2020 PEI STATE OF WILDLIFE REPORT

Summary of Key Findings

SUMMARY

Since 1997, the Prince Edward Island Forests, Fish and Wildlife Division (FFW) has been mandated through provincial regulatory and policy documents to inventory, monitor and report on PEI wildlife and wildlife habitat. Within this framework the State of Wildlife (SOW) Report is meant to be produced once every decade. This is the second such report and covers the years 2007 – 2020; it follows, and expands on, the benchmark 2007 SOW Report.

General Status of PEI's Wild Species

Extensive work has been done to better understand PEI biodiversity and species status.

The number of species assessed grew 140% since the 2010 status report. Most species where adequate information is available are ranked as "Secure (S5)" or "Apparently Secure (S4)". Many at risk species include those that typically do not reside on PEI, for this reason not all make realistic management or conservation targets.

PEI Species At Risk

Twelve terrestrial species listed as Endangered or Threatened under the federal Species At Risk Act traditionally reside on PEI. Nine of these were listed between 2007 and 2020.

FFW Wildlife Monitoring

FFW has been monitoring wildlife populations directly and indirectly for decades and has developed a framework, which that takes **Priority Species, Priority Habitat/Ecosystems and Priority Threats** approach. The framework aims to address what is practical and achievable to be better able to contribute to future SOW reporting. Currently, FFW is involved in over 15 monitoring programs for PEI species.

PEI Game and Furbearers

Harvest and species monitoring efforts suggest populations are healthy and stable. Drops in harvest over the years are consistent with a trend of declining numbers of licensed hunters and trappers, and fur prices.

PEI Non-game Wildlife

Many non-game species are stable, like raptors, but others like cormorants and shorebirds, are of conservation concern due to lack of available habitat or other factors, like.

PEI Freshwater Fish

Atlantic salmon show a restricted distribution and remain a species of conservation concern, while brook trout appear widespread and abundant.

Wildlife Illness and Disease

Since 2007, several wildlife diseases and ailments have inflicted PEI wildlife. The most serious being white-nose syndrome in bats, which have declined drastically; and mange that has affected local canid populations.

Land Use, Wildlife Habitat, and Land Protection

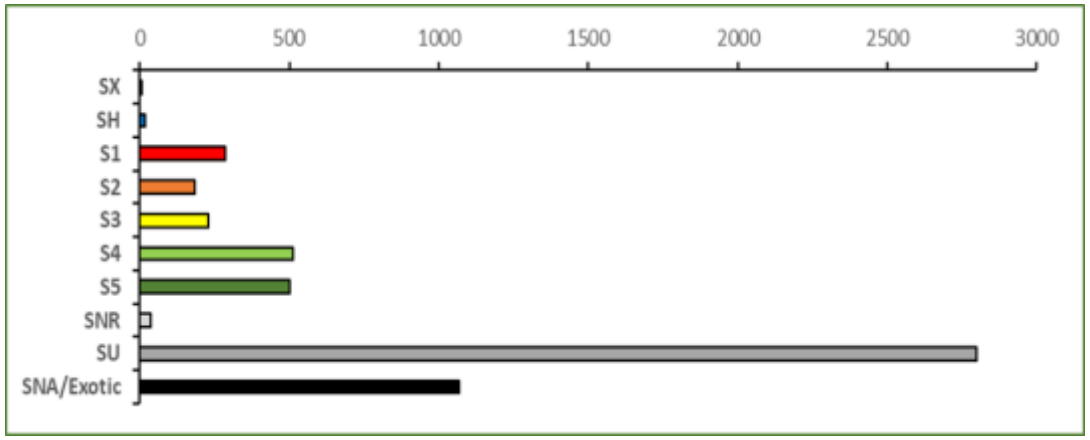
Land use between 2010 and 2020 did not change dramatically. The quantity of developed lands on PEI increased by less than 1%, whereas the amount of agricultural use on the landscape decreased by 0.18%, while forest decreased by 0.71%. Close to 46% of PEI's landscape is developed.

The 2020 CLUI reports an increase of approximately 1900 ha of wetlands since 2010. This increase is due to advancements of technology and improved methods of wetland delineation used to identify and map wetlands. More than two thirds of freshwater wetlands in PEI are classified as either shrub or wooded swamp.

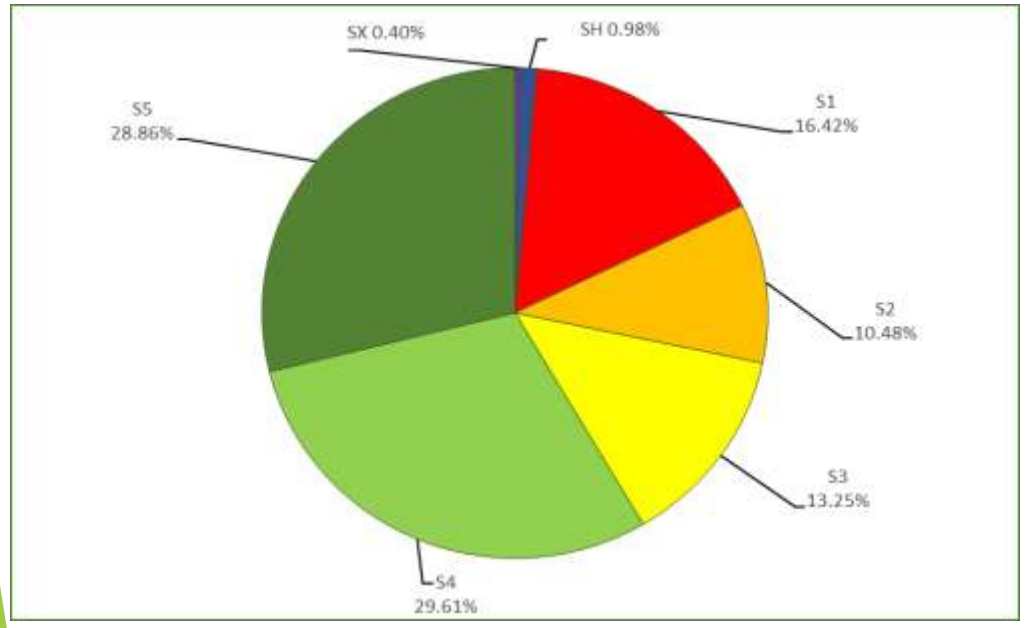
Both the Provincial and Federal governments have allocated significant resources to reach ambitious protected and conserved areas targets, 7% for PEI and 20% Canada-wide – a goal that is recognized as a significant challenge given PEI's developed landscape and high proportion of private land. Since the 2007 SOW Report, the Protected and Conserved Areas Network (PACN) on PEI has increased by over 50%, totaling 26,340 ha or 4.67% of the province

Prince Edward Island
CANADA

GENERAL STATUS OF PEI WILD SPECIES



Number of PEI Species Listed by Rank 2020 (N=5641).



Percent Distribution of 2020 PEI Species Ranks for Species Not Listed as SNR, SU or SNA.

Extensive work has been done to better understand PEI biodiversity and species status.

The 2020 General Status of Species in Canada report (CESCC 2022) assessed a total of 5641 species from 35 taxonomic groups for PEI, compared to 2318 in 2010, an increase of about 140%….

Of the species assessed for PEI (Figure 2-1) nearly 50% are considered:

"Unrankable" or Not Ranked" - knowledge is currently lacking to make assessment; or, "Not Applicable" - non-native or exotic species (again, the majority being from the invertebrate taxonomic group).

