FACETS

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Assessing species at risk legislation across Canadian provinces and territories

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Abstract

Canada's provinces and territories govern species at risk across most of Canada, with the federal Species at Risk Act generally covering only aquatic species, migratory birds, and species living on federal land. More than a decade after a 2012 report by the environmental law charity Ecojustice on species at risk protection in Canada, we use the same criteria to evaluate the current state of provincial and territorial species at risk legislation, and we provide updates on changes in each jurisdiction since 2012. These criteria are as follows: whether at-risk species are being identified, whether these species are being protected, whether their habitat is being protected, and whether species recovery plans are being created and implemented. We find that there is considerable variation across jurisdictions, with shortcomings that result in inadequate protections for at-risk species, as well as strong components that should be adopted by all jurisdictions. We recommend seven key areas for improvement: dedicated and harmonized legislation, limited discretionary power, increased embrace of scientific and Indigenous knowledge, appropriate timelines for actions, reasonable exemptions to protections, habitat protection across land ownership types, and transparency throughout the process. We urge policymakers to address current shortcomings as they work toward meeting Canada's biodiversity conservation commitments.

Key words: conservation policy, biodiversity, endangered species, legislation, Canada

Introduction

The most powerful federal tool for species and habitat protection in Canada is the *Species at Risk Act* (SARA 2002). Protections for threatened and endangered species at risk (SAR) listed under SARA include prohibitions on hunting, possessing, and destroying residences of that species on federal lands, alongside the mandatory creation of action plans and species-specific recovery plans. However, there are many fundamental problems with SARA, including widespread use of discretionary language, politically/economically biased listing, and neglect of recovery plans (Findlay et al. 2009; Mooers et al. 2010; Turcotte et al. 2021). The effectiveness of SARA is particularly limited by the narrow application of its basic protections, which only cover aquatic species, migratory birds, and individuals living on federally managed Crown (i.e., public) land (Wojciechowski et al. 2011). Federally managed Crown land covers only 4% (170 000 km^2) of the 10 provinces in Canada, where 96% of SAR reside (Neimanis 2013; Government of Canada 2023). Additionally, the federal government rarely uses SARA's "safety net" intervention clauses, in which federal protections can be invoked if provincial/territorial legislation cannot protect a species on its own (Smallwood 2003). Consequently, most listed species and their habitat are not genuinely protected by SARA (Bolliger et al. 2020) and rely only on provincial and territorial legislation for protection.

A 2012 report by Ecojustice Canada exposed inconsistencies in SAR legislation among Canadian provinces and territories, and noted an overall lack of strict, clear, and impactful laws (Nixon et al. 2012). Biologists, political scientists, and environmental lawyers have criticized provincial and territorial governments for the inadequacy of many aspects of SAR laws, from species identification to enforcement (Olive 2018; Mitchell and Rak 2019; Westwood et al. 2019). In some cases, SAR legislation has been significantly weakened over time by various new amendments and acts (Bergman et al. 2020).

Given that over a decade has passed since an assessment of all Canadian jurisdictions (Nixon et al. 2012), this paper reviews current SAR legislation across all Canadian provinces and territories. We focus on critical aspects of legislation, including the Acts regulating SAR, the listing process, protections for species and habitat, and species recovery planning. Implementation of these laws is outside the scope of this review, though lack of implementation remains a pervasive issue in Canada (Bird and Hodges 2017). Based on our analysis,

we provide seven key recommendations to ensure adequate species protection: (1) pursue dedicated and harmonized SAR legislation; (2) reduce reliance on discretionary power; (3) embrace Western science and Indigenous science and knowledge; (4) enforce reasonable timelines; (5) restrict and regulate exemptions; (6) protect habitat on government and private lands; and (7) commit to transparent decision-making. We hope our recommendations enable Canada to meet its global biodiversity targets to protect the country's vast array of flora and fauna.

Methods

This project was spearheaded by a group of scientists interested in understanding SAR laws in Canada. Our goal was to update the 2012 Ecojustice Report (Nixon et al. 2012). To do so, we examined the current laws regarding SAR in each of Canada's 13 provinces and territories, and provided summaries of changes made since 2012. If a province or territory did not have dedicated SAR legislation, we examined other applicable legislation regarding wildlife protection and management (e.g., laws to manage hunting and fishing). We accessed current and historic legislation and associated regulations through government websites and other sources (e.g., canlii.org). We also reached out to experts who work in universities, government, and non-governmental organizations in Canada to provide input or feedback on specific provinces or components of legislation.

Unlike Ecojustice's original 2012 report (Nixon et al. 2012), we did not review the federal SARA; Turcotte et al. (2021) recently summarized SARA's limitations and offered recommendations for improvement. We also did not assign jurisdictions a letter grade, preferring instead to focus on more specific comparisons and recommendations. We scrutinized legislation according to the four main criteria used by Nixon et al. (2012): "identify species at risk, don't kill them, give them a home, and help them recover". These criteria correspond to laws associated with identifying SAR, protecting SAR, protecting habitat, and recovery planning, respectively. We divided each criterion into sub-criteria outlined in Fig. 1. Details of legislation and number of listed species are current as of April 2024.

Results

Provincial and territorial SAR legislation is summarized in relation to each criterion in Fig. 1 and described for each province and territory below.

British columbia

British Columbia lacks a dedicated SAR act. Instead, legislation is distributed over multiple acts, including the Wildlife Act (1996), Forest and Range Practices Act (2002), Energy Resource Activities Act (2008) and Ecological Reserve Act (1996). These Acts are administered by the Minister of Environment and Climate Change Strategy and are used by the provincial government to establish protections for some SAR.

Listing process

Species are listed as endangered or threatened by the Lieutenant Governor in Council under the *Wildlife Act*, with initial species assessments and recommendations for listing conducted by the B.C. Conservation Data Centre. Data is updated on a yearly basis along with any appropriate adjustments to species listings. Information on listing and data are made available to the public on B.C.'s provincial website.

Species and habitat protection

Upon listing under the *Wildlife Act*, SAR are automatically protected against hunting, trapping, and harm, while all wildlife is protected from transport including import and export (Wildlife Act 1996, s.21, s.26, s.37). Additionally, the nests of some bird species are automatically protected, while all bird nests are protected if a bird or egg is present. (Wildlife Act 1996, s.34). Following the listing of a species as endangered, the Minister of Environment and Climate Change Strategy has discretionary power to designate critical wildlife areas and sanctuaries associated with that species (Wildlife Act 1996, s.5); however, the legislation does not require the Minister to consider scientific advice about the location or amount of habitat a species needs to survive and recover when designating habitat for protection.

The Energy Resource Activities Act (2008) and Forest and Range Practices Act (2002) provide a framework for habitat protection, but protections are optional and these Acts fail to prevent operations affecting wildlife in protected areas. Gaps in legislative protections for species of particular concern such as those identified under the Forest and Range Practices Act can be supplemented by the *Identified Wildlife Management Strategy* formed by the Ministry of Environment and Ministry of Forests in 2004. The Strategy is used to recommend policy and guidelines for management on Crown land with the goal of offsetting negative effects of land use including forestry (British Columbia Ministry of Water, Land and Air Protection 2004*a*, 2004*b*).

Recovery

Through the *Canada-British Columbia Agreement on Species at Risk*, provincial and federal governments collaborate on the creation of recovery plans for SAR (Government of Canada 2005). Legislation does not directly state that a recovery strategy must be implemented and does not outline a timeframe. Through this agreement recovery plans must include Indigenous representation, and the Coordinating Committee must generate a recovery timeframe and review strategies twice a year. Recovery documents made for at-risk species are accessible on the provincial website.

