

Voyageurs National Park battling purple loosestrife

By RUSS KING
Staff Writer

Chemical treatments brought two words to the mind of Russell Berry — agent orange. But now chemicals bring new words and colors to his mind — purple loosestrife.

As Voyageurs National Park superintendent, Berry is faced with the infestation of the foreign weed, which quickly chokes out natural vegetation and wildlife. Last year it was identified in Koochiching County and most recently 60 acres of Voyageurs, on the west shoreline of Kabetogama Lake, are known to have the purple weed.

Park personnel recently com-

pleted a control plan for the weed, which includes the recommendation to spray chemicals. Berry said the problem and plan are important enough, that he called a public hearing at the Kabetogama Lake Visitor Center Thursday, at 8 p.m.

"We don't like to do this, in fact using chemicals is the last thing we do," Berry said. "I've asked a lot of questions because national parks don't use chemicals. I had to be convinced to do this and I'm convinced."

The aggressive perennial has had free reign in the United States since it left behind all of its natural enemies after emigrating from Europe in the early

1800s.

For many years nurseries sold the plant for domestic gardens because of its aesthetic beauty. The weed appears like a bush, growing 2 to 7 feet tall and bearing many magenta blossoms, which bloom in July and August.

But equaling its beauty is the prolific nature of the weed. Each plant is capable of producing 120,000 seeds in a single season. Last year the plant was found in three-fourths of the state's 87 counties. Minnesota then followed many other states in legislating the weed noxious, making it illegal to grow.

"That's what makes it so dan-

gerous. It takes over not only our vegetation, but the wildlife leaves, too," Berry said. "It's especially dangerous for states or parks with a water-based recreational economy." The state is trying to control the weed, so it won't face what several northeastern states have, such as New York which has lost thousands of wetland areas to the plant.

Wildlife can find no use for loosestrife: Songbirds refuse to eat the small, hard seed; its leaves and stem can't be used to build homes by muskrat; its thick root system ruins spawning areas for fish; even ducks shun wetlands that are domi-

nated by loosestrife.

Locally, Berry said the weed was first sighted in the ditch near the Gateway Store on Highway 53. In three years, the loosestrife spread 10 miles up the shoreline of Kabetogama.

And he said there's every indication that unless something is done soon, it will spread via the Gold Portage, Creek to Black Bay, prime duck hunting lands and spawning waters for northern pike.

"We need to monitor this on an annual basis. We're not going to get rid of it," Berry said, estimating the weed to be a continual battle, with no end in sight.
Continued on Page 5

Purple loosestrife

Continued from Page 1

At the public hearing, Berry and representatives from the Minnesota Pollution Control Agency, and Departments of Natural Resources and Public Health will outline a three-year plan to eradicate the weed by manually pulling out the plants

and spot applications of herbicide.

Berry said the SEE-2,4-D is an aquatic herbicide which is not lethal to all wetland plants and is biodegradable. The chemical will not be spread by broadcast application, and only will be used for high-density areas

with more than 100 plants per acre.

Four park employees will be attending a four-week training session to be certified to spray the herbicide beginning in August. They will work full time treating small groups of loosestrife at a cost of \$1,000 to

\$2,000 an acre.

"This is one of those problems you can't handle by yourself," Berry said. "We have to get the local community involved — resort owners and people with cabins. If everybody doesn't work together, we're not going to stay ahead of this."

Park works to eradicate loosestrife

Spread of purple wildflower threatens native plant life on Mt. Desert Island

by Anne Kozak

ACADIA NAT'L PARK — The park has begun to eradicate a type of wildflower that has moved onto Mt. Desert Island and is threatening native forms of plant life, a park official said Monday.

Resource management specialist Judy Hazen said the park has begun chemically spraying purple loosestrife (*lythrum salicaria*), an invasive, non-native plant that grows in wet or disturbed areas.

Initially, the park thought it could pull the plants rather than spray them, Hazen said, but the plant is too widely dispersed in the park for this to be effective now. Unless the entire root system is pulled, the plant will come up again the following year. Cutting the flower heads is also ineffective since the plant responds by sending out lateral shoots.