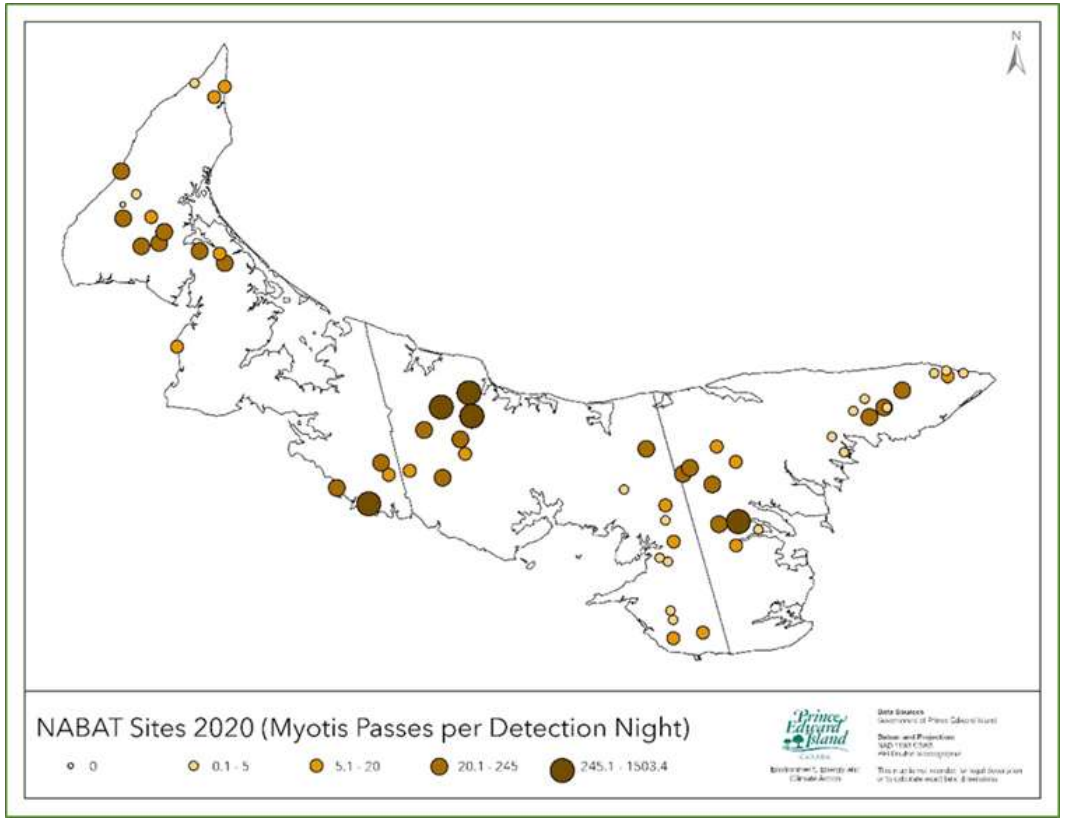
Most species where adequate information is available are ranked as "Secure (S5)" or "Apparently Secure (S4)"

Of the remaining species occurring on PEI, approximately 40% are considered "S1", "S2", or "S3" - most of whom come from the plant, lichen, insect and bird groups - while 60% are considered "S4" or "S5".

Many at risk species include those that typically do not reside on PEI and thus do not all make realistic management or conservation targets.

Many of the bird species listed as "S1", "S2", or "S3" include ones that either exist at the periphery of their ranges, are naturally rare or sporadic, were likely not historically present on PEI before European settlement, or simply never naturally occurred on PEI (i.e., ruddy duck)

THREATENED OR ENDANGERED SPECIES AT RISK



Monarch Butterfly

Red Knot

Barn Swallow

Bank Swallow

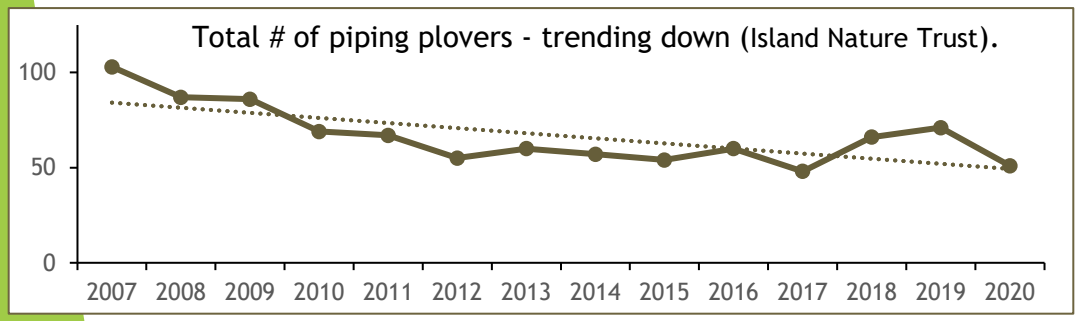
Twelve terrestrial species listed as Endangered or Threatened under the federal Species At Risk traditionally reside on PEI *– most of them are birds. Nine of these were listed between 2007 and 2020.*

Piping plover total individual counts have fallen to 50% of the long-term trend.

Bats have experience precipitous declines range-wide, but still actively breed and hibernate on PEI.

Northern Myotis and Little Brown Myotis

In 2020, FFW partnered with the PEI Watershed Alliance and the Canadian Wildlife Health Cooperative to implement a province-wide bat monitoring program using acoustic detectors. The program's purpose is to establish long-term population indices and sample the distribution of northern myotis and little brown myotis on PEI

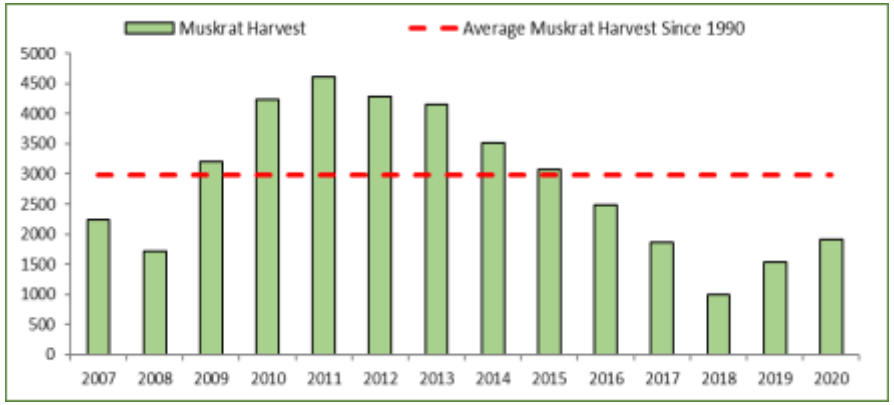


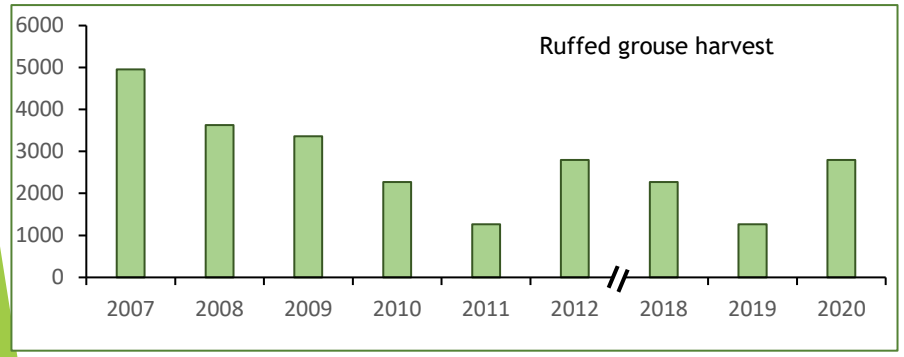
Bobolink

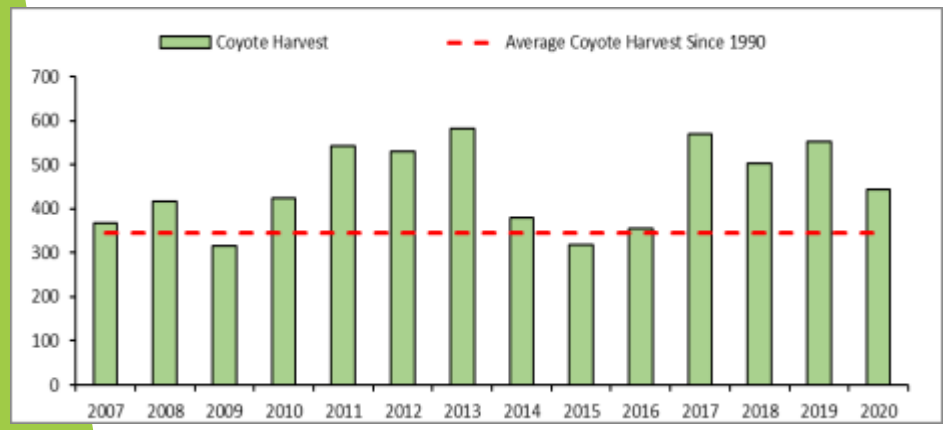
Piping Plover

Canada Warbler

GAME AND FURBEARERS







Beaver

Snowshoe Hare

American Mink

Canada Goose

Game and furbearer populations are healthy and stable.

