Sonoma County

Breeding Bird Atlas

Detailed maps and accounts for our nesting birds

Betty Burridge, Editor

A Project of

Madrone Audubon Society

SONOMA COUNTY

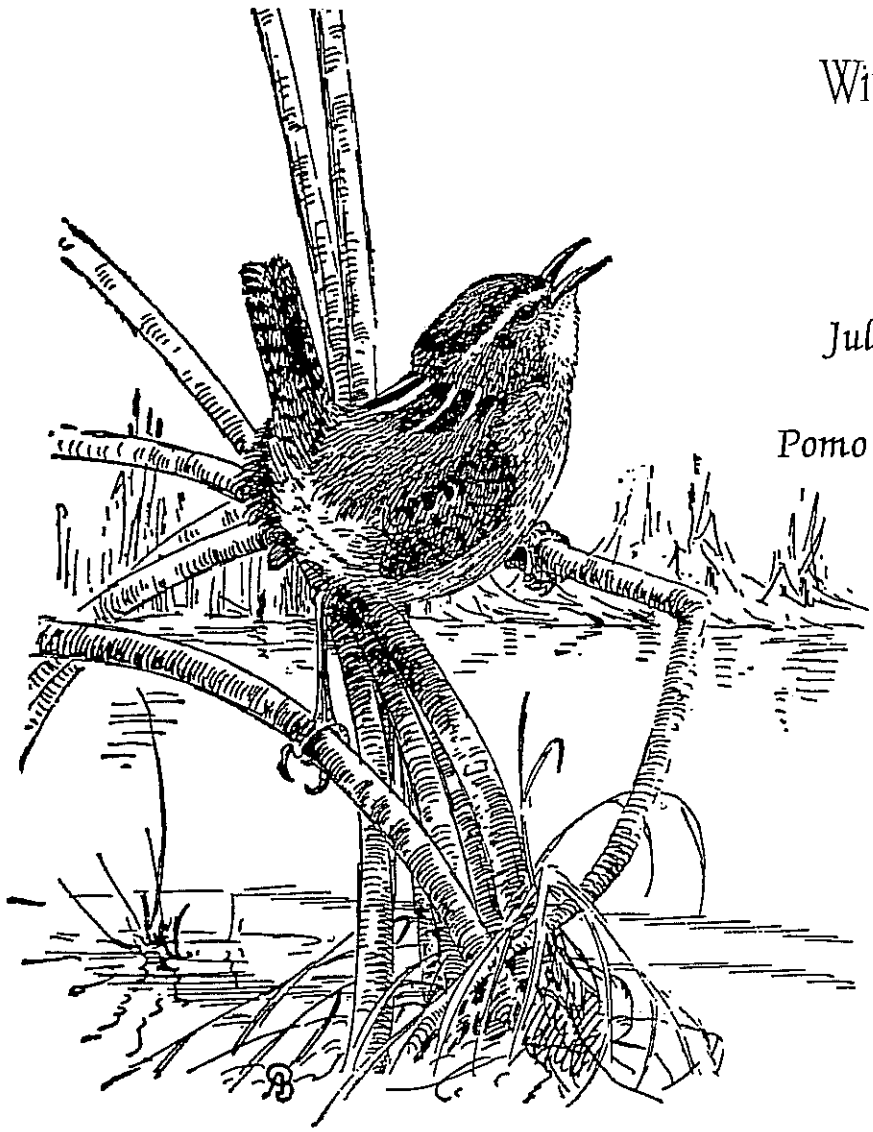
BREEDING BIRD ATLAS

Take From the Earth

With a Please,

And Give Back

With a Thank You



Julia Parker, quoting
MABEL MCKAY
Pomo Medicine Woman
and Basketweaver

SONOMA COUNTY BREEDING BIRD ATLAS

Detailed maps and accounts for our local nesting birds

Betty Burridge, Editor

Cover illustration by Keith Hansen

Illustrations by Major Allan Brooks
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MADRONE AUDUBON SOCIETY

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The Sonoma County Breeding Bird Atlas is a project of MADRONE AUDUBON SOCIETY, Inc., the Sonoma County Chapter of the National Audubon Society. Madrone Audubon Society, founded in 1962, is a non-profit membership organization which promotes public education, enjoyment and protection of the natural world, especially birds. Skilled volunteer work by Madrone Audubon Society members as well as many others, especially members of Redwood Region Ornithological Society, Inc., was the backbone of this project.

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At the onset, much valuable advice on planning the Atlas was gladly offered by Dr. John R. Arnold, Dr. Laurence C. Binford, Jeff Froke, Dr. Sylvia Ranney Gallagher, Dr. William Lenarz, Michael F. Nelligan, Clyde Nelson, Dr. Benjamin D. Parmeter, Chandler Robbins, Steven Schafer, W. David Shuford, and Dr. M. D. F. Udvardy.

The owners of 'Nature's Window', Deyea Harper and Adeene Nelligan, generously provided the USGS Topographic maps used during the Atlas.

Members of the Breeding Bird Atlas Committee worked countless evenings, volunteering their time to screen and enter data into the computer, send out printouts for proof-reading by the atlasers, organize the training seminars and assign blocks to the atlasers. Of note are the many extra days and evenings spent by Ruth Rudesill and Cindy Young reviewing and organizing records and analyzing data, especially at those times when the work load of the Atlas and of life itself seemed overwhelming.

George Ellman, President of Madrone Audubon Society in 1985-86, and Deyea Harper helped choose the computer hardware; Ruth Rudesill, and Doug Ellis assisted with the installation of the original software; and Willard Johnston provided invaluable help in updating software and printer in 1993 and 1995. Mike Cicanese and Ira Hecht, owners of Empire Computers of Santa Rosa, have supported the coordinator/editor patiently, gently and very ably throughout her apprenticeship in the wonderful world of computers. Jeff Holtzman spent many hours bringing together the desktop publishing for the non-species accounts pages, and Greg and Dan Johnston of Copies, Etc. cheerfully advised on logistics and tested print-outs of the final pages. Steven Schafer volunteered his professional-quality computer programming and desktop publishing skills in creating all the software for data entry, statistical analysis, observer lists and species page design for the Atlas. His was a key role in this Atlas, and it was our great good fortune to have him and his good humor at our disposal for the entire Atlas project.

Several outstanding out-of-county atlasers pitched in with the field work. Marjorie Plant and George Finger traveled from Walnut Creek on a nearly weekly basis April through June for two years to thoroughly cover their Blocks. Steven Schafer and Janet Duerr were Concord residents (Contra Costa County) who spent many days in our county doing field work, and Marin County residents Paget and Bill Lenarz spent countless weekends and vacations in Sonoma County's far north-western corner over five years, covering 17 Blocks. (They liked it so well they bought a vacation home there.)
Local devoted atlasers included Ruth Rudesill (38 Blocks), Betty Burridge (36), Doug Ellis (20), Bob and Bertha Rains (19) and, in the first years of the project before other pressing obligations prevailed, Richard Merriss (12).

The greatest part of the difficult, time-consuming and sleep depriving task of searching for owls was willingly and expertly assumed by Doug Ellis and Ruth Rudesill who roamed this county's most deserted and treacherous roads and byways together and individually. Most of the owl records in this Atlas are the result of their exceptional efforts.

Along the way, Al Wrench gave advice on printing, editing and publishing strategies, and page design as did Duncan McNaughton. Dennis Beall offered invaluable suggestions on artistic style, and practical hints on producing the book. And it was he who produced the county map and overlay designs and prepared the illustrations for publication. Martha Bentley not only guided us through the mysteries of fundraising and grant writing but was also a constant booster of the Atlas and a great personal support to the coordinator/editor when the work piled up and the doldrums threatened.

The coordinators of Atlases in California and elsewhere in the nation formed a very generous and helpful network with open exchanges of ideas, plans and guidelines having been freely traded. To all of them, many thanks and good luck! And more thanks go to the many private land owners who graciously opened their properties to the Atlas volunteers, so that our study could be as complete and accurate as possible.

And there are others who made valuable contributions whose names, deeds and/or services have been inadvertently omitted. My apologies for the oversight, and my thanks for your contributions.

To all who helped, the certainty is that this Atlas could not have happened without you. Your advice, ideas, talents, hard work and support have made the difference. I commend you for being a part of this important document and I thank you for helping to make this dream come true.

Betty Burridge, Editor

FOREWORD

Sonoma County stands as one of the most diverse and interesting areas for visitors and residents in the United States. It has open ocean, rocky coast, beaches, estuaries, bays, rivers and streams, riparian woodland, seasonal wetlands, oak savannah, chaparral, forested hills and mountains, ranch and farmland, vineyards and more.

However, the face of Sonoma County is undergoing rapid change. Population pressures bring about new construction, new housing developments and additional business and agricultural endeavors at an ever-increasing rate. Most of the county's forests have been cut at least once; Armstrong Redwoods State Reserve is a notable exception. The coastline, Bodega Harbor, the Russian River and the Valley of the Moon are all desired places to live or to have a vacation home. The proximity of Marin County and San Francisco, both being within commuting distance, makes Sonoma County easily accessible to workers from those areas. This utilization as well as other population pressures undoubtedly will continue and increase in the county with passing time.

The Santa Rosa Plain which once had large areas of undisturbed grassy and weedy fields has served in the past as habitat for Ring-necked Pheasants, wintering Short-eared Owls and Ferruginous Hawks as well as other raptors. The habitat needed by these birds and by grassland breeding birds is quickly disappearing along with the birds.

Against this background, the Sonoma County Breeding Bird Atlas was undertaken. It was begun with the intent to identify which species currently nest here and the distribution of these breeding birds within the county. A total of 394 species of birds has been recorded in Sonoma County (Bolander & Parmeter 1978); 159 of these were found to have breeding evidence during the Atlas survey.

This study will serve as a basis against which future observers can compare breeding bird populations. Several previous publications deal, in part, with bird distribution in the county but none with the detail and thoroughness of the present work.

This study was not entered into in a casual manner. Considerable thought and planning went into setting up its parameters to assure reliable and useful data. The study blocks were chosen to maximize the ability of future investigators to compare bird populations with those of today. The behavioral criteria used to determine Confirmed, Probable and Possible status are carefully defined. Skill in bird identification and behavioral interpretation was needed by the surveyors to accurately carry out the field work and record the data.

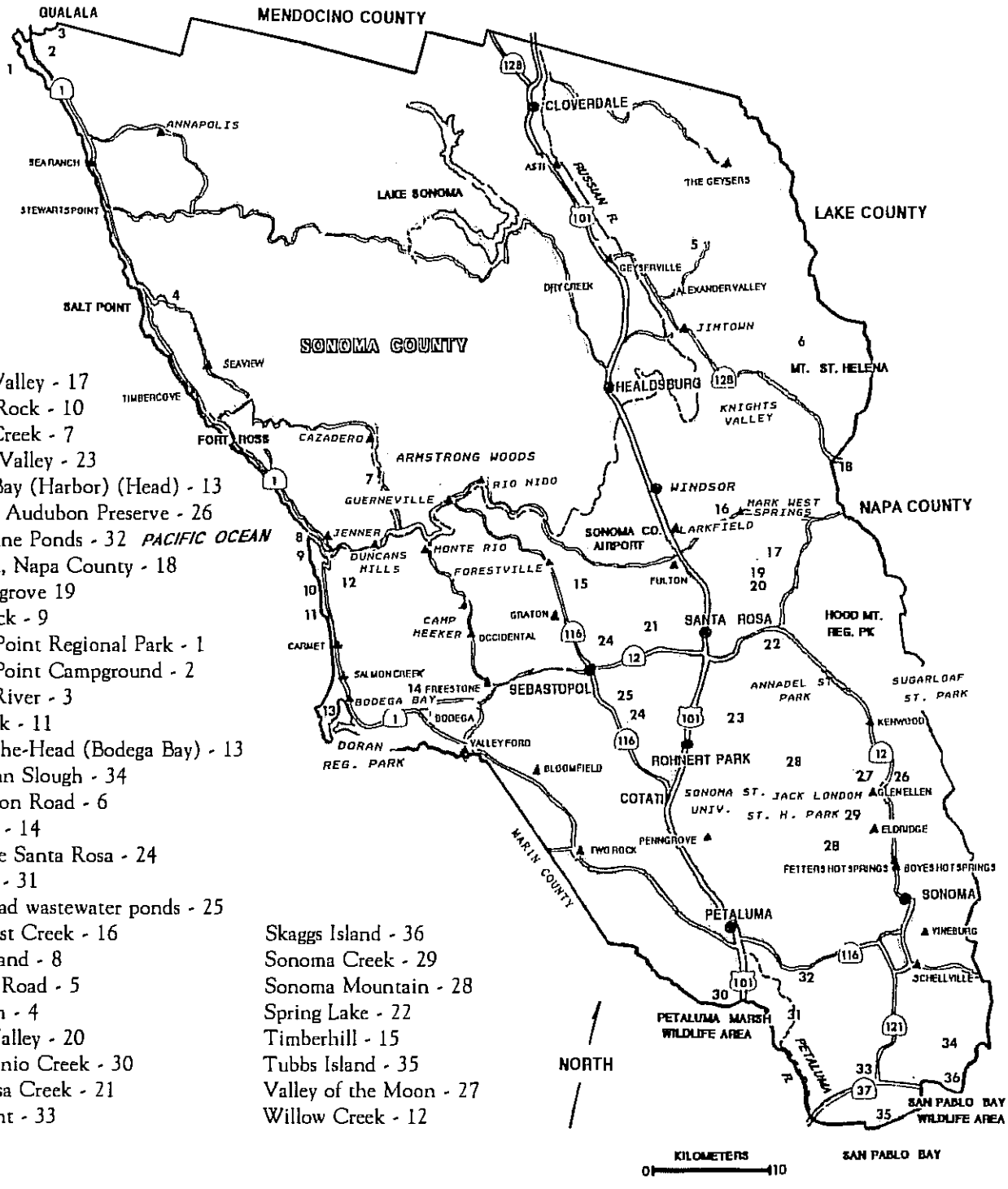
Sonoma County is fortunate to have birders with the required expertise to undertake such a task. Two local organizations, Madrone Audubon Society and Redwood Region Ornithological Society, have fostered the development of many exceptional amateur ornithologists. There are also many local professional biologists whose passion for field ornithology has provided this study with many hours of expert volunteer service.

This study was carried out over six nesting seasons to provide maximum discovery and coverage and to minimize population changes in differing weather conditions from year to year.

Betty Burridge and the large group of volunteer participants are to be complimented on reaching their goals exceedingly well. This study will provide the baseline information necessary for land use policies and decisions, and for comparisons for future studies.

John R. Arnold, Benjamin D. Parmeter

PLACE NAME MAP
(Figure A)



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Place names mentioned in text.

INTRODUCTION

Sonoma County is a wonderful place to live. We are blessed with a (mostly) mild climate, beautiful scenery and an abundance of natural resources, all of which contribute to an enhanced quality of life for all residents. One of the greatest of these assets is the diversity of our bird populations. For casual as well as dedicated bird enthusiasts the lure of knowing and learning ever more about our local nesting birds is a seductive challenge. However, there is also a very serious need for detailed information about our avian populations; land-use planners, politicians and all those concerned about the future of our county need current precise and accurate data about every aspect of our county in order to make informed and sensible decisions.

This book, which documents the present status of the nesting birds in Sonoma County, is intended as a window into this very important part of our natural heritage, for the health of our bird life is a direct indicator of the health of the rest of our environment.

Consider this volume a *vade mecum*, (L., lit., go with me) a handy reference with a wealth of information about our local nesting birds.

WHAT IS THIS BREEDING BIRD ATLAS?

Which birds breed in Sonoma County? Where do certain birds breed in Sonoma County? Is there a pattern to the distribution of a bird that nests in Sonoma County? These questions have often been asked but until now, the answers have not been available from one published source.

The Sonoma County Breeding Bird Atlas is a book of maps of the county showing which birds bred here and what areas of the county each used for nesting between 1986 and 1991. Each map represents the distribution of a different bird. Darkened squares on each map show the breeding range of each species. Included are a few statistics and an explanation of the significance of the bird and its distribution here.

This is the first time that any systematic survey has been made of all the birds breeding throughout the entire county. Previous bird studies were either site, habitat, or species specific (usually EIR reports or Christmas Bird Counts). While some private individuals have kept meticulous field notes, most of our prior bird records are random observations of sightings that were thought to be interesting or significant by field observers.

During this Atlas project (1986 - 1991) a cooperative effort was made to cover the entire county, with all observers gathering the same information in their assigned areas (blocks), using standardized forms, guidelines and instructions.

While the study was designed by a Professional Advisory Council made up of distinguished and very highly respected biologists, the Atlas project was organized, coordinated and produced by volunteers most of whom had no advanced formal schooling in biology. Data gathering in the field was done almost exclusively by these same 'lay', albeit carefully trained and highly skilled, birders who volunteered hours, days, and sometimes weeks of their time. Had it not been for their willingness to work without compensation, this project could not possibly have been completed because of the prohibitive costs involved in paying professionals for the thousands of hours of field and editorial work. Of note are the many hours donated by dedicated biologist/birders who volunteered their field work while working along with 'lay' birders.

THE HISTORY OF ATLASING

While mapping the location of flora and fauna has been going on for over a century, it was not until 1962 that the Botanical Society of the British Isles, supported by the Nature Conservancy, completed The Atlas of the British Flora by Perring and Walters. This was the first model for a major time-limited, gridded, biological atlas. Shortly thereafter, the same staff, as part of the Biological Records Center at the Monks Wood Experimental Station at Abbots Ripton in Great Britain, began promoting systematic flora and fauna mapping in Great Britain and Europe. Then in 1976, with monumental effort, The Atlas of Breeding Birds in Britain and Ireland was published. In the same year breeding bird atlases were produced in France and Denmark, followed shortly by other European countries, Africa and then within the United States.

The urgency to gather and publish baseline information before land use and environmental changes swept away the existing biological status-quo became a driving force in establishing new atlas projects in the United States in the mid 1970s.

A Northeastern Breeding Bird Atlas Conference was organized in 1981 at the Vermont Institute of Natural Science in Woodstock, Vermont by Sarah B. Laughlin, Chandler S. Robbins and Douglas Kibbe, all active participants in the breeding bird atlas movement. In 1986 another breeding bird conference was held at The Laboratory of Ornithology of Cornell University in Ithaca, New York. At this latter conference, a steering committee was established to reactivate the North American Ornithological Atlas Committee, which had been formed in 1980 at yet another professional seminar, with Professor M. D. F. Udvardy from the Biology Department of Sacramento State University as convenor. From these

beginnings emerged NORAC, The North American Ornithological Atlas Committee, which has been the leading force in standardizing and encouraging further atlas projects.

Meanwhile The Atlas of Breeding birds of Vermont, edited by Sarah B. Laughlin and Douglas P. Kibbe, was published in 1985. This was followed by the Atlas of Breeding Birds of Ontario, compiled by Michael D. Cadman, Paul F. J. Eagles and Frederick M. Helleiner in 1987 and The Atlas to Breeding Birds in New York State, edited by Robert F. Anderle and Janet R. Carroll in 1988. More have appeared since, with two California counties -- Marin and Monterey -- having published atlases in 1993. Many other atlas projects are currently in progress.

It is the dream of many atlas organizers and participants to eventually combine the data from all of the California county atlases into a composite state atlas, with additional data to be gathered to fill in the counties not yet participating.

And what is next? One of the main values of an atlas is the possibility of comparing this baseline data with data from future studies. At its September 1992 meeting, NORAC recommended repeating atlas studies every 25 years.

ORIGIN OF THE SONOMA COUNTY BREEDING BIRD ATLAS

The seed for the idea of this Atlas was sown in 1976 by Bob Stewart who, with great foresight and ambition, began organizing a breeding bird atlas in neighboring Marin County. He recruited birders from throughout the San Francisco Bay Area and enthralled all who responded with stories of the successful efforts already underway in Britain and Europe. He carefully explained the precise methods and procedures of the study and the tremendous impact that such a survey would have on increasing the quality and quantity of biological data of the county. To think that 'ordinary' birders could be part of such a stimulating and meaningful project was challenging and thrilling; birding skills would be well used in a practical and significant way. And so some Sonoma County birders plunged into the training program and field work with great enthusiasm.

Some few years later there came murmurings from the local birding community that Sonoma County should start an atlas of its own. Almost everyone agreed that it was a wonderful idea but enthusiasm for a project does not necessarily translate directly into organization and design and funding, not to mention sponsorship, leadership and all those other 'ships' that are prerequisites for launching a successful major undertaking. Some years passed and, after many discussions and preliminary organizational meetings, a plan began to unfold in 1985.

At first, Redwood Region Ornithological Society, a local bird club with membership of about 60 dedicated and extremely talented birders, considered sponsoring the Atlas. However, there were both financial and liability concerns that made that arrangement impractical. It was agreed the Atlas needed a considerably larger umbrella.

Sonoma County's Madrone Audubon Society, a chapter of National Audubon Society, proved to be a perfect match for this project. The strong conservation commitment of Madrone's Board of Directors fit well with the Atlas's plan to gather and publish hard data on birds within the county. Adequate liability insurance coverage was acquired and, blessedly, not needed although there were several close calls. Soon fund raising efforts began and Madrone Audubon's non-profit status opened the avenue for acquisition of several grants.

A Professional Advisory Council made up of distinguished and highly respected biologists familiar with atlasing studies designed the project and the field cards for gathering data.

A Sonoma County Breeding Bird Atlas Committee of 'lay' birders was formed to conduct day-to-day business. On April 1, 1986 the Sonoma County Breeding Bird Atlas was launched with the first of many orientation training sessions attended by potential Atlas volunteers.

Betty Burridge, the Atlas Coordinator, attended the 2nd Northeastern Breeding Bird Atlas Conference in Ithaca, New York in April, 1986, as the only representative from an atlas project west of Denver. Valuable information and contacts were made at this time that greatly facilitated completion of this Atlas.

The birders from Redwood Region Ornithological Society and Madrone Audubon Society, along with many others from outside the county, have worked together tirelessly, combining their considerable talents to complete this ambitious and daunting task.

We tend to think of a work such as this Atlas as the definitive word on the subject at hand. Yet, even as this book was going to press, yet another first nesting record was reported, that of a nesting Blue Grosbeak family. As carefully as this data has been compiled and presented, we are once again reminded of, and humbled by the constant changes occurring around us every day.

EDITORIAL CONVENTIONS AND COMMENTS

All unsigned text was written by Betty Burridge, Editor.

Abbreviations:

ACR - Audubon Canyon Ranch
AOU - American Ornithological Union
CDFG - California Department of Fish and Game
MAS - Madrone Audubon Society
PRBO - Point Reyes Bird Observatory
RROS - Redwood Region Ornithological Society
USFWS - United States Fish and Wildlife Service

Terms:

Atlas (capitalized) - Sonoma County Breeding Bird Atlas
Block (capitalized) - five kilometer by five kilometer (three mile by three mile) gridded block used as a unit within the Atlas
Breeding Criteria Code(s) (capitalized) - specifically defined codes listed in 'Methods' chapter.
Confirmed / Confirmation (capitalized) - specifically defined breeding evidence (see Breeding Criteria Codes Methods.)
Possible (capitalized) - specifically defined breeding evidence (see Breeding Criteria Codes - Methods.)
Probable (capitalized) - specifically defined breeding evidence (see Breeding Criteria Codes - Methods.)

Notations:

(pers. obs.) - indicates that the author provided the information / observation included in that part of the text
(J. Bird pers. comm.) - indicates that J. Bird provided the information / observation included in that part of the text
(J. Bird fide A. Robin) - indicates that J. Bird provided the information to A. Robin who then provided it to the author.
(J. Bird 1993) - information from a published reference authored by J. Bird in 1993 (details of reference listed in References Chapter)
(J. Bird 1993 citing A. Robin) - information from a published reference authored by J. Bird in 1993 who used information authored by A. Robin

Taxonomy:

The use of common and scientific names, as well as the order in which the birds are listed follows the fourth edition of ABA Checklist Birds of the Continental United States and Canada, published December 1990, as updated May 1995 in Winging It Vol 7,5:9.

References:

In order to gain a perspective on the status and changing trends of Sonoma County breeding bird populations from earlier in this century to the present three highly respected references were used extensively: Directory to the Bird-life of the San Francisco Bay Region by Joseph Grinnell and Margaret W. Wythe, Pacific Coast Avifauna Number 18, published March 29, 1927 by the Cooper Ornithological Club, Berkeley CA; The Distribution of the Birds of California by Joseph Grinnell and Alden H. Miller, Pacific Coast Avifauna Number 27, published December 30, 1944 by the Cooper Ornithological Club, Berkeley CA; and Birds of Sonoma County - An Annotated Checklist and Birding Gazateer by Gordon L. Bolander and Benjamin D. Parmeter, published 1978 by B. D. Parmeter, Napa CA.

The excellent Marin County Breeding Bird Atlas - A Distributional and Natural History of Coastal California Birds, California Avifauna Series 1 by David W. Shuford, (1993 by Bushtit Books, Bolinas CA) served as a major reference for data on breeding biology and other pertinent information. It is frequently referred to in the text.

Exhaustive searches of other literature or of museum collections were not undertaken. Therefore the existence of earlier and/or more records and information than are quoted in this volume is possible.

Betty Burridge

LOCATION MAP
(Figure B)

Map of California showing location of Sonoma County on Pacific Coast, 60 miles north of San Francisco.

BIOGEOGRAPHY

Sonoma County is fortunate to be endowed with a vast biological diversity which is nurtured by its wide variety of natural resources. A gentle climate, interesting topography and fortunate location near the ocean, along with plentiful water supplies and a variety of geological formations create a hospitable atmosphere for an impressive array of flora and fauna.

LOCATION

Less than one hour's drive north from San Francisco, Sonoma County is California's 28th largest county with an area of 1,579 square miles. From its southern boundary on San Pablo Bay and the Marin County line, Sonoma County extends north 50 miles to Mendocino County. Its western margin is 62 miles of Pacific coastline and the eastern margin is defined by the Mayacamas Mountain Range.

GEOLOGY

Sonoma County is situated on a highly complex series of geologic formations. These include the Franciscan melange, a mixture of rocks which have been ground, sheared and crushed together by the actions of plate tectonics; marine deposits; volcanic formations and alluvial valleys. The present configuration of ridges and valleys in Sonoma County is related to the long history of extensive earth movement caused by oceanic and continental crustal plates pushing against each other, by differential erosion of the uplifted mass and by changes in sea level related to periods of glaciation (Sonoma County General Plan 1974).

TOPOGRAPHY

Sonoma County is a diverse mosaic of landforms, plant communities and human settlements. It is divided geographically into roughly equal areas of valley lands, mountains and rolling hills. Elevations range from sea level to 4,344 feet at the summit of Mount St. Helena. Sonoma County meets with its two eastern neighbors, Lake and Napa Counties, about one half mile east of the summit.

The county is split northwest to southeast by three narrow valleys separated by hills and ridges. The Santa Rosa Plain, Sonoma County's main geographic feature, lies between the Sonoma Mountains on the east and the rolling coastal plains on the west. This broad flat area starts north of Healdsburg and widens and extends through Santa Rosa, Rohnert Park and Petaluma, moving southeast into the Lakeville region and the Petaluma River. It is along the Highway 101 corridor which travels north and south through the heart of the Santa Rosa Plain where the greatest industrial, commercial and residential development is occurring in this county.

The Petaluma River (still called Petaluma Creek by the old-timers) with its tidal action forms a large salty marsh along the county's southwestern border. Many of its banks are diked, eliminating much of the original natural wetlands in the county.

The western part of the Santa Rosa Plain is drained by many small creeks that merge toward the north into the Laguna de Santa Rosa. In the dry summer months the Laguna can be a quiet stream wending its way north to Mark West Creek and thence to the Russian River. But in rainy winters it becomes a broad lake fed by raging creeks, and large areas between Santa Rosa and Sebastopol become very wet. It is a wetland of legendary biological diversity which has experienced the indignities of filling, containment and drainage over the years; before such alteration it was the largest single fresh water wetland in the State. Its wetland and riparian communities have been greatly diminished, giving way to ever greater agricultural and population pressures.

The Mayacamas Range on the eastern boundary of the county and Sonoma Mountain enclose author Jack London's beloved Valley of the Moon, a scenic agricultural area of considerable historical and literary fame. This breathtakingly beautiful valley extends from near Santa Rosa southeastward to the city of Sonoma. From there south it is called Sonoma Valley on the maps. The Valley of the Moon and Sonoma Valley are drained by Sonoma Creek which has a year round water flow. It finally empties into the county's southern marshlands at San Pablo Bay.

To the north, the Mayacamas Range and Mendocino Highlands enclose the Alexander and Dry Creek Valleys. These are agricultural areas where vineyards abound. In the 1970s Warm Springs Dam, a water storage and flood control project, was constructed northwest of Healdsburg on Dry Creek, a main tributary of the Russian River. Lake Sonoma, a major recreational area for fishing and water sports was created by Warm Springs Dam.

CLIMATE

Sonoma County enjoys a maritime Mediterranean-type climate which is characterized by alternating warm-dry and cool-wet seasons. The rains usually begin in late October and extend through April. Rainfall averages 50 inches in the coastal ranges with a few areas receiving up to 70 inches annually. The inland valleys and the southern salt marshes along San Pablo Bay receive as little as 20 inches annually.

The daily weather conditions that shape Sonoma County's climate are products of larger-scale climatic characteristics and the county's geographic location. The large migrating atmospheric pressure areas that develop

over the Pacific Ocean play major roles in determining the county's climate.

The most important factor is the Pacific High, which changes position with the seasons. It is a major high pressure area over the northern Pacific Ocean. Storms in the wet season enter the county due to the southern position of the high at that time, while in the dry season when the Pacific High assumes a more northerly position, storms are routed through the Pacific Northwest. The north-south migration of the high is directly related to the seasonal position of the sun. Some local effects associated with the high are the direction of prevailing winds, seasonal precipitation, cloud cover, the amount of available sunshine and fog conditions.

Sonoma County is affected by the general flow of air through the San Francisco Bay Area, which forms the major near-sea-level gap in the Coast Ranges into California's Central Valley. This is important in the dry season, when the combination of a thermal low pressure area in the interior of the State and the Pacific High produces strong, steady winds off the ocean. Coupled with cold water upwelling near the coast, this flow produces the fogs which are a common occurrence along the entire coast. Fogs can intrude along the Russian River to cover Windsor, all of Santa Rosa and the entire southern portion of Sonoma County west of Sonoma Mountain.

VEGETATION/HABITATS

Along with topography and climatic conditions, vegetative communities play a major role in influencing the distribution of breeding terrestrial birds.

In the far northeast, the remote interior of the Mayacamas Range contains the Geysers, a geothermal steam field. Brushland and mixed forests are the habitats that exist in this fogless area of relatively extreme summer and winter temperatures.

Paralleling the northwestern coastline and across the northern reaches of the county, coniferous forest, mainly redwood and Douglas fir, predominates.

The sparsely settled western margin of the county along the Pacific coastline includes the rugged Mendocino Highlands covered with second-growth coniferous forests in the north, and rolling oak-studded dairylands and coastal prairies in the south. The rocky coast has scattered sandy beaches which increase in extent toward the south. Windswept grasslands and coastal scrub line the entire immediate coastal area. Near the southern end of the coastline is Bodega Harbor which, with its protected waters and mild year round climate, serves as a nursery for marine fisheries and a valuable stopover point for migrating and wintering shorebirds and water birds. The outer Coast Range receives heavy fogs and more rainfall than the remainder of the county.

The Russian River is a prominent geographic feature originating in Mendocino County to the north. Its main course flows in a southwesterly direction through the center of Sonoma County. There are periodic floods along the River which overflows into a wide flood plain, depositing fertile soils and creating great havoc in the many small river communities. The Russian River is the source of drinking water for Santa Rosa, the largest city in Sonoma County. Currently much of the treated effluent from the county's wastewater treatment plants is also discharged into that river. The Russian has been a major fishery for salmon and steelhead and also has been a major recreational area for Northern California since the turn of the century. There are still a few good stands of riparian woodland along this river but much of this type of habitat has disappeared.

Mark West Creek is, with Dry Creek, one of two main tributaries of the Russian River. It is especially significant during times of heavy winter rainfall when the broad, flat Laguna de Santa Rosa overflows into Mark West Creek just before that creek enters the Russian River. Starting from the east-central hills of Sonoma County this stream traverses mixed forest and riparian habitats as well as residential, commercial and industrial development before it reaches the agricultural plains and grasslands west of Santa Rosa on its way to the Russian River.

On the county's eastern edge the ridge of the inner Coast Range forms a natural boundary. At the north end of these mountains, the Mayacamas Range, is Mount St. Helena (elevation 4344 feet), the highest point in the San Francisco Bay region. The upper reaches of this mountain have a special affinity with higher peaks to the north. The habitat of the southern portion of the inner Coast Range in our area consists of mixed deciduous forest, open oak forest, stands of thick chaparral and some grasslands.

Finally there are significant salt marshes on the southern border of the county abutting San Pablo Bay.

Peter Leveque

METHODS

PREPARING TO CONDUCT THE ATLAS FIELD WORK

Volunteer Recruitment

The greatest single source of volunteers for field work came, predictably, by word of mouth and individual recruitment within the local birding community. Personal appearances by Atlas organizers at local Audubon and Redwood Region Ornithological Society (RROS) meetings as well as written appeals in the newsletters of those organizations and many more -- Point Reyes Bird Observatory in neighboring Marin County and Audubon Societies in nearby counties -- produced a running supply of about 50 volunteers per year for the six years of the study. Many volunteers repeated for several or all years.

Training for Field Workers and Assignment of Blocks

An Information packet was developed containing information about the Atlas, instructions for participating in the Atlas and forms to be used to record and report data. Also included was a form letter to ask for permission from private property owners for Atlas volunteers to enter private land. In 1988 a 19-page booklet on breeding information about the species expected in Sonoma County was created. Included were brief descriptions of courtship behaviors, nests and any pertinent remarks.

Orientation/training sessions were given each year in early April, the approximate beginning of the breeding season for most birds in this area. Lectures on atlasing techniques, finding and identifying difficult birds, especially owls, and interpretation of the Breeding Criteria Codes covered by local experts including Doug Ellis and Dave Shuford. Orientation/training sessions were recorded on cassette tapes and made available to all volunteers, especially those signing up later in the season.

The accuracy and quality of the data that was to be gathered was a major priority of the Technical Committee and the Breeding Bird Atlas Committee. Both groups recognized that the range of skills within any group of volunteers would, by definition, be widely divergent. Still, it was felt that every person willing to participate could be useful. Therefore, several strategies in addition to the orientation/training sessions were developed to upgrade skills where needed and to minimize omissions and errors in the field. Special one-on-one training in bird identification was available to those who sought it and beginners were purposely paired with more experienced field workers. In addition, Richard Merriss, an accomplished birder and active participant in many phases of this Atlas, made himself available for two years specifically to assist volunteers who needed confidence and assistance in the field.

The county was divided into regions, each with a coordinator charged with supervising the atlasers in that area, recruiting new atlasers and assigning more blocks when possible. Atlasers were contacted throughout the field seasons to remind them of the importance of visiting the blocks regularly and to answer questions about field techniques, breeding codes and problems with access.

MAPPING THE COUNTY

Maps and Grids

United States Geological Survey (USGS), 7.5 minute series, topographic maps (scale 1:24,000) were used for the field work. A USGS topographical map of Sonoma County (scale 1:100,000) was used administratively as a master map for planning, screening and overview of the project.

As recommended by the North American Ornithological Atlas Committee, the Universal Transverse Mercator (UTM) grid system, a military mapping system, was used to define block borders. UTM allows for consistently-sized blocks, measured in meters north and south from the equator, and also by meters east and west from every sixth degree of longitude. (Incomplete 'squares' are created along the six degree zone lines because of the incompatibility of a square grid system with the round surface of the Earth.) Fortunately, all of Sonoma County fits within the longitude range of 118 degrees W to 124 degrees W, allowing all the gridded areas within Sonoma County to be precisely five kilometers by five kilometers. USGS maps are marked at the borders with either 1000 meter or 10,000 meter UTM grid ticks.

Each field worker was given a portion of an original topographic map (in some cases portions of up to four maps that had been cut out from separate maps and then pasted together) which represented the area (Block) which had been assigned to be surveyed.

Blocks

The county was divided into 195 Blocks, each five km (about three miles) square. Some Blocks on the edge of the county are incomplete because of irregular geographical boundaries. Edge Blocks that were less than one quarter in Sonoma County and which had no data collected from them because of inaccessibility are not represented.

Each Block was numbered according to the last two digits of the UTM grids intersecting at its southwest corner. The longitudinal (vertical) grid number is listed first, followed by a "--" and then the latitudinal (horizontal) grid number. The first (of three) number by the blue UTM latitudinal tick was omitted, because it was

the same (4) throughout the entire county. Two latitudinal numbers remained. Only two longitudinal numbers were given by the UTM blue ticks which are ten kilometers apart. Since the Atlas Blocks measure only five kilometers on each side, a phantom decimal point was placed after the each two digit UTM number followed by either a zero or five according to whether the border of the Atlas Block fell on the actual UTM tick or the half-way point to the next tick. Thus two, three digit numbers designate each Block, e. g. the Block with UTM grids 47(.)5 (longitude) and 27(.)0 (latitude) intersecting in its southwestern corner is Block 475-270.

For easier geographical orientation of the user to this Atlas, clear plastic overlays with geographic features and Atlas (UTM) grid numbers are provided for use over the species account maps.

Originally, it was planned to further divide each block into four 2.5 kilometer quarters. One of those quarters was to be randomly selected as a priority quarter, and data collected and recorded both separately for that quarter and for the entire Block (all four quarters together). This would have allowed for a very sophisticated 'atlas-within-an-atlas' study, showing a statistically significant 2.5 kilometer random sampled study, the smaller Blocks giving greatly improved definition to the distribution of the data, while at the same time providing complete coverage for the five kilometer Block Atlas.

It was recognized from the start that very clear and careful instructions would have to be given to the field workers to insure compliance with the plan. Recording priority quarters separately would also double the data input work as well as screening and clerical tasks. None the less the project began the first year, 1986, with priority quarters being assigned within each Block.

However, in spite of careful written and oral instructions, and training sessions, as well as many hours of individual telephone conferences, it was clear when the first year's data came in that this plan was simply too difficult. Even some very advanced birders failed to grasp the essence of the priority quarter system. The priority quarter data had so many obvious errors that we essentially had a choice of discarding all the data from 1986 and beginning again in 1987 or of abandoning the quarter priority Atlas. The latter course was reluctantly selected, leaving the five kilometer Block Atlas to stand alone.

DATA

Breeding Criteria Codes (Table 1)

The recommendation made at the 1981 Northeastern Breeding Bird Atlas Conference for Standardization of Breeding Criteria Codes was used for this Atlas with two exceptions.

The Code "P" (pair observed in suitable habitat during its breeding season) was further defined with a statement as follows: "A pair is two adult birds of the same species (in suitable breeding habitat during the breeding season) interacting (co-relating) in such a way as to imply a pair bond and/or the intention to mate with each other. If the birds are a male and female of a dimorphic species, the probability that those two birds are a true 'pair' is strengthened."

The second modification of the standard breeding codes was Code "B" which was expanded to include "...or carrying nest materials by any species."

The breeding codes are ranked as Possible (the least positive evidence), through Probable to Confirmed (the most positive evidence of breeding), with the codes (representing breeding situations/behaviors) listed in order of ascending rank within each category. Only the highest ranking code was to be reported and has been published in this Atlas. Thus, a check mark recording 'Species (male or female) observed in suitable nesting habitat during its breeding season' was a lower ranking code within the Possible category, than an 'X' recording 'Singing male in suitable nesting habitat during its breeding season'.

Dates for all Confirmed breeding records were collected in an attempt to begin to define the breeding season limits for each of these birds.

BREEDING CRITERIA CODES
(Table 1)

DESIGNATION	CODE[1]	EVIDENCE
OBSERVED	0	Species (male or female) observed in block during the breeding season, but believed not to be breeding.
POSSIBLE	√	Species (male or female) observed in suitable nesting habitat during its breeding season.
	X	Singing male present in suitable nesting habitat during its breeding season.
PROBABLE	P	**Pair** observed in suitable habitat during its breeding season.
	T	Permanent **territory** presumed through defense (e.g., chasing of other birds; or song at the same location on at least two occasions a week or more apart).
	C	**Courtship** behavior or **copulation.**
	N	Visiting probable **nest-site.**
	A	**Agitated** behavior or anxiety calls from adult.
	B	Nest **building** by wrens or excavation of holes by woodpeckers or carrying nest materials by any species.
CONFIRMED	NB	**Nest building** by all except woodpeckers and wrens.
	PE	**Physiological evidence** of breeding (i.e., highly vascularized, edematous incubation [brood] patch or egg in oviduct) based on bird in hand.
	DD	**Distraction display** or injury feigning.
	UN	Used nest or eggshells found. Caution: These must be carefully identified, if they are to be accepted.[2]
	FL	**Recently fledged young** (of altricial species) incapable of sustained flight or downy young (of precocial species) restricted to the natal area by dependence on adults or limited mobility.[2]
	ON	**Occupied nest**; adults entering or leaving nest site in circumstances indicating occupied nest (includes high nests or nest-holes, the contents of which cannot be seen) or adult incubating or brooding.
	AY	**Attending young**; adult carrying fecal sac or food for young, or feeding recently fledged young.[2]
	NE	**Nest** with **egg(s).**[2]
	NY	**Nest** with **young** seen or heard.[2]

[1]--*The letter code* is entered by the field workers in the appropriate space on the field report form. **Possible** and **Probable** categories are represented by single letters or a symbol. **Confirmed** by double letters. Letters have been selected as a mnemonic aid, keyed to boldfaced words in criteria definitions.

[2]--Presence of cowbird eggs or young is confirmation of both cowbird and host species.

FIELD CARD (FRONT)
(Figure C-1)

SONOMA COUNTY BREEDING BIRD ATLAS 1991 FIELD CARD DD

BLOCK # 540 -230 NAME Ruth Rudesill

BREEDING CRITERIA CODES

Code	Evidence
OBSERVED	
0	Species (male or female) observed in block during the breeding season, but believed not to be breeding.
POSSIBLE	
V	Species (male or female) observed in suitable nesting habitat during its breeding season.
X	Singing male present in suitable nesting habitat during its breeding season.
PROBABLE	
P	Pair observed in suitable habitat during its breeding season.
T	Permanent territory presumed through defense (*e.g.* chasing of other birds; or song at the same location on at least two occasions a week or more apart).
C	Courtship behavior or copulation.
N	Visiting probable nest-site.
A	Agitated behavior or anxiety calls from adult.
B	Nest building by wrens or excavation of holes by woodpeckers, or carrying nest materials by any species

Code	Evidence
CONFIRMED	
NB	Nest building by all except woodpeckers and wrens.
PE	Physiological evidence of breeding (*i.e.*, highly vascularized, edematous incubation [brood] patch or egg in oviduct) based on bird in hand.
DD	Distraction display or injury feigning.
UN	Used nest or eggshells found. Caution: These must be carefully identified, if they are to be accepted.
FL	Recently fledged young (of altricial species) incapable of sustained flight[2] or downy young (of precocial species) restricted to the natal area by dependence on adults or limited mobility.
ON	Occupied nest; adults entering or leaving nest site in circumstances indicating occupied nest (includes high nests or nest-holes, the contents of which cannot be seen) or adult incubating or brooding.
AY	Attending young; adult carrying fecal sac or food for young, or feeding recently fledged young.
NE	Nest with egg(s)[2].
NY	Nest with young seen or heard[2].

[2]Presence of cowbird eggs or young is confirmation of both cowbird and host species.

LOG

date	hrs.	miles	Observers	comments
scout	1/2	1/2	R. R.	Driving To work

* Report all PRobable and COnfirmed sightings of asterisked species, or species not on this list, to your Regional Coordinator or Betty Burridge 527-0225 immediately, please. Written details required.

** Report as directed above except for Cader Lane Pond sightings.

*** Report as directed above except for sightings at mouth of Gualala River

RETURN COMPLETED BBA FIELD CARD BY AUG. 15 TO: REGIONAL COORDINATOR

Field cards were on 8 1/2 x 11 inch card stock printed on both sides. Cards were color coded by year, a new field card being issued each year that a Block was assigned.

FIELD CARD (BACK)
(Figure C-2)

NAME Ruth Upper Stage Gulch BLOCK # 540 – 230 1991 ~~1988~~

DD

	O	PO	FR	CO	date
PIED-BILLED GREBE					
*EARED GREBE					
D. CR. CORMORANT					
BRANDT'S CORMOR.					
PELAGIC CORMORANT					
AMERICAN BITTERN					
GREAT BLUE HERON					
GR.-BACKED HERON					
*great egret					
BL.-CR. NT.HERON					
WOOD DUCK					
MALLARD			FL		5/27
NORTHERN PINTAIL					
*BLUE-WINGED TEAL					
CINNAMON TEAL					
NORTHERN SHOVELER					
GADWALL					
AMERICAN WIGEON					
COMMON MERGANSER					
RUDDY DUCK					
*TURKEY VULTURE					
OSPREY					
BLACK-SH. KITE					
NORTHERN HARRIER					
*SH.-SHINNED HAWK					
COOPER'S HAWK					
R-SHOULDERED HAWK			AY		6/4
RED-TAILED HAWK					
GOLDEN EAGLE					
AMERICAN KESTREL					
PEREGRINE FALCON					
TURKEY					
RING-NECK PHEAS.					
BLUE GROUSE					
CALIF. QUAIL					
MOUNTAIN QUAIL					
*BLACK RAIL					
CLAPPER RAIL					
VIRGINIA RAIL					
SORA					
COMMON MOORHEN					
AMERICAN COOT					
*SNOWY PLOVER					
KILLDEER					
BL. OYSTERCAT'ER					
**BL-NECKED STILT					
**AMERICAN AVOCET					
SPOTTED S'PIPER					
**WILSON'S PHA'ROPE					
WESTERN GULL					
PIGEON GUILLEMOT					
*MARBLED MURRELET					
TUFTED PUFFIN					
RHINOC. AUKLET					
ROCK DOVE					
BANDTAILED PIGEON					

	O	PO	FR	CO	date
MOURNING DOVE					
*GR. ROADRUNNER					
BARN OWL					
W. SCREECH OWL					
GREAT HORNED OWL					
NO. PYGMY-OWL					
BURROWING OWL					
SPOTTED OWL					
LONG-EARED OWL					
NO. SAW-WHET OWL					
*COMMON NIGHTHAWK					
COMMON POORWILL					
VAUX'S SWIFT					
WHITE-THR. SWIFT					
ANNA'S H'BIRD					
ALLEN'S H'BIRD					
BELTED KINGFISHER					
ACORN WOODPECKER					
RED-BR. SAPSUCKER					
NUTTALLS W'PECKER					
DOWNY WOODPECKER					
HAIRY WOODPECKER					
NORTHERN FLICKER					
PILEATED W'PECKER					
OLIVE-S. FLIC'HER					
W. WOOD-PEWEE					
WESTERN FLIC'HER					
BLACK PHOEBE					
ASH-THROAT FLYCAT					
WESTERN KINGBIRD					
HORNED LARK					
**PURPLE MARTIN					
TREE SWALLOW					
VIOLET-GR SWALLOW					
ROUGH-WING S'LLOW					
*BANK SWALLOW					
CLIFF SWALLOW					
BARN SWALLOW					
STELLER'S JAY					
SCRUB JAY					
AMERICAN CROW					
COMMON RAVEN					
CH.-BACK CHICKDEE					
PLAIN TITMOUSE					
COMMON BUSHTIT					
RED-BR. NUTHATCH					
WHITE-BR NUTH'CH					
PIGMY NUTHATCH					
BROWN CREEPER					
ROCK WREN					
CANYON WREN					
BEWICK'S WREN					
HOUSE WREN					
WINTER WREN					
MARSH WREN					

	O	PO	FR	CO	date
AMERICAN DIPPER					
GOLDEN-CR KINGLET					
BLUE-GR G'CATCHER					
WESTERN BLUEBIRD					
SWAINSON'S THRUSH					
HERMIT THRUSH					
AMERICAN ROBIN					
WRENTIT					
NO. MOCKINGBIRD					
CALIF. THRASHER					
LOGGERHEAD SHRIKE					
EUROPEAN STARLING					
SOLITARY VIREO					
HUTTON'S VIREO					
WARBLING VIREO					
ORANGE-CR WARBLER					
NASHVILLE WARBLER					
YELLOW WARBLER					
*YEL-RUMP. WARBLER					
BL-THR. GRAY WARB					
HERMIT WARBLER					
M'GILLIVRAY'S WAR					
COMMON YEL-THROAT					
WILSON'S WARBLER					
YEL-BR. CHAT					
WESTERN TANAGER					
BL-HEAD. GROSBEAK					
LAZULI BUNTING					
RUF-SIDED TOWHEE					
BROWN TOWHEE					
RUFOUS-CR. SPAR.					
CHIPPING SPARROW					
BL-CHINNED SPAR.					
LARK SPARROW					
SAGE SPARROW					
SAVANNAH SPARROW					
GRASSHOPPER SPAR					
SONG SPARROW					
WHITE-CR. SPAR.					
DARK-EYED JUNCO					
RED-WING BL'BIRD				AY	5/23
TRICOLOR BL'BIRD					
W. MEADOWLARK			C		
BREWER'S BL'BIRD				FL	6/4
BR-HEADED COWBIRD					
*HOODED ORIOLE					
NORTHERN ORIOLE				WS	6/4
PURPLE FINCH					
HOUSE FINCH					
*RED CROSSBILL					
PINE SISKIN					
LESSER GOLDFINCH			P		
LAWRENCE'S G'FINC					
AMER. GOLDFINCH			✓		
HOUSE SPARROW					

Forms

Field Cards for recording all pertinent data were distributed with original topographic maps of the assigned Blocks and other information and instructions (Figure C). These were to be returned at the end of the season, arbitrarily set at August 15. Atlasers were encouraged to continue looking for breeding behaviors throughout the year, especially for the species known to have extended or atypical breeding seasons (crossbills, hummingbirds, owls and hawks).

In addition, a "Birds In Other Areas" form was used for casual observations of breeding behaviors by birds in blocks which were not assigned to the observer (Figure D).

An "Unusual Record Report Form" was also used to give details on records that required further scrutiny and/or investigation.

BIRDS IN OTHER AREAS FORM
(Figure D)

SONOMA COUNTY BREEDING BIRD ATLAS- **Birds In Other Areas Form**

If you observe evidence of a bird breeding in Sonoma County in an area to which you have not been assigned for the BBA, please use this form, and send your sighting to: Betty Burridge, 963 Crest Drive, Santa Rosa 95404.

Species_____ **Date**_____

	PO	PR	CO
Criteria Code			

Comments_____

Exact Location_____

_____ **Block #**_____ **if known**

Observer_____

Address_____ **Phone**_____

Species_____ **Date**_____

	PO	PR	CO
Criteria Code			

Comments_____

Exact Location_____

_____ **Block #**_____ **if known**

Observer_____

Address_____

Data Gathering

A complete survey was done in each Block, with the highest level of breeding information being recorded for each bird.

Blocks were assigned to one or more volunteers, usually one Block at a time, although in some cases two or more would be undertaken by the same individual(s) in the same year.

Atlasers were encouraged to spend at least two hours at a time in each Block, and visits were advised at least twice monthly from April through July. All habitats within the Block were to be explored and private property rights were absolutely to be respected.

Some Blocks were reassigned to the same or other atlasers in subsequent years if coverage of that Block was not yet complete.

ADDITIONAL DATA GATHERING METHODS

Blockbusting

In order to get atlas coverage for some Blocks of the distant, rugged and sometimes inaccessible northwestern part of the county, short intensive forays were undertaken by some teams of atlasers to gather as much data as possible in a day of two. These 'Blockbusters' were asked to camp when possible in these Blocks so that resident owls could be surveyed as well. Modest funds were made available from the Atlas budget to cover expenses for travel and sustenance. Few roads or trails are available in these areas and many of the human residents are secretive and suspicious of strangers. Blockbusters were cautioned to exercise care for their personal safety and, fortunately, no untoward incidents occurred in these possibly inhospitable areas. Our atlasers generally respected warnings about roads and areas that should be avoided, although at least twice teams blundered innocently into marijuana patches.

Owling

Attempting to adequately census birds that are active at dusk and during the night presents major logistical problems; special skills are needed and the personal safety and the inconvenience of disturbed sleep patterns for the atlasers must be considered. Local owl expert Doug Ellis acted as consultant for all owling questions. He also recorded his imitations of all our local owls on a cassette tape which was duplicated and made available to all atlasers, who were cautioned to use these tapes sparingly to avoid unnecessary harassment of nesting owls.

Casual Observations

Special forms were used for recording bird breeding behaviors in parts of the county not officially assigned to the observer. Entering this data proved to be a tedious task. While most locations were fairly well defined, the Block number still had to be precisely identified, necessitating many telephone calls to determine the nearest cross street etc. Then the Block had to be called up onto the computer screen and the correct code entered individually for the correct year. Still, much valuable information came to us on these 'Birds In Other Areas' forms.

