

## SPECIES AT RISK POLICY: A SASKATCHEWAN CASE STUDY

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In late December 2002, Canada passed the federal Species at Risk Act (SARA). This came almost ten years after Canada ratified the United Nations Convention on Biological Diversity (UNCBD), under which it committed to create new domestic legislation. SARA is aimed at the protection and recovery of species at risk across all of Canada, but the law only extends mandatory protection to species and critical habitat found on federal lands such as parks, reserves and post offices. The legal teeth of SARA can bite into other land parcels, like provincial Crown lands or private property via a “safety net” clause that states SARA “can only apply on provincial or private lands if provincial legislation or other measures are not already in place to protect the species, and if cooperative stewardship measures fail.”<sup>1</sup> However, this clause has never been used and, thus, the protection of endangered species on private lands, where numerous species live, is left to the provinces and territories to regulate.

In 1996, under the *Accord for the Protection of Species at Risk*, the federal, provincial, and territorial governments agreed to a common and collaborative approach to protecting at risk species in Canada. In part, the goal is to have each province and territory create stand-alone legislation complementary to SARA and complementary to each other. However, in 2012 only six provinces and one territory have created stand-alone

legislation and only Ontario and the Northwest Territories have updated their legislation post-SARA. The four laggard provinces are British Columbia, Alberta, Saskatchewan and Prince Edward Island, while Yukon and Nunavut join their ranks as the two territories without stand-alone legislation. It is true that all provincial and territorial governments have some form of protection for species at risk, often times inside wildlife, forestry or parks acts, but this is not in line with the conditions of the Accord or with the responsibility to safeguard biodiversity, as agreed to in the UNCBD.

When laggard provinces create stand-alone legislation, what kind of legislation should they create? Models range from the American-style command-and-control endangered species legislation that Ontario adopted in 2007 to the more relaxed and stewardship/public lands-focused policy in Manitoba. Each province in Canada has a unique landscape, both ecologically and politically, so it is not surprising that different provinces adopt different legislation. However, since biodiversity is important to all provinces and because Canada agreed to safeguard biodiversity in the UNCBD, it is necessary for all governments to work together and implement policies aimed at the protection and recovery of species at risk.

Using Saskatchewan as a case study, this paper examines the attitudes of

registered voters toward one important segment of the larger biodiversity sphere: species at risk. These species are in the greatest danger of going extinct and action must occur quickly to recover and protect these species. In order to create new species at risk legislation, as Saskatchewan intends to do, it is important to account for a cross section of attitudes held by urban, rural, and agricultural voters as well as Aboriginal peoples, since all residents in Saskatchewan will be affected by the loss of biodiversity. The 369 surveys responses in this study are an attempt to uncover urban and rural attitudes among non-agricultural residents. Responses indicate that individuals are largely in favor of protection of other species and the creation of conservation laws, but are less supportive of private land regulations. Demographic variables generally do not provide statistically significant explanation for attitudes, save for political ideology and rural geography in relation to property regulation. After a brief review of the literature and explanation of the methodology used in the study, the results are presented followed by a discussion of the implications for Saskatchewan environmental policy.

### **Case Study & Research Questions**

Since Saskatchewan is one of the four provinces that have no stand-alone endangered species policy it is in a good position to make future policy consistent with SARA and the UNCBD. Moreover, Saskatchewan has a vast wealth of wildlife and plants that are of critical importance to Canada and to the rest of the world. Presently there are 76 SARA listed species (two amphibians, seven arthropods, thirty birds, nine fish, eight mammals, one moss, three reptiles, and 16 plants) that reside either solely or partially in

Saskatchewan. The provinces' Wildlife Act also includes 15 species at risk, three of which are already extirpated (Greater Prairie Chicken, Black-footed Ferret, and the Plains Grizzly Bear). Of the remaining 12, five are endangered birds, one is a mammal and six are plants. The Act mandates that these plants and animals, although not their habitat, be protected from being disturbed, collected, harvested, captured, killed and exported. However, no recovery plans have been created for any of these species. Thus, under the Wildlife Act and under SARA, endangered species and their habitat are not being effectively protected.