Island game species consist of federally regulated waterfowl, and provincially regulated upland game like snowshoe hare and ruffed grouse. Furbearers are mammal species that are harvested for fur products.

Harvest statistics are gathered annually. Drops in fur harvest over the years for many species, like muskrat, are consistent with a trend of declining numbers of licensed trappers and fur prices; whereas increasing to stable trends for coyote are likely due to a growing population.

PEI waterfowl population are healthy and stable. The population of resident Canada geese has grown since 2007 adding opportunities for local hunters.

American Black Duck

Raccoon

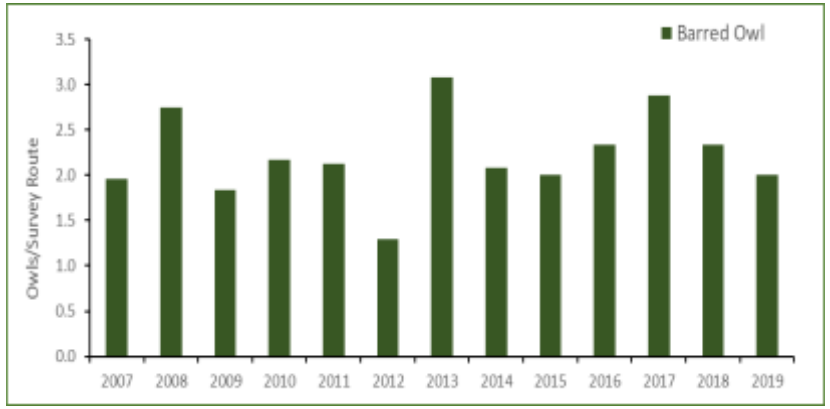
Ruffed Grouse

Red fox

Muskrat

Coyote

NON-GAME WILDLIFE



Owl Detections Per Survey Route for Barred Owl

FFW is actively engaged in population monitoring and conservation of the Island's non-game wildlife species.

Efforts include coordination of long-standing survey programs for owls (above) and new initiatives like the river otter monitoring and protective trapping guidelines, forest songbird surveys, and great cormorant colony counts (below).

Forest Songbirds

Amphibians

Peregrine Falcon breeding pair on PEI (above, bottom) with chicks nearby (above, top).

Forest Owls

Most non-game species are stable, but some are of conservation concern due to lack of available habitat or other factors.

The increased knowledge through research and monitoring of non-game species has led to a better understanding of their statuses and habitat requirements. Land acquisition efforts planned will lead to greater conservation of habitat for these species.

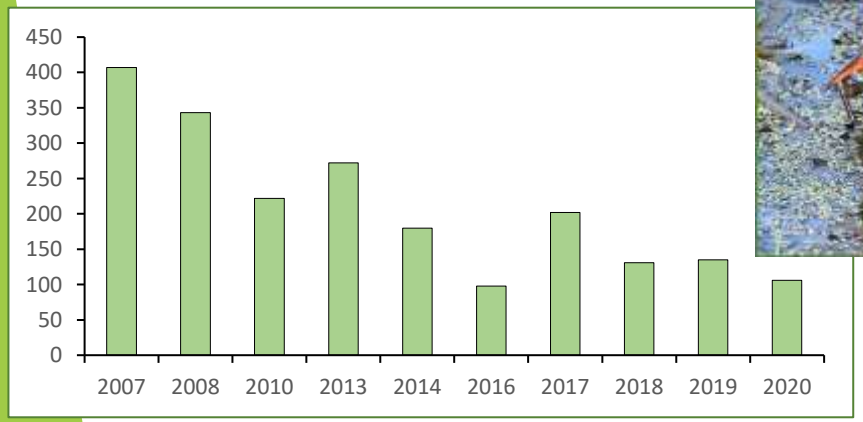
Colonial Waterbirds

Northern Goshawk

Marsh Birds

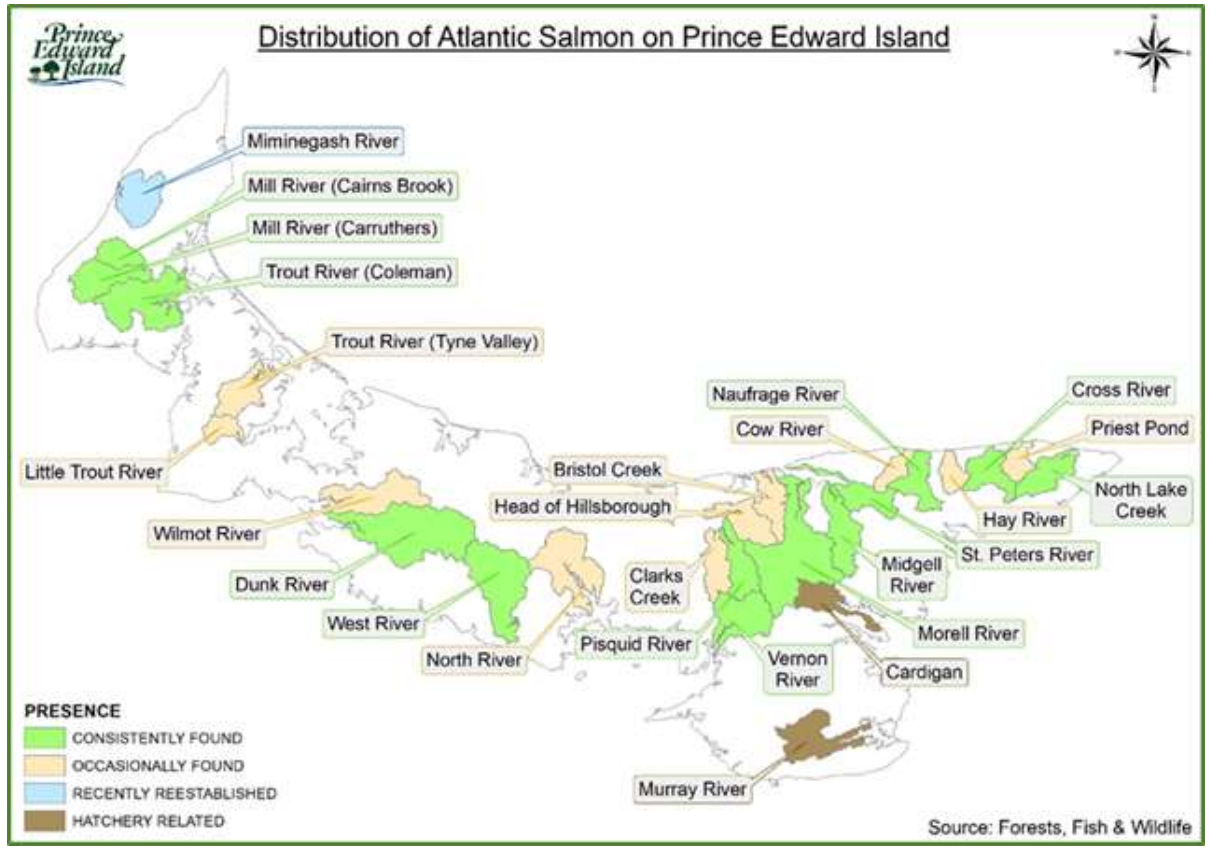
Shorebirds

River Otter



Total Great Cormorant Nest Counts Between 2007 and 2020.

