# Oregon Birds

## Contents

**Vol. 4, No. 2**  
**Issue No. 5**

**April/May 1978**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Purple Martin in the Western United States: Part Two: It's a Question of Holes</td>
<td>Tom Lund</td>
</tr>
<tr>
<td>10</td>
<td>Banding Results at LCC; 1971-1975</td>
<td>Don Payne</td>
</tr>
<tr>
<td>13</td>
<td>Role of Behavior as a Factor in Evolution</td>
<td>Diane Beaulaurier</td>
</tr>
<tr>
<td>25</td>
<td>Southern Oregon Interior</td>
<td>Steve Summers</td>
</tr>
<tr>
<td>28</td>
<td>Southern Oregon Coast</td>
<td>Alan McGie</td>
</tr>
<tr>
<td>31</td>
<td>Southeastern Oregon</td>
<td>C.D. Littlefield</td>
</tr>
<tr>
<td>35</td>
<td>Northeastern Oregon</td>
<td>Ron Rohweder</td>
</tr>
<tr>
<td>37</td>
<td>Southern Willamette Valley</td>
<td>Alan Contreras</td>
</tr>
<tr>
<td>40</td>
<td>Brief Note: Ross' Geese and Tri-colored Blackbird in Klamath County</td>
<td>Steve Gordon</td>
</tr>
<tr>
<td>41</td>
<td>Brief Note: Barred Owl Expanding Into Northeastern Oregon</td>
<td>Ron Rohweder</td>
</tr>
<tr>
<td>42</td>
<td>Errata/Correctum</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Recent Publications, Editor's Note, Credit</td>
<td></td>
</tr>
</tbody>
</table>
The Purple Martin in the Western United States

Part Two: It's A Question of Holes

Gabrielson and Jewett, in *Birds of Oregon*, summarized the status of the Purple Martin in the state as "decidedly uncommon". They listed only a handful of nesting sites but nevertheless included all of Western Oregon and Klamath and Lake Counties in the species' breeding range. Field work since then has more or less borne out their assumptions though martins have proved to be common in a few restricted areas. The species has remained overall a scattered and uncommon breeder in the state and it is generally a red letter day when an observer spots a Purple Martin in Oregon.

The total number of nesting sites discovered before and after the *Birds of Oregon* was published is about a hundred, with the majority of these along the coast and in the interior valleys; a smaller number have been found in the coast and Cascade mountains, and in Klamath and Lake Counties. Of these hundred sites about 60 were active ten years ago. Intensive field work in the last three years, however, has revealed activity in only 31 sites. Since change and not stability are the rule in nature such statistics must be interpreted with care. The decline within the last decade may simply represent a normal fluctuation in the population or in the carrying capacity of the environment or both. There are signs, though, that the decline is not due to natural forces but is the result of man's activity. The cause appears to be a rapid decrease in suitable nesting sites due to snag felling programs, fire control, and the increasing presence of Starlings at long used sites.

The family Hirundinidae (the swallow family) offers numerous examples of adaptation within a single species to many different habitats. The Violet-green Swallows which course the air over every town in Western Oregon have cousins thriving in the desert heat at Fork Rock as well as in the aspen areas at high altitudes in the Rocky Mountains; the Barn Swallows which about in the cool, damp lowlands of the Oregon coast have relations living in the dry habitat of the Lava Beds in California. Purple Martins in particular, though, appear to be less restricted by climate and vegetation than any other North American swallow.

The species nests in extremely humid regions (such as Florida and all other states in the southern U.S.) and extremely arid regions (such as the lower Sonoran desert of Arizona). Martins have been found breeding within innumerable vegetational communities including many types of forest, juniper-sagebrush associations, and even areas devoid of vegetation such as business districts in large cities and on rocky barren isles in the Gulf of California. Altitude does not seem to pose a barrier for the species has been found a number of times nesting at 9,000 feet in the Rocky Mountains (and at 7,000 feet in Klamath County, Oregon). Though water is often cited as a necessity for the species, Purple Martins flourish at sites many miles from water. Flying insects are abundant around riparian areas and such concentrations may attract the birds as do concentrations of food often attract masses of wildlife. Hofmann (Birds of the Pacific States, 1927) clearly and simply enunciated the species indifference to habitat: "The cornice of a building above the traffic of a city street and the hollow limbs of tall trees in mountain glades seem such opposite conditions that is is a surprise to find the same bird in both localities. Both, however, offer nesting holes and the sky above each has insect food,
so that Purple Martins drop their liquid 
notes impartially over Seattle and Santa 
Barbara, and the forest trees of Mount Wilson. 

Though the Purple Martin is not re­
stricted to any particular habitat the bird 
is dependent upon woodpeckers and other 
natural or human agents to create its nest­
ing sites. Consequently the distribution of 
the martin coincides with the distribution of 
suitable sites within the broad climatic 
region to which the bird is adapted. Though 
martins have been found nesting in an amazing 
variety of structures, in the west they have 
been found most often utilizing old wood­
pecker holes; thus one would expect the 
species to be primarily restricted to 
forested areas and it is exactly these areas 
where the bird has always had its strong­
holds. There are some notable exceptions, 
however.

What is perhaps the single largest popu­
lation of Purple Martins in the western United 
States, some two or three hundred pairs, is 
utilizing cavities and niches in the ceilings 
of lava tube entrances at Lava Beds National 
Monument in California. Parallel to this 
situation are the freeway birds in downtown 
Sacramento using angled drainage pipes in the 
overpasses, even over a city bus parking lot; 
the birds enter the holes from the under­
sides of the structures and do not appear to 
be bothered by the exhaust fumes belched 
continuously by the buses and city traffic. 

Further evidence that Purple Martins in the 
west are by no means restricted to old wood­
pecker holes in forested areas is supplied 
by Grinnell (The Distribution of the Birds of 
California, 1944): "A departure on a par 
with that shown by some other swallows is 
the adoption by the martin of human-provided 
nesting niches, incidentally, in the eaves 
or cornices of buildings, or so far rarely 
purposely supplied martin-houses. This 
adoption has brought the birds into locali­
ties such as certain lowland cities, where 
they were not known to breed before."

Historical evidence suggests that the 
Purple Martin has always been a scattered 
and uncommon nester in most of the west, and 
only exceptionally been common or abundant 
in an area. But the exceptions are impor­
tant as they have invariably proved to be 
instances where nesting sites were unusually 
abundant; if factors limiting density other 
than the availability of suitable cavities 
were in force one would not expect a marked 
difference in the martin populations of simi­
lar or adjacent areas, yet this is precisely 
what has occurred in the instances where the 
species has been found to be numerous. This 
suggests that the availability of nesting 
sites is the prime limiting factor on the 
martin population in the western states and 
that there has always been a scarcity of 
natural nesting sites. The recent experiments 
in Oregon and Washington with nesting boxes 
support these hypotheses. But why, consid­
ering that there are lots of woodpeckers around 
making lots of holes, should a bird that 
utilizes woodpecker holes be so uncommon? 
The answer lies in the peculiar nature of the 
bird's behavior and its extreme selectivity 
when choosing a nesting site.

Purple Martins are generally regarded as 
social and colonial birds though the reasons 
why the species behaves in this manner remain 
obscure. One explanation that has been of­
ered is that cooperative insect hunting might 
be more successful than the aggregate result 
obtained by scattered individuals; such a 
system would be of particular value during 
periods of cool weather when the supply of 
flying insects is scarce and localized. 
Another possible reason for the species colon­
ial nature is its late arrival in spring 
relative to several other cavity nesters such 
as the bluebirds and certain swallows. A 
solitary pair of martins might not be able to 
preempt an ensconced swallow from a cavity 
but a number of pairs acting as a group would 
be much more effective; the author has
personally witnessed numerous mass attacks by martins on other cavity nesting species within ancestral sites. Whatever is the basis for the social nature of the Purple Martin the tendency to colonize has a strong influence on nest site selection.