Special Sources of Data

The Bird Rescue Center of Santa Rosa opened its files to the Atlas, allowing volunteers to comb through the records for appropriate data. This was especially useful for raptors, owls, and early and late records for many song birds.

Dee Warenycia, Wildlife Biologist with the California State Department of Fish and Game's 'Natural Diversity Data Base'(NDDB), assisted the Atlas with the NDDB's computerized inventory of information on location and condition of California's rare and threatened animal community. This data was translated into breeding codes as appropriate for this Atlas and, in turn, the Atlas is sharing its additional data with the NDDB.

In 1989 and 1990 Harry R. Carter et al. of the U. S. Fish and Wildlife Service surveyed the breeding populations of seabirds of the northern and central California coasts. Many of the survey methods were not available to our volunteers and so, much of the seabird data comes from this study, including the only Confirmed nesting record for Sonoma County of the Leach's Storm-Petrel.

Ted Wooster with the Department of Fish and Game also conducted an intensive survey of Spotted Owls. These considerable data were added to the Atlas's own records, making that species (along with the Burrowing Owl) one of the most thoroughly investigated species in this Atlas.

Peter W.C. Paton and C. J. Ralph of the Redwood Sciences Laboratory (Arcata California), United States Department of Agriculture, Forest Service, studied the distribution of marbled murrelets at inland sites in California in 1988 and 1989 and provided data for our use.

DATA MANAGEMENT

Data Screening

Field Cards and "Birds In Other Areas" forms were visually screened for inconsistencies and completeness by two separate individuals from the Technical Committee, before being entered into the computer.

Some Blocks stood out as having minimum data, in spite of considerable time and effort having been expended for that Block. In most cases limited birding skills and/or lack of confidence by the atlaser(s) were the cause. In these cases additional field work was assigned the following year to a different individual or team.

Computer Program

A computer program was created expressly for the Sonoma County Breeding Bird Atlas by Steve Schafer according to requirements and specifications identified and

requested by the Breeding Bird Atlas Committee. This custom-designed program grew and expanded as the Atlas progressed. Data was entered on an IBM-compatible Kaypro Personal Computer.

Data Entry

Screened data was entered directly into the computer by volunteers and then immediately proofread. Print-outs for the data for each Block were created and sent to atlasers for further scrutiny, comments and corrections.

ADEQUACY OF COVERAGE

Determining when a Block has been adequately surveyed is a difficult call. Standards set by other Atlas projects did not necessarily apply to Sonoma County because of varying bird and habitat diversity, land use, ruggedness and inaccessibility of terrain, and other factors.

There are, however, some basic tools against which Atlas data can be compared within such a study.

An 'Adequacy of Coverage Identification Index', or 'ACID' score, proved useful as a combined quantitative and qualitative measure of Atlas data (Kibbe 1986). Three points were assigned to each Confirmed breeding record, two points for a Probable, and one point for a Possible. The resulting score provided an objective score by which Block results could be measured and compared. In addition, individual atlasers could track their own productivity by noting how many ACID points/hour they were able to add to their field card during visits to a Block later in the breeding season.

Previous atlas projects have attempted to predict numbers of birds expected in each Block. In Vermont, it was assumed that 100 species occurred in each Block, with 75% (75) being expected for adequate coverage (Sutcliffe et al. 1986). However, because of Sonoma County's more variable species richness within Blocks as well as other factors previously mentioned, the determination of degree of coverage was made not on the basis of a set number of birds expected per Block, but instead empirically by members of the Technical Committee. The combined knowledge of these experienced long-time local birders regarding Sonoma County's topography, the habitat and the birding history within each area were all built into the process. Further considerations included what proportion of the Block was in another county, the ocean or a bay, as well as the number of hours that had been spent on field work, the skill of the atlasers and the percentage of Confirmed to total records. (A high proportion of Confirmed records was assumed to indicate thorough coverage, for had there been very many more species, they would probably have been found and recorded as either Possible or Probable breeding records within the time it took to track down the Confirmations.)

Original instructions to the atlasers were to spend at least 16 hours atlasing in each Block, which corresponded to the most productive hours versus number of species-located figures established in the New York State Breeding Bird Atlas (Anderle & Carroll 1988). Standards of hours were roughly based on this 16 hour figure with consideration given to the fact that birders with lesser skills would need more time to adequately census a Block than would highly skilled birders.

During later stages of the Atlas, three general classifications were set to rate coverage of each of the Blocks: 'Complete', 'Adequate' and 'Incomplete'. Sub-categories were further set up to rate owl coverage separately from that of birds generally active during the daytime. Block assignments for the 1991 field season, a period added for making the data base as complete as possible, were made on all 'Incomplete' and many 'Adequate' Blocks.

RESULTS

Evidence of breeding was recorded for 159 species in Sonoma County during the Atlas period from 1986-1991. Of these, 146 had Confirmed breeding records, 11 met the criteria for Probable breeding and two species had only Possible breeding evidence.

Of the 9160 total records, 30% were Confirmed, 31% were Probable and 39% were Possible.

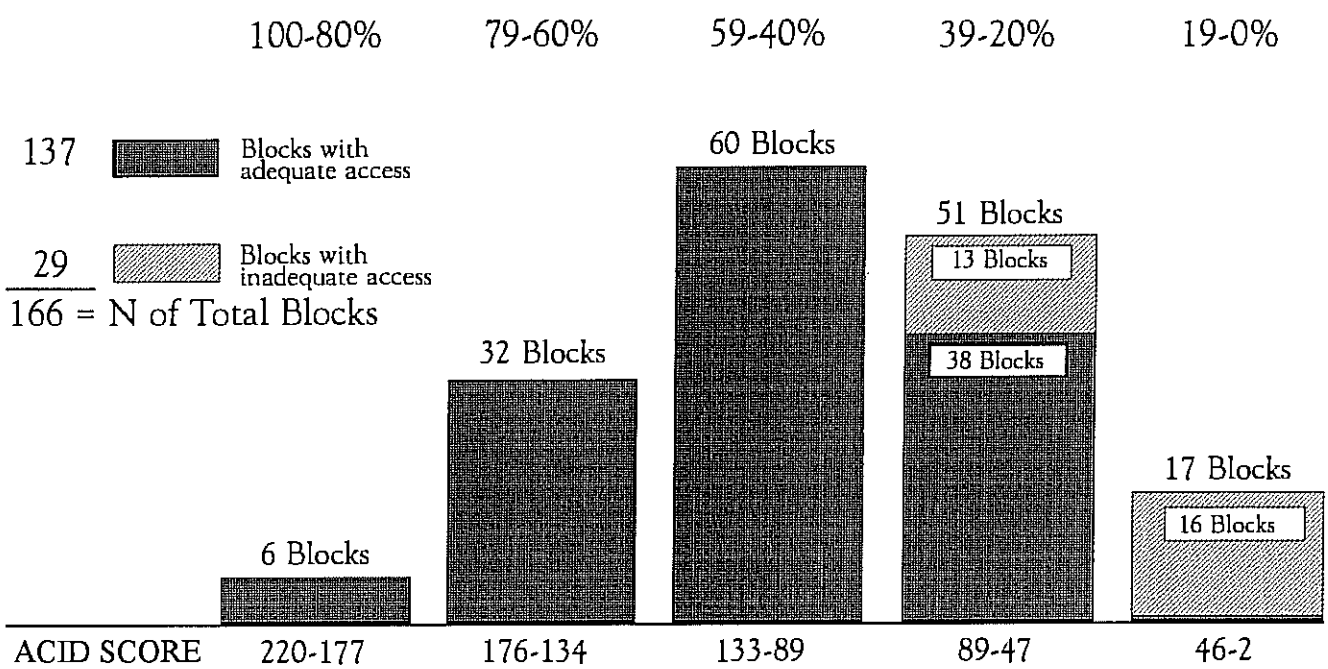
COVERAGE

The county was divided according to Universal Transverse Mercator grids into 195 Blocks that are five kilometers square. No Atlas data were gathered in twelve interior Blocks due to inaccessibility, rough terrain and in some cases the reluctance of some private land holders to allow entry by atlasers. These twelve Blocks have been excluded from all statistics, leaving 183 Blocks with data in this study.

In addition, because of the irregularity of Sonoma County's borders, with coastline, bays, waterways and mountain ridges delineating much of the county, 59 of the remaining Blocks were incomplete. Of these, 17 Blocks for which there is some Atlas data but which have less than 25% of their area within county borders have been excluded from some statistics, leaving 166 (adjusted) Atlas Blocks. However, an additional 29 Blocks that have more than 25% of their area in the county but were judged subjectively to have inadequate access for thorough coverage have been left in the statistical pool with the data that were collected. All but one of these Blocks reported significantly decreased data.

ACID Scores--Adequacy of Coverage Identification Index A very useful evaluation tool to determine how thoroughly Atlas field work is done is the Adequacy of Coverage Identification Index (ACID score) which credits one point for each Possible, two points for each Probable and three points for each Confirmed breeding record. The average ACID score per Block was 103 of the adjusted 166 Atlas Blocks, (96 ACID score for the total 183 Blocks with data.) See Figure E for analysis of ACID scores and Block data (Number of Blocks in Five ACID Score Ranges).

ADEQUACY OF COVERAGE IDENTIFICATION INDEX (Figure E)



Species Data--The average number of species observed per Block was 54 in the 166 (adjusted) Atlas Blocks, (50 species per Block for the total 183 Blocks with data) with the highest number of birds found in any one Block at 93 (in Block 535-250 - Kenwood with parts of Annadel State Park and Sonoma Creek).

The highest number of Confirmed breeding records in a Block was 66 (82% of the species observed in that Block, well above the average of 30%).

Effort Data--Totals of 3962 hours (22 hours/block) and 6653 miles (36 miles/block) in the field in the full 183 Blocks were recorded. Some atlasers who lived within a Block they were atlasing almost every day found it difficult to account precisely for atlasing hours. Likewise, miles walked was difficult to estimate. These two figures should be accepted cautiously by anyone attempting to evaluate atlasing efforts in the field.

DISTRIBUTION

Most Widely Distributed Breeding Birds:

The number of Blocks in which a breeding bird was reported indicates the extent of the distribution of that bird within the county. No effort was made to count the number of birds of each species within individual Blocks. In this study a breeding record on a species' map indicates only that there was at least one (or two, in the case of some advanced codes) bird(s) of that species in that Block. It is, of course, also possible that many pairs of birds of that species were present. It should be recognized that this study was not designed to count individual birds.

The average number of Blocks in which a bird was seen was 57 (31 % of 183 Blocks).

Top birds by numbers of Blocks and percentages of Blocks in which they were recorded are:

California Towhee	155 Blocks	85%
Scrub Jay	154	84%
California Quail	146	80%
Red-tailed Hawk	142	78%
Mourning Dove	141	77%
Pacific-slope Flycatcher	141	77%
American Robin	140	76%
Acorn Woodpecker	138	75%
Violet-green Swallow	138	75%
Bushtit	137	75%
European Starling	136	74%
Brewer's Blackbird	136	74%
House Finch	136	74%

SPECIES RICHNESS

The number of species reported in a Block is a direct reflection of at least three factors: biogeography, effort and observer skill. While the biogeography of the Block makes it more or less hospitable to a variety of bird species as well as to the atlaser(s) who must gain access to the Block, the skill and effort expended by the atlaser(s) are vital elements in accurately and thoroughly gathering data.

In general, Blocks on the perimeter of Sonoma County had far fewer than the average number of species reported in them. Many of these Blocks are not complete in area because of irregular coastlines and county borders. Also, the mountain ridges that make up the easternn border of the County are generally only accessible with great difficulty, if at all, except in the few cases where a road crosses eastward into Lake or Napa Counties.

There is a pattern of Blocks with 70 or more birds (30% above the average (54)) in the following three areas: 1. the mouth of the Russian River, 2. the northwestern coast at Sea Ranch and 3. a broad area outlined from Sebastopol north to the Russian River and Healdsburg, then south and east to Santa Rosa, Hood Mountain, Kenwood, Sonoma, Penngrove, Sonoma Mountain, then northwest through the Laguna de Santa Rosa back to Sebastopol. These Blocks generally have a generous variety of topography and habitats and good and easy access. In addition, the last and largest area is in the midst of or near the major population centers of the county.

The non-coastal northwestern corner has low species density which is probably related as much to low habitat diversity as it is to low observer effort due to the inaccessibility of the terrain.

NEW BREEDING SPECIES

Evidence of breeding was found for the following species not previously Confirmed as nesting in Sonoma County:

Leach's Storm-petrel
Great Egret
Snowy Egret
Canada Goose
Ruddy Duck
Common Moorhen
Yellow-rumped Warbler

RARE BREEDERS

Birds in Sonoma County with only one Confirmed Atlas record are:

Double-crested Cormorant (1 colony with many nests)
Leach's Storm-Petrel
Common Moorhen
Snowy Plover (31 nests in one Block over 3 year period)
Wilson's Phalarope
Northern Pygmy-Owl *
Burrowing Owl
Northern Saw-whet Owl *
White-throated Swift
Red-breasted Sapsucker
Red-breasted Nuthatch
American Dipper
Golden-crowned Kinglet *
Hermit Thrush *
Hermit Warbler *
Yellow-breasted Chat

* Multiple Probable and Possible Breeding Records exist for this bird. Difficulty in obtaining evidence of advanced (Confirmed) breeding behaviors for this species can be suspected as the reason for only one Confirmation.

SONOMA COUNTY BREEDING BIRDS THREATENED, ENDANGERED, OR OF SPECIAL CONCERN (Table 2)

Double-crested Cormorant	CSC	Northern Spotted Owl	FT
Cooper's Hawk	CSC	Vaux Swift	CSC
Sharp-shinned Hawk	CSC	California Horned Lark	CSC, 2
Golden Eagle	CSC	Purple Martin	CSC
Northern Harrier	CSC	Loggerhead Shrike	CSC
Osprey	CSC	Tri-colored Blackbird	CSC, 2
American Peregrine Falcon	SE, FE	Bell's Sage Sparrow	CSC, 2
California Black Rail	ST, 2	Yellow Warbler	CSC
California Clapper Rail	SE,FE	Saltmarsh Common Yellowthroat	CSC, 2
Western Snowy Plover (coastal)	CSC, FT	Yellow-breasted Chat	CSC
Burrowing Owl	CSC, FT	San Pablo Song Sparrow	CSC, 2

Codes
CSC - CDFG 'Species of Special Concern'
ST - State Threatened
SE - State Endangered
2 - Category 2 Candidate for federal listing as Threatened or Endangered
FT - Federal Threatened
FE - Federal Endangered
(CDFG 1994)

SPECIES WITH CONFIRMED BREEDING RECORDS (Table 3)

Pied-billed Grebe
Leach's Storm-Petrel
Double-crested Cormorant
Brandt's Cormorant
Pelagic Cormorant
Great Blue Heron
Great Egret
Snowy Egret
Green Heron
Black-crowned Night-Heron
Canada Goose
Wood Duck
Mallard
Northern Pintail
Cinnamon Teal
Northern Shoveler
Gadwall
Common Merganser
Ruddy Duck
Turkey Vulture
Osprey
White-tailed Kite
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Red-tailed Hawk
Golden Eagle
American Kestrel
Peregrine Falcon
Ring-necked Pheasant
Wild Turkey
California Quail
Mountain Quail
Virginia Rail
Common Moorhen
American Coot
Snowy Plover
Killdeer
Black Oystercatcher
Black-necked Stilt
American Avocet
Spotted Sandpiper
Wilson's Phalarope
Western Gull
Pigeon Guillemot
Rock Dove
Mourning Dove
Barn Owl
Western Screech-Owl
Great Horned Owl
Northern Pygmy-Owl
Burrowing Owl
Spotted Owl
Northern Saw-whet Owl
Vaux's Swift
White-throated Swift
Anna's Hummingbird
Allen's Hummingbird
Belted Kingfisher
Acorn Woodpecker
Red-breasted Sapsucker
Nuttall's Woodpecker
Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Pileated Woodpecker
Olive-sided Flycatcher
Western Wood-Pewee
Pacific-slope Flycatcher
Black Phoebe
Ash-throated Flycatcher
Western Kingbird
Horned Lark
Purple Martin
Tree Swallow
Violet-green Swallow
Northern Rough-winged Swallow
Cliff Swallow
Barn Swallow
Steller's Jay
Scrub Jay
American Crow
Common Raven
Chestnut-backed Chickadee
Plain Titmouse
Bushtit
Red-breasted Nuthatch
White-breasted Nuthatch
Pygmy Nuthatch
Brown Creeper
Bewick's Wren
House Wren
Winter Wren
Marsh Wren
American Dipper
Golden-crowned Kinglet
Blue-gray Gnatcatcher
Western Bluebird
Swainson's Thrush
Hermit Thrush
American Robin
Wrentit
Northern Mockingbird
California Thrasher
Loggerhead Shrike
European Starling
Solitary Vireo
Hutton's Vireo
Warbling Vireo
Orange-crowned Warbler
Yellow Warbler
Yellow-rumped Warbler
Black-throated Gray Warbler
Hermit Warbler
Common Yellowthroat
Wilson's Warbler
Yellow-breasted Chat
Western Tanager
Black-headed Grosbeak
Lazuli Bunting
Rufous-sided Towhee
California Towhee
Rufous-crowned Sparrow
Chipping Sparrow
Lark Sparrow
Sage Sparrow
Savannah Sparrow
Grasshopper Sparrow
Song Sparrow
White-crowned Sparrow
Dark-eyed Junco
Red-winged Blackbird
Tri-colored Blackbird
Western Meadowlark
Brewer's Blackbird
Brown-headed Cowbird
Hooded Oriole
Northern Oriole
Purple Finch
House Finch
Pine Siskin
Lesser Goldfinch
Lawrence's Goldfinch
American Goldfinch
House Sparrow

SPECIES WITH PROBABLE BREEDING RECORDS (Table 4)

American Bittern
Blue Grouse
Black Rail
Clapper Rail
Band-tailed Pigeon
Common Nighthawk
Common Poorwill
Dusky Flycatcher
Rock Wren
Canyon Wren
MacGillivrays's Warbler

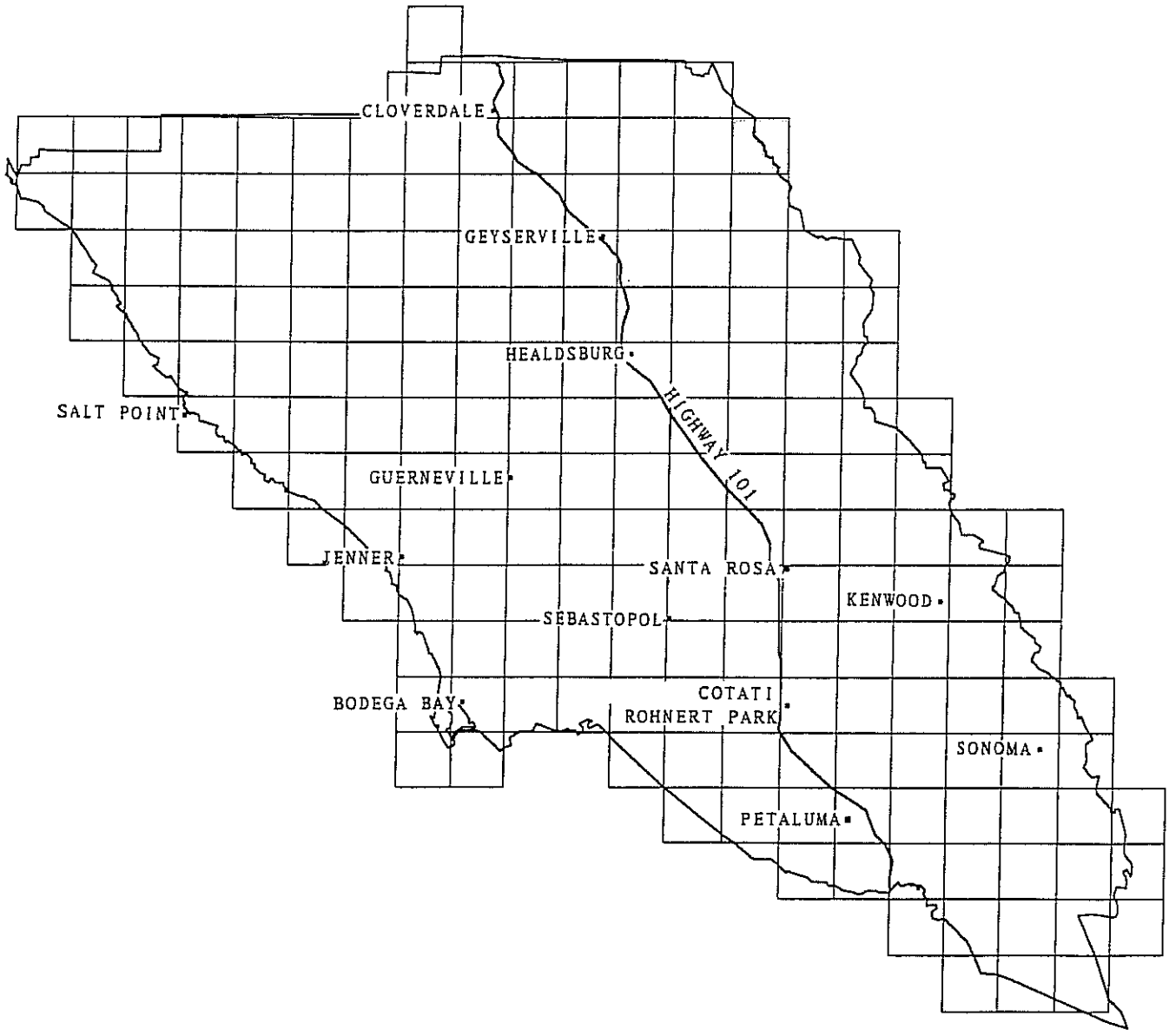
SPECIES WITH POSSIBLE BREEDING RECORDS (Table 5)

Nashville Warbler
Black-chinned Sparrow

BIRDS OF UNCERTAIN, FORMER, POTENTIAL AND/OR IRREGULAR BREEDING STATUS (Table 6)

Eared Grebe
Cattle Egret
Mandarin Duck
Blue-winged Teal
American Wigeon
Bald Eagle
Northern Goshawk
Sora
Marbled Murrelet
Rhinoceros Auklet
Tufted Puffin
Yellow-billed Cuckoo
Greater Roadrunner
Barred Owl
Long-eared Owl
Short-eared Owl
Bank Swallow
Indigo Bunting
Yellow-headed Blackbird
Red-Crossbill

SPECIES ACCOUNT MAP
(Figure F)



Sonoma County map with no Atlas data. Small dots represent locations as labeled. North-South line represents Highway 101.

HOW TO USE THIS ATLAS
The Species Account

Each page in the SPECIES ACCOUNT section of this book represents a different bird which breeds in Sonoma County. The bird's common name as well as the two-part Latin scientific name are both listed. A Sonoma County map showing where the bird breeds is flanked by dates delineating the limits of the BREEDING SEASON of that bird according to earliest and latest Confirmation dates from this Atlas study and other sources. Next to the species map is a statement on the seasonal OCCURRENCE of the bird in this county. There is also a count of Blocks in which the bird was recorded. Finally, the page is completed with a text designed to interpret the information on the map as well as the history and status of the species in Sonoma County.

MAP

The Map represents Sonoma County divided into 195 Blocks that are five kilometers by five kilometers (three miles by three miles). (No data could be collected from 12 of the 195 Blocks because of the remoteness and inaccessibility of some areas of the county.) The presence of a breeding behavior by at least one bird in a Block is represented by the appropriate shading of that Block on the map. Solid black squares show Blocks with at least one Confirmed breeding record for the bird under discussion. Dark gray squares indicate Probable breeding records, and light gray shows Possible breeding records. (For an explanation of the Breeding Criteria Codes identifying Confirmed, Probable and Possible breeding records, please see BREEDING CRITERIA CODES Table 1.) Some geographical landmarks are printed directly on the gridded map. Place names for these landmarks are given in Figure 4.

PLASTIC OVERLAYS

Included with this volume are clear plastic overlays that are marked with grid coordinates as well as major geographical information. By centering the overlay carefully over the species account map and referring to the listed landmarks, orientation to breeding locations may be gained. (For more specific information about the grid coordinates see METHODS Page 7.)

BREEDING SEASON

BREEDING SEASON dates represent the earliest and latest Confirmed breeding records from this Atlas study and other sources. In cases where very few Confirmed records are present the dates will not accurately delineate extremes of the actual breeding season for that bird. It must also be remembered that an adult bird attending young (AY) early in the breeding season (April) must have been involved in nest building (NB) and some other Confirmed breeding behaviors several weeks earlier. Likewise, nest building in late June implies other Confirmed breeding behaviors weeks later. For simplicity and consistency we are citing the earliest and latest Confirmation dates, regardless of the timing in the breeding cycle.

SEASONAL OCCURRENCE

The SEASONAL OCCURRENCE is the presence of the bird in Sonoma County during the breeding and other seasons. Some species are clearly summer (breeding) residents, migrating south in the fall to winter elsewhere; some live here all year. Other birds may have more complicated migration patterns some of which may not be well known even among our more common birds.

TEXT

The main text of the species account is designed to acquaint the reader with the bird in Sonoma County, to interpret the distributional patterns shown on the map, and to comment on the significance of the bird here.

For more details about these birds the reader may wish to consult The Marin County Breeding Bird Atlas - A Distributional and Natural History of Coastal California Birds, an excellent reference work by W. David Shuford (Bushtit Books, PO Box 233, Bolinas CA 94924), and the Field Guide to the Birds of North America by the National Geographic Society.

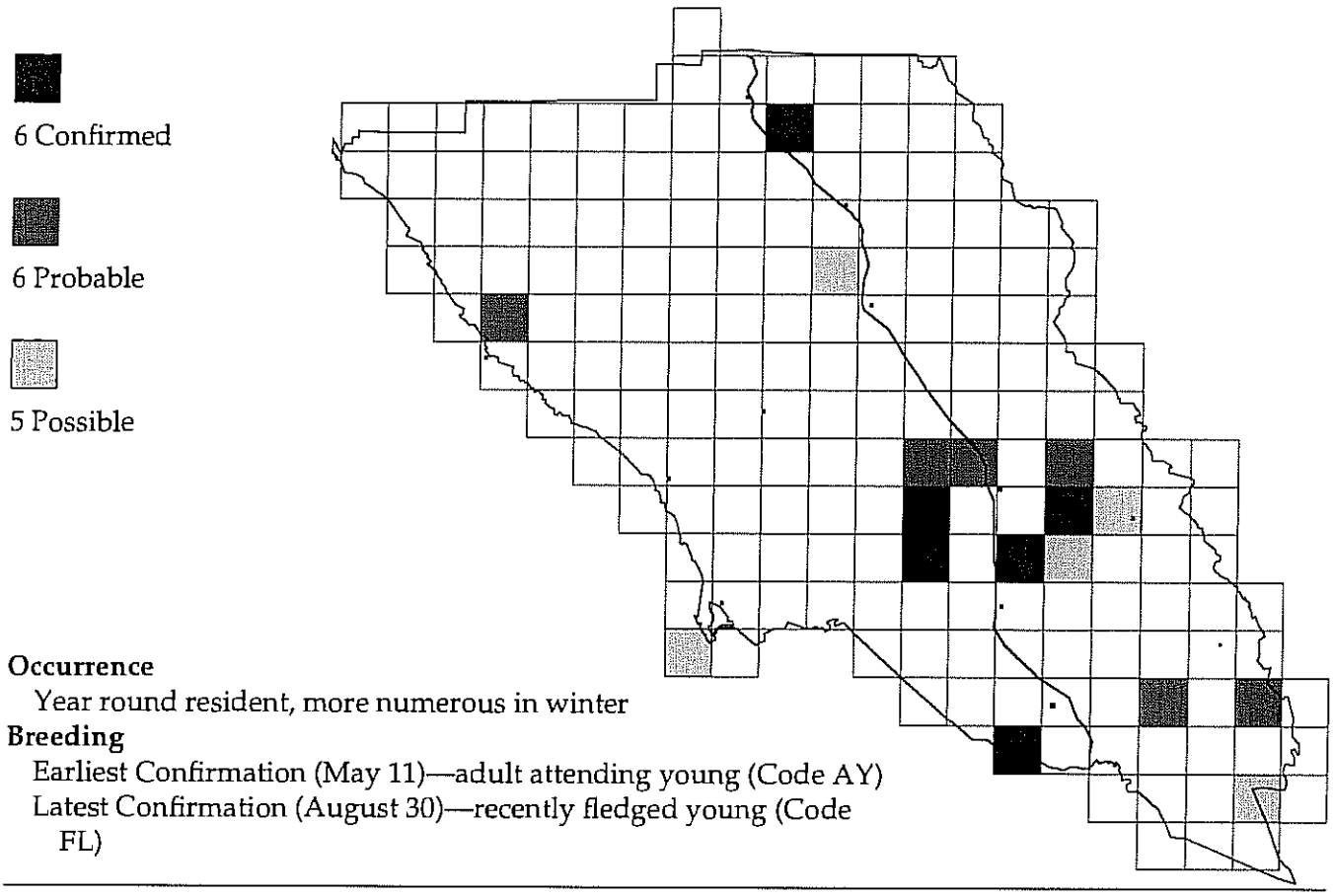
SPECIES ACCOUNT DIRECTORY

THE BREEDING BIRDS

BIRDS OF UNCLEAR, FORMER, POTENTIAL AND/OR IRREGULAR BREEDING STATUS

Pied-billed Grebe

Podilymbus podiceps



6 Confirmed

6 Probable

5 Possible

Occurrence

Year round resident, more numerous in winter

Breeding

Earliest Confirmation (May 11)—adult attending young (Code AY)

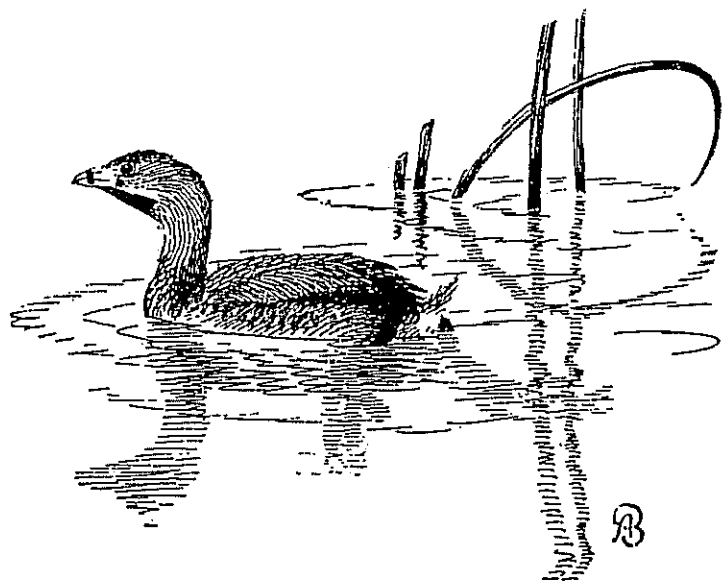
Latest Confirmation (August 30)—recently fledged young (Code FL)

The name "pied" refers to the bold pattern on the bill of this small stocky grebe during breeding season.

While commonly seen on the open water of bays, lakes and ponds in winter, it is more elusive during the nesting season when it is more likely to be found near some marshy habitat with fairly dense emergent vegetation where its nest can be hidden from immediate view. The nest is built with decaying reed and marsh plants in water and is usually anchored to underwater plants (Harrison 1979). In Sonoma County four young was the average brood (pers. obs.). The young grebes are almost comical in appearance, the stripes on the face, head, neck and entire body appearing bold in close-up but somehow providing cryptic camouflage at any distance. The babies sometimes ride on a parent's back and can remain there during dives at signs of danger (Shuford 1993).

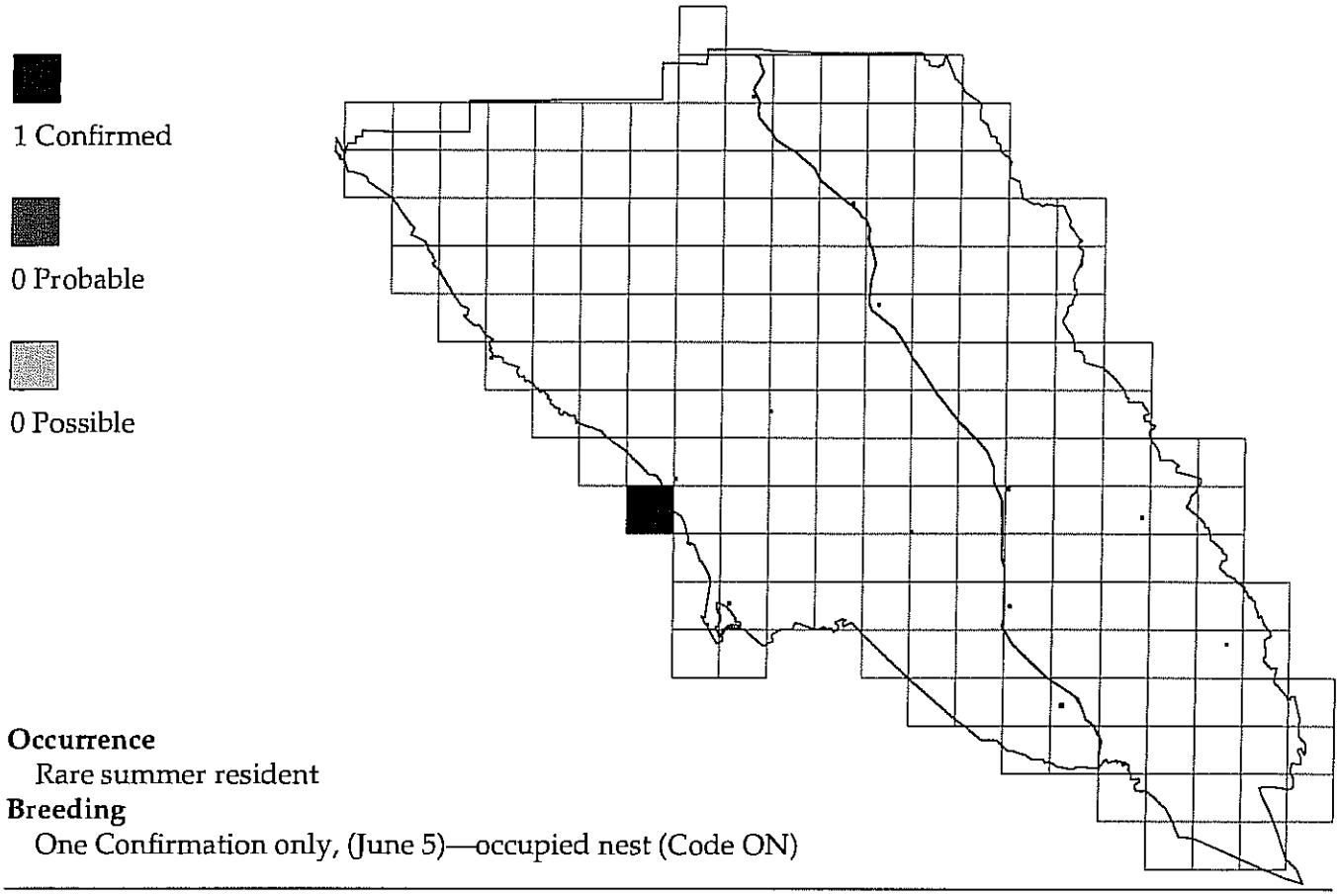
In Sonoma County, this grebe was found to be nesting in farmland and park ponds with marshy shorelines, such as Spring Lake. There were only six Atlas Confirmations, a seemingly low number which could be due to the secrecy of nesting parents, predators and/or the habitat requirements of the birds. Post-Atlas breeding records include adults with recently fledged young at the Hole-in-the-Head, Bodega Bay on May 31, 1994 (Dan Nelson, Nancy Conzett pers. comm.) and nest building beginning May 31, 1994 and completed with incubation by mid-June at a pond on Carmody Lane

(continued on page 183)



Leach's Storm-Petrel

Oceanodroma leucorhoa



Occurrence

Rare summer resident

Breeding

One Confirmation only, (June 5)—occupied nest (Code ON)

The Leach's Storm-Petrel is essentially never seen on or over the mainland for it is a pelagic bird of the open sea, and forages over the surface of the open ocean. Nesting colonies are established on small islands which normally provide turf for digging out nest burrows. Nest sites are less commonly found in rock crannies (Grinnell & Miller 1944).

It was on June 5, 1989 during a special survey of nesting seabirds along the Northern and Central California Coasts undertaken by the United States Fish and Wildlife Service (Carter et al. 1990) that the first breeding record for Sonoma County was established. A single nest was located on Gull Rock near the mouth of the Russian River.

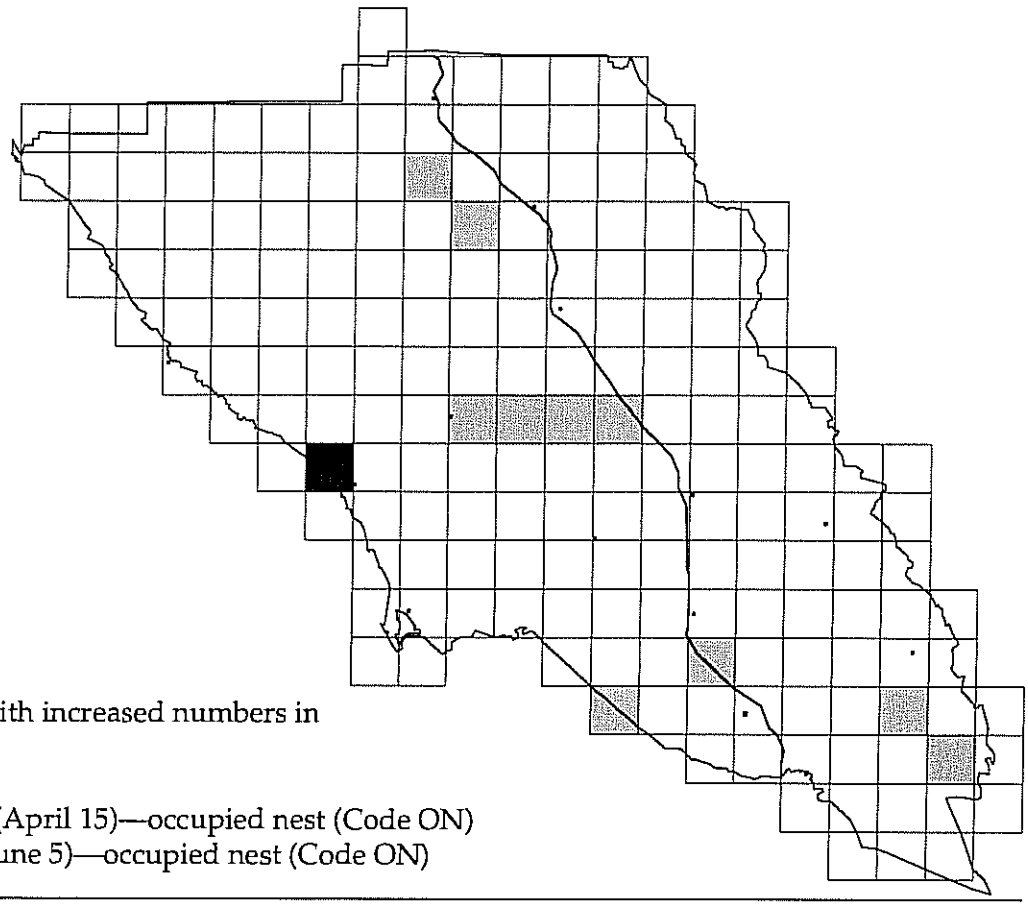
There is one other summer record (July 17, 1916) of this bird's presence in Sonoma County held by W. A. Squires (Bolander & Parmeter 1978) at a cliff "near the mouth of the Russian River" (Grinnell & Wythe 1927). This species is also known to have nested in the past on islets near Crescent City (Del Norte County), Trinidad (Humboldt County) and on the Farallon Islands off the San Francisco coast (Grinnell & Miller 1944).

The first recent summer sighting of this bird off the Sonoma County coast was on May 9, 1976 during a Redwood Region Ornithological Society pelagic bird trip. Only occasional sightings of this bird have been made since.

–B. Burridge

Double-crested Cormorant

Phalacrocorax auritus



1 Confirmed

0 Probable

10 Possible

Occurrence

Year round resident with increased numbers in winter

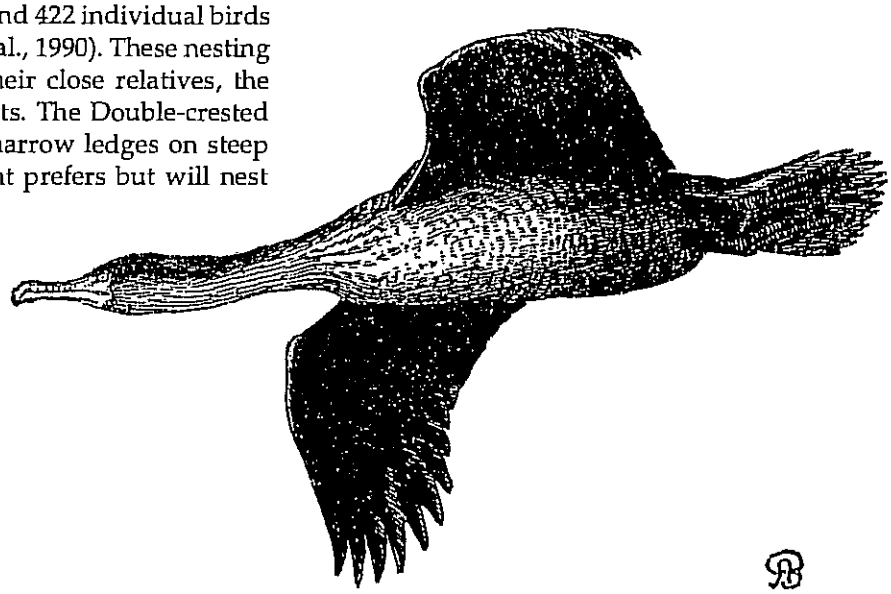
Breeding

Earliest Confirmation (April 15)—occupied nest (Code ON)

Latest Confirmation (June 5)—occupied nest (Code ON)

The Double-crested Cormorant is the largest and most land-lubbing of the western cormorants. Flocks of them can be seen at Spring Lake and Lake Ralphine; however, there is no evidence that they breed there. The only breeding site identified for the Atlas in Sonoma County was the offshore rocks near the mouth of the Russian River where 176 nests and 422 individual birds were counted in 1989 (Carter et al., 1990). These nesting birds share those rocks with their close relatives, the Brandt's and Pelagic Cormorants. The Double-crested Cormorant tends to avoid the narrow ledges on steep cliffs that the Pelagic Cormorant prefers but will nest with one steep side falling away, unlike the Brandt's Cormorant (Bent 1922). In other areas, the Double-crested Cormorant will nest in trees along lakes and rivers; it has nested in bay trees at Stafford Lake in Marin

(continued on page 183)



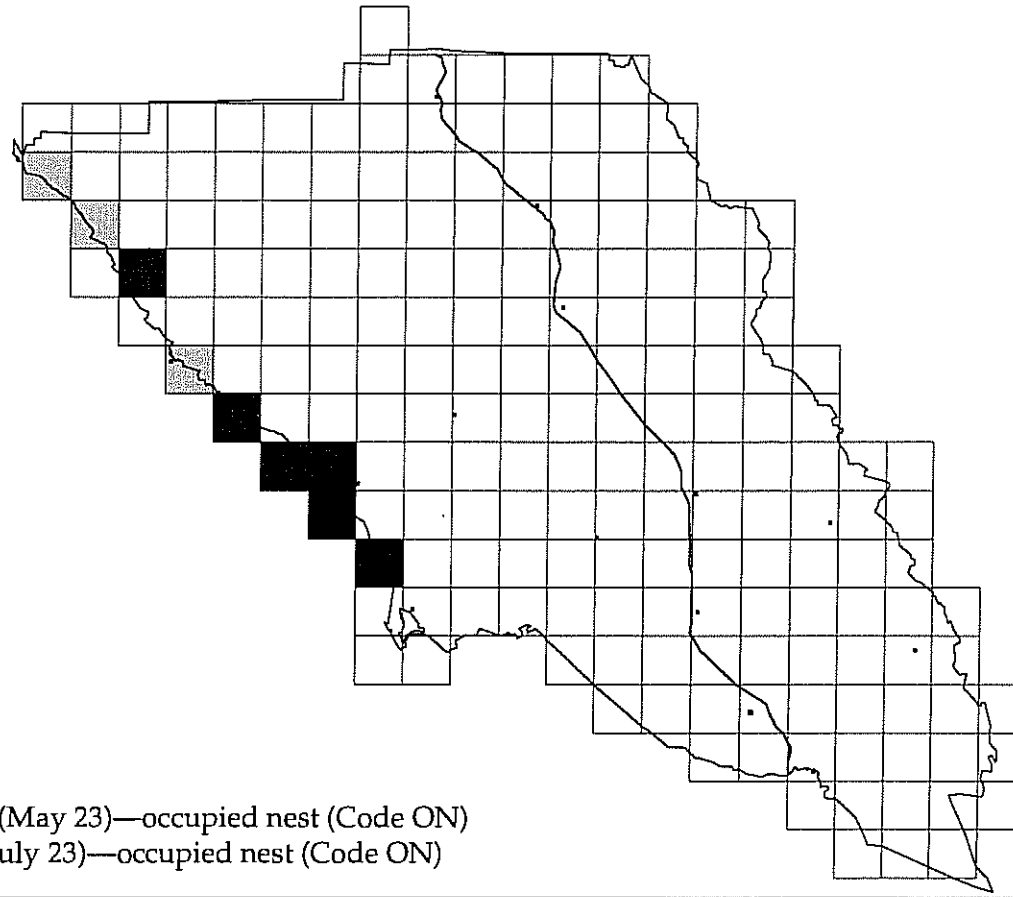
Brandt's Cormorant

Phalacrocorax penicillatus

6 Confirmed

0 Probable

3 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 23)—occupied nest (Code ON)

Latest Confirmation (July 23)—occupied nest (Code ON)

The Brandt's Cormorant is commonly seen perched on sea stacks jutting from the ocean, often holding its wings outspread to dry after a period of diving for its oceanic prey. One of two marine-inhabiting cormorants in Sonoma County, this large, black, long-necked bird lives in the inshore belt of water and islets along our entire seacoast. It is never expected inland (Grinnell & Miller 1944).

According to Atlas records it breeds on offshore rocks up and down the entire length of the Sonoma County coast.

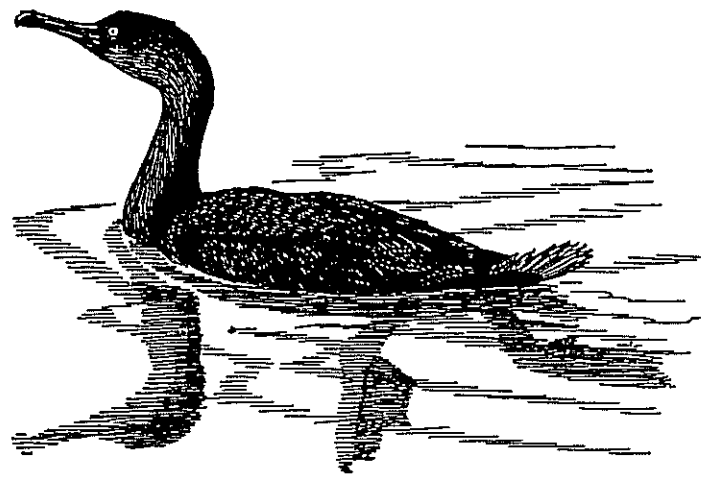
The nests are large masses of plant material gathered on land or obtained by diving. Nesting territory is established by the male, who brings nesting materials to the site. Competition for territory can be fierce and nests are often within pecking distance of each other.

Three to six eggs (commonly four) are laid and incubated by both adults. Feeding is by regurgitation.

Nests and contents often fall prey to Western Gulls and Common Ravens. Oil spills are another threat.

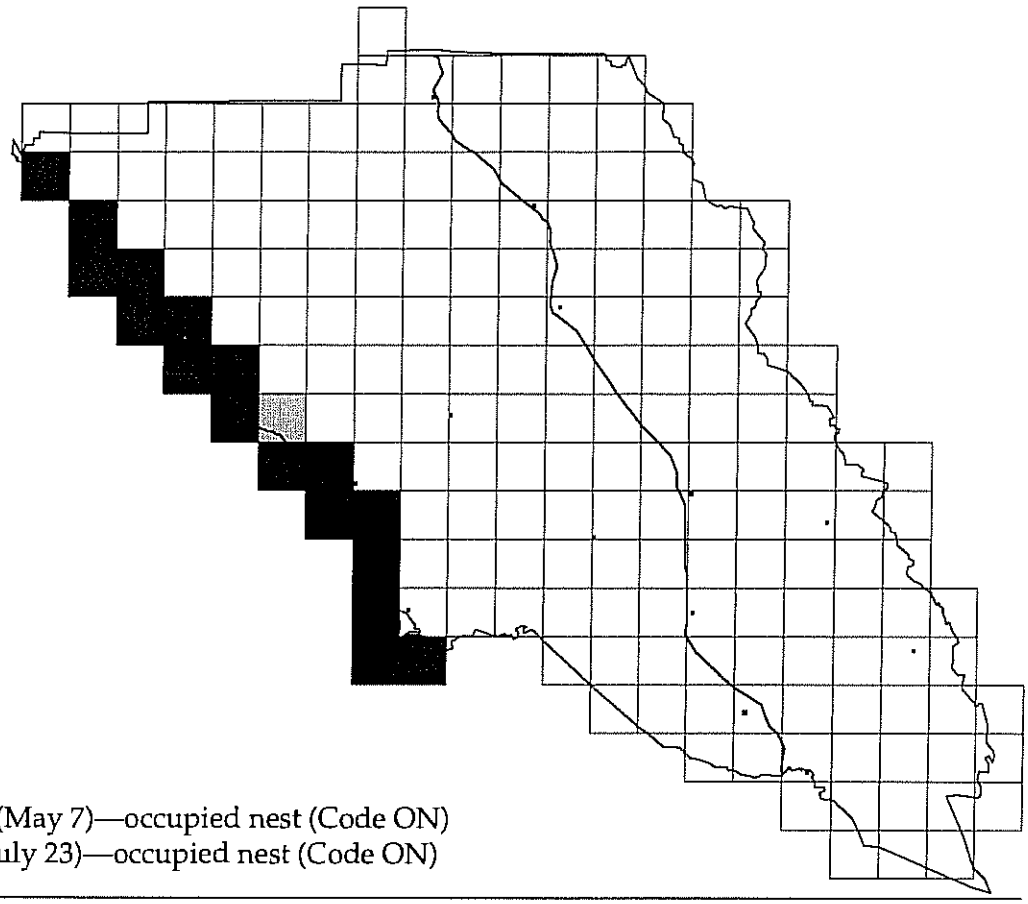
In 1989 and 1990 the Brandt's Cormorant population comprised approximately 34% of all breeding seabirds in Sonoma County (Carter et al., 1990).

–N. Conzett



Pelagic Cormorant

Phalacrocorax pelagicus



17 Confirmed

0 Probable

1 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (May 7)—occupied nest (Code ON)

Latest Confirmation (July 23)—occupied nest (Code ON)

By mid-February, one can stand on Bodega Head and watch Pelagic Cormorants flying past wearing flashy newly-acquired white flank patches. This breeding plumage stands out in sharp contrast to the remaining iridescent black plumage of this smallest and daintiest cormorant species of Sonoma County. Active nests on rocky, ocean-facing cliffs can be viewed May through July on Bodega Head from a trail which leads southeast from the parking lot overlooking the Pacific Ocean.

As the name implies, the Pelagic Cormorant is a marine diving bird which occasionally ventures inside the coastline and can be seen sometimes in Bodega Harbor.

In this Atlas, nesting sites were Confirmed in every coastal Block of Sonoma County.

Pelagic Cormorant nests are built against precipitous ocean-facing cliffs along our coastline. Because of the inaccessibility of the nest sites, there is little disturbance to breeding birds except from marauding Western Gulls and Common Ravens.