The herbicide the park is using is called Rodeo — a glyphosphate which the Environmental Protection Agency (EPA) has approved for aquatic sites. Wherever spraying occurs, the park is erecting signs explaining what it is doing and why. One tourist from Massachusetts told Hazen he was glad the park was attempting to remove the loosestrife, because in Massachusetts it is endemic, he said.

Before any spraying occurred, the park received approval from both the regional office in Boston and the Washington office. "The park service does not take the issue of spraying lightly, but the plant is so detrimental if the park is to control the spreading it must spray," Hazen said. To protect other plants in the area from being sprayed, the resource management staff places heavy cardboard behind the tall spikes before spraying.

"The resource of the National Park Service is to preserve natural ecosystems," Hazen pointed out. "When purple loosestrife, a very competitive and inva-

sive plant, moves in, it eradicates native species, some of which are essential for wildlife."

Spraying will not totally eliminate the plant, but should make its control manageable. Loosestrife is quite prolific; according to a report prepared by the U.S. Fish and Wildlife Service, the mean number of stems per plant is 30. Each stem has approximately 1,000 capsules with approximately 90 seeds per capsule.

"Although this year we are spraying only within park boundaries," Hazen said, "this is a project we cannot do by ourselves." Many of the waterways within the park also pass through private land and Hazen anticipates within a year or so the park will ask private landowners to cooperate in controlling the spread of loosestrife.

The flower, which blooms here in July and August, is very attractive and colorful and is sometimes confused with fireweed or spirea. The attractiveness of the plant often entices people to plant loosestrife in home gardens or meadows.

At a 1985 meeting of the New England Wildflower Society, David Longland, horticulture director at Garden in the Woods, the society's Massachusetts garden, told participants that the plant is sometimes included in seed mixes for northeastern meadow gardens. Longland specifically cited the seeds from George W. Park Seed Company and the Harrison-Moran Seed Company as containing loosestrife — a species he described as "a highly invasive exotic species currently crowding out native wetland species in the Northeast."

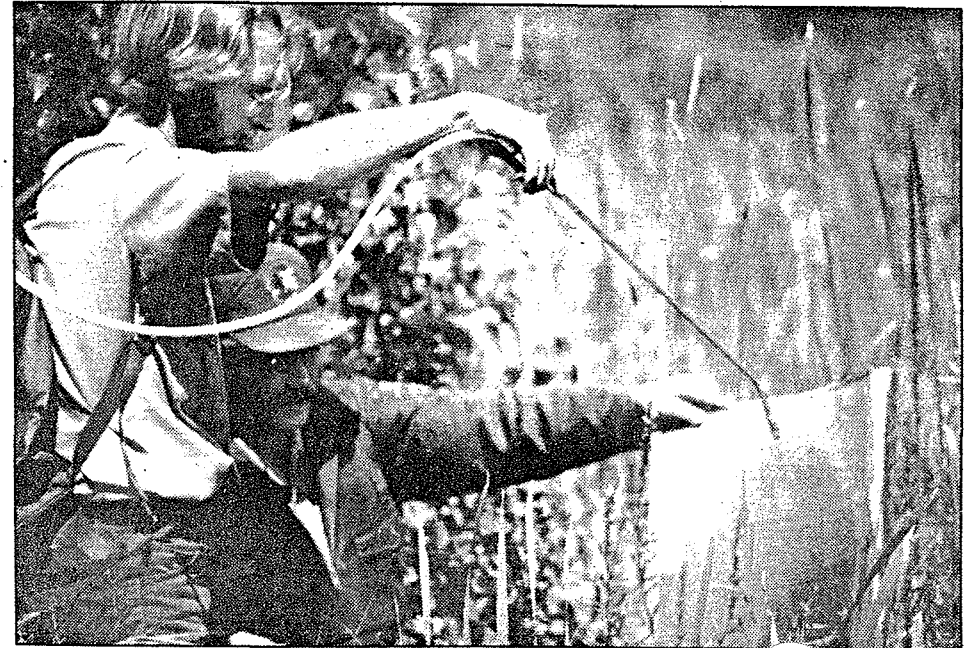
The plant takes hold in disturbed areas and in the park, these areas are frequently disturbed because of beaver activity. Alongside highways and in the median strip, the purple plant — frequently sole plant in the stand or sometimes mixed with golden rod — is purple loosestrife.

