateaus. Numerous traditional sites and trails exist with high cultural heritage values. They continue to be areas used year-round by members of the Tahltan Nation.

Wildlife species include grizzly bear, black bear, Stone's sheep, mountain goat, wolverine, hoary marmot, moose, grey wolf, and, to a limited extent, woodland caribou. Stone's sheep are of high management interest as they have a high population density relative to Stone's sheep populations elsewhere in northwest BC. (Stone's sheep populations are generally higher in northeast BC, where the habitat is more favourable.)

Locally important economic activities include guide outfitting, trapping and mineral exploration. Recreational activities include hiking, wildlife viewing, and hunting. A No Shooting Area on the Todagin Plateau provides a unique bow hunting opportunity for Stone's sheep.

Imperial Metals Corporation's Red Chris copper-gold mine, approved for development through a joint Federal/Provincial Environmental Assessment process in 2005, is situated adjacent to the northeast portion of the WMA. The CIS LRMP recommended that the *'Red Chris property be added to the WMA once the mineral tenures lapse'*.

The western edge of the WMA lies adjacent to Highway 37. The Red Chris Mine Access Road and Transmission Line Corridor begin at Highway 37 near Tatogga Lake and bisect the northern edge of the WMA as far as Ealue Lake before heading south to the mine site within the Red Chris Mine mineral title area on the northeast slopes of Todagin Mountain (Fig. 2). The vast expanse of the WMA remains roadless.

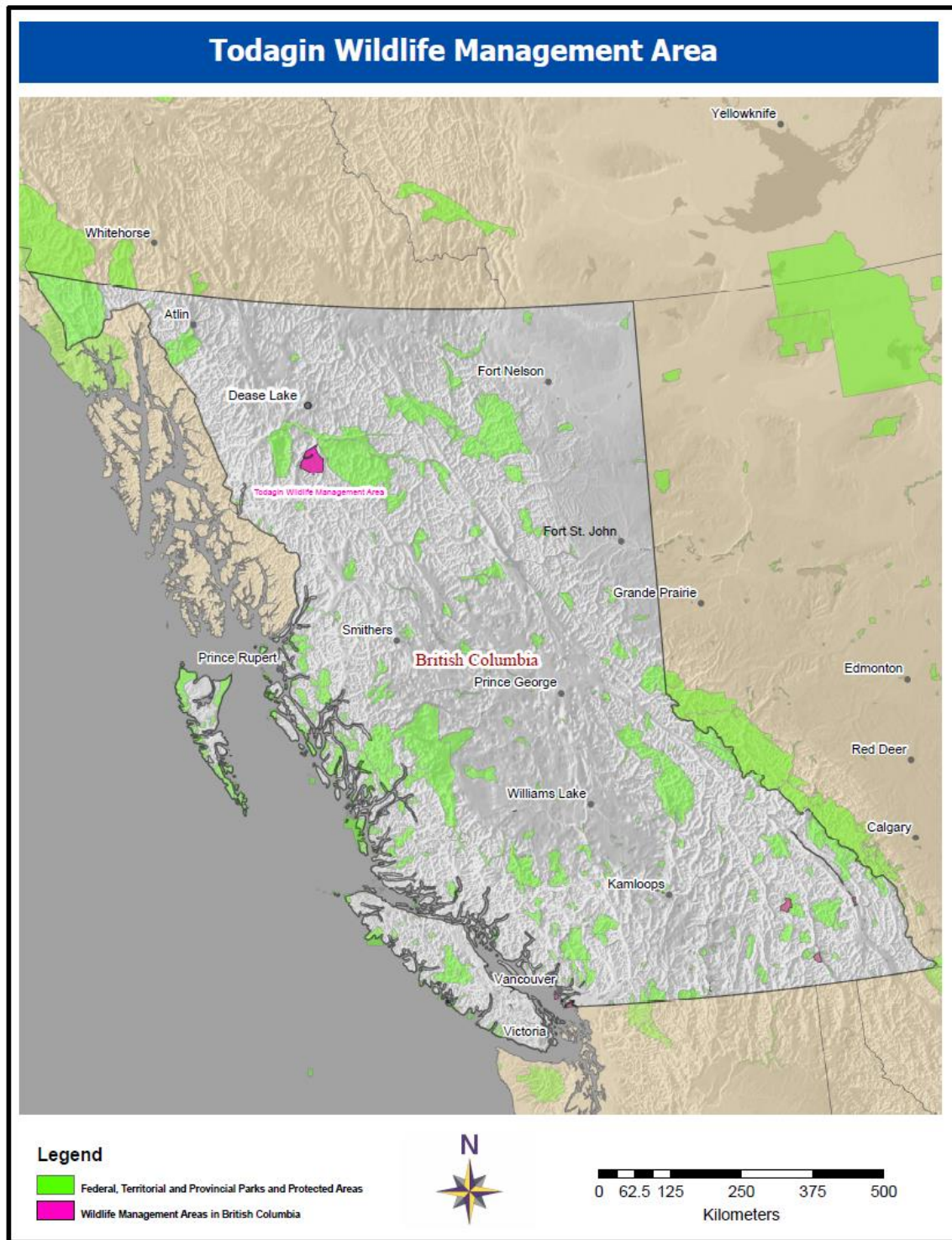


Figure 1: Location of Todagin Wildlife Management Area

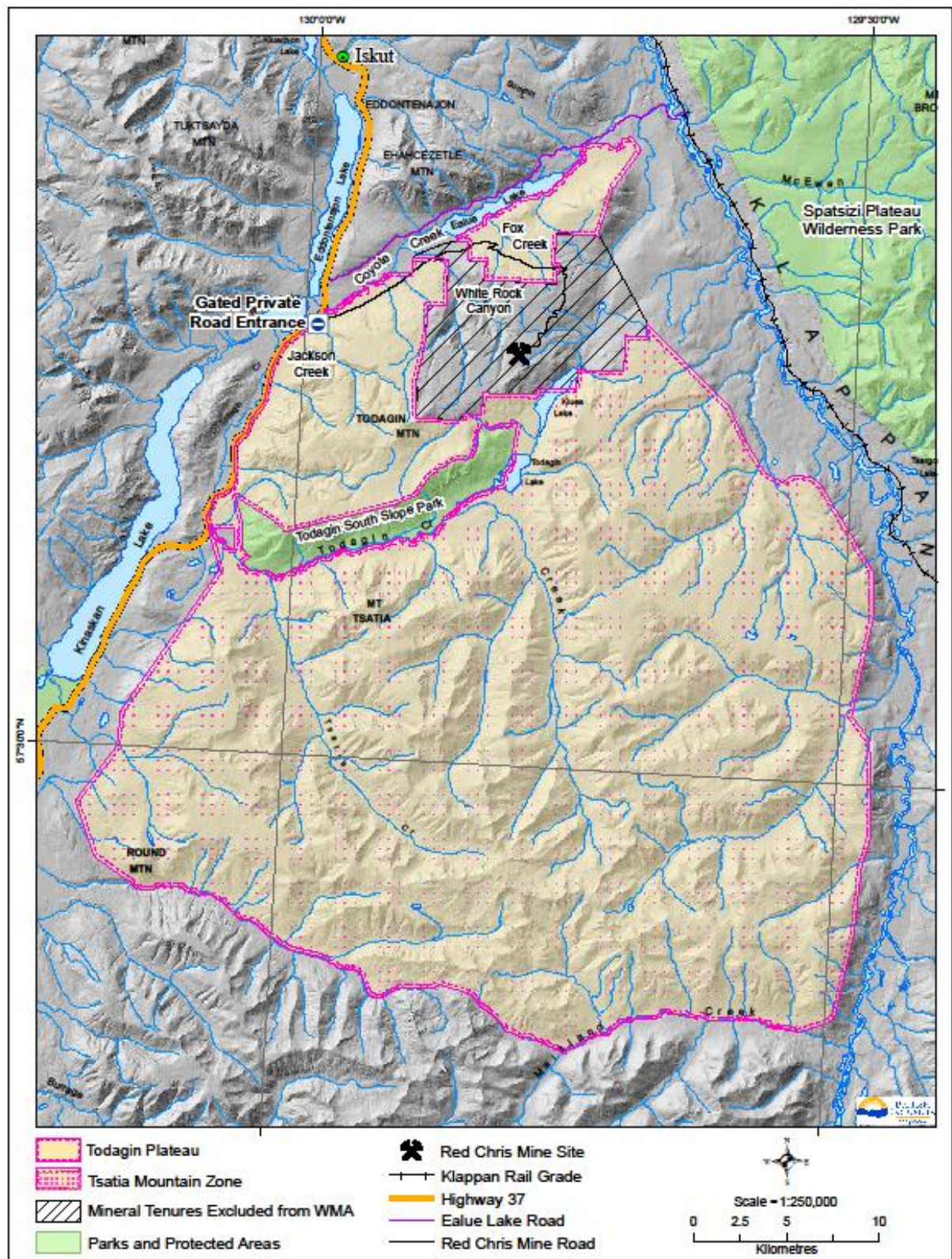


Figure 2: Detailed View of Todagin Wildlife Management Area

1.4 Vision Statement

The Todagin WMA is part of a broad conservation lands system that includes the Spatsizi-Tatlatui-Mount Edziza complex of protected areas. As such the WMA contributes to the conservation of biological diversity and ecosystem processes and functions at a landscape scale.