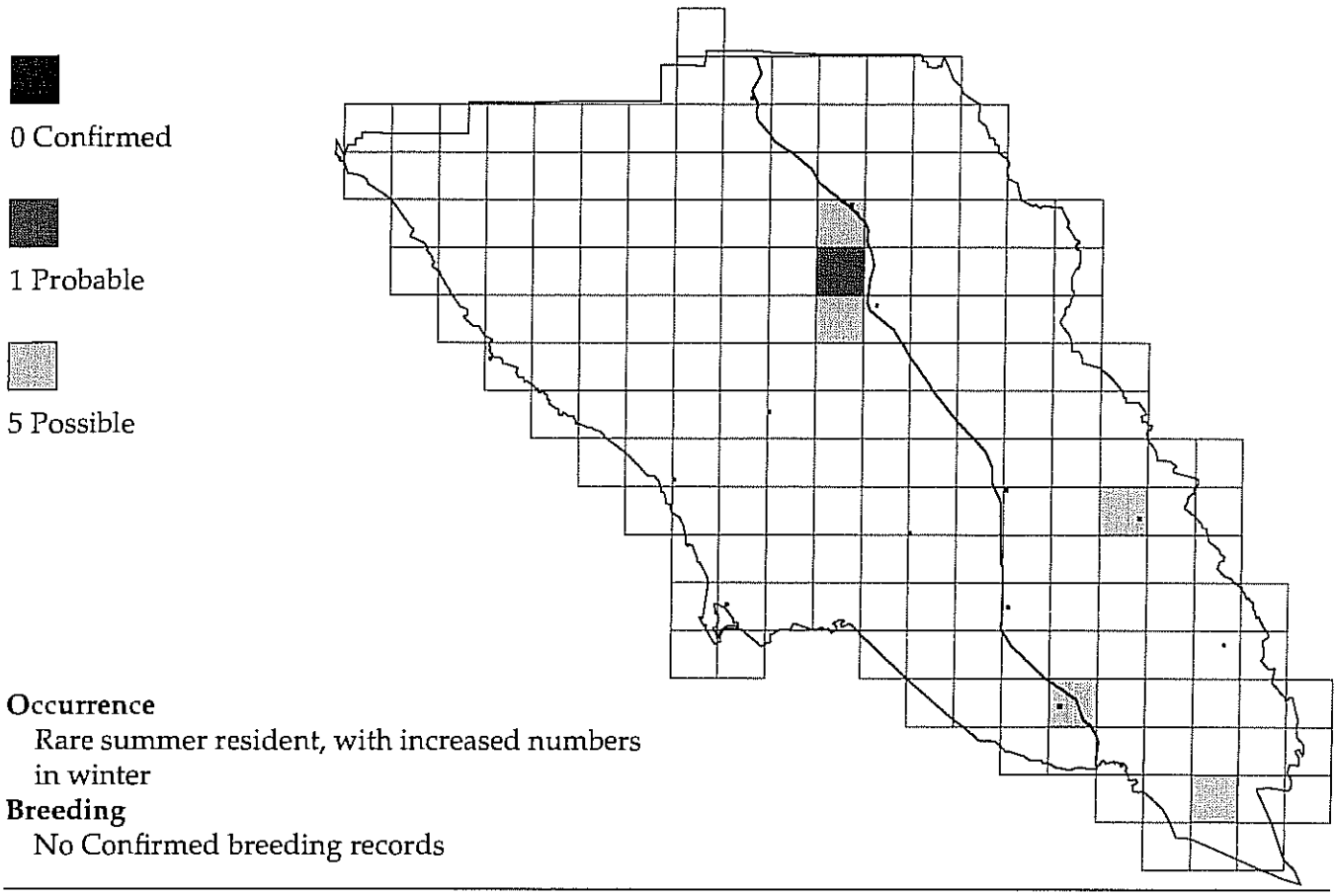
As with all diving birds, oil spills pose a significant threat to this species.

In 1989, 2,823 Pelagic Cormorants were censused along the Sonoma coastline. Thus, this population makes up 34.5% of all Sonoma County breeding seabirds from that survey (Carter et al., 1990).

–N. Conzett

American Bittern

Botaurus lentiginosus



Occurrence

Rare summer resident, with increased numbers in winter

Breeding

No Confirmed breeding records

Secretive ways and cryptic coloration make this shy bird far more difficult to locate than its close relatives, the herons. Even its other-worldly, double-bass booms add to the mystery of its presence. These calls, similar to those of grouse, can be part of a mating display or advertisements for a mate by a solitary, territorial male (Ehrlich et al. 1988).

There are no Confirmed breeding records in Sonoma County. However, Benjamin D. Parmeter has two personal records of single 'booming' birds in Sonoma County: February 4, 1962 at Timber Hill and February 22, 1966 at Duncan's Mills (pers. comm.). Furthermore reports of this bird 'booming' in the Laguna de Santa Rosa near High School Road, Sebastopol, in the early 1970s, before cattle were pastured there, also indicate the likelihood of breeding (Carla Miles pers. comm.).

This Atlas has a Probable breeding record in Dry Creek on the West Dry Creek Road property of Dr. and Mrs. Byron Olson. Single birds were seen and heard booming repeatedly in several successive breeding seasons in the late 1980s and early 1990s. Searches by Dr. Olson for the nests in the dense aquatic vegetation were unsuccessful (E. Olson fide M. McCulley). Five other Atlas records were for Possible breeding: single birds near Geyserville, Mill Creek (west of Healdsburg), Kenwood, Petaluma and the San Pablo Bay marshes.

Typical American Bittern habitat is fresh water marshlands and lake margins with tules and rushes. Nest sites are within sedge clumps and tule patches close to the surface of damp ground or water (Grinnell & Miller 1944).

–B. Burridge

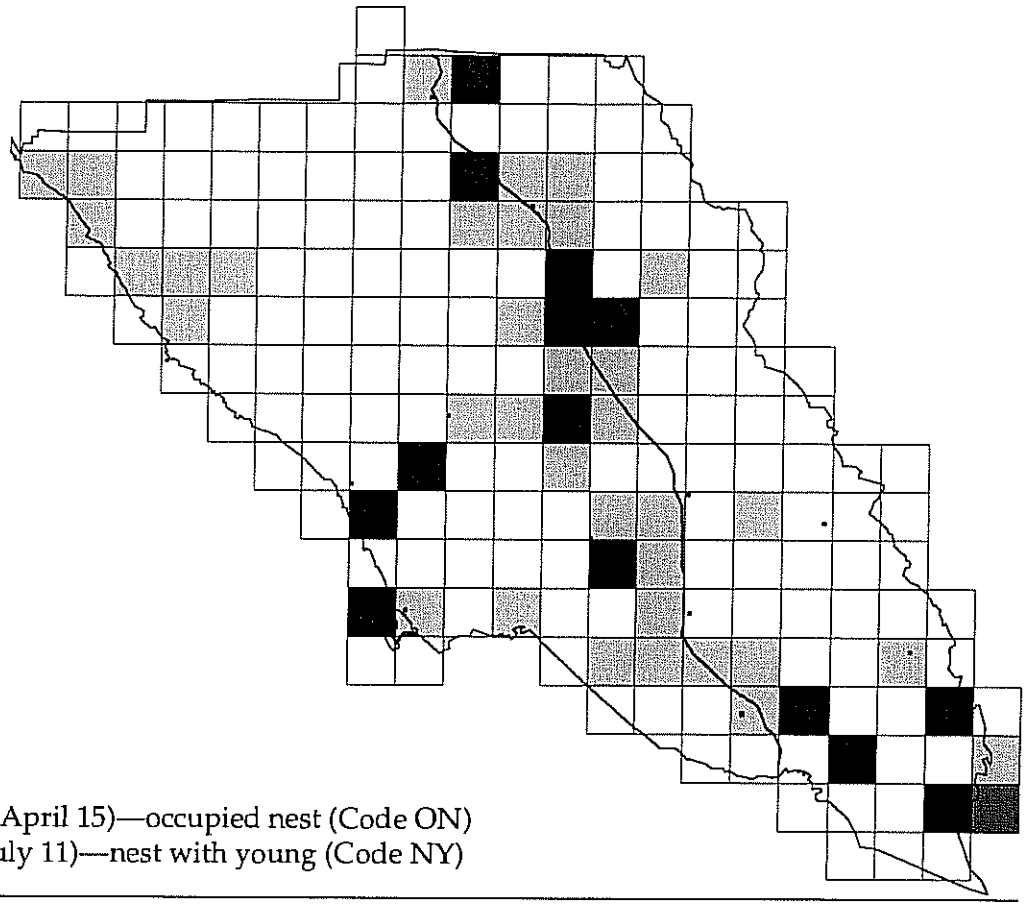
Great Blue Heron

Ardea herodias

14 Confirmed

1 Probable

35 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 15)—occupied nest (Code ON)

Latest Confirmation (July 11)—nest with young (Code NY)

The Great Blue Heron is a familiar and awesome bird. Equally at home in a grassy pasture or tidal marsh, this bird will slowly stalk its prey and then attack with its dagger-like bill. The Great Blue Heron is found over most parts of Sonoma County where there is water or meadow. It is frequently sighted in Sugarloaf Ridge State Park.

The 14 Confirmed nesting locations in Sonoma County were more than originally expected. This bird is quite sensitive to human disturbance but still has found many suitable sites here. There are large colonies, one, with 15 nests in 1990 that has been active every year on Fitch Mountain in Healdsburg (M. McCulley pers. comm.) and another at the Petaluma wastewater ponds on Lakeville Highway. A smaller colony was at Bodega Harbor above Spud Point. Several other heronries were scattered along the Russian River, in the southeastern corner of the county and northward along the Highway 101 corridor to the Mendocino County line.

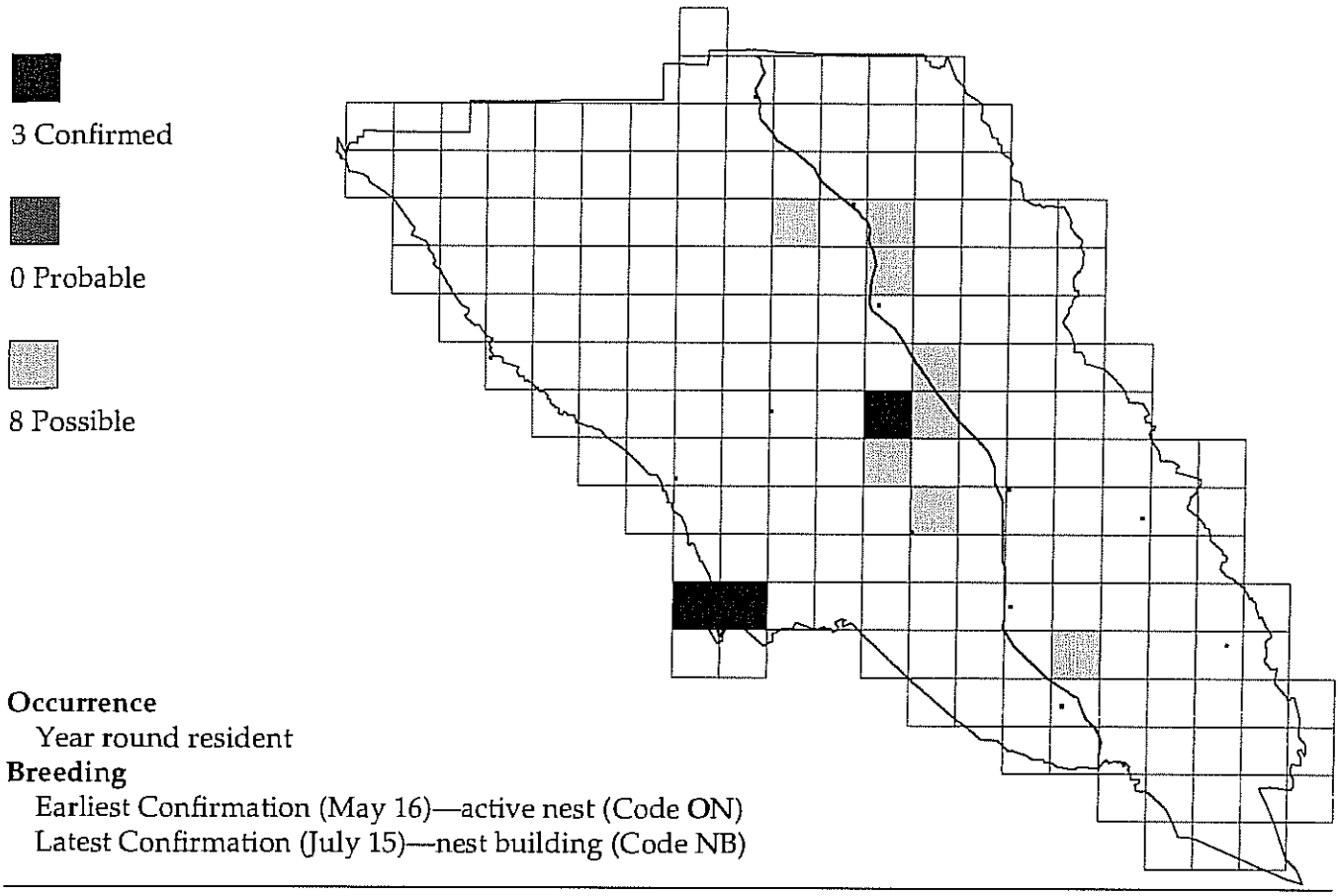
The Great Blue Heron was not reported as a summer resident in Sonoma County by either Grinnell and Wythe (1927) or Grinnell and Miller (1944). A colony with 33 nests in 1968 two miles west of Duncans Mills and south of the Russian River has been in use each year since (Marianne Caratti pers. comm.). Bolander and Parmeter (1978) cite known heronry sites in Franz Valley and the Laguna de Santa Rosa.

Quite sensitive in its nesting habits, this colonial nester builds a platform nest out of sticks and grasses which can become rather bulky (Harrison 1979). In Sonoma County the heronry is usually located in large redwoods or eucalyptus.

This large bird and its nestlings easily draw unwanted attention from unsympathetic humans and a variety of predators including raccoons and Golden Eagles, causing nesting colony abandonment. Pesticide contamination also poses threats to reproductive success (Shuford 1993 citing Werschkul et al. and Hancock & Kushlan). This is a species of concern whose colonies are being recorded in the California Department of Fish and Game - Natural Diversity Data Base (CDFG 1994).

–R. Rudesill

Great Egret
Casmerodius albus



Occurrence
Year round resident
Breeding
Earliest Confirmation (May 16)—active nest (Code ON)
Latest Confirmation (July 15)—nest building (Code NB)

This large, graceful pure white egret catches your immediate attention in flight over the Laguna de Santa Rosa or when poised in shallow water at Bodega Harbor, waiting to strike its unsuspecting prey.

Grinnell and Wythe (1927 citing J. Mailliard 1911) reported that previous to 1880 there were "one or two (American Egrets, as they were then called) to every marsh" around San Francisco and San Pablo Bays. Grinnell and Miller (1944 citing J. Mailliard 1911 and Tyler 1916) spoke of a reduction to rarity of the egret population in the 1880s and 1890s as a result of the feather trade. By 1944 the Great Egret was once again considered common on the remaining suitable portions of its former range.

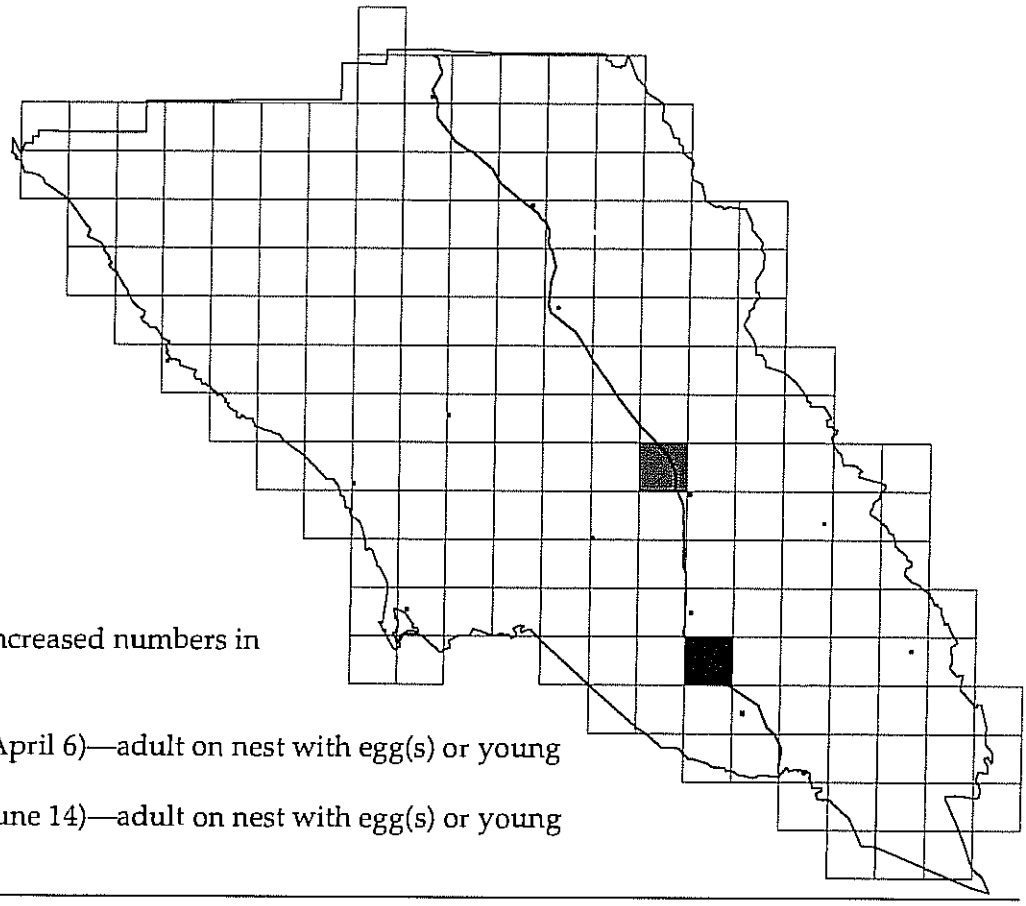
There had never been a Confirmed breeding record for this species within Sonoma County until atlasers found a small colony on May 16, 1987, in a tall free-standing eucalyptus tree in a vineyard between the county airport and the Russian River. Two other colonies at Bodega Bay were also near sources of water. The trees in one of these nesting sites were removed after the breeding season in 1992 to clear a building site. A scattering of Possible breeding records in the Santa Rosa Plain may indicate use of that area by summering birds, some perhaps the same as those already actively involved in Confirmed breeding activities. In Sonoma County all reported nests have been in colonies in tall trees, although there have been reports of solitary Great Egret nesting and in willows and bulrushes low to the ground (Shuford 1993).

The Great Egret nest is a large, bulky platform of sticks or tule stalks and may be flat or hollowed, with or without a lining of twigs, vines or weed stems.

John Kelly, Director of the Audubon Canyon Ranch Heron and Egret Project, was generous in sharing his data for this report.

–B. Burridge

Snowy Egret
Egretta thula



1 Confirmed

1 Probable

0 Possible

Occurrence
Year round resident, increased numbers in winter

Breeding
Earliest nesting date (April 6)—adult on nest with egg(s) or young (Code ON)
Latest Confirmation (June 14)—adult on nest with egg(s) or young (code ON)

The Snowy Egret, a dainty and elegant pure white egret with 'golden slippers' in the adult, had never before been confirmed as a bird that breeds in Sonoma County until 1991. It was Judy Temko, a volunteer for the Audubon Canyon Ranch (ACR) Heron and Egret Project (HEP), who finally found seven active nests in an established Black-crowned Night-Heron colony in live oak and Monterey pine in a residential neighborhood of Penngrove (pers. comm.).

The next year Mary Ellen King, also an ACR HEP volunteer, observed Snowy Egret courtship behavior in an established Black-crowned Night-Heron colony in eucalyptus trees in a residential area of western Santa Rosa. No actual nest was found at that time; however, four recently fledged juvenile birds did appear later in the season, presumably from a well hidden nest there. In 1993 there were at least five active Snowy Egret nests in this same colony and, in addition, two Great Egrets were also present at least through May (Mary Ellen King pers. comm.). By April 1994 at least one additional Snowy Egret nesting site had been established in western Santa Rosa on Santa Rosa Creek, near Madison St. in Block 520-250 (Chris Wood pers. comm).

Originally locally common in California, the Snowy Egret was nearly wiped out by plume hunters beginning in the 1880s, and by the early 1900s it was thought to be extirpated in California. By 1908, however, it was again being recorded in this State, and by 1943 was fairly common (Grinnell & Miller 1944). Handwritten notes by Gordon Bolander in his personal copy of Grinnell and Wythe (1927) record his sighting of two birds at Point Reyes Station about 1924 - 25, indicating the considerable significance of such a record in that era.

The Snowy Egret usually nests colonially, frequently with other egrets and herons. The typically elliptical, somewhat loosely woven nest has a foundation of sticks and a rather flat body of twigs with a shallow cavity (Shuford 1993). Unfortunately, the breeding Snowy Egret, along with the other herons and egrets with which it nests, creates considerable noise and excrement which can be annoying to human neighbors.

Because the Snowy Egret has been present in the county in small numbers for many summers, its breeding has always been suspected. These are, however, the first Confirmed records.

–B. Burridge

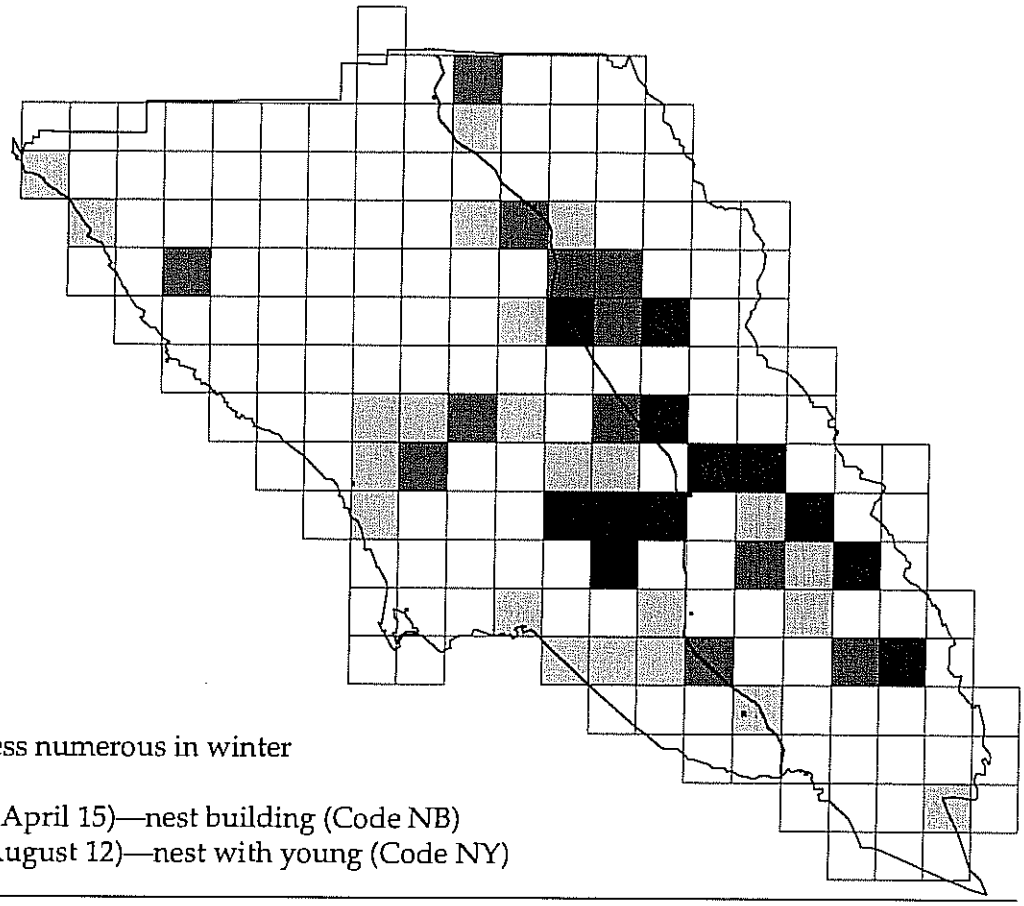
Green Heron

Butorides virescens

12 Confirmed

12 Probable

23 Possible



Occurrence

Year round resident, less numerous in winter

Breeding

Earliest Confirmation (April 15)—nest building (Code NB)

Latest Confirmation (August 12)—nest with young (Code NY)

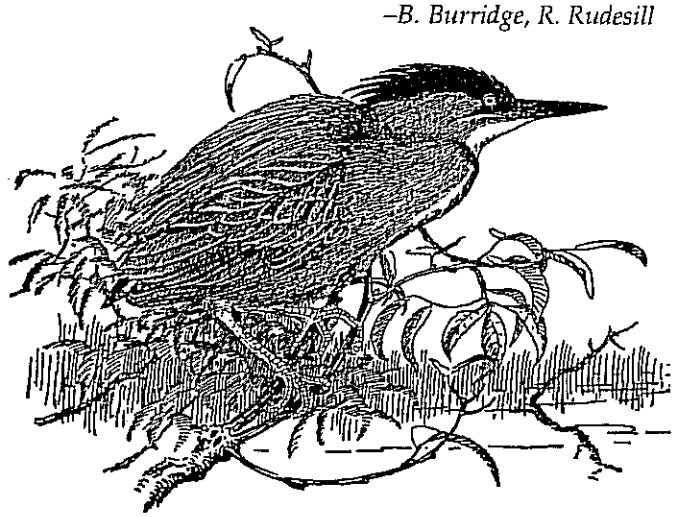
The Green Heron is a small, chunky, long-legged bird whose ordinary dark plumage can be transformed into magnificent colors under ideal lighting conditions. This heron frequents marshy, lake shore and river edges and often is found perching on branches rather than standing on the ground.

Grinnell and Wythe (1927) judged this bird to be fairly common in summer locally, and listed Sonoma County nesting sites that include Sonoma Creek between Glen Ellen and Schellville, the Russian River and Glen Ellen, where eggs were present in a nest on May 23 and June 13.

The Green Heron, usually a solitary nester, is not too particular about its nesting site which none-the-less is usually well hidden. However, at least two pairs raised families recently in Sonoma County amidst the hustle and bustle of 'the big city'. Four young were fledged from a nest 40 feet up in an ash tree on Carvel Street in Santa Rosa on April 30, 1992. The tree was still bare of leaves and the loosely woven open stick nest was clearly visible from the sidewalk below (Susan Connick-Hirtz pers. comm.). Even more surprising was the brood, in 1990, fledged from a nest high in the canopy of a 20 foot ornamental tree in downtown Santa Rosa on Seventh Street near the corner of A Street (Ellen Falconer-Krebs pers. comm.).

The Green Heron is found in many parts of Sonoma County, usually near water, for example the Russian River, Santa Rosa Creek, Spring Lake and Sonoma Creek. It seems to have adapted rather well locally to some human presence, but loss and degradation of marsh and riparian habitats must have greatly reduced the State's historic populations of this heron (Shuford 1993).

–B. Burridge, R. Rudesill



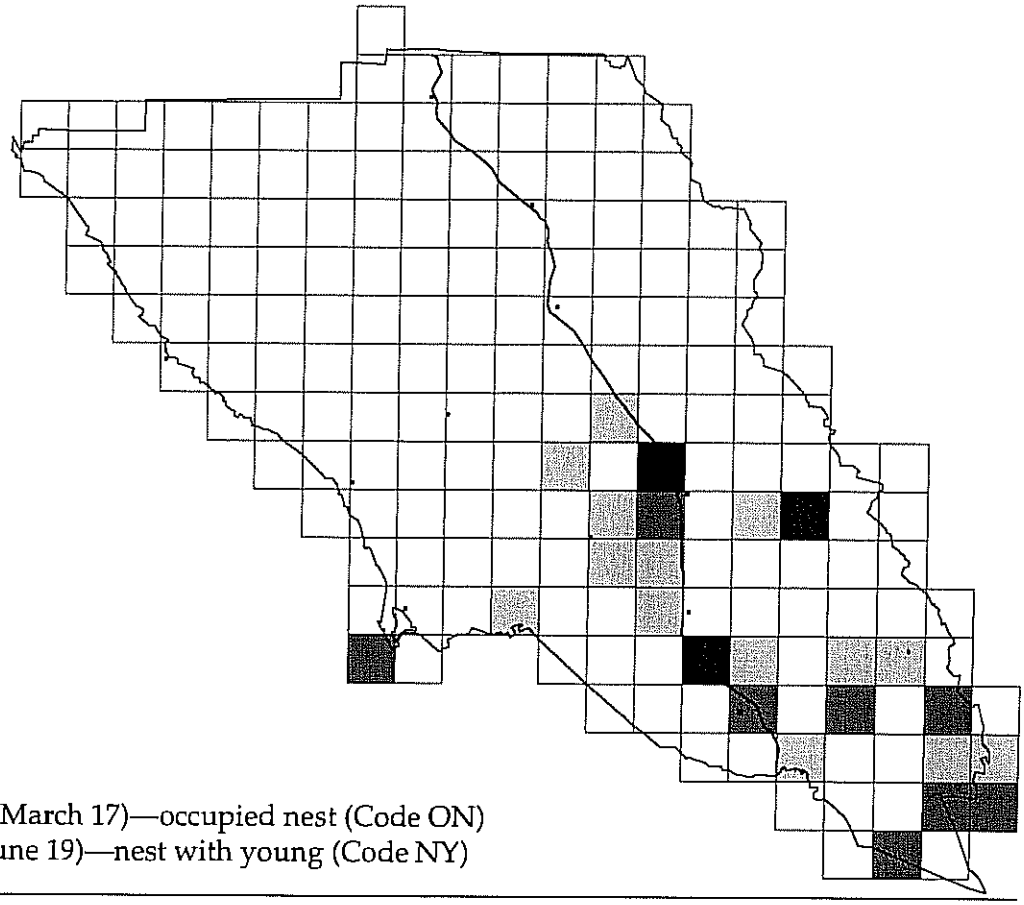
Black-crowned Night-Heron

Nycticorax nycticorax

3 Confirmed

8 Probable

14 Possible



Occurrence

Year round resident

Breeding

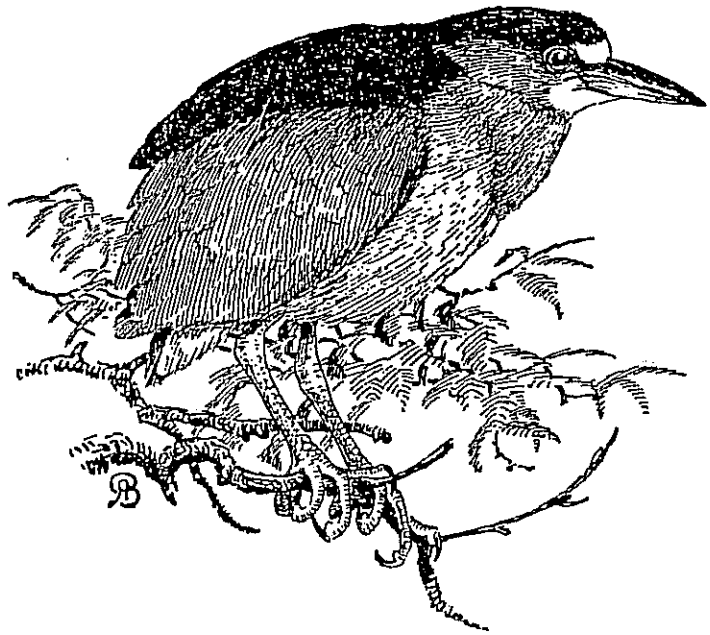
Earliest Confirmation (March 17)—occupied nest (Code ON)

Latest Confirmation (June 19)—nest with young (Code NY)

The Black-crowned Night-Heron is a stocky, usually hunched-looking heron that may be seen lurking in tree roosts during daylight hours. This bird is colonial in nesting and usually builds its stick nest in bushes or trees with heavy vegetation (Shuford 1993). Unfortunately, colonial nesting has led this bird to be considered a nuisance if human neighborhoods are chosen for nests and roosts. A group of these birds can be very noisy at dusk when flying out to feed in local streams and wetlands. What is considered by many home owners to be an objectionable mess can accumulate under the tree(s) (pers. obs.).

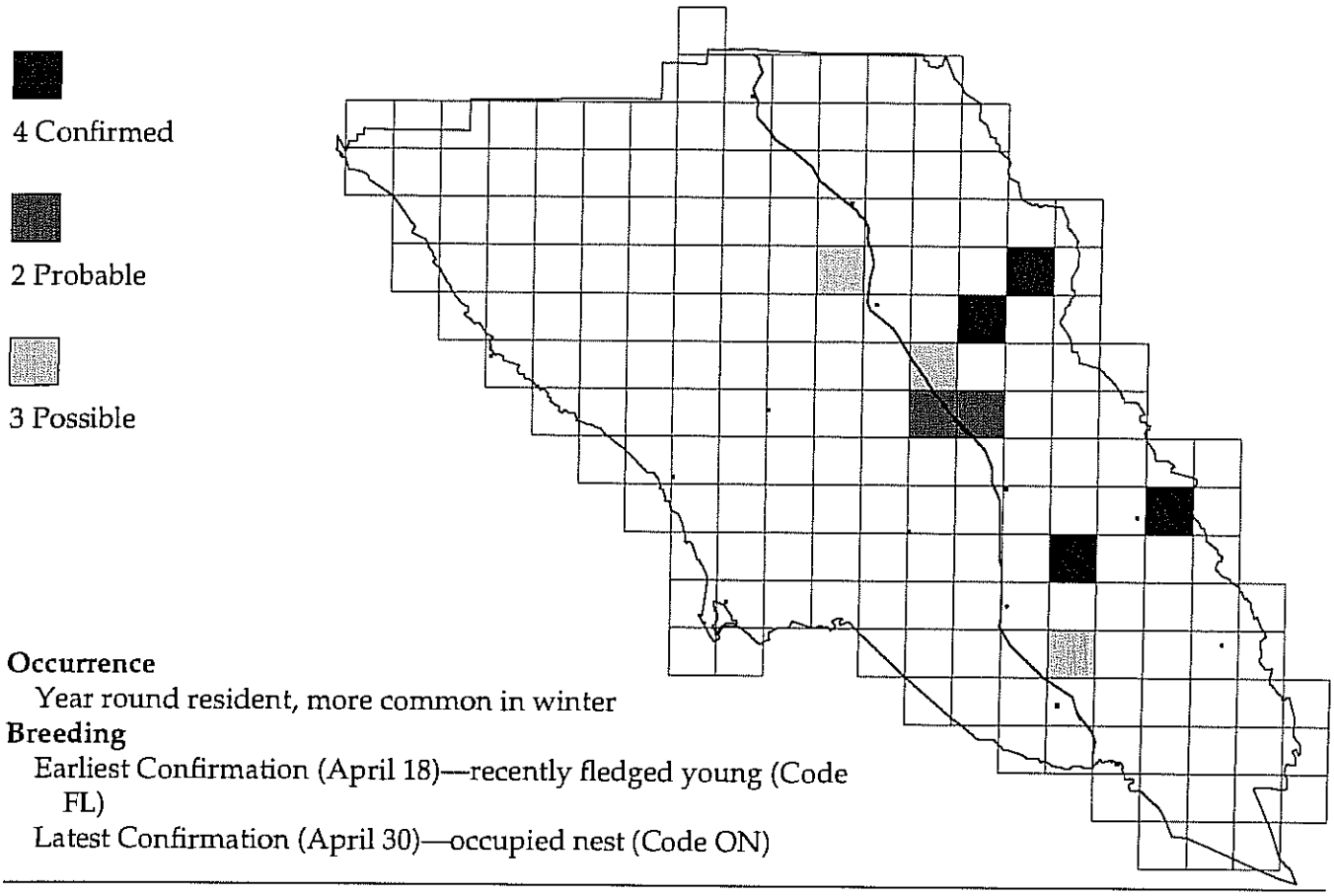
Prior to the Atlas survey, the only known breeding site in Sonoma County was a group of oak trees in Penngrove (B. D. Parmeter pers. comm.) which were severely trimmed and/or cut down in the early 1980s to discourage these herons from nesting. In the years that followed, several new neighborhood nesting locations (Peterson Lane in west Santa Rosa and Petaluma) were identified, mostly through atlasing efforts. In 1994 a new rookery was established on Hewitt Street in west Santa Rosa; these birds returned to the same trees on February 15, 1995, presumably for another successful nesting season (A. Siedentopf pers. comm.).

Sonoma County also has some nest sites that are away from houses, i.e. on the island at Spring Lake, at the "Hole-in-the-Head" pond at Bodega Head (identified after the atlasing period), and in downtown Sebastopol. (continued on page 183)



Canada Goose

Branta canadensis



Occurrence

Year round resident, more common in winter

Breeding

Earliest Confirmation (April 18)—recently fledged young (Code FL)

Latest Confirmation (April 30)—occupied nest (Code ON)

Most people are familiar with the white chin-strapped Canada Goose. Flocks of these handsome birds, often called 'honkers', are usually heard or seen flying overhead in V formations. Once considered an uncommon winter visitor (Bolander & Parmeter 1978), this bird became a year round resident and breeder in the 1980s. It must be pointed out, however, that even though these resident birds are free flying and can independently choose nesting locations, all breeding sites in this study are on farm ponds or reservoirs in the eastern part of the county. Known locations for nest sites are in Kenwood, Fountaingrove, Bennett Valley and a pond on lower Ida Clayton Road.

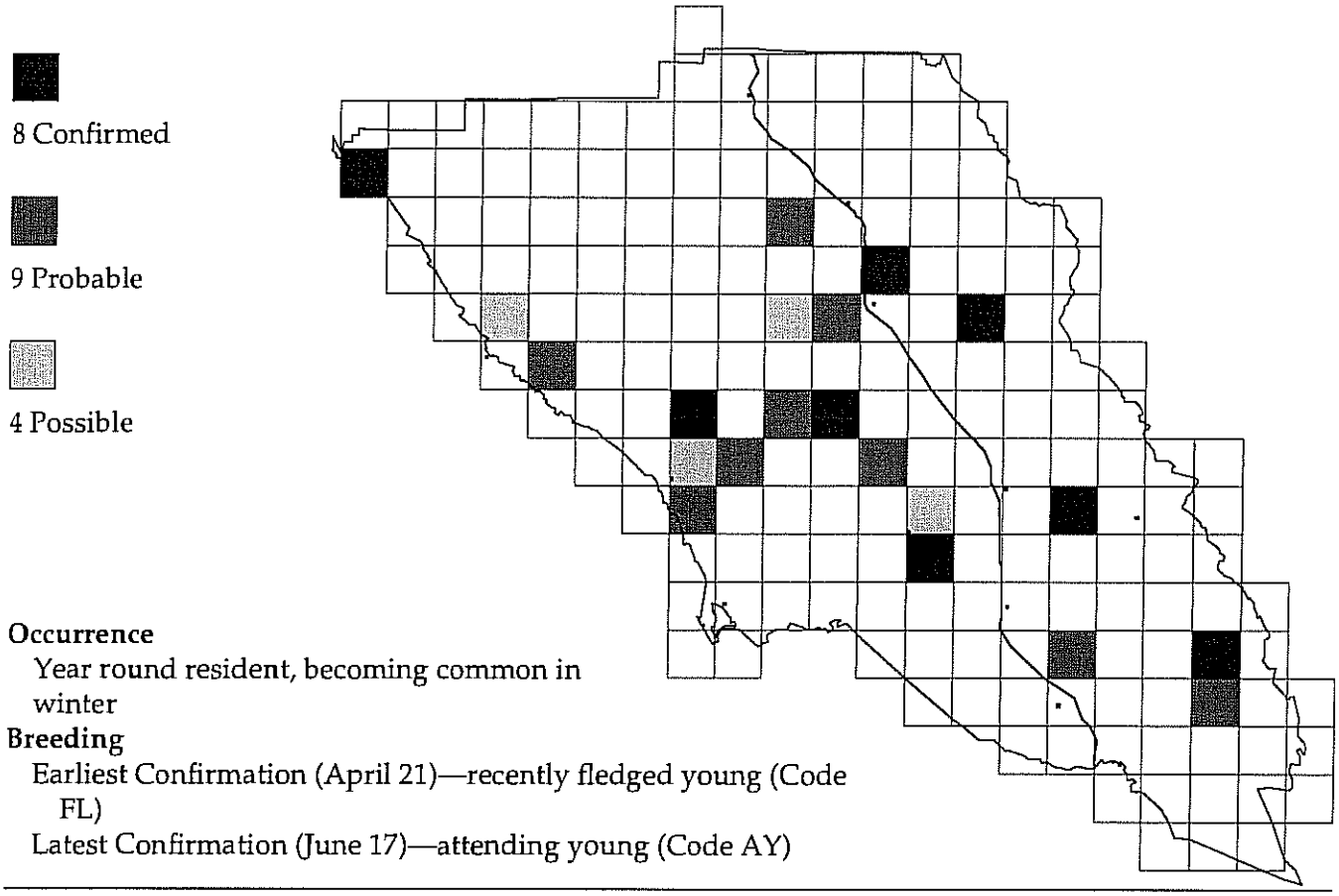
In Kenwood, a platform in the middle of a winery pond is used for nesting. These geese were originally lured here in the 1980s by having food left out for them. Although the birds are wild and free this flock remains true to this site and now numbers several dozen birds (pers. obs.).

The Canada Goose is known for its adaptability and diversity of nest sites, especially our local moffitti race (*C. c. moffitti*). Canada Goose numbers are increasing in the Bay Area (Shuford 1993).

–R. Rudesill

Wood Duck

Aix sponsa



8 Confirmed

9 Probable

4 Possible

Occurrence

Year round resident, becoming common in winter

Breeding

Earliest Confirmation (April 21)—recently fledged young (Code FL)

Latest Confirmation (June 17)—attending young (Code AY)

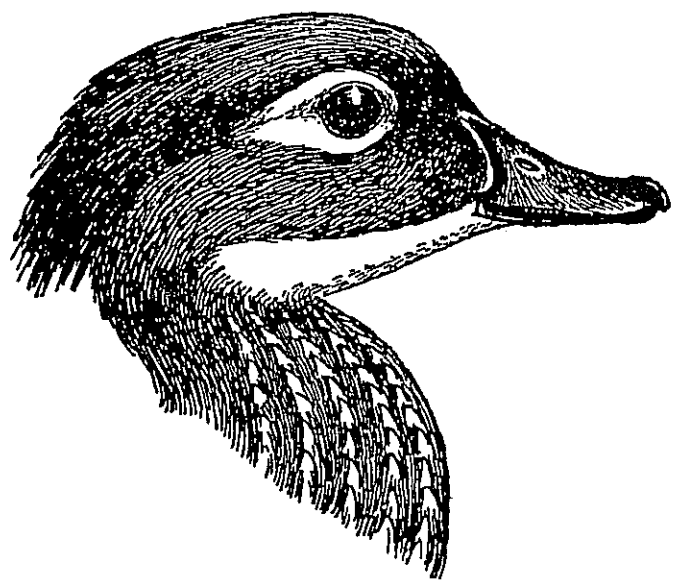
One of the most beautifully patterned of all North American waterfowl, the male Wood Duck is a joy to encounter while exploring Sonoma County's secluded waterways. Nests are most frequently found near quiet fresh-water ponds and streams which have trees close by.

Breeding records, although few in number, have been obtained throughout the county. In recent years, however, the Wood Duck has received some competition for nesting sites (above-ground tree cavities) in southeast Sonoma County from its near relative, the Mandarin Duck (*Aix galericulata*). The non-native Mandarin Duck is widely kept in captivity and there is a growing (soon to be established?) population in and around the city of Sonoma, especially along Sonoma Creek and its tributaries (pers. obs.).

Originally abundant throughout the lowlands west of the Sierra Nevada, the Wood Duck experienced a dramatic population decline in the early part of this century (Grinnell and Miller, 1944). Recent nest box programs should assist in maintaining a stable population, provided that adequate riparian habitat is protected from development.

The Wood Duck usually nests in natural cavities of trees, abandoned Northern Flicker or Pileated Woodpecker holes or man-made nesting boxes. The day after the young hatch, the female coaxes them to spring out of the cavity and flutter to the ground, whence they are led to water (Shuford 1993).

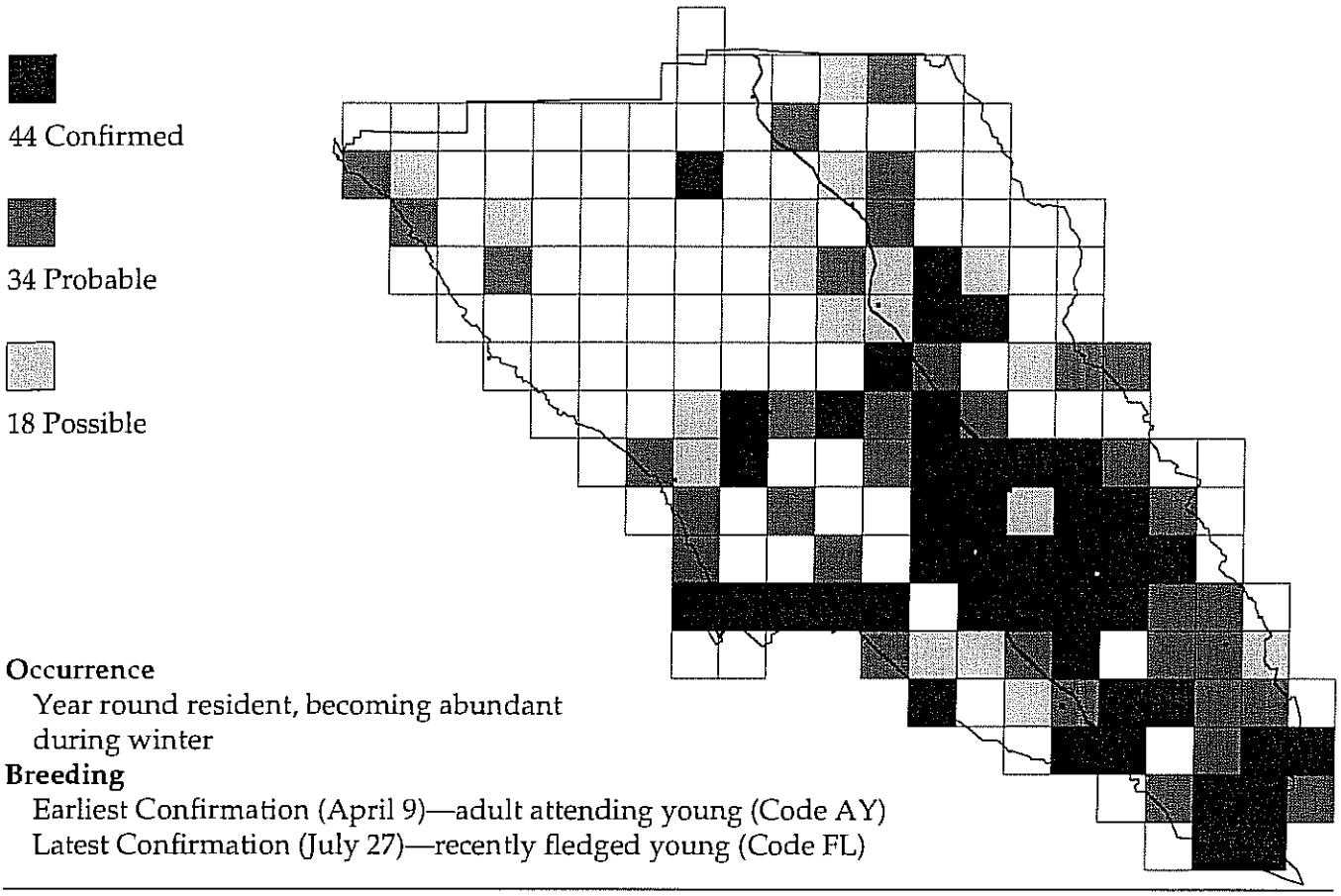
–D. Ashford



♀

Mallard

Anas platyrhynchos



Occurrence

Year round resident, becoming abundant during winter

Breeding

Earliest Confirmation (April 9)—adult attending young (Code AY)
Latest Confirmation (July 27)—recently fledged young (Code FL)

The spiffily attired male Mallard is probably the most familiar of all ducks, being well-known to birders and non-birders alike. For many, it is the quintessential duck, representative of ducks everywhere. And the female Mallard's loud, resonant "quaack! quaack! quaack!", is assumed by most of the world to be the standard duck call. Since the Mallard is very adaptable, it has become quite widely established throughout Sonoma County, except in the northeastern corner where inaccessible terrain limited atlasing efforts as well as, presumably, Mallard breeding.

This abundant "dabbler" can be found in a wide assortment of fresh and brackish waters including ponds, reservoirs, slow-moving creeks and rivers, and marshy and other wet areas. In addition, Mallards can often be seen grazing on land, especially in autumn and winter. Nests are found on wet ground as well as dry. In order to ensure adequate concealment, the nest site may be located some distance from water.

Since the Mallard is so adaptable, many have become tame, having established themselves on municipal lakes and farm ponds. One must take care when censusing these populations in order to ensure only wild birds are counted.

–D. Ashford

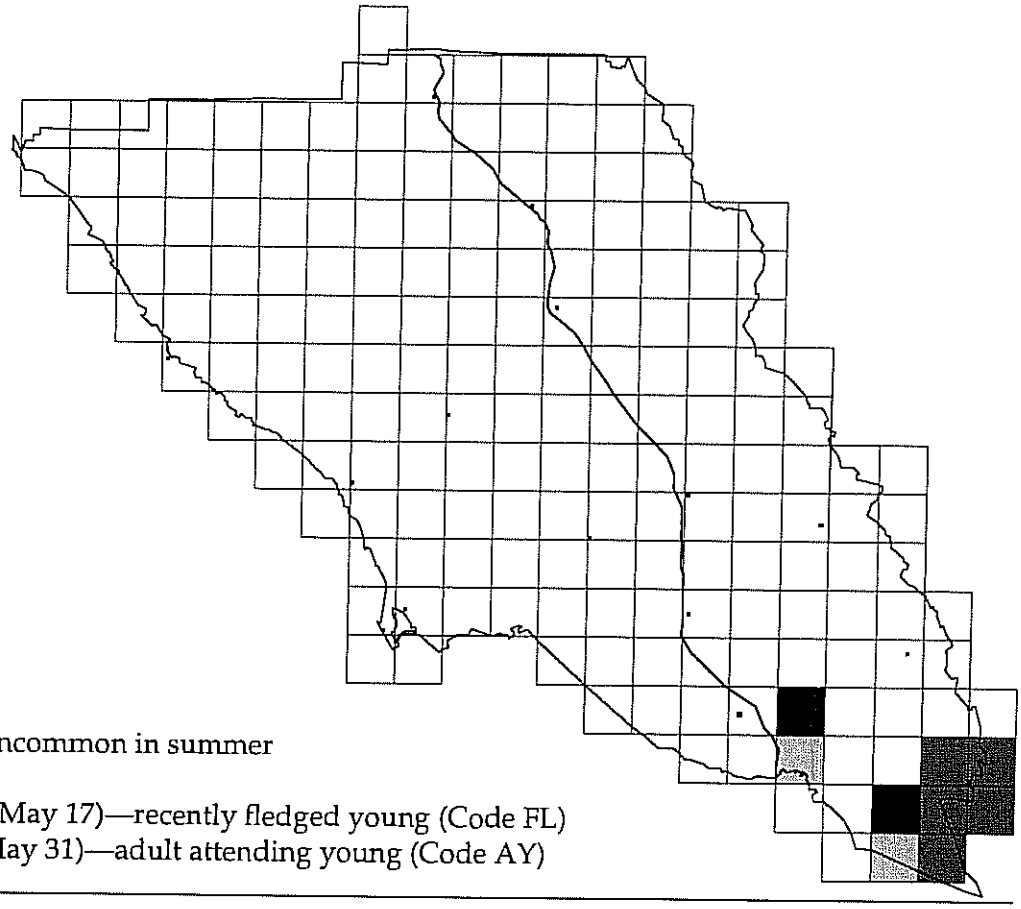
Northern Pintail

Anas acuta

2 Confirmed

5 Probable

2 Possible



Occurrence

Year round resident, uncommon in summer

Breeding

Earliest Confirmation (May 17)—recently fledged young (Code FL)

Latest Confirmation (May 31)—adult attending young (Code AY)

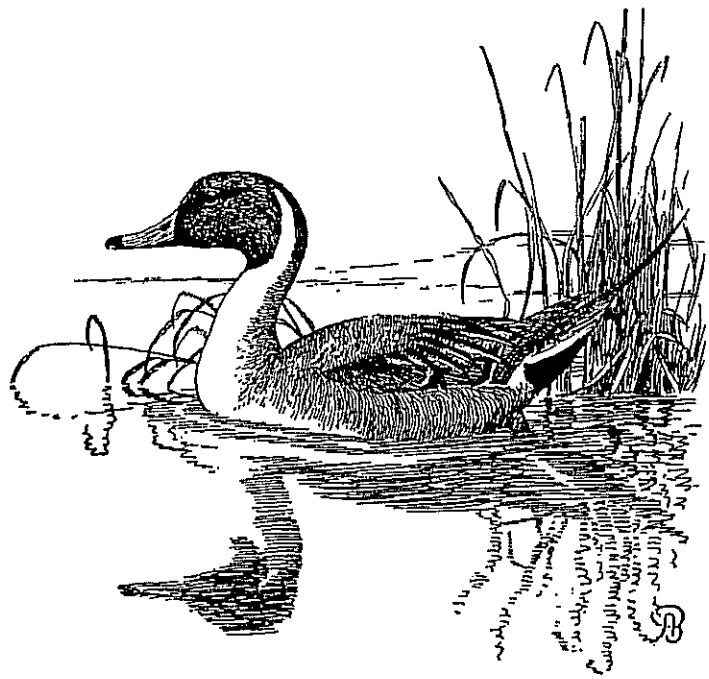
"Elegant" and "smooth" are the words which come to mind when one sees this handsome dabbling duck. The Northern Pintail is quite distinctive with a relatively long, slim neck, rounded crown, slender bill and pointed tail, traits which are shared by both sexes.