Updates

Following a 2022 amendment, the consideration of Indigenous knowledge is required in decision-making under the Wildlife Act (1996, s. 100.2–100.3). Previous amendments in 2004 to include additional regulations concerning SAR

Fig. 1. Species at risk (SAR) legislation. Legislation is summarized for each province/territory, in reference to the four main criteria. Note that we apply the criteria to written law only, and do not consider implementation.

species listing and habitat protection have not been brought into effect. In British Columbia, only four species are listed as threatened (sea otter) or endangered (Vancouver Island marmot, burrowing owl, American white pelican) under the *Wildlife Act* (Fig. 2; Designation and Exemption Regulation), while 85 species are categorized as at risk under the *Forest and Range Practices Act* (British Columbia Conservation Data Centre 2022). Apart from a nomenclature update in 2011, the species listed provincially under the *Wildlife Act* and *Forest and Range Practices Act* have not been updated since 1990 and 2006, respectively (Designation and Exemption Regulation, Government of British Columbia 2006). There are currently 255 federally listed SARA species in B.C., up from 200 species listed in 2012 (Fig. 2).

Alberta

Rules associated with SAR for Alberta are contained within the Wildlife Act (2000), which was initially created to govern hunting, and was amended in the early 2000s to include SAR regulations. The *Wildlife Act* is used by the province to enforce SAR related protections and related legislation is administered by the Minister of Environment and Protected Areas.

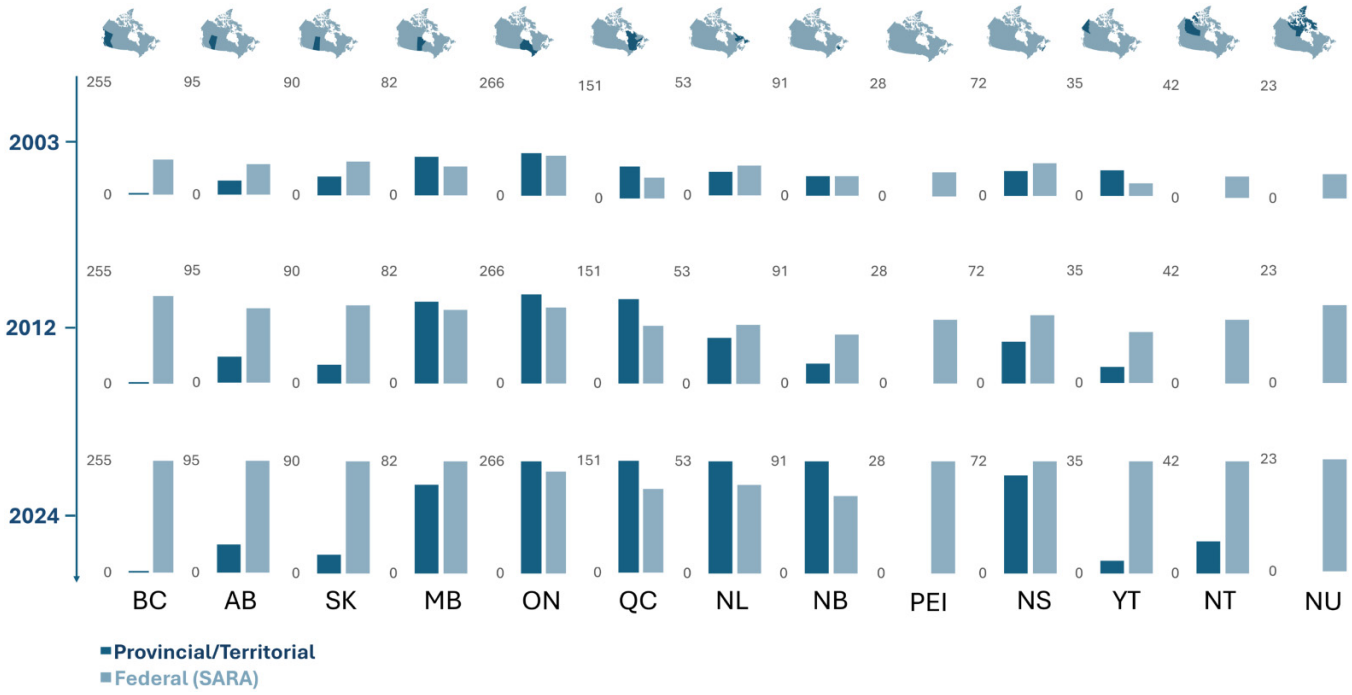
Listing process

A general assessment on species status is updated every 5 years by the Alberta Conservation Association and Alberta Environment and Parks. If this General Status of Alberta Wild Species Report or "Alberta Wild Species Report" (Government of Alberta 2023) identifies any at-risk species a secondary assessment is generated for the Endangered Species Conservation Committee (ESCC), consisting of members of industry, land managers, academic institutions, and conservation organizations. The ESCC then forms a team of biologists known as the Scientific Subcommittee to study the identified species. The ESCC may recommend to the Minister that a species be listed (Wildlife Act 2000, s.6). The Minister is then ultimately responsible for the species listing, identifying associated critical habitat, and creating a recovery plan entirely on a discretionary basis.

Species and habitat protection

The *Wildlife Act* currently protects only at-risk vertebrate species. Critical habitat for SAR may be identified and incorporated into protections as part of a recovery plan (Wildlife

Fig. 2. Timeline of species at risk listed by each province or territory (dark blue), compared to species listed under SARA that are present in those jurisdictions (light blue). Provinces and territories are listed as follows: BC (British Columbia); AB (Alberta); SK (Saskatchewan); MB (Manitoba); ON (Ontario); QC (Quebec); NL (Newfoundland and Labrador); NB (New Brunswick); PEI (Prince Edward Island); NS (Nova Scotia); YT (Yukon); NT (Northwest Territories); NU (Nunavut). The location of each province and territory is represented by a map of Canada above each column, with the jurisdiction shown in dark blue. The three timepoints represented in the figure are as follows: 2003, the year after the federal Species at Risk Act (SARA) was brought into force; 2012, the year of the Nixon et al. review of provincial and territorial species at risk legislation; 2024, current species lists.



Act 2000, s.6). Habitat designation and the creation of Ecological Reserves for SAR falls under other legislation such as the Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act (2000).

Recovery

The implementation of recovery and prevention plans is not required under the *Wildlife Act*. Recovery plans are recommended by the ESCC and approved by the Minister. Prior to implementation, plans are also reviewed by the public (Walton 2007).

Updates

There have been no important updates to the Wildlife Act affecting SAR.

In Alberta, 24 species are listed provincially and 95 species are listed federally as of 2024, up from 22 and 63 species listed in 2012, respectively (Fig. 2).

Saskatchewan

SAR protection is outlined in The Wildlife Act (1998), which governs hunting, and is administered by the Minister of Environment. A small amendment was made in 2000 to replace the term "wild species at risk" to "designated species", and to state that "the minister may prepare and implement management plans".

Listing process

The creation of a list, and any subsequent listing, classification, and removal from the list is at the discretion of the Minister, whose decisions are approved by the Lieutenant Governor in Council (The Wildlife Act 1998, s. 48–49). The Minister may request scientific data and advice from other bodies. Currently, the Saskatchewan Conservation Data Centre (a scientific organization residing within the Fish, Wildlife and Lands Branch of the Ministry of Environment) aids the Minister in gathering data on wildlife.

Species and habitat protection

The Wildlife Act forbids killing, injuring, possessing, disturbing, capturing, harvesting, genetically manipulating, exporting, or trafficking a listed species (The Wildlife Act 1998, s. 51). There are no legal protections granted to the habitat of listed species, though the Ministry of Environment has safe distance guidelines for developers that recommend avoiding the nests of sensitive species (Saskatchewan Ministry of En-

vironment, Fish, Wildlife and Lands Branch 2017). The Director of Fish and Wildlife (appointed by the Minister) can, at their discretion, issue licenses that allow people to bypass these laws (The Wildlife Act 1998, s. 21). The Director may decide to issue a license to remove, capture, kill or destroy any SAR if, in their opinion, this protects human health or prevents property loss. The Lieutenant Governor in Council may make regulations designating any provincial Crown land as "wildlife habitat", forbidding anyone to alter such land unless the alteration is authorized by the Minister as outlined in The Wildlife Habitat Protection Act (1992, s. 3, 5–7).

