

Cape Breton Marten Augmentation Project :

Final Report, 2010

Nova Scotia Department of Natural Resources, Wildlife Division. Kentville NS.



Summary

This (2009-2010) was the third year of concentrated effort to conduct a fall live trapping session in northern New Brunswick. Most of the trapping gear (traps and holding pens) had been left in NB the previous year so it was only a matter of getting contracts for two trappers to do the work and provide food and accommodations.

Ed Cottreau of NB and Paul Tufts of Nova Scotia were contracted to live trap marten in northern New Brunswick from 16 November to 11 December 2009. Trapping was very successful with a total of 49 marten (m=33, f=16) live trapped in NB and released in Cape Breton. In addition, one animal live trapped died in a holding pen, and one escaped in NB. There were no mortalities of marten while being held in CB. Five marten were released in Whycocomagh, four at Timber Lakes, five at Black Brook, six at Glentosh, five at Little River, five at Cheticamp, four at Pleasant Bay, four at Paquet's Lake, three near Sugarloaf, and two escaped from their holding pens in Baddeck. All release sites are in, or in close proximity to the proposed release sites indicated in the Augmentation Plan, except for the two escapees.

All marten were PIT tagged, weighed and had DNA (hair) samples collect for later analysis if required. Twelve male marten were radio collared to provide some information on movement and habitat use. These animals continue to be monitored when air support (helicopter) is available.

The live-trapping of marten in NB is now completed with a total of 128 animals moved and released (including 3 escapes) over a four year period (1 Spring 2007, 30 Fall 2007, 48 Fall 2008, 49 Fall 2009) . Future efforts will now concentrate on monitoring the success of the project, and will include camera bait stations, radio telemetry, snow tracking and live trapping in Cape Breton.

AUGMENTATION OF AMERICAN MARTEN ON NORTHERN CAPE BRETON ISLAND

PROGRESS REPORT 2010

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Background

The Cape Breton population of American marten has been listed as endangered under the NS Endangered Species Act since 2001. Following genetic testing (Johnson et al. 2005), habitat evaluation (Habitat Subcommittee 2004) and development of an augmentation plan (Austin-Smith 2006), the NS Marten Recovery Team (2006) recommended the augmentation of the Cape Breton marten population by up to 150 animals over a period of 3-5 years.

This report documents efforts taken in 2009-2010 by Parks Canada, NS Dept Natural Resources and the Unama'ki Institute of Natural Resources, with support from the New Brunswick Department of Natural Resources and the Trapper's Association of Nova Scotia, on behalf of the Nova Scotia Marten Recovery Team to improve the viability of American marten (*Martes americana*) on northern Cape Breton Island by augmenting population numbers.

Results

Relocation

Following the protocols set out in the augmentation plan (Austin-Smith 2006), relocations involved trapping and holding animals in northern New Brunswick until there were enough to ship; obtaining clearance to move them between provinces; moving them by truck and helicopter to NSDNR facilities in Cape Breton for tagging and radio-collaring; and finally to holding pens at release sites where they were held and fed for three to five days prior to release.

This past year's trapping session occurred in Northern New Brunswick from 16 November to 11 December 2009, when Ed Cottreau a fur harvester from NB, and Paul Tufts a fur harvester from NS were contracted to conduct the live trapping session. Mr. Cottreau and Mr. Tufts stayed in a remote camp (Island Lake Lodge) one hour west of Bathurst, from which they set and checked traps daily. The Lodge was selected based on its remoteness to human habitation, and its closeness to Mr. Cottreau's trap-line. During this trapping session a total of 51 animals (m=34, f=17) were live captured during ~1600 trap-nights (~ 31 Trap-nights per animal). One female marten died in a holding pen and was turned in to the NB DNR office in Bathurst, and one male marten escaped from a holding pen. Trappers were each paid \$150/day and \$75/marten, plus milage for a total of \$20,381.76 for the live trapping session. While being held in NB, a student was on hand to ensure that the marten were provided with beaver meat, jam, gatorade and given sulcrate.(sucralfate). Sucralfate produces an adherent and barrier protecting the potential ulcerogenic properties of acid, pepsin and bile.

Due to weather conditions and pilot training helicopter transport was not available until the 23rd November and 1st of December when Air Services provided air support and transported 9 marten each trip. Several trips were made by truck to pick up and transport marten to Cape Breton. The marten were placed in travel boxes stuffed with hay, and provided food and water during the trip. All trips were conducted during the day when marten were in a more restful state and when drivers were well rested.