The first record of breeding in Sonoma County was on May 9, 1981 when a female with five young were seen at or near the Petaluma wastewater ponds on Lakeville Highway (Ellis 1981).

All Atlas breeding records are confined to the southeast corner of the county and are close to San Pablo Bay. This supports the findings of the Marin County Atlas, which had most breeding sites in wetlands in or near extensive brackish marshes adjacent to San Francisco and San Pablo Bay shorelines (Shuford 1993).

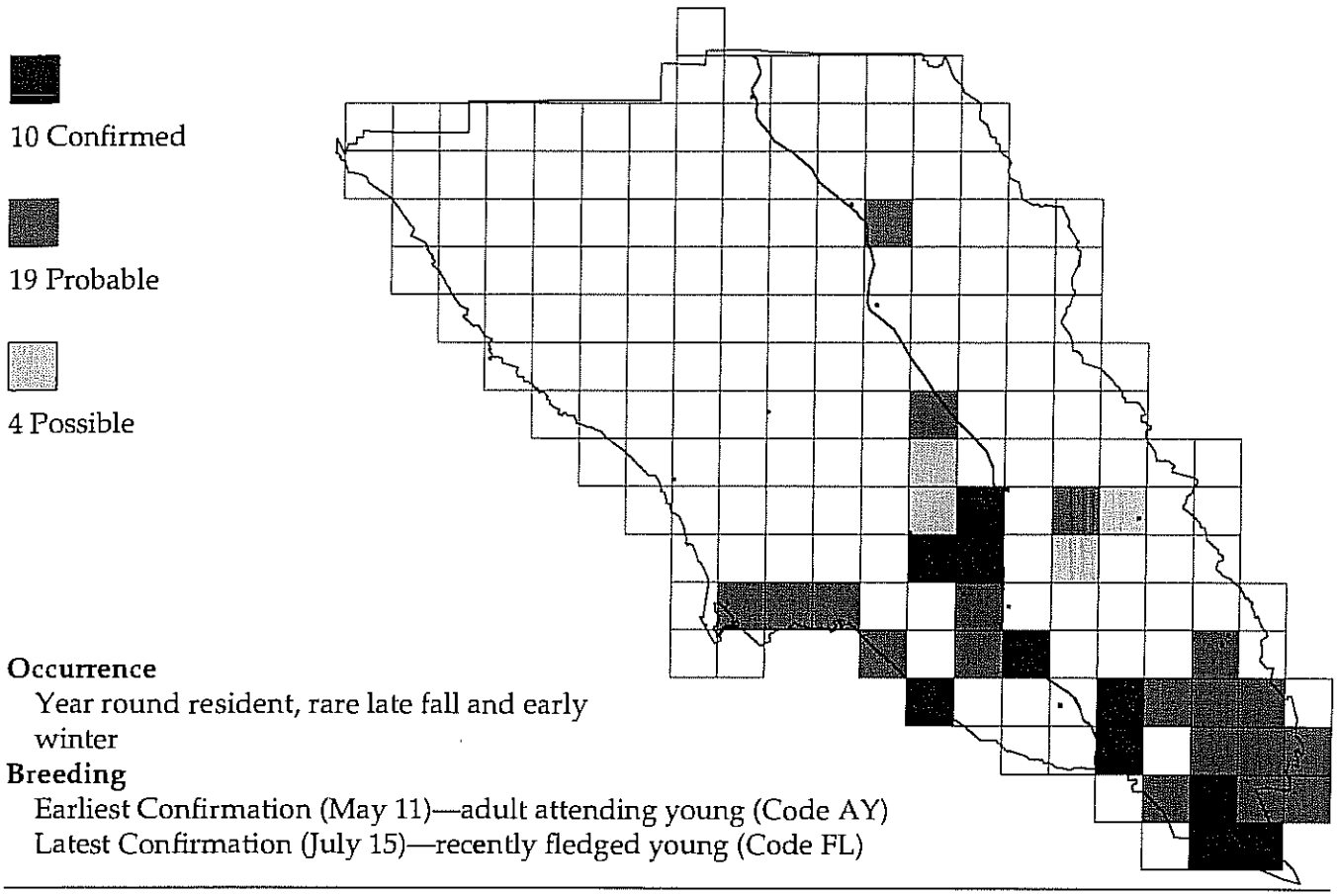
The recent closure of Skaggs Island Naval Base offers the opportunity for providing good, protected habitat for the Northern Pintail as well as other wetland species. This base is located in the extreme southeastern corner of Sonoma County, and is currently protected by levees against the surrounding wetlands from which it was reclaimed. Skaggs Island is adjacent to estuarine creeks and sloughs which feed San Pablo Bay.

–D. Ashford



Cinnamon Teal

Anas cyanoptera



Occurrence

Year round resident, rare late fall and early winter

Breeding

Earliest Confirmation (May 11)—adult attending young (Code AY)
Latest Confirmation (July 15)—recently fledged young (Code FL)

The handsome Cinnamon Teal male, with its bright rusty body and red eyes, is unmistakable. The female, on the other hand, is one of those drab "little brown jobs" that require some study before distinctive characteristics are determined. In flight these tiny bundles of energy often appear to be the "jet jockeys" of the duck world.

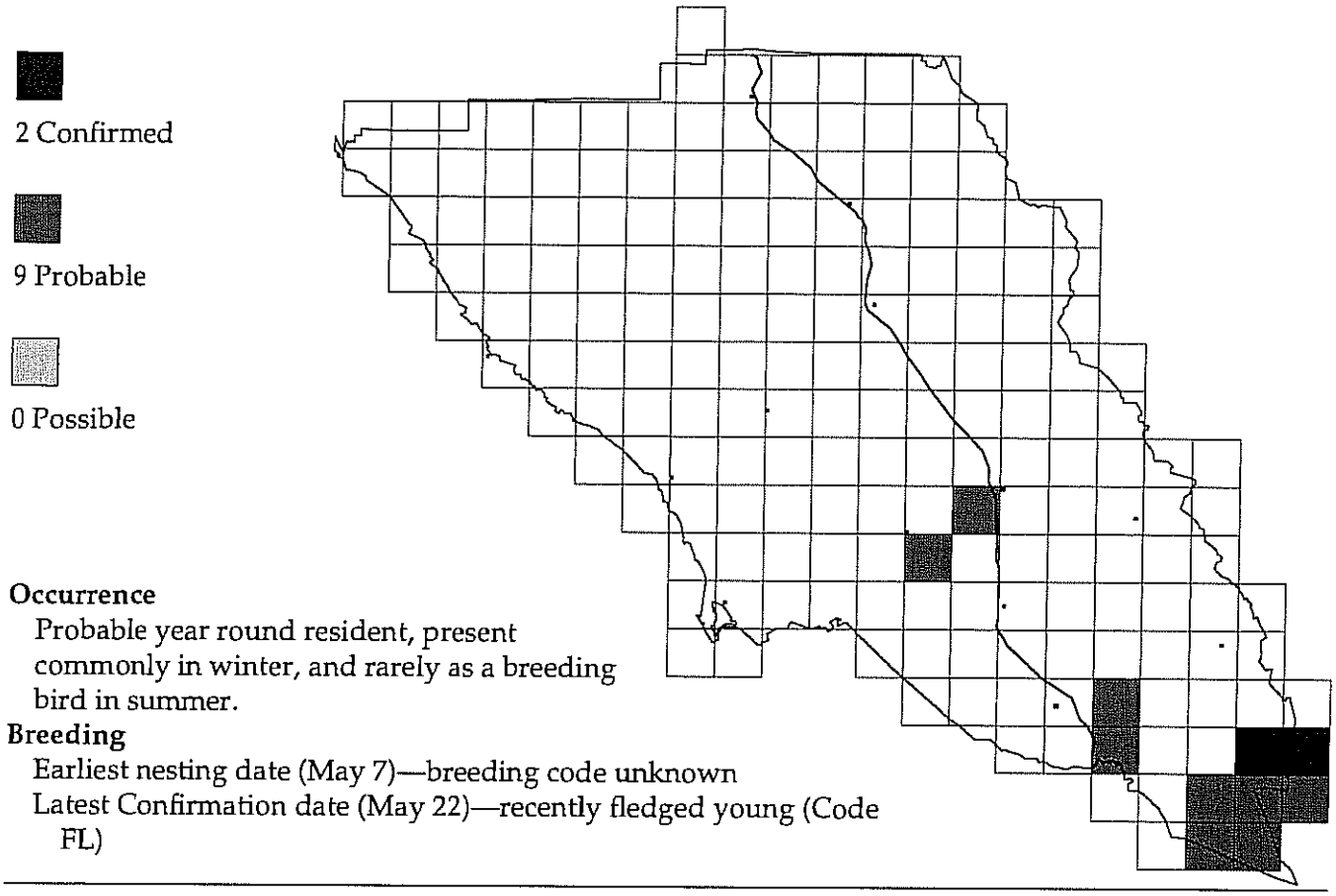
Sonoma County Atlas records representing this bird show Confirmed breeding sites throughout the southern portion of the county, rather than just the southeastern corner, where records for all other members of the genus Anas (with the exception of the widely versatile mallard) are located.

Nest sites may be shallow depressions lined with dry grasses and plant stems on dry land, or bulkier baskets or platforms built of dried cattails, sedges or marsh grasses in a marsh. Nests are usually in dense vegetation within 75 yards of water (Shuford 1993).

–D. Ashford

Northern Shoveler

Anas clypeata



2 Confirmed

9 Probable

0 Possible

Occurrence

Probable year round resident, present commonly in winter, and rarely as a breeding bird in summer.

Breeding

Earliest nesting date (May 7)—breeding code unknown

Latest Confirmation date (May 22)—recently fledged young (Code FL)

The Northern Shoveler is distinguished by its large, spatulate bill which is longer than its head. A dabbling duck which prefers shallow water, it is often seen swimming with its heavy bill skimming the surface or partially submerged.

The two Atlas Confirmed breeding records (both from 1986) are in the southeast corner of the county. There are two earlier records for nesting: at the Llano Road wastewater ponds on May 7, 1983 (Ellis 1983), and an adult with four flightless young on May 22, 1983 at the Cader Lane ponds (Dan & Wini Nelson pers. comm.). The shoveler, along with the county's other dabbling ducks, prefers to feed in shallow water with aquatic vegetation, habitat requirements easily met in the wetlands of southeast Sonoma County.

This bird usually nests in dry upland sites, sometimes in moist meadowland, and, rarely, in wet marshes. Nesting cover is typically grasses, sometimes hay, and, rarely, weeds, bulrushes, sedges or woody vegetation such as willows, poplars or rosebushes. The nest is a hollow, lined with dead grasses, weeds, or broken reeds, and with down. While nests may range up to a mile from water, most are 75 to 300 from water (Shuford 1993).

The recent (October 1993) closure of Skaggs Island Naval Base may offer an opportunity for providing protected habitat for the Northern Shoveler. The base, located in the extreme southeastern corner of Sonoma County, is currently protected by levees against the surrounding wetlands from which it was reclaimed, and is adjacent to estuarine creeks and sloughs which feed San Pablo Bay.

–D. Ashford

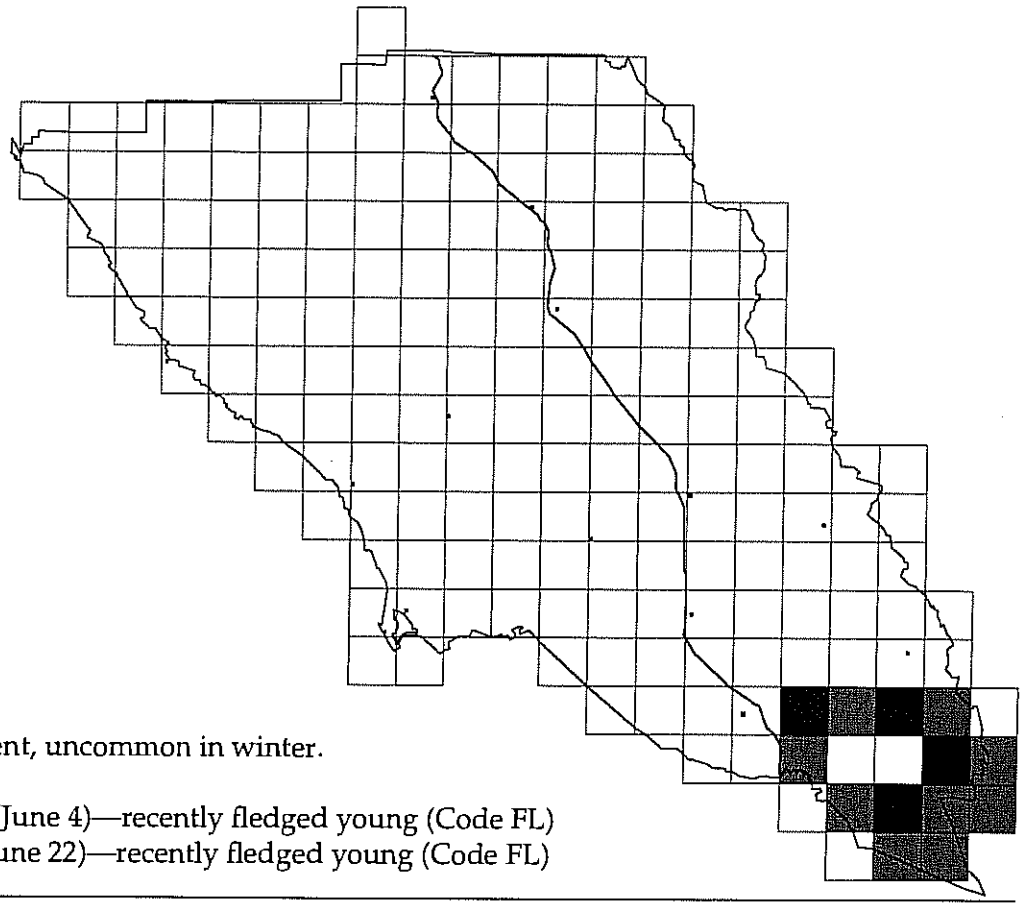
Gadwall

Anas strepera

4 Confirmed

9 Probable

0 Possible



Occurrence

Rare year round resident, uncommon in winter.

Breeding

Earliest Confirmation (June 4)—recently fledged young (Code FL)

Latest Confirmation (June 22)—recently fledged young (Code FL)

Often referred to as "non-descript," the Gadwall male appears rather plain until viewed from close quarters (or with good optics) when the contrast between the beautifully patterned cinnamon-buff scapulars and the gray body becomes obvious. This bird is usually seen in pairs or small groups.

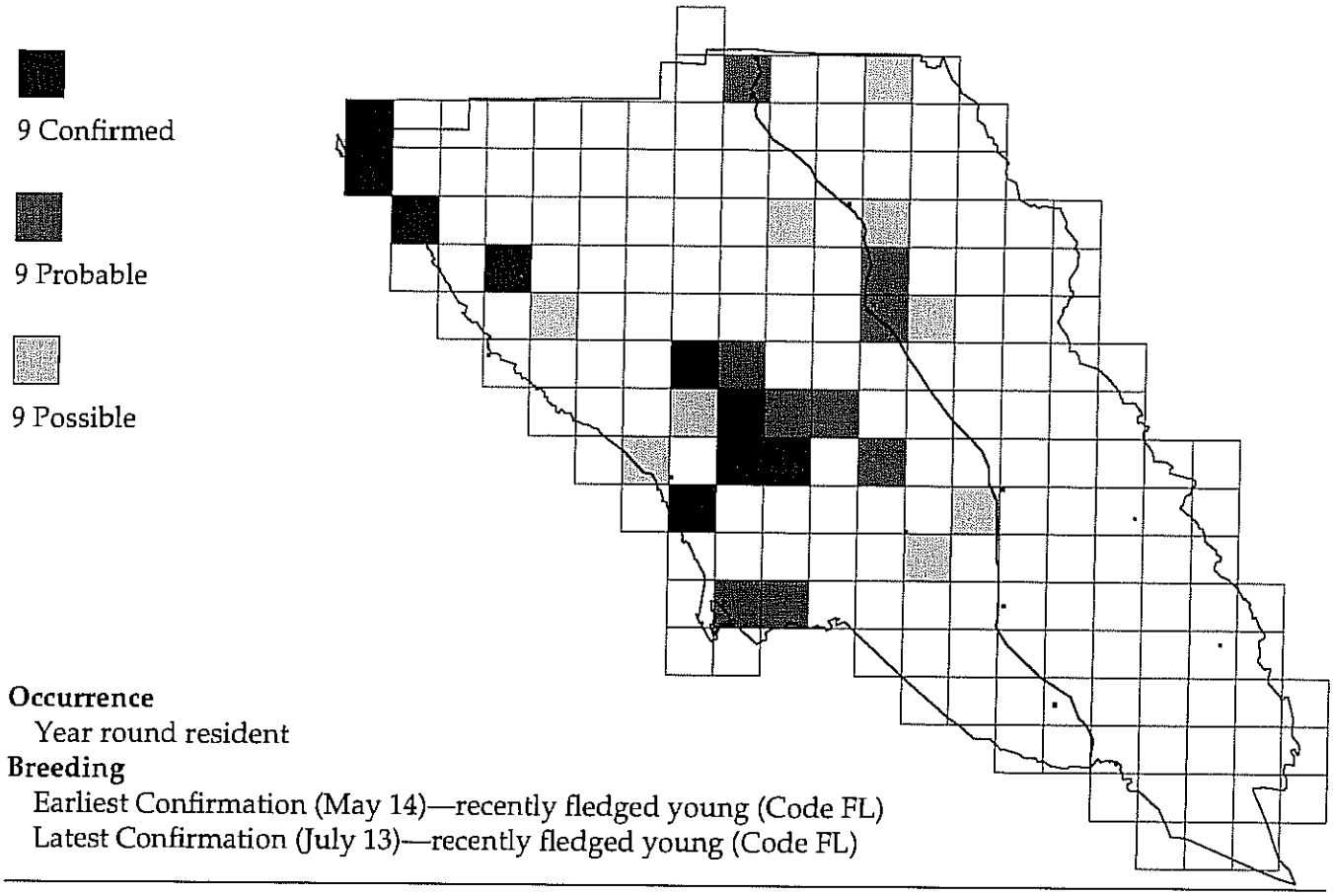
As is the case with most of Sonoma County's dabbling duck species (the highly adaptable Mallard being a notable exception), all breeding records are from the southeastern corner of the county, an area which provides prime habitat for their feeding preferences.

The Gadwall feeds more often in open water than do other dabblers. Nesting may be a month to six weeks later than the Mallard (Shuford 1993). This delay may be related to dependence on nesting in dry and dense upland herbaceous vegetation which becomes increasingly available as spring advances (Shuford 1993 citing Gates 1962).

–D. Ashford

Common Merganser

Mergus merganser



9 Confirmed

9 Probable

9 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (May 14)—recently fledged young (Code FL)

Latest Confirmation (July 13)—recently fledged young (Code FL)

The male Common Merganser is a beautiful sight, the glossy black head and upper neck contrasting with the snow-white under parts. The female resembles the Red-breasted Merganser. However, the well-defined white throat of the female Common Merganser is a distinguishing mark (Hoffmann 1927).

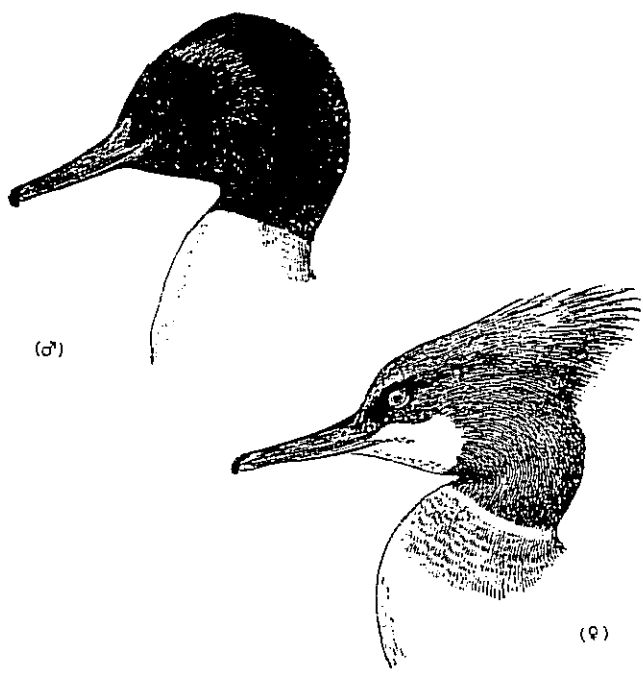
This duck was found nesting along the Russian River and its tributary, Austin Creek, as well as in the northwestern corner of Sonoma County on the Gualala River and its tributaries during the Atlas study.

It was not noted to be present in Sonoma County during spring or summer by Grinnell & Wythe (1927) or Grinnell & Miller (1944) although the latter recorded it on the Navarro River in neighboring Mendocino County.

The Common Merganser is dependent on good visibility for pursuing its fish prey; therefore, turbid or weed-choked waters are avoided. This bird is usually found in the clear water of freshwater lakes or streams (Shuford 1993).

The nest can be placed in a cavity of a deciduous tree, but may also be located in an earthen bank or rock crevice, beneath boulders, under shrubs, in root hollows, and occasionally in abandoned nests. If nesting sites are scarce, more than one female may use a nest, resulting in very large numbers of eggs and fledglings (Ehrlich et al., 1988).

–B. Burridge



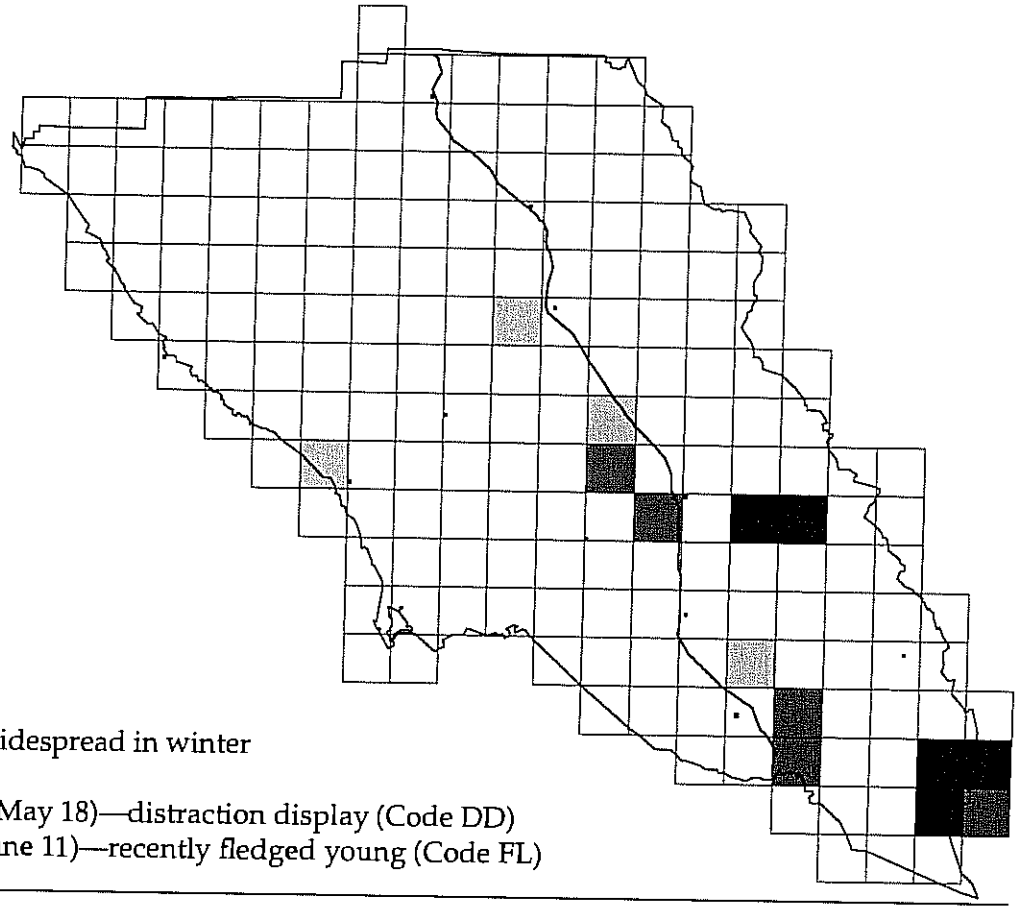
Ruddy Duck

Oxyura jamaicensis

5 Confirmed

5 Probable

4 Possible



Occurrence

Year round resident, widespread in winter

Breeding

Earliest Confirmation (May 18)—distraction display (Code DD)

Latest Confirmation (June 11)—recently fledged young (Code FL)

The cocky male Ruddy Duck is striking in his breeding plumage, especially when puffing out his white cheeks and beating his breast repeatedly with that stunning bright blue bill during courtship. How could any girl resist! The Ruddy Duck frequents permanent wetlands in semiarid environments that provide rich concentrations of food, nesting materials and concealment (Shuford 1993 citing Siegfried, Gray).

In Sonoma County nest locations were in Annadel State Park and the area of Tubbs Island and Skaggs Island near San Pablo Bay. Bolander and Parmeter (1978) recorded no verified nesting records for Sonoma County prior to 1978, although breeding was suspected because of the presence of at least some birds throughout the breeding season.

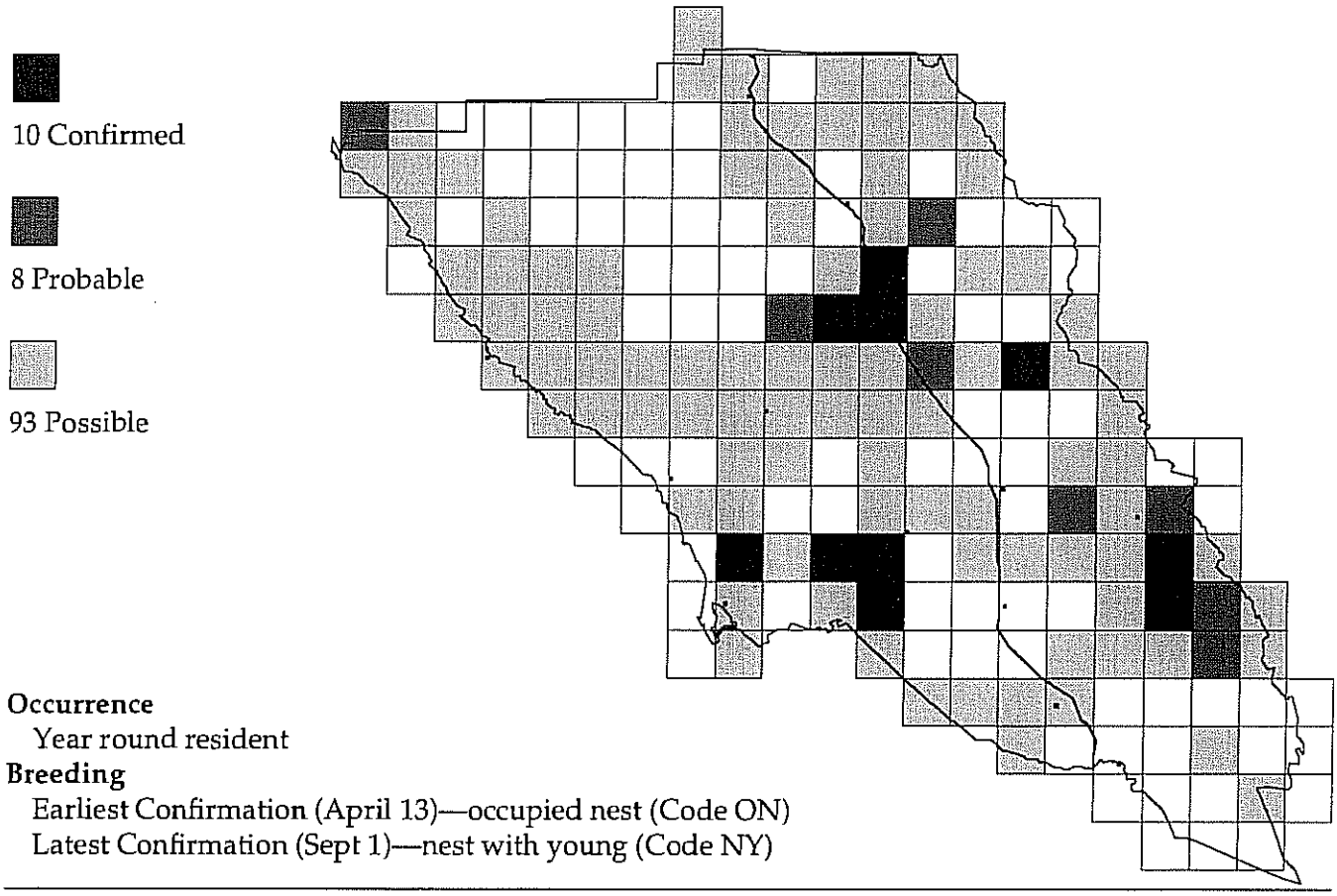
The Ruddy Duck is known to be a nest parasite, adding its eggs to those of other Ruddy Ducks or marsh nesting species, e. g., ducks, grebes, bitterns, coots and moorhens (Shuford 1993 citing Bent).

Shuford (1993) reports that few broods survive at Tule Lake, an important area of Ruddy Duck production in the 1970's. Cause for the decline may be the result of large numbers of predators (raccoons) or perhaps the effect of pesticides from agricultural runoff.

–B. Burridge

Turkey Vulture

Cathartes aura



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 13)—occupied nest (Code ON)

Latest Confirmation (Sept 1)—nest with young (Code NY)

The Turkey Vulture, lazily circling over rolling open country, is a common sight in Sonoma County in any month. It holds its wings in a distinctive dihedral (V-shaped) angle, providing a fairly easy way to distinguish this carrion-eater from most hawks and eagles.

In Sonoma County, Turkey Vulture nests were found during the Atlas period inside the base of a burned out hollow redwood just a few miles from the coast, on bare ground, on cliffs and burrows and on top of a tree stump. Preferred areas were mostly hilly to mountainous, with an excellent example of a nest with two downy young on the northwest side of Fitch Mountain in Healdsburg. Geographically, Confirmed and Probable breeding sites were fairly well distributed throughout the center of the county in areas with low human disturbance. In mid-May 1994, however, an occupied nest was discovered at ground level in a decaying hollow oak tree on a north facing wooded hillside 100 feet from a house at the northwest edge of Kenwood (M. Van Sant pers. comm.).

Prior to 1986, the first year of this study, there were few Confirmed breeding reports of this elusive nester, although many birders suspected breeding of the "TV" actually to be much more common than our information indicated. That has been the case, with ten Confirmations and eight Probable breeding records reported during the Atlas period.

However, the high number of Possible breeding records (93) is undoubtedly inflated by this bird's tremendous individual range, said to be 50 miles or more per day. Therefore, Atlas field volunteers could hardly distinguish between a "local" TV cruising over the nesting area in the three mile by three mile Block being surveyed, and a "long distance" bird sailing in from a nest many miles away.

Threats to the Turkey Vulture include urbanization which limits food supply (carrion) and nest sites, changes in grazing practices and husbandry techniques which limit availability of animal carcasses, and forestry management practices that limit tree cavity availability and tree size. Trees that are large enough to harbor suitable cavities are generally 150 to 200 years old and are increasingly rare today (Shuford 1993).

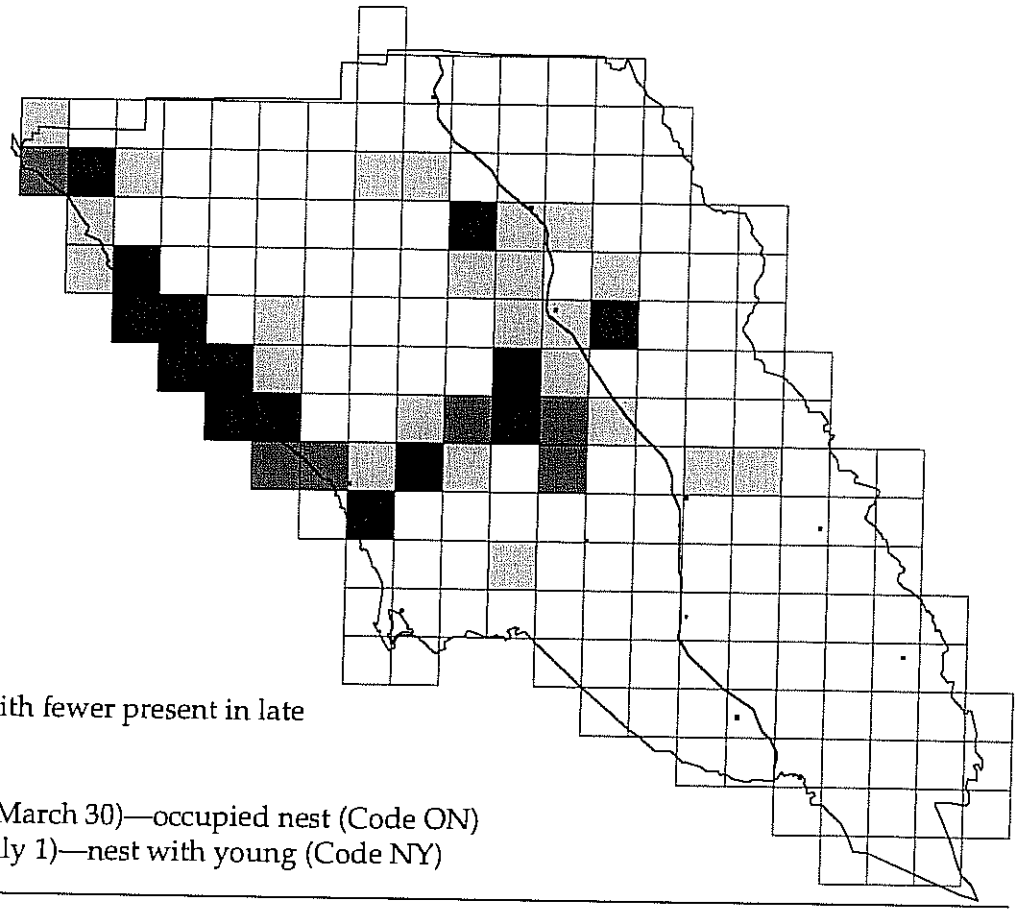
–B. Burridge

Osprey
Pandion haliaetus

14 Confirmed

6 Probable

23 Possible



Occurrence

Year round resident, with fewer present in late fall and winter.

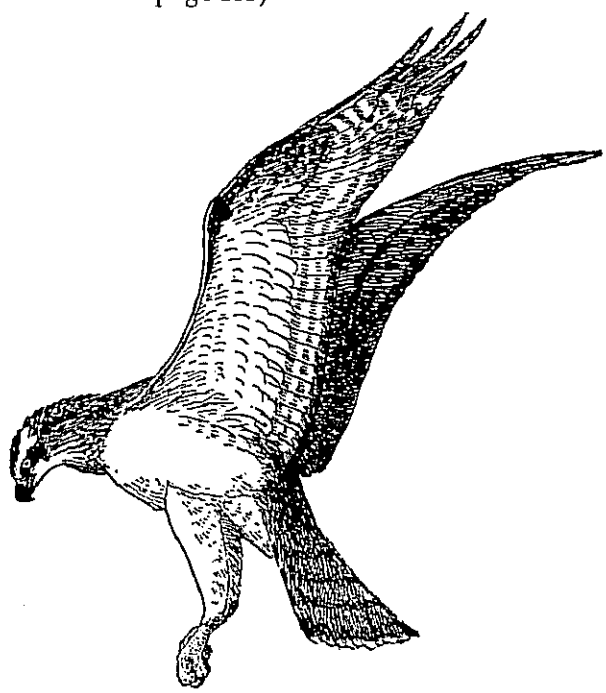
Breeding

Earliest Confirmation (March 30)—occupied nest (Code ON)
Latest Confirmation (July 1)—nest with young (Code NY)

This large showy raptor (also known as Sea Hawk or Fish Hawk) is usually seen near water where it feeds exclusively on fish caught by making spectacular plunges into the water. An early victim of eggshell thinning due to pesticide contamination of its food, the Osprey has made a comeback since these substances were banned in the 1970s. The Osprey has been increasing since the 1980s (Shuford 1993) and now is found nesting along the creeks and rivers of the Sonoma coast with several pairs nesting in the Russian River watershed and along the river itself. All Confirmed Atlas breeding records are in the northern part of the county; there are no apparently suitable sites present in the south. However, there were at least two Osprey sightings in the southern Petaluma area in summer of 1993, and three sightings at Cader Lane, near Petaluma, during July 1994 (Dan Nelson, pers. comm.).

The Osprey builds a large nest close to water, in large trees or in man-made structures used year after year. (In Wisconsin and Maryland some Ospreys successfully use old power poles with boards attached as nesting platforms on top (pers. obs.).) The nest itself is a huge conglomerate of sticks with a variety of items such as grasses, vines, fishnet, towels, and even toys used to line

(continued on page 183)



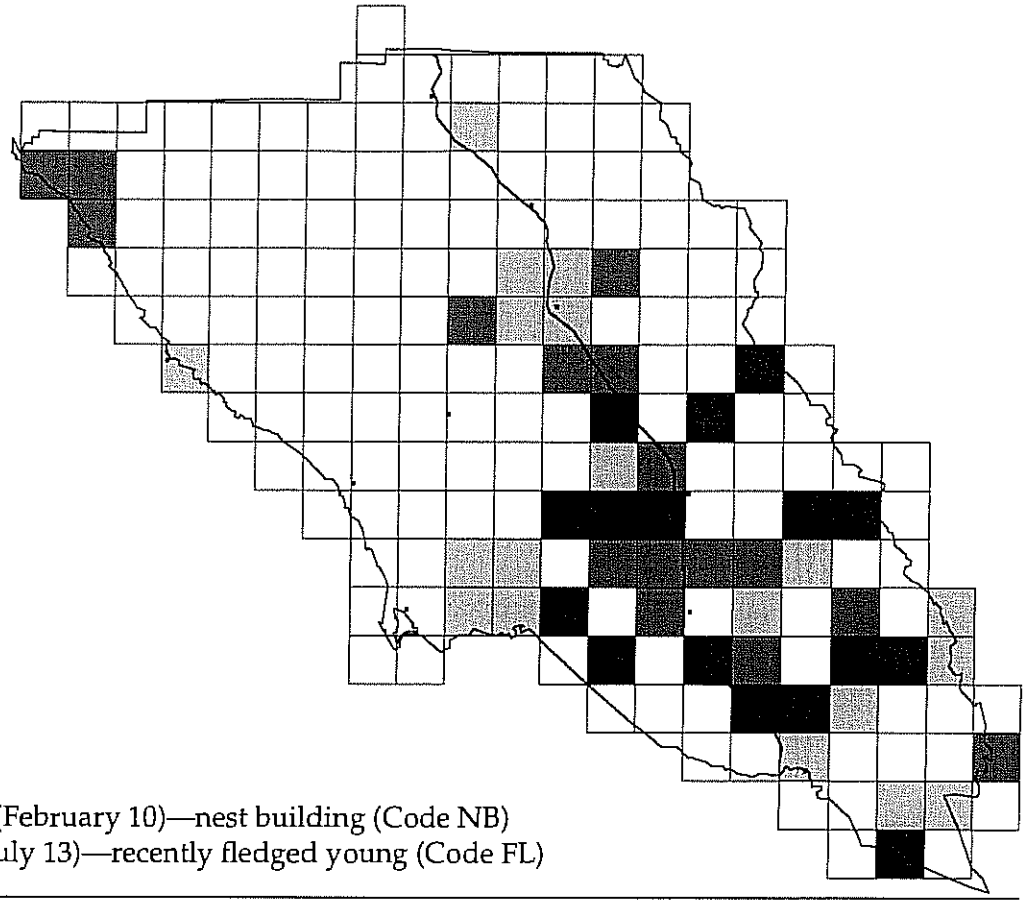
White-tailed Kite

Elanus leucurus

16 Confirmed

16 Probable

19 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (February 10)—nest building (Code NB)

Latest Confirmation (July 13)—recently fledged young (Code FL)

This graceful white, black and gray bird of prey is often seen hovering over open fields or freeway dividers. This raptor was formerly called the Black-shouldered Kite.

In Sonoma County the open woodlands, bottomlands and agricultural grasslands of the southern part of the county near water are preferred nesting habitats for this bird. However, there were also Confirmations in the foothills and Possible breeding records along the upper Russian River and northern coastal areas. On February 17, 1995, an early nesting record was reported, a newly built nest, just west of Petaluma (Robin Reese pers. comm.).

This kite usually nests in large bushes or trees, often in an isolated stand. The pair builds an open deep nest of twigs (Harrison 1979). The nest will be defended against anything that comes near it (one observer outside Kenwood complained about the noise the birds were making during their nesting season). An open nest may be inviting to a variety of predators, yet the smallish kite can to deter most comers.

Since the White-tailed Kite is very dependent on small mammal prey, fluctuations in mammal populations may cause this bird to be nomadic (Shuford 1993).

A communal roost of 237 birds was observed in the fall of 1969 in an orchard south of Santa Rosa by Gordon Bolander, John R. Arnold and B. D. Parmeter (Bolander & Parmeter 1978). It is a species of concern being recorded in the California Department of Fish and Game - Natural Diversity Data Base (1994).

–R. Rudesill

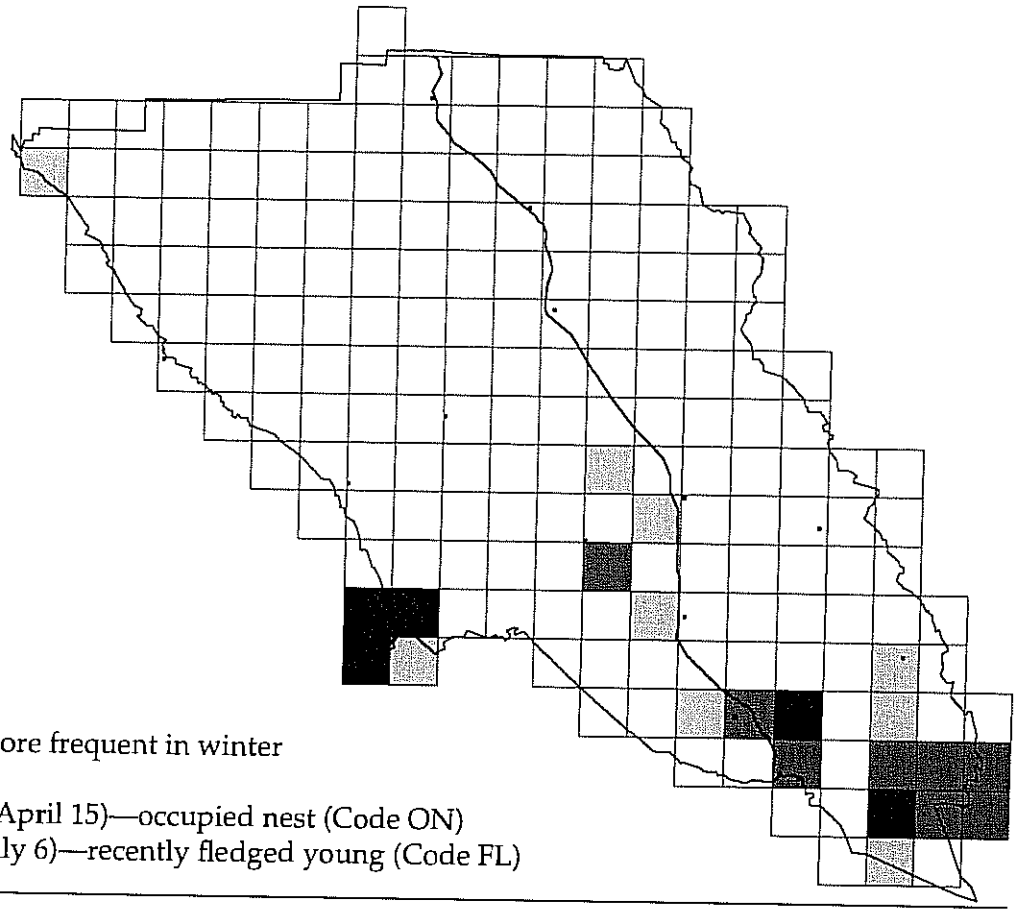
Northern Harrier

Circus cyaneus

5 Confirmed

8 Probable

9 Possible



Occurrence

Year round resident, more frequent in winter

Breeding

Earliest Confirmation (April 15)—occupied nest (Code ON)

Latest Confirmation (July 6)—recently fledged young (Code FL)

This is the graceful low flying hawk usually seen quartering diligently just a few feet above the marsh, field or grassland. Yet in spring there are dazzling looping acrobatic courtship flights high in the sky. Nesting occurs on or near the ground in marsh or other wetlands and upland fields.

These ground nesting hawks are particularly susceptible to human disturbance in wetlands when nesting. A pair on Bodega Head, near the parking lot overlooking the ocean, was repeatedly harassed by unwitting Sunday visitors flying kites and simply walking about off of the main trails (pers. obs.).

During the atlas period the Northern Harrier (formerly the Marsh Hawk) was found nesting near Tubbs Island, diked former wetlands on the Petaluma River, and on Bodega Head.

The Northern Harrier has an owl-like face with a curved sound-reflecting facial ruff which helps it locate prey while foraging low over the ground (Ehrlich 1988). Interestingly, the Short-eared Owl is considered this hawk's ecological counterpart, with the harrier hunting during the day and the Short-eared Owl using the same areas at night (Shuford 1993).

Decrease in wetland habitat limited the population of the Northern Harrier, and from 1972 - 1986 it was listed on the Blue List of National Audubon's publication American Birds as a species undergoing range and/or population reductions.

In addition to habitat loss, the harrier has also been troubled by eggshell thinning from pesticide accumulations (Shuford citing Anderson and Hickey 1993), by grazing (Shuford citing Remson 1993) and, at least formerly, by shooting (Shuford citing Palmer 1993). This raptor is designated by the California Department of Fish and Game as a Species of Special Concern (CDFG 1994).

–B. Burridge

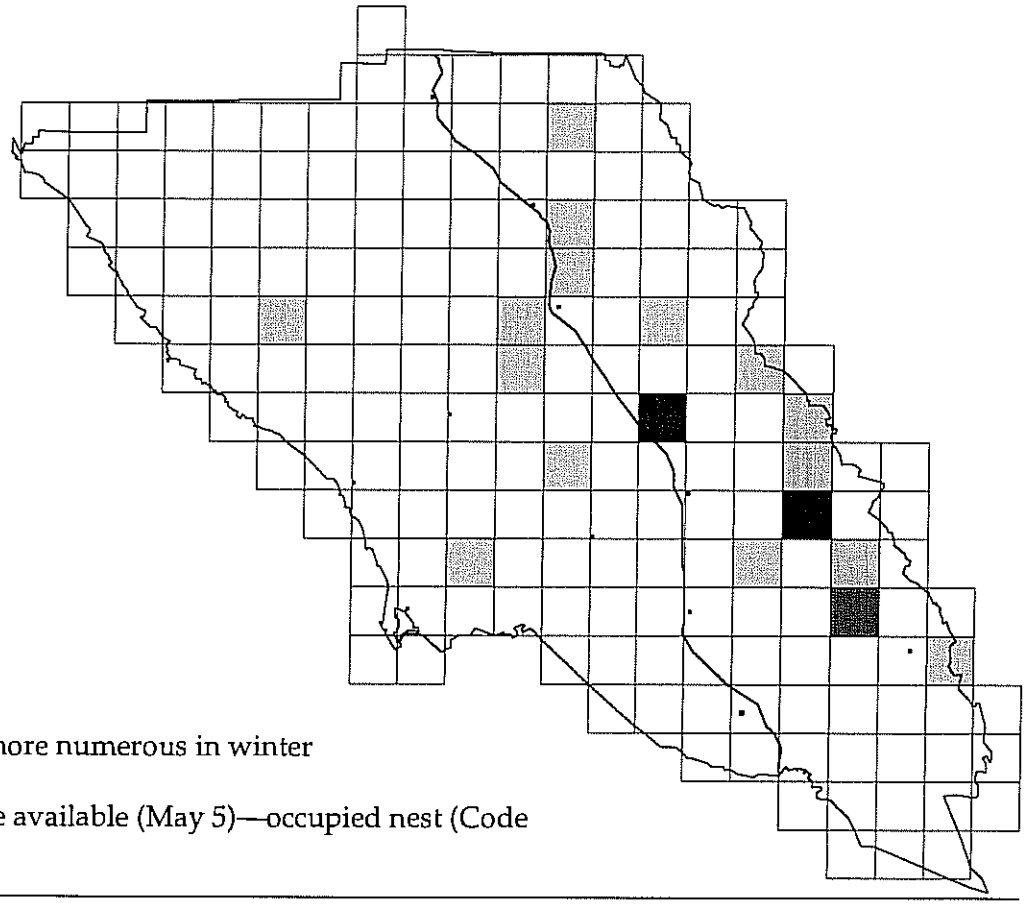
Sharp-shinned Hawk

Accipiter striatus

2 Confirmed

1 Probable

15 Possible



Occurrence

Year round resident, more numerous in winter

Breeding

One Confirmation date available (May 5)—occupied nest (Code ON)

It took a Master Falconer (Jimmy Bathke) and a biologist of considerable renown in the birding world (Jon Winter) to find breeding evidence for the two Sharp-shinned Hawk Confirmations in this Atlas. This bird is a rare breeder in our county and these nests were very difficult to locate.

Five young were reported in one nest, no numbers were reported from the other(s). The Annadel Park record (Block 535-250) had two nests in close proximity within the same Atlas Block, both active at the same time. The second record was from the Windsor area.

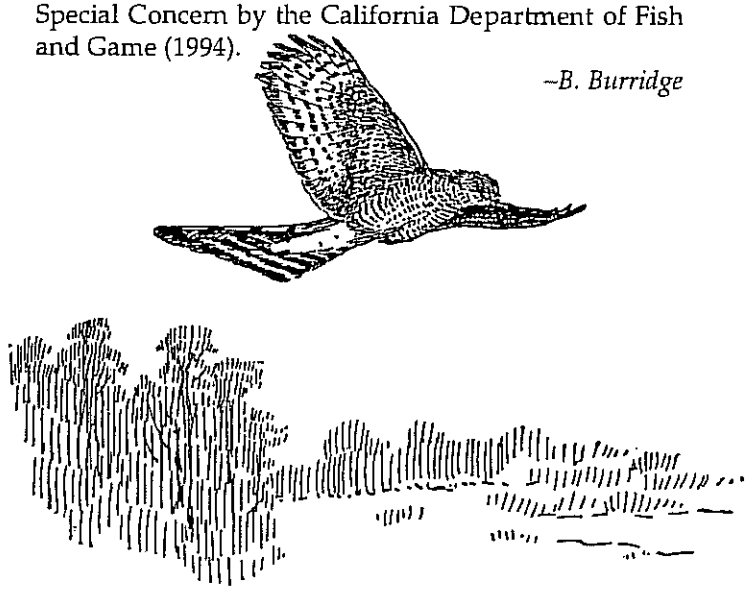
Although Grinnell & Miller (1944) reported no Sonoma County nesting records for this species, there are records of four active nests, all in Alpine Valley northeast of Santa Rosa from June 4, 1914, May 20, 1922, June 1, 1923, and May 27, 1928 (Howard Cogswell pers. comm.).

Most nests are in oak woodland and mixed (oak,pine and cottonwood) forests, and are large open cup structures lined with greenery which the birds change during the nesting season (Jimmy Bathke pers. comm.).

Early in the 1970s the Sharp-shinned Hawk experienced a marked population decline. It was included from 1972 -1986 on the Blue List of National Audubon's publication American Birds. As such the Sharp-shinned Hawk was designated as being at risk for range and population declines. Eggshell thinning has also been associated with the Sharp-shinned Hawk population decline (Ehrlich 1988). Current threats to the Sharp-shinned Hawk population are decreases in nesting and foraging habitats from deforestation and logging operations (Shuford citing Reynolds 1993).

This species is currently designated as a Species of Special Concern by the California Department of Fish and Game (1994).

