

A REPORT ON BALD EAGLE USE
of the Wacouta Bay, (Mn.) Area of
the Mississippi River
ALONG WITH MANAGEMENT RECOMMENDATIONS

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Introduction

Bald eagles (Haliaeetus leucocephalus) use the Mississippi River as a nesting (pers. obs.), migration, and wintering area (Dunstan 1987). The importance of this area to wintering eagles has been recognized for many years, and probably began with the construction of Locks and Dams along the river earlier in this century. Currently the Mississippi River and its tributaries account for more than 30% of the Bald Eagles wintering in the lower 48 states (Milsap 1986).

We began a 3 year project to document bald eagle use of those portions of the Mississippi and St. Croix Rivers bordering the state of Minnesota in the winter of 1987-88. Total counts of eagles using the rivers were made during weekly aerial flights. Feeding areas, daytime perching spots, evening roosts, and travel areas along the river were monitored from the ground. In addition, individual eagles were tracked with radio telemetry.

In November of 1989 an evening roost was discovered at Wacouta Bay, south of Red Wing, on the Minnesota side of the river. Bald eagles using the roost were counted once a week beginning 22 November and ending 6 April 1990. Observers with spotting scopes counted all eagles using the roost, and attempted to determine the birds age; either adult (mostly white head and tail) or subadult. Failing light often made this distinction difficult. Counts were taken starting at 1600 hrs. and continued until dark.

Aerial surveys were conducted weekly to bimonthly from October through March in 1987, 1988, and 1989 including January through March 1990. Counts were conducted by two observers (the pilot and a biologist) usually in a Cessna 172 at a survey height of 150 - 300 feet above ground level. The survey route along the Red Wing portion of the river followed the mid-line of the main river channel from Lock and Dam #3 south or east to river mile (RM) 788. The route turned north and eagles were counted along Wisconsin channel west to its confluence with the main channel at RM 793.4. The plane then returned to the main channel and counts resumed at RM 788.

The route did not pass directly over the roost. Perched eagles were counted along both sides of the main channel and the shore of Upper and Lower lakes. Notes were also made of flying eagles. The plane usually did not disturb perched birds.

Description of site

The site extends from RM 788 to RM 784. The wintering area consists of the primary roost, Wacouta Bay, and several nearby resting and feeding areas (Fig. 1). Studies have shown that feeding and night roosts may be as much as 15 miles apart (Grier et al. 1983).