Recovery

The Minister may prepare a recovery plan to protect a listed species, which may identify the needs and threats to its habitat, the options for recovery, the costs, and benefits of recovery options, and/or a course of action (The Wildlife Act 1998, s. 50). The Minister may also decide the priority of the recovery plans and their actions and may take scientific evidence into consideration when determining priorities. Finally, the Minister may also consider whether it is technically/economically feasible to recover the species and may consider the status of the species elsewhere in the world. No timeline or update requirements to recovery plans are mentioned. To date, a single recovery plan has been made for one of the 15 listed species: the greater sage grouse (*Centrocercus urophasianus*). This plan was created in 2012 and last updated in 2014. The first use of the federal SARA "safety net" intervention order occurred in 2013 for this species after the provincial legislation was deemed too weak to protect it (Olive 2018).

Updates

There have been no important updates affecting SAR legislation in Saskatchewan. However, a notable amendment in 2015 outlawed the research or survey of any wildlife or habitat without a license (The Wildlife Act 1998, s. 21). In Saskatchewan, 15 species are listed under the Wild Species at Risk Regulations (1999), and the list has remained unchanged since establishment in 1999. There are currently 90 species recognized as at-risk species residing in Saskatchewan under federal SARA, up from 63 listed in 2012 (Fig. 2; Government of Canada 2023).

Manitoba

Most SAR protection falls under *The Endangered Species and Ecosystems Act* (ESEA 1990), although some species are also protected under The Wildlife Act (1987). Both acts are administered by the Minister of Natural Resources and Northern Development.

Listing process

The Minister must direct the Endangered Species Advisory Committee, made up of 7–9 members appointed by the Lieutenant Governor. The majority of the committee members must be professional scientists who, to the satisfaction of the Minister, hold expertise in a field related to species conservation. The advisory committee must provide annual recommendations and advice to the Minister regarding threatened, endangered, extirpated, or special concern species. The Minister decides which species to list, with approval from the Lieutenant Governor in Council.

Species and habitat protection

The ESEA forbids killing, injuring, possessing, or disturbing listed species, or destroying, disturbing, or interfering with their habitat or a natural resource on which they depend (ESEA 1990, s. 10). These prohibitions apply on private property. However, there are no laws regarding the identification of habitats. The Lieutenant Governor in Council may make regulations prohibiting or restricting entry into an area of the province where a listed species is or is likely to be located.

A permit may be granted by the Minister to kill, disturb, or capture species for scientific purposes, or for purposes related to the management of a listed species (ESEA 1990, s. 11). The Minister may also exempt an existing or proposed land development from these laws if the Minister believes that protection of the species and its habitat is assured, or if appropriate measures will be taken to minimize the impact of the development on the species (ESEA 1990, s. 12).

Recovery

Once a species has been listed as endangered or threatened, the Minister's department must prepare a recovery strategy (ESEA 1990, s. 8.1). When a species has been listed as extirpated, the department must prepare a strategy to reintroduce the species in Manitoba, unless the Minister determines that reintroduction is not practicable. Deadlines, timelines or updates to these recovery strategies are not required, and no strategies have been made publicly available.

Updates

The Endangered Species Act was amended in 2013 to become the ESEA, making Manitoba the first jurisdiction in North America to list entire ecosystems as endangered or threatened (ESEA 1990, s. 12.1–12.5; Government of Manitoba, no date). This amendment also required the advisory committee to provide annual recommendations ((ESEA 1990, s. 6.1–6.2), made recovery strategies mandatory for all listed species and ecosystems (ESEA 1990, s. 8.1), granted additional powers to enforcement officers (ESEA 1990, s. 12.6–12.14), and increased maximum penalties for all offenses (ESEA 1990, s. 13). Currently 65 species are listed under the ESEA (Government of Manitoba no date) and 82 species are listed under SARA in Manitoba (Government of Canada 2023), up from 60 species listed under the ESA and 54 species listed under SARA in 2012 (Fig. 2).

Ontario

The protection of at-risk species is regulated by the *Endangered Species Act* (ESA 2007). The Minister is mandated to form an independent Committee on the Status of Species at Risk in Ontario (COSSARO), made up of members with relevant scientific expertise, Indigenous traditional knowledge, and community knowledge. The committee maintains criteria for assessing and classifying species and creates a list of species for assessment and classification, based on their risk level (ESA 2007, s. 4).

Listing process

If requested by the Minister, COSSARO prepares a report recommending the classification of a species. This report is submitted to the Minister, who then has 12 months to file an amendment based on the classification or reclassification proposed by COSSARO. The Minister may request a second report, which resets the 12-month deadline. Once the Minister is satisfied that the Committee has reached an appropriate classification, the species is added to the official list of Species at Risk in Ontario (SARO). This process is vaguely described in the legislation, and as written the Minster has the power to indefinitely delay the classification process if they chose to request additional reports before approving a classification (ESA 2007, s. 7).

Species and habitat protection

The ESA prohibits any person from harming, capturing, or possessing a listed species and damaging or destroying their habitat (ESA 2007, s. 9). The ESA is one of the only dedicated endangered species acts in Canada that automatically regulates activities on private land (Boyd and Olive 2021)

Despite apparently strong prohibitions against harming a listed species or its habitat, pre-existing approval holders may continue prohibited activities for 1 year after a species is listed (ESA 2007, s. 8.2). In addition to the 1 year period before prohibitions begin, the Minister may also suspend initial protections for up to 3 years for a newly listed species (ESA 2007, s.8.1). As a result, a newly listed species may not receive protection for up to 4 years following its addition to the SARO list. No permits have been denied since the ESA was passed in 2007 and the Ministry has never inspected or laid a charge against any approval holder for non-compliance (Lysyk 2021).

Recovery

The Minister must ensure that a recovery strategy is prepared within 1 year of listing for endangered species, and within 2 years for threatened species, and these are typically prepared by outside experts (ESA 2007, s.11; Lysyk 2021). Recovery strategies identify a species' habitat needs, threats, and approaches to support protection and recovery. Within nine months, the Minister must publish a government response statement that outlines the actions the government intends to take in response to the recovery strategy (ESA 2007, s. 12.1). The Minister must then release a review of progress toward the protection and recovery of the species no later than 5 years after the government response statement is released. However, in 2021 the Auditor General of Ontario found that the Ministry has no internal database to track the implementation and progress of actions outlined in response statements (Lysyk 2021). As of November 2021, recovery strategies had been delayed for six endangered species and 11 threatened species: some of these have been delayed for 8 or more years (Lysyk 2021).

Updates

The ESA was significantly amended in 2019 (More Homes, More Choice Act 2019). Amendments impacted the entire process from COSSARO membership to the listing and management of listed species. COSSARO membership was opened to include members with community knowledge, an undefined term (Bergman et al. 2020). In addition, COSSARO must now consider the status of a species based on their global range rather than their status within Ontario, meaning that locally imperiled species may be excluded if they are stable elsewhere (Bethlenfalvy and Olive 2021). Further, significant changes to the permitting process were added, including "landscape agreements" (ESA 2007, s. 16.1) which authorize harmful activities on a landscape scale, and the introduction of a fund in which authorized parties can pay a fee in lieu of implementing conservation actions for SAR (ESA 2007, s. 20). The final major amendment was the introduction of the previously described automatic 1 year delay of prohibitions for existing permit holders, and the suspension of protections for up to 3 years at the discretion of the Minister (ESA 2007, s. 8.1–8.2). There are currently 266 species on the SARO list (Ministry of the Environment, Conservation and Parks 2023), and 242 listed under SARA (Government of Canada 2023), up from 212 and 181 species listed in 2012, respectively (Fig. 2).