–B. Burridge



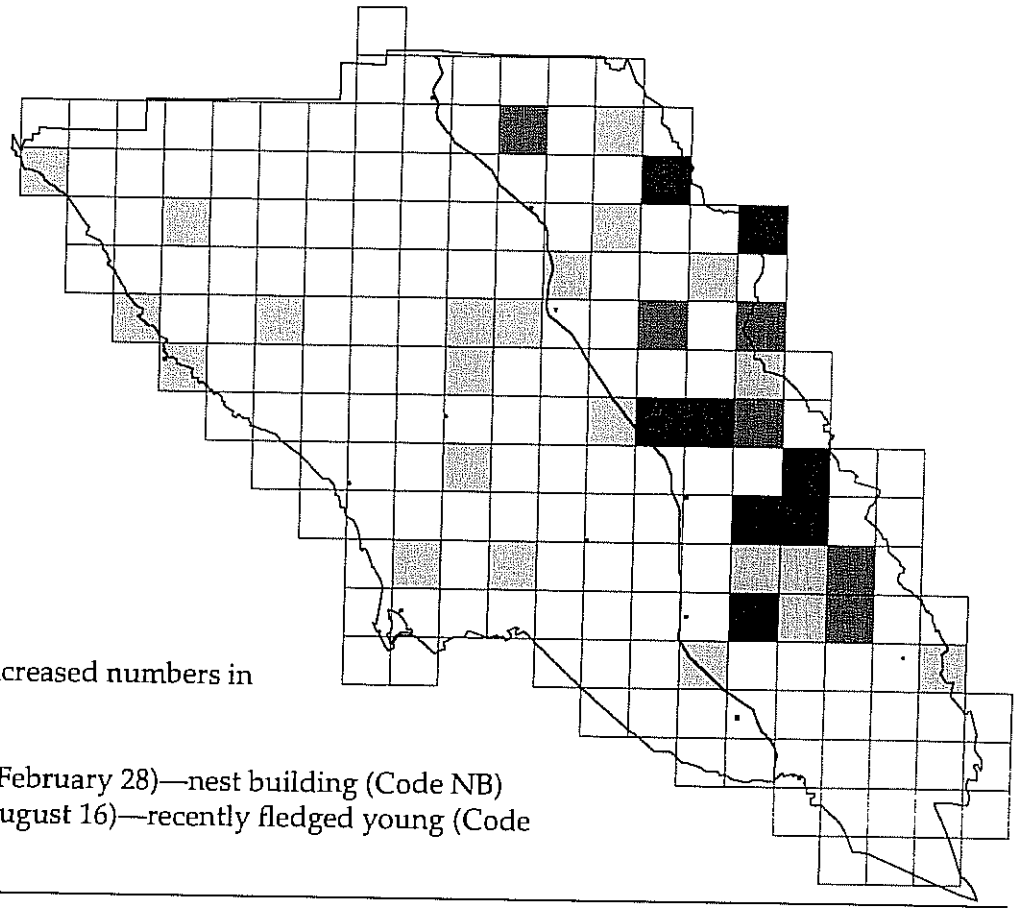
Cooper's Hawk

Accipiter cooperii

8 Confirmed

6 Probable

22 Possible



Occurrence

Year round resident, increased numbers in winter

Breeding

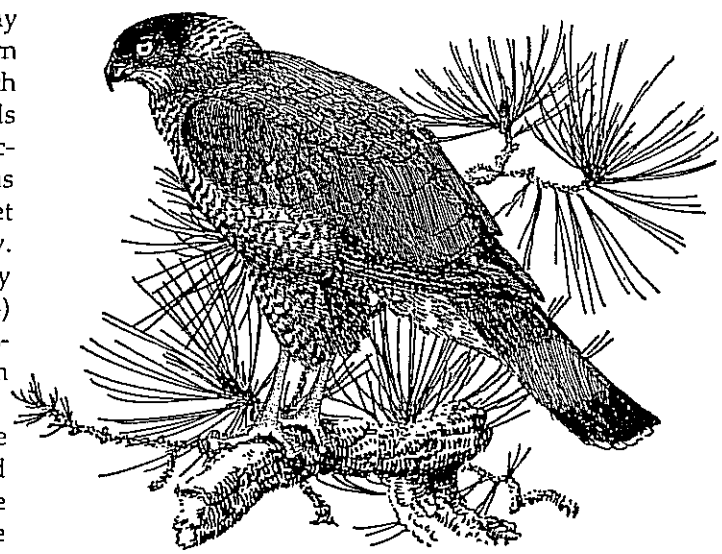
Earliest Confirmation (February 28)—nest building (Code NB)

Latest Confirmation (August 16)—recently fledged young (Code FL)

Hard hiking up rugged canyons and through lots of poison oak is often necessary to find the nest of the Cooper's Hawk. It prefers mixed forest (bay, cottonwood, pine, oaks) along creeks. The nest is often under dense canopy about 30 feet in from a clearing, and is usually abandoned after use. The next year's (new) nest often will be built in the immediate vicinity (Jimmy Bathke pers. comm.). One nest site in the hills in eastern Sonoma County was directly on a road from which three large open cup stick nests, each within 50 yards of the others, were easily viewed. Only one nest was active, the others presumably remaining from previous years. Each was in the crotch of a pine tree about 30 feet high and about 10 feet below the fairly dense canopy. Two birds had fledged successfully from this nest by July 26, 1992 (pers. obs.). Another nest (June 16, 1994) was located on a construction site just west of Healdsburg on Mill Creek and contained downy young with some flight feathers (Chris Wood pers. comm.).

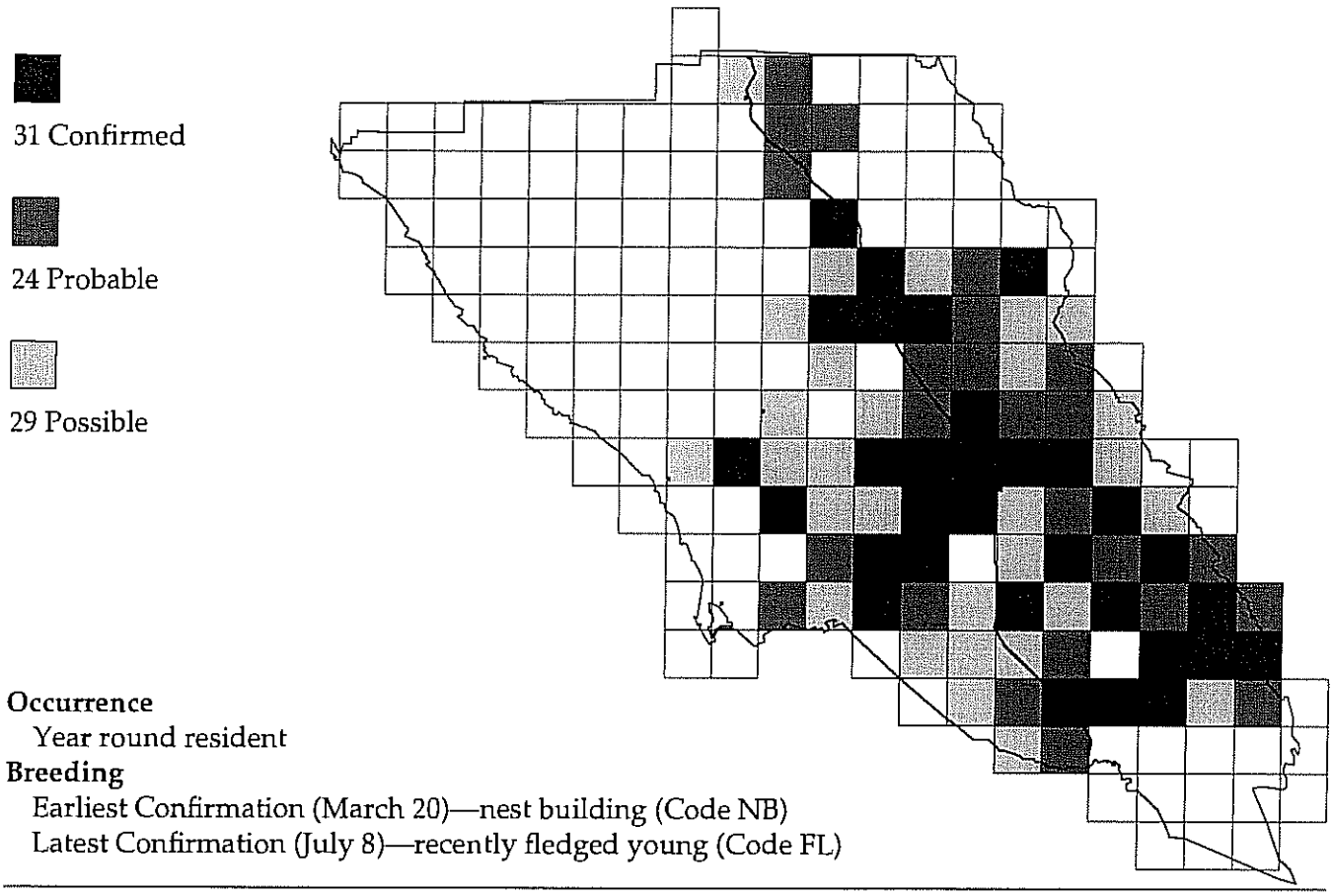
During the Sonoma County Atlas field work the Cooper's Hawk was found nesting in inland forested areas. The low number of Confirmations indicates the degree of difficulty in finding the nests. Perhaps more cross country exploration through rough terrain may have produced more nesting records for this bird.

The Cooper's Hawk was previously noted during the summer at Guerneville, where there was a family with young birds on August 5, 1913 and Cazadero (Grinnell & Wythe 1927). (continued on page 183)



Red-shouldered Hawk

Buteo lineatus



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 20)—nest building (Code NB)

Latest Confirmation (July 8)—recently fledged young (Code FL)

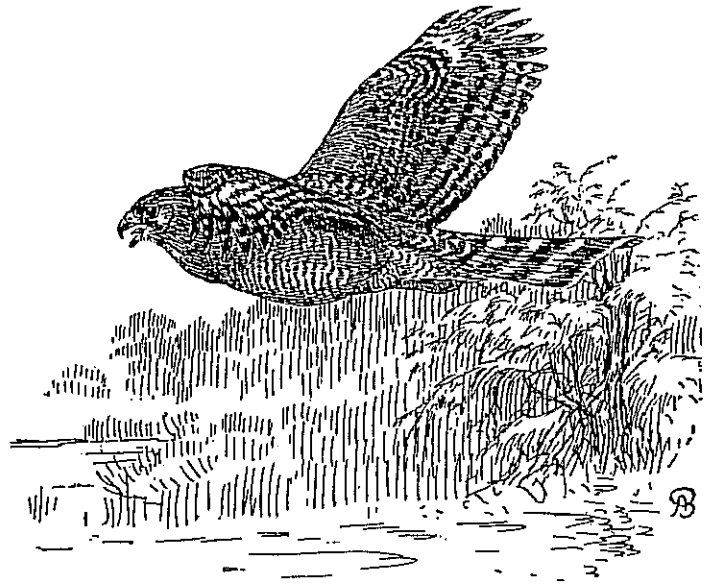
Noisy and conspicuous, courting Red-shouldered Hawks fill the skies with their raucous calls and vigorous flights each breeding season, even within the city limits if there is an open area near suitable riparian habitat.

Evidence of breeding for the Red-shouldered Hawk was minimum from the coastal and northwestern interior section of Sonoma County during the Atlas field studies. Breeding was widespread throughout the rest of Sonoma County with this hawk being found in 46% (84) of all Blocks censused in this Atlas.

In the 1920s the Red-shouldered Hawk, then called the Red-bellied Red-shouldered Hawk, was considered a rather rare resident in the San Francisco Bay Area (Grinnell & Wythe 1927) with one mention of nesting in Sonoma County near the town of Sonoma (nest with eggs found March 29 to April 17 in different years). Later, in the 1940s, Grinnell and Miller (1944) stated that this bird was "originally common, but now (1943) greatly reduced nearly everywhere,...due to progressive human occupancy of the land."

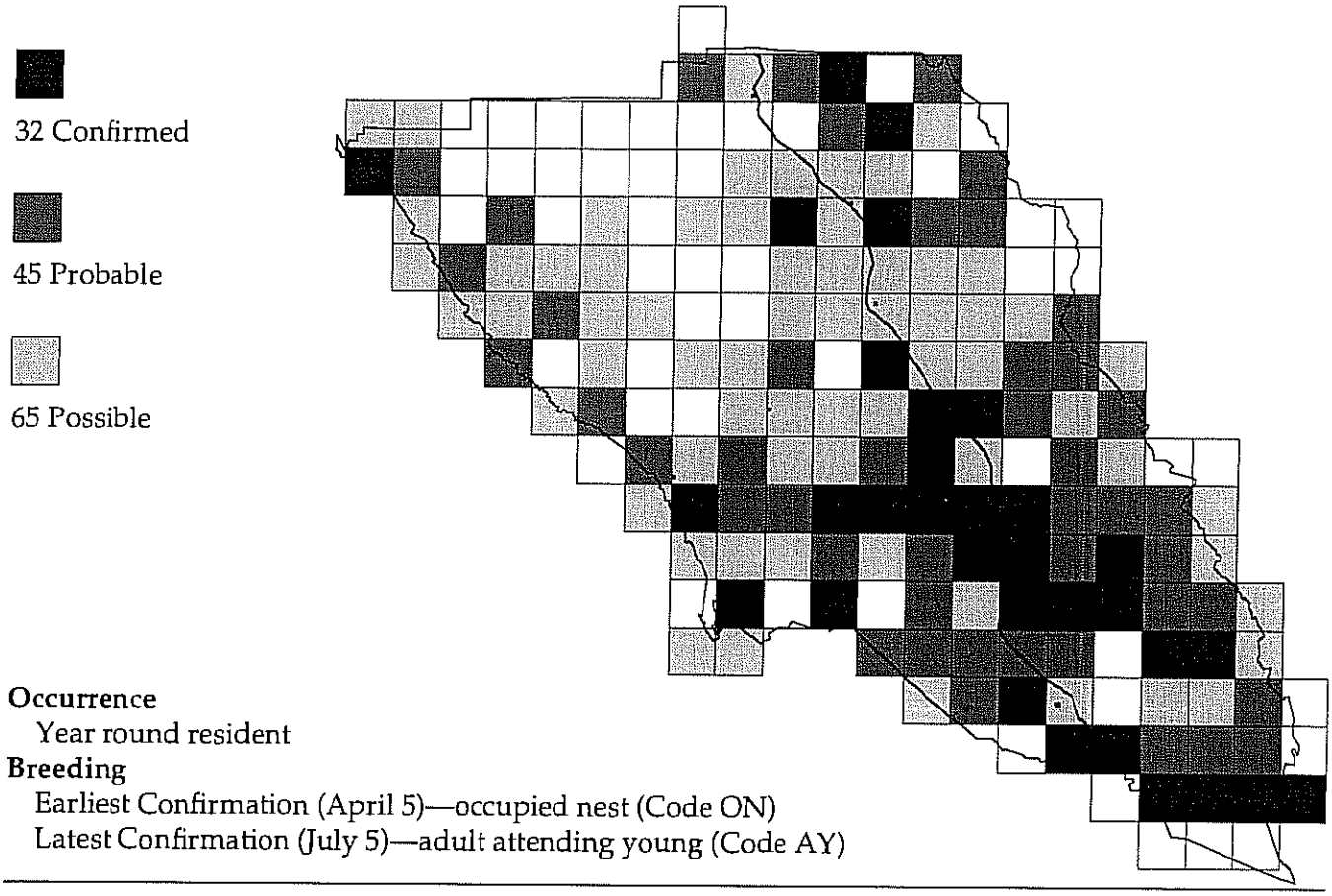
The Red-shouldered Hawk frequents moist habitats with deciduous woodlands of broad lowland river bottoms, especially where interrupted by or adjacent to damp grasslands or marshes (Grinnell & Miller 1944).

Ongoing expansion of the human population in lowland corridors puts pressure on this and other raptor (continued on page 183)



Red-tailed Hawk

Buteo jamaicensis



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 5)—occupied nest (Code ON)

Latest Confirmation (July 5)—adult attending young (Code AY)

A piercing, liberated scream announces the presence of the Red-tailed Hawk circling high overhead. Or is that a Steller's Jay's imitation of the call? Better look before you leap into that identification trap.

Breeding records for this hawk were fairly evenly distributed throughout the entire county with the exception of the heavily forested, more lightly censused interior northwestern area. The Red-tailed Hawk is our most common and widespread large hawk and was found in 78% (142) of all Blocks censused in this Atlas study.

It inhabits forest and woodland edges and tolerates drier habitat than the Red-shouldered Hawk, Sonoma County's other breeding Buteo.

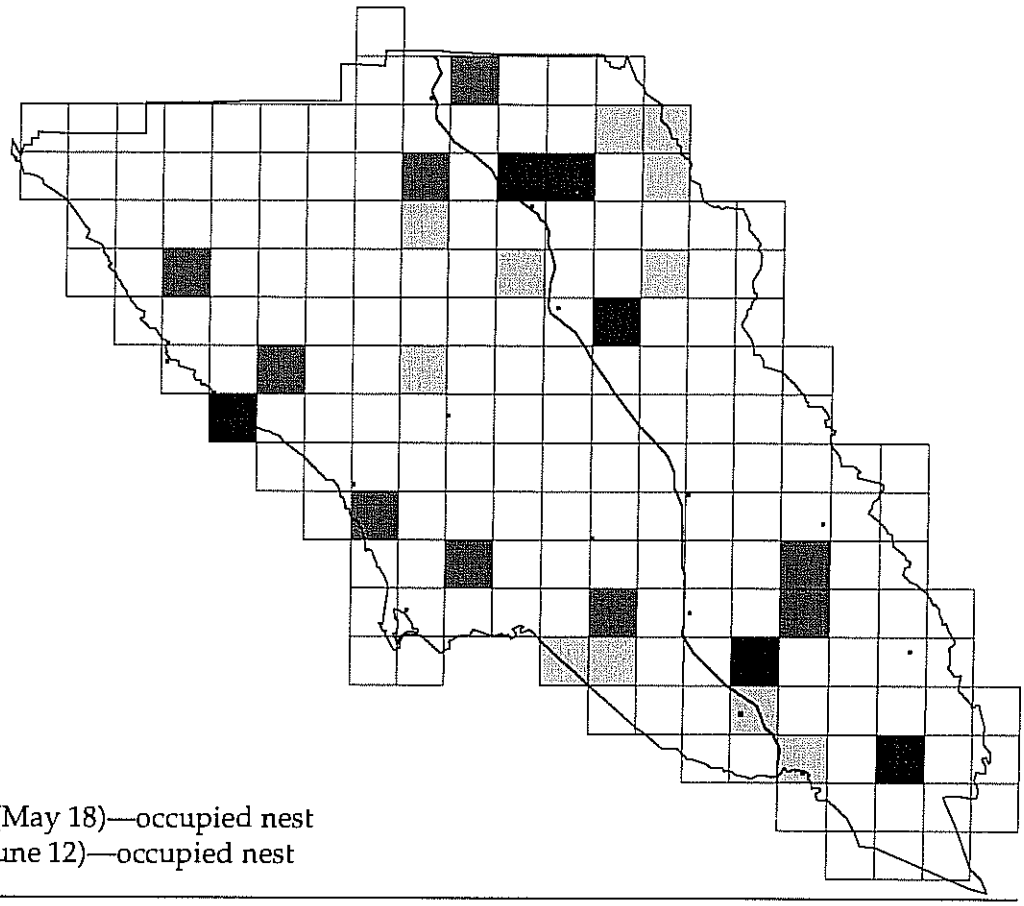
Grinnell and Wythe (1927) described the Red-tailed Hawk as the most numerous large hawk in the San Francisco Bay Region, and Grinnell and Miller (1944) defined its status in California as common and widespread with "numbers holding up close to normal save in lowland areas thickly populated by humans, where marked reductions or even, locally, elimination has taken place."

Small mammals make up most (80%) of this bird's diet, with snakes, lizards, frogs, toads, salamanders, dead fish, turtles, crayfish, insects, some carrion and birds making up the other 20% (Shuford 1993). The loss of open habitat where these prey items exist seems inevitably to threaten the welfare of this economically very useful hawk.

–B. Burridge

Golden Eagle

Aquila chrysaetos



6 Confirmed

9 Probable

11 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (May 18)—occupied nest

Latest Confirmation (June 12)—occupied nest

The magnificent Golden Eagle is a bird of open woodlands as well as mountainous areas. During the Atlas project, only six Blocks had Confirmed nesting. However, these Confirmations were spread widely throughout the county, one at a coastal location, two in northern mountainous areas, one in the hills just east of Healdsburg and two in the open southern woodlands.

Of note is the report of two adult Golden Eagles attempting copulation on New Year's Day 1992 near Hood Mountain in Block 530-255 (Dona Asti pers. comm.).

The Golden Eagle has a large hunting territory (Harrison 1979) and also shuns heavily populated areas for the most part; this was shown to be the case by the Atlas data in Sonoma County.

The Golden Eagle builds a large high nest in big trees or on cliffs. Nests are bulky, with sticks added from year to year, although different nest sites may be used in alternate years (Harrison 1979).

–R. Rudesill

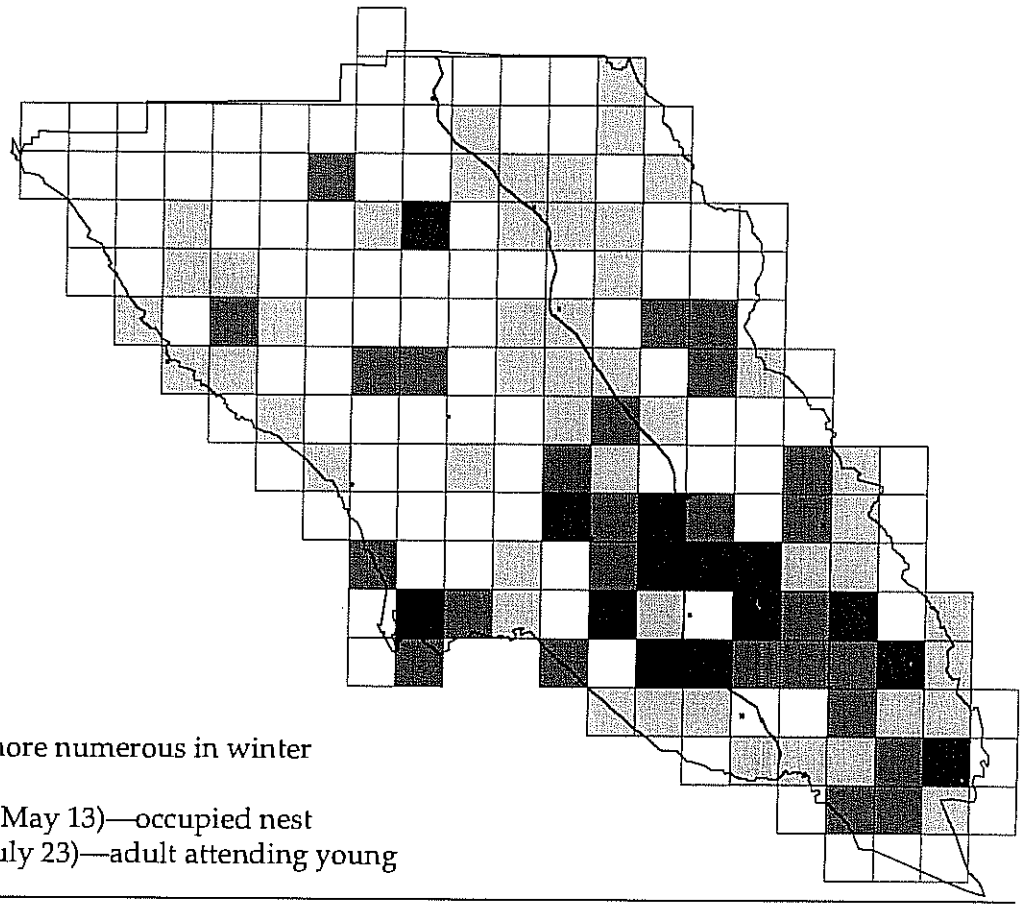
American Kestrel

Falco sparverius

14 Confirmed

26 Probable

49 Possible



Occurrence

Year round resident, more numerous in winter

Breeding

Earliest Confirmation (May 13)—occupied nest

Latest Confirmation (July 23)—adult attending young

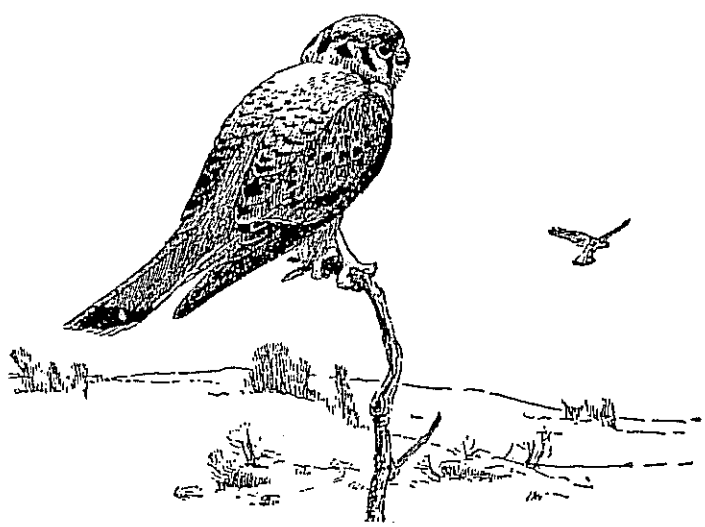
The American Kestrel is a small, beautiful falcon of open woodlands. It is often observed hovering over a grassy field or perching on utility lines along country roads.

The kestrel is found widely in rural and suburban settings throughout Sonoma County, although most of the Confirmed breeding records came from the southern part of the county.

It is a cavity nester, usually using old woodpecker nests (Harrison 1979) although it has also been known to use nest boxes to raise its young (B. Burridge pers. comm.). The American Kestrel will often defend its territory with vigorous calls and chase flights against much larger birds, even the Red-shouldered Hawk.

The kestrel is very adaptable, usually preferring open valley and flood plains dotted with scattered oaks and conifers, although in Sonoma County the vegetation can range into such varied habitats as chaparral and redwoods. The number of American Kestrel territories may be limited by the availability of abandoned woodpecker cavities for nesting (Shuford 1993).

–R. Rudesill



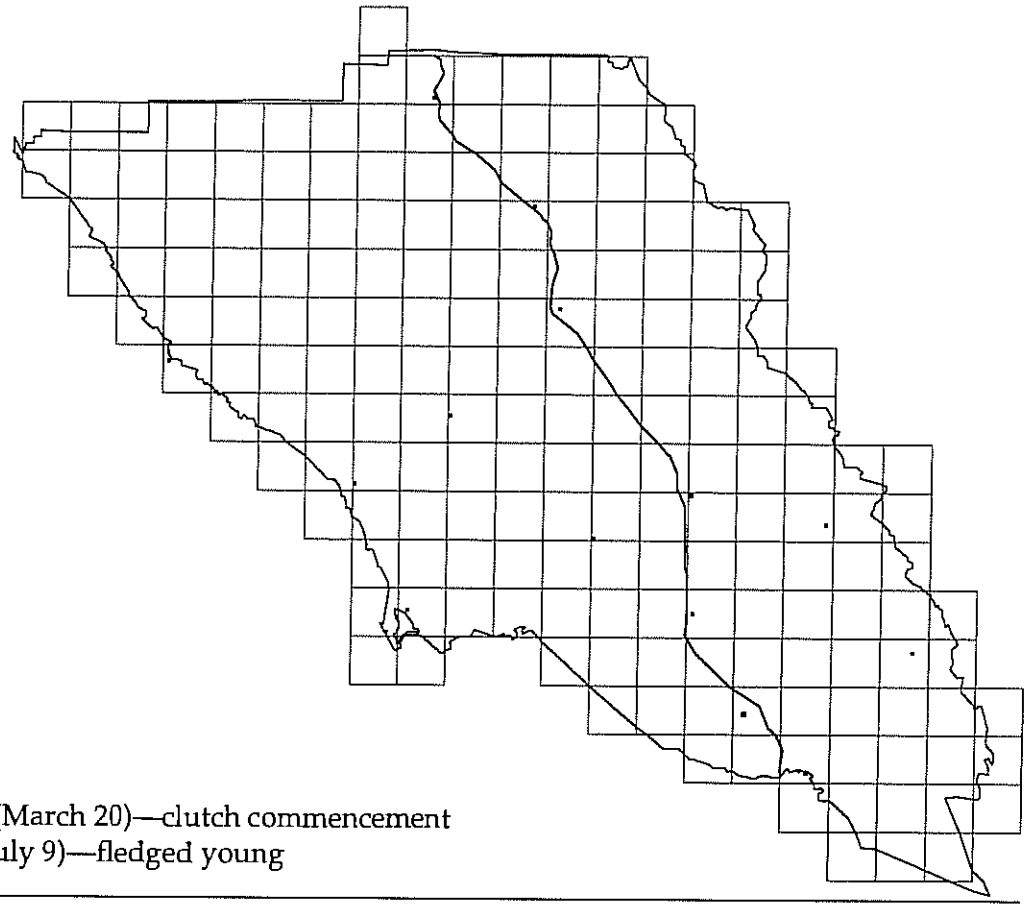
Peregrine Falcon

Falco peregrinus

0 Confirmed

0 Probable

0 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 20)—clutch commencement

Latest Confirmation (July 9)—fledged young

Because of the vulnerability of the Peregrine Falcon to human disturbance, breeding locations have been omitted from the map for this species.

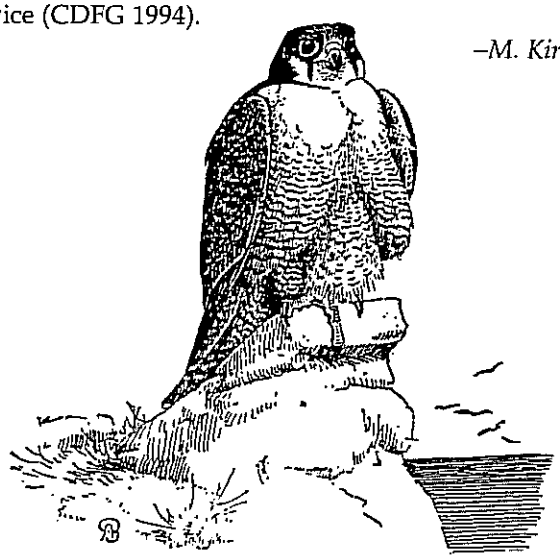
The local race of the Peregrine Falcon, *Falco peregrinus anatum*, has bred continuously in Sonoma County, even when the number of known breeding pairs in the entire State was reduced to six by the DDT-induced eggshell thinning syndrome (Herman et al. 1969). Unfortunately, reproductive failure and abnormal breeding cycle chronology caused by this insidious pollutant continue to the present; some eggshell samples have measured 23% (mean = 16.8%) thinner than normal in recent years (Kirven & Walton 1992 unpubl.).

Monte Kirven, Geoff Monk and others located nine active eyries in Sonoma County during the period from 1980 to 1990; Kirven monitored occupancy and reproductive performance at all of these sites from 1981 to 1992 while employed as a wildlife biologist for the United States Department of Interior, Bureau of Land Management. He observed reproductive failure due to eggshell thinning and, also, human disturbance which is expected to increase with the rapid human population growth in the county.

Breeding chronology is often difficult to establish because premature eggshell breakage can cause abandonment of nest sites early in the cycle. It has also been observed that a breeding pair, after having failed the first time, may return weeks later for a second nesting attempt which, if successful, will extend the cycle beyond the normal breeding season.

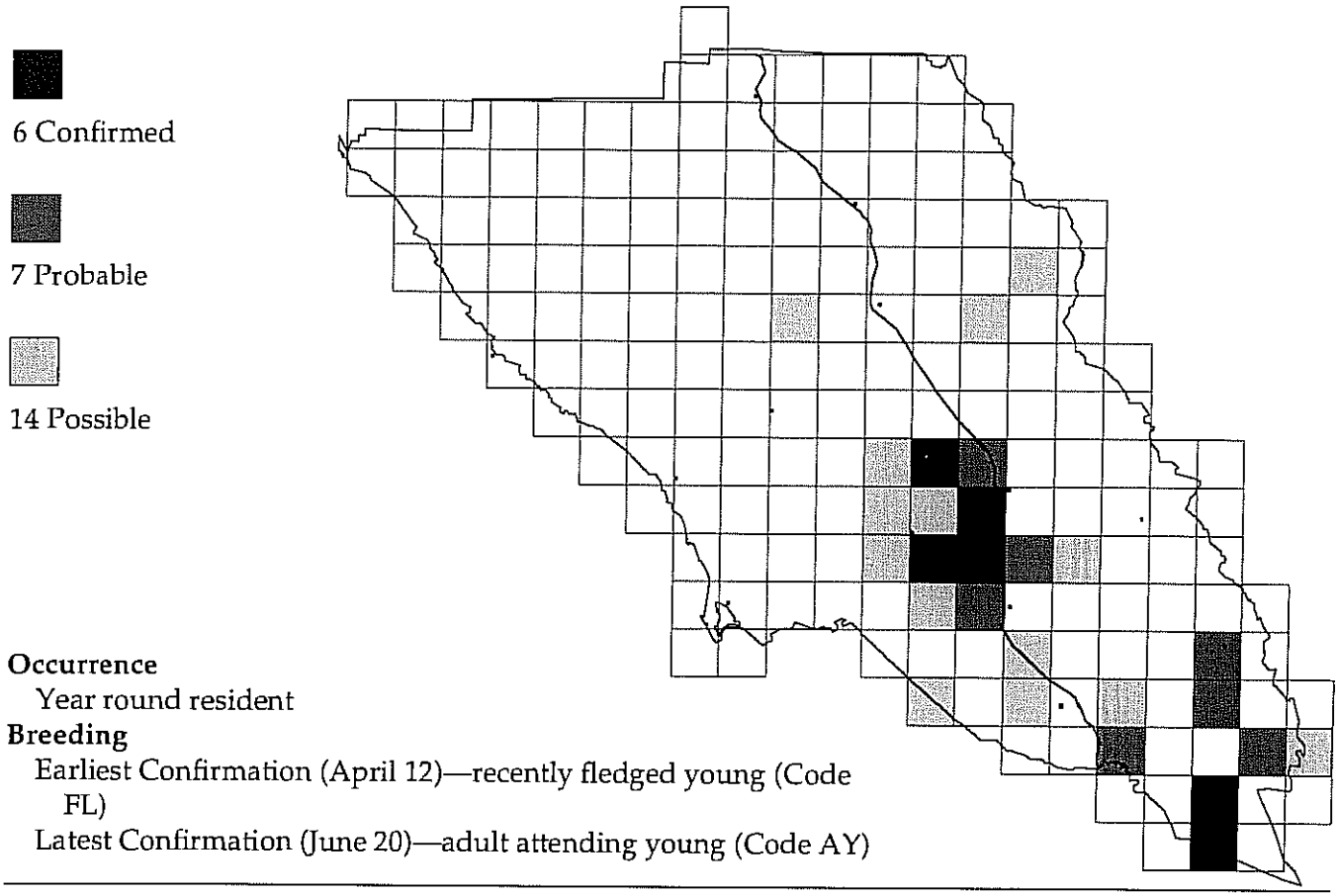
The American Peregrine Falcon, *F. p. anatum*, is listed as Endangered by both the California Department of Fish and Game and the United States Fish and Wildlife Service (CDFG 1994).

–M. Kirven



Ring-necked Pheasant

Phasianus colchicus



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 12)—recently fledged young (Code FL)

Latest Confirmation (June 20)—adult attending young (Code AY)

The Ring-necked Pheasant, originally imported from east Asia, provides a stunning flash of iridescent color when the male explodes into the air when flushed from its well-camouflaged digs in a grassy field.

Atlas records for this popular game bird are centered in the interior and southern half of Sonoma County, mostly in flat, open agricultural areas.

Private individuals began efforts to introduce this beautiful bird into California as early as 1885, and the California Fish and Wildlife Commission (now California Department of Fish and Game) started similar efforts in 1889. Shortly after the end of the First World War the local Isaac Walton League introduced the Ring-necked Pheasant on the Rohnert Seed Farm in Cotati (Ben Cummings pers. comm.). But in 1927 Grinnell and Wythe, while noting that this pheasant was well established in Santa Clara County near San Jose and Milpitas, did not mention a population in Sonoma County. By 1944 Grinnell and Miller (1944) felt that persistent efforts to plant and replant the Ring-necked Pheasant had succeeded in thoroughly establishing that bird in certain regions of California. However, Grinnell and Miller still did not mention the presence of pheasants in Sonoma County in 1944. This was perhaps an oversight, for in spite of no further introductions by the California Fish and Wildlife Commission after the 1920s, there were prolific private efforts (Stanley De Silva fide Martha Bentley) resulting in a burgeoning pheasant population in the 1960s (B. D. Parmeter pers. comm.) especially west of Rohnert Park at least as early as 1964 (Ben Cummings pers. comm.).

Private pheasant clubs, some adjacent to the Petaluma River on Lakeville Highway, and just east of Tubbs Island south of Highway 37, continue to propagate pheasants.

While the original imported birds and most of the breeding birds from game farms were of the race *Phasianus colchicus torquatus*, other closely related races have been released, as well as some crosses (Shuford 1993).

–B. Burridge

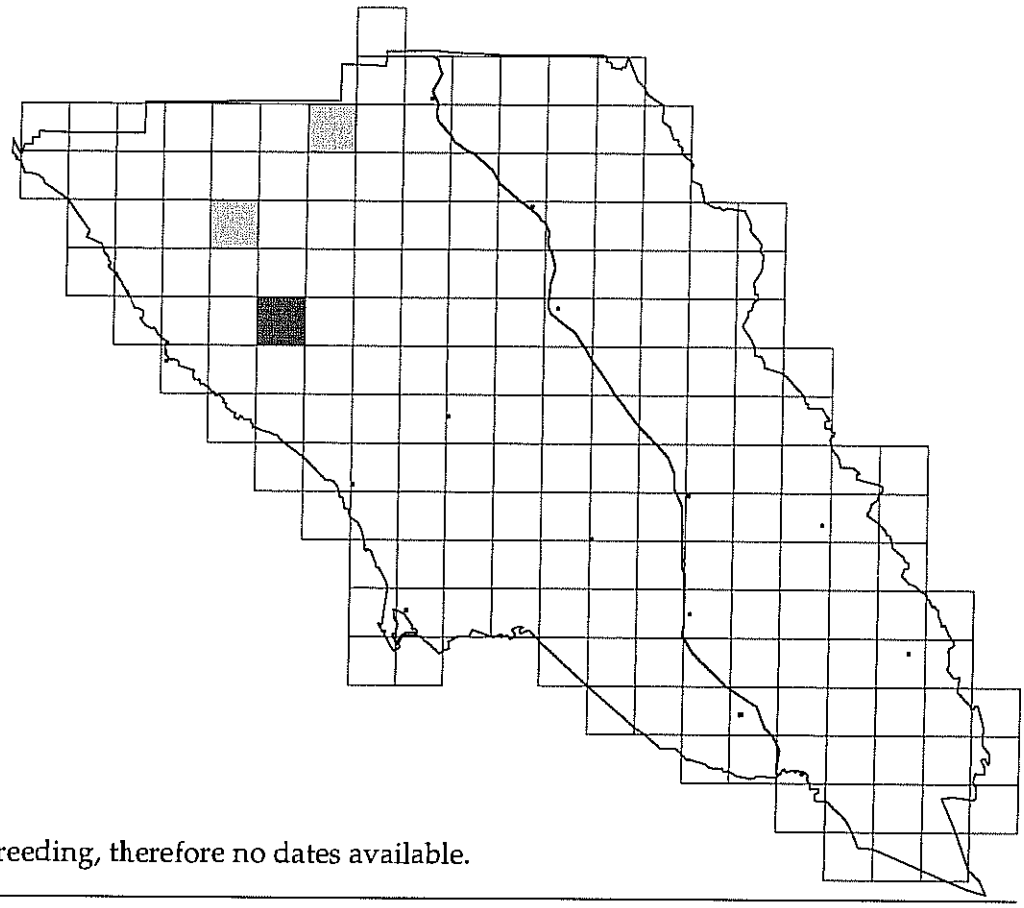
Blue Grouse

Dendragapus obscurus

0 Confirmed

1 Probable

2 Possible



Occurrence

Year round resident

Breeding

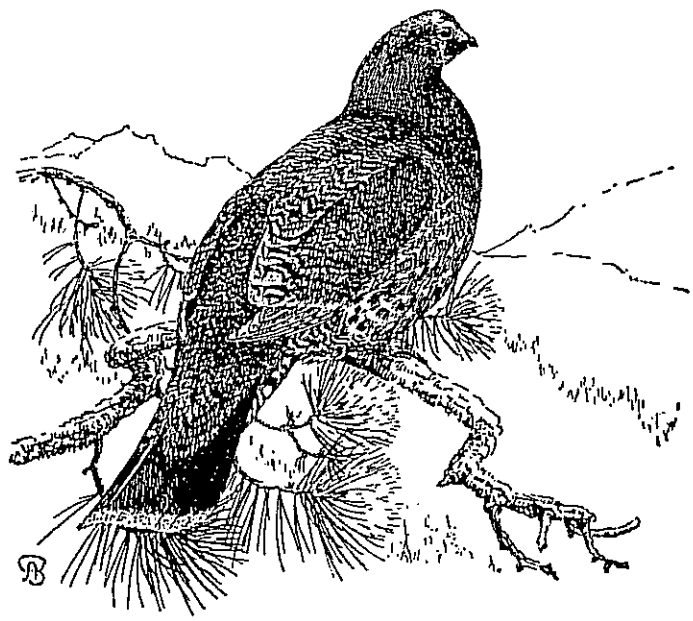
No Confirmations of breeding, therefore no dates available.

Even when the tree has been located from which a male Blue Grouse is emitting his hollow booming call, it may still be nearly impossible to locate the bird, so cryptically disguised is this species. Your next best chance seems to include the element of surprise, that is, to come upon one (or more) dust bathing in a path or field, or herding a clutch of chicks through life's maze of dangers.

Grinnell and Miller (1927) noted the Blue Grouse to be a local resident in coniferous forests near the sea coast of Sonoma County, specifically at 'Bodega' in 1854, the Russian River Mountains in 1860, and near Seaview (north of Jenner) in 1915. This last location is confirmed by Barbara Black, a member of a pioneer Sonoma County family, who remembers seeing Blue Grouse dust bathing on the then unpaved Seaview Road while riding her horse to school. Again, in the 1960s, while horseback riding in the area of Seaview Road, this time with her husband, she found a female grouse with chicks (B. Black pers. comm.). From early April through April 26, 1981 this grouse was also reported near Cazadero (D. Ellis 1981).

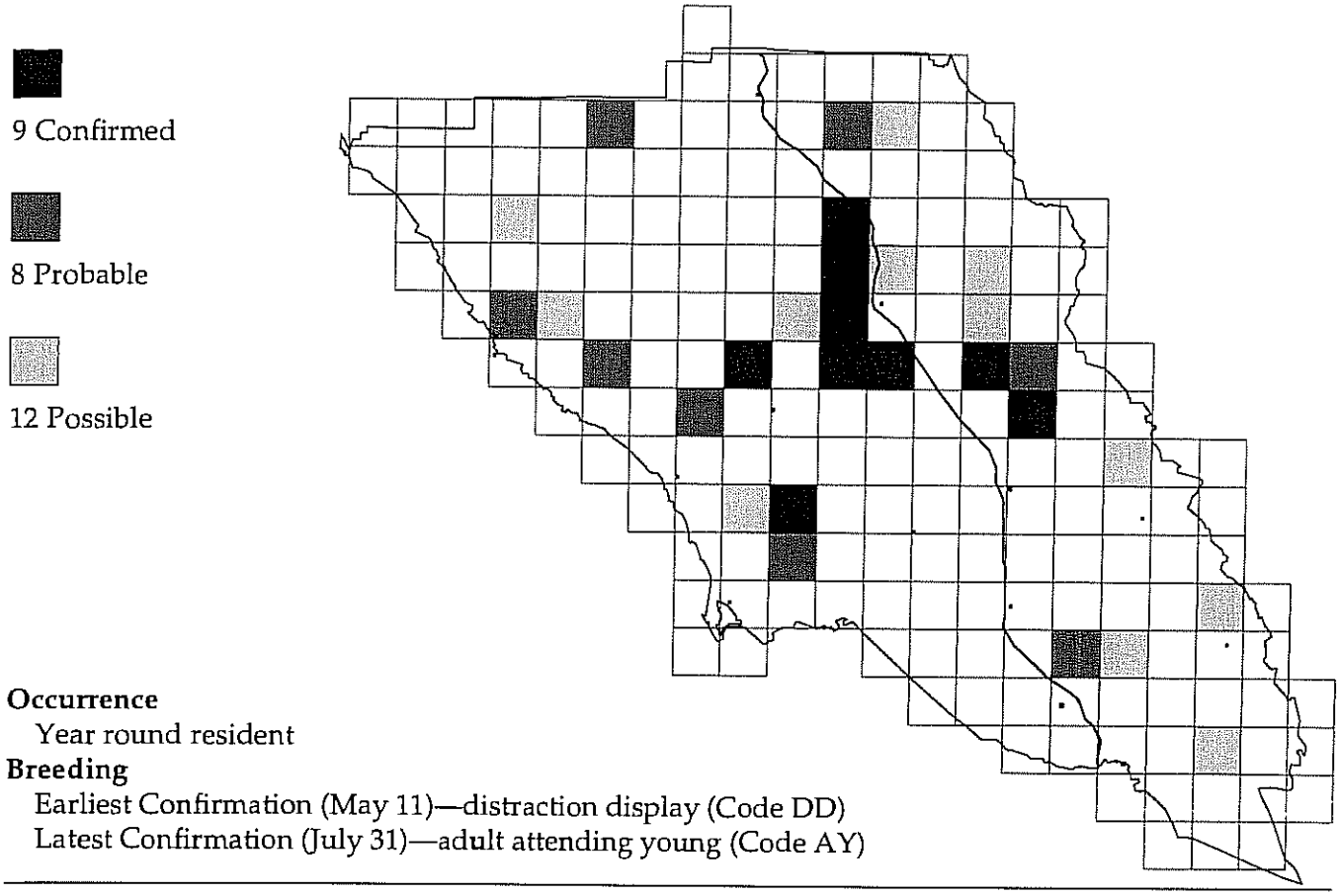
Mrs. Black reports a sharp decline in the grouse population in the 1950s coincident with heavy logging of fir trees in the area. She feels that their numbers have since recovered. And as recently as 1993 she again saw Blue Grouse on Seaview Road, some seven miles north

(continued on page 183)



Wild Turkey

Meleagris gallopavo



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 11)—distraction display (Code DD)

Latest Confirmation (July 31)—adult attending young (Code AY)

Gobbling and strutting, with plumage erect, tail fanned and wings drooped with quills rattling, the male Wild Turkey sets the local standard for a 'dandy' courtship routine.

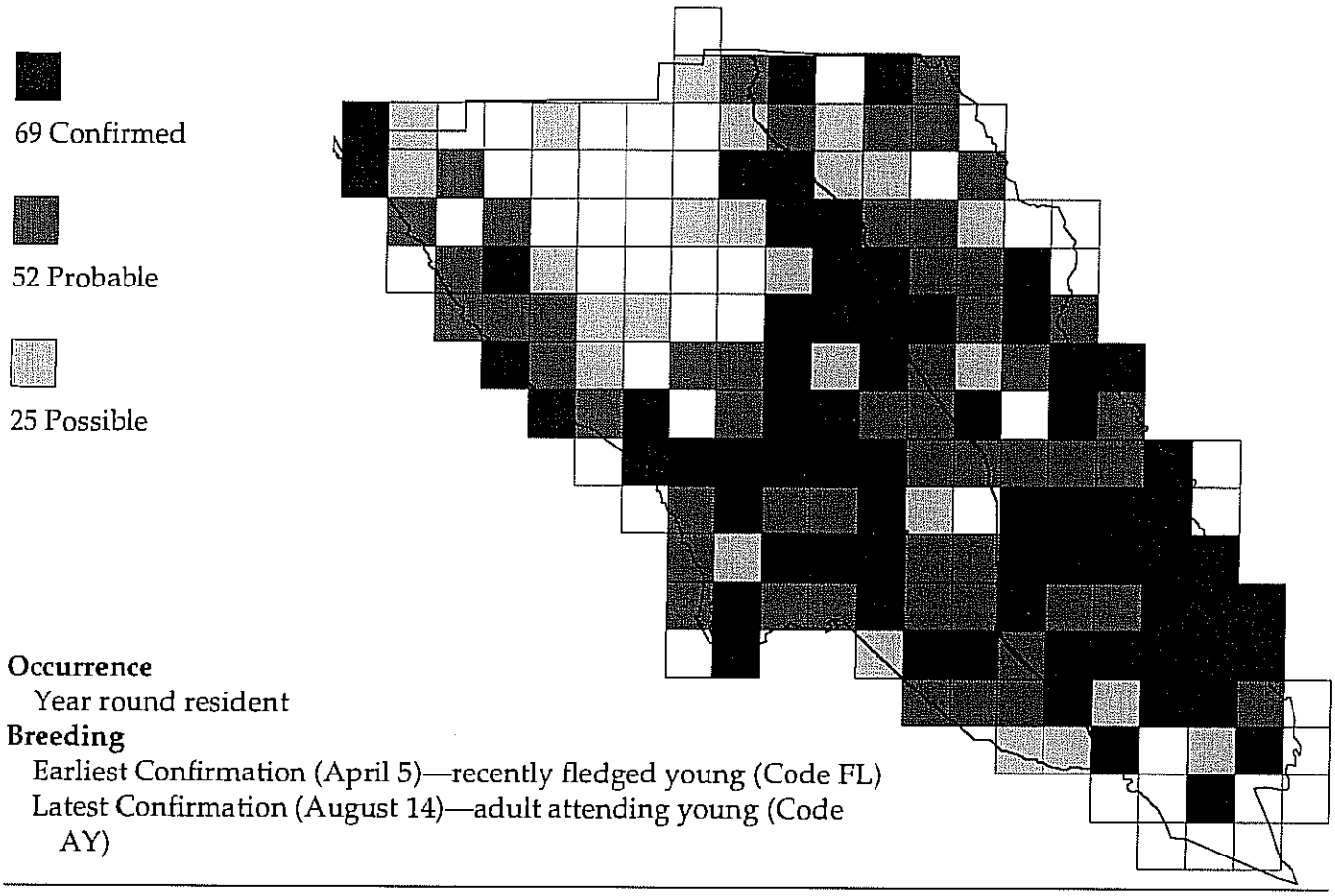
This popular game bird was never native to Sonoma County, but efforts to establish a wild population were begun as early as 1911, when Henry Lencioni of Santa Rosa released two crates of Wild Turkeys on the Child's place near Cazadero (Christensen 1988). Since that time, and possibly even before, the California Fish and Game Commission repeatedly released game farm-raised birds. Some released birds came from Arizona stock (Ben Cummings pers. comm.). None of these attempts was successful in establishing a viable self-sustaining wild population (Grinnell & Miller 1944) until wild birds trapped in Texas were introduced with success in the early 1970s (Christensen 1988).

By the mid to late 1970s there were reliable sightings of the Wild Turkey at the Hopland Agricultural Field Station (University of California), in adjoining Mendocino County (pers. obs.), yet there were still no records of any wild birds in Sonoma County (Bolander & Parmeter 1978). In May 1986 there were sightings from atlasing efforts near Geyserville (pers. obs.) as well as on Rock Pile Road in north central Sonoma County (B. D. Parmeter pers. comm.). Since then this bird is being reported with increasing frequency in Sonoma County's agricultural areas, and gently rolling oak woodlands: on Kings Ridge and Pine Flat and also near the towns of Bodega, Sebastopol and Occidental. And in suburban Wikiup, in northern Santa Rosa, there have been as many as 20 Wild Turkeys seen in one yard (J. Arnold pers. comm.).

–B. Burridge

California Quail

Callipepla californica



69 Confirmed

52 Probable

25 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (April 5)—recently fledged young (Code FL)

Latest Confirmation (August 14)—adult attending young (Code AY)

"Caution! Quail Crossing" read the traffic signs in one senior residential complex near Santa Rosa, so common and well-known is this charming and sprightly state bird of California. Present in 146 Blocks (80% of Atlas Blocks), this is Sonoma County's third most widely distributed bird.

Its absences were mainly in the heavily forested northwestern and extreme eastern areas of the county, and a few Blocks along the coast and southeastern corner where there is no suitable habitat.

The California Quail was originally abundant throughout most of California; however, the general population suffered considerable decline in the 35 years prior to 1944 though it was reported still to be varyingly common to abundant in favorable territory where not "shot out" (Grinnell & Miller 1944). There had been intense market hunting as early as the 1860s; laws passed in 1880 prohibited trapping and in 1901 fixed a bag limit and outlawed the sale of quail. However, bootleg operations continued to circumvent the laws and by 1925 only a pitiful remnant of the state's bountiful supply of quail remained (Shuford 1993 citing Welch 1928, Leopold 1977). Other factors including land use changes affecting quail food and habitat have also been implicated in the decline of the quail population at that time (Shuford 1993 citing Sumner 1935, Leopold 1977).