Sievert Rohwer (unpublished manuscript) found that in Kansas martins definitely preferred sites that allowed them to nest in large numbers. Martin houses with rooms for less than four or five pairs were used only intermittently while those that allowed greater numbers to group together were used consistently from year to year. Rohwer also found that females preferred sexes from the previous year's hatch, which invariably arrive several weeks later than the older birds, prefer the large, well-established colonies rather than the small colonies or entirely vacant houses. At Fern Ridge Reservoir in Oregon I have found that the previous year's hatch invariably shows up at the old crowded sites rather than establish new colonies in any of the several vacant martin houses in the vicinity.

Groups of one or two pairs of martins have been reported frequently in Oregon but careful investigation usually reveals that the number of birds at such sites has been underestimated. It can take up to several hours to accurately census a nesting site and few observers have taken the trouble to do this. There are definite cases of such small numbers of martins nesting in the state but the viability of these groups is questionable; since 1975 ten nesting sites that had only one or two pairs have been abandoned, while during the same period no nesting site with four or more pairs has become inactive. These small nesting groups appear to represent either vestiges of once large colonies or sporadic offshoots of nearby large groups.

Thus, to be acceptable a potential martin nesting site probably has to have a number of cavities in order to support a permanent population. Some nesting cavities within a site may not be used every year, perhaps because of accumulated filth, and a site may have to have at least eight cavities to support just four pairs. In addition the site must be free of overhanging or encroaching vegetation; nest sites are invariably in open areas such as burns, lakes and waterways. As usually no more than one suitable cavity is found per snag, at least in Oregon, a number of snags within a small area is a prerequisite for colonial nesting. While solitary dead trees standing in the open are not an infrequent sight in Oregon, large concentrations of these are rather rare. Furthermore, woodpecker activity in such sites is not always what might be expected or what it appears to be; I have found, as has Richmond (Condor 55:229, 1953), that fully 50% of the apparent woodpecker cavities in pilings and dead trees actually end within two or three inches of the entrance. Burns in Oregon with 50 to 100 or more snags may support only four or five pairs of martins, if any at all.

Given such limitations it is not difficult to understand why the Purple Martin has never been a universally common species under completely natural conditions. But for a short time man aided the martin in a number of ways in the west.

The total acreage of burned over forests probably has increased dramatically since the advent of civilized man. Especially notable are the large forest fires in western Oregon such as the Tilamook and Oxbow burns. In this manner the "natural" habitat for the Purple Martin has probably increased. However, man created significant numbers of artificial nest sites by the construction of buildings with numerous hollows and niches, and driving thousands upon thousands of pilings in rivers, lakes and bays, especially in the northwest. The birds did not remain indifferent to these opportunities and Purple
Martins were soon noted bustling about a number of the pioneer cities and waterways in California, Oregon and Washington.

In Oregon, Gabrielson and Jewett (ibid.) listed the species as nesting in business buildings at St. Helens and Klamath Falls; in the latter locality they were apparently rather common. The late Hilda Reiher (personal communication) found the species to be very common in pilings in the Lakeside area during the 1920's; Richmon (ibid. and personal communication) found martins to be quite common in pilings on Tahkenitch Lake during the early 1950's. Along the Siletz River near Kernville, martins were common around pilings until quite recently, according to a knowledgeable local observer. To this date most of the known nestings in Oregon are in artificial habitat, either pilings or flooded trees in reservoirs.

In the last several decades a number of changes have occurred in the environment to swing the balance against the Purple Martin. The efficiency of modern fire control is such that almost no new nesting sites are being created for martins. If a fire perchance runs its course then what snags are left are either salvaged for the lumber or felled for the sake of fire prevention. It is now possible to drive twenty or thirty miles through a forested forest area in Oregon and not see a single snag standing above the surrounding forest canopy, much less the massed snag situation necessary for a Purple Martin colony.

The emphasis in transportation has shifted in the last thirty years away from the waterways so that little new pilings is being driven in the northwest; this important martin habitat is quietly rotting away. The Victorian business buildings with their hollow cornices and abundant niches are now non-existent in Oregon as well as the rest of the country; modern architecture with its spare lines hardly offers any bird a suitable nesting place. And thanks to an eccentric who thought that all the birds in Shakespeare should reside in North America there are now Starlings nesting coast to coast. Although some observers have felt that with the Purple Martin the Starling had met its match such does not appear to be the case at nesting sites on the west coast.

I have noted Starlings roosting or at least present year round at ancestral martin sites. The Starling appears to begin nesting prior to the arrival of the Purple Martin throughout the country. While martins may be able to drive off a house hunting Starling later in the season I have never seen an instance where martins, returning to an old nesting site in the spring, were able to oust an established Starling with nest, eggs, or young. In a nest box situation there is a slightly different picture, though, than in a natural nesting site.

Most martin owners in eastern North America either take their houses down or close them for the winter. The houses are then erected or opened shortly before or after the first martins show up in spring. This gives the native sons a fighting chance against the Starlings. The Starling will not normally nest at the high density that the martins will; thus if an apartment house has several pairs of Starlings there should still be room for some martins, which, after some initial fighting, will cohabitate with the Starlings. Aluminum houses, houses which are rather open and airy inside, and houses with rather small compartments all appear to eliminate Starlings. At natural nesting sites the martins have no such advantages and it doesn't take long after the Starling arrives in an area before there are nothing but Starlings, given, of course, a favorable environment for the latter.

Guy McCaskie (personal communication) has found that Starlings have entirely replaced the Purple Martin at old nest sites in the mountains east of San Diego; McCaskie reports that just 12 years ago martins were
fairly common in the region but are now almost never reported in any part of Southern California. Similar reports have been received concerning the rest of California, and Oregon, and Washington, though Southern California appears to be in a particularly advanced stage.

Intensive field work in the more remote and rugged areas of the west, particularly in Oregon, would likely reveal many more Purple Martin colonies. Away from agricultural and cultivated areas Starlings are far and few between and probably do not pose much of a threat; martins are undoubtedly carrying on as undisturbed as they have in the past. But these old nesting sites are deteriorating rapidly and are not being replaced. Modern land management and use dictates against the survival of species which require a large amount of waste to survive. The Purple Martin may well survive only where a special effort is made to provide the species with nesting holes, either natural or artificial.

Banding Results at L.C.C.: 1971–75 Don Payne

The idea of a demonstration field school in connection with the biology department of a college is not new. Its value to students is measureable in both enthusiasm and information.

Early in the development of the Lane Community College Campus there have been those of us birders who discovered the unique habitat for birds of the area. There are thick woods on two sides of the parking lots, with lots of space all around. The shallow valley that runs southwest is a cutover fir, oak, and alder slope. It is outside the campus proper. In fact, somewhere on developmental drawing boards, I am told, there are plans for supermarkets, multiple student housing units, condominiums, residences and so forth. But for the present, the little used logging road that extends up the valley for perhaps a mile, holds much in store for the patient birder who is willing to search a little.

There was at one time a small logging operation located near campus. This site is at the north end of the little valley proper. It has a land fill dam, log pond of some two plus acres and up to 15 feet deep. This feature disappeared before the development of the college campus was begun. A fissure developed in the fill and has eroded until all that is left of the pond is a cattail marsh of some 400 square feet. Deer, coyotes, dogs, birds and people use the pond for various reasons.

Beginning in 1971 the Community College Biology department, under the direction of Floyd Wetzel, erected and stocked feeders for use by the birds. A mixture of sunflower seeds, chicken scratch, oats and walnut meats was most acceptable. It was the abundant bird life that made the area attractive to the birders.
As many as seven netting lanes have been developed, and while not all are in use at one time, nets are switched so as to take advantage of flight lanes. Figure 1 gives the numbers of birds and species that have been banded since the program was initiated in the spring of 1971.