Québec

The *Act respecting threatened or vulnerable species* (ARTVS 1989) largely governs the protection of SAR, although some aspects of wildlife conservation are part of the *Act respecting the conservation and development of wildlife* (ARCDW; 2002). The Minister of the Environment, the Fight Against Climate Change, Wildlife and Parks, administers the ARTVS in consultation with the Minister of Agriculture, Fisheries and Food, the Minister of Natural Resources and Wildlife and the Minister of Municipal Affairs, Regions and Land Occupancy. Both the ARTVS and ARCDW are superseded by the Act respecting hunting and fishing rights in the James Bay and New Québec territories (1978), which outlines additional rights held by specified Cree, Inuit and Naskapi Indigenous communities.

Listing process

The ARTVS does not stipulate how recommendations for listed species are made to the Minister. However, the listing process does include input from an independent committee whose recommendations are based on scientific criteria

(Government of Québec 2023), and the Minister may ask for research to inform their decision. There is no timeline for making decisions on listing species, and species may only be listed as threatened or vulnerable.

Species and habitat protection

The ARTVS prohibits harm to listed plant species and the alteration of plant habitats, although exceptions are allowed for education, scientific or management activities, and activities exempted by regulation (ARTVS 1989, s.16–18). The Minister may consider other exceptions but must account for the impact of the activity on the listed species and may require that the applicant pays the government to offset their action. The Minister may identify plant habitat for inclusion in future land use management plans.

Neither the ARTVS nor the ARCDW include automatic protections for listed animal species, although the ARCDW prohibits all hunting and trapping unless allowed by other legislation or an issued licence (ARCDW 2002, s. 38–39). Through the ARCDW the Minister may establish wildlife sanctuaries, but these may still allow for hunting, fishing, and other activities. This may be done on provincial land or through an agreement with a private landowner. The Minister may identify animal habitat for inclusion in future land use management plans.

Recovery

The Minister can create and implement programs to support the survival of listed plants and animals, or delegate these tasks to any person (ARTVS 1989, s7). The Minister can also engage with other jurisdictions that host listed species to support species recovery. Review of recovery plans is not required. Recovery plans are publicly available for animals but not plants.

Updates

There have been no important amendments to ARTVS and ARCDW affecting SAR in Québec. A total of 151 species have been designated by the province (Regulation respecting threatened or vulnerable plant species and their habitats 2003; Regulation respecting threatened or vulnerable wildlife species and their habitats 2003) up from 114 species listed in 2012 (Fig. 2). Currently 113 species that occur in Québec are listed under federal SARA, up from 78 species listed in 2012.

Newfoundland and labrador

The *Endangered Species Act* (ESA 2001) is currently administered by the Minister of Fisheries, Forestry, and Agriculture, although any cabinet minister may be appointed to this role. The Labrador Inuit Land Claims Agreement Act (2005) has precedence over the ESA, giving Inuit rights including the right to harvest plants and wildlife within the Labrador Inuit Settlement Area (defined by the Labrador Inuit Land Claims Agreement 2005).

Listing process

The Species Status Advisory Committee (SSAC) makes recommendations to the Minister for species to be listed under the Act, following the evaluation criteria used by COSEWIC. The SSAC must base decisions on scientific and traditional ecological knowledge, and members of this committee must be scientists, wildlife managers, or those who hold or can gather traditional ecological knowledge (Newfoundland and Labrador Regulation 94/01 2001). Based on this recommendation the Minister may choose to designate a species, and the level of vulnerability for this species. The Minister may also decide this based on a species status assessment produced by the national committee (COSEWIC). There is no timeline for this decision.

Species and habitat protection

Once a species has been listed as threatened, endangered, or extirpated, it is automatically protected from being disturbed, injured, or killed (ESA 2001, s. 16). Species listed as vulnerable do not receive protections. Permits for exceptions may only be granted by the Minister if they deem that such actions will not put the species further at risk. Permit applications are evaluated from scientific and socio-economic perspectives, including whether the activity may have economic benefits for the province. Exceptions may be made for applicants from groups who have traditionally used a species for ceremonial or religious purposes. Any permits granting exceptions must be included in an annual public report (ESA 2001, s. 18–21).

There is no automatic habitat protection for listed species. The Minister may prohibit specific activity in the habitat of listed species, although there are no directions on how this decision should be made. If habitat is protected, the Minister may grant permits for exceptions to protected area designations. The Minister may also establish conservation management agreements with landowners to protect private land, and these may include monetary compensation for any detrimental effects of land protection. Information about these agreements must be made public each year.

Recovery

A recovery team must create a recovery plan for species listed as threatened, endangered, or extirpated. The Minister must release a recovery plan within 3 years for extirpated species, 2 years for threatened species, and 1 year for endangered species, although extensions are possible (ESA 2001, s. 14–15). The plans must include measures for species recovery and a timeline for implementation, and may also identify critical and recovery habitat (ESA 2001, s. 23). A management plan including measures for species conservation must be created for species listed as vulnerable, and the plan must be released within 3 years of designation. Implementa-

tion of these plans is not required. The Minister must consult with other governments that share jurisdiction for the management of a listed species. Currently, the province has a conservation agreement with the Government of Canada for the protection and management of caribou (Government of Canada 2019). The status of listed species must be reviewed at least once every 10 years after listing.

Updates

There have been no important amendments to ESA affecting SAR in Newfoundland and Labrador since the act was created in 2001. Currently 53 species are listed by the province (Government of Newfoundland and Labrador no date) and 42 species are listed under SARA (Government of Canada 2023), up form 22 species provincially listed and 28 species federally listed in 2012 (Fig. 2).

New brunswick

The *Species at Risk Act* (SARA (NB); 2012)came into force in 2013, replacing the Endangered Species Act (1996). This act is administered by the Minister of Natural Resources and Energy Development. The Act legislates SAR designation but lacks enforceable timelines, as well as protection for SAR and their habitat.

Listing process

To add other species, the Minster must appoint a Committee on the Status of Species at Risk (COSSAR), composed of individuals with scientific expertise or Indigenous traditional knowledge. COSSAR assesses the status of wildlife species in the province that the Minister considers to be at risk, provides advice to the Minister on which species should be prioritized, and reviews the classification of each listed species every 10 years (SARA (NB) 2012, s.15). Once a status report is finalized, the Minister has 120 days to amend the list by adding the new species or referring the species back to COSSAR for reassessment. Once a species is listed it must be published in a public registry along with a publication date for a management plan or recovery strategy. In practice, there have been significant delays in this process (S. McDonald (personal communication 2023)). If the Minister considers there to be an imminent threat to a species, they may designate that species as endangered temporarily, and COSSAR must assess the species as soon as possible (SARA (NB) 2012, s. 19). If COSSAR determines that the species is endangered it will be permanently listed as such. If COSSAR determines the species to be extirpated, threatened, or at risk, then the emergency endangered status will be revoked, and the species will be listed using the normal process.

Species and habitat protection

For extirpated, endangered, or threatened species listed since the NB SARA came into force, the Minister must undertake a protection assessment to determine whether protection measures should be implemented. The Minister must consider management implications, social and economic factors, and land ownership implications. After the protection assessment is completed, the Minister makes their recommendation to the Lieutenant-Governor in Council (SARA (NB) 2012, s. 25).

If legal protections are extended to a species following the protection assessment, individuals are prohibited from killing, harming, or possessing listed species (SARA (NB) 2012, s. 28). In some cases, the Minister may issue a protection order before the listing process or protection assessment is complete. The Minister may issue permits granting exemptions to protections for traditional ceremonial purposes, scientific research, educational purposes, or recovery efforts, although permit holders may be required to provide compensation to a wildlife trust fund.

The Minister can recommend that land be designated as protected habitat to the Lieutenant-Governor in Council. However, there has not been any protected habitat designated in a protection assessment to date. Dens and nesting sites are protected only for species listed under the 1996 Endangered Species Act. Permits may be issued to disturb habitat if the permit holder restores the habitat afterwards, if they are trying to improve the habitat, or the disturbance will not jeopardize the survival of the species.

