

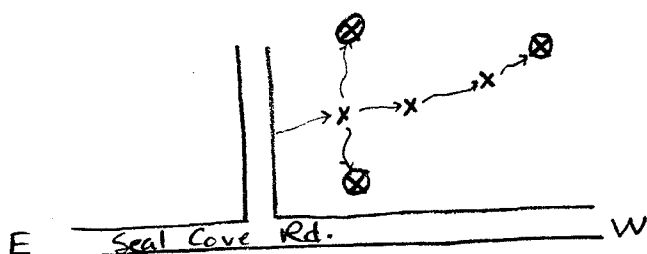
N50 (Spruce Budworm)

MEMORANDUM TO THE FILES

Spruce Budworm Trap Locations as of Fall, 1990

1. 05000 Old Forge Rd. off Seal Cove Road

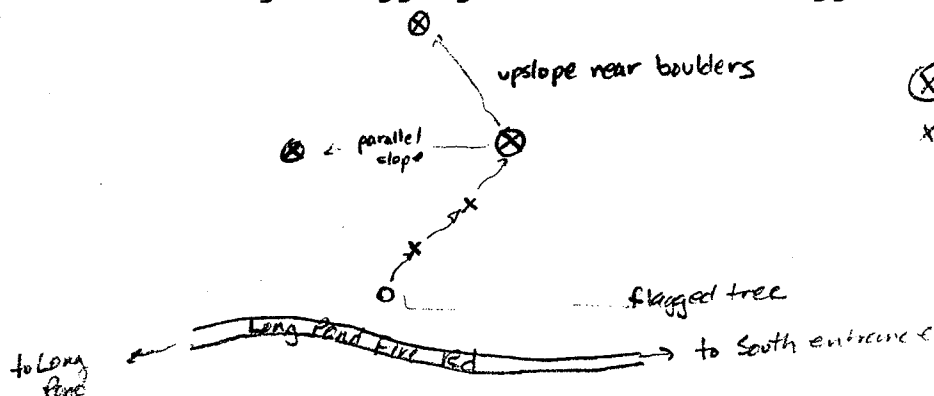
From Southwest Harbor, turn west on Seal Cove Road. Continue straight past White Birches Campground. Just as the road turns to dirt, there is a Park gate across a dirt road to the left (south). About halfway between Seal Cove Road and the clearing at the end, enter the woods to the right (west)--(they chipped wood at the entry point in '89 or '90). Look for blue and orange flagging.



⊗ = +trap site
x = flagging

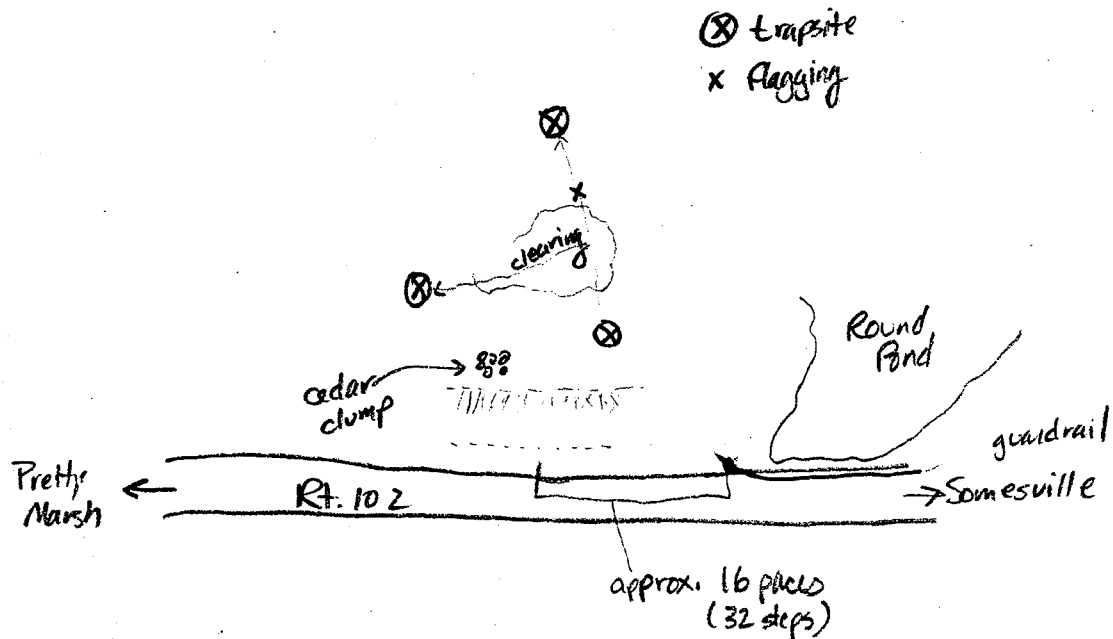
2. 05001 Long Pond Fire Road

Enter at the south end of the Fire Road and proceed 1.4-1.5 miles to the site on the right (or from Hodgdon Pond outflow = 1.2 miles // or from Pine Hill turnoff = 0.6 miles). There should be flagging visible around a tree not too far in from the road. You can park just beyond here at a small pull-out on the left. From the flagged tree, look upslope and follow orange flagging to the first flagged site.



3. 05002 Round Pond/Uncle Dick Hill parcel

From the point on Route 102 where Round Pond is right next to the road, walk southwest (toward Pretty Marsh). Approximately 16 paces (32 steps) uphill from the westernmost post of the guardrail, there is a "sort-of" opening in the trees; if you walk into the opening, there is a short downslope and then a short, steep bank with a large clump of cedar tree trunks on top. From cedar trees, look forward and right to the first site on a large conifer. From there, you can see the second site across a small clearing. From clearing looking left you can see the third site.



**NATIONAL PARK SERVICE
SEPARATION SHEET**

ACAD ARCHIVES

(Park Acronym)

Type of Item (map, newspaper, artifact, etc.)

MAP

Description of Item

A.N.P.

SPUCE budworms and gypsy moth. 1990

MAP: SPRUCE Budworm TRAPS - 1987

MAP: U.S. DEPT. OF THE INTERIOR - GEOLOGICAL SURVEY - BAA HARBOR
QUADRANGLE etc.