Figure 2 gives a few of the more abundant birds in this valley. Repeats at the banding station are not frequent, but there are some from previous years' banding. Once a bird has been taken in a net, it usually avoids a repeat experience by going over, around, or beneath the net to the watering hole. There have been no foreign return taken at this location. That is, birds banded elsewhere in a western flyway. It is hoped that even yet, a bird from some other location in Washington or possibly Canada may be taken at our Campus location. Lane County lies at the southern terminus of a long flyway that extends to and beyond Puget Sound.

The usual data taken from a bird in the hand includes: its weight in grams, wing length in millimeters, body fat deposit as an indication of energy available for migration, the sex differences as presence or absence of brood patch or cloacal protuberance in breeding birds. The skull of newly hatched birds is examined for the closure of the fontanelle as evidence of maturing. The molt is recorded whether in body, wings, or tail and whether it is complete, incomplete or partial. If parasites are present, they are collected.

To date, the program has been able to furnish information on several birds: the Wrentit, Chat, Orange-crowned warbler, Lazuli bunting, Cowbird, Steller's Jay, and others. Pictures, sound recordings of song, abundance young and adult ratios, and other data are all filed for reference.

This program is more successful in spring and summer as the water is used as an attraction at this time.

It is the plan to continue the operation of this station through several years to gather more data for study.

--Donald E. Payne--

**FIGURE 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Birds banded</th>
<th>Species banded</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>101</td>
<td>24</td>
</tr>
<tr>
<td>72</td>
<td>141</td>
<td>24</td>
</tr>
<tr>
<td>73</td>
<td>164</td>
<td>31</td>
</tr>
<tr>
<td>74</td>
<td>123</td>
<td>26</td>
</tr>
<tr>
<td>75</td>
<td>218</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>747</td>
<td>46</td>
</tr>
</tbody>
</table>

**FIGURE 2**

A few more abundant birds banded on this location include these:

- 204 Purple Finch
- 76 Spotted Towhee
- 60 Song Sparrow
- 38 Bl.-Headed Grosbeak
- 35 Amer. Goldfinch
- 34 Bl.-capped Chickadee
- 28 MacGillvray's Warbler
- 25 Swainson's Thrush
- 19 Cowbird
- 18 Western Flycatcher
- 18 Orange-cr. Warbler
- 17 Western Tanager
- 12 Robin
- 11 HOUSE Finch
- 10 Bewick's Wren
- 10 Golden-cr. Sparrow

Also banded were:
- Stellar's Jay (9);
- Bushtit, Oregon Junco (8);
- Red-breasted Nuthatch (7);
- Chat, Wilson's Warbler (6);
- Willow Flycatcher (5);
- Wood Peewee, Lesser Goldfinch, Nashville Warbler, Hermit Thrush (4);
- White-crowned Sparrow, American Kestrel, Evening Grosbeak, Downy Woodpecker, Warbling Vireo, Yellowthroat, Yellow Warbler (3);

Five more species were recorded only once.
Role of Behavior as a Factor in Evolution

Diane Beaulaurier

Introduction

Within a species, behavioral differences between members may lead to deviations from random mating. Individuals which exhibit a certain type of behavior may breed more frequently with each other than with conspecifics of a different behavioral type. Differences may exist in many types of behavior patterns, from those which are completely genetically predetermined and appear in final form on their first expression, to those in which a large amount of learning occurs. Through this mechanism of assortative mating, the gene pools of various behavioral groups within a species can diverge over a period of time. This may lead to genetic as well as behavioral incompatibility between groups, and ultimately to the formation of new species.

In many cases behavioral differences evolve between species which are already reproductively distinct due to differences in anatomy or physiology. In these organisms, behavior acts to reinforce isolation at an early stage in the reproductive process, and minimizes energy lost in unsuccessful matings.

I will discuss situations where behavioral isolation evolves first and may eventually lead to other forms of isolation. The examples cited will emphasize differences in behaviors which involve an important learned component.

How Behavior Can Modify the Gene Pool

Theoretical discussions of the genetic structure of populations generally must assume panmixia, random mating, and populations of infinite size. In contrast, the genetic structure of natural populations usually is a product of assortive mating, subdivision of populations, division of the total species range into subranges each with different selection pressures, and migration. These are all results of behavior patterns and their effect on the genetic structure and evolution of populations needs further study.

King (King, 1967) has coined the phrase, "ecological genetics of behavior" and defined it as, "The study of the relationships between behavior and changes in the gene frequency of populations...which emphasizes the effect behavior has first upon the dynamics of populations and ultimately upon the genetic constitution of populations." The following is in part a summary of King's ideas.

Behavior may be the most important property of a species which can alter the genetic characteristics of its populations. Generally only large deviations from normal morphology or physiology will reduce the breeding ability and fertility of an individual significantly. However only slight changes in behavior can alter an individual's reproductive success. Such behavioral changes can have important effects on the gene frequencies of populations. Behavioral differences of organisms within and between populations can influence the amount of gene flow that occurs, as well.

Social interactions have been implicated by several authors (Darling, 1938; Lehrman, 1961) in stimulation of fertility in colonial animals. But a behavioral trait which is more important in effecting genetic changes in a population is mate selection, provided that the selection has some genetic basis. Sexual isolation through differences in courtship behavior is the most obvious way that behavior can initiate and maintain
differences in the genetic structure of populations within a species, or between sympatric populations of closely related species. A good deal of empirical support exists in many animal groups for between-species courtship differences acting in this manner, although the majority of the studies deal with behavior patterns which are strictly innate. Some examples are different song patterns in two sibling species of grasshopper which result in reproductive isolation (Perdeck, 1958). Song differences have been shown to cause reproductive isolation in closely related sympatric frog species (Littlejohn, 1965), and in groups of similar bird species (Marler, 1960) and (Lanyon, 1963) although in birds differences in learned song components is often crucial for isolation (Nicholai, 1974). Another example of an innate behavioral difference important in reproduction was found by Carde (Carde, 1978) in two sibling species of the European corn borer, an insect pest in the United States. The females of the two species each have a different isomer of a pheromone which is an attractant to males of their own species. Many other examples exist.

Aside from differences in mating behavior, which will be discussed in more detail later, behavioral traits can lead to other population phenomena which affect gene frequencies. Some of these phenomena are population oscillations, habitat selection, territoriality, group cohesion, migration, dispersal and sex and age distributions.

Population Oscillations

Such fluctuations are important influences on the genetic makeup of populations, since after a crash the remaining individuals may represent only a small percentage of the original genotypes. A model of oscillations in population of microtine rodents developed by Christian and Davis (Christian and Davis, 1964) considers social behavior and stress to be factors which cause the decline of high density populations. A recent paper (Batzli et al., 1977) suggests that a pheromone produced by sibling voles inhibits growth and maturation of littermates.

Habitat Selection

Individuals which select the same habitat have an increased chance of interbreeding. They also encounter similar selective pressures. Differences in habitat selection between similar species are important influences on the gene pools only if habitat selection is the only barrier to reproduction. Differences in habitat preference within a species have not been found, except among subspecies which interbreed at the periphery of their ranges. Habitat selection in many cases involves a large learning factor, as evidenced by the return of many animals to their birthplace for breeding purposes. If habitat preference is affected by genotype, a behavioral feedback to the genotype may occur by keeping a population restricted to a particular habitat. Such ecological isolation may bring about changes in gene frequencies between populations in different habitats, but Mayr (Mayr, 1963) states that there is little evidence that it plays a role in speciation.