The specific vision for the Todagin WMA is:

Amidst an extensive mountain and plateau ecosystem in northern British Columbia and a significant complex of protected areas, the Todagin WMA aims to protect key ungulate habitat and helps maintain abundant wildlife populations. Stone's Sheep, Mountain Goat, and other culturally important species to the Tahltan Nation and to the Province thrive in the area. Hunting, low impact recreation, tourism, and other activities such as trapping and guide-outfitting occur sustainably, along with carefully planned mineral exploration, to the benefit of local communities and residents of British Columbia. The Todagin WMA continues to help protect and maintain Tahltan social, ceremonial and cultural values and uses.

1.5 Shared Decision Making with the Tahltan Nation

At the time this management plan was approved, a Shared Decision Making Agreement guided the government-to-government relationship between the Tahltan Nation and the Province of British Columbia ("the Province"). It establishes a collaborative framework for ongoing land and resource decision-making in Tahltan traditional territory. This agreement affects all activities (subject to the required permit) in the WMA. Permit applications are to be reviewed by the province and by the Tahltan, according to the Engagement Model set out in the agreement.

Under the Shared Decision Making Agreement the Province and the Tahltan Nation will collaborate on fish and wildlife management through the Fish and Wildlife Working Group (FWWG). A Minerals Working Group (MWG) will provide expertise and support regarding strategic mineral exploration- and development-related topics. Within the Todagin WMA, the FWWG may make recommendations that are specific to planning, management actions and monitoring requirements, including but not limited to management recommendations to address population declines or critical habitat loss.

As with any natural resource application in Tahltan Territory, it is recommended that proponents contact the Tahltan Central Government² early in the planning stages and

² www.tahltan.org

share application information directly with them at a level of detail commensurate with the scale and scope of the proposed activity.

1.6 Relationship with Other Plans

Todagin South Slope Park Management Plan

Surrounded by the WMA, Todagin South Slope Park protects an expanse of south-sloping winter range and natal habitat for Stone's sheep and mountain goat that extends from east to west for 18 kilometres. Todagin South Slope Park is referred to as the "engine" that drives the Todagin plateau's exceptionally productive Stone's sheep population. A Management Direction Statement is in place for Todagin South Slope Park (2003) that describes the protected area values, outlines management issues and concerns, and identifies management strategies for future planning. Park management planning is administered by BC Parks.

The effect of aircraft activity in proximity on lambing and kidding is identified as a primary management issue. The park management direction statement recommends that air access guidelines be put in place. A park permit is required for aircraft landing inside the park. For aircraft flying in proximity to the park, BC Parks, Skeena Region recommends that the *Wildlife Guidelines for Backcountry Tourism/Commercial Recreation in British Columbia* (2006) be followed.

Red Chris Mine Wildlife Management Plan

The Red Chris Mine project received an Environmental Assessment Certificate in 2005. While the Red Chris Mine mineral title area has been excluded from the WMA at least until the mineral tenures lapse, activities within the mineral title area and access right of way may have direct and indirect impacts on wildlife throughout the WMA.

The Red Chris Wildlife Management Plan was prepared by the mine proponent as a condition of the mine operating permit (Hatler, 2012). The purpose of the plan is to address potential impacts of mine development and operations on wildlife within the Local Study Area (LSA), which generally corresponds to the Todagin Plateau and includes all the facilities and works associated with the mine; and within the larger Regional Study Area (RSA) which corresponds to the Todagin WMA as a whole. The plan is overseen by a Wildlife Management Advisory Committee (WMAC) made up of representatives of the Tahltan Nation, Imperial Metals, as well as provincial and federal government agencies.

The plan includes a series of mitigation policies and best management practices developed by the mine proponent which are designed to minimize the environmental

impacts of mine development and operational activities within the Red Chris Mine mineral title area and access right or way. These include:

- **Access restrictions** that limit the use of the gated access road to mine employees, contractors, and other persons with mine-related business only;
- **Firearms ban**, so that only firearms under the control of the mine manager are allowed on site, and these may only be used in the event of wildlife encounters in which human safety is at stake;
- **Wildlife feeding ban**, so that feeding of wildlife on mine property, whether intentionally or inadvertently due to negligence, is prohibited;
- **Garbage management**, so that all putrescible kitchen wastes are incinerated and no food containers are left unprotected where they could attract wildlife;
- **Wildlife right-of-way** on all mine site roads and work area; and,
- **Hiking restrictions**, so that areas with known or suspected potential for wildlife conflict incidents, disturbance of raptor nests, or interference with the local guide-outfitter will be generally or temporarily declared off-limits for recreational hiking by mine personnel.

Wildlife population monitoring is an important component of the Red Chris Wildlife Management Plan. Nine species and species groups, referred to as Valued Ecosystem Components are the focus of the monitoring program:

Stone's sheep;	wolverine and fisher;
mountain goat;	western toad;
moose;	hoary marmot, arctic ground squirrel,
caribou;	and porcupine; and,
grizzly bear and black bear;	migratory birds and raptors.

Of these, Stone's sheep, mountain goat, and moose are of more localized management concern and population size, composition, and distribution will be monitored under the Red Chris Wildlife Management Plan. Population response thresholds have been established for these species. Mountain goat are considered the highest monitoring priority because this species tends to use habitats in closest proximity to mine activities (4.5 km on average); whereas Stone's sheep tend to use habitats more distant from mine activity (10 km on average).

Potential impacts of the mine development and operations are organized into the following broad categories:

habitat effects;	animal mobility effects;
disturbance effects;	pollution effects; and,
access effects;	human-wildlife conflict.

Significant effects in any of these categories are to be reviewed by WMAC annually. The WMAC may recommend additional mitigation strategies as required. The Red Chris Wildlife Management Plan and associated monitoring and mitigation protocols remain in effect for the life of the mine, which is predicted to be a minimum of 28 years.

Environmental Assessment certification was also contingent on approval of an extensive reclamation and closure plan, including the cost of long term water treatment, care and maintenance and post closure environmental monitoring. Further information is available from Imperial Metals Ltd.

2.0 Tahltan Nation Perspective



This section provides the Tahltan Nation perspective on the importance and role of the Todagin WMA.

The Tahltan Nation has through statements such as “For the Record” the 1910 Declaration of the Tahltan Tribe, where Nannock, Chief of the Tahltans, declared that Tahltan lands have been maintained by the Tahltan since time immemorial and on matters related to *our lands, hunting, fishing, and every manner concerning our welfare* be dealt with through a government to government relationship.

Photo: Chief Nannock and Wife
Provided by Nalaine Morin

The Shared Decision Making Agreement by the Tahltan Nation and the Province of British Columbia is an indication of the consistent approach the Nation has applied to the collaborative management of lands and resource in the Tahltan Territory.

IMPORTANCE OF THE TODAGIN WILDLIFE MANAGEMENT AREA

The Todagin plateau is part of a whole land use and occupancy system of Tahltan people, past, present and into the future. It is our collective right and responsibility. Tahltan oral history consistently demonstrates that the Tahltan practised in a relatively small area a system of resource and land management. The Todagin region was crucial as a skill training place; a place with diverse game and opportunity for a young “warrior” to learn from. This place through the passing-on of Tahltan knowledge and lifeways remains a training ground for us.

Our language and oral data support the importance of this area, examples of this are found in the Tahltan Ancestral Study (TAS) such as:

- *“Todagin, that’s Tahltan language meaning people go there to get sheep”*
- *“Eyaauuwe in Tahltan [in reference to Coyote Creek]... Big campground, war training camp... “*
- *“...main Tahltan trail up the Todagin, right down to the Klappan crossing...that trail from Tatogga Lake, over the mountain to Todagin Lake, that’s a hunting use trail.”*

The area is unique for the Tahltan where there is access to mountain ungulates, moose, groundhogs & gophers, fish, furbearers, and plants.