Item Originally Filed (specific location)

BOX 10

Item Now Filed (specific locations)

Bibliography Map file.

ACADIA PARK RECORDS
RESOURCE MGT. DIVISION
Bibliography DOCUMENTS

Separated By

A. S. PHANEUF

Separation Date

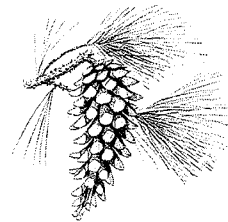
07/30/2004



JOSEPH E. BRENNAN
GOVERNOR

STATE OF MAINE
DEPARTMENT OF CONSERVATION

STATE HOUSE STATION 22
AUGUSTA, MAINE 04333



RICHARD B. ANDERSON
COMMISSIONER

September 1, 1981

Carroll Shell
RFD#1, Box 1
Bar Harbor, Maine 04609

Dear Mr. Shell:

As we discussed in our phone conversation, I am sending a map showing the results of the gypsy moth aerial defoliation survey. I have also enclosed copies of the Maine Forest Service gypsy moth information which we make available to the public.

Presently the Maine Forest Service is contemplating an aerial spray project for gypsy moth suppression in 1982. I have included a copy of the letter we sent to officials in the defoliated municipalities. Since Acadia is federally owned land I suspect that the protocol for treatment would be somewhat different and would not necessarily be under the aegis of the state.

If you wish any other information feel free to contact me at this office.

Sincerely,

Dave Struble
Entomologist
Maine Forest Service

DS/jlc
Enc:

GYPSY MOTH
Lymantria (Porthetria) dispar (L.)

The gypsy moth was introduced into this country from Europe in 1869 and occurs generally throughout most of Northeastern America. During favorable conditions for the gypsy moth, outbreaks may appear suddenly and may continue for two to five years in any one location. NATURAL CONTROL factors such as starvation, disease, parasites and predators eventually combine to bring about a sudden collapse of these outbreaks. Prolonged sub-zero temperatures can also kill the overwintering eggs that are not insulated under a snow cover.

Outbreaks usually build up on droughty or ledgy, poor growing sites that have the favored host trees of oak, poplar and gray birch. The caterpillars will feed on most hardwoods except ash. After having fed initially on hardwoods they then become capable of feeding on all conifers except fir.

Healthy hardwoods can usually withstand one to several years of severe defoliation by the gypsy moth. However, hemlock and pine can be killed in one season when 90 to 95% of the foliage is consumed. In hardwood stands the understory and partially-shaded trees (weaker trees) are the first to be killed by repeated defoliation. When present in large numbers the wandering caterpillars and their droppings can become a real nuisance to homeowners in wooded residential areas, cottage owners and those in resort areas.

LIFE CYCLE

The eggs are laid in clusters during late July and August. The clusters which are normally the size of a quarter and covered with buff-colored hairs can be found at the base of trees, on the underside of branches, under loose bark, in crevices, under rocks or other debris on the ground. The egg clusters vary in the number of eggs they contain from a few to several hundreds, but usually average about 100 eggs per cluster. The eggs hatch in May, and most of the caterpillars mature by early July after reaching a length of about two inches. The gypsy moth caterpillars are hairy, generally dark brown to black in color, and have a small knob on each side in back of the head (most distinct in small larvae). Fully grown larvae have 5 pairs of blue spots followed by 6 pairs of red spots in rows on their backs. As the caterpillars get larger, their consumption of foliage accelerates and trees may appear to be denuded "overnight," especially since they do most of their feeding during the night. At maturity the caterpillars generally crawl to some protected spot, and pupate in naked reddish brown to brownish black pupal cases. Adult moths emerge about two weeks later to start a new cycle. Empty pupal cases and eggs are often found together. The female moth is of an off-white color with dark markings and with a wing span of about two inches, but it cannot fly so it tends to lay its eggs in sheltered places within crawling distance of the place where it emerged. The males are smaller and darker brown in color with black markings. Males are active fliers and frequently come to lights.

Spread of infestations occurs mainly from wind dispersal of newly-hatched caterpillars. All stages of the gypsy moth can also be carried long distances on vehicles that travel through infested areas.

A potential problem for the following year can be determined in the fall or winter by an egg mass survey.

CONTROL

A. Homeowner With Few Trees: Limited infestations can be alleviated during the fall and winter by home remedies such as the painting of egg clusters with creosote or by scraping the egg clusters into a container and then destroying them. After egg-hatch and noticeable feeding, the caterpillars can be trapped under a burlap skirt tied around the trunk of the tree. Caterpillars that go there to hide during the daytime can be collected daily and destroyed. Insecticides can also be applied to control the caterpillars.

B. Forested Areas: The home remedies described above may not be effective when host trees are plentiful. In forested areas truck-mounted or aerial spraying is recommended. Materials registered to control gypsy moth caterpillars in May and June include the following: carbaryl (Sevin), acephate (Orthene), trichlorfon (Dylox), and *Bacillus thuringiensis* (Dipel or Thuricide) a bacterium. Some of the above materials may not be in stock by all vendors, so a waiting period may be required after an order is placed.

CAUTION

For your own protection and that of the environment read the pesticide label and apply only in strict adherence to the directions and precautions.

Department of Conservation
Bureau of Forestry
(100)

State Entomologist's Office
Augusta, Maine
March 1980

GYPSY MOTH

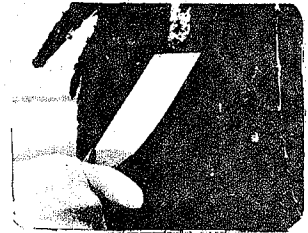
WHAT THE HOMEOWNER CAN DO

I. EGG STAGE (September to April).

1. Paint egg clusters with creosote.
2. Scrape off the eggs and destroy them.



Creosote



Scrape

II. CATERPILLAR STAGE (May to July).

1. Spray registered insecticide.
2. Install barriers.
 - a) On trees.
 - 1) Tie a burlap, cloth, or plastic skirt around trunks of shade trees.
 - 2) Apply tree tanglefoot in a narrow band around tree trunks.