Territoriality

Territoriality restricts the size of an interbreeding population, since animals without territories seldom breed. Those which possess territories make the greatest genetic contribution to future generations and so affect the evolution of the population to a large degree. There are many types of territorial behavior (nest only, food only, nest and food) with many associated breeding patterns (monogamy, polygyny, polyandry). Each combination can affect the genetic future of the population in a unique way. Studies by Selander have shown how territoriality affects the genetic structure of populations of the house mouse (Mus musculus). These
populations are characterized by a fine-scale genetic subdivision which is maintained by territorial behavior in the absence of physical or ecological barriers to gene flow. Significant genetic heterogeneity was found between tribes in a barn, between barns on the same site and between farm sites. (Selander, 1970)

**Group Cohesion**

This is a phenomena observed among both plants and animals which can be caused by low dispersal ability, aggregation of individuals in a suitable habitat, or gregariousness. This last cause is usually found in animals whose social organization contributes to a decrease in predation pressure or an increase in foraging ability. These different behavioral reasons for aggregation often result in the segmenting of a population into small, inbreeding fragments. This is a condition in which genetic changes can occur rapidly.

**Migration and Dispersal**

These types of movements are important in determining the amount of interbreeding between populations as well as in the amount of genetic variability of newly established populations. New environments encountered by dispersing or migrating individuals carry new selective pressures which can alter gene frequencies. Some mathematical effects of migration on gene frequencies have been calculated (Wright, 1931) but much empirical work remains to be done.

**Age Distribution**

This is another determinant of the effective breeding size of a population. Behaviors which are age-dependent (play, dispersal, fighting, mating) affect certain segments of the population and alter its function as a genetic unit.

**Sex Distribution**

The relative abundance of both sexes affects the fertility of a population as well as the type of mating system that will evolve. Mating systems are well-studied but their genetic consequences need elaboration.

The unification of ideas about population dynamics, behavior and population genetics is an area where much thought is needed. We have some information on how behavior affects population growth (Christian and Davis, 1964) and some on how population growth affects gene frequencies (Kerb et al. 1973), but direct measurements of genetic changes that result from migration, territoriality, natural mating systems and assortative mating are still lacking.

**Examples of Assortive Mating Through Differences in Learned Behavior**

All behaviors have some genetic basis, including those in which learning plays a major part. A genetic predisposition to learn particular behavior patterns necessary for successful mating or foraging is an important feature of the behavioral scheme of many animals. However a behavior which needs to be learned is much easier to modify than one which is already coded in an organism's genes. If such a learned behavior is important in assortative mating, modification of the behavior can lead to genetic changes in the population. The following cases are examples in which mate choice is based on a learned preference and where this behavior may have an important effect on the genetic structure of the population.

**The Lesser Snow Goose (Anser caerulescens caerulescens)**

Studies on the dichromatic lesser snowgoose (Cooke et al. 1976; Cooke et al. 1975, and Rockwell and Cooke, 1977) have shown that there is mixing of birds from many arctic breeding colonies during the winter migration to Texas and Louisiana. During this mixing period, pair formation occurs, frequently between birds from different nesting colonies. Females return to their home nesting colony,
but males return to the nest colony of their mate. Sometimes this will be their home colony, but often it will not. Gene flow into one small nesting colony was estimated at 50% (Rockwell and Cooke, 1977). From this high level of gene flow it would be predicted that genetic differences between colonies are small, and that adaptation to local selection pressures is slight. However these researchers have found that colonies vary in their proportions of the blue and white morphs from 25% blue to 85% blue. This is attributed to selection by the female of a mate whose color matches that of the female's family. (I call this apartheid selection). Birds from white families choose white mates, those from blue families choose blue mates and birds from mixed families choose mates of either color. So within a color phase gene flow is high, while it is low between color phases. Rockwell and Cooke argue that the variation in proportion of color phases between colonies is a result of female mate choice rather than natural selection, and that gene flow within color phases is too high to allow local adaptation, although no empirical evidence exists to either support or invalidate this hypothesis.

The White-Crowned Sparrow (Zonotrichia leucophrys)

The white-crowned sparrow is a widely distributed bird found over most of North America at various times of the year. Many geographic races are distinguished on the basis of a system of song dialects. It has been suggested (Marler and Tamura, 1962 and also for the andean sparrow by Nottebohm, 1969) that dialects may function to reduce interbreeding between populations of different dialects, and thus allow local adaptation. Nottebohm describes how learned dialects can act as a barrier to gene flow between populations. He states, "Parcelling of a geographic continuum of a species into breeding populations requires that dialect markers be stable and discrete. Genetic development of such traits would be slow and would require virtual cessation of genetic exchange with neighboring populations. Any failure to seal dialect boundaries against gene flow from neighboring populations would tend to further weaken such boundaries by increasing song variability and decreasing differences between dialects. In contrast, learned dialects can develop faster and remain homogeneous even in the presence of substantial genetic variability." (Nottebohm, 1972). In the same paper Nottebohm notes that there is a positive correlation between the song learning ability of various bird families and the number of species in the family, implying that the ability to learn song can result in rapid evolution.

In order to assess the function of dialects in isolating populations it is necessary to know:

1) Young birds learn the dialect of their birthplace. There is strong evidence that white-crowns imprint on the song they hear during the first 100 days of life. Further experience does not change the song pattern (Marler and Tamura, 1964).

2) That females mate with males of their own dialect. One study (Verner and Milligan, 1971) has shown that both female and male white-crows respond more strongly to recordings of their own dialect than to foreign dialects. Further support for female discrimination is discussed in Marler and Tamura, 1964 and in Konishi, 1965.

3) That young birds remain in their own dialect area to breed. This is known as philopatry. Mewaldt and Baker (Mewaldt and Baker 1978), through banding studies, have found that in two adjacent populations with different dialects, young birds tend to remain within their own dialect
region. This does not necessarily show dialects to be the mechanism for philopatry and additional studies are essential.

4) That genetic differences exist between neighboring populations with different dialects. The first study using electrophoresis to determine the level of genetic difference between dialects in the andean sparrow was not conclusive because the sample sizes used were too small (Nottebohm and Selander, 1972). Further studies by Baker on white-crowned sparrows (Baker, 1975) found significant differences in allele frequency for three out of six loci in two populations with different dialects. However he also found a significant difference for one locus out of three in a series of five populations at different elevations which sang the same dialect. He suggested that dialects may reduce gene flow between populations, but that other mechanisms such as habitat selection may also cause genetic differences between populations. Another study by Baker (Baker, 1974) which measured differences in ten loci between two populations with different dialects, showed no significant genetic differences between the two populations. Recent work (Handford and Nottebohm, 1976) on the andean sparrow, Z. capensis, showed that the allele frequency of one locus showed a clinal change with populations at increasing elevations, but five other loci showed no pattern of change. This is an important area where much work remains to be done. Many loci need to be examined in order to reasonably estimate genetic differences between populations with different dialects. If genetic differences are found to exist, these will need to be examined in the light of adaptation to local conditions.

Today very few studies exist for any organism where it has been shown that electrophoretic differences between populations have any functional significance.

Parasitic African widowbirds (a subfamily of the weaver finches; family, Ploceidae)--Several groups of African finches are each parasitized by a particular group of closely-related widowbird species. Each finch species within a group has offspring with mouth spots and other marking unique to the species. The offspring of each widowbird species mimic the unique markings of its specific host. Adult widowbirds of all species are morphologically very similar. Finches will not feed nestlings with mouth spots which deviate in any way from those of its species. Hybrid offspring of widowbirds which parasitize different hosts have markings which do not match either host, and thus will not be fed by the host parent. The discriminative ability of the finches places hybrids at a distinct selective disadvantage. The mating system of the widowbirds has evolved so as to reduce the occurrence of hybridization. Comparison of the song of various widowbird species shows that the songs of all species have a few phases in common. These phrases seem to be genetically determined since young widowbirds do not have adults of their own species around from which they can learn these song components. These phrases identify the singer as a widowbird. During the first weeks of life both male and female widowbirds are imprinted on the song of their own particular finch host. Later in life when the birds are ready to breed, males sing a song which is a mixture of widowbird elements along with components of their host species. Females only mate with males which sing the song the females were imprinted on. In this manner the use of host melodies in widowbird song serves as a barrier to hybridization between widowbirds with different hosts. This is a well-studied example (Nicholai, 1974) in
which a learned behavior pattern is the primary method of reproductive isolation between species whose hybrid is at a great selective disadvantage.