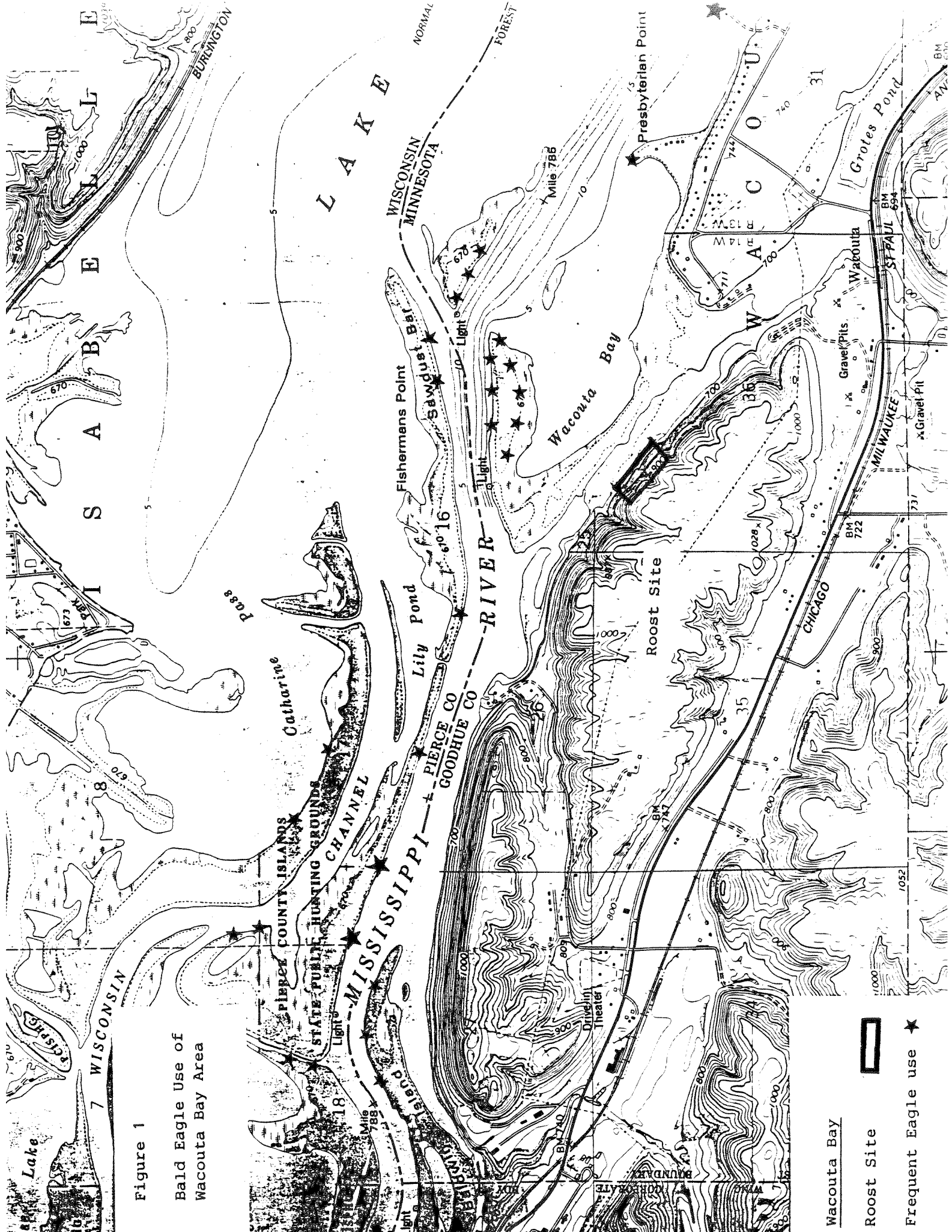


Figure 1

Bald Eagle Use of
Wacouta Bay Area

Night roost area

The primary roost is located in the vicinity of RM 785 Goodhue County T113N R14W Secs. 25 & 36. Eagles use the northeast face of the bluff, between the 700 and 900 ft. elevation contours (Fig. 1).

Foraging areas

Foraging has been observed within Wacouta Bay along the the shore line, on the small island just north of RM 785, and along the south shore of the Sawdust Bar, near Lily Pond.

Resting areas

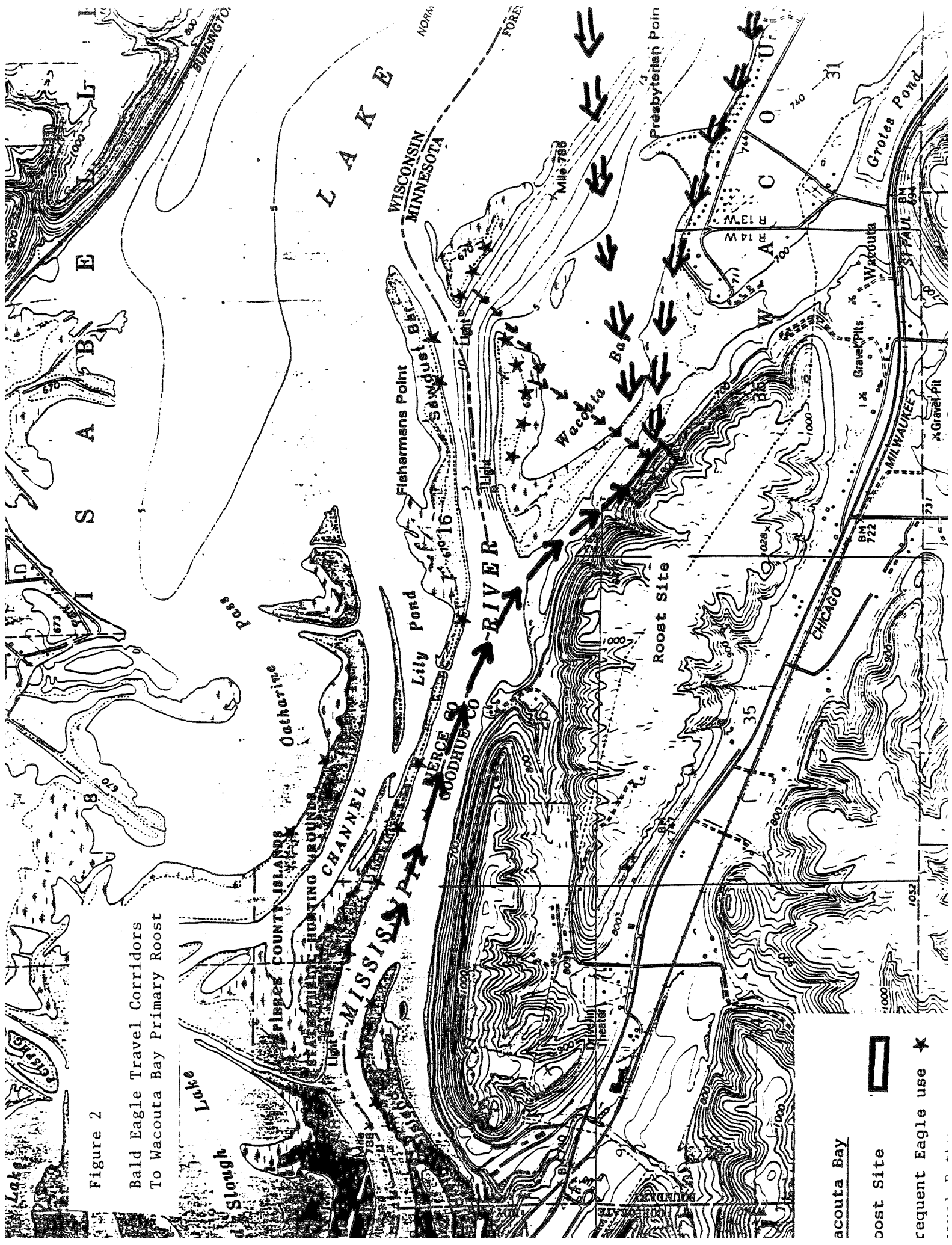
The eagles frequently use the foraging areas and also perch in the roost and on the ice within Wacouta Bay as daytime resting areas.