Caterpillars will collect at the barrier and can be brushed into a container daily to be destroyed.

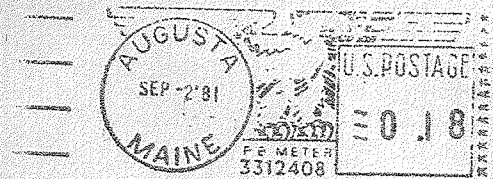


Barrier

- b) On buildings.
 - 1) Attach a strip of masking tape around the foundation and apply tanglefoot or grease to this band.
 - c) Between wooded areas and buildings.
 - 1) Place tanglefooted or greased strips of wood, cloth or plastic on the ground to block the path of marching caterpillars.

STATE OF MAINE
DEPARTMENT OF CONSERVATION

MAINE FOREST SERVICE
STATE HOUSE STATION 22
AUGUSTA, MAINE 04333



CARROLL SHELL
RFD 1 BOX 1
BAR HARBOR ME 04609

ROUTING AND TRANSMITTAL SLIP

Date

10/15/85

TO: (Name, office symbol, room number, building, Agency/Post)

Initials

Date

1. Ron

RC

10/17

2. Joe

RJR

10/17

3. Norm F.

NF

4. Kyle

KJ

10/20

5. Margaret

MC

10/21

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

Back to Carroll Norm F

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.

Carroll

Phone No.

5041-102

OPTIONAL FORM 41 (Rev. 7-76)

Prescribed by GSA

FPMR (41 CFR) 101-11.206

U.S. GOVERNMENT PRINTING OFFICE : 1984 O - 431-986 (346)



UNITED STATES
DEPARTMENT OF
AGRICULTURE

FOREST
SERVICE

REPLY TO: 3430 Gypsy Moth

SUBJECT: Gypsy Moth Population Monitoring Program

TO: Resource Management Specialist, National Park Service, USDI

Enclosed is a list of all Federal sites involved in the Gypsy Moth Population Monitoring Program and the 1983, 1984, and 1985 moth density/trap. This list gives you a general overall view of the program.

As you will note, moth density at Groton Submarine Base in 1985 increased 8 to 13 times the number of moths caught in 1984. Also, moth density at Minute Man National Historic Park increased 3 to 6 times from that in 1984. Although a ten-fold increase is arbitrarily established as the threshold to begin spot-checking for egg masses, both sites will be surveyed to determine a more accurate "baseline" density (how many moths/trap indicate egg masses are on the trees in the trapped areas). Sagamore Hill National Historic Site will also be spot-checked for egg masses. On the other sites, moth density did not differ greatly from that of 1984.

Thank you for your cooperation.

Sincerely,

MELVYN J. WEISS
Field Representative
Forest Pest Management



RESULTS OF GYPSY MOTH POPULATION MONITORING PROGRAM

1983, 1984 & 1985 PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP	MOTH 1983	DENSITY/TRAP	
				1984	1985
CONNECTICUT	Naval Submarine Base	1	-	507	6607
		2	-	579	5079
MAINE	Acadia National Park	1	330	496	332
		2	275	1/	101
	Brunswick Naval Air Stat.	1	-	-	1/
		2	-	-	372
MASSACHUSETTS	Minute Man National His-	1	1096	1895	5610
		2	1233	1519	5820
		3	827	1154	3151
	South Weymouth Naval Air Sta.	1	869	1451	201
		2	1168	1236	2 3/
	Fort Devens Military Reservation	1	694	-	316
		2	878	-	941
		3	-	-	1/
		4	-	-	964
		5	-	-	571
	Oxbow Wildlife Refuge (US Fish & Wildlife Serv.	6	-	-	851
	Cape Cod Nat'l Seashore	1	286	-	1/
NEW HAMPSHIRE	White Mountain National Forest	1	91	32	260
		2	103	54	390 2/
		3	151	107	275 3/
		4	113	240	650 3/
		5	115	288	250 3/
		6	108	63	495 2/
		7	135	257	696 2/
		8	-	-	875
		9	-	-	1137
		10	-	-	690
NEW YORK	Roosevelt- Vanderbilt Historic Sites	1	573	119	1/
		2	449	664	1/
		3	575	-	1/
		4	241	-	1/
	Fire Island National Sea- shore	1	-	2751	976
		2	-	1272	1223
		3	-	-	984
NEW YORK (Cont)	West Point Military Acad.	1	1440	407	4/
		2	1393	1/	4/
		3	1436	1/	4/

*strawberry Hill**Cadillac*

*1981 experienced
severe defoliation
on strawberry Hill.
Too bad we have no
data for '81 & '82.*

NEW YORK (Cont)	West Point	4	1344	1142	<u>4/</u>
	Military Acad.	5	1439	<u>1/</u>	<u>4/</u>
		6	1474	<u>1/</u>	<u>4/</u>
	Saratoga	1	-	601	720 <u>2/</u>
	National His-	2	-	678	470
	toric Site	3	426	426	744
	Sagamore Hill	1	-	-	*
	National His-	2	-	-	3925
	toric Site				
RHODE ISLAND:	Naval Education	1	-	385	219
	and Training	2	-	36	985
	Center				
	Naval Construc-	1	-	-	1755
	tion Battalion	2	-	-	1813
VERMONT	Green Mountain	1	497	<u>1/</u>	422
	National Forest	2	606	481	<u>1/</u>
		3	513	<u>1/</u>	1185
		4	-	-	1418
		5	-	-	1871

- 1/ No moth counts because trap was stolen, trap and moths were wet and congealed or trap was found on the ground.
- 2/ Moth counts were estimated from weight of wings only because the bodies of the moths were eaten by other insects, such as beetles, flies, earwigs or small rodents (squirrels or mice).
- 3/ Moth counts estimated by debris left by other insects that fed on them.
- 4/ No traps hung because the population was too high.