TAHLTAN CULTURAL HERITAGE VALUES

The Todagin Plateau is immediately adjacent to the Tahltan community of Iskut, and remains a critically important part of the landscape upon which Tahltan people rely for cultural and Tahltan use activities. Extensive and continuous Tahltan use and occupation of the plateau and surrounding area is demonstrated by archaeological, ethnographic and oral history evidence of habitation sites, hunting camps, an extensive trail system for trade, hunting and obsidian harvesting, and Tahltan use sites. The archaeological finds in the Black Lake area (upstream of Kluea Lake), some thousands of years old, are evidence of the ancient and historic uses of the area. The Tahltan continue to actively use and rely on the Todagin WMA for supporting ancient, historic and contemporary life ways; including hunting, fishing and cultural practices.

The Tahltan Nation has used the land in and around the Todagin WMA for generations. The area has high cultural value for hunting and gathering plants. It served as a travel corridor for the Tahltan people as they utilized a network of historic trails to access settlements such as Caribou Hide and Metsantan Lake, and locations such as the Klappan River Valley, the headwaters of the Nass, Skeena, and Stikine Rivers, Bear Lake, Kluachon Lake, Klastline Plateau, Mount Edziza, and the Iskut River.

Figure 3 represents the Tahltan Nation understanding of our territory and our uses over countless generations and for generations to come.

Photo Credit: Nalaine Morin/Vera Asp

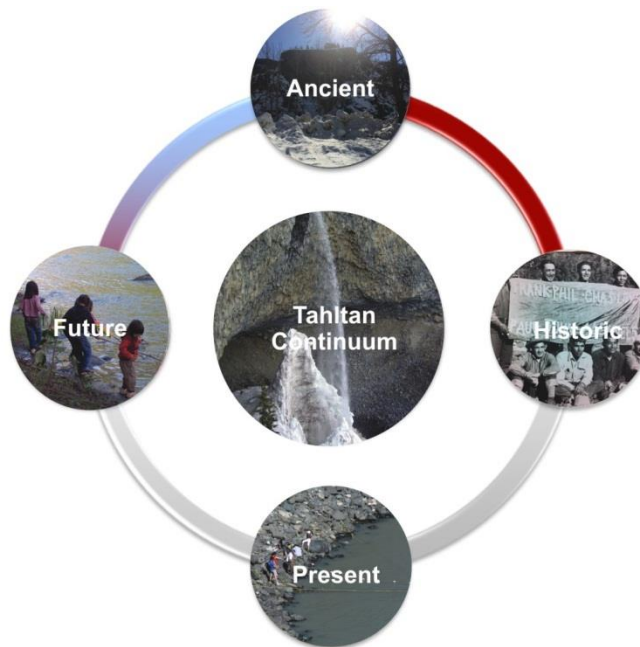


Figure 3. Tahltan Continuum

The Todagin WMA has supported a Tahltan family guide outfitter concession for generations and is still an active business providing jobs and benefits for Tahltan members.

The area continues to be used by the Tahltan Nation to access seasonal foods and to travel traditional routes between settlements. For example, since the establishment of the Iskut village at Kluachon Lake, the Todagin Plateau and Tsatia Mountains are used for the collection of medicinal and culturally important plants, and for land uses such as hunting, fishing, and trapping. In the Todagin WMA, there is a network of trails, hunting camps, hunting areas, gravesites, cabins, and plant collection areas identified by the Tahltan Central Government. The WMA has an important role protecting historically and currently used seasonal camps, harvesting and hunting areas and archaeological sites, and supporting present and future Tahltan access to those areas for ongoing social, ceremonial and cultural purposes. For a more detailed review of Tahltan Wildlife Management please see Appendix B.

TAHLTAN RESOURCES POLICY

The Tahltan Resource Development Policy Statement of 1987 expresses Tahltan laws, customs and values, and provides direction on how resource development should occur in the Territory. In regard to wildlife management in particular, *“commercial or industrial activities should not pose a threat of irreparable environmental damage”*.

TAHLTAN ARCHAEOLOGY STANDARDS

The Tahltan Nation have developed standards and procedures for archaeology and chance finds that may occur as a result of mineral exploration and other resource development activities. The Tahltan Archaeological Standards (2011) and Tahltan Chance Find Procedures (2010) detail what is to occur, who is to be contacted and when.

TAHLTAN APPROACH TO MONITORING

With the Red Chris mine development, along with increased mineral exploration activity on the Todagin plateau, the Tahltan are concerned about potential changes in the seasonal distribution of Stone’s sheep or abandonment of critical habitats as a result of increased human presence and aircraft activity. Consequently the Tahltan recommend mitigation strategies and monitoring to be an important component of all permitted activities.

TAHLTAN CONTACT INFORMATION

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3.0 Wildlife Values – Provincial and Regional Context

Stone's Sheep

In general, Stone's sheep habitat is limited and irreplaceable (R.A. Demarchi et al. 2004). Key winter ranges make up a very small proportion of the regional landscape – as little as 0.3%. Stone's sheep inhabit some of the most remote and untouched wilderness areas in the province. Consequently, their general distribution and abundance has remained relatively stable in the past century. However, increasing industrial and commercial resource exploration and development activities throughout northern British Columbia is bringing the long-term security of their habitat into question. For this reason, Stone's sheep are on the Conservation Data Centre's Yellow List of species and subspecies that are stable, but are subject to active monitoring and study, and are a BC Conservation Framework priority 2 species.

The Todagin plateau and Tsatia ranges' leeward location relative to the Coast Mountains results in a rain shadow-effect. The relatively dry climate is favourable to alpine grass production and the relatively low snow loads and high winds ensure that forage remains accessible throughout the winter. Stone's sheep have been at high numbers in the WMA since first surveyed in the early 1970's and their population appears to be stable, at roughly 200 sheep in the Todagin Plateau, and 400 in the Tsatia Mountain complex.

Mountain Goat

Over half of the world population of mountain goats is found in British Columbia. While the species is considered secure both provincially and globally, British Columbia's Conservation Framework ranks the mountain goat as a high priority species for proactive conservation to prevent the species from becoming at risk. In 2010, the Ministry of Environment released a Management Plan for the Mountain Goat of British Columbia. The management plan aims to maintain viable, healthy and productive populations of mountain goats throughout their native range; maintain suitable, connected habitat; mitigate threats to mountain goat populations; and, ensure opportunities for non-consumptive and consumptive use of mountain goat are sustainable.

Mountain Goats are an Identified Wildlife species under the *Forest and Range Practices Act*. The Identified Wildlife Management Strategy provides direction, policy, and guidelines for the management of these species on Crown land (<http://www.env.gov.bc.ca/wld/frpa/iwms>).

Within the WMA, mountain goats have been at low numbers on the Todagin Plateau, since the early 1990's. According to aerial survey results the mountain goat population in the Todagin Plateau may have been as low as 28 in 1993, and may have increased to 74 animals by 2010. Mountain goat numbers on the plateau appear to have been depressed below habitat carrying capacity. Previous hunting pressure may have reduced

numbers, but it is most likely that the goats remain below habitat carrying capacity due to predation. A hunting closure for mountain goats has been in effect on the Todagin Plateau since 1993. Within the Tsatia Mountain complex aerial mountain goat surveys indicate a population of roughly 75 goats.

Grizzly Bear

Grizzly bears are an Identified Wildlife species in British Columbia. For grizzly bears, management focuses on maintaining adequate amounts of well-distributed, seasonally important habitats that are available across home ranges and through time; maintaining access to these areas by grizzly bears; and minimizing risk to bears from human-caused mortality (British Columbia Ministry of Water, Land and Air Protection 2004).

The provincial government manages grizzly bears in accordance with the Grizzly Bear Conservation Strategy, which identifies population units, estimates grizzly bear numbers for each unit, evaluates the viability of each population, and is the basis for establishing hunting quotas for residents and guide outfitters (<http://www.elp.gov.bc.ca/wld/grzz>). The Todagin WMA is in the Spatsizi population unit, where grizzly bears are considered a viable population unit with an estimated 666 grizzly bears in the unit, and with a density of about 32 bears/1,000 km² (MFLNRO 2013. Pers. comm.).

Grey Wolf

As one of B.C.'s top carnivores, wolves play an important role in structuring predator–prey systems. The species attracts a highly polarized debate between those who see the wolves as emblematic of B.C.'s wilderness heritage and those who see them as a threat to game species, agricultural interests, and human safety.