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The males trapped weighed from 570 to 860 g (mean = 725 g; s.d = 69.63 g), the females weighed 400 to 560 g (mean = 492; s.d. = 45.27 g). One male escaped and one female died in New Brunswick giving a total of 49 animals transferred to Cape Breton. There were no mortalities during transportation or while the animals were being held prior to release in Cape Breton. All marten were immobilized prior to handling (collaring, PIT tagging etc). This allowed a better look at the animals' overall shape (teeth, weight, injuries) and ensured a better fitting of collars on males. All animals, except for the escaped marten, were PIT tagged, weighed and hair samples were taken and labelled for later DNA identification if required. Release sites included Black Brook, Paquette Lake and Cheticamp River in Cape Breton Highlands National Park and the provincial Trout Brook Wilderness Area (Table 1).

Immobilization

All marten except for the two escapees in Baddeck (Table 2) were immobilized with Ketamine and Xylazine (IM) prior to handling. Females were given a slightly smaller dose of the cocktail than males due to body size. Having the animals immobilized ensured a good fit for the collar, easy of PIT tagging and an opportunity to check the overall health of the marten. The drugs were reversed with Tolazoline and recovery took between 29 and 67 minutes.

Public Engagement

The releases at Whycomomagh Provincial Park were attended by CTV, Global, and generated additional interest and coverage from CBC Radio. Local print media carried the story as well as the Halifax Chronicle Herald. These releases were also attended by the Unama'KIDS group, Unama'ki Institute of Natural Resources staff, NS DNR Conservation Officers who provided a BBQ, other NS DNR and Parks Canada staff, as well as other members of the public. In all, about 60 people were in attendance.

The involvement of the Nova Scotia Trapper's Association in providing advice and assistance in trapping animals in New Brunswick, and of the the Unama'KIDS group in constructing nest boxes for the live traps and have been a great help to this project.

Monitoring

Fifteen males were collared using Holohil MI-2 collars with mortality. Four collared animals were released in Whycomomagh, 5 were released on Hunters Mountain (CBH Km 8), 3 released in Glen Tosh, and 3 at Black Brook, CBHNP. Helicopter telemetry flights were not available until 7 December 2009, 29 January 2010 and 10 February 2010. Unfortunately none of the collared animals was found. Aerial telemetry tracking will continue subject to the availability of NSDNR Flight Services machines with observers from NSDNR, Parks Canada and UINR.

Camera bait sites will be set up in and around areas where marten were released, and marten tracks will be included in the annual predator track counts conducted in the highlands.

Partnerships

The Cape Breton Island American Marten Augmentation Project is a cooperative project being undertaken by Nova Scotia Department of Natural Resources (Wildlife Division), Parks Canada and the Unama'ki Institute of Natural Resources, with the generous support and assistance of the New Brunswick Department of Natural Resources and the Nova Scotia Trapper's Association.

The project is being undertaken on behalf of the Nova Scotia Marten Recovery Team, comprising

representatives from Nova Scotia Department of Natural Resources, Parks Canada, Unama'ki Institute of Natural Resources, Canadian Forestry Service, Storaenso Forestry Products, Nova Scotia Trappers Association, Nova Forest Alliance, Wildlife Conservation Society Canada and Acadia University.

Table 1. Marten released in northern Cape Breton.