FRESHWATER FISH



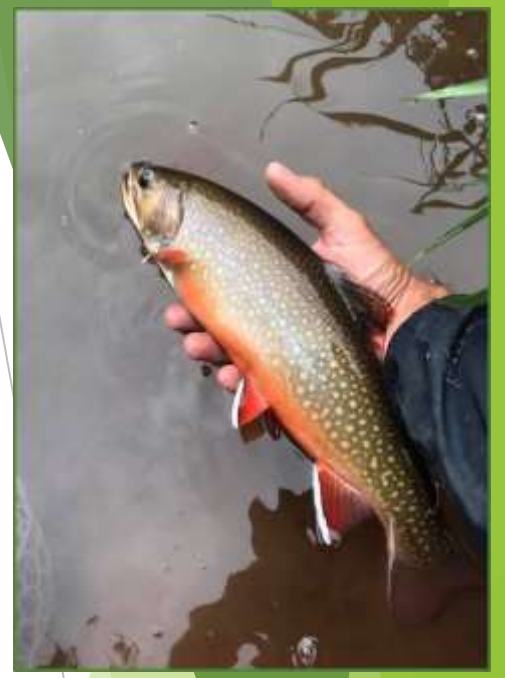
A province-wide survey conducted in 2019 found 17 rivers with juvenile Atlantic salmon but depending on the year, as many as 26 have been recorded.

It is difficult to pinpoint the number of rivers with Atlantic salmon in any given year due to sporadic sampling and variability in numbers, especially when population levels are severely depressed and year classes of juvenile salmon are missing.

Atlantic Salmon

Atlantic salmon show a restricted distribution and remain a species of conservation concern, while brook trout appear widespread and abundant.

Four salmonid species can be found in PEI streams, including 2 that are native, and 2 that are introduced. Native species are monitored annually to gain insight on presence and distribution. Atlantic salmon remain at historic lows, but annual restocking efforts continue by FFW and local watershed groups. Rainbow trout continue to expand and brown trout remain incidental.

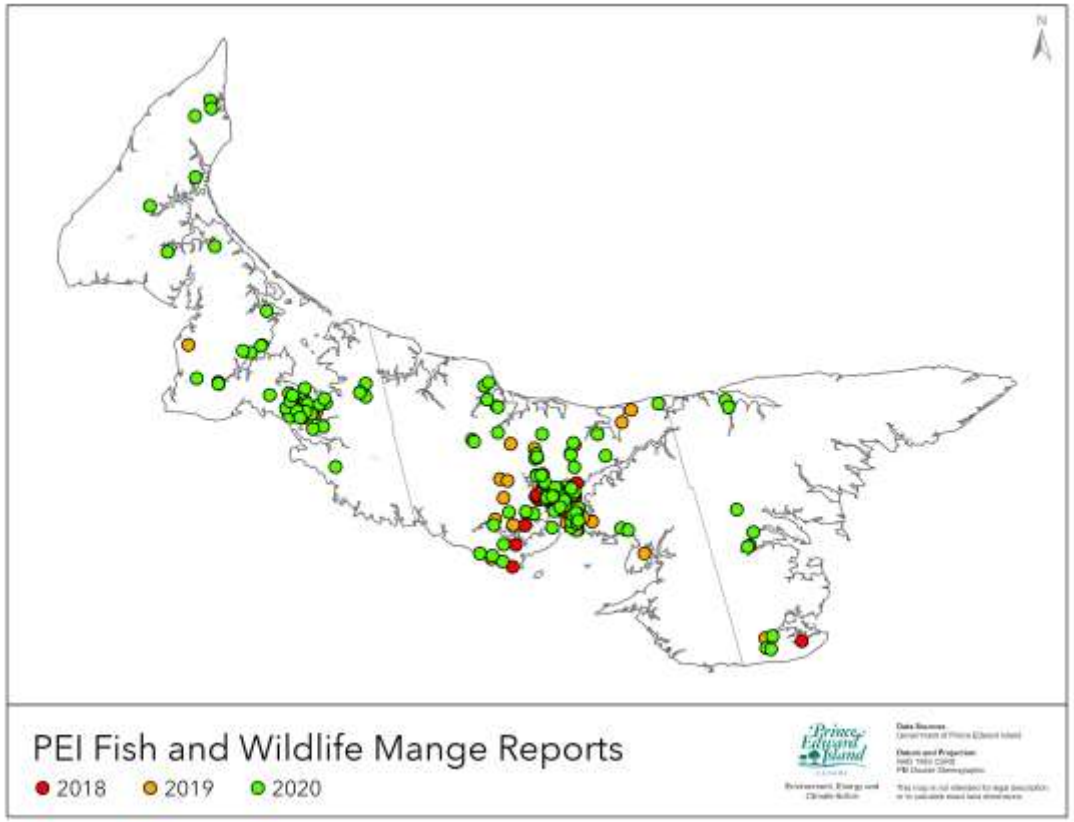


Brook Trout

Rainbow Trout

Brown Trout

WILDLIFE DISEASE AND ILLNESS



Mange reports increased in number and in spatial scale between 2018 and 2020.

Fish and Wildlife has fielded around 280 calls related to sarcoptic mange between 2016-2020 and has maintained a commitment to intervene and humanely euthanize severely affected animals when practical and appropriate. FFW is also collaborating with and financially supporting the Canadian Wildlife Health Cooperative in active research around sarcoptic mange prevalence and transmission dynamics in wild canids of PEI.

White Nose Syndrome

Estuary undergoing an anoxic event

Fish kills via anoxia or toxic spills occur every year on PEI.

The most notable illnesses impact PEI wildlife since 2007 have been white-nose syndrome in bats, which have caused severe declines throughout North America, and mange that has affected local red fox and coyote populations.

FFW records sightings of mange in these species through wildlife trail camera monitoring, the vast majority of which are of healthy individuals. Initial red fox cases appear to be associated with urban areas like Charlottetown and Summerside. Fish kills from anoxic water conditions or from toxic spills occur every year, which could result in the death of hundreds or thousands of fish.

Despite high mortality due to mange, red foxes remain widespread and abundant.