A native of Europe, the plant was introduced in the United States and Canada in the 1800s and by the 1930s was recognized as a problem here. In Europe the plant's spread is controlled naturally, Hazen said, and eventually the Fish and Wildlife Service hopes to establish effective biological controls here.

In addition to spraying, the park has also set up monitoring areas to measure the rate of success with the control and to guide the park in future efforts to eliminate the plant.

Last year, for example, resource specialist Keith Smith counted 30 stems of loosestrife at Compass Harbor and this year found 156 stems. "Many areas in southeastern New England have lost the opportunity to control the spread of loosestrife," Hazen said. "This project is not a massive assault and it could take as long as ten years to eliminate it."

However, since native vegetation is better suited for this area and insures a healthier ecosystem, Hazen feels the park's mandate to preserve natural systems requires it to take effective steps to eliminate the non-native loosestrife.



Brent Wille (left) and Keith Smith, resource management specialist at Acadia National Park, spray purple loosestrife near Bear Brook as part of the park's program to curtail the spread of the invasive plant.

ANNE KOZAK

Hit List

To the Editor:

So, the park is spraying again! Thank you for bringing this deed to the attention of your readers in the article. "Park works to eradicate loosestrife" in the Aug. 25 issue of the *Times*.

I believe the loosestrife is a scapegoat. Before Rachel Carson brought the evils of spraying to the public's attention, the park did quite a bit of spraying.

I think it would be a shame to eradicate the beautiful magenta-colored loosestrife. I have some of the hybrid lythrum in my garden. I wish it would multiply because so many friends and relatives have asked for a "slip" of it. I bought my plant from one of the seed catalogs. It was so long ago, I have forgotten which one.

The bees love my loosestrife and I have hard work to pick a few blooms for accent in my church bouquets, because the bees are all over the blossoms.

Will our beautiful lupine be next on the park's "hit list?" That, too, came from Europe.

**Charlotte Reed Robbins
Bass Harbor**

United States
Department of
Agriculture

Forest
Service

Northeastern Area
State and Private
Forestry

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

RB

Reply To: 3440

Date: November 8, 1988

Carroll Schell
Resource Management Specialist
USDI
Arcadia National Park
RFD #1/Box 1
Bar Harbor, ME 04609

Dear Carroll:

Enclosed are tables of all Federal sites involved in the Spruce Budworm and Gypsy Moth Population Monitoring Programs with density/trap. The tables give one a general view of the programs and its trends from their inception to 1988.

The table shows a decrease in Spruce Budworm population from 1985 to 1987 on the Park.

The Gypsy Moth table has been modified to make the catches previous to 1986 compare with those since the trap modification made in 1986 (a weaker lure and two opposing holes taped shut). Note that there was a decline in 1988 on nearly all points in the Northeast with no significant increases on any point within the area.

We appreciate your interest in the Gypsy Moth and Spruce Budworm Population Monitoring Programs and thank you for your cooperation.

Sincerely,



IMANTS MILLERS
Acting Field Representative
Forest Pest Management

Enclosures (2)