Within Canada, Saskatchewan is home to native grasslands, of which only 20% remains in the wild. This is wreaking havoc on grassland birds and, according to the North American Breeding Bird survey, "grassland birds show the most consistent widespread and steepest decline of any group of birds in North America."<sup>27</sup> One prominent example is the decline of the Burrowing Owl because its population has declined 93% in the last 20 years – largely due to changes in the prairie landscape, which have resulted in an 80% decline in prairie grass and a 40% decline in wetlands.<sup>3</sup> Also significant is that Saskatchewan and Alberta have the last surviving Sage-grouse in Canada, and it is estimated that the population will be extirpated in the next few years.<sup>4</sup> Threats to biodiversity are only increasing in the prairies and Saskatchewan needs policy in place to protect what is left and try to recover some of what is being lost.

Saskatchewan is also a valuable case study because the province is home to large number of private landowners and private land managers (in the case of those who lease crown lands).

In southern Saskatchewan about 80% of the land is privately owned or managed. This land is predominately farmland, as 46% of the province's total land is devoted to agriculture (crops and pasture). In fact, only 8% of Saskatchewan's total land is protected area (national or provincial parks and wildlife habitat areas). Even though urban landowners do not take up a lot of space (they comprise less than 0.5% of total land in the province), urban areas are where over 85% of the population lives. Thus, to some extent the voting power lies in urban areas making the attitudes of urban residents important.

The main research question of this paper is: how do registered voters in Saskatchewan feel about (a) species at risk; (b) private property; and, (c) government regulation for the purposes of conservation? Based on other studies that measure attitudes toward the environment<sup>5 6 7 8 9</sup> three hypotheses are tested:

H1: Respondents will know very little about legislation or endangered species in Canada and Saskatchewan, but yet generally support the idea of protecting endangered species.

a) Rural people will know more than urban people about endangered species.

b) Women will be more supportive of protecting other species than men

H2: Respondents will not support the regulation of private land.

(a) Rural respondents will be less

supportive than urban respondents.

(b) Conservative respondents will be less supportive than liberal respondents.

H3: Respondents will support the creation of laws for the protection of species at risk.

(a) Rural respondents will be less supportive than urban respondents.

(b) Conservative respondents will be less supportive than liberal respondents.

### Methodology

Saskatchewan, with a population of just over 1 million people, has 15 cities in total, the three largest of which are Saskatoon, Regina, and Moose Jaw. For this study 250 registered voters were sampled in four cities for a total of 1000 sampled voters. Swift Current was selected for inclusion as a fourth case on the basis that is the largest city in the southwest part of the province, where most species at risk are found. Moreover, this bifurcates the sample between urban centers (Saskatoon and Regina) and more rural centers (Moose Jaw and Swift Current). The focus of the study is non-agricultural residents so the sample is not split between urban residents and farmers/ranchers, but just between residents who live in bigger cities (more urban) and residents who live in smaller cities (more rural). A brief description of each city is provided in Table 1.

A package was mailed to the home address of each randomly selected voter, including a letter briefly describing

Table 1: Description of Case Study Cities in Saskatchewan

	Regina	Saskatoon	Moose Jaw	Swift Current
Population 2011	193, 000	234,000	37,000	15, 503
Total area	145 km sq	170 km sq	46 km sq	42 km sq
Major industries	Oil, natural gas	Potash, oil	Oil, agriculture	Agriculture
Ecosystem	Moist mixed grassland	Moist mixed grassland	Moist mixed grassland	Mixed grassland

the study, a two-page survey, a one-page demographic questionnaire, and a stamped return envelope. All 1000 surveys were mailed in January 2012, and in March 2012 a shortened version of the survey was sent to all non-respondents. In total, 369 surveys were returned for a response rate of 37%. The most surveys were received from Saskatoon with the least from Swift Current, but overall a similar number was returned from each city: out of the 369 responses there was 25% from Moose Jaw, 24% from Regina, 28% from Saskatoon and 22% from Swift Current. There are no reasons to suspect response bias as the non-responses is not limited to one segment of the population (see demographic variables).