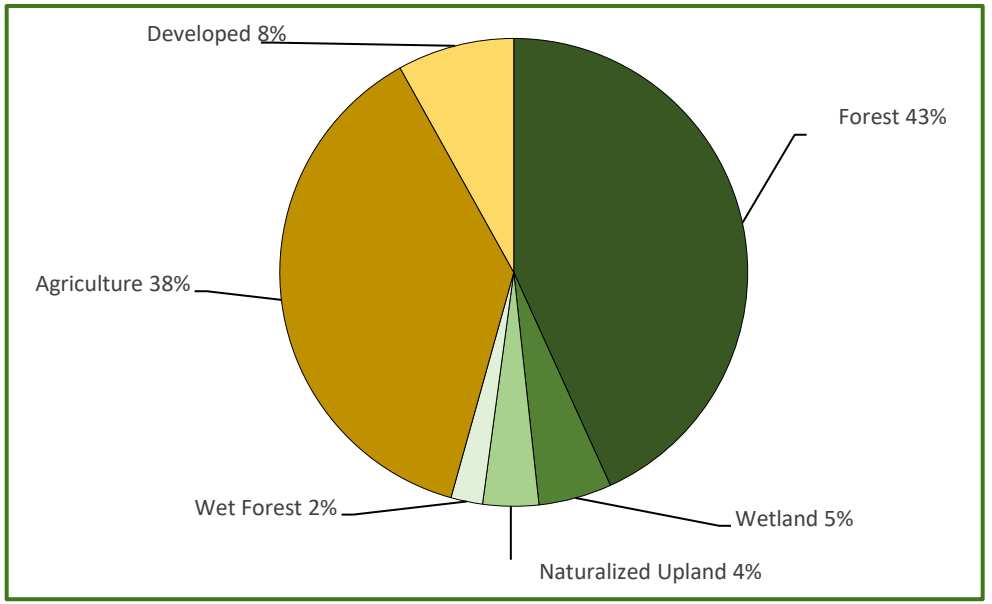
Coyote with presumed mange

Trichomonosis affects mostly songbirds that congregate at bird feeders

Brook trout infected with Saprolegnia

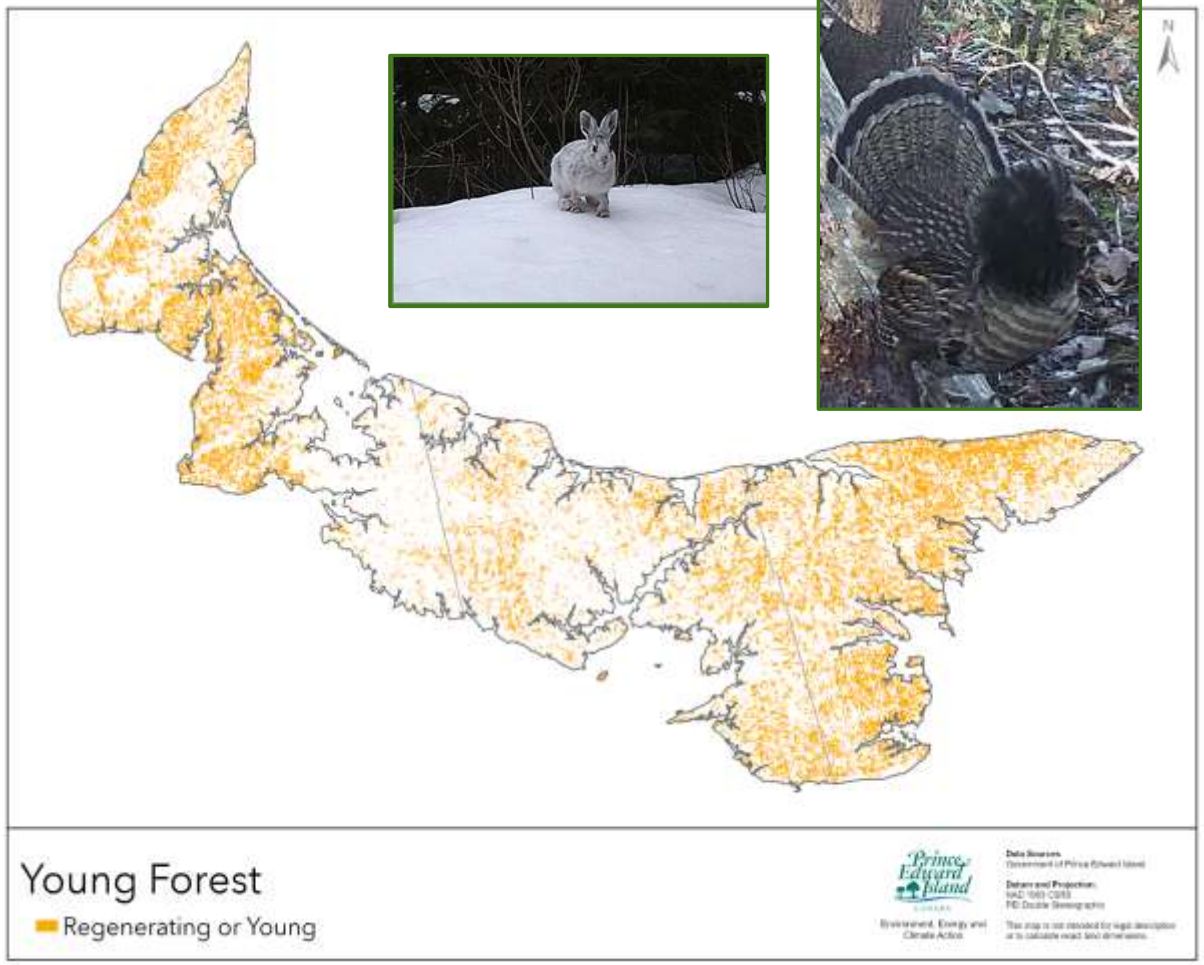
Red Fox with presumed mange

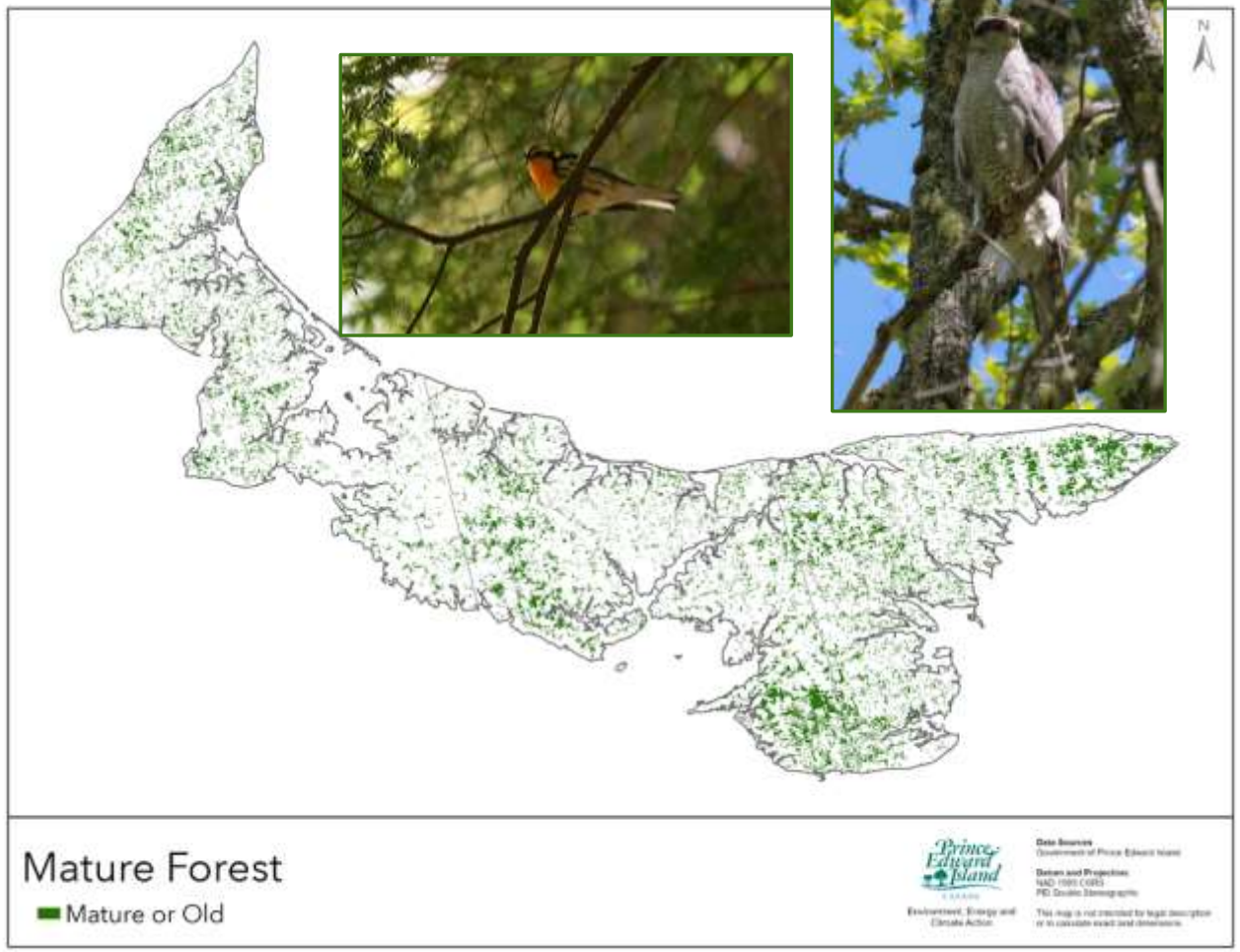
LAND USE AND WILDLIFE HABITAT



Land use between 2010 and 2020 did not change dramatically. The quantity of developed lands on PEI increased by less than 1%, whereas the amount of agricultural use on the landscape decreased by 0.18%, while forest decreased by 0.71%.

