

## SPARROWS AND WEEDS

by John W. Andrews, Lexington

Even the most casual birder soon learns that unmown fields are likely places for finding sparrows. But how many birders can look at fields in July and know which ones will be best for sparrows in October? In order to do this, we must know something about the ecological relationship of bird to habitat. In the case of sparrows, think first about food.

In order to survive a sparrow must consume a daily ration equal to one-sixth its body weight. Since a sparrow only weighs about 22 grams (3/4 ounce) this is not a great bulk of food per capita. But send the average birder into the field to find sparrow food and he may well meet with little success. Exactly what do sparrows eat?

The answer, of course, is weeds. Ralph Waldo Emerson once said: "What is a weed? A plant whose virtues have not yet been discovered." If this is so, then let us beware of dismissing any plant as a weed, for some of the most despised weeds are staples of bird diets.



*Swamp Sparrow  
on Common Ragweed*

Weeds are plants which rapidly colonize newly created or disturbed habitat. Their strategy in the constant competition for growing space is to disperse their seeds widely in search of favorable ground. They specialize in temporary habitats where they can flourish briefly before being shaded out by taller vegetation. In order to succeed with this opportunistic lifestyle, they must produce seeds in abundance. Each seed is a tiny package of food. A bird can survive on weed seeds only if it can gather hundreds or thousands of seeds each day. Enter the sparrows. Sparrows are experts at gleaning tiny seeds from the fields. In the colder months of the year, weed seeds provide more than 90% of the food intake of sparrows.

It doesn't sound like an easy way to make a living, but apparently sparrows find it a piece of cake. After ten years of intensive observations of Song Sparrows in Columbus, Ohio, Margaret Nice could still write, "I have not known of a single Song Sparrow coming to its end through cold or starvation here." Columbus must be a very weedy place!

The value of particular types of seeds to sparrows depends upon the following factors: nutritional composition, abundance, ease with which they can be gathered, presence of hard shells or bristles, and availability with snow cover. Seeds which drop to the ground to be covered with snow are of little value in mid-winter, while seeds which persist on the plant above the snow are important at such times.

The weed groups which are truly important to sparrows are few in number and are easy to recognize. The accompanying illustrations depict the important weeds commonly found in eastern Massachusetts. It is generally necessary to recognize only the plant genus rather than the species. For more complete plant identification information, consult the field guides listed in the references.

Ragweed, bane of hay-fever sufferers, is probably the single most important winter food source for sparrows. Other important weeds, which every sparrow aficionado should learn to recognize, are Bristlegrass (Setaria sp.), Panicgrass (Panicum sp.), Crabgrass (Digitaria sp.), Smartweed (Polygonum sp.), and Sedges (Carex sp.).

Some common weeds are of little value to sparrows, although they may grow in association with more valued plants. Among these less useful weeds are the goldenrods, loosestrife, Joe-Pye weed, dandelions, and phragmites.

# food plants



winter



grey knobby  
fruit

## RAGWEED

*Ambrosia artemisiifolia*

Probably the most important  
winter food resource for  
sparrows

Seeds are rich in oils, persist  
on plant into winter

stiff  
bristles

## BRISTLEGRASS

*Setaria sp.*

widely used by  
ground-feeding  
songbirds



## SMARTWEED

*Polygonum sp.*



fruit

Some species semi-  
aquatic

Especially favored by  
Fox, Swamp, White-throated  
and Song Sparrows



wrap-around  
leaf sheaths

## CRABGRASS

*Digitaria sp.*

Most heavily used  
by Savannah, Field,  
and Tree Sparrows



## PANICGRASS

*Panicum sp.*

flowers at end of  
multi-branched "panicle"

A favorite of Tree  
and Lincoln's Sparrows



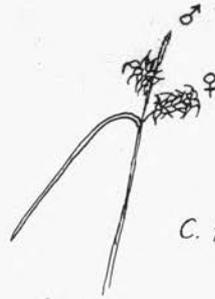
## SEDGES

*Carex* sp.