The California Quail frequents edge situations with interspersed low protective cover, open ground foraging areas and water sources (Shuford 1993 citing Sumner 1935, Emlen & Glading 1945, Leopold 1977). It sticks close to brushy edges of, or openings in major scrub, woodlands and forest habitats which border on pasturelands, weedy fields, meadows and unkempt lawns and gardens in Marin County (Shuford 1993) and neighboring Sonoma County.

–B. Burridge

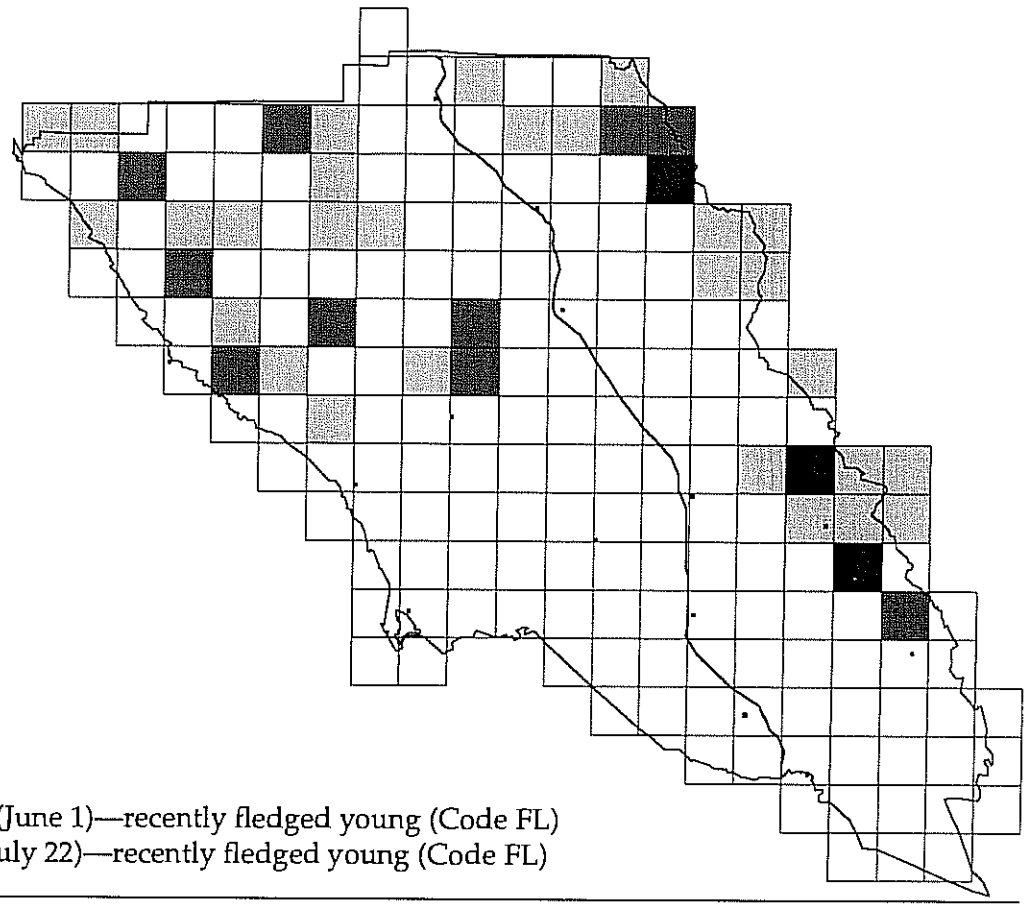
Mountain Quail

Oreortyx pictus

3 Confirmed

10 Probable

28 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (June 1)—recently fledged young (Code FL)

Latest Confirmation (July 22)—recently fledged young (Code FL)

Elusive and shy, the Mountain Quail is one of the most difficult local birds to see. However, the resonant "kyork" call of the male in spring and summer is a familiar signal to alert observers when this quail is present in suitable habitat. Sugarloaf Ridge State Park and Pine Flat Road are the best areas to find this bird in Sonoma County. It is not present in neighboring Marin County (Shuford 1993).

Atlas records show breeding evidence for the Mountain Quail in the mountainous northeastern and east-central areas, and in the forested northwestern and northern coastal areas of the county.

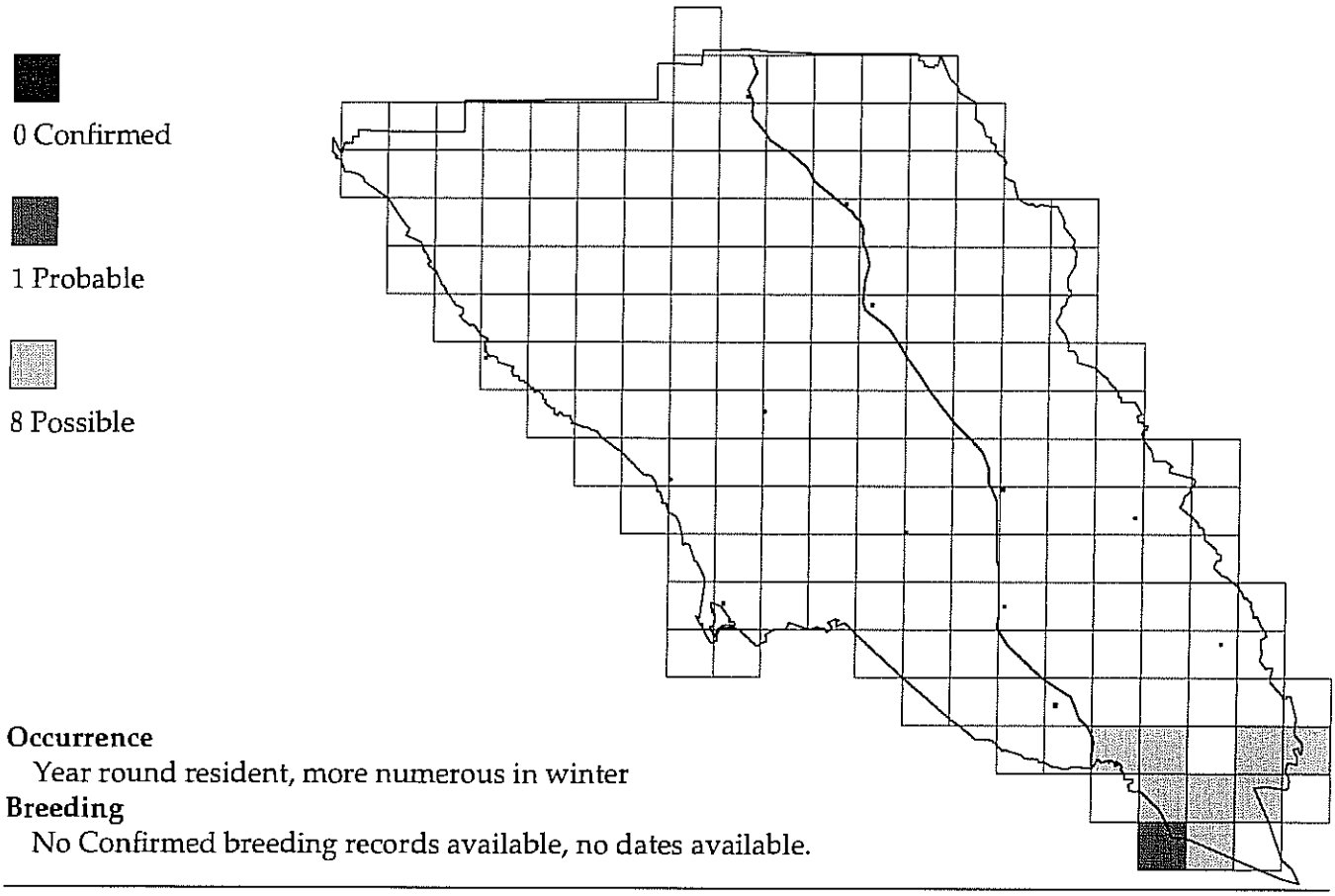
Historically, Grinnell & Wythe (1927) reported earlier records of this bird in Alpine Valley, Cazadero, Guerneville and on Mount St. Helena. By 1944 the Mountain Quail was reported to have "disappeared in some areas where at one time (it was) considered plentiful: for example, in parts of Sonoma County" (Grinnell & Miller 1944).

In spite of its name, the Mountain Quail can be found near sea level as well as up to more than 5000 feet in elevation (Grinnell & Miller 1944). In coastal California this quail inhabits coniferous forest with a shrubby understory, mixed evergreen forest and chaparral. It overlaps somewhat with California Quail; however, it generally occurs at higher elevations, on steeper slopes and spends most time inside chaparral thickets or beneath forest canopy (Shuford 1993 citing Gutierrez 1980).

–B. Burridge

Black Rail

Laterallus jamaicensis



Occurrence

Year round resident, more numerous in winter

Breeding

No Confirmed breeding records available, no dates available.

The tiny Black Rail is one of our most elusive birds. Observation is largely a matter of chance, as this bird is difficult to flush from sheltering vegetation and has been known to be stepped on by unwitting searchers.

Grinnell and Wythe (1927) called the Black Rail a fairly common winter and fall migrant in the San Francisco Bay Area and reported no records from Sonoma County. Likewise, Grinnell and Miller (1944) noted no occurrence of this rail north of Marshall, Marin County.

Sonoma County's first Black Rail record was by Gail Scott on February 14, 1977 at Tubbs Island, in the San Pablo Bay marshlands (Bolander & Parmeter 1978). Several other sightings followed near there in 1977 and 1978, some, during April and May, presumed to be of breeding birds. Black Rail presence in the Petaluma marshes was first discovered in 1977 by Tim Manolis (1977).

No verified records of Black Rail nesting exist for Sonoma County, although continued presence of this secretive bird in suitable habitat is certainly strongly suggestive of breeding.

Atlas records for the Black Rail cluster in the southeastern corner of Sonoma County along the San Pablo Bay and Petaluma River marshlands.

Since the Atlas study period, the Black Rail has extended its range to Bodega Bay, now its northern most coastal location (Jules Evens pers. comm.). A small population including at least two males was found in Doran Marsh in February 1992 and remained there throughout the 1992 breeding season (Lynn Stafford pers. comm.) This population is still present.

The San Francisco Bay Area is home to 80% of the Black Rails in California (Shuford 1993) and the Bay Area's Black Rail population density is greatest in the San Pablo Bay marshlands (Jules Evens et al., 1991).

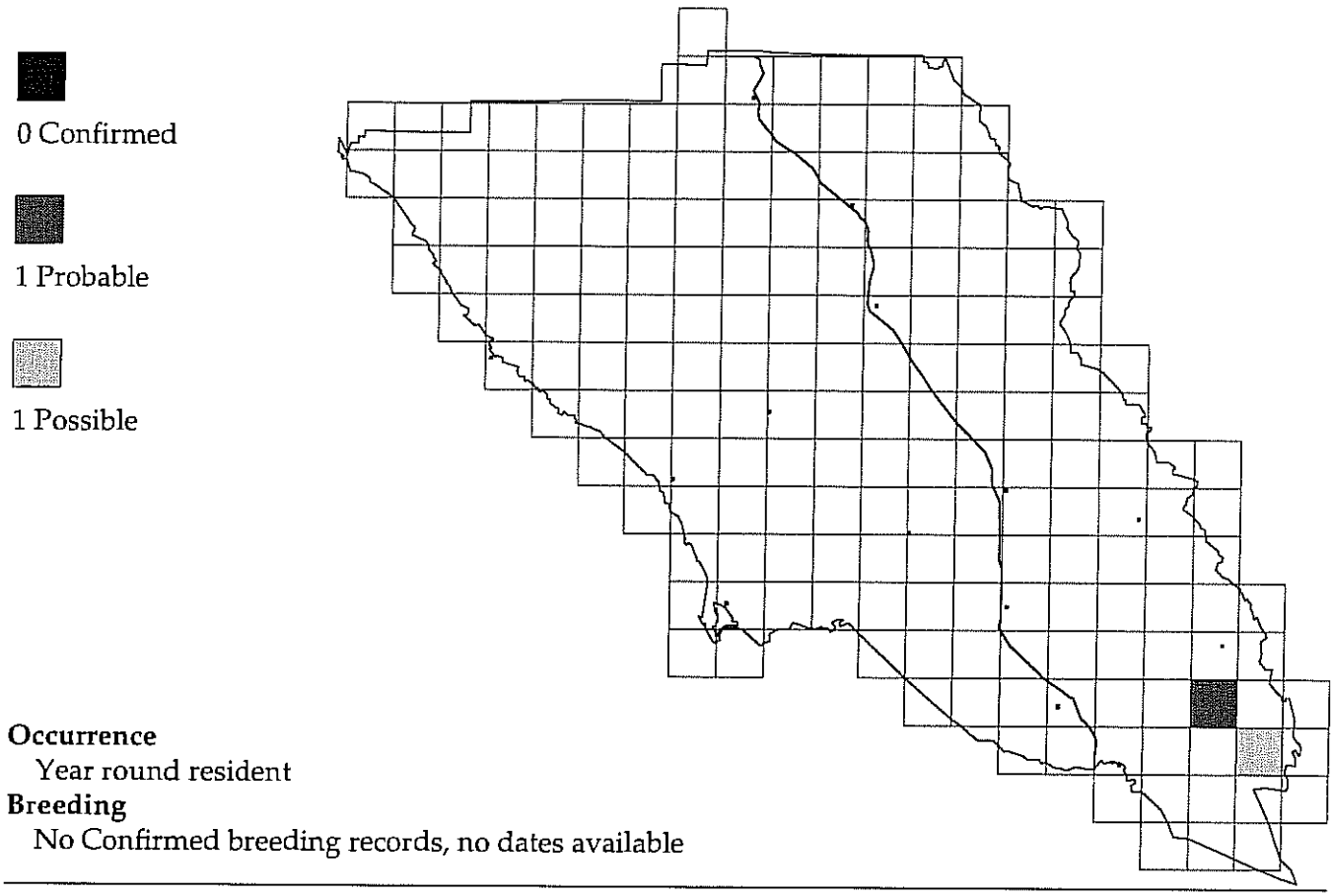
Preferred habitat includes low elevation tidal salt marshes with pickleweed (salicornia). Nesting seems confined to areas at the upper limit of tidal flooding (Grinnell & Wythe 1927, Grinnell & Miller 1944, T. Manolis 1977).

Extremely high tides force the Black Rail into exposed areas where birders may catch a precious view but predators, especially raptors, herons and egrets, take their toll.

The California Black Rail (*Laterallus jamaicensis coturniculus*) is listed as Threatened by the State and is a Candidate for federal listing as Threatened or Endangered (CDFG 1994).

–B. Burridge

Clapper Rail
Rallus longirostris



Occurrence
Year round resident
Breeding
No Confirmed breeding records, no dates available

A loud "kek-kek-kek" call often identifies the presence of this large rail, which is actually the size of a small hen. It lives exclusively in salt or brackish marshes traversed by tidal sloughs and is usually associated with abundant growths of pickleweed (salicornia). It feeds in the open on mollusks obtained from the mud-bottomed sloughs (Grinnell & Miller 1944). Its nest, made of salt grass or dry pickleweed, is concealed by low vegetation on the banks of these sloughs (Grinnell & Wythe 1927).

Bolander and Parmeter (1978) considered it a fairly common permanent resident in the San Pablo Bay and Petaluma River marshes.

During the Atlas period there were only two Clapper Rail reports: Territorial behavior near Schellville by Bob McLean and several sightings of single birds at Hudemann Slough, May 4 and 18, 1990, by Dick Ashford.

A later record from a CalTrans study conducted by Emilie Strauss (unpubl.) between June 15 and July 1, 1993, identified two to three Clapper Rail territories near the Route 37 bridge over the Petaluma River.

Recent surveys (Evens & Collins 1992) indicate the presence of at least 19 pairs of Clapper Rails along five miles of the Petaluma River from its mouth to Tule Slough. In the same study 260 - 422 pairs of Clapper Rails are estimated in the northern reaches of the San Francisco Bay, representing about 45% of the remaining California Clapper Rails (*Rallus longirostris obsoletus*).

At one time this bird was abundant in the salt marshes of the entire San Francisco Bay Area but market-hunting greatly reduced the population. One newspaper account refers to 5,000 being killed in the southern San Francisco Bay marshes in one week in 1897 (Shuford 1993 citing Gill) more than today's total population. Protective laws were passed in 1913 and a good recovery in numbers occurred (Grinnell & Miller 1944). But there has been another dramatic drop in the Clapper Rail population mainly due to an estimated 60 - 95% decrease in salt marsh habitat in the San Francisco Bay estuary since 1944 (Shuford 1993 citing Nichols & Wright, and Josselyn). Another major threat to the Clapper Rail is the recent introduction of a serious predator, the red fox (Shuford 1993 citing Harvey and P. R. Kelly).

The California Clapper Rail (*R. l. obsoletus*) is listed as Endangered by both the State and federal governments (CDFG 1994).

–B. Burridge

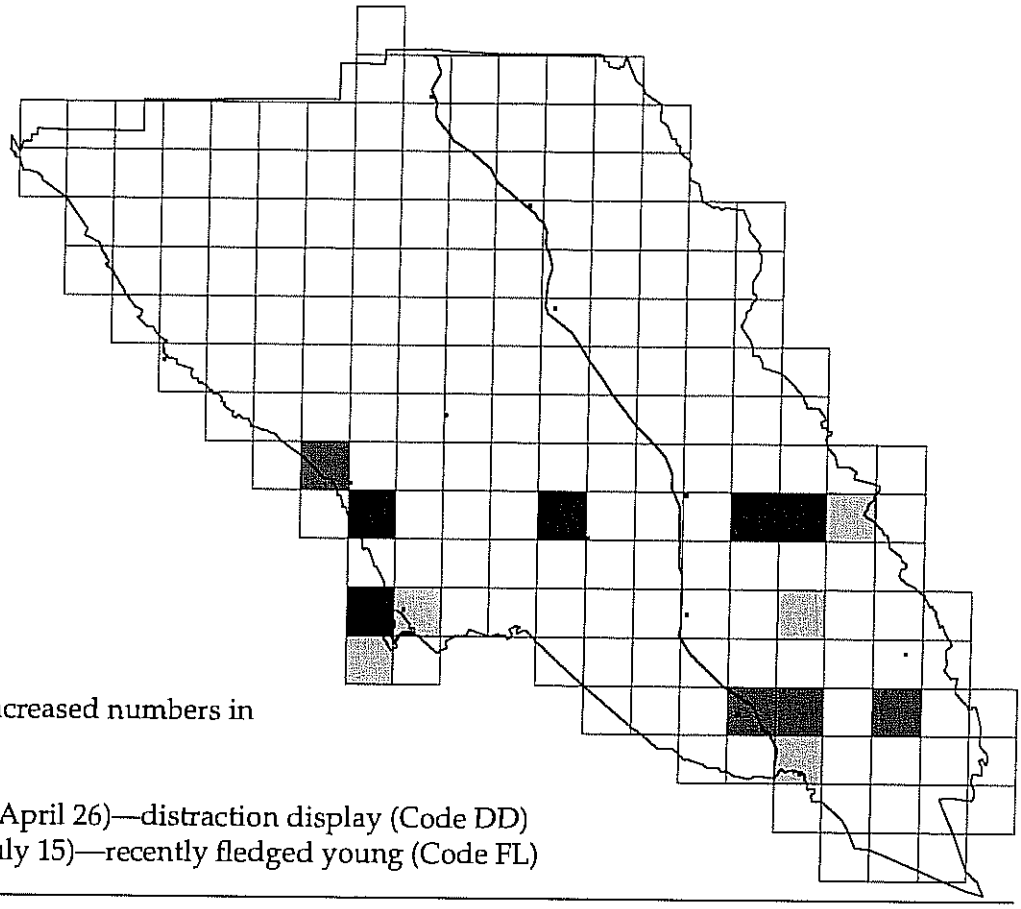
Virginia Rail

Rallus limicola

5 Confirmed

4 Probable

5 Possible



Occurrence

Year round resident, increased numbers in winter

Breeding

Earliest Confirmation (April 26)—distraction display (Code DD)

Latest Confirmation (July 15)—recently fledged young (Code FL)

The phrase "skinny as a rail" refers to the ability of this bird and its close relatives to laterally compress the body to fit through the narrowest of openings in the cattails and sedges.

Grinnell and Wythe (1927) described it as being a fairly common resident of San Francisco Bay Area fresh water marshes, and specified its presence at Freestone and Bodega in Sonoma County. Grinnell and Miller (1944) called it common but noted that the (ongoing) reduction of suitable marsh habitat obviously has meant commensurate reduction in its numbers. Certainly the continued significant decrease in fresh water marshland has caused even greater decline in this species ever since 1944. By 1978 Bolander and Parmeter judged this rail to be an uncommon permanent resident.

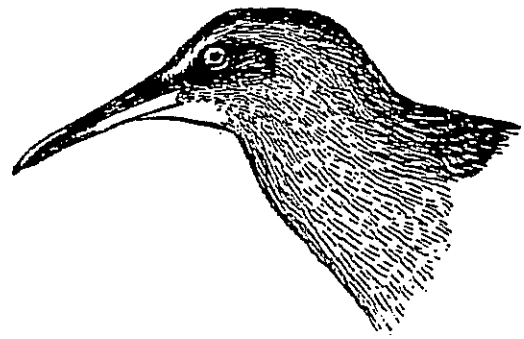
Nesting records date from the late 1970s when very young Virginia Rails, closely resembling tiny black balls of fluff, were observed at the Rail Ponds at Bodega Bay (Roger Marlowe pers. comm.). Up to seven young rails were seen there in early summer and August 1979 (Ellis 1979).

During the Atlas study period this rail was Confirmed as a breeder in five Blocks: at Bridgehaven, Annadel State Park, Kenwood, northwest of Sebastopol and the Bodega Bay Rail Ponds.

In addition to fresh water marshes it will also breed locally on the borders of salt marshes, and may be satisfied with a very tiny wetland with just a little shelter and open water (Grinnell & Miller 1944).

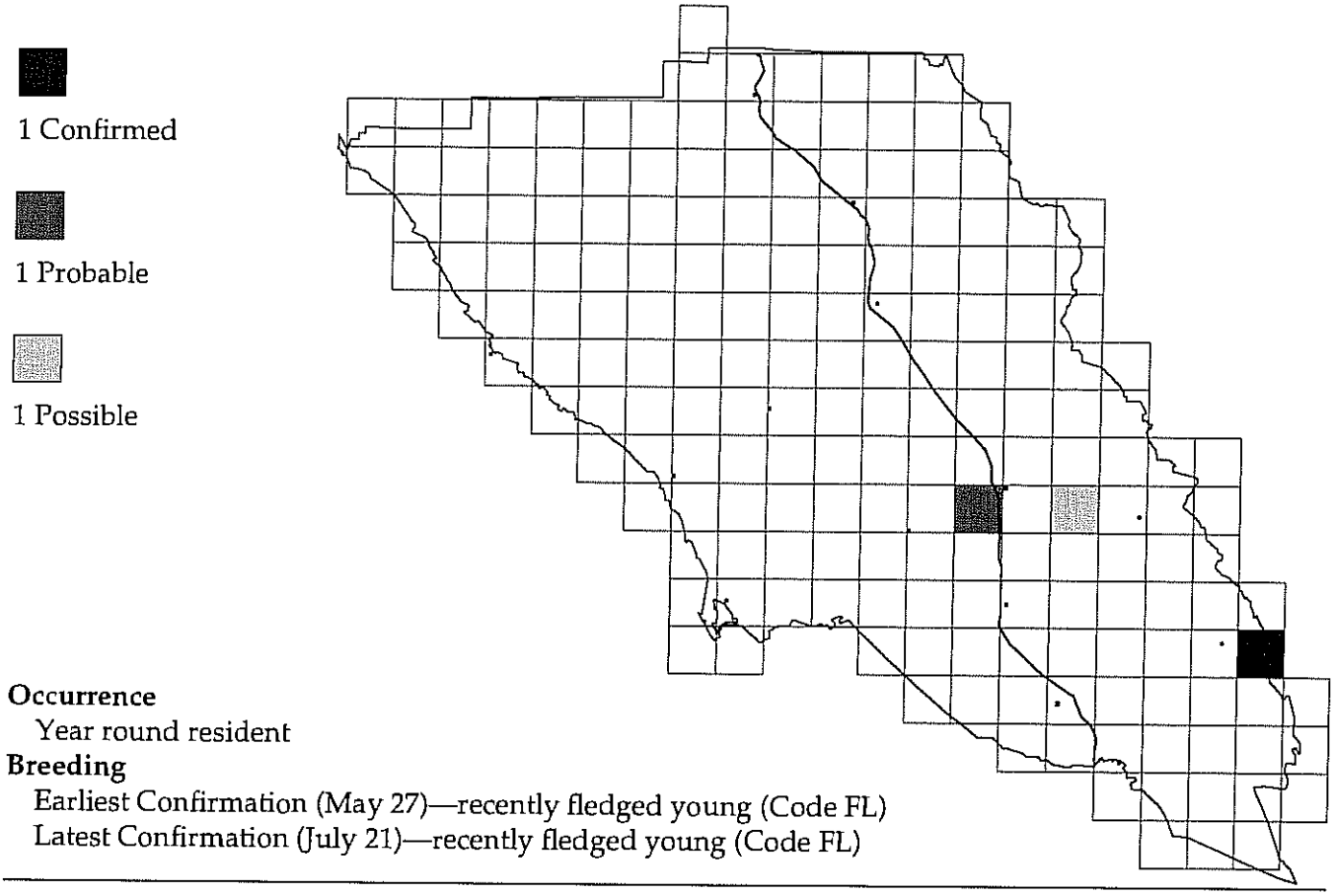
An interesting report came from the Santa Rosa Bird Rescue Center (May 27, 1994) of a Virginia Rail found in a barn very near the Santa Rosa Flood Control Channel west of Marlowe Road.

–B. Burridge



Common Moorhen

Gallinula chloropus



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 27)—recently fledged young (Code FL)

Latest Confirmation (July 21)—recently fledged young (Code FL)

This secretive water bird might be described as a mud hen with a red bill by the initiated as it skulks through reeds and cattails in a quiet pond. It prefers fresh water that is deeper than a coot would choose, and stays more to vegetation that emerges from the center, rather than the edges of the lake, pond or waterway where it may be nesting (Shuford 1993).

No mention was made of the Common Moorhen in the San Francisco Bay Area by Grinnell & Wythe in 1927. By 1944 Grinnell & Miller noted it as a summer resident from March to November, with no coastal belt records north of Golden Gate Park in San Francisco. Bolander and Parmeter (1978) listed the Common Moorhen as an uncommon permanent resident with few records at the coast.

There are at least four Confirmed records of breeding for Sonoma County, only one (southeast of Schellville in the southeastern corner of the county) being during the Atlas period. A second nesting record was of an adult with four downy young in a marshy area at the Cader Lane Ponds in Petaluma on May 27, 1992 (Chris Tarp pers. comm.). Yet another was of recently fledged young (Code FL) in the summer of 1993 in the wastewater ponds at the north end of Morris Street in Sebastopol (Chris Wood et al., pers. comm.), and a fourth record of nesting was from the pond at Bridgehaven in 1994 (B. D. Parmeter pers. comm.). There was also a Probable Atlas record of a Common Moorhen visiting a probable nest-site at the Third Street wastewater ponds in western Santa Rosa.

–B. Burridge

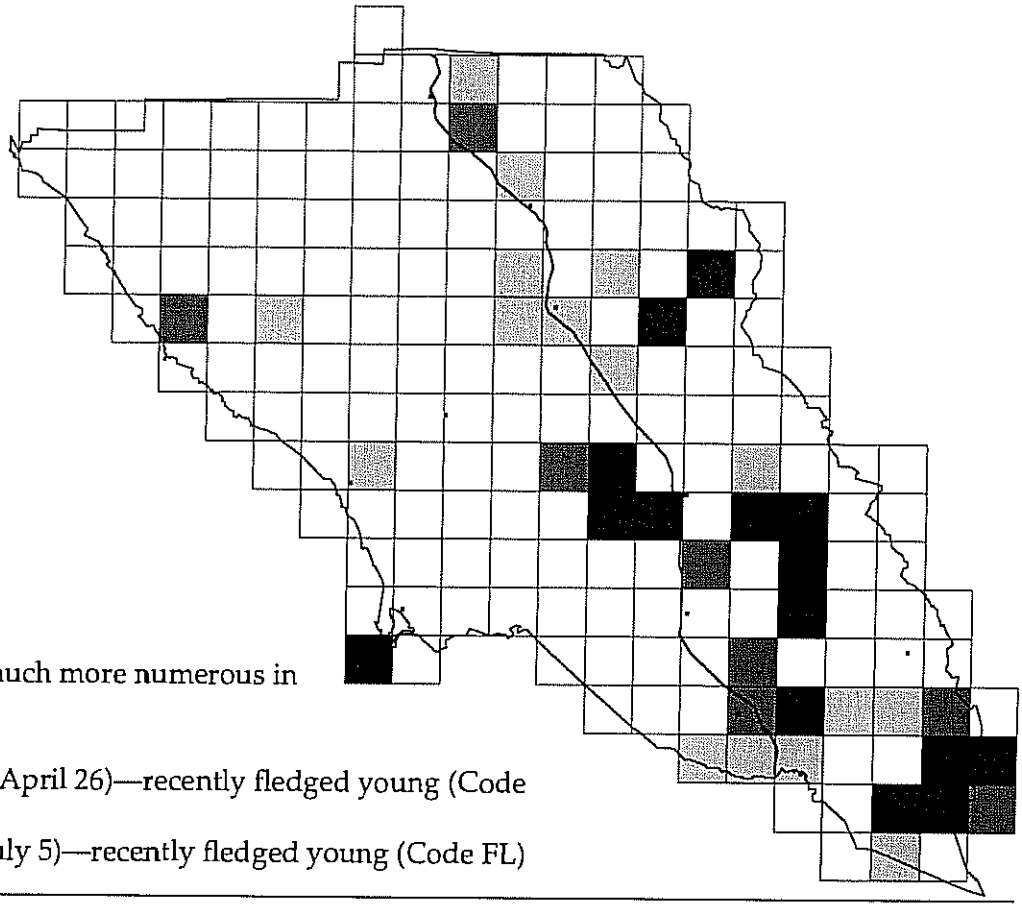
American Coot

Fulica americana

15 Confirmed

8 Probable

16 Possible



Occurrence

Year round resident, much more numerous in winter

Breeding

Earliest Confirmation (April 26)—recently fledged young (Code FL)

Latest Confirmation (July 5)—recently fledged young (Code FL)

This ubiquitous member of the rail family has been maligned, casually dismissed as "just a Mudhen", and even had life-threatening action taken against it by golfers but most commonly it has been ignored.

These attitudes seem unworthy of a bird that dives, dabbles and grazes in pursuit of its food.

I have observed the American Coot population at Bodega Bay since 1982. Small numbers begin straggling into the Bodega Harbor in late September, and by the third week of October, there are hundreds of coots bobbing on the water or probing the shoreline for food.

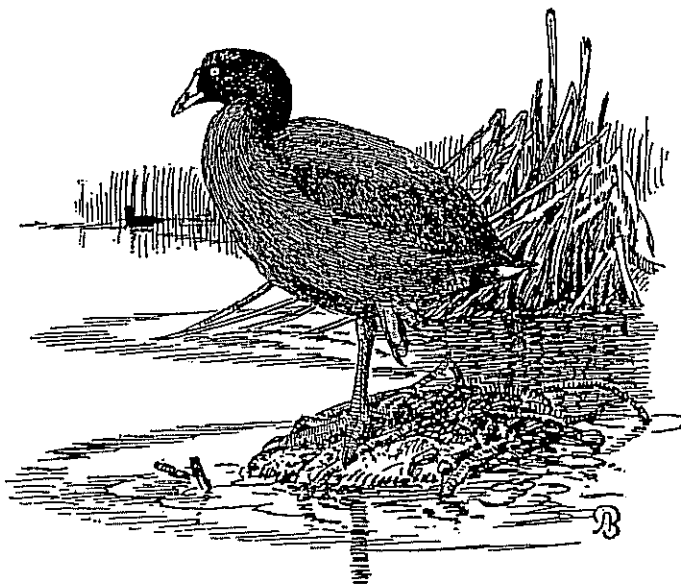
In early May the coot population begins to dwindle and by the middle of the month, the harbor is void of this species (pers. obs.).

It migrates by flying at night, unobserved (for who has seen an aerial flight of migrating coots?), toward inland freshwater lakes, ponds and marshes, where display platforms and nests are built (Ehrlich et al., 1988).

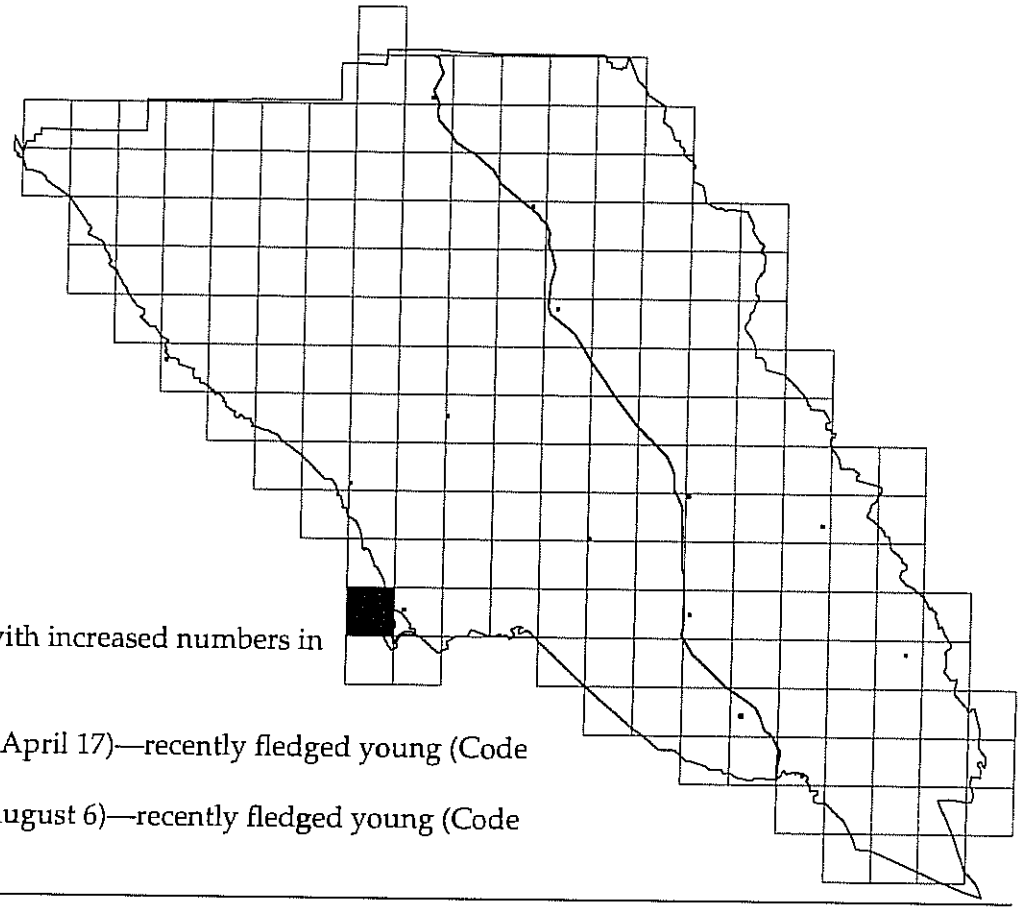
This Atlas has only one coastal breeding record: at the freshwater pond known as the "Hole-in-the-Head" at Bodega Bay. Other Atlas breeding Confirmations are scattered interiorly on lowland and foothill wetlands. In addition to the Atlas records, Dr. John Arnold reported newly fledged young American Coots at Spring Lake, Santa Rosa, (in Block 530-255) on July 2, 1984.

Reasons for individual demise can range from a raiding Peregrine Falcon to an encounter with an automobile. Drought and wetland drainage have negatively affected coot populations in nearby Point Reyes in Marin County since 1976 (Shuford 1993) and undoubtedly in Sonoma County as well.

–N. Conzett



Snowy Plover
Charadrius alexandrinus



1 Confirmed

0 Probable

0 Possible

Occurrence

Year round resident, with increased numbers in winter

Breeding

Earliest Confirmation (April 17)—recently fledged young (Code FL)

Latest Confirmation (August 6)—recently fledged young (Code FL)

This diminutive cryptically-colored plover blends so well with the sandy environs it inhabits that many beachgoers are totally unaware of its presence. It often settles into footprints above the high tide line, thus becoming even more difficult to detect as it peers over the edge of its wind-protected fort. The Snowy Plover usually remains motionless until approached within a few yards.

There is frequent and increasing unintentional interruption to its breeding cycle through recreational use of beaches by humans, their animals and their off-road vehicles along the entire California coastline (Shuford 1993).

Grinnell and Wythe (1927) judged the Snowy Plover to be a fairly common resident of the San Francisco Bay Area locally along ocean and bay shores, with some nesting at Point Reyes, Marin County.

In the early 1950s an adult with chicks was found by Gordon Bolander at Doran Park, Bodega Bay (Bolander & Parmeter 1978) but a later extensive search by Point Reyes Bird Observatory (PRBO) in 1977 could find no evidence of breeding in that area (Bolander & Parmeter 1978). Then a nest with eggs was located by Dave Shuford on nearby Salmon Creek Beach in 1978. Nesting has probably been more or less regular here since the mid 1980s. No other Sonoma County nesting locations are recorded for the Snowy Plover.

Studies on Salmon Creek Beach sponsored by PRBO identified 11 nests with a total of 13 fledged young in 1989, and 19 nests with a total of five to seven fledged young in 1990. Principal reasons for nest failure in these studies were the apparent taking of eggs by Common Ravens and the washing away of nests at high tide (E. Hutchinson pers. comm.).

In a casual survey of Salmon Creek Beach in 1991, Lynn Stafford discovered two active nests. Both failed, one through disturbance by horses on the beach, and one from unknown causes (L. Stafford pers. comm.).

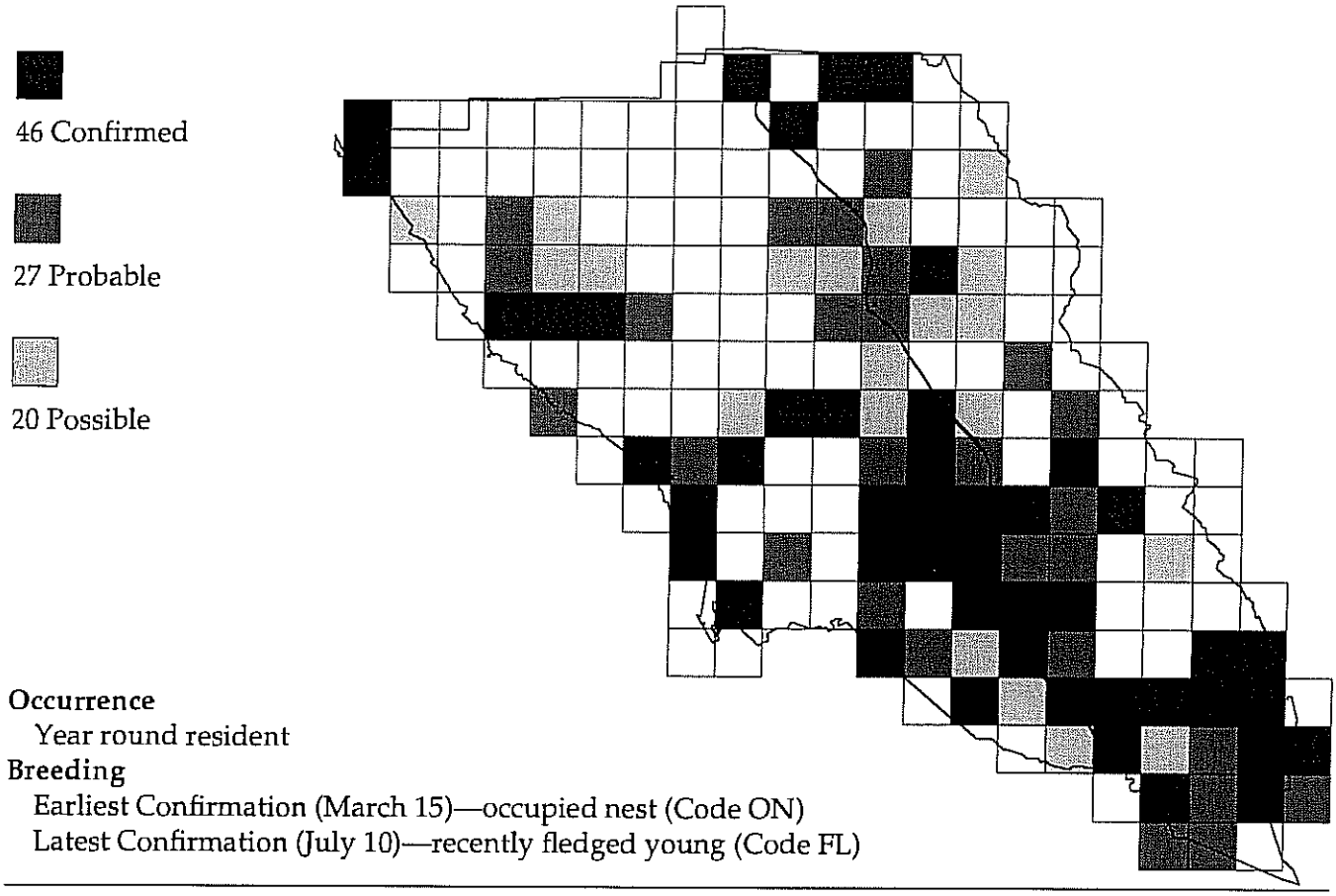
California coastal Snowy Plover breeding populations have decreased in number since 1970, especially in the southern part of the State. Intense human use and habitat destruction including the planting of introduced European beachgrass are major contributing factors to this decline (Page & Stenzel 1981).

The Western Snowy Plover (coastal), (*C. a. nivosus*), is a Species of Special Concern of the California Department of Fish and Game and is listed as Threatened by the United States Fish and Wildlife Service (CDFG 1994).

–B. Burridge

Killdeer

Charadrius vociferus



46 Confirmed

27 Probable

20 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (March 15)—occupied nest (Code ON)

Latest Confirmation (July 10)—recently fledged young (Code FL)

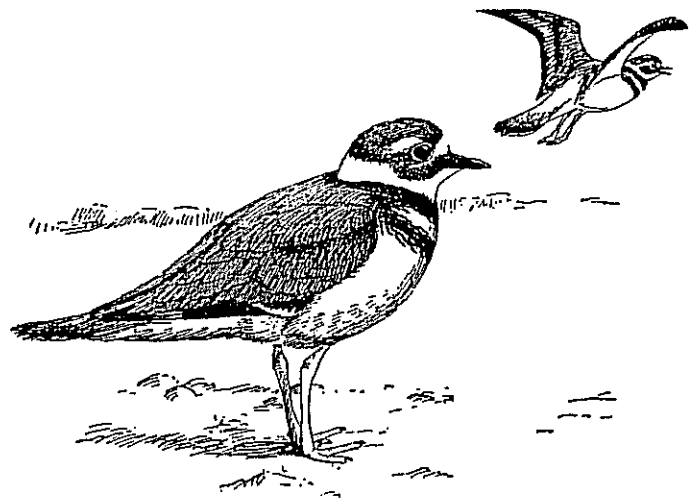
Vociferous by name, vociferous by habit, the Killdeer is usually the first of any species in a field or along a shore to give vocal notice of its alarm at the approach of an intruder. This is the most widespread and adaptable of all California's nesting shorebirds. An insect diet includes many of the worst crop pests (Cogswell 1977).

The Killdeer is found in open habitat not too far from water and nests throughout Sonoma County with the exception of the mountainous and heavily forested northwestern corner.

The nest is often near human activity and may be in a slight hollow with little or no lining, scraped in the ground, a driveway or on a flat roof, usually on gravel but any bare spot that offers nesting material is a possibility. A wide view of surroundings and some protection from flooding are often prerequisites for nest sites (Shuford 1993).

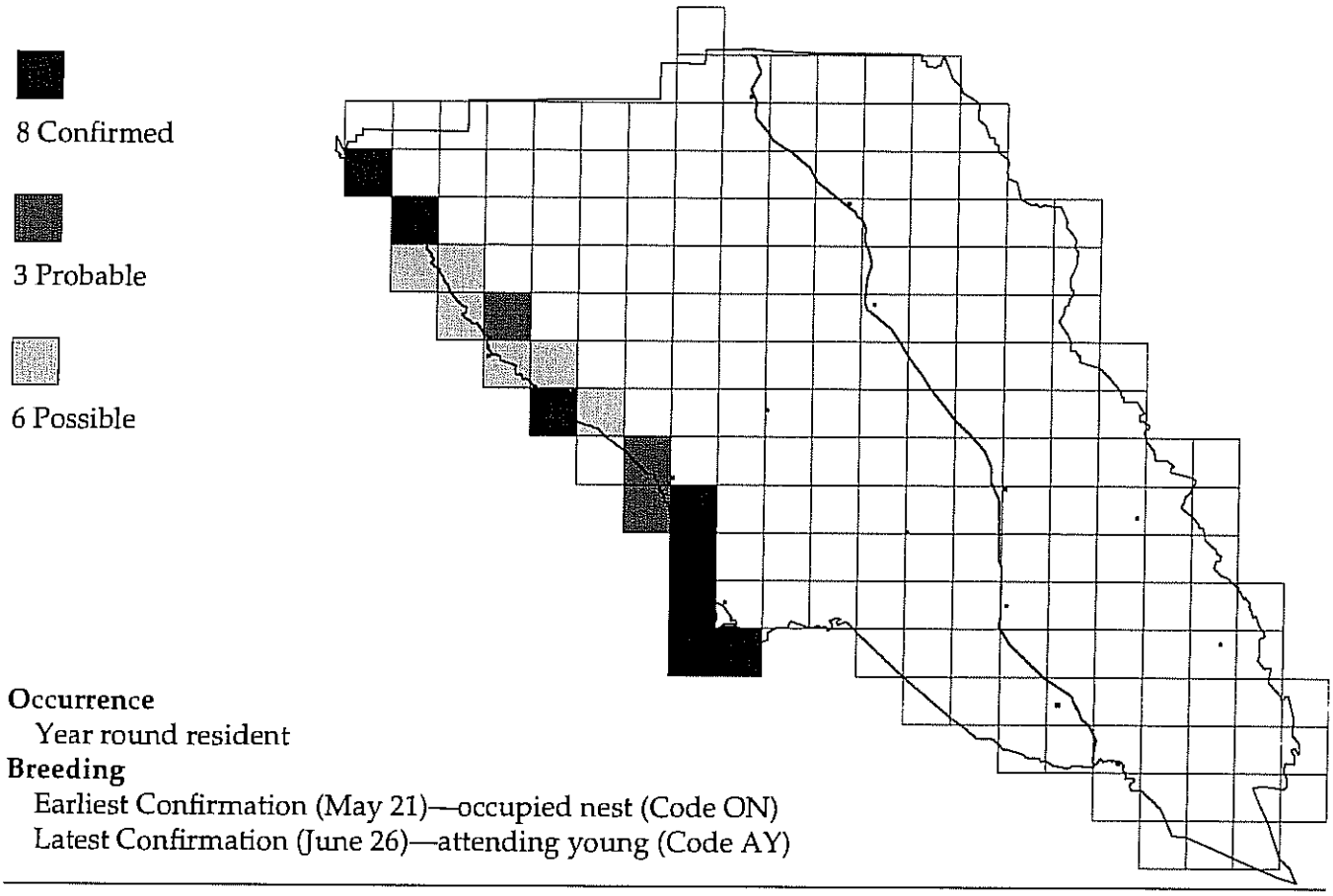
Though the nest is skillfully camouflaged, the Killdeer will often stage a broken wing display to lure potential predators from the vicinity of nest or young.

–K. Wilson



Black Oystercatcher

Haematopus bachmani



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 21)—occupied nest (Code ON)

Latest Confirmation (June 26)—attending young (Code AY)

An unmistakable bird of the rocky shoreline, the Black Oystercatcher as an adult is medium-sized and dark plumaged. It carries a distinctive orange bill that is long and substantially heavy. Long pink legs and large feet of the same color are further field marks. Hatching-year birds are characterized by dusky markings on a dull orange bill.

These birds are seldom seen in numbers, but often in pairs or small groups. On December 4, 1987, however, during a heavy storm, Roger Marlowe and I counted 30 oystercatchers on the leeward side of the Bodega Bay jetty; the next day, again during bad weather, I saw the identical number at the same location.

In his thesis, Dr. Gary Falxa (unpubl. data 1992) estimated that between 25-40 oystercatchers used his study area (Bodega Head) during the non-breeding season (August-March). His studies were conducted between 1986-1990.

The Black Oystercatcher, which lives for "more than seven years," (Falxa 1992) feeds on bivalves and other shelled marine invertebrates. According to his studies, Falxa estimated that perhaps 70% of the oystercatcher's diet consists of the meat from mussels. Food is obtained by stabbing at gaping mussels which open in response to being washed over by waves. Falxa found that oystercatcher foraging skills continue to improve over a period of at least four years after fledging. He postulates that Black Oystercatchers do not breed until four or more years old, waiting until their skills are adequate to both attract a mate and provide for offspring.

Nesting oystercatchers can be observed in at least two places off Bodega Head. The eggs are laid on a bare scrape decorated by a few pebbles. The precocial young are fuzzy gray balls with oversized feet who can scamper around their rocky home almost as soon as they are hatched. If three young are successfully produced, the parents may be hard-put to care for them, given their difficult method of foraging. Usually only the strongest two survive (pers. obs.).

The parent birds must guard both eggs and young from predating Common Ravens, who have been seen taking either. I have seen fierce defense of the nest site by adult oystercatchers, but have also witnessed the taking of eggs and chicks by a resident pair of ravens at Bodega Head.

–N. Conzett

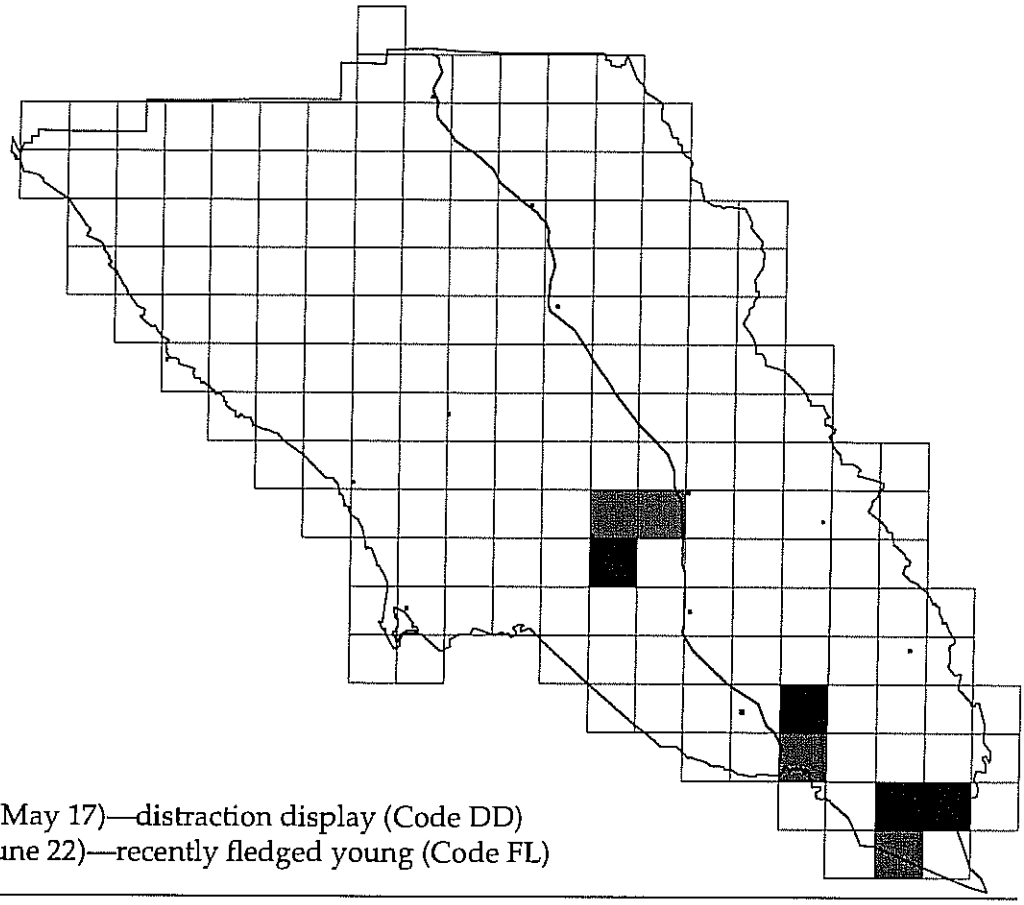
Black-necked Stilt

Himantopus mexicanus

4 Confirmed

4 Probable

0 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 17)—distraction display (Code DD)

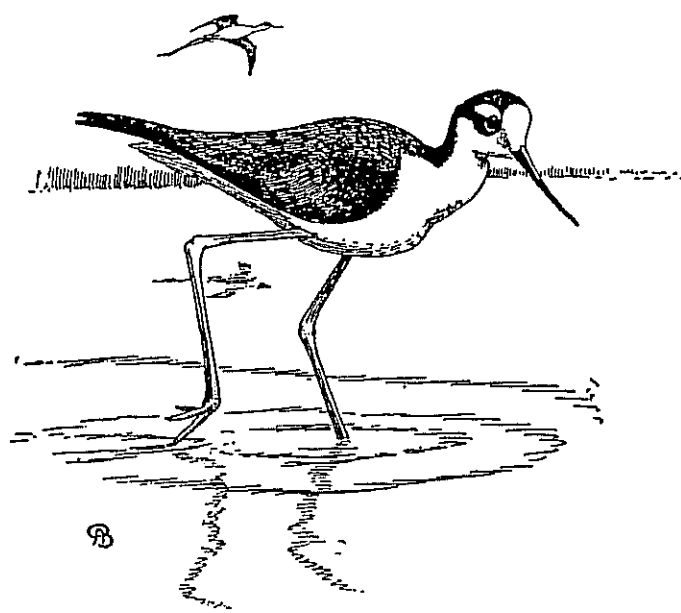
Latest Confirmation (June 22)—recently fledged young (Code FL)

This distinctive black and white, long-legged shorebird is unmistakable when seen foraging in marshy habitats. And this stilt is impossible to ignore if you inadvertently wander too close to its nest or young, for its insistent scolding and aerial attacks easily convey to the uninitiated just how protective of the family the adult is.