Recovery

A management plan is required for listed species of Special Concern, but there are no deadlines in place, and plans for only two out of 21 species have been completed to date (Government of New Brunswick 2022). If a species is listed as extirpated, endangered, or threatened, a feasibility assessment is conducted on its recovery. If recovery is deemed feasible, the Minister must create or adopt a recovery strategy, and has the option to prepare an action plan which includes specific actions and timelines (SARA (NB) 2012, s. 21). The Act does not include any deadlines for conducting feasibility assessments, recovery strategies, action plans, or protection assessments, although the Minister is required to publish the expected completion dates. Many of these expected completion dates are not until 2027. In some cases the province is waiting to adopt the federal recovery strategy for species that are listed federally, but for which recovery strategies have not yet been published (Government of New Brunswick 2022). Fifteen feasibility assessments have been conducted, eight of which were deemed unfeasible (Government of New Brunswick 2022). Only one recovery strategy has been completed, which was for the cobblestone tiger beetle (*Cicindela marginipennis*), and no action plans have been made (Government of New Brunswick 2022). Only species that have been listed since the Act was established must be reassessed, and reassessments must be undertaken every 10 years.

Updates

The Endangered Species Act (1996), which was used to list species in New Brunswick until 2012, was replaced with the Species at Risk Act (SARA (NB) 2012) in 2013. Species that were

listed under the previous Endangered Species Act were automatically included when the new SARA (NB) came into effect. Similarly, SARA (NB) automatically listed any species assessed by the federal COSEWIC as endangered, threatened, or special concern. In New Brunswick, 91 species are currently listed under NB SARA (Government of New Brunswick 2022) and 63 species are listed under the federal SARA (Government of Canada 2023), up from 16 species listed under the previous ESA and 40 species listed under SARA in 2012 (Fig. 2).

Prince Edward Island

Prince Edward Island does not have separate legislation for protecting at-risk species; instead, protections are part of the Wildlife Conservation Act (1988). This act has undergone numerous minor updates, the latest of which was in 2021 (Legislative Counsel Office 2022).

Listing process

According to this act, if the Minister of Environment, Energy, and Climate Action considers a species to be at risk, the Minister may recommend the species to the Lieutenant Governor in Council to be listed as Endangered, Threatened, or of Special Concern (Wildlife Conservation Act 1988, s.7). The Minister has the power to appoint a committee to advise them in creating a list of SAR based on scientific information, but is not required to do so. At the time of writing, this committee appears to be defunct (East Coast Environmental Law Association 2022). The Act also does not require the Minister to list any species, and no species have been listed since the creation of the Act.

Species and habitat protection

Once a species is listed, individuals are prohibited from killing, disturbing or possessing an endangered or threatened species (Wildlife Conservation Act 1988, s.7). However, an individual can apply for a permit to possess an endangered or threatened species for scientific, educational, or conservation purposes.

The Act prohibits destroying or interfering with the habitat of any endangered or threatened species and gives the Minister the power to take any measures they consider necessary to protect endangered or threatened species and their habitat (Wildlife Conservation Act 1988, s.7–8); however, it is unclear how habitat is designated for a species, and if this is based on science and Indigenous knowledge. If the habitat of an endangered or threatened species is located on private land, the Minister has the power to purchase that land or enter into agreements with the landowner for the protection of the species, such as covenants or conservation easements.

Recovery

The Minister is not required to produce recovery plans. Every 10 years the Minister is required to prepare a wildlife inventory report, which includes an update on the state of any endangered, threatened, or species of special concern (Wildlife Conservation Act 1988, s.6).

Updates

The Wildlife Conservation Act (1988) has undergone no major updates affecting SAR and a provincial list of SAR in P.E.I. has yet to be established. There are currently 28 federally listed species in PEI (Government of Canada 2023), up from 16 species federally listed in 2012 (Fig. 2).

Nova Scotia

The Nova Scotia Endangered Species Act (1998) gives the responsibility for managing SAR to the Minister of Natural Resources and Renewables. It is important to note that nothing in this act can impinge upon Indigenous treaty rights (Endangered Species Act 1998, s. 2).

Listing process

A Species-at-Risk Working Group composed of recognized scientific experts is appointed by the Minister. Species are listed under the *Endangered Species Act* by the Species-at-Risk working group when there is a four-fifths majority among the group. Any changes the group makes to the list must be based on scientific and traditional knowledge. Annually, the group must present the list of SAR to the Minister including any additions or deletions from the list, as well as advising the minister on any federally listed species native to the province (Endangered Species Act 1998, s. 9–10). The Minister may list additional species if they believe these species are under threat. Within a year, the Species-at-Risk Working Group must determine whether those species should be permanently listed.

Species and habitat protection

Once a species is listed as endangered or threatened, it is immediately prohibited to kill, possess, disturb, or interfere with the species in any way (Endangered Species Act 1998, s. 13). Exemption permits may be issued for scientific or conservation purposes, or for human health or safety concerns. Permits may also be issued to possess dead specimens for Indigenous cultural purposes or for education (Endangered Species Act 1998, s. 14).

It is prohibited to disturb areas occupied by an endangered or threatened species, such as nests, dens, or hibernaculum (Endangered Species Act 1998, s. 13). When a recovery plan is created the Minister may designate an area as core habitat, giving it additional protections. However, this has never been done (East Coast Environmental Law Association 2021). Similar to species protection, individuals may apply for a permit to disrupt habitat for the reasons listed above.

Recovery

Within a year of listing an endangered species, and within 2 years for a threatened species, the Minister is required

to establish a recovery team and create a recovery plan (Endangered Species Act 1998, s. 15). The recovery plan must identify the threats to a species and options for recovery, analyze the costs and benefits of recovery, recommend a course and timeline of action, and identify core habitat for the species. The Minister must implement only those portions of a recovery plan, if any, that they determine are "feasible". Within 3 years of a vulnerable species being listed the Minister must prepare a management plan for the species, and may appoint a management team to assist with it. If core habitat is identified in a recovery plan the Minister may create regulations to limit the use of, or access to, those lands. If designated core habitat is located on private land, the Minister is required to compensate the landowner for any losses that may occur from the regulations. The management and recovery plans are required to be reviewed every 5 years; of those all but two species have updated plans (Government of Nova Scotia no date). All 63 listed species have a management or recovery team established. Of those, 56 of them have a plan in place, although these plans do not have all the requirements set forth in the act for recovery or management plans (East Coast Environmental Law Association 2021). Core habitat has been identified for only 30 species, but not designated (Government of Nova Scotia no date).

Updates

There have been no important updates to the Endangered Species Act affecting SAR in Nova Scotia. Currently, 63 species are listed provincially (Government of Nova Scotia no date) and 72 species are listed federally in the province (Government of Canada 2023), up from 27 species provincially listed and 44 species federally listed in 2012 (Fig. 2).

Territories

The territories (Yukon, Northwest Territories and Nunavut) are in the northernmost region of Canada and cover 40% of its landmass. The total population is almost 125 000 across the three territories with a larger proportion of Indigenous peoples in their populations than the provinces (Yukon is 23%, NWT is 51%, and Nunavut is 86% Indigenous population) (Indigenous Services Canada 2020). The territories are not included in the Constitution and are instead established under federal legislation (Nunavut Act 1993; Yukon Act 2002; Northwest Territories Act 2014). Owing to the lack of constitutionally derived power, the territories and their resources have been historically governed by the federal government (Rodon and Therrien 2015). In recent years, through the process of devolution, the territories have received province-like powers and involvement in resource management (Kwasniak 2016). In 2003, Yukon was granted control over public lands and resource management (Yukon Act 2002) and the Northwest Territories received similar power in 2014 (Northwest Territories Devolution Act 2014). Nunavut signed a devolution agreement in 2024 (Nunavut Lands and Resources Devolution Agreement) and is expected to receive full control over public lands and natural resources in 2027 (Government of Canada 2024). Resource and wildlife management in the territories is accomplished through joint decision-making between government and Indigenous communities through co-management boards (Government of Canada 1993; Government of Northwest Territories no date). Co-management boards are established through land claim agreements and allow Indigenous organizations the ability to make recommendations and decisions involving natural resource management (Kwasniak 2016).