UNITED STATES
Department of
Agriculture

Forest
Service

Northeastern Area, State and Private Forestry
Louis C. Wyman Forestry Sciences Laboratory
P.O. Box 640, Durham, NH 03824

RECEIVED Reply to: 3410
ACADIA NATIONAL PARK

Date: August 17, 1987

AUG 19 '87

Ms. Nora J. Mitchell
Resource Management Specialist
North Atlantic Region
National Park Service, USDI
15 State Street
Boston, MA 02109

ROUTE	INT
SUPT.	
C. OPS	
AO	
C. NAT	
C. RGR	
C. RES	
C. MTN	
SEC.	

Dear Nora:

Enclosed is our report on the aerial survey of Acadia National Park which, if you will recall, was planned at our March meeting. The report on the aerial survey of Cape Cod National Seashore for gypsy moth will be forthcoming.

Jim O'Brien
FOR: MELVYN J. WEISS
Field Representative
Forest Pest Management

Enclosure

cc: Superintendent, Acadia National Park
Dick Bradbury, Acting State Entomologist

UNITED STATES
DEPARTMENT OF
AGRICULTURE

1987 Aerial Survey of Acadia
National Park

Forest Service

Detection survey

Northeastern Area

August 1987

Prepared by: James T. O'Brien, Pathologist, and George Saufley, Forestry
Technician, USDA Forest Service, Forest Pest Management, P.O.
Box 640, Durham, New Hampshire 03824.

ABSTACT

In July 1987, Acadia National Park in Maine was surveyed from the air to detect any current forest insect or disease damage and to map areas of spruce and fir that were killed in the recent outbreak of spruce budworm.

No current insect or disease activity was detected. The areas with mortality of spruce and fir, which ranged from 2 to 10 percent of the original canopy, totalled 1880 acres.

INTRODUCTION

An aerial survey of Acadia National Park in Maine was conducted July 29, 1987. The objective was to detect any current insect or disease damage in the forested areas, and to map the areas of spruce and fir that had been killed in the recent (ca 1970 to 1985, though it continues in some areas in Washington County) outbreak of spruce budworm. The latter task had been planned, at a National Park Service/Forest Service meeting in March, to avoid any confusion in the future as to what had caused the tree mortality.

METHODS

The aircraft, a Cessna 182, was flown at an altitude of about 1000' while the observer sketched the areas of spruce-fir mortality on a 1:50000 scale topographic map. The intent was to map those areas with tree mortality in excess of 10 percent of the original canopy. However, mortality was 10 percent or less in all areas, so areas of 2-10 percent mortality were mapped.

RESULTS

No damage due to current insect or disease activity was detected. The areas with dead spruce and fir totaled 1880 acres, of which 1360 is on Mount Desert Island, 140 on the Schoodic Peninsula (Winter Harbor) and 380 on Isle au Haut.

DISCUSSION

The mapped areas are shown on the attached 1:160000 scale map. The original map will be retained in case there is a need for locating the areas precisely in the future.

[illegible]

■ Areas of spruce and fir killed by spruce budworm, mapped in 1987.

MG



Color code for % defoliation

Red - 60-100%

Brown - 30-60%

Blue - 10-30%

Approximate Acres of defoliation

Red - 156

Brown - 137

Blue - 176

469

11429

ACADIA NATIONAL PARK

UNITED STATES
DEPARTMENT OF
AGRICULTURE

FOREST
SERVICE

FEB 12 '87

DEO

ROUTE	INT
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AO	
C. NAT	
C. RGR	
C. RES	
C. MTN	
SEC.	
FILE	

REPLY TO: 3410

DATE: February 10, 1987

SUBJECT: Gypsy Moth Population Monitoring Program

TO: Resource Management Specialist, Acadia National Forest, National Park Service, USDI

Enclosed is a list of all Federal sites involved in the Gypsy Moth Population Monitoring Program and the 1983, 1984, 1985, and 1986 Density/Trap. This list gives you a general view of the program.

As you will note, male moths caught from trap #1 at the Naval Construction Battalion Center increased from 1755 in 1985 to 4562 in 1986. Trap #2, which was found on the ground, caught 1486 moths. The Naval Pest Controller stated that trees around trap #2 were heavily infested. These two trap locations will be examined for egg masses before the spring of 1987. There was a noticeable decrease in moth density at trap sites on Fort Devens, Cape Cod National Seashore, Green Mountain National Forest, Minute Man National Historical Park, and Fire Island National Seashore. On West Point and Seneca Nation of Indians, moth density differs greatly from data collected on other sites. After Massachusetts State cooperators and the University of Massachusetts complete their trap data, the results will be analyzed.

In 1987, a modified trap will be used on all Federal Lands. The trap is modified by leaving only two of the eight entry holes open for the moths to enter and by using a weaker lure. By using this modified trap, the moth catch will be reduced to prevent saturation of the trap. Modified traps were used on some Federal Lands in 1986 and State Cooperators used them in 1986 in monitoring gypsy moth populations. A regression equation, based on the previous year's catch, was created to coordinate the two traps.

Thank you for your cooperation.

Sincerely,

James T. O'Brien
FOR: MELVYN J. WEISS
Field Representative
Forest Pest Management

KJLH

RESULTS OF GYPSY MOTH POPULATION MONITORING PROGRAM

1983, 1984, 1985, and 1986 PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP	MOTH DENSITY/TRAP			
			1983	1984	1985	1986
CONNECTICUT	Naval Submarine Base	1	-	507	6607	1139 ¹ / ₍₃₆₉₎
		2	-	579	5079	2056 ¹ / ₆₆₇
		Mean		543	5843	1598
MAINE	Acadia National Park	1	330	496	332	498
		2	275	4 ¹ /	101	87
		Mean	303		217	293
	Brunswick Naval Air Station	1	-	-	4 ¹ /	638
		2	-	-	372	526
		Mean				582
MASSACHUSETTS	Minute Man National Historic Park	1	1096	1895	5610	1610 ¹ / ₍₅₂₂₎
		2	1233	1519	5820	3077
		3	827	1154	3151	1065 ¹ / ₍₃₄₅₎
		Mean	1052	1523	4860	1917
	South Weymouth Naval Air Station	1	869	1451	201	-
		2	1168	1236	26 ¹ /	
		Mean	1019	1344	102	
	Fort Devens Military Reservation	1	694	-	316	330
		2	878	-	941	489
		3	-	-	4 ¹ /	247
		4	-	-	964	290
		5	-	-	571	604
		6	-	-	851	210
	Oxbow Wildlife Refuge (US Fish & Wildlife Service)	Mean	786		728	362
	Cape Cod National Seashore	1	286	-	-	55