All responses were coded, mostly on a scale from 1 (strongly disagree) to 4 (strongly agree) and entered into a SPSS spreadsheet. Only two questions were open ended: name an endangered species in Saskatchewan?; and, explain why species are endangered in Saskatchewan? Individual responses were recorded for all 369 respondents and examined as frequencies and via regression analysis with six demographic variables used as independent variables. The variable "urban" was coded 1 for Regina and Saskatoon, and 0 for Moose Jaw and Swift Current; "Gender" was coded as 0 for man and 1 for woman; "Age" was on a scale from 0 to 5 (the categories are in table 2); "Income" was on a scale from 0 to 3; "Education" was on a scale from 0 to 4; and "L-C" represents a self-reported "liberal-conservative" scale where 1 is liberal and 7 is conservative. The main dependent variables are attitudes to other species, attitudes toward private property and attitudes toward government regulation for the purposes of conservation. These

variables are outlined in the tables below.

## Results

The demographics of respondents varied greatly. Table 2 illustrates the variation between sample locations (the four cities) as well as the discrepancy between the sample population and the general population in Saskatchewan. Of particular interest is the age of the sample respondents, which is not representative of the population at large. Almost half the sample is older than 61 years old. This is not surprising for survey research, where it is expected that the retired population have more time (and perhaps desire) to participate in studies. The fact that the sample is skewed toward the older population is not necessarily a negative feature since it has been illustrated that older people are more likely to vote in elections.<sup>10 11</sup> Thus, if we are concerned with residents' attitudes because they are ultimately responsible for voting policy into effect, then the sample might be a better indicator of attitudes than a sample skewed toward youth attitudes. Moreover, outside of age, the sample population is generally representative of the overall population in Saskatchewan. This is important because there is adequate variation on all explanatory variables and because there is little reason to suspect response bias. For example, the sample is not predominately female New Democrats from urban areas. Instead, individuals from different political parties, different religious groups, and various education and income brackets responded.

Respondent attitudes, as frequencies, are presented in the aggregate (all four cities combined) and sub-grouped by hypotheses. Following a brief discussion of attitudes, regression analysis is used to explore statistical

relationships between demographics and various attitudes. Implications and conclusion are presented in the final section of the paper.

*Hypothesis 1*

As Table 3 shows, respondents knew very little about endangered species or endangered species policy in the province. It is true that 65% thought they could name a species, but some people misidentified a species. For

example, five respondents listed “Snowy Owl,” which is a species found in Saskatchewan but is nowhere near extinction. Another two respondents listed “Red Fox,” which is another species in great abundance in the province. Moreover, not one respondent, out of 369 said “prairie grass” or listed another plant species, even though plants represent some of the most endangered species in the province. In fact, of the respondents

*Table 2: Sample and Population Demographics*

Demographic	Saskatoon	Regina	Moose Jaw	Swift Current	Total Sample	Sask
Gender						
Male	48%	48%	56%	66%	<b>54%</b>	49.5%
Female	52%	52%	44%	34%	<b>46%</b>	50.5%
Age						
18 - 30	2%	7%	4%	8%	<b>5%</b>	15%
31 - 60	48%	42%	53%	42%	<b>46%</b>	65%
>61	50%	51%	43%	50%	<b>49%</b>	20%
Income						
< 25	22%	24%	12%	15%	<b>20%</b>	Median income per capita is \$35948
25 - 50	31%	37%	36%	31%	<b>33%</b>	
50 - 100	35%	24%	36%	36%	<b>32%</b>	
>100	12%	15%	16%	18%	<b>15%</b>	
Education						
Elementary	9%	7%	8%	11%	9%	22%
High school	25%	45%	25%	39%	33%	25%
College/ diploma	66%	48%	67%	50%	58%	53%
Religion						
Protestant	36%	46%	39%	43%	<b>41%</b>	47%
Catholic	26%	19%	23%	20%	<b>22%</b>	32%
Christian*	16%	13%	19%	28%	<b>19%</b>	4%
Other	22%	22%	19%	9%	<b>18%</b>	17%
Political Party						
Sask. Party	32%	35%	49%	68%	<b>45%</b>	64%
Liberal	14%	14%	7%	8%	<b>11%</b>	1%
NDP	45%	35%	35%	17%	<b>34%</b>	32%
Green	4%	7%	3%	2%	<b>4%</b>	3%
Other**	5%	9%	6%	5%	<b>6%</b>	0%

