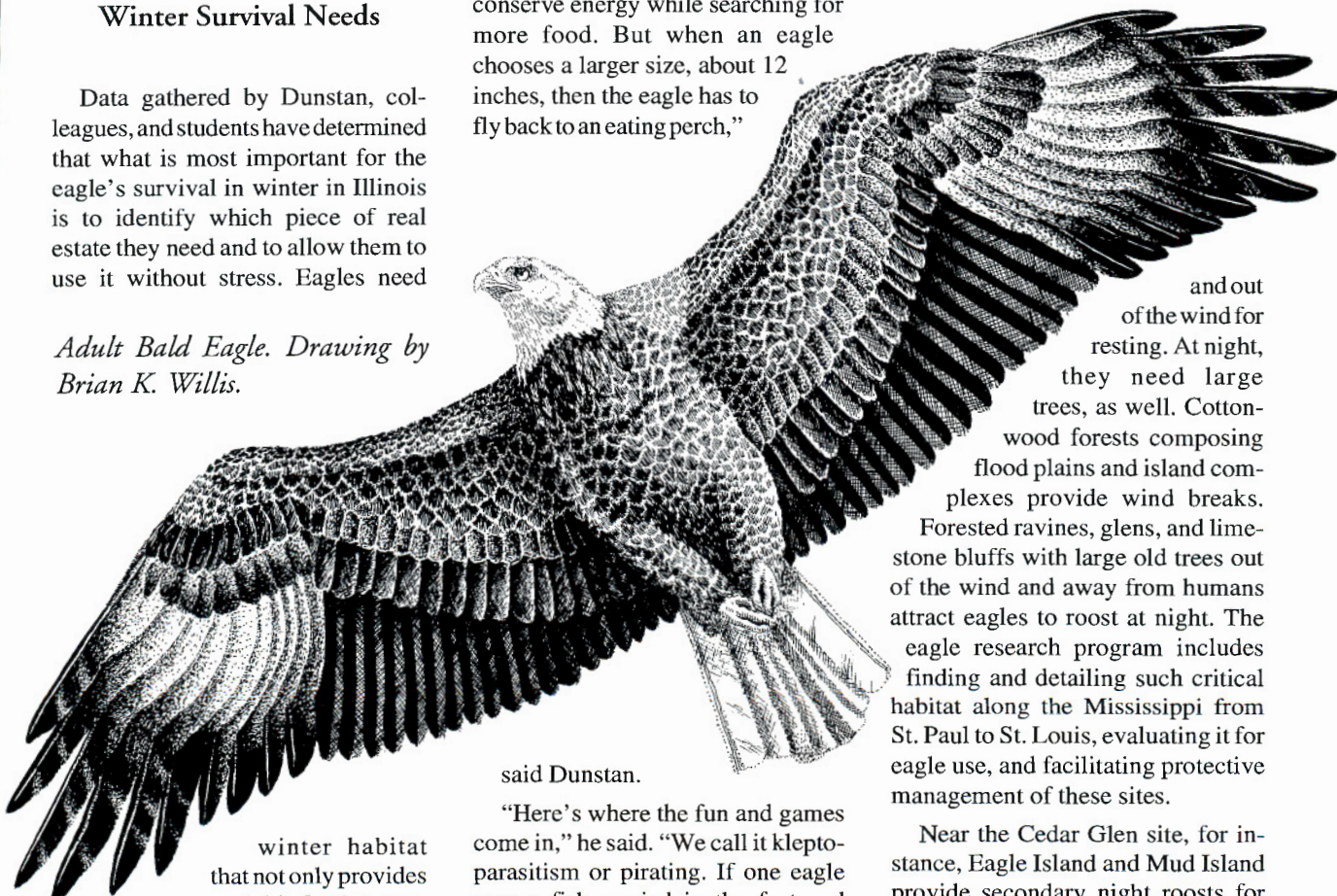


Since then, the conservancy has also purchased several island and mainland areas used for feeding, eating, loafing, and some night time roosting, now totaling about 580 acres. Dunstan has been researching eagle wintering habits and habitats along the Mississippi River from St. Paul, Minnesota to St. Louis since 1970. Additional efforts by the Iowa and Illinois chapters of the nature conservancy, the NWF, and state and federal management agencies have protected similar habitats for eagles at Locks and Dams No. 10, 14, 19, 24, and 25 (Dunstan, 1989).

Winter Survival Needs

Data gathered by Dunstan, colleagues, and students have determined that what is most important for the eagle's survival in winter in Illinois is to identify which piece of real estate they need and to allow them to use it without stress. Eagles need

Adult Bald Eagle. Drawing by Brian K. Willis.



winter habitat that not only provides an available food source, but also older and larger trees that provide perching, loafing, and night time roosting sites.

Cedar Glen meets all those requirements. For one thing, the lock

and dam built in 1913 has a great deal of open water available even in the coldest winters. There, eagles mainly dine on gizzard shad, an herbivorous fish which is susceptible to water temperature changes and thus dies in large numbers. "It's like a food conveyor belt rolling 24 hours a day heading downstream and visited by hungry eagles from dawn to dusk," said Dunstan.

He and his students have studied how eagles decide which size gizzard shad to take. "If an eagle selects a smaller size of about 4 inches, it immediately eats it on the fly," said Dunstan. "That allows the eagle to conserve energy while searching for more food. But when an eagle chooses a larger size, about 12 inches, then the eagle has to fly back to an eating perch,"

said Dunstan.

"Here's where the fun and games come in," he said. "We call it kleptoparasitism or pirating. If one eagle sees a fish carried in the feet and tucked under another eagle's tail, it then follows the flying fish and eagle and tries to get some for itself. That is when perch habitat composed of silver maples is important." Silver

maples have relatively close-grown branches. When an eagle lands on a silver maple to eat a fish, its fellows can't pirate as easily.

Even more important to wintering eagles, however, are 60- to 70-year-old cottonwood trees with horizontal branches spaced far apart that provide perching structure for times other than eating. "During these times, five or six eagles can share limited habitat together and watch for fish to feed upon," said Dunstan.

In addition to foraging and perching areas, eagles also need a habitat with big trees in an area exposed to sunshine

and out of the wind for resting. At night, they need large trees, as well. Cottonwood forests composing flood plains and island complexes provide wind breaks.

Forested ravines, glens, and limestone bluffs with large old trees out of the wind and away from humans attract eagles to roost at night. The eagle research program includes finding and detailing such critical habitat along the Mississippi from St. Paul to St. Louis, evaluating it for eagle use, and facilitating protective management of these sites.

Near the Cedar Glen site, for instance, Eagle Island and Mud Island provide secondary night roosts for the eagles. "For the past 23 years, we have been purchasing buffer zones in the area piecemeal and the effort continues today," said Dunstan.