The goal of wolf management in B.C. is to ensure a self-sustaining population throughout the species' range and to ensure that, within the biological limits of the species, wolves are available in sufficient abundance to fulfill their ecological role, and to meet the cultural, recreational, and economic needs of society. Provincial policy supports the use of predator control to address human safety, and to protect livestock and ungulate species at risk. Predator control to enhance ungulate populations for hunting is not supported by policy.

In the Skeena Region wolves are considered to be at high density, meaning an estimated 5-15 wolves per 1,000 km². The Todagin WMA is about 1,228 km² in area. Wolf densities are highest where moose, their most common prey species, are abundant. In wolves in the WMA prey primarily on moose, but will take Stone's sheep and mountain goats if they have the opportunity.

4.0 Climate Change

Climate change is predicted to bring warmer and wetter weather patterns to the northern interior of British Columbia, along with an increased frequency of extreme weather events. Winter snow packs are expected to decline, resulting in reduced spring runoff as well.

Projections for BC ecosystem zones predict an incremental reduction in Boreal Altai Fescue Alpine ecosystems over the next several decades, replaced by an upslope shift in Engelmann Spruce–Subalpine Fir forest ecosystems (Wang et al. 2012). A reduction in alpine grasslands could have serious impacts on Stone’s sheep and mountain goat populations. Fire protection policies over the last 50 years have likely contributed to alpine grassland reduction by arresting natural disturbance regime processes.

The synergistic effects of climate change and associated changes to natural disturbance regimes on ecosystems, habitats, and wildlife populations are difficult to predict. In coping with climate change the conservation and restoration of natural ecosystems will be important in maintaining the viability of populations. Management practices to maintain or restore alpine grasslands, such as the use of controlled burns, will be considered as part of a broader regional climate change adaptation strategy.

5.0 Resource Use Activities

Mineral Exploration and Development

Mineral exploration has occurred intermittently within the Todagin Plateau portion of the Todagin WMA since the 1950’s, with the first known mineral staking being the Red Chris property in 1956. Mineral potential mapping within the Todagin WMA indicates that the Todagin Plateau and the northernmost portion of Tsatia Mountain (east of Kluea Lake) has high potential for discovery of mineral deposits. The science around mineral exploration, development and production continues to evolve.

Mineral and coal exploration and development is a process that ranges from no or very low impact activities over extensive tracts of land to intensive localized use of land. The objective of early stage exploration is to locate and identify hidden mineral and coal resources. Initial ground-based exploration involves prospecting, which includes looking for signs of mineralization (traditionally on foot or on horseback), panning, mapping and rock and soil sampling.

If a mineralized rock or coal is found, the next stage of activity is to locate and broadly define a potential mineral deposit or coal seam. Preliminary exploration activities may

include geological mapping, ground and airborne geophysical surveys, geochemical sampling, preliminary drilling, trenching and possibly a small temporary camp depending on the extent and remoteness. The land area subject to these activities will be considerably smaller than the area of the initial prospecting. Generally preliminary exploration is temporary in nature with minimal associated ground disturbance.

Advanced mineral exploration aims to more clearly define the quality and extent of an identified mineral deposit. Advanced mineral exploration activities may include more intensive and focused drilling and/or trenching programs, establishment of access roads and more detailed geological mapping. A seasonal established camp is usually required to support the activities associated with advanced exploration. Environmental baseline assessments and monitoring in preparation for Environmental Assessment application submission may also occur in concert with advanced exploration. While advanced exploration is longer term and generally has more associated ground disturbance it is more focused on a specific area of interest.

Recreation and Tourism

Recreation use levels in the WMA are relatively low and are expected to continue to be low in future. Recreational use of the WMA includes wilderness hiking, horseback riding, wildlife viewing, hunting and fishing. No formally designated trails exist within the WMA, so the area is most amenable to self-sufficient individuals seeking a wilderness experience, and to guided trips. The Todagin plateau has been utilized by the public for many years and is widely appreciated for its wilderness values.

Hunting, Trapping, Guide-Outfitting and Fishing

Hunting, trapping, guide-outfitting and fishing are regulated and monitored by the Province through regulations and licenses. The Todagin WMA lies within Wildlife Management Unit 6-20.

Guide outfitting has been carried out in the WMA for approximately forty years and continues to be an important commercial tourism business. Most of the WMA is within one guide outfitter territory; a second guide outfitter territory begins along the southern boundary of the WMA. Both territories have been owned and operated by Tahltan families for decades. The outfitters focus on guided hunts in the Tsatia Mountains for Stone's sheep and mountain goat, and occasionally hunt moose, grizzly bear, and woodland caribou. The Todagin Plateau provides a unique opportunity for bow-hunting for Stone's sheep. Between 2005 and 2012, an average of 5 full curl male Stone's sheep were harvested annually by both guided and unguided hunters.

Moose are not commonly hunted within the WMA, as habitat values for moose are low relative to the lower elevation forested habitat along the Klappan River. On average one moose is harvested per year within the WMA. By comparison, from 2010 to 2012 an average

of 24 moose were taken by resident hunters each year along the Klappan River and railway grade directly north and east of the WMA.

There is likely some resident and non-resident fishing occurring in the WMA as part of hiking trips, hunting trips and guided hunts. Two trapping tenures coincide with the WMA, with low trapping activity since the 1980's. Hunting, trapping, guide-outfitting and fishing activities are regulated under the *Wildlife Act*. This management plan is intended to complement, and does not replicate, existing regulatory requirements for these uses.

Forestry

Timber values are considered negligible within the WMA, given that most of the area is alpine and subalpine, with very little boreal forest. The only forest harvesting activity within the WMA to date has been for the purposes of clearing the Access Road and Power line Corridor for the Red Chris Mine. Cassiar Forest Corporation operates in proximity to the WMA, however, the WMA is excluded from the forest tenure area.

6.0 Management Guidance

This section provides the management guidance of the Province and the Tahltan, to users of the WMA, to meet the objectives of the plan.

This guidance will be considered when reviewing requests for permission to conduct land and resource use in the WMA under section 4(4) the *Wildlife Act*. For the purposes of this plan, “use of land and resources” includes commercial or industrial activities. Parties contemplating the use of land and resources in the WMA should use this management plan to develop management strategies to address the values present in the WMA and meet the objectives identified in the plan.

Other authorizations may apply standards set by existing regulations and policy, including the *Health and Safety and Reclamation Code of Mines in British Columbia* and management practices recommended in the *Handbook for Mineral and Coal Exploration in British Columbia*.

The following table summarizes land and resource uses that are allowable in the WMA:

Summary of Allowable Land and Resource Uses			
Activity/Facility	Todagin Plateau	Tsatia Mountains	Written Permission Required for Permit
Natural Heritage			
Forest Insect/Disease Control	Y1	Y1	Y
Habitat Restoration (aquatic and terrestrial)	Y1	Y1	Y
Noxious Weed Control	Y1	Y1	Y
Scientific Research	Y1	Y1	Y
Cultural Heritage			
Cultural, Ceremonial, Food Gathering and Social Use and Access	Y	Y	N
Cultural Tourism	Y	Y	Y
Recreation			
Administrative Buildings and Compounds	N	N	n/a
Aircraft Access	Y1	Y1	Y
Backcountry Huts and Shelters	N	N	n/a
Boating (Motorized)	Y	N/A	N
Boating (Non-motorized)	Y	Y	N
Camping – backcountry	Y	Y	N
Commercial Recreation (facility-based)	N	N	n/a

Exotic Pack Animal Use	N	N	n/a
Fishing	Y1	Y1	License
Heli-hiking	Y	Y	Y
Heli-skiing	N	N	n/a
Hiking/Backpacking/Walking	Y	Y	N
Hunting	Y1	Y1	License
Interpretation and Information Signs	Y	Y	Y
Non-Motorized Mechanized Off-Road Access (e.g., mountain biking)	Y	N	N
Motorized Off-Road Access (e.g., 4x4s, quads, motorcycles)	Y1	N	Y
Pack Animal Use (dogs and horses only)	Y	Y	N
Snowmobiling below 1400 m	Y1	N	N
Trail construction (hiking)	Y	Y	Y
Wildlife/Nature Viewing	Y	Y	N
Development and Use of Natural Resources			
Angling Guiding	Y1	Y1	Y
Commercial Filming	Y1	Y1	Y
Communication Sites	N	N	n/a
Forest Harvesting	Y1	Y1	Y
Grazing (domestic livestock)	N	N	n/a
Guide Outfitting	Y1	Y1	Y
Independent Power Projects & Infrastructure	N	N	n/a
Mine Development and Operations	Y1	Y1	Y
Mineral Exploration	Y1	Y1	Y
Prospecting	Y	Y	N
Trapping	Y1	Y1	Y
New Motorized Trail Construction	N	N	
Utility Corridors	N1	N1	
Wildlife Inventory with Helicopter	Y1	Y1	Y

Y Appropriate
 Y1 Appropriate, but subject to permit conditions and/or provincial or federal regulations
 N Not appropriate
 N1 Not appropriate except for expressed management purposes as identified in the Management Plan
 n/a Not applicable

6.1 Habitat and Population Management

Stone's Sheep and Mountain Goat

Stone's sheep and mountain goat populations are primarily limited by the availability of suitable wintering habitat and spring forage close to escape terrain (45 to 60 degree slopes). Natal range is a smaller area within winter range – the warmest, most protected cliff faces close to grassy tundra slopes that green up the earliest in spring. Stone's sheep can generally use habitats at a greater distance from escape terrain than mountain goats given their higher mobility; however escape terrain is still key to habitat selection for both species.