Summary

In this discussion it has been emphasized that behavioral patterns are an extremely important influence on the genetic composition of a population and its evolution. Such traits as assortative mating, migration, territoriality, habitat selection and other behaviors which structure population may cause genetic changes different from those predicted by most population genetics models. Learned behavior patterns which affect mating were discussed as a possible mechanism for rapid speciation. The "ecological genetics of behavior" as defined by King (King, 1967) should be an area of productive investigation in the future.

References


Konishi, M. 1965. The role of auditory feedback in the control of vocalization in the white-crowned sparrow. Z. Tierpsychol. 22:770-783


Marler, P. 1960. Bird songs and mate


Field Reports: Winter Season

Southern Oregon Interior

Steve Summers


A Common Loon was at the mouth of the Applegate River Dec. 17 (a bird not commonly found here). On Feb. 4 an unusually high number of seven Western Grebes were found on Lake Selmac in south Josephine Co. Up to 17 Great Egrets are spending the winter near Grants Pass. This is a little larger number than we're accustomed to around here.

White-fronted Geese are rarely found in winter in the Rogue Valley but one was found on the Medford Christmas Bird Count (CBC) Jan. 2 and two spent the whole report period on a small lake near Grants Pass. A pair of White-tailed Kites wintered near White City north of Medford. Out of 31 reported Accipiter sightings 14 were Sharp-shinned, 11 were Cooper's and six were unidentified to species.

Rough-legged Hawks wintered in normal numbers in the Rogue Valley area of Jackson Co with one or two being found when looked for. Besides the three Bald Eagles on the Medford CBC at Agate Res., only one other was reported on Dec. 3 from Agate Res. Prairie Falcons seemed to fare well with a record high total of eight reported for the Medford CBC. Merlins also showed strong for this area as at least four different individuals were known to have spent the winter; two in each county.

A Spotted Sandpiper was on the Rogue River near Grants Pass on Jan. 15. The single flock of 118 Least Sandpipers on the Medford CBC was an unusually large number for this time of year. 12 Dunlins, another uncommon shorebird in winter, were found at a sewage pond north of Central Point Dec. 18. A Red
Phalarope at Whitehorse Co. Park Dec. 17 was a first for Josephine Co. This bird was probably blown inland from the coast by strong winds recorded there the day before.

Several Pygmy Owls were seen during the period. A road-killed Long-eared Owl was found Jan. 22 along Hwy. 140 about 15 miles east of White City. Toward the end of January, Saw-whet Owls didn't fare too well with cars as four road-killed birds were found, three from the same area.

Black Phoebes seem to be wintering more commonly in the Rogue and Applegate Rivers Valley's as at least four were found in December and January in three locations. A rare bird for Josephine Co. was a Say's Phoebe near Grants Pass on Dec. 4.

Tree Swallows arrived back in the area in early February and on Feb. 26 a flock of 50 were seen near Grants Pass.

The bird of the winter season for the Rogue Valley has to be the pair of BLUE JAYS that showed up Dec. 14 at a home in Medford. This is a first record for Jackson Co., but it wasn't totally unexpected as Blue Jay sightings have been increasing in Oregon. They stayed through the end of the period.

Two birds that seemed to be more abundant than usual in the lowlands this winter were the Steller's Jay and Mountain Chickadee. The Medford CBC pointed out the greater abundance of Steller's Jays. For the past seven years Medford has averaged 26 of these jays. This year they counted 106. The Mountain Chickadee seems to have followed the jays, as I have seen and heard many more than normal from the valley floor.

A higher than usual number of 15 Black-billed Magpies was also recorded Jan. 2 for the Medford CBC.

After last winter's record low number of American Robins they made a good showing this winter with many fields filled. It may be too early to tell but hopefully Western Bluebirds are recovering from their dramatic seven-yr.

Southern Oregon Coast

Alan McGie

Bird sightings seemed somewhat sparse during the winter doldrums, but began to pick-up near the end of March as spring migrants heralded their arrival.

A Northern Waterthrush flew into a window near Pony Village on 1/7 and was retrieved by BF. The waterthrush was the most unusual record of the winter. I know of no other record for Coos County.

The rare Black-and-white Warbler located during the CBC remained at Ferry Park until at least 1/22 (EG fide BF). It sparked considerable interest throughout Oregon, attracting observers from as far away as Portland and Medford.
The Palm Warblers were last seen at Pony Slough on 1/8. An unusual sighting of a Nashville Warbler was made at Shore Acres S.P. on 1/22 by EG et al. (fide BF). Vagrant warblers were definitely the highlight of the winter season along the southern coast.

A Peregrine Falcon was sighted on the North Spit of Coos Bay near Menasha Pond on 1/14 by ST (fide CO). It was subsequently seen by several birders near the same snag in January and February. I am concerned about its fate if the North Spit undergoes extensive industrial or recreational development. The few remaining snags on the eastern edge of the spit provide perfect vantage points for falcons hunting prey along the shore of the spit and interior freshwater ponds.

In contrast, the smaller Merlin seemed more numerous than usual this winter. A male was seen at Henderson Marsh and further south on North Spit on 3/5. A female was found perched along the Oregon Coast Trail near Shore Acres on 1/21 and 2/12. A Cooper’s Hawk appeared at Shore Acres on 1/29, making life miserable for Robins trying to feed on the lawns. A White-tailed Kite frequented Henderson Marsh throughout the winter.

A Savannah Sparrow made a surprise appearance at Pony Slough on 1/8 and another was observed singing at North Spit 3/26. They commonly nest by sand dune shrubbery during the spring and summer, but rarely remain on the coast in winter.

BG reported the season's first Rufous Hummingbird in North Bend on 2/18. On 3/12, a female Rufous was seen at North Spit putting the finishing touches on a nest containing one egg. By 3/26, the nest contained the normal complement of two eggs. A male Allen’s Hummingbird appeared at a feeder on the Oregon Fish & Wildlife lab in Charleston on 3/15. Several male Anna’s Hummingbirds wintered in the Coos Bay area this winter.

A Scrub Jay has remained at LF’s residence in Glasgow this winter. Although common inland in Oregon, Scrub Jays are rarely seen along the Oregon coast. Western Bluebirds appeared near Showoff Hill alongside the Horsfall Beach road on 2/20 and 12 were counted in the area on 3/1 by LF. An aggregation of 31 Ring-necked Ducks was counted feeding at Horsfall Lake on 2/19.

The spring migration of Black Brant finally arrived at Coos Bay when JM counted 500 in the channel on 3/1. A few smaller flocks were reported by earlier by LF. Brant normally bypass Coos Bay on their fall migration but congregate in large numbers in lower Coos Bay and near North Spit in the spring as they migrate north.

Violet-green and Tree Swallows arrived 3/25 and 3/26 respectively.

The season’s first Pelagic Cormorant sporting white hip patches for the breeding season was seen on 3/1. These colony nesters can be seen at close range near the Oregon Coast Trail north of Shore Acres S.P. Pigeon Guillemots returned to Coos Bay on 3/18 and LT reported a Red-necked Grebe in striking breeding plumage in lower Coos Bay on the same date.

Other noteworthy sightings include a Snowy Owl and a Snowy Plover on the North Spit on 3/2 by JM; an Orange-crowned Warbler on 3/25 (first spring arrival); a Solitary Vireo, 2 Greater Yellowlegs and several Red Crossbills on North Spit 3/26; Virginia Rail at Pony Slough 2/11; 536 American Wigeons dabbling in a muddy field east of the Kentuck Golf Course on 3/16 (BG); and a Caspian Tern near Coos Head on 3/30.