Travel Pathways

Eagles have been observed flying into the primary roost along three travel pathways: 1) from the east directly across Wacouta Bay. 2) birds from upriver fly into the roost along the bluff. 3) birds from downriver (Lake Pepin area) fly upriver into the roost via two pathways: along the south shore line and also up from the center of Wacouta Bay, near RM 785 (Fig. 2).

Figure 2

Bald Eagle Travel Corridors
To Wacouta Bay Primary Roost



Wacouta Bay
Roost Site
requent Eagle use ★

Vegetation and major environmental components

Wacouta Bay is typical Mississippi River bottomland with major vegetation made up of green ash (Fraxinus pennsylvanica), cottonwood (Populus sp.), and willow (Salix sp.). The face of the bluff where the roost is located is a maple-basswood community with some oak savannah patches at the south-east end (J. Enblom MDNR pers. comm.). The top of the bluff is currently used for agriculture.

Special hazards to eagles

Small plane and helicopter traffic from the Red Wing Municipal Airport pass over the site. A power line passes over the top of the roost bluff.

Site use history

Eagles have used the area for many decades and were first counted along the Mississippi River during the 1960's by the Natl. Audubon Society (Table 1). No information specific to the Wacouta Bay area is available prior to 1987. Anecdotal reports from nearby residents indicate that the roost was active in 1988-89, with incidental sightings of wintering birds in the vicinity for the past seven years.

Bald Eagle Use of the Area

From December through February of 1987-88 and 1988-89, the average number of eagles seen during the aerial census within 5 miles of the roost (RM 791 to 781) was, respectively 32 and 21

Table 1.

National Audubon Society Bald Eagle Winter Count Data
1963-1967.

Location	Date	Adult	Immature	Total
Alma Dam to Dam #3	2/1&3/63	4	1	5
Alma Dam to Dam #3	1/20&21/64	33	0	33
Alma Dam to Dam #3	1/29&20/65	48	0	48
Alma Dam to Dam #3	1/17&18/66	19	1	20
Alma Dam to Dam #3	1/18&19/67	87	7	94

Dunstan, Thomas C. 1987. Preliminary Management Strategy and Plans For Bald Eagle Wintering On the Upper Mississippi River. unpubl. rept. Iowa Conservation Comission, Des Moines, Iowa. 324 pp.

eagles. On only 5 of the 14 surveys did the census fall below 20 birds with a high in each year respectively, of 88 on 2/3/88 and 34 on 2/15/89. Indeed, it was the repeated observations during the aerial surveys of a concentration of bald eagles in the Red Wing area that led to a search for a night roost in November 1989.

Counts for eight aerial census of bald eagles within five miles of the roost averaged 40 birds for the time period December 1989 through February 1990. The low count was nine birds on 5 December and 19 December 1989. Fog in the Red Wing area disrupted the count on 19 December 1989. The highest number of birds seen within five miles of the roost was 106 eagles on 20 February 1990.