Date Received	Date Processed	PIT Tag	Sex	Weight (gm)	Collar Frequency	Release Date	Release Location
11/20/2009	11/23/2009	151418123A	M	580	151.939	11/25/2009	Whycocomagh Park
11/20/2009	11/23/2009	151419704A	M	630	151.979	11/25/2009	Whycocomagh Park
11/20/2009	11/23/2009	151419301A	M	710	151.960	11/25/2009	Whycocomagh Park
11/20/2009	11/23/2009	151416713A	F	400		11/25/2009	Whycocomagh Park
11/23/2009	11/24/2009	151419320A	M	750	151.919	11/25/2009	Whycocomagh Park
11/23/2009	11/24/2009	151415000A	M	680	151.839	11/29/2009	CBH KM 8
11/23/2009	11/24/2009	151417010A	M	660	151.860	11/29/2009	CBH KM 8
11/23/2009	11/24/2009	151417457A	M	710	151.879	11/29/2009	CBH KM 8
11/23/2009	11/24/2009	151416602A	M	740	151.900	11/29/2009	CBH KM 8
11/23/2009	11/24/2009	151415602A	M	740	151.800	11/29/2009	CBH KM 8
11/27/2009	11/28/2009	151417007A	F	520		11/29/2009	CBH KM 8
11/27/2009	11/28/2009	151417227A	F	470		12/2/2009	Glen Tosh
11/27/2009	11/28/2009	151418705A	F	510		12/1/2009	Timber Lake
11/27/2009	11/30/2009	151420003A	M	660	151.820	12/2/2009	Glen Tosh
11/27/2009	11/30/2009	151420011A	M	650	151.080	12/2/2009	Glen Tosh
11/27/2009	11/30/2009	151419323A	M	750	151.020	12/2/2009	Glen Tosh
11/27/2009	11/30/2009	151420207A	M	660		12/1/2009	Timber Lake
11/27/2009	11/30/2009	151419597A	M	570		12/1/2009	Timber Lake
11/27/2009	11/30/2009	151417345A	M	720		12/1/2009	Timber Lake
12/1/2009	12/2/2009	151416556A	F	520		12/7/2009	Black Brook
12/1/2009	12/2/2009	151416502A	F	560		12/7/2009	Black Brook
12/1/2009	12/2/2009	151416473A	M	700	151.740	12/7/2009	Black Brook
12/1/2009	12/2/2009	151419444A	M	730	151.718	12/7/2009	Black Brook
12/1/2009	12/2/2009	151418206A	M	790	151.782	12/7/2009	Black Brook
12/1/2009	12/2/2009	151420235A	F	440		12/5/2009	Glen Tosh
12/1/2009	12/2/2009	151416052A	M	760		12/5/2009	Glen Tosh
12/1/2009	12/2/2009	151418622A	M	820		12/3/2009	Little River
12/1/2009	12/2/2009	151414704A	M	720		12/3/2009	Little River
12/1/2009	12/2/2009	151417103A	F	550		12/3/2009	Little River
12/6/2009	12/7/2009	151419284A	M	750		12/11/2009	CBHNP Cheticamp
12/6/2009	12/7/2009	151417711A	M	710		12/11/2009	CBHNP Cheticamp
12/6/2009	12/7/2009	151420523A	M	830		12/11/2009	CBHNP Cheticamp
12/6/2009	12/7/2009	151415677A	F	470		12/11/2009	CBHNP Cheticamp
12/6/2009	12/7/2009	151415461A	F	480		12/11/2009	CBHNP Cheticamp
12/6/2009	12/7/2009	151420365A	M	860		12/8/2009	Pleasant Bay
12/6/2009	12/7/2009	151416583A	F	460		12/8/2009	Pleasant Bay
12/6/2009	12/7/2009	151420150A	F	450		12/8/2009	Pleasant Bay
12/6/2009	12/7/2009	151417310A	M	810		12/8/2009	Pleasant Bay
12/8/2009	12/9/2009		M			12/9/2009	Baddeck Depot
12/8/2009	12/9/2009		F			12/9/2009	Baddeck Depot
12/8/2009	12/9/2009	151416433A	M	680		12/10/2009	CBHNP Paquet's Lake
12/8/2009	12/9/2009	151416337A	F	540		12/10/2009	CBHNP Paquet's Lake
12/8/2009	12/9/2009	151415035A	M	640		12/10/2009	CBHNP Paquet's Lake
12/8/2009	12/9/2009	151415165A	M	760		12/10/2009	CBHNP Paquet's Lake
12/9/2009	12/10/2009	151415702A	M	840		12/11/2009	Little River
12/9/2009	12/10/2009	151420124A	M	810		12/11/2009	Little River
12/11/2009	12/14/2009	151420077A	F	530		12/16/2009	Sugarloaf
12/11/2009	12/14/2009	151416241A	M	790		12/16/2009	Sugarloaf
12/11/2009	12/14/2009	151419262A	F	490		12/16/2009	Sugarloaf

Table 2. Immobilization of marten.