FORESTS

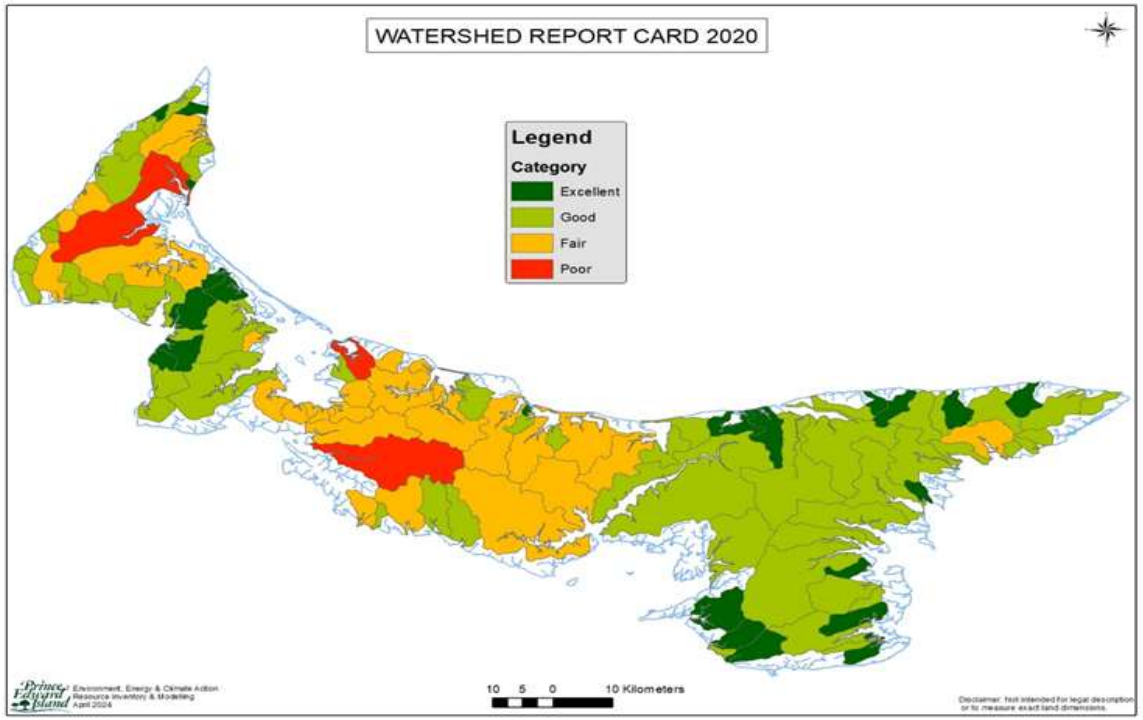




Forests make up 43.2% of land area on PEI; of this, 63% (27% of total land area) is classified as regenerative to young, and 37% (16% of total land area) is classified as old to mature.

Regenerative forests can be highly productive in terms of biodiversity and for popular PEI game; however, the reduced quantity of mature forests has resulted in a change of Island bird communities over the long term. Surveying and monitoring of PEI's forest songbird community is ongoing, with a focus on interior mature forest species.

WATERSHEDS AND WETLANDS



Wetland habitat availability remained stable between 2010 and 2020 due to protections afforded through provincial policy and legislation.

More than two thirds of freshwater wetlands in PEI are classified as either shrub or wooded swamp. These features are often overlooked as wetlands due to the presence of vegetation and lack of open water. They often are areas of relatively high biodiversity and many bird species rely on them.

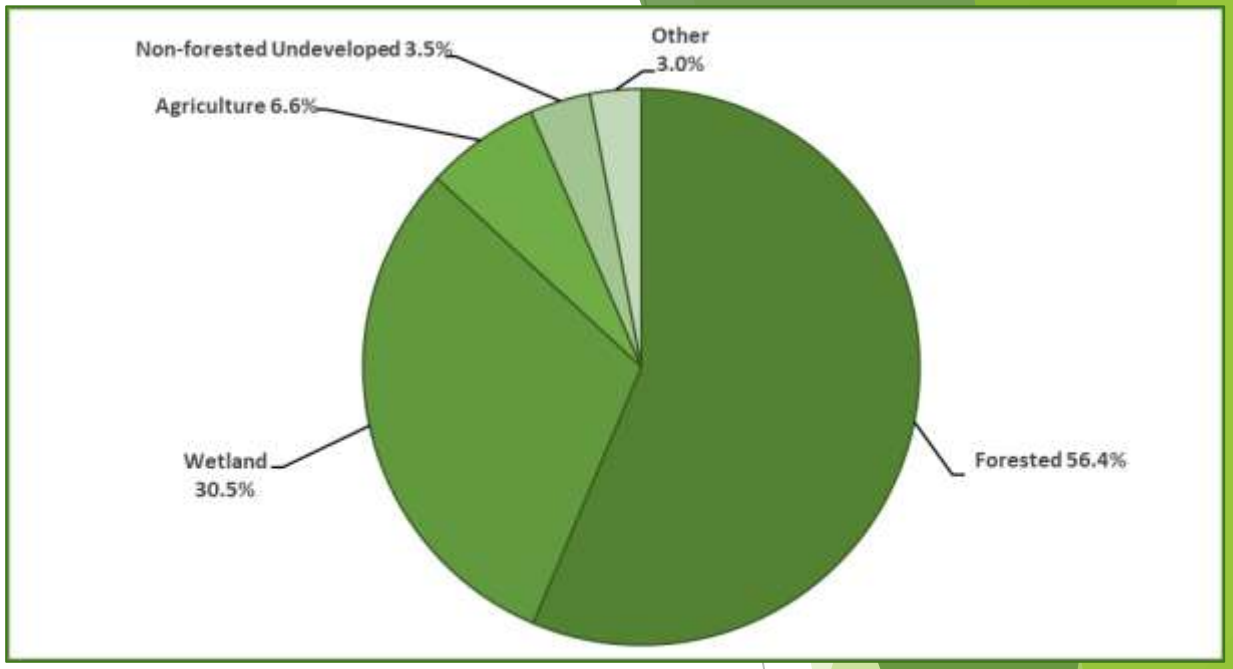
Water quality is tightly linked to surrounding land use practices.

Partnerships among FFW, watershed groups, federal government and members of the local agricultural community are investigating ways to improve watershed quality in areas with higher agricultural use.

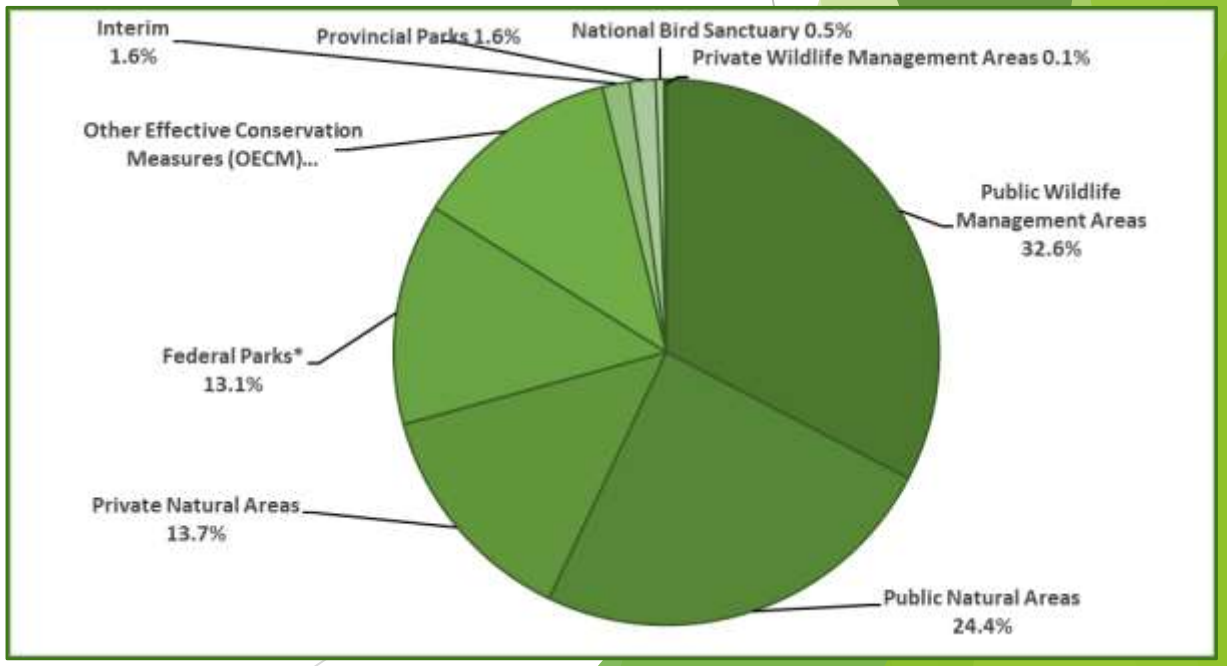
PROTECTED AND CONSERVED AREAS NETWORK

Since the 2007 SOW Report, the Protected and Conserved Areas Network (PACN) on PEI has increased by over 50%, totaling 26,340 ha or 4.67% of the province.