Bald eagles were seen using the primary roost during every ground count from 22 November 1989 (Table 2). The highest number seen was 47 birds on 10 January 1990, with the lowest being 6 birds on 1 December 1989. More adults than subadults used the roost on all count nights. The most subadults seen was on 6 March 1990 when 20 were counted. The majority of the eagles arrived in the roost within 1 hr. before sunset on most nights. It was not unusual to see a few birds in the roost as early as 1600 hrs. when we arrived and on one occasion birds were in the roost at 1530 hrs.

We have observed bald eagles fishing in Wacouta Bay and in the main channel of the river, both along the edge of the ice and in the open water areas.

Table 2

Number of Bald Eagles seen at the Wacouta Bay Roost

Date	Temp	Adult	Number of Eagles		Total
			Immature	Unknown Age	
11/22/89	22	7	5	17	29
12/01/89	35	4	1	1	6
12/08/89	26	16	0	1	17
12/11/89	10	20	0	0	20
12/19/89	-10	8	0	0	8
12/27/89	33	19	1	0	20
01/04/90	30	8	1	0	9
01/10/90	29	46	1	0	47
01/19/90	25	27	2	0	29
01/22/90	35	21	3	0	24
02/01/90	10	14	5	0	19
02/06/90	45	9	6	1	16
02/13/90	14	21	11	0	32
02/22/90	34	13	4	4	21
02/27/90	25	15	7	2	24
03/02/90	33	12	1	0	13
03/06/90	34	23	20	2	45
03/12/90	69	17	8	21	46

There are two bald eagle nesting territories within 6 miles of this winter roost.

Statement of Value

The Wacouta Bay area is classed as Significant as a northern wintering site that provides adequate habitat for as many as 52 eagles with an annual average use of 20 to 40 birds (December through February) noted within five miles of the roost during the three years of the aerial surveys.

Management Recommendations

Management steps should be taken to protect the primary Wacouta Bay roost and associated resting and foraging areas for use by wintering bald eagles both now and in the future. To do this the following actions should be taken:

- 1) An area 0.5 km surrounding the roost should be set aside and protected from any development, including the building of roads or structures (Fig. 3). Easements, cooperative agreements with landowners, or acquisition by a public land agency should be considered.
- 2) Human recreational activity including shooting firearms should be prohibited between 1 November to 15 April along the northeast face of the bluff, also within 0.5 km of the top of the roost, and in the bottomlands within 0.5 km of the roost. This is to protect the birds from physical harm, and to minimize disturbance leading to abandonment of the roost.