If all of this does not excite you, a 20-ft white shark was reported munching on harbor seals in lower Coos Bay near the end of March.

COMPILER: Alan McGie, 3603 Edgewood Drive, North Bend, Oregon 97459.

CONTRIBUTING OBSERVERS: Alan Contreras, Ben Fawver, Linda Flaxel, Barbara Griffin, Joy McDowell (JM), Chet Odam, Sarah Thurmond, Lyn Topits and E.G. White-Swift (EG).
FIELD REPORT: SOUTHEAST OREGON

Total precipitation at Malheur NWR headquarters for the period was 2.21 inches. Generally, the winter was mild with few sub-zero temperatures. Snow in the mountains has been substantial and adequate water supplies are expected in the spring. Little snow remained in the lowlands after January and much of the precipitation that fell in January and February was in the form of rain. The second half of February brought warm temperatures and many migrants had arrived by 25 February.

Few birds remained through the winter; however, some species that were seen during the period were of special interest. The second Malheur Refuge record of the Gray-crowned Rosy Finch; the first refuge record for the Common Redpoll; and the first winter record on the refuge for the Pine Siskin occurred this season.

A Pied-billed Grebe was seen in the Blitzen River on 21 December. The species is considered occasional in the winter. Great Blue Herons were more common than usual. This was probably related to milder temperatures and more open water. An immature Black-crowned Night Heron was still on the refuge on 6 December.

A few waterfowl remained through the winter. About 2000 Canada Geese wintered, of which 1382 were seen on the Christmas count. One White-fronted Goose was on Krumbo Reservoir 21 December for the fourth winter record. A few Mallards and Gadwalls were scattered over the refuge and about 15 Buffleheads wintered at Sod House Spring. A Northern Shoveler was at the spring on 4 January. Eight lesser Scaup were at Page Springs on 21 December and two Barrow's Goldeneyes were seen by Larry McQueen on Krumbo Reservoir on 5 December. About 50 Common Goldeneyes and 20 Hooded Mergansers over-wintered.

Spring migration was beginning on 14 February with the arrival of Pintails and Green-winged Teal. Other arrivals were as follows: Whistling Swan, 19 February; White-fronted Goose, 19 February; Snow Goose, 19 February; Common Merganser, 17 February; and Canvasback 22 February. By the end of the period Whistling Swans and Pintails were common.

A Goshawk was seen on Wright's Point on 2 February and four Sharp-shinned Hawks (highest winter number) and one Cooper's Hawk were observed on 21 December. Another Cooper's Hawk was seen near Buena Vista substation on 20 January and another Sharp-shinned Hawk on 16 February.

Data continued to be collected through the winter on habitat preferences of the Rough-legged Hawk. By 17 February observations had been made on 253 hawks. Only 26 percent of these birds were observed in cattle grazed areas and 74 percent were using non-grazed habitats. Marsh Hawks were also examined and 73 percent were using non-grazed situations, compared to 27 percent in grazed areas.

Golden Eagles were on Territory in late January and new material was being added to their nests on 23 February. About 15 Bald Eagles wintered in the basin, slightly down from previous years. A minor influx of Red-tailed Hawks occurred in late January and Marsh Hawks were migrating on 8 February. One Prairie Falcon wintered near refuge headquarters, but few American Kestrels were seen during the period.

Sage Grouse were on the 'strutting' grounds near Foster Flat on 25 February. At least one female had moved onto the lek on 26 February. Greater Sandhill Cranes remained longer than usual. Four were still on the refuge on 5 December. They had returned by 17 February and 620 were counted on 25
February. Two Lesser Sandhill Cranes were seen on 25 February. Two American Coots were seen on 21 December for the only observation.

Killdeer had arrived by 23 February and a few Common Snipe wintered where favorable habitat was available. The last Ring-billed Gull was seen on 5 December.

Great Horned Owls were incubating after mid-February. Several Short-eared Owls wintered, especially near Frenchglen where grazing has been reduced. Residual vegetation has increased rodent populations in these areas and as more land is deferred, both wintering hawks and owls are expected to continue to increase.

Belted Kingfishers were more common than usual. More open water was believed responsible for their increased winter use on the refuge. One Hairy Woodpecker was in Mud Creek on 21 December and a Downy Woodpecker was northeast of Frenchglen on 15 February.

Say's Phoebes arrived on 23 February (Nancy Ferguson) and several were seen migrating in the Blitzen Valley on 25 February. Two Common Crows arrived on 25 February and the Common Raven roost on Malheur Lake was again active, but no counts were made because of inaccessibility. In 1977 over 800 ravens were using the site.

Mountain Chickadees were more common than normal. Twenty-eight were seen on 21 December. One Black-capped Chickadee was seen the same day (Denzel and Nancy Ferguson). Dippers could not be found where they normally occur and milder temperatures could have allowed the species to remain at higher elevations. Long-billed Marsh Wrens wintered where suitable habitat was available. A few Canyon Wrens wintered, but no Rock Wrens could be located.

American Robins wintered in fair numbers among the junipers on Steens Mountain and on the Jackass Mountains. A good build-up of Western Bleubirds is presently occurring. Not since 1971 has the species been as evident. A few Mountain Bluebirds had arrived by 25 February. A Golden-crowned Kinglet was seen near Page Springs 21 December for one of the few winter records. On 23 December, 27 Bohemian Waxwings were seen near headquarters. Ten were at headquarters on 19 January and Robert Storm observed ten there on 26 February. An unusual concentration of Cedar Waxwings was seen northeast of Frenchglen on 20 January. From 75 to 100 were scattered among the willows along the Blitzen River for about three miles. The species is considered occasional in southeast Oregon in winter. Three Water Pipits were observed 21 December for one of the few winter records.

About 75 Red-winged Blackbirds wintered at Malheur Field Station along with about 20 Brewer's Blackbirds. Red-winged Blackbirds were migrating into the Harney Basin on 17 February. No females have yet been seen.

Six Evening Grosbeaks were recorded on 21 December near Frenchglen. 40 Cassin's Finches were feeding among weeds 10 miles north of Frenchglen on 21 December. The species is considered rare in winter. House Finches were more common than usual and the second refuge record of the Gray-crowned Rosy Finch occurred on 17 December, when eight were observed 12 miles north of Frenchglen. The first record occurred on 9 November 1977. Two Common Redpolls were seen on 10 December by Larry McQueen near Benson Pond. Four were seen by Steve Thompson and Gary Wing on 21 December in the same area. There are several records of the species in the Harney Basin, but these represent the first within the refuge boundaries. Three Pine Siskins were found at Page Springs on 17 December for the first refuge winter record, and 20 American Goldfinches wintered at refuge headquarters. A Rufous-sided Towhee arrived on 25 February. This is the earliest date in which the species has been recorded. A Sage Sparrow arrived on 25 February and was seen near Malheur Field...
Station. Two Dark-eyed (Slate-colored) Juncos were at Page Springs on 21 December. About 20 Tree Sparrows spent January near Benson Pond. This was rather unusual since normally the species occurs in wintering groups of two to six while on the refuge.

--Carroll D. Littlefield--

Northeastern Oregon  Ron Rohweder

Northeast Oregon experienced an unusually mild winter as did most of Oregon. The first wintering bald eagles arrived on schedule in November. They were observed on November 6 on Corral Creek and within a few days they were showing up on all the major river drainages.

Gray-crowned Rosy Finches started appearing in large flocks in Union, Wallowa, and Baker Counties during the week of October 23.

A single Virginia rail was observed November 19 on Ladd Marsh. This is the latest date recorded for the Grande Ronde Valley.

One of the highlights of the winter were two Harris Sparrows using a bird feeder at George and Reid Sandersons' home at Island City.

