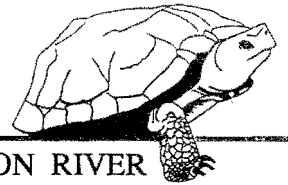


# Cacapon



DEDICATED TO THE ECOLOGICAL PRESERVATION OF THE CACAPON RIVER

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## FEATURE ARTICLE

### Rivers and Birds

by Stephen D. Fretwell  
Winchester, VA

When Mr. Haines used to take us bird-watching in northern Virginia, we'd always stop at the bridges spanning creeks and small rivers. He'd drive over the span while we craned our necks for that first glimpse, then he'd carefully pull over and we'd pile out. Binoculars handy, we'd walk back onto the bridge. There we'd stand, with quiet expectation, listening, scanning the forest's foliage that cascaded down the bank.

Mist and gurgle, light beams and shadowy glades, the Eastern Phoebe's anxious calls and the Yellow-throated Vireo's reflective conversation, all these combined to create transcendent moments. These streamside memories still enrich my life 30 years later.

If a river is healthy, there are many birds that will live on or by it. Those same birds may also live other places, but still they seem

most at home by the river. Wood Ducks and Mallards, of course, keep close by the water where they find food and safety. The same is true of Belted Kingfishers, Green-backed and Great Blue Herons, and Spotted Sandpipers. Degrade the river, though, and your chances of seeing any of these birds become poor.

Other birds, like Phoebes and Louisiana Waterthrushes, breed along the water's edge. Although some individuals of these species nest along road cuts and barnyards, they probably represent the overflow of more substantial populations supported by a nearby stream or river. Both of these species feed extensively on mayflies and other aquatic insects that emerge from healthy rivers. Thus, these birds depend primarily on both riverine and riparian habitats. The word 'riparian' means alongside a body of water.

Orioles, Yellow and

Parula Warblers, and in winter, Winter Wrens, are also especially fond of riversides. However, for these birds it is not the water per se that draws them, but the way the riparian habitat is structured. Orioles and Parula Warblers like large trees with drooping, well foliated limbs; Yellow Warblers prefer willow thickets; Winter Wrens love log jams left by floods.

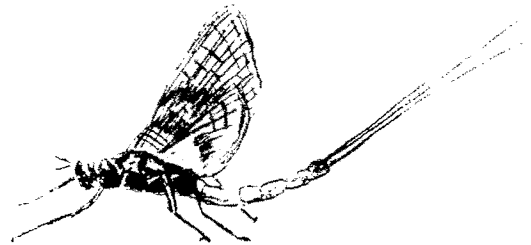
Thus, we can put "river" birds into three categories: bona fide water-dwellers like ducks and herons, riparian species such as phoebes and waterthrushes, and structural habitat specialists like the winter wren.

For me the deepest joy in birding a river comes from the way the watercourse concentrates and exposes the birds. Brilliant orioles and heart-stopping Pileated Woodpeckers flash across the open channel. Canopy feeding vireos and warblers descend to eye level as they faithfully follow their preferred foliage to the water's level.

Because food is abundant in thickets of the flood plain, bird territories there are often small and therefore numerous. Cardinals, Carolina Wrens, Wood Thrushes, Catbirds, Song Sparrows, and others create a robust symphony. Literally, the dawn chorus along a river can be deafening.

Any exotic bird that might be in the area, any

lingering migrant or lost wanderer is also more likely to be found along the river than in other habitats. Bald Eagles, Ospreys, gulls, terns, scoters, or merganser. Oh, the river is irresistible. . . when it's healthy.



So the river feeds and protects birds; do the birds contribute to the river in any way? To an engineer who sees the river only as flowing water with certain concentrations of oxygen and pollution the answer would be "no". But that's only because he is a chemical-watcher, not a bird watcher. Who is to say that oxygen is more a part of the river than the Wood Duck? We guard a river as much for our conscience's sake as we do for the practical reason of keeping clean water available for our own use. That is, the river's contribution to aesthetics ranks high in making us treasure and protect it. And surely the river's birds are an important part of

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that contribution.