Figure 4 provides a predictive model of moderate to high value Stone's sheep and mountain goat habitat – that is, areas that have a high probability of supporting Stone's sheep or mountain goats³. Not all moderate to high value habitats are occupied at any one time, and thus occupancy requires field verification. Mountain goats and Stone's sheep appear to segregate and generally use different areas of similar habitat at any one time. For example, mountain goats are commonly sighted in White Rock Canyon, roughly 3 kilometers from Red Chris Mine site, whereas the habitat on Todagin Mountain itself and in the upper Coyote Creek drainage appears to be favoured by Stone's sheep. Mineral licks have not been mapped.

Stone's sheep and mountain goats are known to be stressed by human-caused disturbance (summarized by Paquet and Demarchi, 1999, and Mountain Goat Management Team, 2010). In the short-term, disturbance can result in increased energetic costs, such as displacement from feeding sites, interrupted rest, and increased vigilance. These effects can be amplified throughout winter and during the birthing and early rearing period, when animals are already stressed by environmental factors and by metabolic demands. Displacement from habitat can also result in increased predation. In the long-term, disturbance can result in poor reproductive success and population declines, or abandonment of otherwise productive habitats.

³ The model was developed based on a resource selection probability function (RSPF) used to predict escape terrain habitats. The key environmental variables of the RSPF are heat load index (amount of solar heat of a site, see McCune and Keon, 2002), distance to escape terrain, and escape terrain (45 to 60 degree slopes). The mapping was validated by determining the percentage of mountain goat and Stone's sheep observations (over twenty years of survey data) located within a ranked habitat (80% of observations were within a ranked habitat).

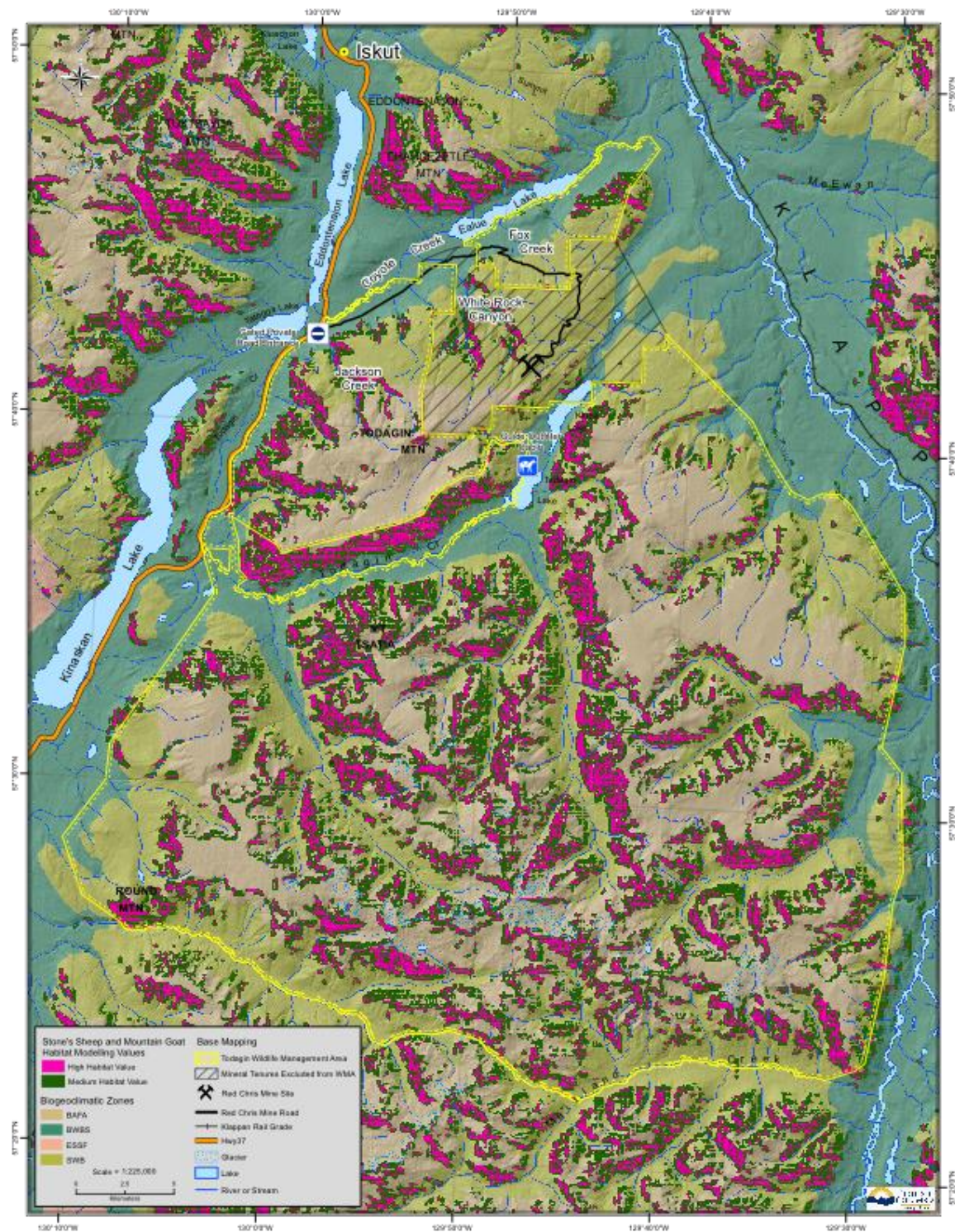


Figure 4. Stone's sheep and mountain goat estimated moderate to high value habitats⁴

⁴ Georeferenced map to be made available online at XXX.

Management Guidance:

1a Minimize impacts to moderate to high value Stone's sheep and mountain goat habitat, to the extent practicable.

Objective 2: Avoid and minimize disturbance or displacement of mountain ungulates from ground-based activities.

2a During the critical winter period (Nov. 1 to April 14) and the kidding/lambing/early rearing period (May 15 to June 30), avoid ground-based mechanized activities, including motor vehicle operation, within 500 m of moderate and high value habitat, as identified in Figure 4.⁵

2b For all other times of year, prior to the commencement of activities, assess moderate to high value habitat within 500 m of proposed ground based mechanical activities for the presence of Stone's sheep or mountain goats.

2c If habitat is occupied, avoid operating machinery and motor vehicles (including ATVs) within 500 m of moderate to high value Stone's sheep and mountain goat habitat, or develop a mitigation plan that sets out strategies for avoiding, minimizing, or otherwise mitigating impacts to Stone's sheep or mountain goats⁶.

6.2 Stone's Sheep and Mountain Goat Population Monitoring

Provincial agencies monitor Stone's sheep and mountain goat populations within the Skeena Region directly by means of aerial surveys, and indirectly, by analysing the harvest data collected from compulsory inspection reports⁷. Given the size of the region, wildlife populations are generally counted by aerial survey once every 5 years on average.

The Red Chris Wildlife Management Plan includes a schedule to conduct Stone's sheep and mountain goat population surveys every other year. Aerial surveys are carried out according to standard methods (RISC 2002). The Local Study Area (Todagin Plateau) as well as a Regional Study Area (all of the Todagin WMA) blocks are flown. An intensive ground-based study is also underway to assess the effects of disturbance (primarily blasting noise) associated with the mine on mountain goats in White Rock Canyon which

⁵ The 500 m buffer zone is consistent with BC Environment's Management Plan for Mountain Goat recommendations for minimizing industrial disturbance to mountain goat habitat (Mountain Goat Management Team, 2010).