Pine Grosbeaks were observed at lower than normal elevations this past winter. One flock of about 25 birds spent about six weeks in the town of Union from mid December to February 1.

Bohemian Waxwings started appearing in large flocks during mid December and remained around most towns in northeast Oregon until the first of February.

Pygmy Owls were very numerous throughout northeast Oregon most of the winter.

Say's Phoebe returned to Troy Wildlife Management Area on February 7.

One Bewick's Wren was observed on Ladd Marsh January 26, a common species for western Oregon, but considered a rare visitor for northeast Oregon.

Twelve mid-winter raptor counts were conducted during January. These routes cover 785 miles, and we experienced a 24% decrease in raptors over last year.
The winter season in the southern end of the Willamette Valley can be viewed fairly well by studying the CBC results in the last Oregon Birds, so this report will consist only of a brief rundown of highlights plus some notes on this year's spring migration. Lane County's many reservoirs support a sizable population of Osprey, and the first record for the spring of 1978 was of a migrant bird at Dexter Reservoir on March 20, reported by Joanne Ralston. Fern Ridge Reservoir Ospreys were appearing at traditional nesting sites by March 23, and faced the usual few Double-crested Cormorants trying to usurp the few suitable old nests. The Cormorants lost out, as usual.

Several Mockingbirds were in Oregon this spring, including 2 observed by Joanne Ralston in northwest Eugene on March 20. By the last week of March, large numbers of Band-tailed Pigeons had gathered around Fern Ridge Dam, and Yellowthroats were arriving back at the Royal Avenue marshes in numbers. Don Payne banded two Orange-crowned Warblers at Lane Community College on March 19; by the end of the month a slow steady movement of these birds was underway. Bewick's Wrens and Black-capped Chickadees were actively nest-building in Eugene's Alton Baker Park by late March, observed by Steve Gordon and E.G. White-Swift, and four Mountain Chickadees were still present at Skinner Butte on the 27th (Steve Gordon).

April brought warblers in patterns more reminiscent of Gulf Coast migrations than of drab, slow Oregon movements. Weather conditions in the southern valley through much of April were squally - periods of almost pleasant weather broken up by short, heavy rains that often occurred in the early morning hours. Since I work from 11:00 P.M. until 7:00 A.M., I had a unique opportunity to observe bird activity in the early morning hours for many consecutive days. One morning, April 13, flocks of migrant White-crowned Sparrows were dropping out of the sky all over the part of town that I live in, landing on the roofs of buildings for the most part. One week later, Golden-crowned Sparrows did the same thing, arriving in the early morning and appearing in places where I had never seen, nor expected to see, a Golden-crowned Sparrow.

But Warblers were the most noticeable rainstorm drop-outs. On April 18 Steve Gordon and Jim Carlson found at least 150 Orange-crowned Warblers and 50 Ruby-crowned Kinglets on Skinner Butte in downtown Eugene, plus a few other warblers, and the following day saw at least 100 along the natural peninsular ridgeline formed by Hendricks Park in east Eugene. At least 15 Nashville Warblers were in Hendricks Park that morning, in contrast to 1977's one-day high of 8 on April 20. Tad Finnell reports that at least 100 Nashville Warblers were along the Umpqua River near Tiller Ranger Station on April 29, so the species enjoyed a spectacular migration in much of southwestern Oregon. 100 Nashvilles is probably more than this observer has seen in his 11 years of interest in birds! When I left work one morning early in May, I noticed the notes of warblers coming from a small tree near the store, so stopped to take a look. In one small apple tree no more than 20 feet high I found 10 Black-throated Gray, 3 Orange-crowned, 3 Yellow-rumped and 1 Nashville Warbler, plus a Ruby-crowned Kinglet for variety! The same was true of many of the trees I walked by that morning - the night's sudden rainstorm had provided a most unusual form of precipitation! Purple Martins began appearing at their traditional Fern Ridge Reservoir nesting sites April 13, according to Tom Lund, who has provided the birds with supplemental nest boxes for several years. This was a normal arrival date for the Fern Ridge birds, which may constitute the largest number of nesting Purple Martins at any one location in Oregon.

2 Greater Yellowlegs were on the Willamette River near Alton Baker Park on April 12, found by E.G. White-Swift, and other observers mentioned the species from other sites along the river during the same week. Western Tanagers, Northern Orioles and Black-headed Grosbeaks were all moving through the southern valley by the last week of April, and a trickle of Pewees was beginning to appear. Tad Finnell reports that several empidonax were seen along the Umpqua on April 29; if they are showing up in the Eugene area yet, they are doing it very quietly.
Highlights from early May include the return of presumably migrant Calliope Hummingbirds to the ridge of Hendricks Park, where one was seen displaying on several occasions on May 10-11. Also on May 10, Larry McQueen heard a bird singing from the tops of trees in the park that he is certain was a Black-throated Green Warbler. He is familiar with the song of the species, a very distinctive one, from considerable birding experience in the eastern U.S.

E.G. White-Swift and Diane Beaulaurier saw an adult Swainson's Hawk in the coast range near Alma on May 5, and observed it for some time. The species is very unusual in western Oregon, and the Alma bird was probably an off-course migrant rather than an overwintering bird. The same observers also saw and heard 2 Common Nighthawks on May 6, an extremely early date, near Alma.

Evening Grosbeaks are abundant in the southern valley this year, and small numbers of Pine Siskins and Cedar Waxwings have been moving through the area in late April and early May. Song Sparrows in Eugene’s Amazon Park had fledged young by May 2, when 2 adults and one young bird flew into mist nets and were banded. At least one other young bird was also flying, albeit generally in a downward direction!

At this writing, Warbling Vireos are moving through the southern valley in large numbers, as are Yellow Warblers.

May 15, 1978
Alan Contreras

---

Brief Note: Ross’ Geese and Tri-colored Blackbird in Klamath County

Travelers to the Klamath Basin may wish to visit the Miller Island Wildlife Management Area south of Klamath Falls and west of Highway 97. (See map.) Ross’ Geese are present in large homogenous at Miller Island. If you scan the flock closely, an occasional Snow Goose can be found. In March, 1978, two colonies of Tricolored Blackbirds were located here. Those areas are marked (x) on the map. Miller Island is a good place to find water birds, marshbirds, and shorebirds. The Oregon Department of Fish and Wildlife has recently published a checklist of Miller Island birds. To find the tricoloreds, look for dense flocks of blackbirds among the tall marsh vegetation.

---Steve Gordon---
BARRED OWL EXPANDS INTO NORTHEAST OREGON

Barred Owls are common in the swamps of the southern United States and in the mountains of the northern mid west. In recent years it appears to be taking up residence in Oregon. A single barred owl was first observed in Oregon four years ago along the Wenaha River in northeast Oregon by Jim Mersenich, biology student from Eastern Oregon State College. Since that time barred owls have been observed in the upper Imnaha, Little Minam, and Walla Walla River drainages, in the Tollgate area, at Green Mountain on Five Point Creek, Dark Canyon, and George Fleshman's, just west of La Grande.

During the spring of 1977 barred owl owlets were documented for the first time in Oregon, at the Wenaha River nest, at Blalock Mountain on the Walla Walla River, and at George Fleshman's, west of La Grande.

Except for one sighting, all were made in dense stands of old growth timber. The only exception was a single juvenile barred owl observed in an open orchard near La Grande.

Barred owls prefer to live in dense stands of old growth timber and do most of their hunting during the night. This could be why they went unnoticed until 1974.

During the early 1940's barred owls were observed in British Columbia for the first time. Then during recent years, first sightings of this species have been reported in both Washington and Idaho. The pattern of movement from the midwest appears to show a movement north into Canada and then south into Idaho and eastern Washington and Oregon.