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS

1984, 1985, 1986, 1987 AND 1988--PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTHS PER TRAP (3 TRAPS/PLOT)				
				1984	1985	1986	1987	1988
MAINE	PASSAMAQUODDY INDIANS	T4ND	4	-	0.4	2.75	0	0
		T5ND	5	6	0.35	1.40	0	0
		T5RI	3	-	0.15	2.30	0	0
		1T	3	-	0.5	-	0	.57
		LOWELLTOWN	2	-	0.5	2.0	1.6	-
		HOLEB	2	-	0.35	0.5	0	-
	PENOBSBOT INDIAN	ARGYLE	2	-	1.0	-	0	.16
		WILLIAMSBURG	3	-	0.5	-	0	0
		T2R9, T3R9	3	10.2	0.6		-	0
		MG 1-5	3	-	0.9		0.2	.11
		T2+3R9	3	-			0	0
		ALDER STREAM	-	-	1.5	-	0	.11
	ACADIA NATIONAL PARK	UNCLE DICK	1	-	-	0	6	0
		SEAL COVE RD *	1	-	0	0	1	0
		DUCK POND	1	-	0	0	0	0
	LORING AIR FORCE BASE	01 - 07 *	1	-	1.8	-	-	-
		02 - 24 *	1	-	2.7	-	-	-
		10 - 02 *	1	-	0.3	-	-	-
		12 - *	1	-	0.7	-	-	-
		BURGOINE RD	1	-	-	37	1	0
		SKI AREA	1	-	-	109	4	0
		GRAVEL PIT	1	-	-	14	0	0
		NAT'L GUARD	1	-	-	1	3	0

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS
1984, 1985, 1986, 1987 AND 1988--PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP LOCATION	NUMBER OF PLOTS	MEAN NO. MOTHS PER TRAP (3 TRAPS/PLOT)		1986	1987	1988
				1984	1985			
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
		BEAVER BROOK CAMPGROUND	1	0	0	0	0	0
		PATTE BROOK *	1	0	0	0	-	-
		SHELBORNE 88	1	0	0	0	-	-
		SOUTH POND	1	-	-	-	0	0
		POND BROOK	1	-	-	-	0	0
		THE LOOP (KILKENNY)	1	-	-	-	0	1.3
		FS 202 (KILKENNY)	1	-	-	-	0	0
		5 MILE MARKER ON THE LOOP	1	-	-	-	0	0

RESULT OF SPRUCE BUDWORM POPULATION MONITORING PROGRAM ON FEDERAL LANDS
1984, 1985, 1986, 1987 AND 1988--PHEROMONE TRAP DENSITIES

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

* DROPPED

** LOGGING OPERATION

1983, 1984, 1985, 1986, 1987, 1988 PHEROMONE TRAP DENSITIES

STATE	SITE	TRAP	1983	1984	1985	1986 6/	1987	1988
CONNECTICUT	Naval Submarine Base	1	--	169	2202	369	115	23
		2	--	193	1693	667	192	3
		Mean		181	1948	533	158	13
MAINE	Acadia National Park	1	110	165	111	166	11	23
		2	92	-- 2/	34	29	4	3
		Mean	101		72	98	8	13
	Brunswick Naval Station	1	--	--	-- 3/	213	--	--
		2	--	--	124	175	--	--
		Mean				194		
MASSACHUSETTS	Minute Man National Historic Park	1	365	631	1870	522	387	111
		2	411	506	1940	1025	543	26
		3	276	384	1050	345	331	69
		Mean	351	508	1620	639	432	69
	South Weymouth Naval Air Station	1	290	484	67	--	--	--
		2	389	412	1 4/	--	--	--
		Mean	340	448	34			
	Fort Devens Military Reservation	1	231	--	105	110	229	43
		2	293	--	314	163	158	18
		3	--	--	-- 2/	82	293	10
		4	--	--	321	97	127	52
		5	--	--	190	201	261	51
		6	--	--	283	70	85	--
		Mean	262		243	121	198	35
	Cape Cod National Seashore	1	32	--	--			2
		2	--	--	--	19	31	2
		Mean						2