The question I posed in the previous paragraph, it turns out, is a bad one, for it assumes a division between the birds and the river that is only real to a detached engineer. The fact is, enjoying the river's birds is a major part of enjoying the river. So my answer to the question is "yes", birds do indeed contribute to the River. Specifically, birds contribute to the River's health by helping us appreciate, and thereby protect, the River.

This spring, the Lab will begin to study the birds of the Cacapon River. We will attempt to record the most stable aspect of its bird-life. In particular, we will record the species of birds along a given River stretch. We will do this during springtime, year after year, to contribute to the River's baseline, which will allow us to evaluate changes in the future. I invite you to join us on this spring's bird census as we employ our friendship in the service of taking care of our River.

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#### A Note about Steve Fretwell

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It's a pleasure to introduce Dr. Stephen D. Fretwell. With a Ph.D. from North Carolina State, a post-doc under Robert MacArthur (one of this century's pioneering ecologists), and various professorships under his belt, Steve has plenty of book-knowledge. In fact,

Steve is writing his own ornithology book to be published by Wiley & Sons. However, Steve doesn't let the title "internationally recognized ornithologist" get in his way. To Steve, a bird is still a miracle, and bird watchers the Earth's salvation. Because of his unique blend of scientific skills and humanity, we were delighted when Steve accepted our invitation to lead the Lab's first Cacapon bird census.

George Constantz



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#### The Director's Column

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#### Censusing the Cacapon's Birds

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If we take the time to look, birds can tell us a lot about the River's health. What species are present,

# CACAPON NATURAL HISTORY

## The Wood Duck is a Nesting Parasite

by George Constantz

The classical idea of bird reproduction is that the female lays all her eggs in a nest which she and her mate have built and then defend. Some birds, though, like the brown-headed cowbird, lay their eggs in nests built by other species. The wood duck hen, which nests in old woodpecker holes, is also a nest parasite, but of other wood ducks. Intraspecific (within a species) brood parasitism or dump nesting, as it is called, occurs when several female wood ducks lay eggs in another's nest. The resident wood duck hen then incubates the resulting clutch.

Which wood ducks dump nest? Dump nesting is not restricted to certain individuals. Hens of all ages are involved in dump nesting. Most parasitic ducks later establish their own nests. So the answer is that any female can be an egg dumper.

How common is nest parasitism? Although some (20%) parasitism occurs under natural conditions, it is more frequent (50-95%) in areas where the birds use man-made nest boxes.

How large are clutches with dumped eggs and how do they grow? Clutches of 20-40 eggs, far exceeding a single female's 11-15 egg capacity, are not uncommon, and a few clutches of 50 have been reported. Even though a female can lay no more than 1 egg per day, parasitized nests increase at an average rate of 1.8 eggs per day. Sometimes, though, parasitized nests experience one or two days of peak parasitism when the rate of egg deposition increases 2- to 4-fold. During such a period, clutch sizes increase erratically and explosively with some clutches increasing by 7-8 eggs in a single day. In one extreme case, four females laid one egg each in a nest within 21 minutes.

How do females dump eggs? From vantage points high in trees, ducks detect hens entering or leaving their nests, then fly a distance of up to 1 km to reach nests where dumping is occurring. Nests may become surrounded by several pairs attempting parasitic dumps at the same time. Dumping hens, though, are cautious as most enter only unoccupied nests.

Hens try to thwart parasitism in two ways. First, they behave surreptitiously around their nest and avoid approaching it when other wood ducks are nearby. Second, females try to aggressively repel intruders. The placement of nest boxes at high densities and in obvious places, both standard game management practices, make it difficult for a female to visit her nest undetected. Consequently, nesting interference can reach pathologically high levels in some managed areas.

In conclusion, nest parasitism yields reproductive dividends because females that lay eggs in others' nests increase their reproductive success (increased number of progeny per season) without incurring the energetic costs or dangers associated with incubation and parental care.