Barred owls appear almost as large as the great-horned owl but their lighter structured skeleton limits the size of prey which they can take. Like most predators, these birds are opportunists and will feed on whatever is available. They prefer mice and flying squirrels, but will eat other small mammals, frogs, fish, birds, and insects.

Only three nesting territories have been located in Oregon, and no actual nest trees have been identified. The three known nesting territories are all keyed to dense stands of timber, and incubation of eggs starts around mid May.

Sightings of barred owls are distributed over a large area in northeast Oregon, but little is known about this recluse species in Oregon. Perhaps it's one of Oregon's rarest owls.

--Ron Rohweder--

Errata/Correctum

Corrections to previous issues of O.B./SWOC TALK

Issue #4 - page 2. New CBC high counts should include Snowy Egret ...... Coos Bay, 1. Also, the 1010 Ring-necked Pheasants listed for Wallowa County was a misprint on the Compiler's form; the old record for Pheasants still stands.

Issue #3 - page 20. The record CBC high of 1 Yellow-throat is shared by Corvallis, 1975.

Issue #2 - page 41. The editors are informed that the Long-tailed Jaeger breast feather was found by Dorris Swanson of Eugene, not by Elsie Eltzroth as reported. The Baird's Sandpipers reported from the Three Sisters Wilderness should be credited to Nancy Mesner on the South Sister rather than to Mark Egger on the Middle Sister.

SWOC TALK Vol. 3, #2. The Yellow-headed Blackbird credited to the Upper Nestucca CBC should have been listed for the Union County CBC.
Recent Publications,

U.S. Dept. of Interior, Fish & Wildlife Service
MALHEUR-HARNEY LAKES BASIN STUDY, Oregon
Report No. 1, A Summary of Biological Data
for Calendar Years 1975 and 1976. (Portland,
Oregon, December 1977). 47 pages
Principal investigators C.D. Littlefield and
David Paullin have scoured the Malheur basin
and seemed to have counted every bird that
passed through or nested. A lot of data in
a small space.

Eastern Oregon State College
A PRELIMINARY ECOLOGICAL SURVEY OF THE
ALVORD BASIN, Final Technical Report,
December 1976. Funded by National Science
Foundation, Project Advisor: Dave Kerley
This 250-page book is excellent. The 26
pages of Alvord Basin birds by Greg Green
offers some baseline data on the birds of
the region. It would be useful for similar
projects to be undertaken for other
regions of the state.

DeGraaf, Richard M.
PROCEEDINGS OF THE WORKSHOP ON NONGAME
BIRD HABITAT MANAGEMENT IN THE CONIFEROUS
FORESTS OF THE WESTERN UNITED STATES
U.S.D.A., Pacific Northwest Forest and Range
Experiment Station, Forest Service, Portland
Technical Report PNW-64, 1978. 100pps
Chockfull of data, especially on snags
and habitat needs of Oregon species.
A must for your research section.

Stoel, Peter
OREGON WILDLIFE OF CONCERN
In-house manuscript of the Oregon Natural
Heritage Program (1234 NW 25th, Portland
97210). 1978, 17pps
Fishes, birds and mammals that are threatened
are listed with references to literature.
--E.G. White-Swift

AUTUMN PELAGIC TRIPS

There were three announced pelagic trips at
press time, involving four boats. They are:

August 20 - out of Coos Bay on a 55’ boat,
from 6:30 A.M. to 12:00 noon. Cost - 15.00, write
Lyn Topits, 311 S. Wasson, Coos Bay 97420. First
priority will be given to those attending the
Oregon Audubon Council conference, but additional
spaces should be available. Cape Arago Audubon.

August 26 - out of Depoe Bay at 10:00 A.M.,
a 40’ boat. Cost varies, near 10.00. Call
Judy Armstrong at 753-0068 (Corvallis). Audubon
Society of Corvallis.

September 30 - out of Newport on two boats,
50’ and 43’. Leaves at 8:00 A.M. for an 8-hour
trip. Contact Tom Crabtree at 378-0807, or write
to him at 3733 Stanley Ln. S., Salem, Ore. 97302.
note - extra cost is because the trip will go out
further and longer than others, i.e. more chance
of Storm-Petrels, Fulmars and so forth.

TOO LATE TO CLASSIFY

On June 13, L.B. McQueen observed and photo­
graphed a Scissor-tailed Flycatcher at Davis
Lake southwest of Bend. It was last seen
flying into the snags of Odell Creek near
West Davis Campground. On the same trip,
McQueen and Eric Forsman found a Spotted
Owl nest east of Davis Lake.

On June 16, Charlie Thomas observed and
photographed a Rufous-crowned Sparrow
25 miles south of Paisly, Oregon.

Two Monk Parakeets that wintered near
SE 25th and Cora in Portland are still
around; they feed along the railroad tracks
to the west of the Holgate St. overpass.
Editor's Note,

OREGON BIRDS is in need of manuscripts for the next few issues. Our backlog is about used up. In particular, we are looking for more articles of the brief note type that appear for the first time in this issue. Brief notes on species expansion, unusual sightings or unusually good spots that need to be put on the ornithological map of Oregon are most desired.

Anyone interested in writing a site-guide for their area is encouraged to contact OREGON BIRDS. Areas that need guides: Baker, Bandon-to-Brookings, Lakeview/Hart Mtn., LaGrande, Antelope Valley, Strawberry Mountains, Hood River-to-The Dalles, Rogue River, Ontario, Clackamas River.

Credits

TOM LUND is a Eugene-based birder. DON PAYNE is semi-retired, lives in Eugene but bands throughout the state. DIANE BEAULAURIER is a graduate student in avian ecology at the Univ. of Oregon. STEVE SUMMERS is a carpenter, now lives in Klamath Falls. ALAN McGIE works out of the Charleston office of the Oregon Department of Fish and Wildlife.

C.D. LITTLEFIELD studies Sandhill Cranes and works for U.S. F&W S. He was a recipient of the Alfred Cooper Shelton Award. RON ROHWEDER is the non-game biologist in the LaGrande office of the Oregon Dept. of F&W. STEVE GORDON is a transportation planner for Lane Council of Governments and is working on a lengthy field/site guide of Klamath County.

E.G. WHITE-SWIFT is of Icelandic heritage and in his spare time manages a 7-11 store. SUE MOTSINGER is a graphics technician in Lane County. ALAN CONTRERAS is an Eugene-based birder and also works for 7-11 store.

OREGON BIRDS

Published for and distributed to the 100 members of the Southern Willamette Ornithological Club, P.O. Box 3082, Eugene, Oregon 97403.

(C) 1978 by SWOC. All rights are reserved by the individual authors. Permission to reprint any articles must be granted from either the individual authors or the editor. Reprints must indicate the source: Oregon Birds. Dues: $6 regular, $10 sustaining, annual.

Editor: E.G. White-Swift 485-7241(h)
Associate Editors: Alan Contreras 485-8783
Sue Motsinger 689-6500 (w)
Staff: Ben Ross, Clare Watson, Steve Gordon.

Printed at the University of Oregon Press.
Additional support provided by the University of Oregon Biology Department and the Mudthick Bird Institute.

Monthly meetings of the Southern Willamette Ornithological Club are held in the third floor conference room of Science III on the campus of the University of Oregon. All meetings begin at 7:30 p.m. Future meetings:

July 10  August 7  September 10

Publication deadlines for OREGON BIRDS:

Vol. 4 No. 3 July 20 Publication: July 25
Vol. 4 No. 4 Aug 20 Publication: Aug 25
Vol. 4 No. 5 Sep 20 Publication: Oct 10
Vol. 4 No. 6 Nov 30 Publication: Dec 10

# # # # #

Drawings in this issue: Turkey (p9), Curlew Sandpiper (p39), Joe Evanich. Pygmy Owl on the cover by Stewart Janes.

OREGON BIRDS is indexed in the Wildlife Review.
A Publication on Oregon Birds By the Southern Willamette Ornithological Club