STATE	SIZE	TRAP	1983	1984	1985	1986	1987	1988
NEW HAMPSHIRE	White Mountain National Forest	1	30	11	87	13	32	2
		2	34	18	130	118	53	9
		3	50	36	92	42	58	17
		4	38	80	217	56	222	11
		5	38	76	83	373	106	20
		6	36	21	165	335	107	6
		7	45	86	232	133	274	26
		8	--	--	292	72	99	9
		9	--	--	670	172	144	11
		10	--	--	230	655	230	37
		Mean	39	47	191	198	137	15
	St Gaudens	1	--	--	--	104	32	1
		2	--	--	--	102	23	3
		Mean				104	29	2
NEW YORK	Roosevelt Vanderbilt National Historic Sites	1	191	40	-- 2/	156	379	
		2	150	221	-- 2/	106	616	
		3	172	--	-- 2/	178	278	
		4	71	--	--	195	438	
		Mean	148	131		159	440	
	Fire Island National Seashore (William Floyd)	1	--	917	325	9	143	48
		2	--	424	408	7	144	42
		3	--	--	328	11	209	43
		Mean		670	354	9	171	44
	West Point Military Academy	1	480	136	-- 5/	258	577	130
		2	464	--	-- 5/	--	386	118
		3	479	--	-- 5/	--	--	44
		4	448	381	-- 5/	--	238	19
		5	498	--	-- 5/	--	401	28
		6	491	--	-- 5/	167	383	34
		Mean	474	258		216	408	62
	Saratoga National Historical Site	1	--	200	235 4/	260	195	23
		2	--	226	157	145	206	12
		3	142	142	248	425	159	13
		4						33
		5						19
		Mean		189	215	267	193	23

STATE	SITE	TRAP	1983	1984	1985	1986	1987	1988
NEW YORK	Sagamore Hill National Historical Site	1	--	--	--	272	589	
		2	--	--	1308	634	572	
		Mean				453	597	
RHODE ISLAND	Naval Education and Training Center	1	--	218	73	94	467	3
		2	--	12	328	195	578	10
		Mean		115	201	146	523	7
	Naval Construction Battalion	1	--	--	585	1521	412	--
		2	--	--	604	495 1/	371	--
		Mean			595	1008	392	--
VERMONT	Green Mountain National Forest	1	166	-- 2/	141	21	93	1
		2	102	160	-- 2/	198	36	2
		3	171	-- 2/	62	64	26	0
		4	--	--	473	157	119	34
		5	--	--	624	225	128	6
		Mean	146		325	133	80	9
	Finger Lakes National Forest	1	--	--	--	--	84	14
		2	--	--	--	--	87	32
		Mean					86	23
	Alleghany Indian Reservation, Seneca Nation of Indians	9-1	--	--	--	108	--	13
		9-2	--	--	--	18	167	--
		9-3	--	--	--	42	116	13
		9-4	--	--	--	50	--	--
		9-5	--	--	--	19	166	38
		Mean				47	150	22
		11-1	--	--	--	27	125	28
		11-2	--	--	--	1	--	--
		11-3	--	--	--	8	123	12
		11-4	--	--	--	14	75	--
		11-5	--	--	--	9	--	--
		Mean				11	108	20

STATE	SITE	TRAP	1983	1984	1985	1986	1987	1988
VERMONT	Alleghany	14-1	--	--	--	137	48	10
	Indian	14-2	--	--	--	66	--	--
	Reservation,	14-3	--	--	--	62	78	17
	Seneca	14-4	--	--	--	54	--	10
	Nation of	14-5	--	--	--	66	11	--
	Indians							
	Mean					77	46	12
VERMONT	Alleghany	17-1	--	--	--	101	--	--
	Indian	17-2	--	--	--	125	--	--
	Reservation,	17-3	--	--	--	90	--	10
	Seneca	17-4	--	--	--	9	--	--
	Nation of	17-5	--	--	--	21	--	33
	Indians							
	Mean					69		22
		23-1	--	--	--	33	159	35
		23-2	--	--	--	30	231	--
		23-3	--	--	--	9	165	35
		23-4	--	--	--	29	--	--
		23-5	--	--	--	73	--	15
	Mean					35	185	29

NOTES:

- 1/ Trap was found on the ground with moths inside
- 2/ No moth counts because trap was stolen or contents (moths) were wet and congealed
- 3/ Moth counts were estimated from weight of wings only because bodies of moths were eaten by other insects such as beetles, flies, earwigs or small rodents (squirrels or mice)
- 4/ Moth counts estimated by debris left by other insects that fed on them
- 5/ No traps hung because the population was too high
- 6/ New lures are 1/3 as potent as lures that were set out before 1987, old lures caused trap to fill up causing problems with moisture, counting, etc.