PIT Tag	Sex	W (gm)	K (mg)	K (mg/ml)	X (mg/ml)	DOS (ml)	X (mg)	PR	RR	TEMP C	RT (min)
151418123A	M	580	20	100	17	0.2 ml	3.4	72	54	39.0	45
151419704A	M	630	20	100	17	0.2 ml	3.4	78	78	38.9	42
151419301A	M	710	20	100	17	0.2 ml	3.4	72	68	41.0	47
151416713A	F	400	12	100	17	0.12 ml	2.1	78	68	39.0	35
151419320A	M	750	20	100	17	0.2 ml	3.4	72	76	39.1	44
151415000A	M	680	20	100	17	0.2 ml	3.4	78	72	38.3	55
151417010A	M	660	20	100	17	0.2 ml	3.4	68	64	39.2	52
151417457A	M	710	20	100	17	0.2 ml	3.4	88	56	39.1	45
151416602A	M	740	20	100	17	0.2 ml	3.4	76	64	38.2	42
151415602A	M	740	20	100	17	0.2 ml	3.4	64	72	41.0	45
151417007A	F	520	12	100	17	0.12 ml	2.0	72	56	38.8	34
151417227A	F	470	12	100	17	0.12 ml	2.0				29
151418705A	F	510	12	100	17	0.12 ml	2.0	60	60	38.9	40
151420003A	M	660	20	100	17	0.2 ml	3.4	76	48	38.8	40
151420011A	M	650	20	100	17	0.2 ml	3.4	68	100	39.9	50
151419323A	M	750	20	100	17	0.2 ml	3.4	96	72	40.2	60
151420207A	M	660	20	100	17	0.2 ml	3.4	48	72	39.2	45
151419597A	M	570	20	100	17	0.2 ml	3.4	72	88	38.3	55
151417345A	M	720	20	100	17	0.2 ml	3.4	76	68	40.4	44
151416556A	F	520	12	100	17	0.12 ml	2.0		56	39.8	52
151416502A	F	560	20	100	17	0.2 ml	3.4	80	128	40.3	53
151416473A	M	700	20	100	17	0.2 ml	3.4	72	45	40.7	67
151419444A	M	730	20	100	17	0.2 ml	3.4	88	80	39.6	44
151418206A	M	790	20	100	17	0.2 ml	3.4	76	64	39.8	60
151420235A	F	440	12	100	17	0.12 ml	2.0	80	64	38.6	48
151416052A	M	760	20	100	17	0.20ml	3.4	72	64	39.5	53
151418622A	M	820	20	100	17	0.20ml	3.4	56	72	39.6	43
151414704A	M	720	20	100	17	0.20ml	3.4	76	76	39.4	60
151417103A	F	550	12	100	17	0.12 ml	2.0		56	39.1	53
151419284A	M	750	20	100	17	0.2 ml	3.4	48	120	40.8	46
151417711A	M	710	20	100	17	0.2 ml	3.4	68	56	39.7	52
151420523A	M	830	20	100	17	0.2 ml	3.4		56	39.7	37
151415677A	F	470	12	100	17	0.2 ml	2.0	84	60	39.9	43
151415461A	F	480	12	100	17	0.12 ml	2.0	80	88	39.3	37
151420365A	M	860	20	100	17	0.2 ml	3.4	64	60	39.4	31
151416583A	F	460	12	100	17	0.12 ml	2.0	72	92	39.8	40
151420150A	F	450	12	100	17	0.12 ml	2.0	80	60	40.2	60
151417310A	M	810	20	100	17	0.2 ml	3.4	60	52	38.3	40
151416433A	M	680	20	100	17	0.2 ml	3.4	68	60	40.0	39
151416337A	F	540	12	100	17	0.12 ml	2.0	76	72	38.8	40
151415035A	M	640	20	100	17	0.2 ml	3.4	68	92	39.0	31
151415165A	M	760	20	100	17	0.2 ml	3.4	64	80	39.8	35
151415702A	M	840	20	100	17	0.2 ml	3.4	68	96	41.0	29
151420124A	M	810	20	100	17	0.2 ml	3.4	96	64	40.2	42
151420077A	F	530	12	100	17	0.12 ml	2.0	68	84	39.7	28
151416241A	M	790	20	100	17	0.2 ml	3.4	76	81	39.9	41
151419262A	F	490	12	100	17	0.12 ml	2.0	68	60	40.2	44

K – Ketamine
X – Xylazine
Dos – Dosage

RR – Respiration Rate
Tem – Temperature
RT – Recovery Time

PR – Pulse Rate

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