NEW HAMPSHIRE	White Mountain National Forest	1	91	32	260	42 ¹ / ₍₁₃₎
		2	103	54	390 ⁵ /	354
		3	151	107	275 ⁶ /	131 ¹ / ₍₄₂₎
		4	113	240	650 ⁶ /	174 ¹ / ₍₅₆₎
		5	115	228	250 ⁶ /	1120
		6	108	63	495 ⁵ /	1005
		7	135	257	696 ⁵ /	401
		8	-	-	875	224 ¹ / ₍₇₂₎
		9	-	-	1137	531 ¹ / ₍₁₇₂₎
		10	-	-	690	1965
	Mean		<u>117</u>	<u>140</u>	<u>572</u>	<u>595</u>
	St. Gaudens National Historic Site	1	-	-	-	314
		2	-	-	-	307
		Mean				<u>311</u>
NEW YORK	Roosevelt Vanderbilt Historic Sites	1	573	119	- ⁴ /	470
		2	449	664	- ⁴ /	318
		3	515	-	- ⁴ /	534
		4	214	-	-	587
	Mean		<u>445</u>	<u>392</u>		<u>477</u>
	Fire Island National Sea- shore	1	-	2751	976	29
		2	-	1272	1223	17
		3	-	-	984	32
		Mean		<u>2011</u>	<u>1061</u>	<u>26</u>
	West Point Military Acad.	1	1440	407	- ⁷ /	797 ¹ / ₍₂₅₈₎
		2	1393	-	- ⁷ /	-
		3	1436	-	- ⁷ /	-
		4	1344	1142	- ⁷ /	-
		5	1439	-	- ⁷ /	-
		6	1474	-	-	500
	Mean		<u>1421</u>	<u>775</u>		<u>649</u>
	WP1		-	-	-	664 ¹ / ₍₂₁₅₎
	WP2		-	-	-	611 ¹ / ₍₁₉₈₎
	WP3		-	-	-	544 ¹ / ₍₁₇₆₎
	Mean					<u>606</u>
	CP1		-	-	-	1064 ¹ / ₍₃₄₅₎
	CP2		-	-	-	901 ¹ / ₍₂₉₂₎
	CP3		-	-	-	362 ¹ / ₍₁₁₇₎
	Mean					<u>776</u>
	Saratoga National His- toric Park	1	-	601	720 ⁵ /	781
		2	-	678	470	344
		3	426	426	744	1275
		Mean		<u>568</u>	<u>645</u>	<u>800</u>
	Sagamore Hill National His- toric Site	1	-	-	-	816
		2	-	-	3925	1901
		Mean				<u>1359</u>

Seneca Nation	9-1	-	-	-	334 ¹ / ₍₁₀₈₎
Of Indians	9-2	-	-	-	58 ¹ / ₍₁₈₎
	9-3	-	-	-	131 ¹ / ₍₄₂₎
	9-4	-	-	-	156 ¹ / ₍₅₀₎
	9-5	-	-	-	61 ¹ / ₍₁₉₎
	Mean				<u>148</u>

	11-1	-	-	-	85 ¹ / ₍₂₇₎
	11-2	-	-	-	67 ¹ / ₍₂₁₎
	11-3	-	-	-	27 ¹ / ₍₈₎
	11-4	-	-	-	45 ¹ / ₍₁₄₎
	11-5	-	-	-	30 ¹ / ₍₉₎
	Mean				<u>51</u>

	14-1	-	-	-	427 ¹ / ₍₁₃₇₎
	14-2	-	-	-	205 ¹ / ₍₆₆₎
	14-3	-	-	-	193 ¹ / ₍₆₂₎
	14-4	-	-	-	163 ¹ / ₍₅₄₎
	14-5	-	-	-	205 ¹ / ₍₆₆₎
	Mean				<u>239</u>

	17A-1	-	-	-	313 ¹ / ₍₁₀₁₎
	17A-2	-	-	-	387 ¹ / ₍₁₂₅₎
	17A-3	-	-	-	279 ¹ / ₍₉₀₎
	17A-4	-	-	-	30 ¹ / ₍₉₎
	17A-5	-	-	-	68 ¹ / ₍₂₁₎
	Mean				<u>215</u>

	23-1	-	-	-	104 ¹ / ₍₃₃₎
	23-2	-	-	-	95 ¹ / ₍₃₀₎
	23-3	-	-	-	30 ¹ / ₍₉₎
	23-4	-	-	-	91 ¹ / ₍₂₉₎
	23-5	-	-	-	227 ¹ / ₍₇₃₎
	Mean				<u>109</u>

RHODE ISLAND	Naval Education	1	-	385	219	283
	and Training	2	-	36	985	586
	Center	Mean		<u>211</u>	<u>602</u>	<u>435</u>

	Naval Construc-	1	-	-	1755	4562
	tion Battalion	2	-	-	1813	1486 ³ /
	Mean				<u>1784</u>	<u>3024</u>

	Roger Williams	1	-	-	-	- ⁴ /
	National Memorial	2	-	-	-	379

VERMONT	Green Mountain	1	497	<u>4/</u>	422	671/ (21)
	National Forest	2	606	481	<u>4/</u>	594
		3	513	<u>4/</u>	1185	1991/ (64)
		4	-	-	1418	472
		5	-	-	1871	6951/ (225)
	Mean		<u>538</u>		<u>1224</u>	<u>405</u>

1/ Estimate from the regression equation, $Y=2.06 + 3.08 (X)$. Trap was modified by leaving two of the eight entry holes open for the moths to enter and by using a weaker lure.

2/ Mean moth density from three traps hung in area.

3/ Trap was found on the ground with moths inside.