\* Christian other than Catholic or Protestant

\*\* This category includes “independent” as well as the few people who indicated parties like Marxist and Libertarian.

who could correctly identify an endangered species (only 48%), 78% listed the “Burrowing Owl.” It is good for the owl that so many people are aware of its plight, but somewhat surprising that so few other species could be named despite their endangered status.

Also surprising is that while 22% claimed to be familiar with SARA, 92% thought it applies to their property. This is important for two reasons: first, 70% of people admitted that they are unfamiliar with a federal law. Second,

would have little interface with wildlife issues, it is far more likely that the Wildlife Act would pertain to them than SARA. This suggests that people in Saskatchewan are either misinformed or simply unaware of species at risk in the province.

Despite their lack of information about endangered species and legislation, respondents were generally quite supportive of conservation. Almost all landowners agreed that it is important for human beings to protect other

*Table 3: Knowledge of, and attitudes toward, endangered species and legislation from respondents in 4 sample cities (aggregated)*

<b>Question</b>	<b>Agree/ Yes</b>	<b>Disagree/ No</b>	<b>Don't Know</b>
Are you familiar with the Saskatchewan Wildlife Act?	59%	24%	17%
Are you familiar with the Species at Risk Act?	22%	56%	22%
Can you name an endangered species in Saskatchewan?	65%	35%	0%
Can you name a reason why species are endangered in Saskatchewan?	47%	53%	0%
Do you think the Wildlife Act applies to your property?	66%	44%	0%
Do you think SARA applies to your property?	92%	8%	0%
Would you agree it is important for human beings to protect other species?	96%	3%	1%
Do you agree that other species have a right to exist?	82%	11%	7%
Is it okay for human beings to let other species go extinct because of human activities?	17%	70%	13%

*rows may not add to 100% due to rounding*

92% of the respondents were incorrect: SARA does not apply to private lands. Likewise, a majority of respondents claimed to be familiar with the Wildlife Act but only about the same number thought the Act applied to them. While in most cases these respondents

species. Such agreement suggests response bias where individuals are providing what they consider to be the “right” answer or the “socially acceptable” answer. Even if this is the case, there is still reason to suspect that a majority or respondents felt that

Table 4: Regression analysis for attitudes and knowledge

Variables	Urban St. Co <sup>o</sup>	Gender St. Co	Age St. Co	Income St. Co	Edu St. Co	L-C St. Co	Adj. R	F-test
Familiar with Wildlife Act?	-.08	.069	.173	.076	.04	-.003	.008	.826
Name a species in SK?	-.169*	-.007	.055	-.013	.149*	-.08	.014	1.350
Agree it is important to protect other species?	.082	.081	.022	.031	.028	.075	.017	.535
Agree other species have a right to exist?	-.048	.075	.022	-.025	-.099	-.024	.017	.534
Agree Extinction is okay?	.011	-.136	.091	.087	-.100	-.035	.04	1.109

<sup>o</sup> Standardized Co-efficient

\* P<.10; \*\*P<.05; \*\*\*P<.01

protection is important. Furthermore, most landowners felt that other species have a right to exist and were generally against human-caused extinction. This indicates strong support for the protection of other species in the province.

Ordinary Least Squared (OLS) regression analysis reveals that there is no statistically significant relationship between demographics, including urban-rural, and support for conservation. See table 4 for results. This means that women and liberals were no more likely than anyone else to know about legislation or support conservation. However, rural residents (those living in Moose Jaw and Swift Current) as well as the more educated were more likely to be able to name an endangered species in the province. But since the model is not significant it is difficult to interpret these patterns, and the results should not be emphasized.