Most land on PEI (roughly 90%) is privately owned, so actively purchasing and protecting high value wildlife habitat properties is an important conservation strategy. The Province purchased more than 475 hectares of wildlife habitat specifically for conservation between 2007-2020. These lands were secured through a combination of provincial funding, and federal support via the Canada Nature Fund of Environment and Climate Change Canada. Both the provincial and federal governments have allocated significant resources to reach ambitious protected and conserved areas targets, 7% for PEI – a significant challenge given PEI's developed landscape and high proportion of private land.



PEI's Protected and Conserved Areas Network by land use as of 2020.



PEI's Protected and Conserved Areas Network by category as of 2020.

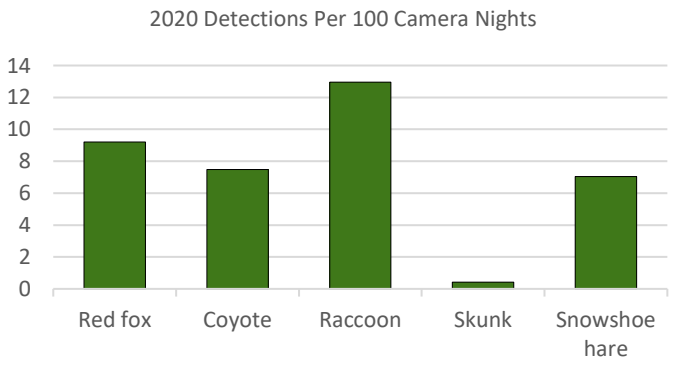
FFW PROGRAMS - WILDLIFE MONITORING FRAMEWORK

FFW has been monitoring wildlife populations directly and indirectly for decades and has developed a framework with an approach towards Priority Species, Priority Habitats and Priority Threats.

The framework aims to address what is practical and achievable to be better able to contribute to future SOW reporting. Currently, FFW is involved in over 15 monitoring programs for PEI species Island-wide. Long-term examples of FFW-led programs include:

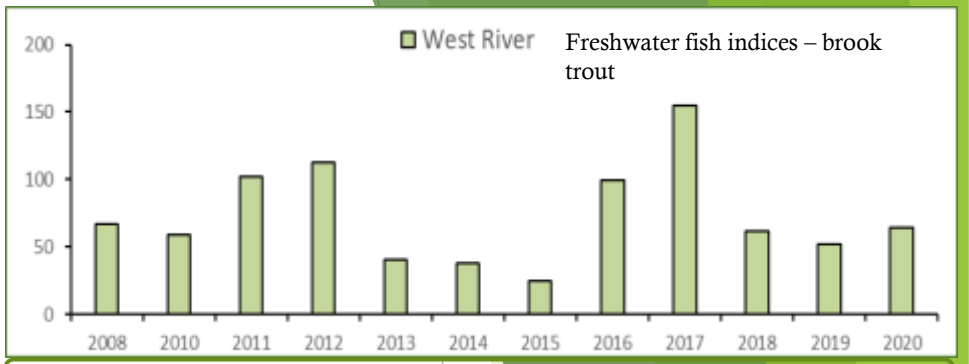
- remote camera monitoring to assess occupancy of PEI mammals;
- Interior forest songbird community assessments using point count surveys;
- remote acoustic biodiversity monitoring in PEI beaver complexes;
- ruffed grouse indexing using drum counts;
- cormorant breeding colony nest counts;
- Salmon brood stock collection and stocking; and,
- Freshwater fish population indexing.

Remote camera monitoring indicates the most common mammal species are raccoon, red fox, coyote, and snowshoe hare

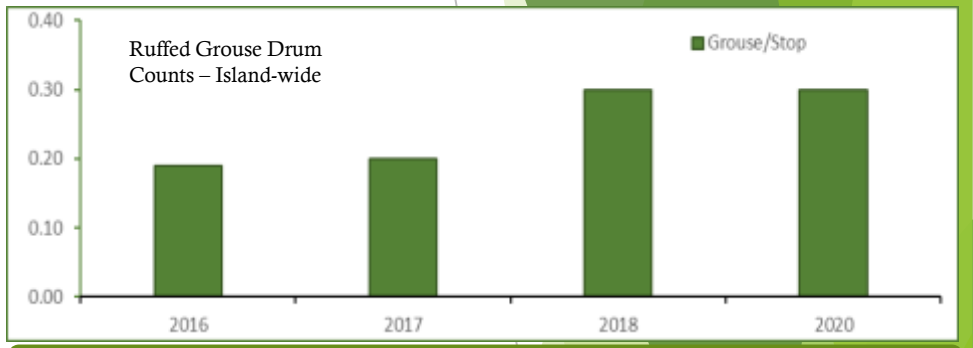


There is a long history of stocking salmon in Prince Edward Island rivers to support this species of conservation concern and angling opportunities.

The Abegweit Conservation Society is contracted by the Province to stock a minimum of 50000 salmon annually.



Fish indexing shows that brook trout abundance can fluctuate year-to-year.

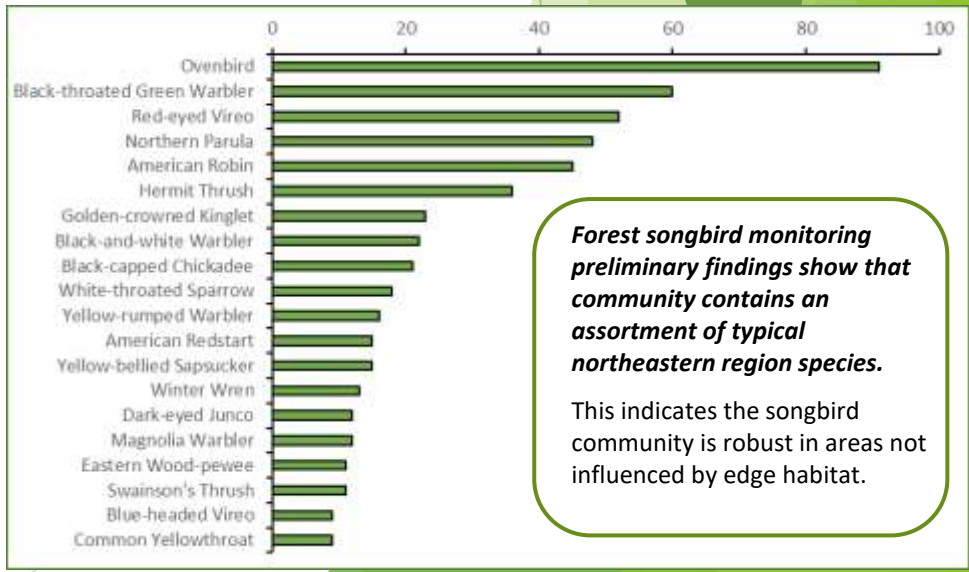


Ruffed grouse drums counted per stop have increased since they began in 2016.

Acoustic monitoring of beaver complexes documents presence of several species of conservation concern; including:

Myotis bats, Virginia rail, black-backed woodpecker, Canada warbler, and evening grosbeak, as well as 5 amphibian species.

Results also support the view that beaver complexes are high value areas that support Island biodiversity.