4/ No moth counts because trap was stolen, trap and moths were wet and congealed or trap was found on the ground.

5/ Moth counts were estimated from weight of wings only because the bodies of the moths were eaten by other insects, such as beetles, flies, earwigs or small rodents (squirrels or mice).

6/ Moth counts estimated by debris left by other insects that fed on them.

7/ No traps hung because the population was too high.

UNITED STATES
Department of
Agriculture

Forest
Service

Northeastern Area, State and Private Forestry
Louis C. Wyman Forestry Sciences Laboratory
P.O. Box 640, Durham, NH 03824

868-5576

Caring for the Land and Serving People

Reply to: 3410

Date: January 19, 1988

FPM Cooperators

Enclosed is a list of all Federal sites involved in the Gypsy Moth Population Monitoring Program and the 1983-87 density/trap. This list gives you a general view of the program.

There were noticeable increases in moth density at trap sites on Naval Education and Training Center, Roosevelt-Vanderbilt National Historic Site and Fire Island National Seashore. Noticeable decreases occurred at trap sites at Naval Sub-Base, Acadia National Park and St. Gaudens National Historic Site.

In 1987, modified traps were used on all Federal Lands. A regression equation was used to estimate the moth densities of the two traps.

This report is a little late because we thought it had already been sent to our cooperators.

Thank you for your cooperation.

Sincerely,

me

MELVYN J. WEISS
Field Representative
Forest Pest Management

1 Enclosure

Parker Snowden
834-0765

RECEIVED
Acadia National Park

JAN 21 '88

ROUTE	INT.
SUPT.	
C.OPS	
AO	
C. NAT	
C. RGR	
C. RES.	<i>gms</i>
C. MTN	
PLANNER	
FILE	

Judy
Kyle

RESULTS OF GYPSY MOTH POPULATION MONITORING PROGRAM

1983, 1984, 1985, 1986 and 1987 PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP	MOTH DENSITY/TRAP				
			1983	1984	1985	1986 ^{1/}	1987 ^{1/}
CONNECTICUT	Naval Submarine Base	1	--	507	6607	1139 (369)	356 (115)
		2	--	579	5079	2056 (667)	593 (192)
		Mean		543	5843	1598	474
MAINE	Acadia Nat'l Park	1	330	496	332	498	36 (11)
		2	275	-- 3/	101	87	14 (4)
		Mean	303		217	293	25
	Brunswick Naval Air Station	1	--	--	- 4/	638	--
		2	--	--	372	526	--
		Mean				582	
MASSACHUSETTS	Minute Man Nat'l Historic Park	1	1096	1895	5610	1610 (522)	7194 (387)
		2	1233	1519	5820	3077	1674 (543)
		3	827	1154	3151	1065 (345)	1021 (331)
		Mean	1052	1523	4860	1917	1296
	South Weymouth Naval Air Sta.	1	869	1451	201	--	--
		2	1168	1236	25/	--	--
		Mean	1019	1344	102		
	Fort Devens Military Reser.	1	694	--	316	330	707 (229)
		2	878	--	941	489	489 (158)
		3	-	--	- 3/	247	904 (293)
		4	-	--	964	290	392 (127)
		5	-	--	571	604	805 (261)
	Oxbow Wildlife Refuge (U.S. Fish/Wildlife Service)	6	-	--	851	210	264 (85)
		Mean	786		728	362	594
	Cape Cod Nat'l Seashore	1	286	--	-	55	96 (31)

NEW HAMPSHIRE	White Mountain Nat'l Forest	1	91	32	260	42	(13)	101	(32)
		2	103	54	390	354		165	(53)
		3	151	107	275	131	(42)	181	(58)
		4	113	240	650	174	(56)	686	(222)
		5	115	228	250	1120		329	(106)
		6	108	63	495	1005		332	(107)
		7	135	257	696	401		846	(274)
		8	-	-	875	224	(72)	307	(99)
		9	-	-	1137	531	(172)	446	(144)
		10	-	-	690	1965		710	(230)
		Mean	117	140	572	595		410	
	St. Gaudens Nat'l Historic Site	1	-	-	-	314		101	(32)
		2	-	-	-	307		73	(23)
		Mean				311		87	
NEW YORK	Roosevelt- Vanderbilt Nat'l Historic Sites	1	573	119	-3/	470		1169	(379)
		2	449	664	-3/	318		1899	(616)
		3	515	-	-3/	534		858	(278)
		4	214	-	-	587		1351	(438)
		Mean	445	392		477		1319	
	Fire Island National Seashore	1	-	2751	976	29		443	(143)
		2	-	1272	1223	17		446	(144)
		3	-	--	984	32		649	(209)
		Mean		2011	1061	26		513	
	West Point Military Academy	1	1440	407	--6/	797	(258)	1779	(577)
		2	1393	-	--6/	-		1190	(386)
		3	1436	-	--6/	-		--	
		4	1344	1142	--6/	-		735	(238)
		5	1439	--	--6/	-		1237	(401)
		6	1474	--	--6/	500		1182	(383)
		Mean	1421	775		649		1225	
		WP1	--	--	--	664	(215)	--	
		WP2	--	--	--	611	(198)	--	
		WP3	--	--	--	544	(176)	--	
		Mean				606			
		CP1	--	--	--	1064	(345)	--	
		CP2	--	--	--	901	(292)	--	
		CP3	--	--	--	362	(117)	--	
		Mean				776			
	Saratoga Nat'l Historic Park	1	--	601	705 ^{4/}	781		603	(195)
		2	--	678	470	344		637	(206)
		3	426	426	744	1275		492	(159)
		Mean		568	645	800		577	