⁶ Contact Skeena Region, Resource Management, Ministry of Forests, Lands & Natural Resources

⁷ Compulsory inspection data can alert personnel to potential changes in Stone's sheep and mountain goat populations by evaluating the trend in age and size of rams harvested and the potential changes to harvest distribution patterns.

is the nearest habitat to the open pit. The results of these monitoring surveys are provided to government and to the Tahltan Nation.

Within the WMA, a mitigation plan is required of proponents who wish to carry out mechanized activities within 500 meters of the moderate to high value Stone's sheep and mountain goat habitat, as identified in Figure 4. The mitigation plan will identify the location of the proposed industrial activity in relation to such habitat, and the timing of the activity in relation to the sensitive windows identified in Objective 1. If the habitat is determined to be unoccupied, no further mitigation is required. If presence of Stone's sheep and/or mountain goats is confirmed, then the mitigation plan would include measures to avoid or minimize disturbance to animals.

Objective 3: Maintain healthy and stable Stone's sheep and mountain goat populations.
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Management Guidance:

<p>3a Government agencies will continue to monitor populations. Proponents are encouraged to share observations of Stone's sheep and mountain goat populations (e.g. locations and numbers) with government agencies.</p>
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6.3 Access Management

Air Access

This section is intended to provide best management practices to be followed for low-level (local) aircraft flying within the WMA to (1) minimize wildlife disturbance; and (2) minimize conflict between resource users. Implementation of these management practices may take the form of permit conditions, where appropriate, and also relies upon voluntary compliance by pilots and proponents. **When considering these management practices, human and aircraft safety remains the first priority under all circumstances.**

Wildlife Disturbance and Displacement

Aircraft are the preferred means of access to the WMA because potential long term impacts are minimized compared to road or trail construction. However, aircraft use within the WMA, whether for industrial, survey, or recreational purposes, has the potential to affect wildlife and their habitat use, either directly or indirectly over time. Wildlife disturbance can be minimized by controlling aircraft noise level, approach angle, distance and frequency, and the seasonal timing of flights. Stone's sheep and mountain goat are especially vulnerable to over flight disturbance during critical natal and winter periods.

Objective 4: Avoid and minimize physiological or behavioural changes in Stone's sheep and mountain goats due to aircraft activity, especially changes in habitat usage.

Management Guidance:

4a To the extent possible, avoid flying within 1500 m of moderate to high value Stone's sheep and mountain goat habitat areas as indicated in Figure 4, as well as other identified or known high use areas such as mineral licks, especially during the **critical calving/lambing and early rearing period, from May 15 to June 30**, and during the **critical winter period, from November 1 to April 14**.⁸

4b If flying within 1500 m of moderate to high value habitat areas is necessary, or if individuals are sighted outside of the moderate to high value habitats, the following mitigation strategies apply: (1) maintain 500 m separation distance from individual animals; (2) take necessary steps to prevent changes to animal behaviour; and, (3) take immediate action to increase separation distances if animals react to aircraft.

4c When flying to a destination on the Todagin Plateau, the preferred air access route is via the Coyote Creek and Fox Creek drainages. Avoid flying the Todagin Creek, Jackson Creek, and White Rock Canyon drainage areas.

Potential User Conflicts

The Stone's sheep bow-hunting general open season on the Todagin Plateau begins August 1 and ends October 15, with the majority (>80%) of bow-hunters accessing the plateau in early August. Bow-hunters access the plateau on foot or by horse. In contrast to a rifle hunter who may shoot effectively from ranges of 200-300 meters, bow-hunters need to be able to approach their target undetected to much closer ranges.

Aircraft over flights immediately prior to and during the general open season and during the open season can disturb animals, causing them to scatter and hide. This has the potential to compromise guided hunts, as well degrading the high quality of the Todagin hunting experience for licensed hunters.

The mineral exploration season in northwest BC is generally limited to the snow-free months, normally from late June to early October, and helicopter access is often used where road access is not available, such as the Todagin WMA. The timing windows for

⁸ The Wildlife *Guidelines for Backcountry Tourism/Commercial Recreation in British Columbia* (2006) , and BC Environment's *Management Plan for Mountain Goat* were reviewed – 1500 m setback distance was selected (over 2000 m) recognizing that intense winter disturbance from heli-skiing is not an issue here; dates were adjusted to better reflect local parturition dates.

the Stone's sheep bow-hunting season and the mineral exploration season on the Todagin Plateau have a high degree of overlap.

Objective 5: Minimize impacts of aircraft activities on the quality of Stone's sheep hunting opportunities on the Todagin Plateau. .

Management Guidance:

5a Proponents are encouraged to engage early with the Tahltan Central Government⁹ and local guide-outfitter¹⁰ to discuss the timing of proposed air access.

5b Plan operations (e.g. stage equipment and set work shifts) to avoid flying on the Todagin Plateau from July 29 to August 15.

Road Access

The Red Chris Mine Access Road and the Red Chris Powerline Corridor from Highway 37 bisect the northern extent of the WMA. According to the Red Chris Wildlife Management Plan, the mine access road is to be gated and restricted to mine traffic for the life of the mine.

Objective 6: Minimize road access and associated impacts on wildlife.

Management Guidance:

6a Proponents proposing to develop new roads must demonstrate that there are no practicable alternatives to road access and develop a mitigation plan that sets out strategies for avoiding, minimizing, or otherwise mitigating impacts to wildlife and wildlife habitat.

6b Roads are to be permanently deactivated and reclaimed upon completion of industrial or commercial operations.¹¹

⁹ Tahltan Central Government - www.tahltan.org

¹⁰ Contact Skeena Region, Resource Management, Ministry of Forests, Lands & Natural Resources

¹¹ Consistent with CIS LRMP direction and the BC Mineral Exploration Code.

ATV Access

The grassy tundra of the alpine and subalpine plateaus is fragile. These areas have high wildlife values, and also provide excellent recreational opportunities for backpacking, hunting, and wildlife viewing. Sensitive habitats, such as calcareous wetlands, meltwater channels and seepage areas have been found to support rare plant species.¹² ATV use of these areas has the potential to degrade sensitive vegetation and to disturb wildlife.

Objective 7: Minimize impacts of off-road motorized activities within the WMA.

Management Guidance:

<p>7a Motor vehicle use for recreation, hunting, and trapping is prohibited above treeline (1400 metres)¹³ within Tsatia Mountain Zone.</p>

<p>7b Avoid use of motor vehicles, including ATVs, for non-recreational activities to the extent practicable.</p>
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Domestic Animal Access

Stone's Sheep are susceptible to contracting diseases from domestic sheep and goats. The effect of global climate change on Stone's Sheep and their habitat is unknown at this time. Research suggests that it may shift the equilibrium of host-pathogen relationships in the north. Dogs may harass or disturb wildlife.

Objective 8: Minimize potential for disease-transmission to and harassment of wildlife by domestic animals.
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Management Guidance:

<p>8a Pack animal access is restricted to dogs and horses only. Domestic sheep, goats, and llamas are not permitted in the WMA. Domestic animals must be kept under control at all times.</p>
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¹² For a listing of provincially rare (blue-listed) vascular plants and lichens potentially found in these sensitive habitats see Appendix C.

¹³ Consistent with *Wildlife Act*, Hunting Regulation.

6.4 Tahltan Culture and Heritage

This section explains existing provisions under the Mines Act and the Heritage Conservation Act for the protection of archaeological resources. The Tahltan Archaeological Standards and Tahltan Chance Find Procedures describe the type of archaeological artifacts that could be found on Tahltan traditional territory.¹⁴

Objective 9: Minimize potential for loss of Tahltan cultural artifacts.
Management Guidance: <p>9a. Mineral exploration proponents are required to prepare an Archaeological Chance Find Procedure for the protection of unidentified archaeological resources, as part of their Notice of Work permit application.</p> <p>9b As required under the <i>Heritage Conservation Act</i>, if archaeological artifacts are found, work must stop and Archaeology Branch, Ministry of Forests, Lands and Natural Resource Operations must be notified.¹⁵ Direct communication with the Tahltan Central Government is recommended¹⁶.</p>

6.5 Recreation Management

Recreational use of the Todagin WMA is relatively low, consistent with the Vision Statement for the area. There are no formally established trails or infrastructure, so the area is most amenable to self-sufficient individuals seeking a wilderness experience and to guided trips.

Interest has been expressed in establishing the hiking route on Todagin Mountain as a formal recreation trail under the *Forest and Range Practices Act*. As well, interest has been expressed in establishing a wildlife viewing area along Highway 37. These recreation opportunities will be evaluated and considered as opportunities arise. The objectives and management direction in this management plan, as well as other provincial policies and processes, would apply to any trail development.