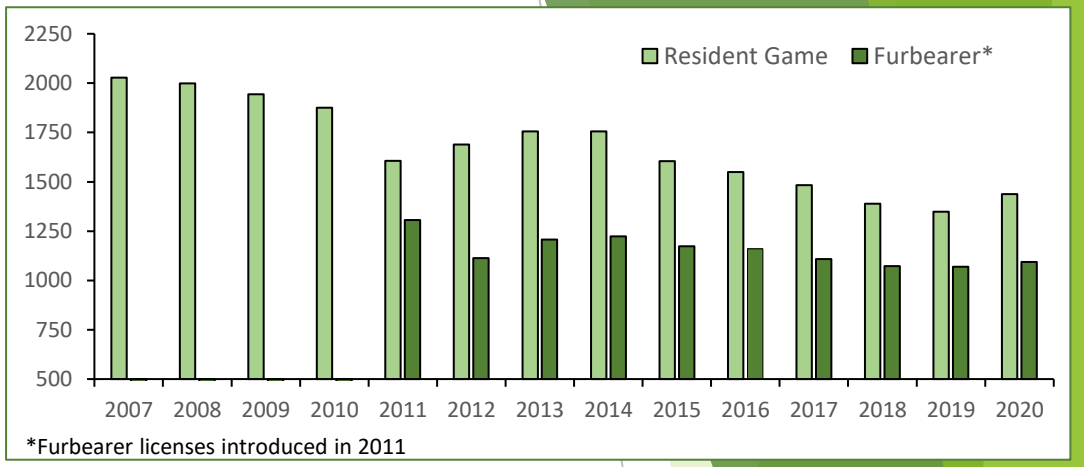


Forest songbird monitoring preliminary findings show that community contains an assortment of typical northeastern region species.

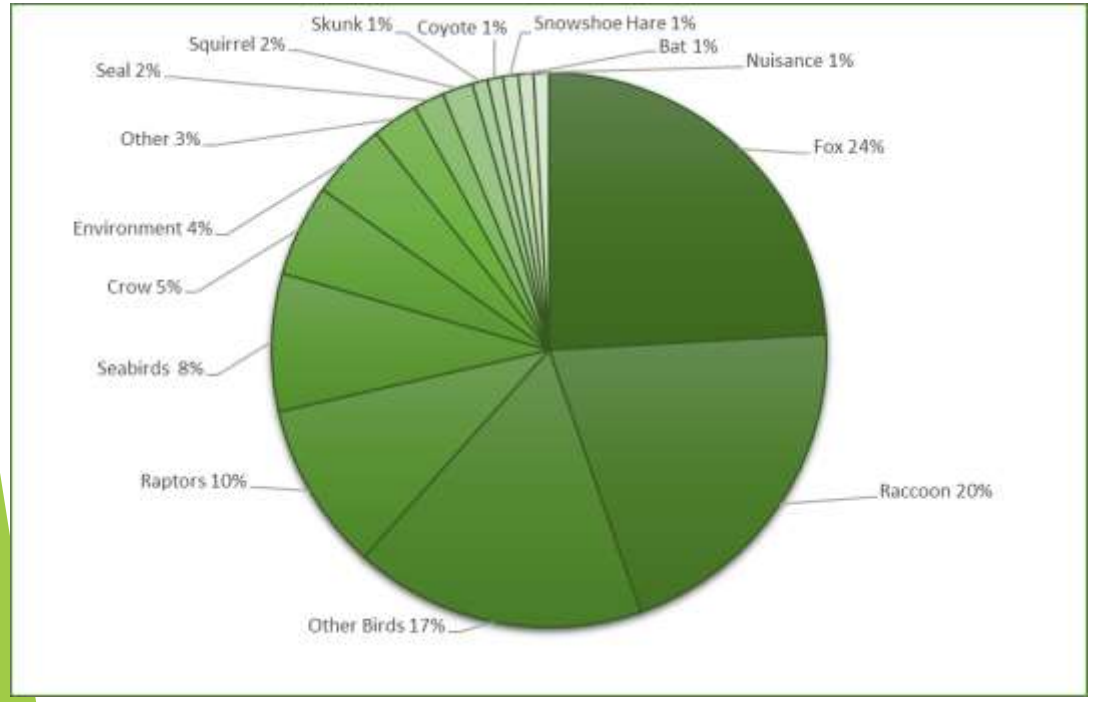
This indicates the songbird community is robust in areas not influenced by edge habitat.

FFW PROGRAMS – HUMAN DIMENSIONS

Hunter and Trapper Education



Total Annual Number of Resident Game Licenses Sold between 2007 and 2020.



Human Wildlife Interactions and Wildlife Response – percent of calls by species

Licenses and permits - FFW administers the sales of hunting, trapping and angling licenses on PEI. Since the last SOW report, sales in trapping and hunting licenses have dropped, while angling license sales have increased. In addition to these, FFW also issues various types of permits to the public, wildlife control operators, and researchers. These include salvage, capture, and export/import permits.

Human-Wildlife interactions - FFW receives and responds to hundreds of calls from the public regarding wildlife illness, injury, conflict and general inquiries. During the most active seasons, FFW maintains an after-hours wildlife response line to ensure that wildlife concerns can be addressed in an appropriate and timely fashion outside of regular office hours. In 2019, 110 calls were received on the FFW after-hours wildlife response line, most of these were related to fox, raccoon and birds (see chart at left).

Education - FFW places a high priority on education. Throughout the year, staff participates in a wide variety of activities designed to increase residents' and non-residents' knowledge of Prince Edward Island's local wildlife species, habitats, policies, and interactions. FFW education offerings include school events, firearms safety, hunter safety, and trapper education.

KEY FUTURE PRIORITIES

Habitat

Land Acquisition:

FFW will:

i. work towards achieving protections for 7.5% of PEI's total land area;

ii. seek funding opportunities to acquire lands for the provincial protected areas network, with a focus on forest and wetland properties and building connectivity within the network;

iii. work collaboratively with partner organizations to coordinate land securement efforts;

iv. use best available data (e.g., SAR models, updated wetlands inventory, connectivity analyses) to help prioritize lands for securement.;

Private Land Protection

i. Expand private land protections through conservation agreements under the *Wildlife Conservation Act*.

ii. assist landowners who are interested in land stewardship and private protection;

iii. explore programming options to support private landowners in protecting land (e.g. Long-term Expanded Riparian Buffer Incentive);

Climate Adaptation

i. acquire and manage lands of strategic importance to conserve natural habitats at risk to reduce the hazards of climate impacts and enhance connectivity and resiliency;

ii. encourage property owners and farmers to minimize their impacts on lands next to watercourses by participating in the newly expanded Alternative Land Use Services (ALUS) program and the newly created Buffer-Zone Buyback program; and,

iii. develop guidelines for municipalities and residents to protect habitats, buffer zones and native species through the PEI Priority Place Forested Landscape for Species at Risk, a joint program between the federal and provincial governments.

Motus Wildlife Tracking System
motus-wts.org

Wildlife Management and Monitoring

FFW will:

i. collect, manage, and analyse data on wildlife populations of conservation or management concern; including hunter harvest tracking, occupancy and habitat use of game and non-game species and the use of indicator species or species groups as measures of biodiversity and habitat effectiveness;

ii. incorporate innovative techniques to monitor the state of wildlife on PEI; including the use of occupancy and habitat suitability modelling, and movement tracking (e.g., the MOTUS wildlife tracking network), remote sensing and eDNA technology;

Policy and Legislation

i. modernize the Wildlife Policy for PEI, as well as other policy documents on an as needed basis;

ii. Incorporate data from wildlife science efforts (e.g., harvest and occupancy data) to amend the *Wildlife Conservation Act* on an as needed basis.

iii. through the Species At Risk Advisory Committee pursue species at risk agreements that recognize PEI's unique situation with regards to the proportion of private land ownership, population density, and relative disturbance.

Human Dimensions

i. Continue to support local hunting communities;

ii. Increase emphasis on non-traditional clientele (e.g., birders, recreationalists);

iii. Increase public tolerance and knowledge regarding wildlife-human interactions.

Prince Edward Island CANADA