separate male and female flowers  
stem typically triangular and solid  
tends to grow in colder, wetter places than grasses



*C. laxiflora*



*C. flava*

Important food for Swamp Sparrow

## PIGWEED

*Amaranthus*

shiny black fruit

Thousands of seeds persist throughout winter inside the densely clustered spikes



## LAMBSQUARTERS

*Chenopodium album*

notched fruit

Seeds persist on plant

striped stem



## DOCK

*Rumex*

three-sided fruit



*R. crispus*

## VERVAIN

*Verbena*

A wetland plant used mostly by Swamp Sparrow

seed



*V. hastata*

winter



Stomach content records compiled in the Martin/Zim/Nelson book (reference 2) indicate that different sparrow species have distinct food preferences. In some cases the differences may be due to general habitat differences. For instance, Swamp Sparrows utilize more sedges, Smartweed, and Vervain - all of which grow in wetter habitat than most weeds. Other distinctive preferences can be noted. Fox Sparrows practically ignore crabgrass while Field and Savannah Sparrows love it. This raises the intriguing question of whether one could predict the species breakdown of sparrows in an area from a knowledge of the weed species present.

## Sparrow Food Records

(From Martin, Zim and Nelson, Reference 2)

Rating System (Fraction of Total Diet):

- ▽ 0.5% to 2%
- 2% to 5%
- 5% to 10%
- 10% to 25%
- 25% to 50%

Sparrows	Ragweed	Bristlegrass	Smartweed	Panicgrass	Crabgrass	Sedges	Pigweed	Lambsquarters	Dock	Other
Savannah	■	■■	□	■	■■		▽			□ Wildmillet
Grasshopper		■■	□	▽						■ Sheepsorrel; ■ Oats
Vesper	■■	■■	■	□			□	▽	▽	□ Oats
D-e Junco	■■	■	□	□	■	▽	□	□		■ Dropseedgrass
Tree Sparrow	□	■■	▽	■■	■■	■	□	□		▽ Vervain
Chipping	▽	■	▽	□	■■		▽	▽		□ Timothy; □ Oats
Field	▽	■■		■	■■		▽	▽		■ Broomsedge
White-crowned	□	■■	■	■	□		□	▽	□	▽ Vervain
White-throated	■■■	□	■■	□			▽			□ Poison ivy; □ Oats
Fox	■■	□	■■■						▽	■■ Hawthorn; ■ Blackberry □ Virginia Creeper
Swamp	▽	▽	■■	■	□	■■		▽	□	■ Vervain; □ Rice Cutgrass
Song	■■	■■	■■	■	□	□	□	□	□	□ Oats; ▽ Vervain
Lincoln's	■	□		■■	■	■	□	□		

The best sites for finding sparrows are often those at which vegetative succession has been set back by the hand of man. For this reason good sparrow sites are scattered throughout the suburban landscape. Old landfills are among the best sparrow locations. These sites are usually covered with poor soil which supports an ideal assortment of sparrow weeds. Another likely sparrow spot is community garden sites where the non-mechanized form of agriculture creates a mix of open ground and weedy patches which sparrows love. Abandoned farm fields are also excellent for sparrows. Remember - if you find the right weeds, the sparrows are practically guaranteed!

### References

1. Nice, Margaret M., Studies in the Life History of the Song Sparrow, 1937 (Dover, 1964)
2. Martin, Zim, and Nelson, American Wildlife and Plants, A Guide to Wildlife Food Habits, 1951 (Dover, 1961)
3. U.S. Dept. of Agriculture, Common Weeds of the United States, Dover 1971
4. L. Brown, Weeds in Winter, W. W. Norton, 1976
5. L. Brown, Grasses, Houghton Mifflin Co., 1979
6. Peterson and McKenney, A Field Guide to Wildflowers, Houghton Mifflin Co., 1968

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