Sagamore Hill	1	--	--	--	816	1816	(589)
Nat'l Historic Site	2	--	--	3925	<u>1901</u>	<u>1764</u>	(572)
	Mean				1359	1790	
Finger Lakes	1	--	--	--	--	260	(84)
Nat'l Forest	2	--	--	--	--	<u>270</u>	(87)
						265	
Alleghany Indian Reservation, Seneca Nation of Indians	9-1	--	--	--	334	(108)	
	9-2	--	--	--	58	(18)	516 (167)
	9-3	--	--	--	131	(42)	359 (116)
	9-4	--	--	--	156	(50)	-
	9-5	--	--	--	<u>61</u>	(19)	<u>513</u> (166)
	Mean				148	462	
	11-1	--	--	--	85	(27)	387 (125)
	11-2	--	--	--	67	(1)	-
	11-3	--	--	--	27	(8)	381 (123)
	11-4	--	--	--	45	(14)	233 (75)
	11-5	--	--	--	<u>30</u>	(9)	<u>-</u>
	Mean				51	334	
	14-1	--	--	--	427	(137)	150 (48)
	14-2	--	--	--	205	(66)	-
	14-3	--	--	--	193	(62)	242 (78)
	14-4	--	--	--	163	(54)	-
	14-5	--	--	--	<u>205</u>	(66)	<u>344</u> (11)
	Mean				239	245	
	17A-1	--	--	--	313	(101)	-
	17A-2	--	--	--	387	(125)	-
	17A-3	--	--	--	279	(90)	-
	17A-4	--	--	--	30	(9)	-
	17A-5	--	--	--	<u>68</u>	(21)	<u>-</u>
	Mean				215		
	23-1	--	--	--	104	(33)	492 (159)
	23-2	--	--	--	95	(30)	714 (231)
	23-3	--	--	--	30	(9)	510 (165)
	23-4	--	--	--	91	(29)	-
	23-5	--	--	--	<u>227</u>	(73)	<u>-</u>
	Mean				109	572	
Cattaraugus Indian Reservation, Seneca Nation of Indians	1X	--	--	--	-	156	(50)
	2X	--	--	--	-	627	(203)
	3X	--	--	--	-	343	(111)
	4X	--	--	--	-	485	(157)
	5X	--	--	--	-	390	(126)
	6X	--	--	--	-	165	(53)
	7X	--	--	--	-	442	(143)
	8X	--	--	--	-	<u>550</u>	(178)
	Mean					395	

VERMONT

Green Mountain
Nat'l Forest

1	497	-	3/422	67	(21)	286	(93)
2	606	481	-3/	594		112	(36)
3	513	-3/	185	199	(64)	82	(26)
4	-	-	1418	472		368	(119)
5	-	-	1871	695	(225)	396	(128)
Mean	538		1224	405		249	
C23-4	-	-	--	-		267	(86)
C23-8	-	-	--	-		258	(83)
C23-12	-	-	--	-		190	(61)
C23-16	-	-	--	-		433	(140)
C23-24	-	-	--	-		381	(123)
Mean						305	
C21-4	-	-	--	-		64	(20)
C21-8	-	-	--	-		233	(75)
C21-9	-	-	--	-		347	(112)
C21-13	-	-	--	-		85	(27)
C21-20	-	-	--	-		103	(33)
C21-24	-	-	--	-		178	(57)
Mean						168	
C46-4	-	-	--	-		116	(37)
C46-7	-	-	--	-		460	(149)
C46-11	-	-	--	-		150	(48)
C46-16	-	-	--	-		159	(51)
C46-19	-	-	--	-		101	(32)
C46-23	-	-	--	-		82	(26)
Mean						178	
C66-4	-	-	--	-		110	(35)
C66-8	-	-	--	-		128	(41)
C66-12	-	-	--	-		153	(49)
C66-16	-	-	--	-		14	(4)
C66-19	-	-	--	-		48	(15)
C66-23	-	-	--	-		11	(3)
Mean						77	
C108-4	-	-	--	-		405	(131)
C108-8	-	-	--	-		227	(73)
C108-12	-	-	--	-		150	(48)
C108-13	-	-	--	-		13	(51)
C108-17	-	-	--	-		74	(19)
C108-21	-	-	--	-		48	(15)
Mean						177	

RHODE ISLAND	Naval Education & Training Center	1	-	385	219	283	1440 (467)
		2	-	<u>36</u>	<u>985</u>	<u>586</u>	<u>1782</u> (578)
		Mean		211	602	435	1611
	Naval Construc- tion Battalion	1	-	-	1755	4562	1271 (412)
		2	-	-	<u>1813</u>	<u>1486</u> ^{2/}	<u>1144</u> (371)
		Mean			1784	3024	1208
	Roger Williams Nat'l Memorial	1	-	-	--	-- 3/	-- 3/
		2	-	-	--	379	-- 3/
		Mean					

- 1/ Numbers outside the parentheses () for 1986 and 1987 are estimates of the linear regression equation, $Y=2.06 + 3.00(X)$, where Y is the dependent variable (estimated moth density/trap had old traps been used in 1986 and 1987) of X (actual moth density/trap).
- 2/ Trap was found on the ground with moths inside.
- 3/ No moth counts because trap was stolen. Trap and moths were wet and congealed.
- 4/ Moth counts were estimated from weight of wings only because the bodies of the moths were eaten by other insects, such as beetles, flies, earwigs or small rodents (squirrels or mice).
- 5/ Moth counts estimated by debris left by other insects that fed on them.
- 6/ No traps hung because the population was too high.

Allan —
To file (N50)

United States
Department of
Agriculture

Forest
Service

Northeastern Area
State and Private
Forestry

Cor. Concord & Mast Rds.
P. O. Box 640
Durham, NH 03824

JHC

Reply To: 3440

Date: December 17, 1991

Judith Connery
Resource Management Specialist
USDI/National Park Service
Acadia National Park
PO Box 177
Bar Harbor, ME 04609

Dear Judy:

Enclosed is a summary of the spruce budworm pheromone trapping and gypsy moth pheromone trapping for 1991. The spruce budworm trap catch increased over previous years. This increase is not high enough to warrant concern. Other insects found in the spruce budworm traps were hemlock looper, gypsy moth, and insects suspected of having part of their life cycle in softwood seeds and cones.

Some people have expressed an interest in non target or "other" economic insects in the traps. Catch of non target economic insects in traps have, on occasion, appeared to be related to population levels, but possibly occur at random. A statistical hypothesis designed to test the relationship of "other" catch to damage or infestation levels has not yet been designed.