In Sonoma County breeding Confirmations were made in three areas: the Laguna de Santa Rosa at the Llano Road wastewater ponds (southeast of Sebastopol), the Cader Lane Ponds (an overflow area for the Petaluma River), and wetlands near Sears Point in southeastern Sonoma County. Records of Probable breeding behaviors of Black-necked Stilts come from wetland Blocks adjacent to these three nesting areas as well as the Third Street Ponds in western Santa Rosa.

The Black-necked Stilt was not noted in Sonoma County during most of the first half of the 20th century; however, it was found in limited numbers in the immediate vicinity of San Francisco Bay in summer and fall (Grinnell & Wythe 1927). It was listed as "formerly abundant, now common only locally" in 1944, its reduction being commensurate with the reduction in the area of marshlands (in California) (Grinnell & Miller). By 1978 Bolander and Parmeter reported it as a rare migrant and summer resident in Sonoma County from mid-March to mid-August. In 1976 and 1977, two pairs successfully nested at ponds adjacent to the Petaluma

(continued on page 183)



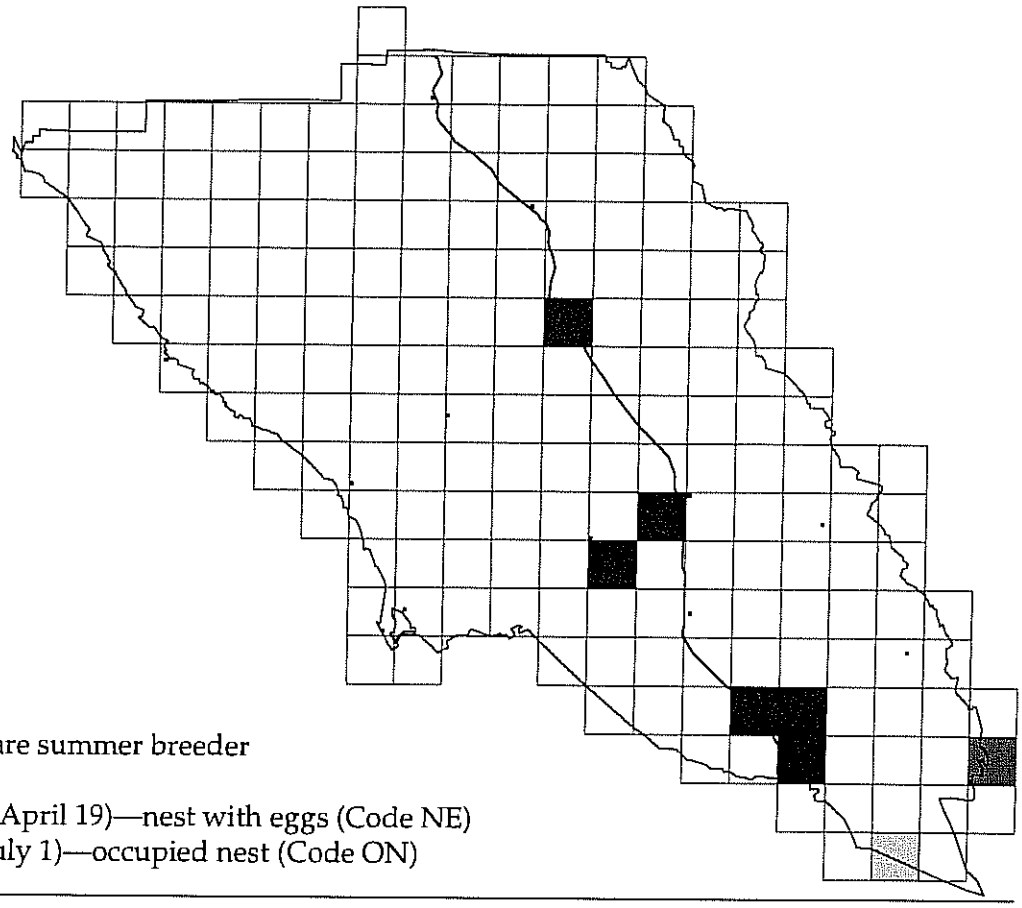
American Avocet

Recurvirostra americana

6 Confirmed

1 Probable

1 Possible



Occurrence

Year round resident, rare summer breeder

Breeding

Earliest Confirmation (April 19)—nest with eggs (Code NE)

Latest Confirmation (July 1)—occupied nest (Code ON)

The American Avocet is often seen in shallow freshwater, saline, alkaline or brackish wetlands. This long-legged wading shorebird frequently sweeps its upcurved (recurved) bill side to side while advancing through water to secure prey mainly through tactile sensation (Shuford 1993).

Its Atlas breeding distribution is limited to central and southeastern Sonoma County locations: Healdsburg wastewater ponds, the Llano Road wastewater ponds southeast of Sebastopol, the Third Street wastewater ponds in western Santa Rosa and the Petaluma River area southeast of Petaluma.

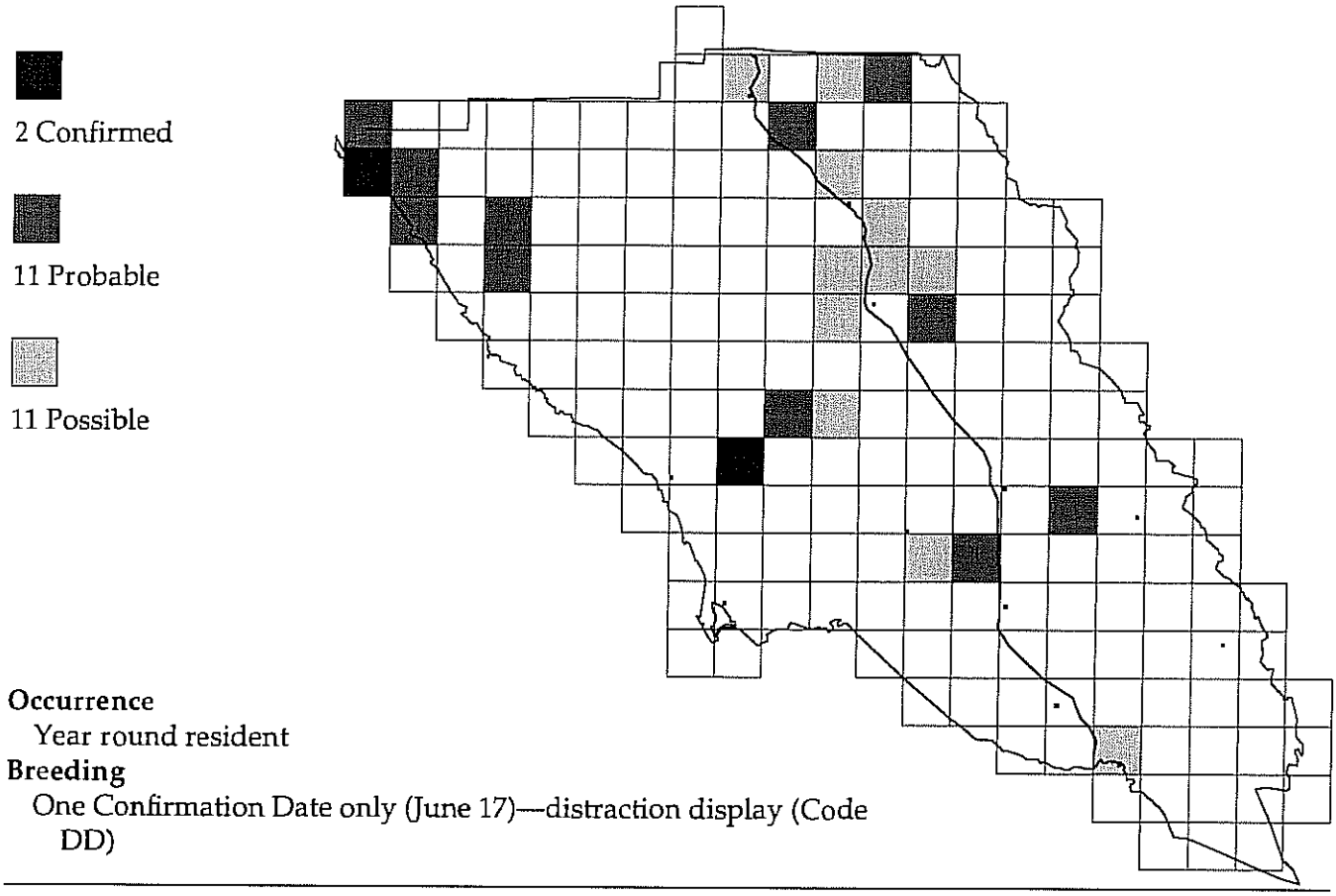
In 1927 Grinnell and Wythe labeled the American Avocet as a common visitor to the southern San Francisco Bay Area but this bird was not noted in Sonoma County prior to 1944. At the same time a reduction in the aggregate numbers and a retraction of the breeding range during "the last 40 years" was doubtless commensurate with a reduction in the area of interior marshlands in California (Grinnell & Miller 1944). By 1978, with the publishing of Birds of Sonoma County by Bolander and Parmeter, this bird was listed as a "fairly common to common migrant and winter resident" in Sonoma County. At that time there were no records for this avocet from mid-April to late July (the breeding season).

The first Sonoma County breeding record occurred on May 31, 1981 near the Petaluma River when an occupied nest was found. By July 1, 1981 there were two pairs of adults with four young birds (Ellis 1981). The American Avocet began breeding in neighboring Marin County in 1983 (Shuford 1993).

–B. Burridge

Spotted Sandpiper

Actitis macularia



Occurrence

Year round resident

Breeding

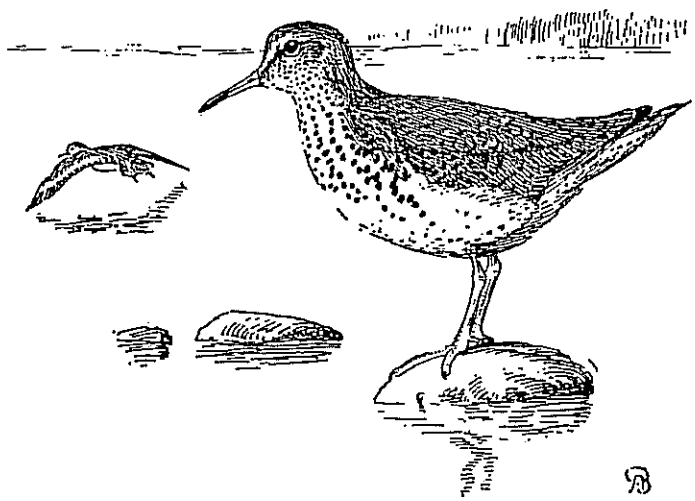
One Confirmation Date only (June 17)—distraction display (Code DD)

"Teeter", "Teeter-tail" and "Tail-up" have all been common names for this dainty sandpiper which practices its bobbing body English on the sand and gravel bars of our sheltered freshwater streams, lakes, ponds or marshes. Sonoma County was singled out by Grinnell & Miller in 1927 as the only San Francisco Bay Area county having this bird breeding within its borders (along the Russian River). Perhaps low observer coverage was responsible for missing other local breeding areas; however, to date neighboring Marin County still has only two Confirmed breeding records for the Spotted Sandpiper (Shuford 1993). Bolander and Parmeter (1978) listed it as an uncommon permanent resident of Sonoma County.

During the Atlas period Confirmations were made on the Russian River near Monte Rio (no date available), and on the north coast near Sea Ranch (June 17, 1989). A wide scattering of Probable and Possible breeding records covered the non-forested northern parts of Sonoma County including the Lake Sonoma/Dry Creek area, where long-time Sonoma County resident Jack Guggolz remembers seeing downy young Spotted Sandpipers running around in an area that is now covered by that man-made lake (pers. comm.).

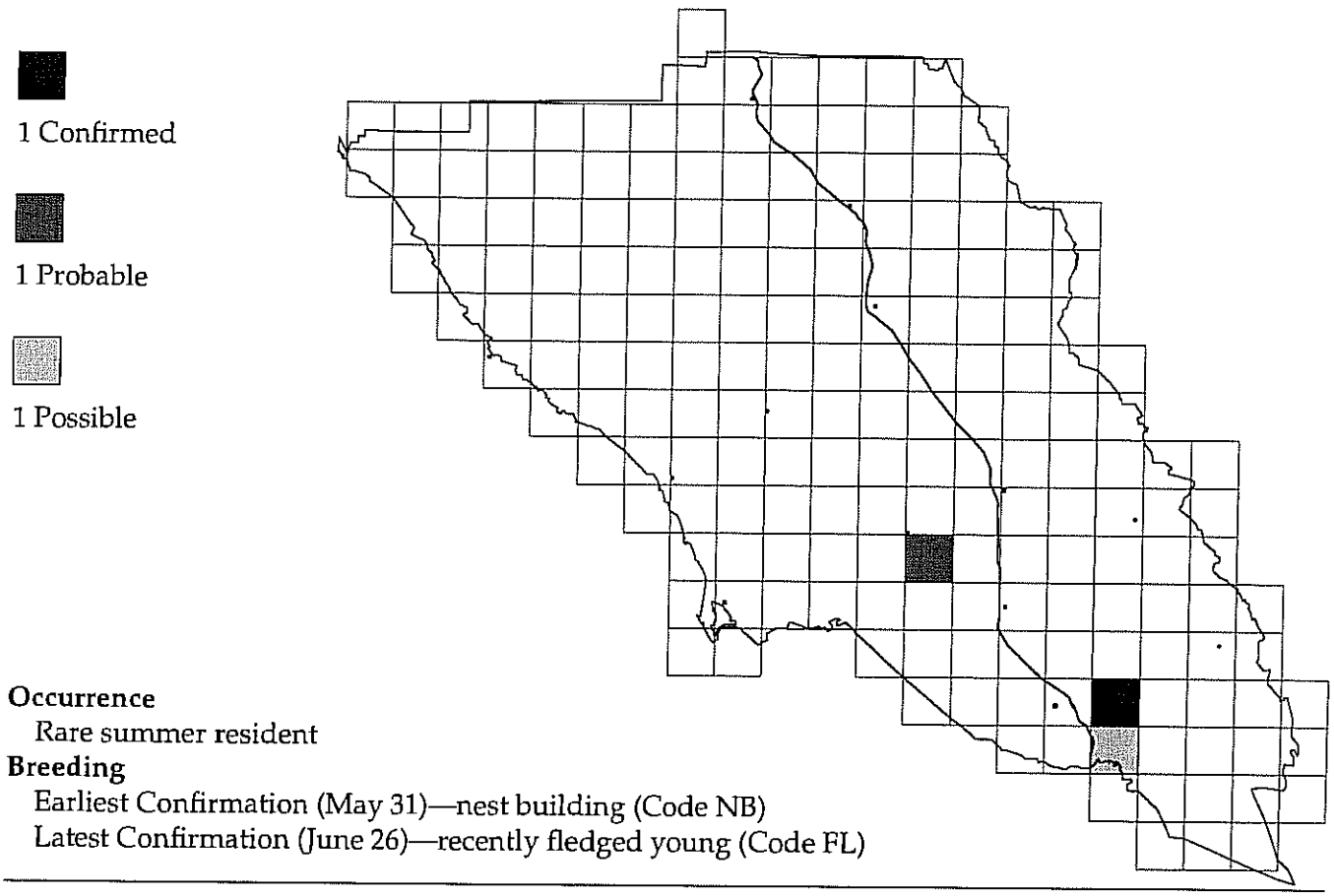
Nests are saucer-shaped depressions in sand, gravel or turf (Shuford citing Dawson 1923, Tyler 1929, Grinnell et al., 1930). A frequent mating strategy is serial polyandry; females nest successively with up to four males, leave the care of the precocial young to each male and help incubate only the last clutch of eggs (Shuford 1993 citing Hayes 1972, Oring & Knudson 1972, Oring et al., 1983).

–B. Burridge



Wilson's Phalarope

Phalaropus tricolor



Occurrence

Rare summer resident

Breeding

Earliest Confirmation (May 31)—nest building (Code NB)

Latest Confirmation (June 26)—recently fledged young (Code FL)

The phalarope is one of the few birds that has the female "wearing" the fancy dress and being the aggressor in courtship while the male appears non-descript and shoulders the majority of the child rearing duties. For breeding the Wilson's Phalarope uses marshlands (usually fresh-water) where there is some open shallow water and where vegetation is low (Grinnell & Miller 1944).

Grinnell and Wythe (1927) listed the Wilson's Phalarope as a rare summer and fall visitor to the San Francisco Bay Area on the basis of two sightings south of San Francisco. There was a report of the Wilson's Phalarope at the mouth of Salmon Creek in Sonoma County in migration on August 2, 1933 (Grinnell & Miller 1944).

Breeding of the Wilson's Phalarope in Sonoma County was first verified by Rick LeBaudour (pers. comm.) June 26, 1982 at the Cader Lane Ponds southeast of Petaluma, when a flightless young bird was found under the protection of an adult Wilson's Phalarope. No records exist for this species breeding in neighboring Marin County.

One Confirmation of breeding (nest building (Code NB)) at the Cader Lane ponds in 1986, exists for this Atlas. While the importance of this sighting is strengthened by the history of this species successfully nesting here previously, still more advanced breeding evidence involving presence of nest with eggs or young birds would be reassuring. The near overlap in the timing of spring and fall migration on the coast (Shuford 1993 citing Shuford et al., 1989) makes direct Confirmation of breeding of this species seem all the more important. A second Atlas record is a pair of birds seen copulating at the Llano Road wastewater ponds southeast of Sebastopol in the Laguna de Santa Rosa on May 15, 1986. A pair of Wilson's Phalaropes, possibly the same birds, were also observed at the same spot on May 23, 1986 (Roger Marlowe pers. comm.).

–B. Burridge

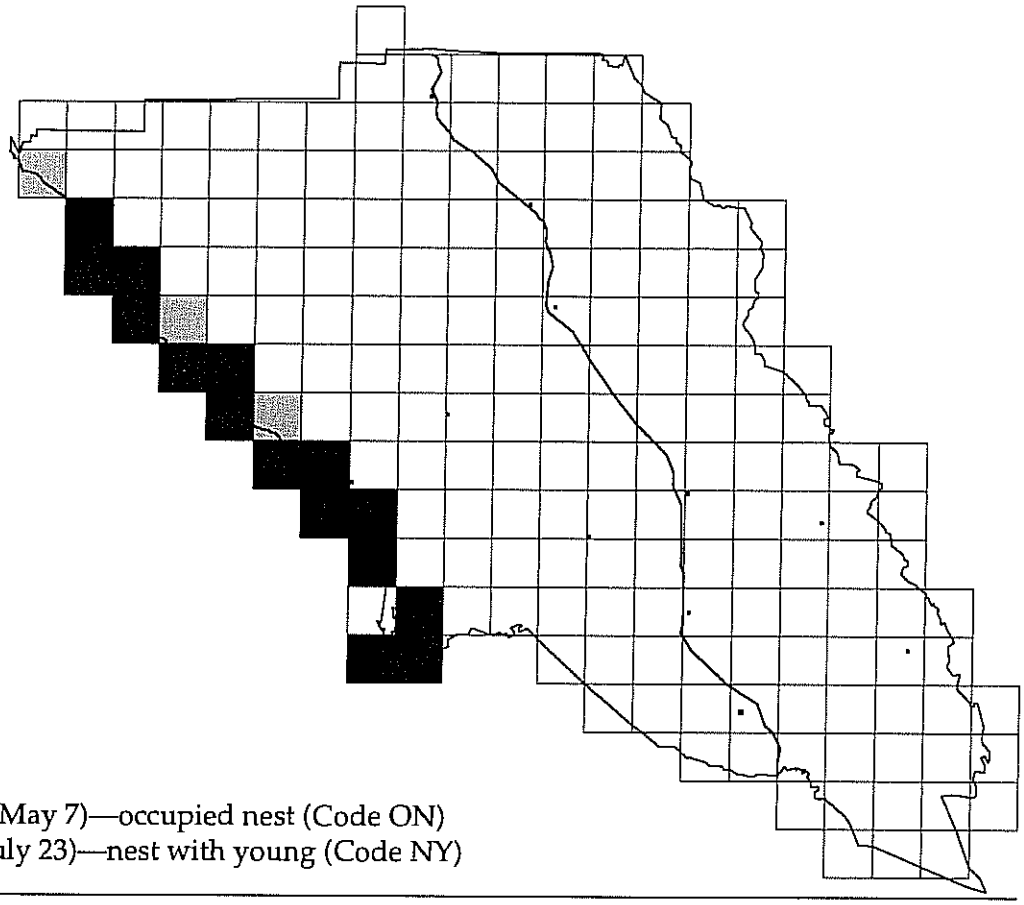
Western Gull

Larus occidentalis

15 Confirmed

0 Probable

3 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 7)—occupied nest (Code ON)

Latest Confirmation (July 23)—nest with young (Code NY)

In mid-May, a large, handsome, white-headed gull with a sturdy yellow bill and dark gray back, stands boldly on a piling as you spoon your chowder at a restaurant in Bodega Bay. Shamelessly, it demands attention (and hopefully, a handout) with strident calls.

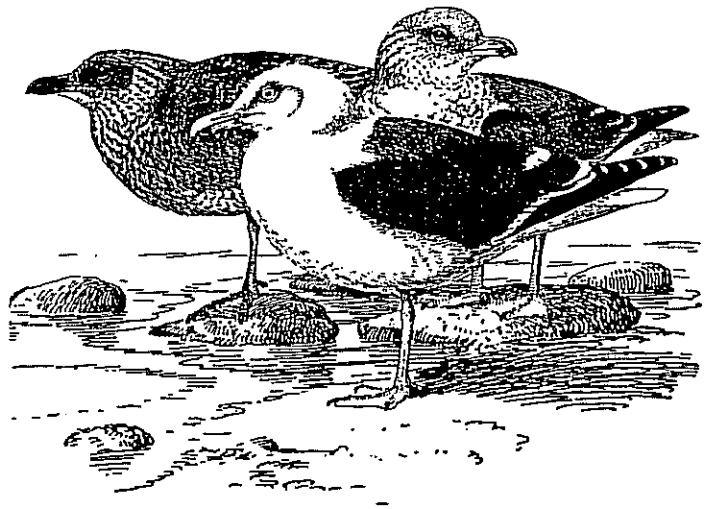
Nearby, there might be a few less stately gulls of the same size with plumages in various combinations of browns, grays and whites. These are younger gulls, almost certainly of the same species, for the Western Gull is the only gull to nest along Sonoma County's coast. Four years are required to achieve maturity and its handsome breeding plumage. This is, by far, the most common gull in Sonoma County during the breeding season.

The Western Gull nests on cliff faces and offshore rocks along our county's western edge. It builds a respectable nest or repairs an old one with vegetation gathered near the site.

Only one brood is raised in a nesting season, both parents contributing time and effort toward incubation and food gathering.

The chicks are fed by regurgitation of partially-digested food gathered at sea (shortbelly rockfish being a favorite), or from ever-diminishing public refuse disposal sites, as well as the opportunistically-discovered garbage of careless picnickers.

The Western Gull is also an unmitigated thief who devours the eggs and chicks of other species among whom it nests. Spear (1994), in his study of gull predation on the Farallones, suggests the thievery might actually result in the stabilization of the breeding effort (continued on page 184)



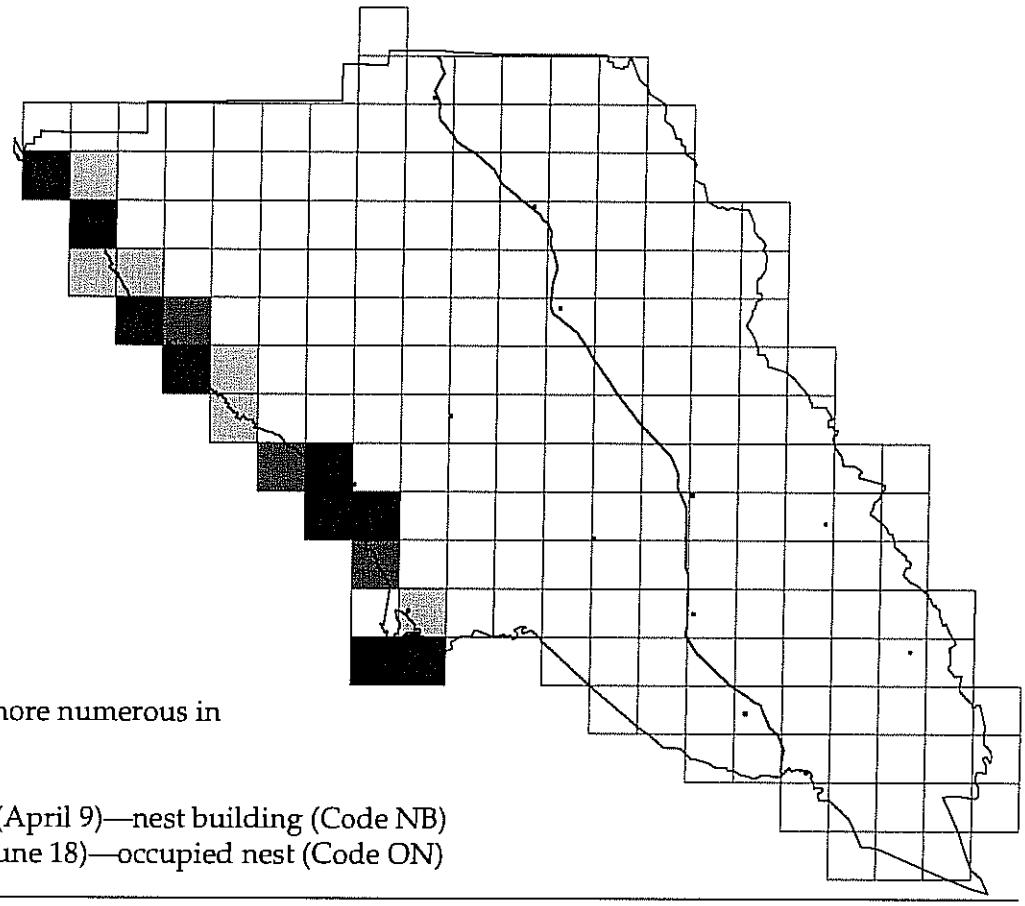
Pigeon Guillemot

Cepphus columba

9 Confirmed

3 Probable

6 Possible



Occurrence

Year round resident, more numerous in summer

Breeding

Earliest Confirmation (April 9)—nest building (Code NB)

Latest Confirmation (June 18)—occupied nest (Code ON)

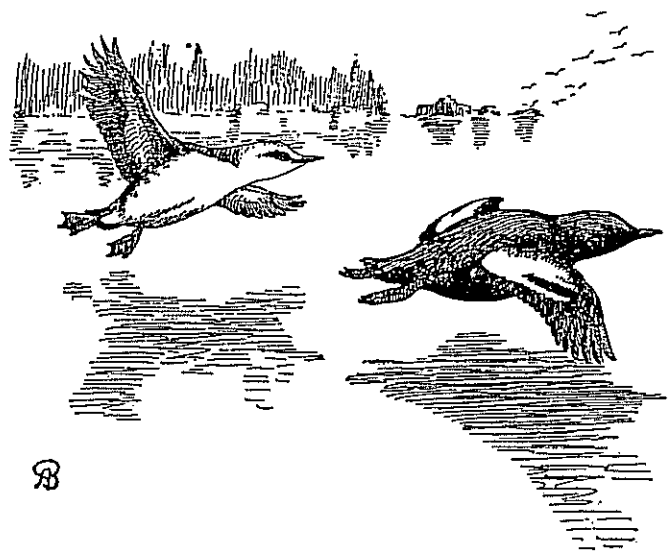
This jet black seabird with flashy white wing patches sports still other surprises. In addition to bright red legs and feet, its carmine mouth lining can startle the uninitiated.

One traditional nest site that can easily be observed is on Bodega Head just beyond the far (south) end of the parking lot that overlooks the Pacific. A tiny sharply indented cove cuts parallel to the end of the parking lot; it is on the far (north-facing) cliff of this cove that a pair of Pigeon Guillemots may be observed from April through June nesting on the bare rocks about one-third of the way down from the top of the cliff. Tell-tale whitewash below the nest marks the spot until driving late fall storms arrive.

Grinnell and Wythe (1927) noted these birds nesting as close as Point Reyes, Marin County but not in Sonoma County. Grinnell and Miller (1944) recorded nesting for this bird as far north as the northern California coast at Crescent City, Del Norte County and along the entire coastline to Southern California with no specific mention of Sonoma County nesting for this bird; however, Bolander and Parmeter, in 1978, listed the Pigeon Guillemot as nesting in Sonoma County's coastal cliffs.

Today the Pigeon Guillemot breeds along the entire Sonoma County coastline. Since it places its eggs forward on rocky ledges or other nest sites, the nests are fairly easily discovered. Eggs may be laid on talus slopes, in rocky crevices, on boulders or in sea caves (Shuford 1993 citing Bent 1919).

–B. Burridge



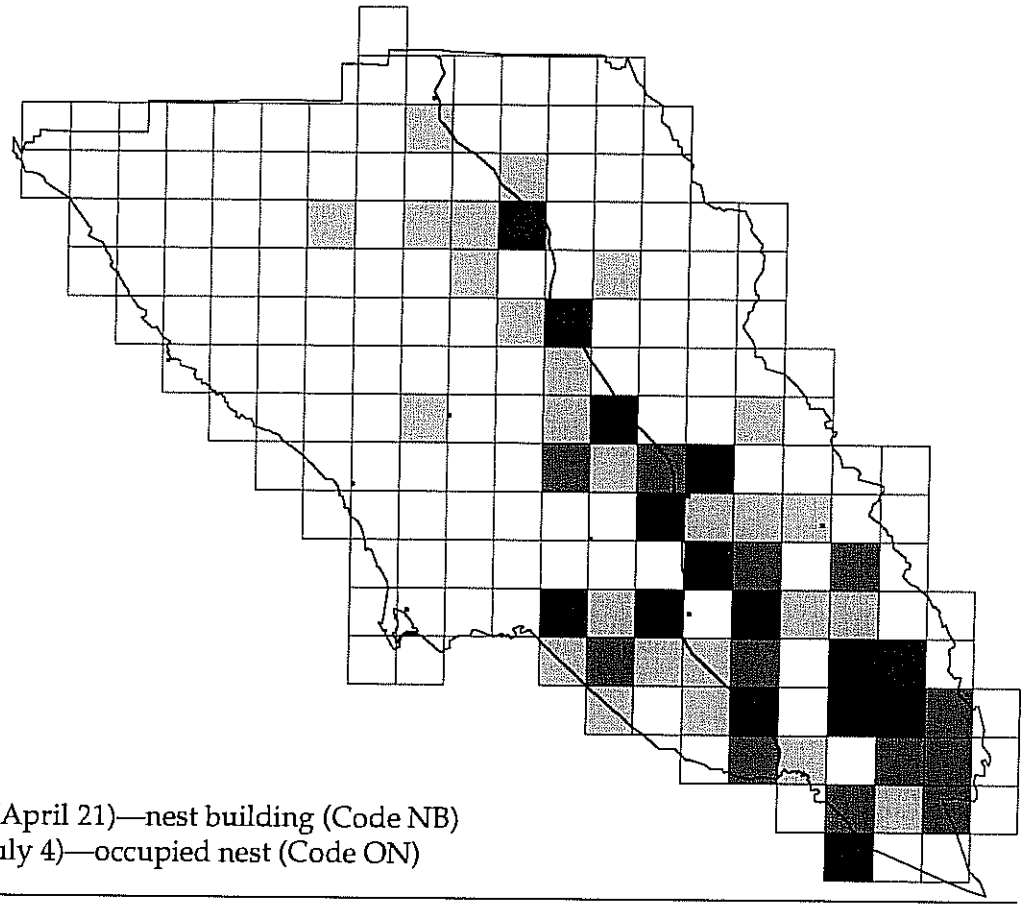
Rock Dove

Columba livia

15 Confirmed

12 Probable

26 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 21)—nest building (Code NB)

Latest Confirmation (July 4)—occupied nest (Code ON)

In the most populated areas of Sonoma County the Rock Dove finds the perfect combination of forage, ideal nesting sites and protection from predators.

To use the name Rock Dove (singular) seems incorrect, certainly inadequate to describe this gregarious bird. Somehow it seems that all descriptions should include a plural reference, such as flock or even company of Rock Doves. You will find them together whether roosting, flying, foraging, or even nesting in loose colonies.

These mostly feral descendants of domestic European pigeons were brought to the New World as early as 1606 (Shuford 1993 citing Schorger) and continue to prosper in our midst. In the 1940s and 1950s large municipalities such as San Francisco trapped unwanted populations of these birds in the downtown areas and released them 'far away' in rural Sonoma County (B. Burridge pers. comm.).

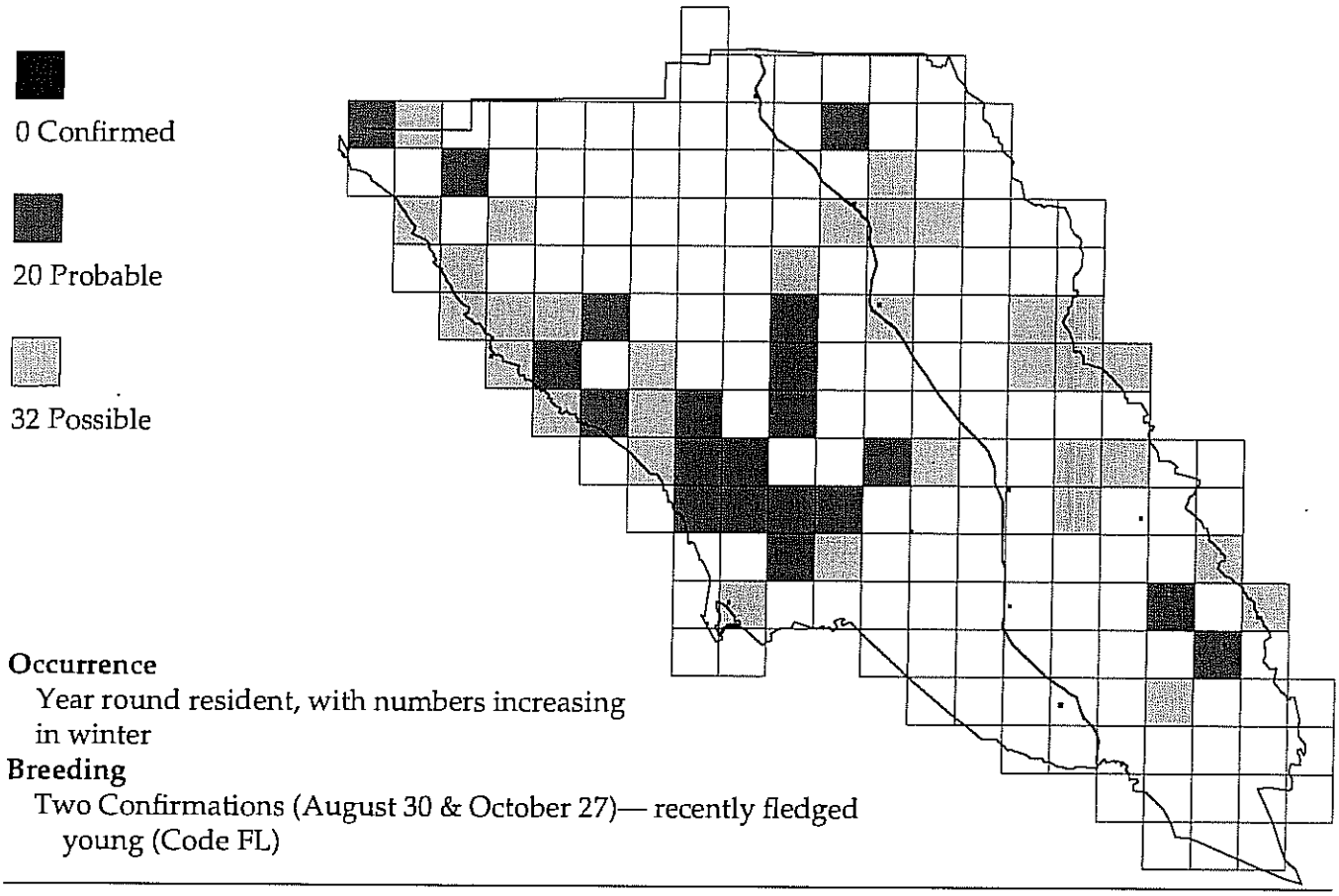
The Rock Dove finds paved urban surfaces ideal for seed foraging. Our cities are also generally free from natural predators and our urban structures are well suited to the need for nesting sites that are high above and inaccessible from the ground. As a result, the Atlas map of the Rock Dove closely matches a Sonoma County population map with the addition of nearby ranching areas. The Rock Dove is absent from the coast in this study although it is known to occur in some coastal farmyards (B. D. Parmeter pers. comm.).

This dove breeds from April to July. Or does it breed all year as do most pigeons and doves? Other city dwelling birds also have extended breeding seasons. In any case, the Sonoma County population of the friendly Rock Dove seems secure.

–B. McLean

Band-tailed Pigeon

Columba fasciata



Occurrence

Year round resident, with numbers increasing in winter

Breeding

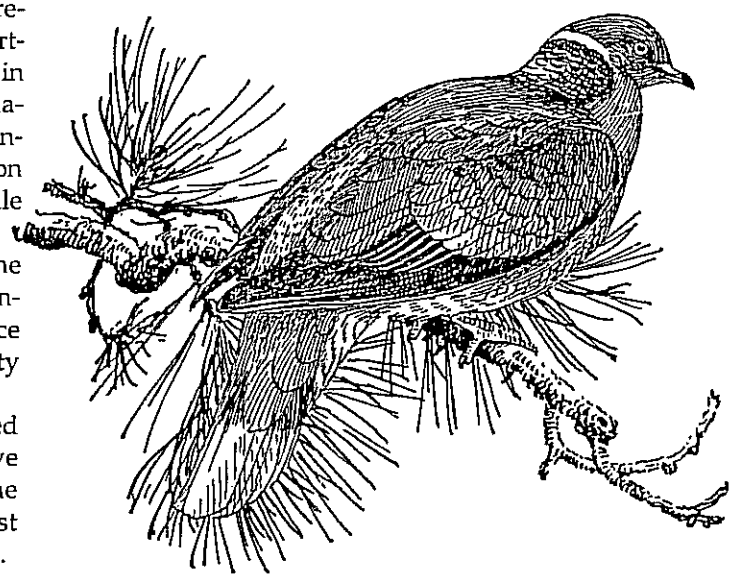
Two Confirmations (August 30 & October 27)— recently fledged young (Code FL)

The wild pigeon, officially known as the Band-tailed Pigeon, is a game bird which suffered greatly reduced numbers due to over-hunting in California in the early 1900s (Grinnell & Miller 1944). The legal season was closed from 1913 to 1932 by which time its numbers recovered (Shuford 1993) and by 1944 the bird was reported to be common to abundant throughout its range in California (Grinnell & Miller 1944). Western Foundation of Vertebrate Zoology (Camarillo CA) records include a set of two fresh eggs collected by J. B. Lewis on May 16, 1896 at Sulphur Creek, northeast of Geyserville (H. Cogswell pers. comm.).

Atlas records show the presence of this bird along the coast, in the oak/coniferous woodlands and the mountainous areas of eastern Sonoma County. Its presence in summer was noted at Willow Creek, Sonoma County by Grinnell & Wythe (1927).

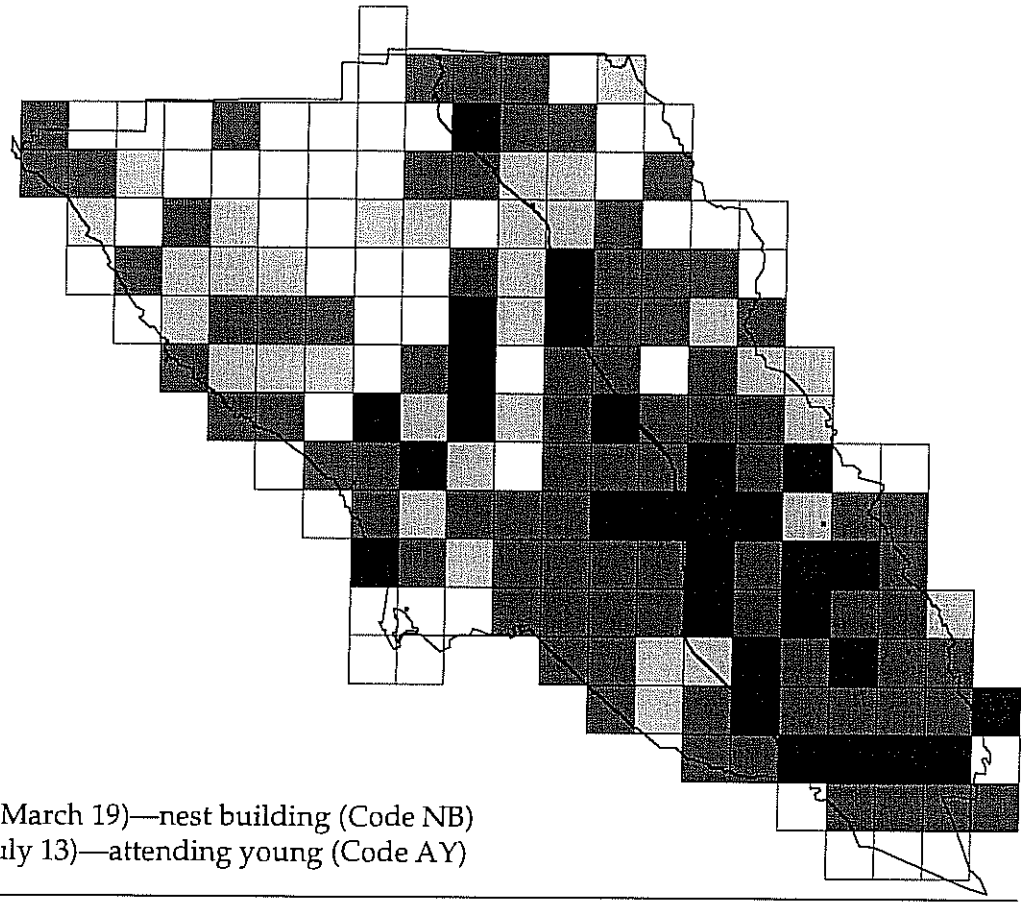
Surprisingly, no Confirmed records were reported during the Atlas period, however, two fledglings have since been cared for at the Bird Rescue Center, one found in Santa Rosa October 27, 1992, the other August 30, 1994 near Hacienda (Creg Condon pers. comm.). These late dates fit with the information quoted by Shuford (1993) in the Marin County Breeding Bird Atlas that the Band-tailed Pigeon nests in some part of its range in every month of the year.

This bird is known to wander irregularly in flocks in search of acorns, fruits, berries, grains (Shuford 1993) (continued on page 184)



Mourning Dove

Zenaida macroura



29 Confirmed

79 Probable

33 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (March 19)—nest building (Code NB)

Latest Confirmation (July 13)—attending young (Code AY)

Whether it is by soft cooing, rapid flight, or sleek silhouette on a wire, the Mourning Dove is easily recognized and remembered. In this Atlas this familiar dove is represented in all habitats throughout the county; however, it was sparsely reported in the lightly surveyed interior northwestern corner.

Wherever there is a weed there is a seed for its food. The county's open vineyards, roadways and grasslands provide perfect foraging areas for the Mourning Dove in pursuit of sustenance. Finding needed water is never a problem for this species with rocket-like flight.

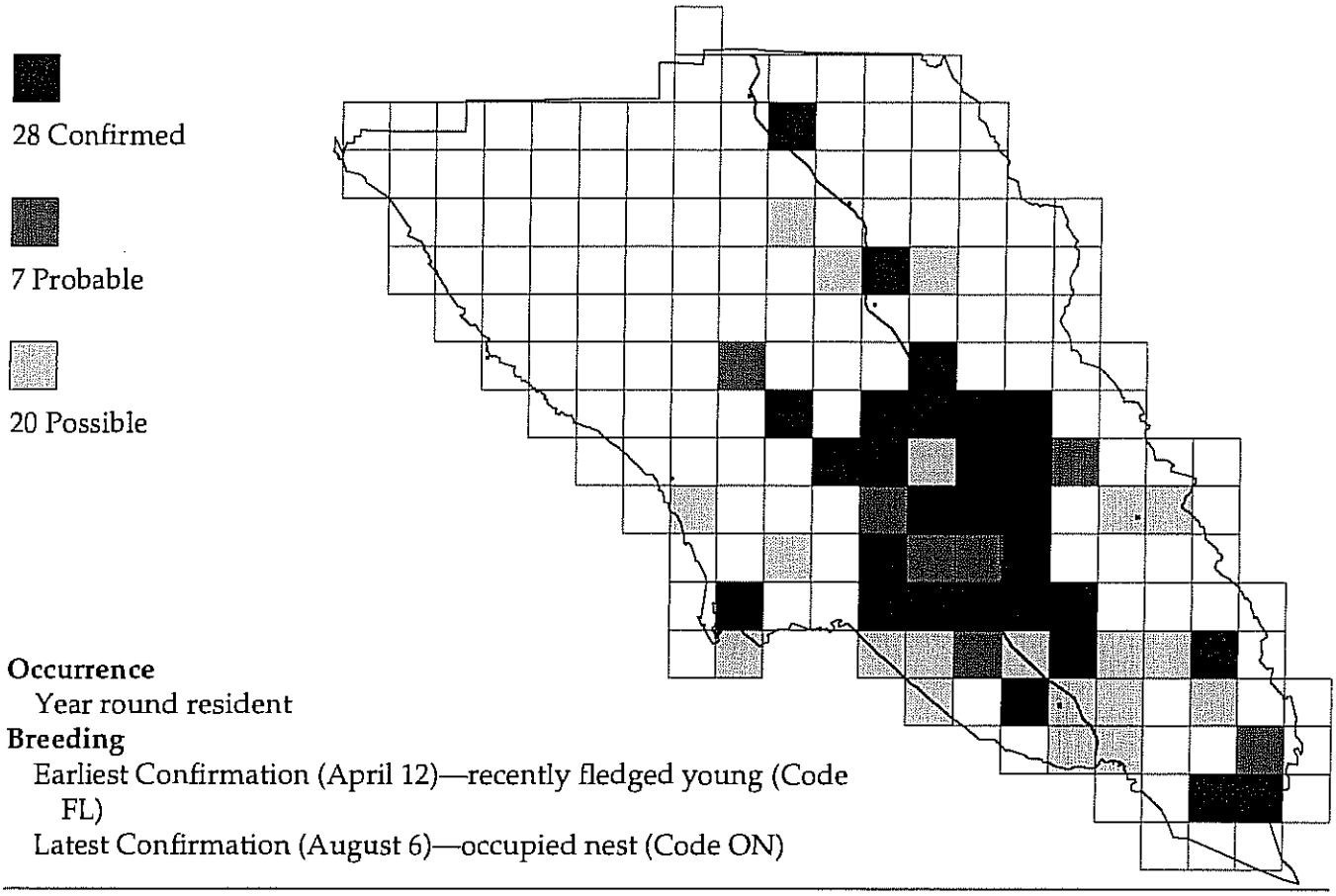
The Mourning Dove chooses a nesting site on a horizontal branch or crotch in a tree within quick flying distance from foraging areas. While its nest sites are most frequently in trees, this dove is quite adept at making do with low bushes and other platform-like structures (Shuford 1993).

The presence of wooded hills and riparian woodlands throughout Sonoma County augmented by suburban trees make nest site selection easy. The wide distribution (found in 77% of all Blocks) and extended time of nesting activity in Sonoma County suggest a can-do attitude for this bird.

–B. McLean

Barn Owl

Tyto alba



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 12)—recently fledged young (Code FL)

Latest Confirmation (August 6)—occupied nest (Code ON)

The fairly common, widespread Barn Owl can be found in many areas of Sonoma County, especially in open farmlands and grasslands. It also occurs in areas of mixed open woodlands, marshes, and even in cities and towns. This owl is often seen sitting or flying about just after dark. Its white monkey-like face and underparts give it a ghostly appearance especially when it flies at one's headlights. Unfortunately this activity results in the death of many individuals.

The fact that the Barn Owl often nests or roosts in barns near open farm and grasslands helped provide its common name. Since it hunts nearby and its prey is mostly small rodents, this owl has been nicknamed the "farmer's helper." In a natural setting it usually nests in natural cavities such as large woodpecker holes, various burrows, or caves. It also is known to frequent buildings with recessed areas such as the inner quad of Stevenson Hall at Sonoma State University (pers. obs.), or the tower of the old Rosenberg Department Store in downtown Santa Rosa (Bird Rescue Center, unpubl. records, June 1994).

The actual status of the Barn Owl is hard to assess for the agricultural areas where it frequently occurs are not normally censused for owls as heavily as the forested areas of the county. It also is a strictly nocturnal hunter and is usually only seen when flying near a road or giving an eerie "shhhh" call nearby. As rural open space is diminished by suburban and industrial development, the population of this species steadily declines (Shuford citing Bloom 1993).