### Hypothesis 2

Overall, respondents had mixed feelings about private property. When asked if they thought private property is an absolute right only a fifth of respondents agreed, but when asked if property is more of an instrumental right, half agreed. See table 5 for results (including the wording of the questions). Nevertheless, in both questions a large number of individuals, a quarter for each question, were unsure of how they felt. Part of this may be due to the questions, which were fairly abstract and come from an interview instrument used in prior research. In order to clarify attitudes, respondents were asked if they agreed more with the absolute view, more with the instrumental view or would place themselves in the middle. In total, 35% felt closer to the instrumental view, 11% closer to the absolute view, 24% were in the middle, and 30% could still not decide. Thus, it is only possible to conclude that there is more support for the instrumental notion of private property than the absolute notion, but how strong that

Table 5: Attitudes toward private property by respondents in sample cities (aggregated)

Question	Agree/ Yes	Disagree/ No	Don't Know
Some people think of private property as an absolute or "God-given" right that must be respected by a legitimate government. What do you think of this view?	17%	55%	26%
Some people think of private property as a right created by government that can be changed over time according to the changing needs to society? What do you think of this view?	48%	20%	32%
Do you trust the government to protect private property rights?	86%	10%	4%
Do you think it is unfair to expect landowners to bear the cost of protecting endangered species on their own property?	62%	18%	20%

support is remains unclear. In contrast, respondents were much clearer in their attitudes toward trust. The vast majority of respondents say they trust the government to protect private property rights in the province.

In terms of the relationship between property and regulation, a majority of respondents felt that it would be unfair for the government to expect landowners to bear the cost of conservation on private lands. This is similar to prior research where landowners in Indiana and Utah<sup>12-13</sup> as well as Ohio and Ontario<sup>14</sup> agreed that it is unfair for landowners to have to shoulder the burdens of conservation. Even though respondents agreed that property is something created by government and responsive to societal needs, there is more hesitation about actually expecting property owners to pay for the protection of a social good.

Unlike the models above, regressing demographic variables against property attitudes proved more fruitful. Gender and urban living significantly predict attitudes toward private property. And

the relationship is in the expected direction, whereby urban respondents, those living in Regina and Saskatoon, were less likely to agree that property is an absolute right. And women were also less likely than men to agree that property is an absolute right. The models for instrumental property views and trust in government are not statistically significant, but political ideology is a significant predictor of attitudes toward fairness. The more conservative a respondent is, the more likely he or she is to agree that it is unfair for the government to expect landowners to bear the costs associated with conservation. Income was also significant, with wealthier respondents more likely to agree it is unfair, but no other variable was a significant predictor, including rural location.

### *Hypothesis 3*

A large number of respondents thought that the government should be involved in conservation and almost as many thought the government should make laws to protect species. See table 7 for results. Far fewer, but still a



*Table 6: Regression analysis for attitudes toward property*

Variables	Urban St. Co <sup>o</sup>	Gender St. Co	Age St. Co	Income St. Co	Edu St. Co	L-C St. Co	Adj. R	F-test
Agree that property is an absolute right	-.17**	-.14*	-.10	.12	.06	-.47	.22	6.815***
Agree that property is an instrumental right	.066	.10	.090	.233**	.057	-.104	.03	1.684
Trust government to protect property rights	-.054	.094	.008	-.013	.049	.018	.013	.364
Agree it is unfair to landowners	.089	-.001	-.037	.081**	.062	.229**	.033	1.825**

<sup>o</sup> Standardized Co-efficient

\* P<.10; \*\*P<.05; \*\*\*P<.01

majority, of respondents, thought that the government should punish people who violate conservation laws. What is most revealing is the sudden drop in support from conservation laws (95% support) to laws with sanctions (60% support). In the latter category, almost a quarter of respondents were unsure, suggesting both that the question is too vague and/or that the actual sanction may be important, e.g. a small fine might be okay, but imprisonment might not be acceptable.