¹⁴ Tahltan Archaeological Standards and Tahltan Chance Find Procedures are available by contacting the Tahltan Central Council at www.tahltan.org

¹⁵ Archaeology Branch will direct the proponent to conduct an Archaeological Impact Assessment. The proponent will require a permit from Archeology Branch in order to continue operations.

¹⁶ Tahltan Central Council at www.tahltan.org

Objective 10: Manage levels of recreational use on the plateau, if required, to minimize impacts on plateau ecosystems and wildlife.

Management Guidance:

10a Backcountry recreation users should avoid sensitive seasonal habitats (e.g., lambing and kidding range, mineral licks) and to follow best practices for responsible site and trail use (<http://www.sitesandtrailsbc.ca/things-to-know/responsible-site-and-trail-use.aspx>)

7.0 Cumulative Effects within the WMA

“Cumulative effects are changes to environmental, social, and economic values caused by the combined effect of present, past, and reasonably foreseeable future actions or events on the land base.” (MOE, MFLNRO, 2012).

Ongoing land and resource use within, and in close proximity to, the WMA has the potential to affect wildlife populations within the WMA. Mineral exploration activities have primarily occurred within the Todagin Plateau, south and west of the Red Chris Mine, where wildlife habitat values are high, particularly for Stone’s sheep and mountain goats. Further industrial activities within the Todagin Plateau could, in combination with Red Chris Mine, have incremental impacts on Stone’s sheep and mountain goats, and on other ecological, cultural and recreational values in general. Significant increases in recreational use may also have an effect on wildlife populations.

The Red Chris Mine Wildlife Management Plan has set adaptive management thresholds for Stone’s sheep, mountain goat and moose in the Local Study Area (Todagin Plateau) as well as the Regional Study Area (Todagin WMA). Any significant drop in animal populations close to these thresholds will trigger a meeting of the Red Chris Wildlife Management Advisory Committee and the Tahltan Fish and Wildlife Working Group to investigate potential causes and to make recommendations.

Amendments to this management plan, or orders under s.7(4) of the *Wildlife Act*, may be made in response to such recommendations. Affected stakeholders would be consulted as part of any such amendment process.

8.0 Plan Implementation

Implementation Resources

The Province will undertake monitoring and inventory projects to the extent that resources are available and will provide guidance to industry to support development and implementation of monitoring and/or mitigation plans as required under *Wildlife Act* permit conditions.

Reporting

An annual review of *Wildlife Act* permit documents, including any associated authorizations, will be conducted in accordance with the Tahltan Shared Decision Making Agreement. Wildlife management issues will be referred to the Fish and Wildlife Working Group and to the Minerals Working Group.

Management Plan Review

This management plan may be reviewed periodically. Amendments may be made in response to new management issues.

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Appendix A: Cassiar Iskut Stikine Land and Resources Management Plan Direction

Objective: To conserve Stone's sheep populations and habitat and other wildlife values integrated with mineral exploration and development.

Todagin Zone:
Management Category

Strategies

Policy Recommendations

With the exception of the Red Chris property, this zone will be designated as a Wildlife Management Area (WMA) (see Map 14) with the following conditions:

Mineral exploration and mine development and associated access continue to be recognized as appropriate activities;

Fully integrate the management of wildlife, mineral exploration and mine development north of Todagin Creek. South of Todagin Creek, mineral exploration and mine development are acceptable activities, with maintenance of wildlife values as the primary consideration.

Current approval processes will continue i.e., there will still be a one-window approach to project approval with consultation between the Ministry of Energy and mines and the Ministry of Environment.

Add the Red Chris property to the WMA once mineral tenures lapse.

Mineral and Energy Resources

Support mineral exploration, mine development and associated access as appropriate activities.

See Wildlife and Access

Biodiversity

As per General Management Direction (GMD)

Wildlife

Prepare a wildlife management plan, in consultation with all interested stakeholders, to address recreational impacts and to effectively integrate resource development activities with habitat needs for mountain ungulates.

Map critical habitats for Stone's sheep and mountain goat at 1:5000 to 1:20,000 scale (e.g. lambing areas, south-facing slopes, escape terrain).

Locate roaded access, mining camps and other infrastructure away from critical habitats. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).

Where mineral deposits occur and mine development proceeds within mapped critical habitat:

Design development to minimize impacts to habitat during operations; and

Fully reclaim habitat in a timely manner (on an ongoing basis and when operations are completed).

If mine development is proposed, the following should be addressed as part of the approval process:

Complete baseline inventories of wildlife population and habitat.

Incorporate a mountain ungulate monitoring plan as part of issuing mine permits.

Address potential for copper toxicity in Stone's sheep.

When operations are finished, fully rehabilitate mine sites and roads with native species ecologically suited to the area and palatable to local wildlife

	<p>species.</p> <p>Monitor Stone's sheep and mountain goat populations and habitat to identify any cumulative impacts of recreation use (commercial and non-commercial), mineral development, hunting and access.</p> <p>Undertake wildlife habitat enhancement, where required.</p>
Aquatic Ecosystems and Riparian Habitat	As per GMD
Hunting, Trapping, Guide-outfitting, Fishing	<p>Maintain the current hunting restrictions limiting the area to bow-hunting on Todagin Plateau.</p> <p>Apply other management strategies (e.g., limited entry hunting for Stone's sheep, other bow-hunting areas) as required to conserve wildlife populations.</p>
Agriculture, Settlement, Range	Provide information to local residents and tourism operators about the potential dangers of disease transmission from domestic sheep, goats and llamas to wild sheep and goat populations.
Recreation/Tourism	<p>Manage levels of recreational use to minimize impacts on plateau ecosystems and wildlife. Examples could include the following:</p> <p>Establish limits of acceptable change and manage recreation use accordingly;</p> <p>Direct recreational users to specific sections of the plateau; and</p> <p>Identify sensitive habitat areas where hikers and commercial recreation users are discouraged.</p> <p>Manage trail development near Todagin Plateau in cooperation with BC Environment and the wildlife management plan.</p> <p>Address potential impacts on sheep and goat populations when reviewing commercial recreation proposals (displacement from critical habitat areas, levels of use, disease transmission from domestic animals, aircraft use, etc.)</p> <p>Locate roaded access, mining camps and other infrastructure away from existing tourism facilities.</p> <p>Recommend designating an area of the plateau as a wildlife viewing area. Details about boundaries and management within the wildlife viewing area will be developed as part of a wildlife management plan for the Todagin zone.</p> <p>Increase public awareness of Todagin wildlife and First Nations values e.g., by creating a wildlife viewing stop and information kiosk off the highway, consistent with the direction in the wildlife management plan and parks management plan.</p> <p>Coordinate planning for recreational use in the Todagin wildlife management plan with the recreation plan for Iskut Lakes area (See Section 2.4.6: Kakkidi/Mowdade/Nuttlude Lakes zone).</p>
Visual quality	As per GMD
Access Management	<p>Encourage air access for mineral exploration throughout the zone.(1)</p> <p>Minimize impacts to wild sheep and goats (particularly lambing and kidding areas) and address community safety in considering options for access routes within the wildlife management area</p> <p>Apply seasonal restrictions on use of access within or adjacent to identified critical habitat areas for lambing and kidding from April 15 – June 15. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.) This strategy does not apply to operating mines.</p>

Consult fully with the public, including local residents and the LRMP Monitoring Committee, regarding any new road locations.

Provide access controls, including staffed gates, where needed, to manage public access to the plateau area.

Prohibit use of ATVs (not including snowmobiles) for recreation and hunting. Restrict snowmobile use on the plateau if wildlife are shown to be adversely impacted.

Permanently deactivate roads upon completion of operations

Provide guidelines to aircraft companies to inform pilots about avoiding critical lambing and kidding areas during sensitive periods (generally between April 15 and June 15).

Timber

As per GMD

Appendix B. Tahltan Wildlife Management

The following is information on cultural and heritage importance related to wildlife that is applicable to the WMA. It is quoted from a recent unpublished Tahltan Knowledge Study and is based on oral data of the Tahltan Ancestral Study.

“Wildlife Management Systems

Tahltans continue to take pride in our own systems of game and fish management on our lands. We are fully aware that it is our responsibility to continue as our ancestors have done before us; to carry on the systems as a means to ensure availability for future generations.

The Tahltans divided their country among clans and subdivided them among households and individuals. Ownership rights were so well respected that one who killed an animal for food while travelling through another's territory gave the pelt to the landowner (Emmons 1911: p.28). Understanding the Tahltan system of wildlife management is important to understanding who the holders of Tahltan knowledge for a particular area are, and to explain why there are gaps in data for certain areas.