Yukon

Yukon has no designated SAR legislation. The Wildlife Act (2002), which regulates hunting and trapping, includes some protections for wildlife. The *Wildlife Act* is limited by a narrow definition of wildlife which only includes vertebrates and excludes fish, plants, fungi and invertebrates (Wildlife Act 2002, s. 1). The *Wildlife Act* only applies to five % of the species present in Yukon (Boothroyd 2019). The Minister of Environment is responsible for the administration and enforcement of the *Wildlife Act*.

Listing process

While the *Wildlife Act* does not include provisions for identifying SAR, the Commissioner in the Executive Council may designate a population, species, or group of wildlife as specially protected.

Species and habitat protection

Protection for specially protected wildlife include prohibitions against hunting, trapping, or possession (Wildlife Act 2002, s. 8). The prohibitions do not apply to *Invialuk* or permit holders. There are no automatic habitat protections for specially protected wildlife.

The Commissioner in the Executive Council has the power to designate an area as a Wildlife Sanctuary at their discretion, prohibiting the hunting and trapping of wildlife within the designated area. The Commissioner may also designate Habitat Protection Areas, establishing management regulations if the area is sensitive to disturbance, is likely to be disturbed, and is an important habitat for any population, species, or type of wildlife. Two areas in Yukon are identified in the Wildlife Sanctuary Regulation (2002), and an additional 11 areas are identified as Habitat Protection Areas with regulations and management plans (Wildlife Regulation 2012).

Recovery

Yukon's *Wildlife Act* does not include legal obligations for SAR management or recovery plans. However, since 2012, the Government of Yukon has been involved in the establishment of management plans for wildlife including for the Aishihik wood bison, Chisana caribou, elk, wolf, grizzly, and amphibians (Chisana Caribou Herd Working Group 2012; Government of Yukon 2012*a*, *b*, 2013, 2016; Yukon Grizzly Bear Conservation and Management Plan Working Group 2019).

Updates

There have been no important updates to the Wildlife Act affecting SAR in Yukon; however, the Wildlife Regulation was amended in 2014 to remove caribou (Chisana herd) from the list of specially protected wildlife. The herd was initially listed following a request from the Kluane and White River First Nations (Chisana Caribou Herd Working Group 2012), and was de-listed (but is not open for hunting; Government of Yukon 2023*a*) based on a recommendation from the Yukon Fish and Wildlife Management Board (Government of Yukon 2023*b*). There are currently four species listed as specially protected wildlife under the Wildlife Regulation (2012) and 35 species listed under the federal SARA that occur in Yukon (Fig. 2; Government of Canada 2023). Since 2012, one species has been removed from the Yukon list, while 19 species have been added to the SARA list.

Northwest territories

The *Species At Risk (NWT) Act* (2009) is administered by the Minister of Environment and Natural and Climate Change, although responsibilities for implementation are shared among co-management partners, established under lands, resources, and self-government agreements.

Listing process

The Northwest Territories has two bodies involved with the designation of SAR: the Conference of Management Authorities on Species at Risk (CMA) and the Species at Risk Committee (SARC). The management authorities included in the CMA are co-management boards, the Tłı̨chǫ Government, the Government of the Northwest Territories, and the Government of Canada. Each management authority and the Minister may appoint one or more members to the SARC, and all appointees must hold relevant ecological knowledge. SARC must assess the species and provide a designation recommendation using a status report and objective biological criteria, which includes separate components for Indigenous and scientific knowledge (Northwest Territories Species at Risk Committee 2022). The SARC assessment and listing category can be supported by either or both knowledge systems and is made available to the public for comment. Within 1 year of SARC assessment, the CMA must reach a consensus agreement on species designation. Within three months of consensus agreement, the Minister must list the species following the decision of the CMA, or in a case of no consensus, make the designation decision (Species at Risk NWT Act 2009, s. 39–41). The listing decision of the consensus agreement or the Minister does not need to be consistent with the SARC assessment and there has been one case of disagreement (Conference of Management Authorities Species at Risk 2018).

Species and habitat protection

There is no automatic protection for listed species in the Northwest Territories. On the recommendation of the Minister, the Commissioner of the Northwest Territories may require conservation action and prohibit activities that adversely affect the species, such as limiting or prohibiting species harvest, and prohibiting capturing, harming, or killing species (Species at Risk NWT Act 2009, s. 151). Species protections have never been recommended by the Minister or invoked by the Commissioner (Thompson 2022).

There is no automatic protection for SAR habitat in the Northwest Territories. The Commissioner may prohibit activities that adversely affect habitat and may restrict or prohibit access to habitat or area (Species at Risk NWT Act 2009, s. 152). The Minister may request designation and protection of an area or habitat if it is considered essential for the survival, recovery or conservation of the species or habitat (Species at Risk NWT Act 2009, s. 153). The Minister may recommend the designation of private land if the habitat on public land is insufficient for the conservation and recovery of the species. No habitat has been designated or protected under the *Species at Risk NWT Act* (Thompson 2022).

Recovery

The *Species at Risk NWT Act* requires that the CMA prepares a management plan or recovery strategy with objectives and approaches for the management or recovery of SAR (Species at Risk NWT Act 2009, s. 60). The public is provided an opportunity to comment on the proposed strategy or plan before the CMA reaches a consensus agreement. Finalized management plans and recovery strategies are made available to the public within three months of a consensus agreement. A recovery strategy for endangered and threatened species must be prepared within 1 and 2 years of listing, respectively (Species at Risk NWT Act 2009, s. 60). A management plan is required for species of Special Concern within 2 years of listing. Every 5 years the CMA must review plans and strategies and prepare a report on the progress made toward achieving the objectives.

Updates

There have been no significant updates to the Species at Risk NWT Act (2009) since the act was enforced in 2011. However, in 2021 SARC updated species assessment criteria to include Indigenous and community knowledge as separate criteria in the designation process (Northwest Territories Species at Risk Committee 2022)). There are 12 species listed in the Northwest Territories out of the 23 species that have been assessed (Fig. 2; Conference of Management Authorities Species at Risk 2023). There are currently 42 species listed under the federal SARA in the territory, up from 24 species listed in 2012.

Nunavut

Nunavut has no dedicated SAR legislation; instead, SAR provisions are included in the *Nunavut Wildlife Act* (NWA 2003). The NWA came into force in 2005 (Nunavut Department of Environment 2019) with the purpose of managing wildlife and habitat in Nunavut while respecting the Nunavut Land Claims Agreement (1993) and the rights of Inuit. The NWA is guided by *Inuit Qaujimajatuqangit* concepts and principles

regarding the respect of land, wildlife and people. A guiding conservation principle of the Act is to maintain healthy populations of wildlife capable of sustaining harvest. Nunavut has recently undergone devolution and will not have complete responsibility over the management of natural resources until the transfer of responsibilities is complete, therefore the NWA has yet to be tested (Government of Canada 2024).

Listing process

The NWA has provisions for identifying and listing SAR (see s. 129), however, these provisions have not been implemented (Nunavut Department of Environment 2019). Under the NWA, the Nunavut Species at Risk Committee (NSRC) evaluates potential SAR, recommends species designation, and prepares SAR status reports using scientific knowledge, Indigenous traditional knowledge, or knowledge from any *Qaujimanilik/Ihumatuyuk* (community member with in-depth knowledge of the subject) (NWA 2003, s. 159). The NSRC consists of at least six members appointed by the Minister with scientific or *Qaujimanilik/Ihumatuyuk* knowledge. The NWMB is a board of nine members appointed by Designated Inuit Organizations, the Governor in Council, and the Commissioner-in-Executive Council; there are no requirements for membership (Nunavut Land Claims Agreement 1993). The NWMB is responsible for reviewing the recommendations of NSRC and making the final listing decision. The Minister must establish a list of species recognized as Extirpated, Endangered, Threatened or of Special Concern following the decision of the NWMB.