Examining the relationship between demographics and attitudes toward regulation, the only statistically

significant model is attitudes toward conservation laws with sanctions. In this case, women and liberals were more likely to agree that punishment is okay. The models for government involvement in conservation and the creation of conservation laws were not significant so the findings about ideology and urban location cannot be clearly interpreted.

### Discussion and Implications

There is limited support for the three hypotheses originally proposed. Regarding the first, respondents knew very little about species at risk and legislation but still supported protecting other species. However,

*Table 7: Attitudes toward Conservation laws by respondents in sample Cities (aggregated)*

Question	Agree/ Yes	Disagree/ No	Don't Know
Do you think the government should be involved in the conservation of species at risk?	95%	1%	4%
Do you think the government should make laws to protect species?	90%	3%	7%
Do you think the government should punish people who violate conservation laws?	60%	17%	23%

Table 8: Regression analysis for attitudes toward conservation laws

Variables	Urban St. Co <sup>o</sup>	Gender St. Co	Age St. Co	Income St. Co	Edu St. Co	L-C St. Co	Adj. R	F-test
Agree that government should be involved	.046	.008	.080	.053	.121	.205*	.024	1.67
Agree that government should make laws	.142*	.077	.005	.042	.030	.096	.003	.925
Agree that government can punish violators	-.035	.120**	-.015	-.103	.063	-.16**	.018	2.424**

<sup>o</sup> Standardized Co-efficient

\* P<.10; \*\*P<.05; \*\*\*P<.01

rural individuals did not know more about species than urban individuals. It could be the case that the sample is not adequately “rural” as all respondents lived inside a city of ten thousand people or more. More research is needed to compare across different land parcels like farms and ranches (agricultural rural), small towns (rural), suburban and urban areas. All types of landowners vote and, more importantly, all types of people interact with the environment in ways that effect species at risk.

Women in this study did not care more than men about the protection of species at risk. Empirical data has presented mixed results on gender and attitudes toward wildlife and endangered species. Olive<sup>15</sup> found that women care differently about different animals, showing great concern for a tortoise in Utah but virtually no support for endangered snakes in Ohio. Thus, it might matter specifically which species at risk are in question. To test this, future research should examine attitudes toward species like Burrowing Owls, Swift Fox, the Great Horned Lizard and other species at risk in the province. Men and women might feel

differently about these species, implying that outreach and education should be targeted to certain groups. Also, if we know what women are supportive of specific birds or plants, then steps could be taken to involve women, either through financial contributions or directly through conservation initiatives.

Support for hypothesis two is mixed. Respondents were not overly supportive of the regulation of private property but, as predicted, rural individuals and conservatives were less supportive than urban and liberal respondents. Almost a majority of respondents felt that private property is an instrumental right, created by government, that can change over time as the needs to society change. Only rural landowners felt strongly about the absolute notion of property, and they were statistically more likely to agree with that viewpoint. Thus, there is not overwhelming support for regulation, but the fact that a majority disagreed with the absolute notion of property means there is political space, or at least some public support, for the regulation of private land in the province. However, 60 percent of respondents also felt that it would be

unfair to expect landowners to bear the costs associated with conservation. This was especially true for wealthy and conservative respondents. This suggests that the province is going to have to work with private landowners, especially in rural and politically conservative areas, to enhance stewardship. This might entail the use of incentives or cost-share program so that landowners do not have to finance conservation out-of-pocket.

Finally, regarding the third hypothesis, residents did support conservation law, but rural individuals and conservatives were no more or less supportive than urban individuals or liberals. Respondents seemed to favor government involvement in conservation as well as the creation of laws for conservation, but a smaller majority supported the use of sanctions against those who would violate conservation laws. Surprisingly, even though rural respondents were more likely to agree with the absolute notion of private property, they did not reject the creation of laws for conservation. Also, despite feeling it is unfair to burden private land with conservation costs, conservative respondents did not reject the creation of laws for conservation. They were, however, less supportive of the use of sanctions. So, again, this suggests that the new conservation laws might need to rely upon stewardship funds and incentive programs to ease the burden on private land. A carrot approach would likely be more popular than a stick approach, but a balance of carrots and sticks seems to have wide public support.