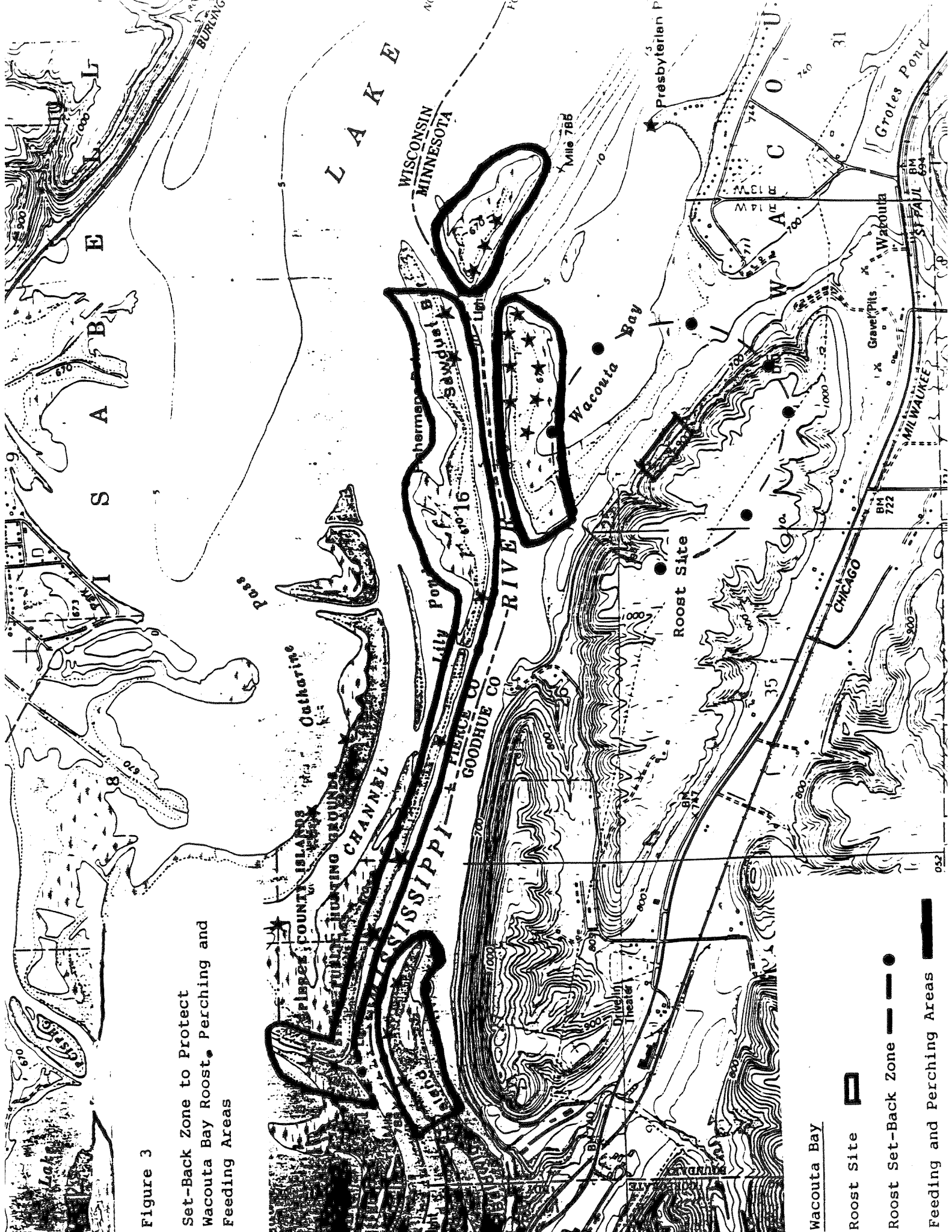


Figure 3

Set-Back Zone to Protect
Wacouta Bay Roost, Perching and
Feeding Areas

Wacouta Bay

Roost Site

Roost Set-Back Zone

Feeding and Perching Areas

- 3) Eagle roosting trees should not be altered, and forestry practices should be instigated in the roost to ensure suitable roost trees for eagles in the future.
- 4) Any alteration to the physical features of the bluff which would significantly lessen the visual screening and wind protection provided should be prevented.
- 5) Trees within 30 m of the shoreline should be preserved for daytime eagle perching spots. This includes the shoreline along the river and bays as well as islands, spits, and bars in the area which are delineated in Fig. 3 at Feeding and Perching Areas.
- 6) No fletting of barges by tying to large trees should be allowed along shores with eagle perch trees or the channel sides of islands used by eagles within the winter site boundaries.
- 7) Alteration of existing vegetation by the deposition of dredge spoil from channel maintenance or other activities should not be allowed in the feeding or perching areas (Fig. 3) frequented by resting or foraging eagles. Nor should the alteration of vegetation be allowed in the resting or foraging areas unless it is to enhance eagle use (eg. the planting of young trees in locations where natural regeneration is not sufficient to provide roosting, perching, or wind buffered trees).
- 8) Once protection of the roost site is assured, the Nongame Wildlife Program should work with the local township to develop a public eagle viewing area situated away from the roost site.

These actions are recommended based on guidelines for protection of night roost and feeding areas presented in The Northern States Bald Eagle Recovery Plan (Grier et al. 1983, and see Dunstan 1987).

Discussion

Wintering habitat is necessary for bald eagles to insure that a maximum number of birds return to the breeding grounds in the best physical condition possible (Steenhof 1978). Thus it is critical that feeding, resting, and evening roost spots be available. Evening roosts are particularly important since they serve to protect eagles from winter weather and possibly serve to facilitate food finding by inexperienced birds.

We have documented significant numbers of bald eagles consistently using Wacouta Bay and the associated evening roost. This indicates that it is an area that is important to wintering eagles. The high proportion of adults using the upper portion of the Mississippi River in general (Dunstan 1987) and the Wacouta roost in particular (Table 2) make this area very important to the breeding population. Furthermore it is likely that this roost is used by the 2 pairs of birds nesting in the area. Observations we have made at other Mississippi River nest sites seem to indicate that nesting pairs do not range far from their nesting territory in winter. This would make the Wacouta Bay roost critical for these 2 nesting pairs.

The management recommendations we have made are designed to protect the primary roost in particular from human disturbance.

Destruction of the roost through development or logging needs to be prevented. Also disturbance in or near the roost from November through March due to human activities such as skiing, snowmobiling, shooting or observing needs to be curtailed. Set back areas of 0.5 km. have been recommended to protect bald eagle roosts (Dunstan 1987, Steenhof 1978). Adopting these management recommendations will protect the Wacouta Bay roost for use by bald eagles many years in the future.

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