Species and habitat protection

While no species are currently designated as Threatened, Endangered, Extirpated or Extinct, if a species is designated as such it is automatically protected from harvest, harm, and harassment (NWA 2003, s. 63). It is also prohibited to traffic or possess a member of the species or a product that contains the species. These automatic prohibitions function as interim protection until the NWMB makes recommendations on whether to prohibit harvest, possession, and trafficking. If harvest is not to be prohibited the NWMB must establish or modify the total allowable harvest and review non-quota limitations.

Upon designation as threatened or endangered, critical habitat must be identified by the NWMB (NWA 2003, s. 132). Critical habitat may be designated by the Commissioner in the Executive Council if it is necessary for the recovery of a SAR and included in the approved recovery policy. Designated critical habitat is protected from development, extraction, and harvest (NWA 2003, s. 66). No critical habitat has been designated within Nunavut.

Recovery

A recovery policy is required within 2 years of listing as Endangered or Threatened. The recovery policy must identify threats to the species, requirements for the recovery of the species, and critical habitat of the species. The recovery policy must include measures to protect habitat, address the threats to the species, and monitor the recovery and long-term viability of the species (NWA 2003, s. 134–135). The recovery policy must be approved by the NWMB and reviewed by the Superintendent every 5 years.

Updates

The federal government granted Nunavut control over public land and natural resources in 2024 (Nunavut Lands and Resources Devolution Agreement). However, until the transfer of responsibility is complete, the SAR provisions of the Nunavut Wildlife Act will likely remain untested; therefore, there are currently zero species listed under territorial law. Currently, the federal government lists 23 SAR in the territory, up from 16 species listed in 2012 (Fig. 2).

Recommendations

As specified in the Canadian constitution and federal legislation, provinces and territories have power over land management, and therefore, SAR (The Constitution Act 1867; Yukon Act 2002; Northwest Territories Act 2014; *Nunavut Lands and Resources Devolution Agreement* 2024). This has led to inconsistent protections as legislation varies across jurisdictions. However, several core problems (summarized in Table 1) are common. In many cases at-risk species are not being listed, or are listed but inadequately protected. While variation in implementation of policies lies outside the scope of this paper, in this section we identify actionable changes that could increase the efficacy of legislation across jurisdictions.

Pursue dedicated and harmonized species at risk legislation

While many jurisdictions have one piece of legislation dedicated to conserving species, others include SAR provisions within legislation on hunting, fishing, and wildlife management, or spread across multiple different pieces of legislation (Table 1); such approaches are often inadequate (i.e., Westwood et al. 2019). Indeed, all provinces (except Québec) and territories (except Nunavut, which was not yet a territory) agreed to create dedicated SAR legislation in 1996 through the National Accord for the Protection of Species at Risk in Canada (Government of Canada 2014).

Furthermore, harmonizing legislation would not only ensure a high level of protection for species within jurisdictions, but would facilitate partnerships across jurisdictions and help protect species with transboundary ranges (Dallimer and Strange 2015; Mason et al. 2020). Indeed, many Canadian political and bureaucratic leaders recognize the importance of increasing collaboration on biodiversity issues (Swerdfager and Olive 2023). Leadership and funding from the federal government may be needed to incentivize provinces and territories to coordinate SAR legislation and action (Ray et al. 2021). The Canadian federal government recently helped negotiate the Kunming-Montreal Global Biodiversity Framework

Table 1. Common legislative problems and solutions.

Problem	Most affected provinces/territories	Recommendations
Species at risk regulations are dispersed among multiple acts or in acts dedicated to hunting or wildlife management	British Columbia, Alberta, Saskatchewan, Québec, PEI, Yukon, Nunavut	(1) Establish dedicated species at risk legislation encompassing all relevant taxa
Final listing decisions are not made by independent experts or are influenced by discretionary power	British Columbia, Alberta, Saskatchewan, Manitoba, Québec, Newfoundland and Labrador, PEI, Yukon, Northwest Territories, Nunavut	(3) Establish a fully independent committee responsible for assessing species at risk (5) Appoint members with scientific, Indigenous and traditional knowledge (2) Automatically designate species following committee recommendations and Indigenous consultation
Species protection and/or recovery plans are not required or are subject to discretion	British Columbia, Alberta, Saskatchewan, Québec, Newfoundland and Labrador, PEI, New Brunswick, Nova Scotia, Yukon, Northwest Territories	(6) Establish automatic prohibitions against harming listed species and their critical habitat (2) Establish recovery plan requirements for listed species
Timelines are not present or are not enforced (*assessed only for provinces with dedicated SAR legislation*)	Ontario, New Brunswick, Nova Scotia, Northwest Territories	(4) Establish enforceable timelines for key steps in the listing and recovery process for SAR (5) Limit exceptions for extensions
Exemptions and permits compromise species and habitat protection	British Columbia, Alberta, Manitoba, Ontario, Québec, New Brunswick, Nova Scotia, Northwest Territories, Nunavut	(5) Eliminate the use of "conservation funds" for granting exemptions (5) Limit exemptions to activities that will not place species further at risk (3) Prioritize Indigenous rights to manage their traditional territories and the species within them, and explore co-management where appropriate
Habitat protection is limited to public land	British Columbia, Alberta, Saskatchewan, New Brunswick, PEI, Yukon	(3) Identify critical habitat of SAR (6) Automatically protect critical habitat on public and private land (6) Encourage partnership with landowners by providing compensation and conservation incentives
Listing process and recovery plans are not made publicly available or are not open to public comment (*assessed only for provinces with dedicated SAR legislation*)	Manitoba, Québec, New Brunswick, Nova Scotia	(7) Establish a publicly accessible website with information on assessment committees, listing process, listed species, permits, and recovery plans (7) Provide an opportunity for public comment on recovery plans

Note: Note that we consider written law only, and do not consider implementation. The numbers in brackets refer to the corresponding recommendation section in the text.

(Environment and Climate Change Canada 2022), one target of which is "Ensure the full integration of biodiversity and its multiple values into policies, regulations …within and across all levels of government …progressively aligning all relevant public and private activities…" (Convention on Biological Diversity 2023). A significant step toward achieving this goal would be creating a higher and more consistent standard of SAR legislation across Canada.

Reduce reliance on discretionary power

Decision-making power at key steps in the listing and protection of SAR is typically held by the minister in charge of administering the relevant act or the Lieutenant Governor acting upon the direction of Cabinet. Legislation often specifies that ministers "may" take a certain step, such as listing a species, allowing ministers to make SAR decisions at their discretion. Analogous issues are prevalent in SARA (Turcotte et al. 2021), under which listing decisions are sometimes based on socioeconomic factors (Dorey and Walker 2018). In some cases, the appointed minister may also be responsible for natural resource extraction or other activities that are in conflict with species and habitat conservation (e.g., Newfoundland and Labrador, Table 1). To avoid a conflict of interest, the Minister specified by SAR legislation should have a mandate dedicated to environmental protection (e.g., the Minister of Environment and Climate Change for Newfoundland and Labrador), with the resources to enforce the legislation. However, we recognize that the responsible minister might still consider socioeconomic issues and resource development. Indeed, at present, even in provinces where the Ministers of Environment are responsible, they can and do consider a wide range of issues, including socioeconomic ones. However, to minimize the risk of inaction and inconsistent policy implementation (Gibson 2012), this kind of discretion can be constrained and clearly delineated by spelling out the permissible considerations in legislation. Key steps such as listing species, identifying species' habitat, and recovery plan creation should be led by science and occur automatically after adequate Indigenous consultation (see below), without extraneous input from the Minister or other political actors (Westwood et al. 2019; Turcotte et al. 2021).