What does all of this suggest for stand-alone species at risk policy in Saskatchewan? What should new legislation look like? All respondents, regardless of age, income, ideology,

education or location, felt that it is important to protect species and prevent (or at least not cause) their extinction. This is a good starting place for the creation of new species at risk legislation in the province. Moreover, the vast majority of respondents, despite demographics, supported government involvement in conservation and the creation of laws for the purposes of conservation. This too bodes well for the development of species at risk legislation.

The lack of information about endangered species and current legislation is both surprising and problematic. First, a majority of respondents could not correctly name a single endangered species in the province. Species at risk are obviously not a salient issue and, perhaps, not part of the education system or public discourse in the province. While it is good to know that people still support conservation despite their lack of knowledge, it will be crucial for individuals to know about species - what is endangered and why - in order to steward such species. This is particularly true in Saskatchewan where the prospects of property regulation are low and unpopular. Essentially, the government is not likely going to mandate that landowners conserve species on private property (command and control) so it will be up to individuals to willingly steward species. The chances of this leading to effective conservation are low, when so little information exists about endangered species. No-one can steward species that they have never heard of or cannot identify in the wild.

If education and outreach are part of the long-term species at risk strategy in Saskatchewan, then a SARA-like approach might be the best policy to

enact. SARA takes a stewardship-first approach to conservation<sup>16, 17</sup> by providing funds and incentives to assist conservation on non-public lands. Saskatchewan should follow this lead and back-up policy with regulations that apply to all land parcels, such a critical habitat designation and protection. The point is not to punish landowners with species on their land, but to reward them with financial assistance once it has been determined that their actions are maintaining critical habitat on the land. This will require the use of taxpayer money, so it is necessary to have wide public support in urban areas where most taxpayers live and to inform all taxpayers in the province about the value of species at risk and biodiversity. My data suggests there is public support for conservation laws but there is a lack of knowledge about species. Lastly, before any policy can be created, other stakeholders, most notably agricultural landowners, will need to be included in public discourse. Agricultural landowners are obviously rural (with the few exceptions of farmers who live Saskatchewan's larger cities) and rural parts of Saskatchewan tend to be quite conservative. In the 2011 election the Saskatchewan Party (far right) won the majority of seats (49), while the New Democratic Party (far left) won the remaining 9 seats - all in urban areas (in fact, all in Regina and Saskatoon). Given the conservative and rural nature of agricultural parts of Saskatchewan, future research will need to focus on their attitudes toward private property and regulation. It is also essential to uncover what kind of conservation solutions or policies rural or conservative respondents will support. While it may be that farmers and other rural residents are no more or less concerned about biodiversity than their urban counterparts, they may be less supportive of specific

policy approaches, especially land-use regulations for rural residents<sup>18</sup> and proposals that seem to threaten their sense of identity, place, and way of life.<sup>19, 20</sup> This all needs to be considered before Saskatchewan moves forward with new legislation.

Canada has a rich array of natural capital and, in 1992, became the first country to ratify the UNCBD, committing itself to the protection of biodiversity. The estimated value of the ecological goods and services in various Canadian eco-regions ranges from \$2.6 billion per year from southern Ontario's Greenbelt<sup>13</sup>, to \$5.4 billion from B.C.'s lower mainland<sup>14</sup>, to \$703 billion per year from Canada's boreal forests.<sup>21</sup> As Canada continues to urbanize and as climate change and other factors threatens species from coast to coast, it is absolutely essential that individual provinces join forces with SARA to confront, and potentially reverse the loss of biodiversity. This study shows that Saskatchewan residents value other species and support the creation of conservation laws. It is time for the province to create stand-alone species at risk legislation that respects private property but at the same time meaningfully protects biodiversity.

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*Piping Plover*

- Randy McCulloch



*Swift Fox*

- Lowell Strauss