Hunting

All wildlife species were important to, and used by Tahltans. Salt licks were key habitats as they attracted a variety of ungulates, and predators. At salt licks hunters set snares for mountain goats, sheep, caribou and moose. Tahltans hunted mountain goats and grizzly bears together.

“.. And there's also the grizzly country over there. Right on this whole ridge spread all through here and right up, that's all good, it's got grizzly and goats on them...”

“- Consultant, 1980s Tahltan Knowledge Study.

“You can hunt grizzly, black bear, goat and caribou and moose from one camp.” - Consultant, 1980s Tahltan Knowledge Study.

Tahltans hunted in the mountains, because the animals they desired were there, and because the terrain allowed hunters access to animals that was far easier than in lower elevations where wildlife had ample opportunity to escape. All species used the mountain passes and Tahltans used this knowledge to hunt them.

“They use to drive that old goat or sheep across the valley... Then they get them with arrow, easy and they drive them in the snow. But if you get the goat lower on the mountain, you can't catch them...” - Consultant, 1980s Tahltan Knowledge Study.

Wildlife distribution and abundance has changed over the years, with some species, such as moose, being largely absent in the past.

“... In the old days it was mainly caribou... In 1887, there was very few moose, just caribou and of course there were sheep in the mountains...” - Consultant, 1980s Tahltan Knowledge Study.

Marmot (groundhog) and ground squirrels (gophers) were important mountain species, and critical for food when larger animals were lacking. They could easily be caught using snares, whereas hunting larger game before the age of rifles was challenging.

“... That’s how old Tahltan generations used to survive in the winter, all on groundhog, and salmon, and gopher . . . They could hardly get moose, it was so hard to come close to them with bow and arrow...” - Consultant, 1980s Tahltan Knowledge Study.

Of course, all animals were used, for many different purposes:

“... And then in summer they snare groundhog too. They save the groundhog hide. They sew it up together. Make good blanket.” - Consultant, 1980s Tahltan Knowledge Study.

“... Even caribou, they skinned the head and made a container, even out of the bladder and intestines. Bear fat was saved. They used part of the caribou hoof to make a fish float which rattled, to know when fish were in our nets. Sinew from moose or caribou was used to make thread...” - Consultant, 1980s Tahltan Knowledge Study.

Mountain Goats

Tahltan oral data spoke profoundly regarding the mountain goat and the multiple ways mountain goats provided a means of thriving in our homeland. This placed mountain goats equal to salmon in survival for Tahltan people.

The hair was used to make rope, which was used to make many items including fishnets, bags, and snares for moose, caribou and bear. The hide of the back of the goat was used to make the strongest rope. Rope was also made from willow, plant root, and other resources from the land that may have been missed in past land use studies.

The goat hide, when dried, also made “impenetrable war uniforms”, shields for the front and back of the warrior. The hide as well made extremely warm blankets. Goat horn was used to make tools and weapons:

“... And next is goat horn. It’s a hard one; it’s as hard as a knife. They killed anything with it, even grizzly bear...” - Consultant, 1980s Tahltan Knowledge Study.

Mountain goat is one of the many resources that were guarded and managed by a detailed and complex Tahltan system for managing wildlife. Mountain goat products would ultimately have been seen as one of the highly valued tradable commodities Tahltans had to offer.

Traplines and Furbearers

Trapping was always important to Tahltans, even before the European fur trade. Emmons (1911) noted the importance of hunting and trapping when whole villages would disappear on seasonal hunting and trapping trips. Tahltan hunting tools included bows and obsidian arrows, guns when they became available, knives to skin animals, and deadfall traps and snares to catch furbearers (Emmons 1911).

BC government traplines held by Tahltans are not good indicators of past use (Taylor 1984) for a number of reasons. Registered traplines were imposed by government with little or no regard to established Tahltan hunting and trapping areas. The acquisition of traplines by white people forced Tahltans to relocate.

When traplines were first introduced, the maps used were of very poor quality and many applications were submitted with rough hand sketches. Traplines began as linear identities but evolved into enclosed areas over time. Lastly, many traplines were sold or cancelled and reissued to persons not necessarily of the same tribal or racial affiliation. In spite of all this, some families managed to retain their traditional area more or less intact (Taylor 1984). It is these lines that serve as the best guide to tribal boundaries and Tahltan use (Taylor 1984).

Tahltans trapped all of the furbearing species, including marten, fisher, mink, lynx, river otter, coyotes, fox and wolves. They used snares and built deadfall traps before the European fur trade came to British Columbia, and years before the introduction of steel traps. They even killed grizzly bears using massive deadfall traps. Beaver was a key species and especially important trade item with other First Nations, even before the establishment of the fur trading posts.

“... You see in these traditional hunting areas ... there are really important beaver hunting areas that they would hunt each spring through April, May and on into June and the holidays...” - Consultant, 1980s Tahltan Knowledge Study.

“... The Kaskas ... traded in return beaver and marten and some lynx. But with the inland Tlingits they traded mostly in beaver, beaver and ground squirrels because they had some fine robes from the Teslin country... The trade items of the Tahltans always were fish and bear grease, soap berries, and things like that...” - Consultant, 1980s Tahltan Knowledge Study.”

Appendix C: Rare Vascular Plants and Lichens, and Rare Plant Communities

The following lists of provincially rare vascular plants and lichens, and rare plant communities are extracted from P. Bartemucci's report, Rare Plants and Ecosystems of the Red Chris Mine Study Area.

Rare vascular plants and lichens of the Red Chris study area.

Species	Habitat	No. of collections in study area
Vascular plants		
<i>Draba alpina</i>	Alpine gravels	1
<i>Draba fladnizensis</i>	Alpine gravels	1
<i>Draba glabella</i> var. <i>glabella</i>	Alpine gravels	1
<i>Draba lactea</i>	Alpine gravels	1
<i>Eutrema edwardsii</i>	Turfy subalpine meadows	3
<i>Juncus albescens</i>	Calcareous fens	3
<i>Luzula confusa</i>	Alpine meadows	2
<i>Luzula nivalis</i>	Alpine snowbeds and moist meadows	3
<i>Minuartia biflora</i> *	Alpine ridges	1
<i>Senecio sheldonensis</i>	Subalpine seepage areas and meltwater channels	3
<i>Silene involucrata</i> ssp. <i>involucrata</i>	Alpine ridges	1
<i>Silene taimyrensis</i>	Alpine ridges	1
Lichens**		
<i>Alloctraria madreporiformis</i>	Alpine ridges	1
<i>Solorina bispora</i>	Exposed soil in alpine	2

**Minuartia biflora* was recently down-listed from the blue list to the yellow list.

**Lichen species are not ranked by the BC CDC and their status in BC is not well known.

Table 3. Rare plant communities that could potentially occur in the Red Chris study area.

Plant community	Habitat	Ranking*
At/00 <i>Poa rupicola</i> herbaceous vegetation	Grassy promontories where sheep and goats graze and rest, lush herbaceous vegetation, well-manured (nitrogen-rich)	blue
AT/00 <i>Kobresia myosuroides-Hierochloa alpina-Rhacomitrium lanuginosum</i> -lichen	Windswept ridgecrests, very exposed alpine tundra. Snow-free during the winter. Freezing and thawing creates patterning of stones and finer-textured soils.	Pojar Todagin South Slope, Gladys Lake ER
SWB/00 <i>Carex lasiocarpa</i> – <i>Drepanocladus aduncus</i>	Peat flats surrounding small ponds and lakes or in-filled palustrine basins.	blue
BWBS/00 <i>Dryopteris fragrans-Rhacomitrium lanuginosum-Umblicaria</i> spp.	Partially stabilized talus slopes	Pojar Spatsizi Plateau
BWBS/00 <i>Juniperus communis-Arctostaphylos uva-ursi-Dryopteris fragrans</i>	Partially stabilized talus slopes	Pojar Spatsizi Plateau
BWBS/00 <i>Artemisia frigida-Elymus</i> spp.	Boreal steppe on south-facing slopes, similar to red-listed SBSdk/82.	Pojar Todagin South Slope
BWBS/00 <i>Amelanchier alnifolia-Elymus trachycaulus</i>	Warm dry steep, southwest facing slopes, similar to red-listed SBSdk/81.	Pojar Todagin South Slope

*Provincially-listed ecosystems are denoted by ‘red’ or ‘blue’ and plant communities identified as potentially rare by J. Pojar in Todagin South Slope and Spatsizi Plateau protected areas are denoted by ‘Pojar’ in the Ranking column.