See the enclosed table for catch numbers and means. Figures at the left hand corner of the table show that the gypsy moth decreased slightly in 1991.

A condensed summary sheet of previous years' catch is also attached and highlighted for easier review.

Please contact Forest Health Protection at (603) 868-5719/5576, if you have any questions.

Sincerely,

George C. Saufley

GEORGE C. SAUFLEY
Forestry Technician
Forest Health Protection

Enclosure

Spruce BW/Gypsy Moth Acadia National Park 1991 Lotus 123

Short File Spruce BW Traps
Location Site, Purpose & UTM Trap # Spruce BW Hem Loos Gypsy M Seed & Cone

Acadia Nat. Park Old Forge Road 05000 Site # 1
1.00 2.00 4.00 9.00 0.00
2.00 4.00 0.00 10.00 10.00
3.00 1.00 4.00 15.00 0.00

Average 2.33 2.67 11.33 3.33

Long Pond Fire Rd.

05001 Site # 2
1.00 0.00 2.00 3.00 3.00
2.00 1.00 2.00 2.00 9.00
3.00 0.00 0.00 3.00 4.00

Average 0.33 1.33 2.67 5.33

Round P/Uncle Duck

05002 Site # 3
1.00 0.00 30.00 2.00 0.00
2.00 3.00 8.00 0.00 0.00
3.00 3.00 31.00 6.00 3.00

Average 2.00 23.00 2.67 1.00

Acadia NP Gypsy Moth traps 1991

Location Site & Purpose Site # Moths #
Sieur de Mort Park Loop Road 1.00 25.00
Cadillac Mtn. North Slope 2.00 19.00

Average 22.00

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS

1984, 1985, 1986, 1987, 1988, 1989, 1990 AND 1991--PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTH PER TRAP (3 TRAPS/PLOT)							
				1984	1985	1986	1987	1988	1989	1990	1991
MAINE	PASSAMAQUODDY INDIANS	T4ND	4	-	0.4	2.75	0	0	0	0	.15
		T5ND	5	6	0.35	1.40	0	0	0	0	0.7
		T5RI	3	-	0.15	2.30	0	0	0	0	0
		1T	3	-	0.5	-	0	0.57	0	0	0
		LOWELLTOWN	2	-	0.5	2.0	1.6	-	-		
		HOLEB	2	-	0.35	0.5	0	-	-		
	PENOBSCOT INDIAN	ARGYLE	2	-	1.0	-	0	0.16	0	0	2.7
		WILLIAMSBURG	3	-	0.5	-	0	0	0	0	1.2
		T2R9, T3R9	3	10.2	0.6		-	0	0	0.33	1.9
		MG 1-5	3	-	0.9		0.2	0.11	0	0.11	3.9
		T2+3R9	3	-			0	0	0	-	-
		ALDER STREAM	-	-	1.5	-	0	0.11	0	0.44	1.1
	ACADIA NATIONAL PARK	UNCLE DICK	1	-	-	0	6	0	0	0	2
		SEAL COVE RD *	1	-	0	0	1	0	0	0	2.3
		DUCK POND	1	-	0	0	0	0	0	0	.3
	LORING AIR FORCE BASE	01 - 07 *	1	-	1.8	-	-	-	0		
		02 - 24 *	1	-	2.7	-	-	-	0		
		10 - 02 *	1	-	0.3	-	-	-	0		
		12 - *	1	-	0.7	-	-	-	0		

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTH PER TRAP (3 TRAPS/PLOT)						
				1984	1985	1986	1987	1988	1989	1990
MAINE	LORING AIR FORCE BASE (Cont.)	BURGOINE RD	1	-	-	37	1	0	0	
		SKI AREA	1	-	-	109	4	0	0	
		GRAVEL PIT	1	-	-	14	0	0	0	
		NAT'L GUARD	1	-	-	1	3	0	0	

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS

1984, 1985, 1986, 1987, 1988, 1989, 1990 AND 1991--PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTH PER TRAP (3 TRAPS/PLOT)							
				1984	1985	1986	1987	1988	1989	1990	1991
NEW HAMPSHIRE	WHITE MOUNTAIN NATIONAL FOREST	ROCKY GORGE *	1	4.7	0	0	-	-	-	-	-
		JIGGER JOHNSON *	1	2.3	0	0	-	-	-	-	-
		SAWYER POND NEAR LILY POND	1	3.7	-	-	-	-	-	-	-
		BENTON	1	0	0	0	0	0	0	0	.7
		BEAVER BROOK CAMPGROUND	1	0	0	0	0	0	0	0	3.3
		PATTE BROOK *	1	0	0	0	-	-	-	-	-
		SHELBORNE 88	1	0	0	0	-	-	-	-	-
		SOUTH POND	1	-	-	-	0	0	0.3	0	1.3
		POND BROOK	1	-	-	-	0	0	0	0	2.0
		THE LOOP (KILKENNY)	1	-	-	-	0	1.3	0	0.3	2.0
		FS 202 (KILKENNY)	1	-	-	-	0	0	0	0	4.3
		5 MILE MARKER ON THE LOOP	1	-	-	-	0	0	0	0	.3

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS

1984, 1985, 1986, 1987, 1988, 1989, 1990 AND 1991--PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTH PER TRAP (3 TRAPS/PLOT)		1986	1987	1988	1989	1990	1991
				1984	1985						
VERMONT	GREEN MOUNTAIN NATIONAL FOREST	DOWNINGVILLE	1	3	0	0	0	0	0.66	0	
		TEXAS FALLS UPPER SITE	1	2.3	0	0	0	0	0	0	.3
		TEXAS FALLS LOWER SITE *	1	1	-	-	-	-	-	-	
		GRANVILLE	1	-	0	0	0	0.3	0	0	0
		FRENCH HOLLOW	1	-	0	0	0	0	0	0	.7
		UTLEY BROOK	1	-	0	0	0	0	0	0	1
		HAPGOOD POND PICNIC GROUND	1	-	0	0	0	0	0	0	.3

* DROPPED

** LOGGING OPERATION