Embrace Western science and Indigenous rights, science, and evidence

The emphasis placed on scientific and Indigenous rights and knowledge in SAR legislation varies greatly among jurisdictions and should be brought into alignment with Canada's commitments under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP; 2007), as called upon by the Truth and Reconciliation Commission Call to Action 43 (Truth and Reconciliation Commission of Canada: Calls to Action 2015). Some provinces and territories appoint independent committees composed of members with significant expertise (scientific or Indigenous) to recommend species listing (e.g., Northwest Territories), while others do not form such committees at all (e.g., Saskatchewan). To ensure evidence-based SAR evaluations, independent committees composed of qualified scientists and Indigenous knowledge holders should be required by law (Hill et al. 2019; Westwood et al. 2019), with both scientific and Indigenous knowledge used to assess SAR, identify critical habitat, and develop recovery plans. The importance of Indigenous knowledge should not be overlooked; Indigenous communities have thousands of years of knowledge on critical habitat, species interactions, patterns of change, and other important aspects of ecology (Henri et al. 2021). To avoid the integration and dilution of one system into another, scientific and Indigenous knowledge systems should be considered on an equal footing, as is done in the Northwest Territories (Singer et al. 2023).

Culturally relevant species designation and recovery targets should take into account Indigenous rights (Lamb et al. 2023), such as Aboriginal and Treaty rights protected by Section 35 of the Canadian Constitution (The Constitution Act 1867), and self-determination, collective rights, and free, prior and informed consent (UNDRIP 2007). Evaluation committees should be empowered and adequately resourced to consult Indigenous communities regarding potential SAR and listing decisions (Turcotte et al. 2021). Given the positive impacts of Indigenous stewardship on biodiversity (Schuster et al. 2019), Indigenous rights to manage species in their territories should be respected, with Indigenous values of stewardship and rights to sustainable harvesting included directly in legislation (i.e., Nunavut Wildlife Act 2003; Wehi and Lord 2017). While enhanced Indigenous partnerships and co-management will undoubtedly include Indigenous Protected and Conserved Areas (IPCAs; Tran et al. 2020), they must also be more flexible and comprehensive (i.e., Leiper et al. 2018), honoring inherent and treaty rights as well as biodiversity values (Maxwell et al. 2020). In some cases, adequate consultation and management partnerships may delay listing and decisions (Turcotte et al. 2021); however, the result aims to be a more just and effective management of listed species.

Establish reasonable timelines

While legislation may include the mandatory listing and protection of SAR, and in some cases recovery planning and implementation, these laws are only effective if reasonable timelines are included and accountability mechanisms are in place (Turcotte et al. 2021). In many jurisdictions there are no timelines for decisions to legally list a species, for finalizing recovery plans, for putting recovery plans into action, or for reviewing a species' status (Table 1). Even in jurisdictions with a legislated timeline, such timelines may not be followed (Dorey and Walker 2018); this may be because there are no consequences for inaction or no accountability measures to ensure the government is following through. Indeed, compared to the Endangered Species Act in the USA, a major missing piece in all Canadian SAR is a clear mechanism to hold governments legally accountable for continued declines in species (Endangered Species Act 1973; Illical and Harrison 2007). Reasonable, enforceable timelines should be set for species listing, recovery plans, plan implementation, and species' recovery.

The mandated timelines of Nova Scotia and Ontario, whereby recovery plans should be written within 1 year of listing for endangered species and 2 years of listing for threatened species, provide possible templates for other jurisdictions. To be robust, recovery plans should incorporate indirect ways that species are being harmed or may be harmed in future (Westwood et al. 2019), such as climate change, invasive species, disease, and pesticides or other pollutants. To address changing threats, a listed species' status and recovery plan needs to be reviewed and adjusted periodically (e.g., every 5 years, as is legislated in the Northwest Territories). Indeed, the review process is necessary to avoid cases in which all of the timelines could be met, but species declines continue because the actions are not commensurate with the cumulative damages that occur because of changing threats.

Restrict and regulate exemptions

Permits and exemptions must be carefully regulated to minimize adverse effects on SAR. In British Columbia, resource extraction such as forestry and mining is often allowed in habitat critical to SAR. In Ontario there are no guidelines for rejecting SAR exemption applications, and no applications have been denied (Lysyk 2021). In addition, many applications do not undergo a review process, and there is no inspection protocol to ensure that conditions to avoid or minimize harm to SAR are being honored (Lysyk 2021). While some necessary activities may require exemptions, all jurisdictions should follow the Newfoundland and Labrador *Endangered Species Act*, which specifies that exemptions will only be provided if the activity does not put a species further at risk. Ministries should have rigorous guidelines in place that determine the success or failure of an exemption application, and should establish inspection protocols to ensure adherence to commitments made within approvals (Algera et al. 2022).

In some jurisdictions such as Ontario, parties requesting exemptions may be required to pay into provincial or territorial "conservation funds", which may excuse them from implementing conservation measures (Muñoz and Obrist 2020). Offset funds such as these can increase the likelihood that species are harmed (Gordon et al. 2015), and thus their use should be ended. Instead, compliance of rules governing ex-

emptions should be prioritized. Parties that hold exemption permits could be required to pay bonds prior to their activities, providing jurisdictions with the funds to repair any illegal damage to species or their habitats, following legislation in Newfoundland and Labrador.

Protect habitat on government and private lands

Habitat loss has been identified as the largest threat to SAR in Canada, affecting 82% of listed species (Woo-Durand et al. 2020). It is essential that at-risk populations have refugia and breeding habitat within their existing ranges, as well as the opportunity to expand into new areas as the environment changes (Beaumont et al. 2019; Littlefield et al. 2019). Protection of habitats that contain multiple SAR may prove to be more valuable and cost-effective than efforts to conserve species one by one (Westwood et al. 2019; Kraus et al. 2021). While many jurisdictions automatically protect listed species from harm, protections for habitat are often restricted to small areas of provincially or territorially owned land (Table 1).

Some jurisdictions engage in voluntary partnerships with private landowners to conserve habitat, in some cases providing incentives for landowners who may incur financial losses from stewardship (see Table 1 for jurisdictions that do not legislate this). However, critical habitat should be protected on private land and coupled with compensation to reduce negative behavior such as species removal (Donlan 2015), and results-based reward programs for landowners who successfully maintain critical habitat. The Endangered Species Act from the United States has multiple successful examples of incentive and aid programs (Olive 2015). These programs—as well as a broader strategy of public outreach—would increase the reach of conservation efforts beyond provincially or territorially owned land (Wilcove and Lee 2004).

Commit to transparent decision-making

Transparency can create opportunities for public engagement and may facilitate government accountability (Stewart and Sinclair 2007), but there is varying transparency among SAR laws (Table 1). Most acts also overlap with, or are superseded by, various other legislation, creating further ambiguities and gaps in protection. In some cases, recovery plans may not be publicly available (e.g., Manitoba), and exemptions to species and habitat protections may not be publicized (e.g., Ontario); indeed, policy documents governing the interpretation and application of SAR legislation are rarely made public. While some information should not be published to protect at-risk species, such as the location of SAR that could be exploited and/or trafficked, all stages of the listing and protection of species should be made public when possible (Westwood et al. 2019). In particular, the members appointed to advisory committees, the lists of at-risk species and their designations, species recovery plans, and any permits and exemptions should be made publicly available through easy to access websites (Westwood et al. 2019). A transparent process would encourage accountability and allow jurisdictions to include opportunities for public comment on SAR recovery plans, as is done in the Northwest Territories.

Conclusion

SAR legislation across Canadian provinces and territories remains largely unchanged since Ecojustice's *Failure to Protect* report in 2012, and some acts remain unchanged since their original creation (e.g., Saskatchewan and PEI). Ontario and New Brunswick have weakened their legislation over time by loosening protections and reducing the role of science. However, SAR legislation in Manitoba has significantly improved following an amendment, although the degree of implementation and success of the policy remain unknown. While no single jurisdiction has ideal SAR legislation, some acts include one or more exemplary aspects that should be implemented across the country. To combat biodiversity loss and conserve unique ecosystems effectively, Canadian provinces and territories must bring SAR legislation to a higher and more consistent standard, with protections that are mandatory, timely, evidence informed, inclusive of Indigenous partnerships, transparent, and enforceable.

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