–D. Ellis

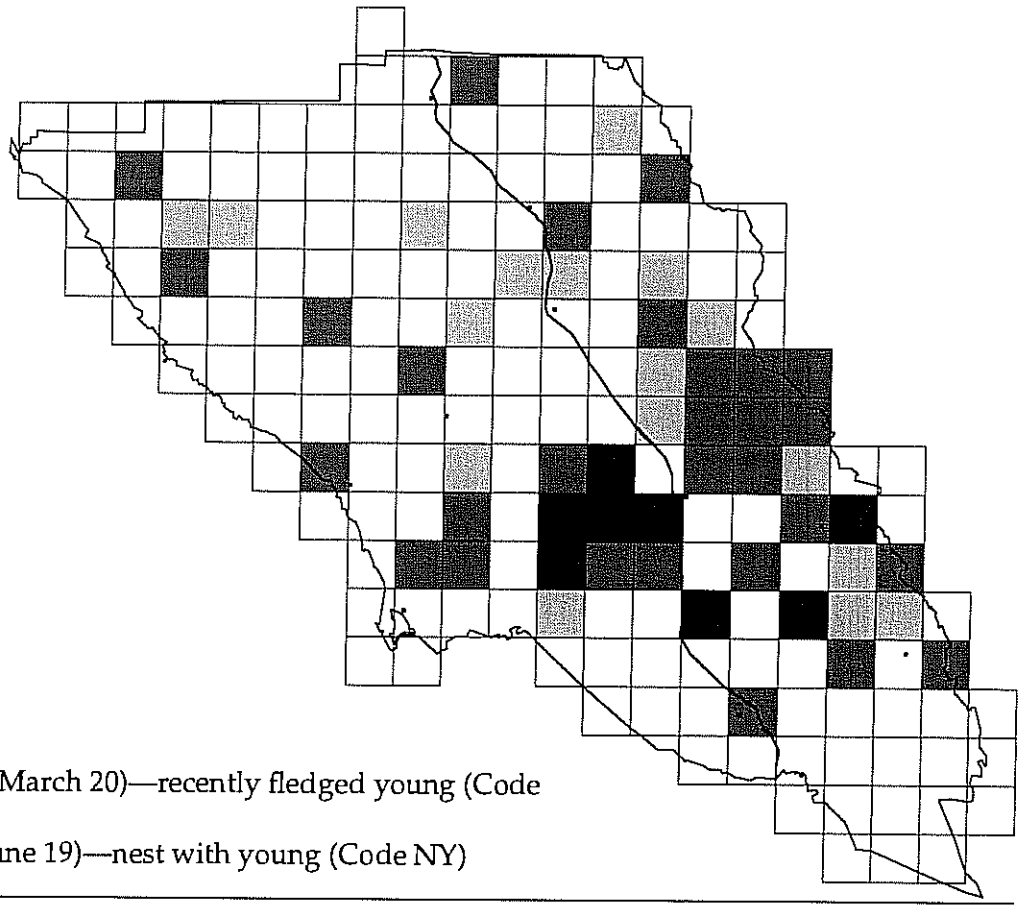
Western Screech-Owl

Otus kennicottii

8 Confirmed

29 Probable

17 Possible



Occurrence

Year round resident

Breeding

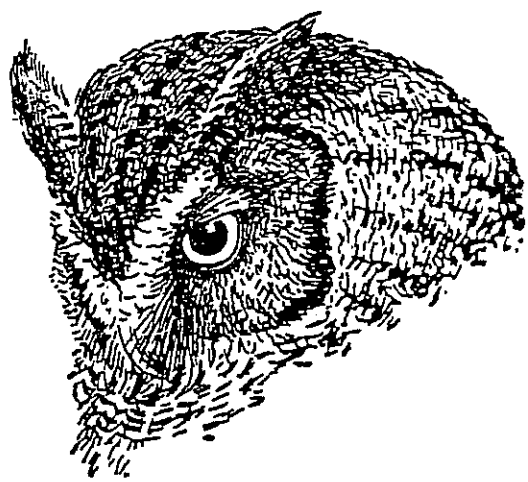
Earliest Confirmation (March 20)—recently fledged young (Code FL)

Latest Confirmation (June 19)—nest with young (Code NY)

The Western Screech-Owl is fairly common in areas of oak woodland and the mixed oak and Douglas fir forests of inland Sonoma County. It is uncommon in coastal and inland areas where there are thickets of alders and willows such as along Salmon Creek, lower Willow Creek, and the Russian River. This owl is strictly nocturnal and is almost exclusively a cavity nester utilizing old woodpecker holes, natural cavities, and nest boxes. The Western Screech-Owl also roosts during the day in cavities as well as thick foliage, huddling close against the camouflaging bark of trees (Bent 1938, Johnsgaard 1988, Voous 1988, Shuford 1993).

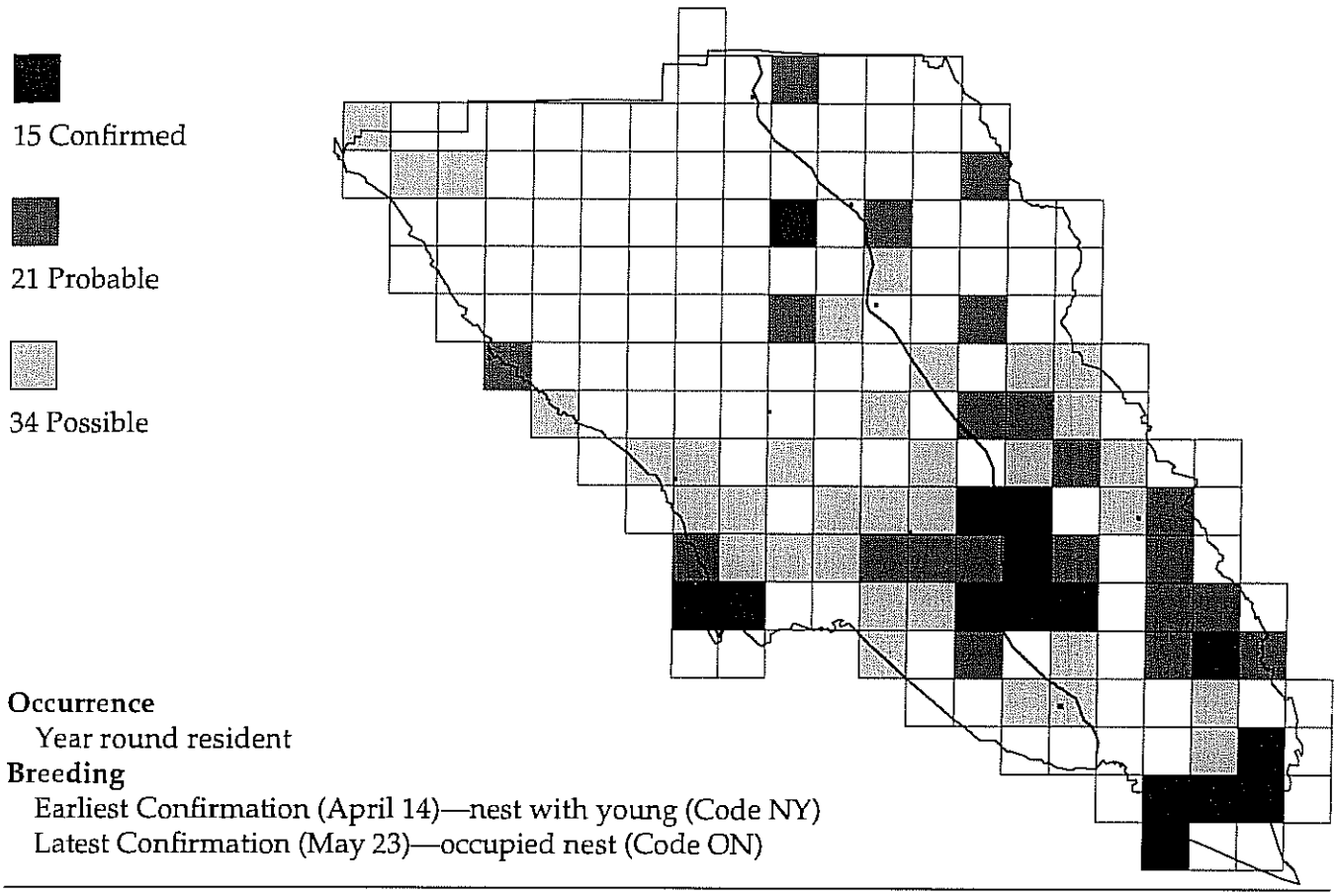
Fortunately many areas of Sonoma County still have good mixes of oak woodlands. A night of owling on Pine Flat Road has produced 22 individuals with as many as seven birds calling at one location (pers. obs.). However, as development pushes into the foothill areas a decrease in oak woodlands will limit the extent of Screech-Owl habitat.

–D. Ellis



Great Horned Owl

Bubo virginianus



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 14)—nest with young (Code NY)

Latest Confirmation (May 23)—occupied nest (Code ON)

The Great Horned Owl is the most widespread owl in Sonoma County, having been found in 70 (39%) of all Atlas Blocks. It may be found in many habitats and uses a variety of nesting locations including tree cavities, ledges, and old hawk nests. In open grasslands, a nest can often be found in even the smallest of eucalyptus stands. In forested areas the Great Horned Owl may appropriate an old Pileated Woodpecker hole or the top of a snag. One pair was even seen nesting on a very precarious ledge under the Highway 37 bridge as it crosses the Petaluma River (pers. obs.).

The Great Horned Owl is most well known for its nocturnal hooting call. Standing on a ridge or in a valley just before dawn one may hear numerous Great Horneds sounding off. While just before dawn is the peak calling period of the night for this owl, it will also call frequently in the middle of the night during the breeding season.

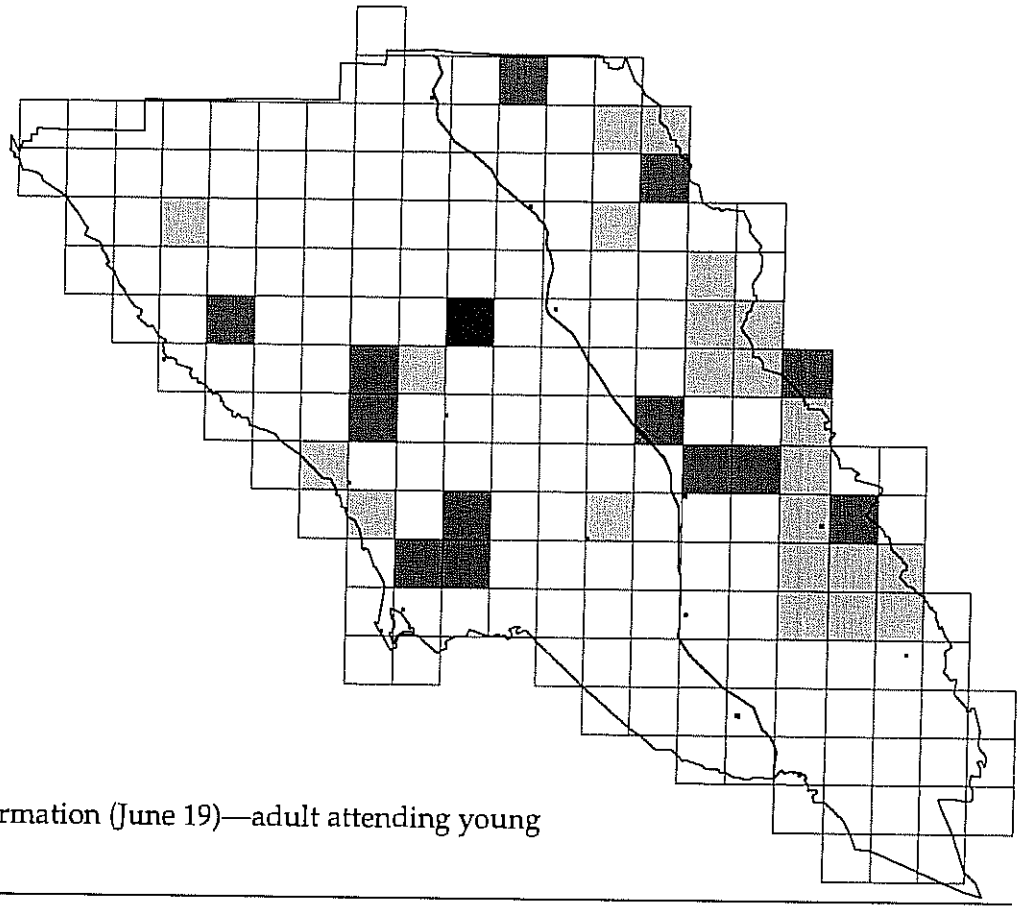
This bird is a generalized and opportunistic predator, feeding on a wider range of prey than is known for any other owl or raptor in North or South America (Shuford citing Voos 1993).

The Great Horned Owl is the owl most likely to be seen on telephone wires and fences along the roadside just after dark. It is one of the most dangerous nocturnal predators and will attack not only small animals such as mice, but also larger animals including skunks, cats, or even small deer. This owl has even been known to attack a human without provocation (pers. obs.). This species, much like the Barn Owl, has a high mortality rate from flying into vehicles on highways at night while hunting. Snag removal also affects this population by reducing its choice of suitable perching and nesting sites.

–D. Ellis

Northern Pygmy-Owl

Glaucidium gnoma



1 Confirmed

13 Probable

22 Possible

Occurrence

Year round resident

Breeding

Earliest and only Confirmation (June 19)—adult attending young (Code AY)

The small diurnal Northern Pygmy-Owl is fairly common in its habitat. In the coastal canyons it is found in mixed coast redwood and Douglas fir forests. In inland areas it is found commonly in mixed Douglas fir and oak woodlands or in the areas of gray pines (*Pinus sabiniana*) or yellow pines that are found in northeastern Sonoma County.

While the Northern Pygmy-Owl is considered to be diurnal, i.e., active during the day, it calls and hunts most often at dawn or dusk (Shuford 1993). An inland Northern Pygmy-Owl will call more frequently during the middle of the day than its coastal counterpart. The call of this owl is frequently imitated by birders to attract other nearby birds in a mobbing response, thus making it easier to determine which birds are in the area. The caller must also be prepared for the possibility of attracting the owl itself which can react very aggressively, on occasion even attacking the caller (pers. obs.).

Since the Northern Pygmy-Owl is a cavity nester often using old woodpecker holes, it is important to leave snags in the forest to provide adequate nest site availability. While Johnsgard (1988) felt that partial clearing of forests may improve hunting conditions for this species, Shuford (1993) notes that large-scale development, snag removal or clear-cutting of forests may have detrimental effects on Pygmy-Owl populations.

–D. Ellis

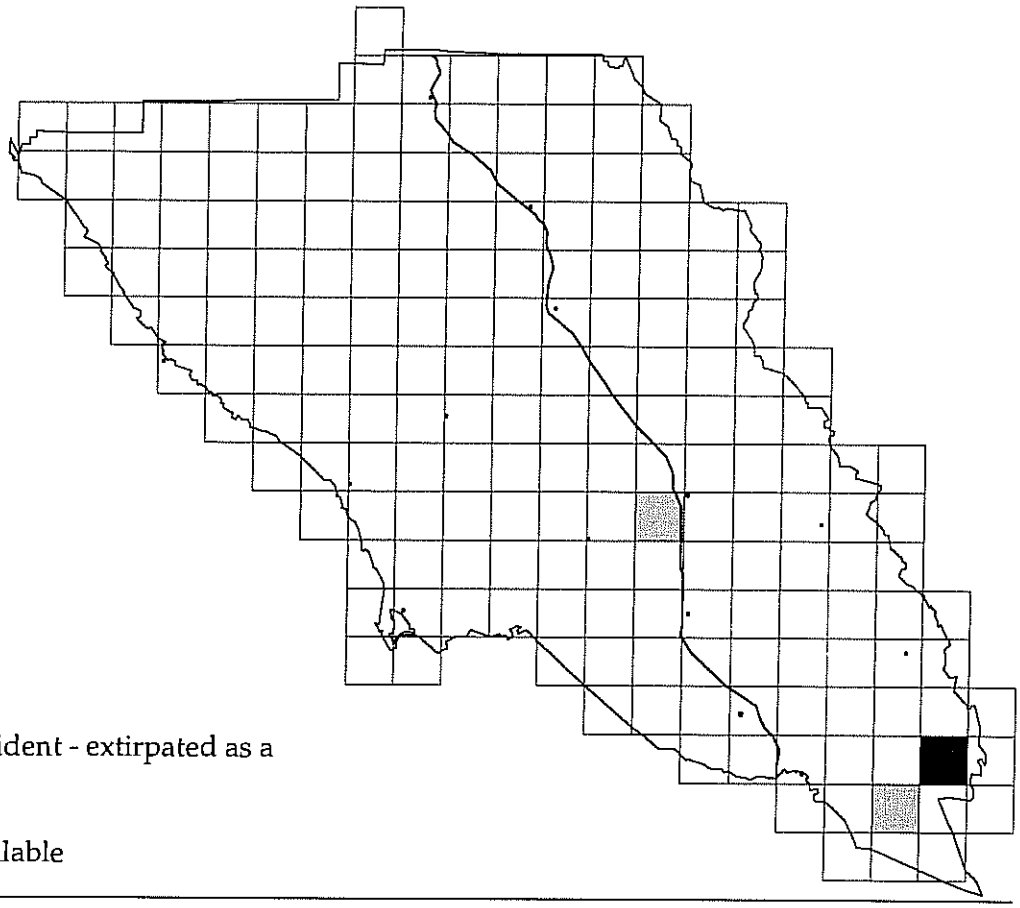
Burrowing Owl

Speotyto cunicularia

1 Confirmed

0 Probable

2 Possible



Occurrence

Former year round resident - extirpated as a breeder since 1987

Breeding

No breeding dates available

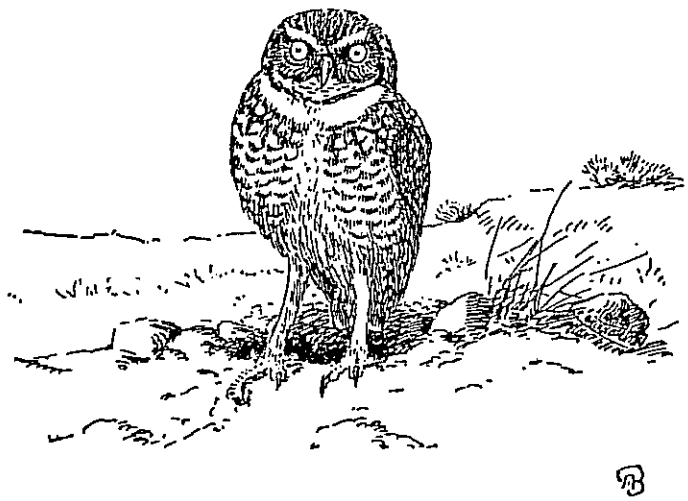
This tiny, long legged, ground dwelling owl no longer breeds in Sonoma County (Dave DeSante pers. comm.). The last county breeding Confirmation, a nest with young, was made by atlasers at Skaggs Island in the extreme southeastern corner of Sonoma County in 1986 (David Ruiz pers. comm.). Other Atlas records for this bird were observations of single birds, one near the old Santa Rosa Air Center in southwestern Santa Rosa where Burrowing Owls had traditionally nested for many years, and the other near Sears Point (close to Skaggs Island).

In 1991 an extensive census of Burrowing Owls was begun by Dave DeSante of the Institute for Bird Populations and as a result, the Burrowing Owl has become (with the Spotted Owl) one of the most carefully studied birds in this Atlas.

Historically, Grinnell and Wythe noted in 1927 that the Burrowing Owl was a fairly common resident in the drier interior parts of the San Francisco Bay Area, with this bird having been observed sparingly at Santa Rosa. In 1944 Grinnell and Miller observed, "(the Burrowing Owl had been) originally common, even abundant (in California), latterly becoming scarce in settled parts of the State. Reasons: roadside shootings, anti-vermin campaigns, elimination of ground squirrels, hence of nesting places for these owls." In 1978 Bolander and Parmeter characterized the Burrowing Owl in Sonoma County as an uncommon permanent resident in open areas, becoming more numerous and widespread in winter.

The Burrowing Owl's preferred habitat is open, dry,

(continued on page 184)



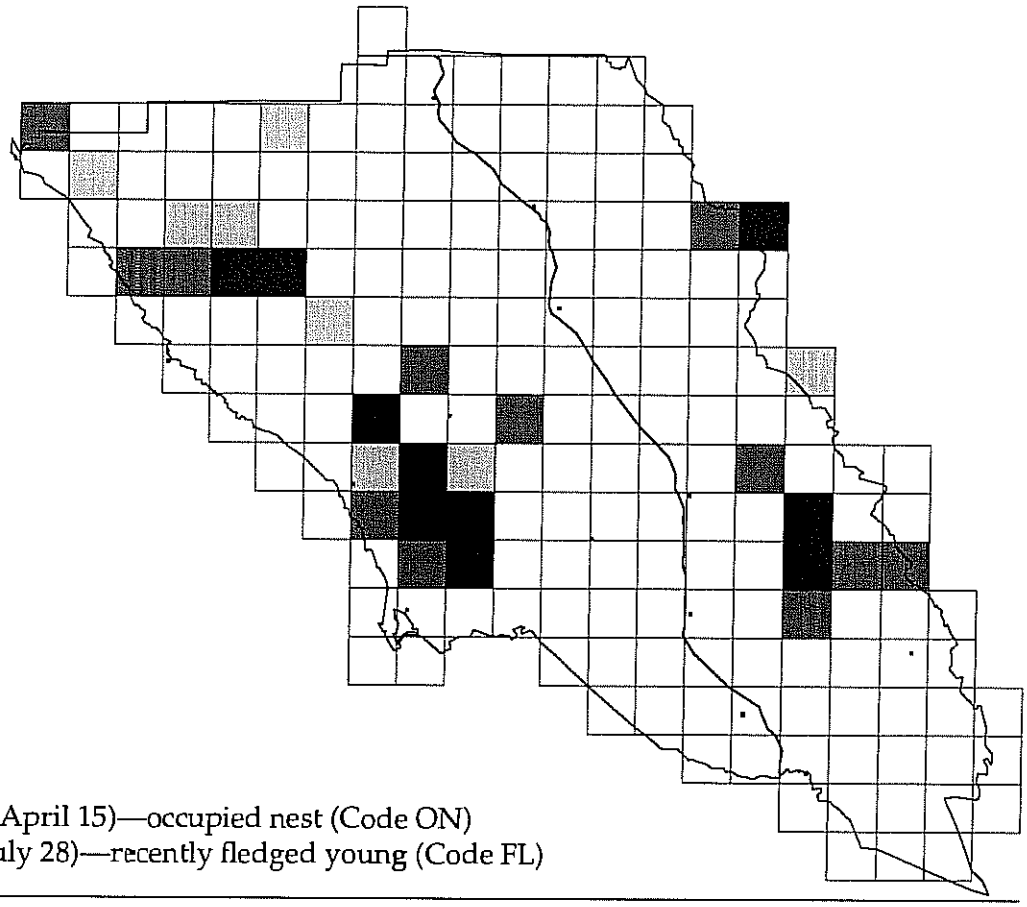
Spotted Owl

Strix occidentalis

10 Confirmed

12 Probable

8 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 15)—occupied nest (Code ON)

Latest Confirmation (July 28)—recently fledged young (Code FL)

Why all the fuss about this particular bird? Old-growth ecosystems host a variety of unique inhabitants, but the Northern Spotted Owl (*Strix occidentalis caurina*), the race present here in Sonoma County, has seemingly become a surrogate for the entire old-growth issue. Although throughout most of its range this owl is closely tied to old-growth forest (Gould 1974, Thomas et al., 1990, Verner et al., 1992) it can also nest in managed second-growth as well. While the owl still occupies most of its historic range, its distribution within that range has decreased, due to logging of old-growth. These forests have been vastly reduced in the last century, with most of the reduction occurring since 1950 (Thomas et al. 1990). The result has been the fragmentation of a formerly continuous population into smaller, more isolated demographic units. Patch clear-cuts of 40 acres present additional risks by creating too much edge habitat, which in turn adds additional risk of predation, added encroachment and displacement by Great Horned Owls, and greater access by the owl's greatest enemy, *Homo sapiens*.

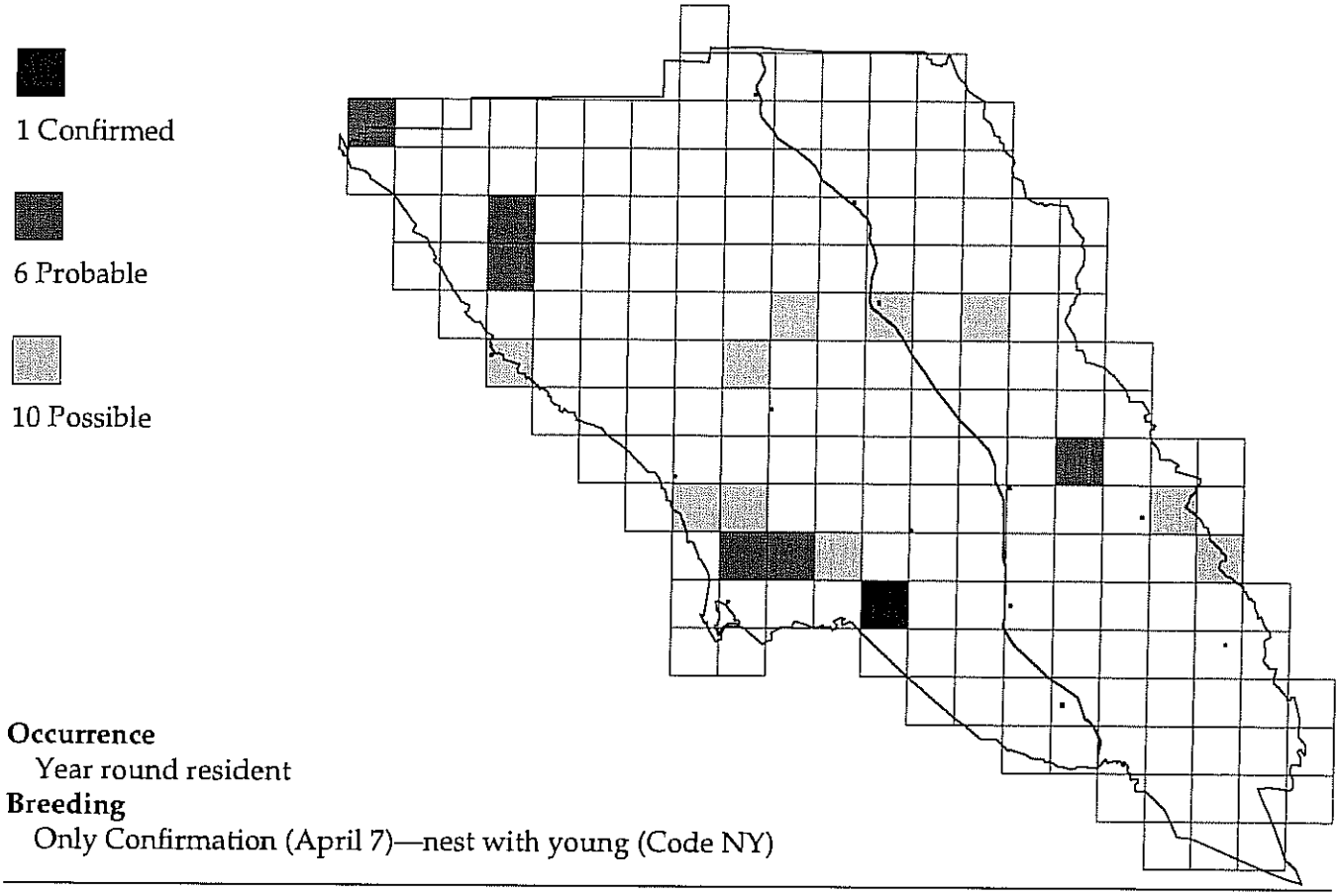
In Sonoma County Confirmed and Probable breeding sites are restricted to remote areas with low human disturbance. Evidence of Spotted Owl breeding was detected during the Atlas period (1986 to 1991) in 30 (16%) of the 183 Blocks in which Atlas data were gathered. Included in this Atlas data is a monumental effort made by Ted Wooster of the California Department of Fish and Game in censusing Spotted Owls. In fact, as a result, this owl is (with the Burrowing Owl) one of the most thoroughly studied birds in Sonoma County where there was an estimated total of 70 pairs of Spotted Owls as of 1992 (Ted Wooster pers. comm.). However, there are not 70 shaded Blocks on the Spotted Owl map for several reasons. Many sightings occurred outside the breeding season, or the Atlas period (1986-1991). In addition, multiple pairs may be present within a Block, and be represented only by one single shaded square representing that Block on the Atlas map.

In Sonoma County the Spotted Owl mainly uses old-growth coniferous forests of redwood, Douglas fir or pines blended with smaller evergreen hardwoods. Usually smaller shade-tolerant trees dot the forest floor along with accumulations of fallen trees and woody debris that are crucial to prey base and thus owls.

Generally speaking, superior habitat has a moderate to high canopy closure (60 - 80%) with a multi-layered, multi-species canopy dominated by a large overstory, a high incidence of large trees with various deformities (continued on page 184)

Northern Saw-whet Owl

Aegolius acadicus



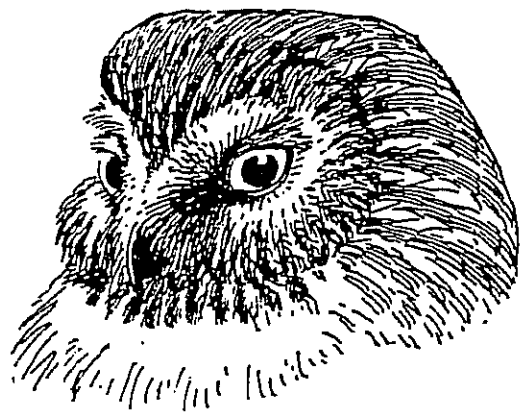
Occurrence
Year round resident
Breeding
Only Confirmation (April 7)—nest with young (Code NY)

The sight of fuzzy-headed baby Saw-whet Owls peering unsteadily from a nest hole in a redwood snag totally captivated a small group of novice atlasers in the woods bordering Moonshine Road in western Sonoma County on April 7, 1986. They had been summoned as witnesses by Giel Witt, who had just discovered the first (and, as it turned out, only) Saw-whet Owl breeding Confirmation for this Atlas just two days after the first Atlas field season officially began.

The status of the Northern Saw-whet Owl was relatively unknown in Sonoma County until the late 1970s. While records existed for small numbers the rest of the year, the first record for the breeding season was for a flightless young bird that had fallen from a nest in June, 1976 at Armstrong Redwoods State Reserve (Bolander and Parmeter 1978). Since that time this almost strictly nocturnal owl has been found in Sonoma County in every month of the year. Numbers seem to be higher in the fall, winter, and early spring when this usually elusive owl can be relatively common in some locations, for example along Salmon Creek Road near the town of Bodega.

While the Saw-whet Owl is found in greater numbers in the coastal forests of redwoods, Douglas fir, California bay and other evergreens, it also inhabits the inner coast range mountains with their mix of coast redwoods and Douglas fir. These habitats are all relatively moist and have diverse ground cover with variably open or fairly dense understories of shrubs and ferns (Shuford 1993).

–D. Ellis



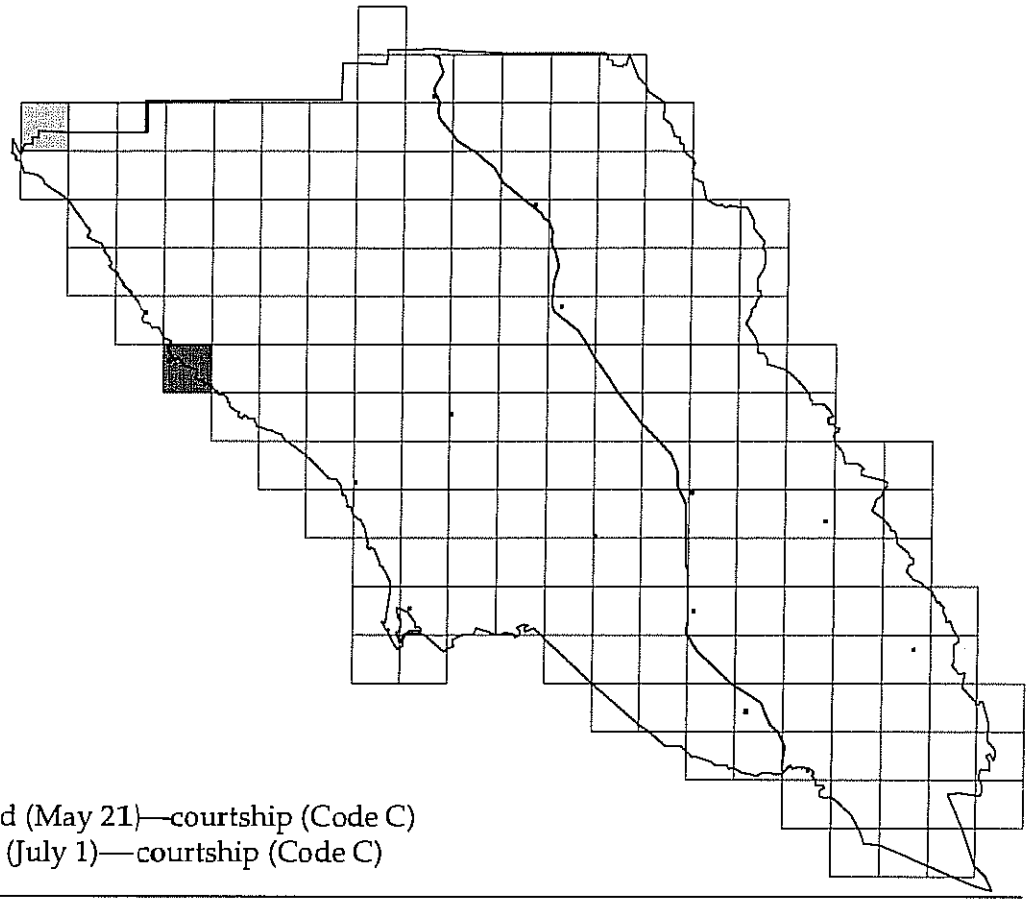
Common Nighthawk

Chordeiles minor

0 Confirmed

1 Probable

1 Possible



Occurrence

Rare summer resident

Breeding

Earliest Probable record (May 21)—courtship (Code C)

Latest Probable record (July 1)—courtship (Code C)

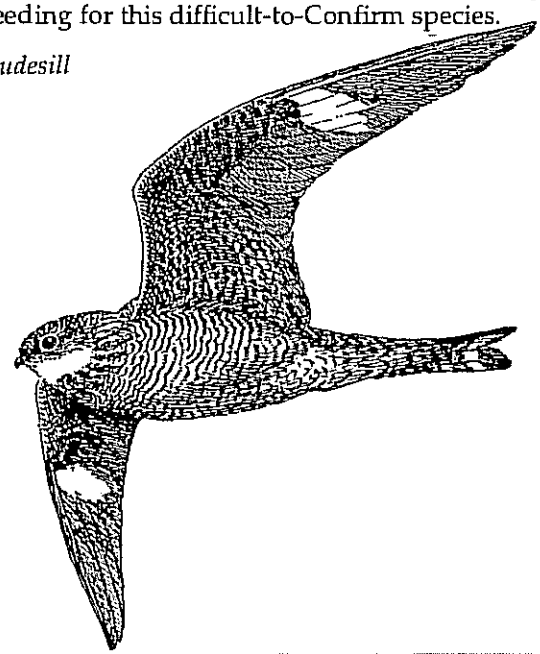
The Common Nighthawk is not common in Sonoma County even though it is North America's most widespread nightjar. Its nasal 'preent' call is distinctive as is the 'boom' of its courtship dive.

Although it breeds commonly in coastal Humboldt County and elsewhere in Northern California, its breeding status in Sonoma County is not yet clear. Bolander and Parmeter (1978) considered this bird accidental. Later sightings of the Common Nighthawk include May 21 to 23, 1979, at Sebastopol; June 6, 1980, at Gualala Point Park and August 9, 1981, at Duncan's Mills (Ellis 1979, 1980, 1981).

Of several Atlas breeding records, none was Confirmed and all were from the north coast. A detailed record of two birds seen and heard calling and 'booming' in courtship flight several times from May 21 through June 14, 1986 was from the Pygmy Forest in Salt Point State Park (B. and P. Lenarz pers. comm.). In late July 1988, at Salt Point, Common Nighthawks were heard and seen one evening on the Sonoma County Coastwalk (Roger Marlowe pers. comm.). On July 1, 1989 at Salt Point - Pygmy Forest three to four were observed flying and calling, with one in courtship flight and another diving on the observer (pers. obs.). The single Possible record was a 1991 sighting east of Gualala (D. Ellis and R. Hedspeth pers. comm.).

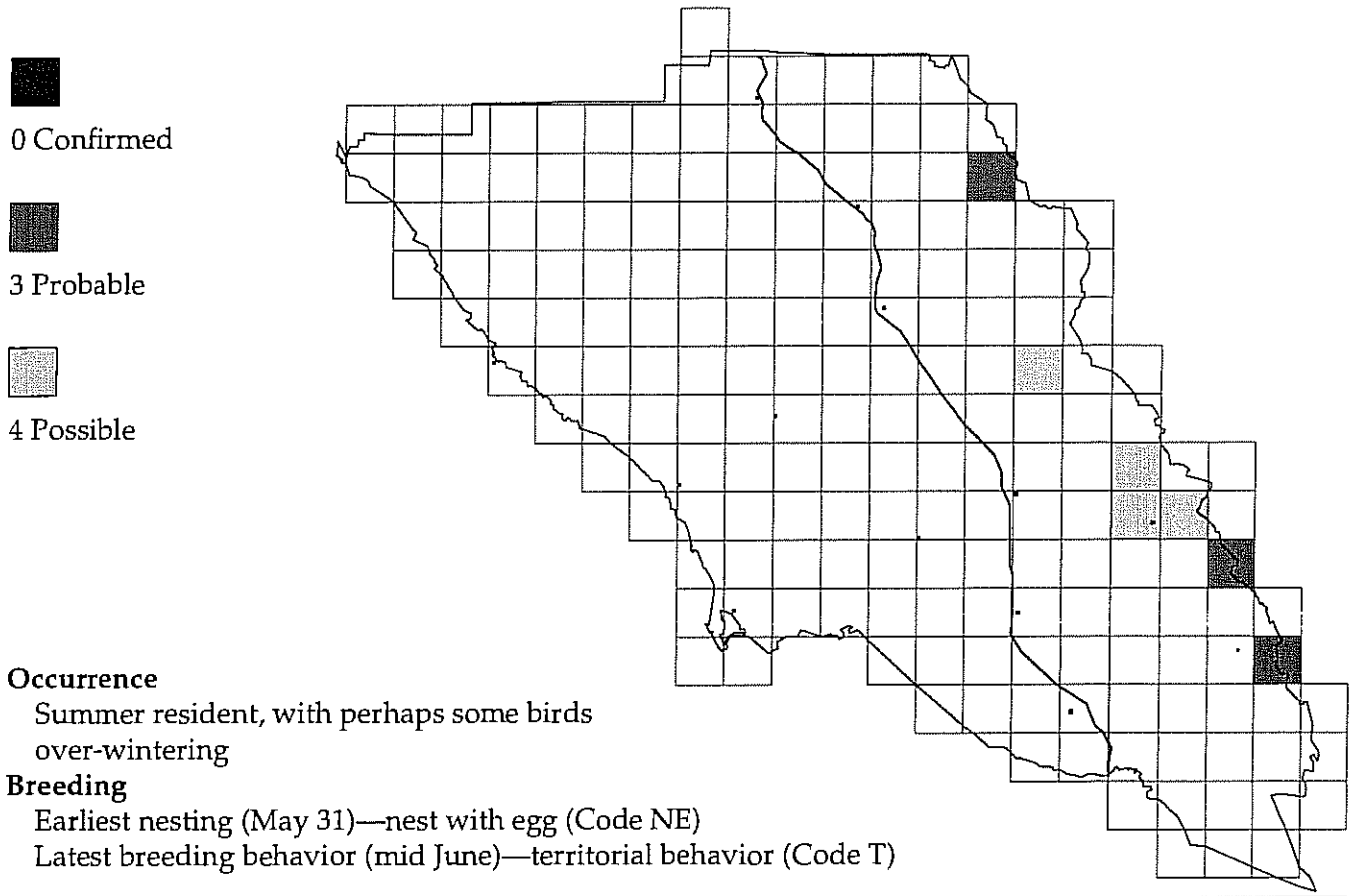
This bird prefers gravel surfaces for nesting (Harrison 1979) with open coniferous forest and broad open flyways adjacent to mountains for foraging (Grinnell & Miller 1944). Salt Point, where this cluster of records exists, has such habitat, which further suggests breeding for this difficult-to-Confirm species.

–R. Rudesill



Common Poorwill

Phalaenoptilus nuttallii



Occurrence

Summer resident, with perhaps some birds over-wintering

Breeding

Earliest nesting (May 31)—nest with egg (Code NE)

Latest breeding behavior (mid June)—territorial behavior (Code T)

In early May at Sugarloaf Ridge State Park, dusk approaches and the rather plaintive call "poor-will" is heard from the chaparral hillsides. Although considered fairly common (Bolander & Parmeter 1978), this bird is difficult to locate. It is usually heard, not seen, and then at twilight, dawn or intermittently during the night. Occasionally, red eye-reflections easily confused with a red soda can, can be picked up by the headlights of a slow-moving vehicle along a little-traveled road; look carefully now for a Common Poorwill that is huddled on the black-top which radiates the last warmth of the sun.

Summer presence of this bird, prior to 1927, has been reported at Guerneville, Petaluma and Sebastopol with no dates given (Grinnell & Wythe 1927). Western Foundation of Vertebrate Zoology (Camarillo CA) records document one egg, with incubation already begun, that was collected on May 31, 1920 in Alpine Valley by Gurnie Wells (H. Cogswell pers. comm.).

Recent traditional areas to hear and observe the Common Poorwill are Ida Clayton Road on July 4, 1975 - 1980 (B. Burridge pers. comm.) and Sugarloaf Ridge State Park on the second Thursdays of May and September 1975 - 1994, during bird walks following evening potluck dinners of the Redwood Region Ornithological Society.

The nesting season is described as from the first of June to the last of July (Grinnell & Wythe 1927). Preferred nesting habitat of the poorwill is in rocky areas of open dry chaparral slopes. Frequent plant associates are the chamise, scrub-oak, coffee berry and, in the coast belt, coyote brush.

The nest is just a scrape on the ground and is usually located in a very inaccessible area. These factors combined with the poorwill's daytime inactivity made nesting of this bird very difficult to Confirm.

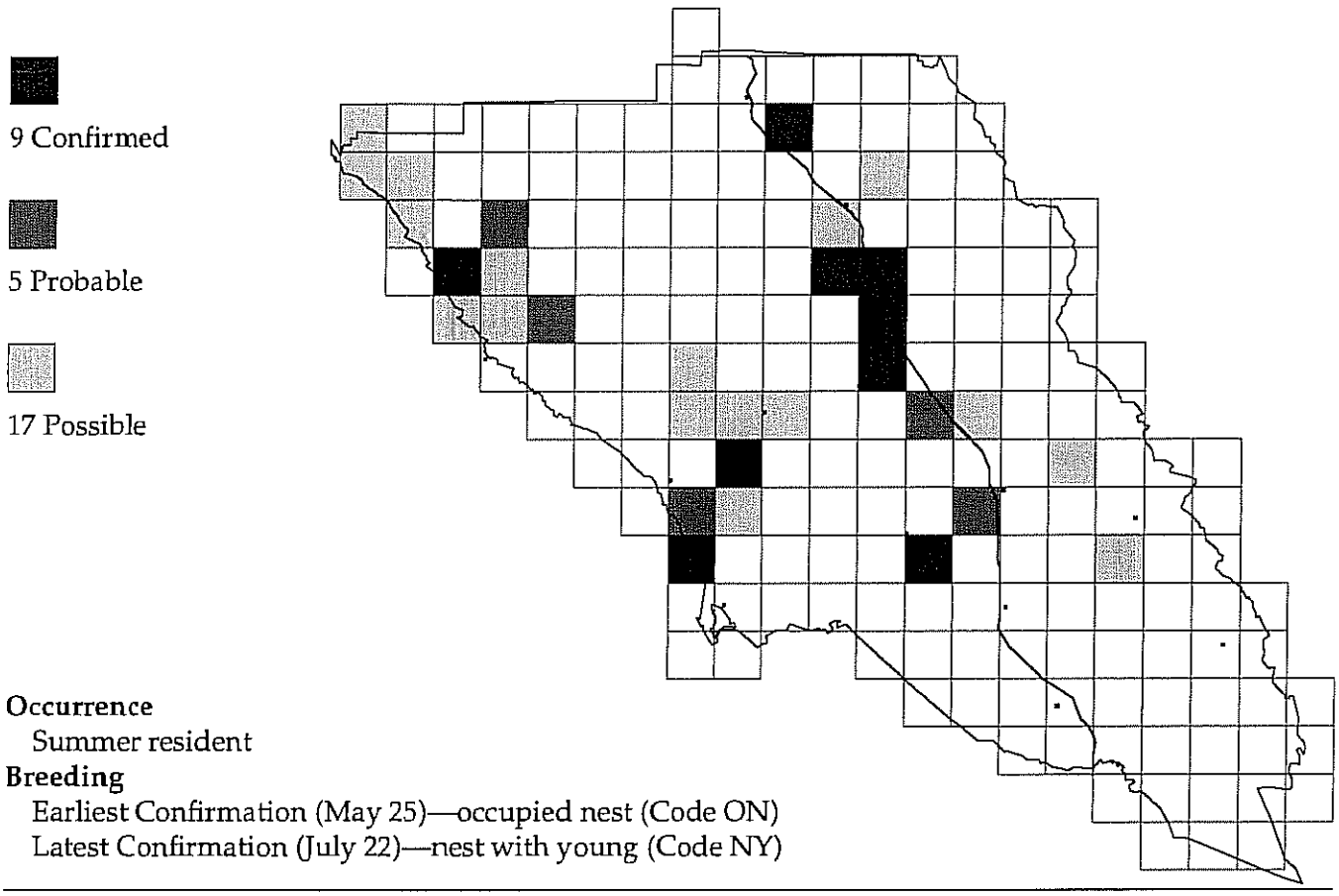
All Atlas records were in the drier mountains along the eastern border of the county: Pine Flat Road, Cavedale Road and on the Napa - Sonoma County border north of the town of Sonoma.

It is probably a very local breeder and possibly a year round resident, with reports of December sightings bordering Sugarloaf Ridge State Park in the late 1970s (Tim Tunison pers. comm.) and several other winter records. This bird is known to hibernate.

–R. Rudesill

Vaux's Swift

Chaetura vauxi



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 25)—occupied nest (Code ON)

Latest Confirmation (July 22)—nest with young (Code NY)

This tiny swift with its gray to sooty underparts, tailless appearance - "It either ends in a point like a cigar, or is spread like a fan when the bird makes a sudden turn" (Hoffmann 1927) - and rapid zig-zag twists in flight is a rare treat to behold. The north dam of Spring Lake in Santa Rosa is a fairly reliable observation post to see the Vaux Swift, which can easily be confused with its near relative, the Chimney Swift of the Mid-west and East Coast (pers. obs.).

Nest sites historically are hollowed out trees and snags in heavily forested areas. Thus, breeding of this species is difficult to verify because of inaccessibility of the forested nest sites and the nests (Shuford 1993).

Vaux Swifts are not known to prefer nesting in chimneys; however, there are several instances in Sonoma County when such nesting has occurred. Baby swifts were Confirmed in a chimney in Sebastopol during the Atlas project (Roger Marlowe pers. comm.), and in the Oakmont sub-division of Santa Rosa young Vaux Swifts fledged from another chimney on July 9, 1992, returning to roost each night for a week until the chimney was screened at the top (Susan Shepard pers. comm.). In the late 1970s this swift nested in a chimney in Healdsburg, with a neighboring house harboring other Vaux Swift broods in later years (M. McCulley pers. comm.); another birder, Jean Smith, has had nesting swifts in her Healdsburg chimney for the past several years.

Grinnell and Wythe (1927) noted that Vaux Swifts were present at Cazadero and Guerneville. During the Atlas period evidence of breeding was recorded in Sonoma County along the northwestern coast, coastally near Salmon Creek and in the inland valleys from near Cloverdale, Geyserville, Healdsburg, Santa Rosa and southern Sebastopol.

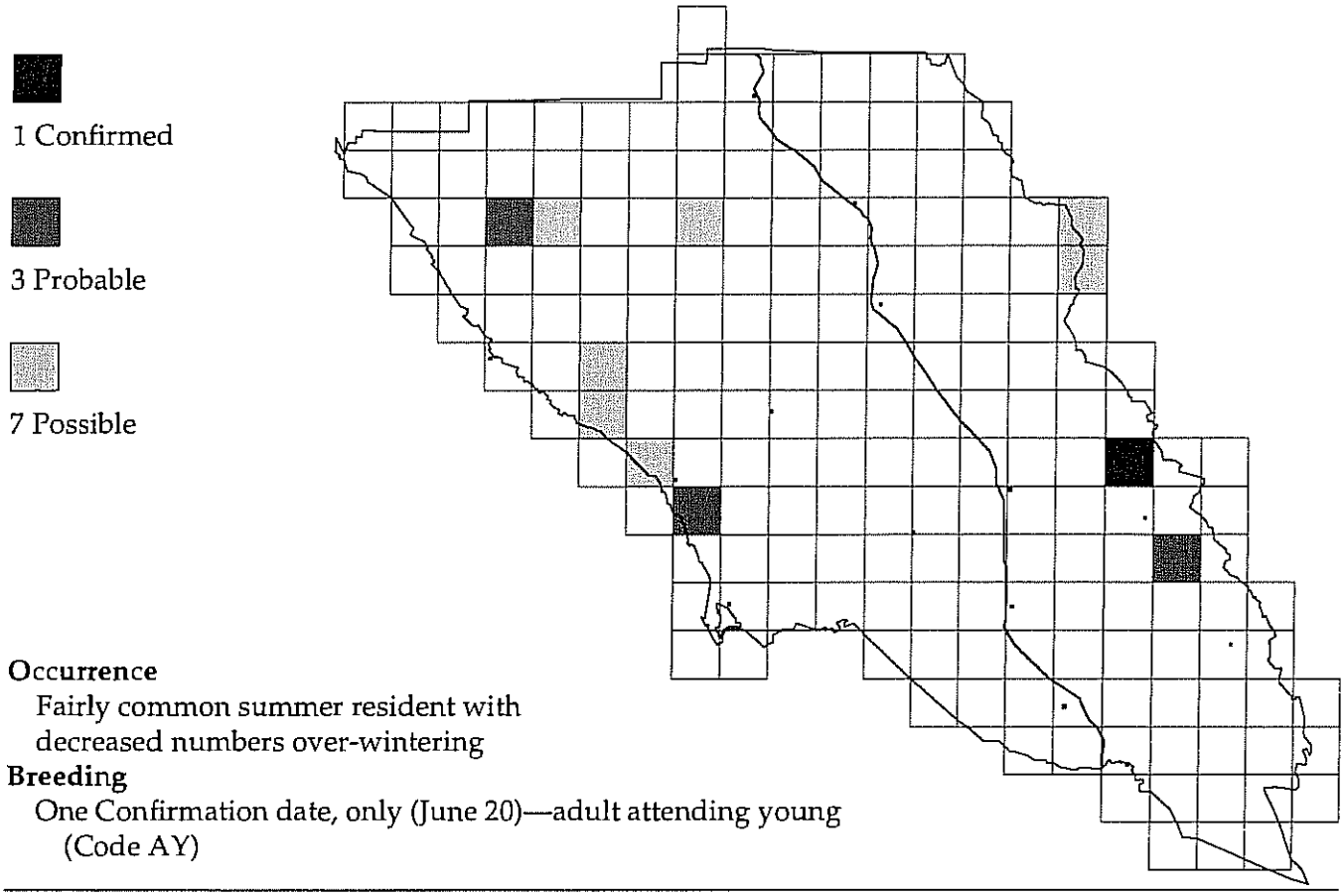
Flocks of up to tens of thousands of migrating Vaux Swifts have been known to roost in September in a dormant furnace chimney of a private school in northeast Healdsburg for the past several years (pers. obs.).

The Vaux Swift is designated as a Species of Special Concern by the California Department of Fish and Game (1994).

–B. Burridge

White-throated Swift

Aeronautes saxatilis



Occurrence

Fairly common summer resident with decreased numbers over-wintering

Breeding

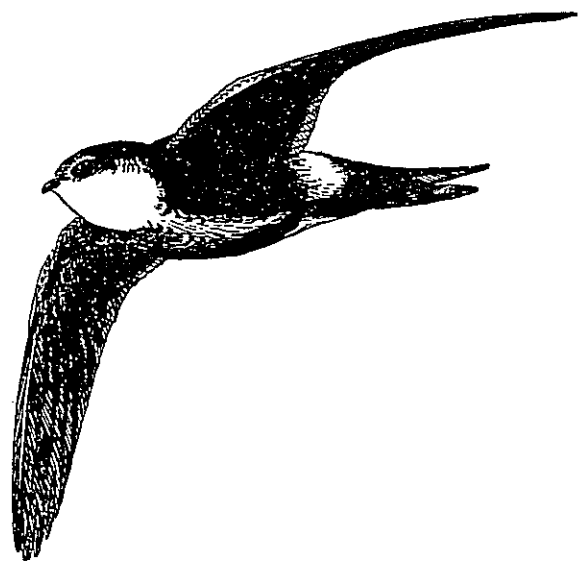
One Confirmation date, only (June 20)—adult attending young (Code AY)

This smartly attired black and white swift is a joy to behold twinkling in rapid flight overhead, as a faint descending cascade of notes peals from the skies. It is said to be the fastest of the North American swifts (Ehrlich et al., 1988) and to have a daily cruising radius greater than any other species, even the California Condor (Grinnell & Miller 1944). The White-throated Swift is known to nest on vertical and horizontal crevices in steep rock faces and cliffs, especially on the coast (Shuford 1993). A large out-cropping of rock just north of Los Alamos Road, near the entrance to Hood Mountain Regional Park, is perhaps the most reliable landmark for observing this species (pers. obs.).

The White-throated Swift was known to be established in the San Francisco Bay Area only at Mount Diablo, Contra Costa County, prior to 1927 (Grinnell & Wythe). The paucity of records from Sonoma and neighboring counties may well be a result of low observer coverage in the early part of the century. Grinnell and Miller (1944), however, reiterated its scarcity in Sonoma County by noting it to be most numerous south of about latitude 38 degrees, i. e., southern Marin County.

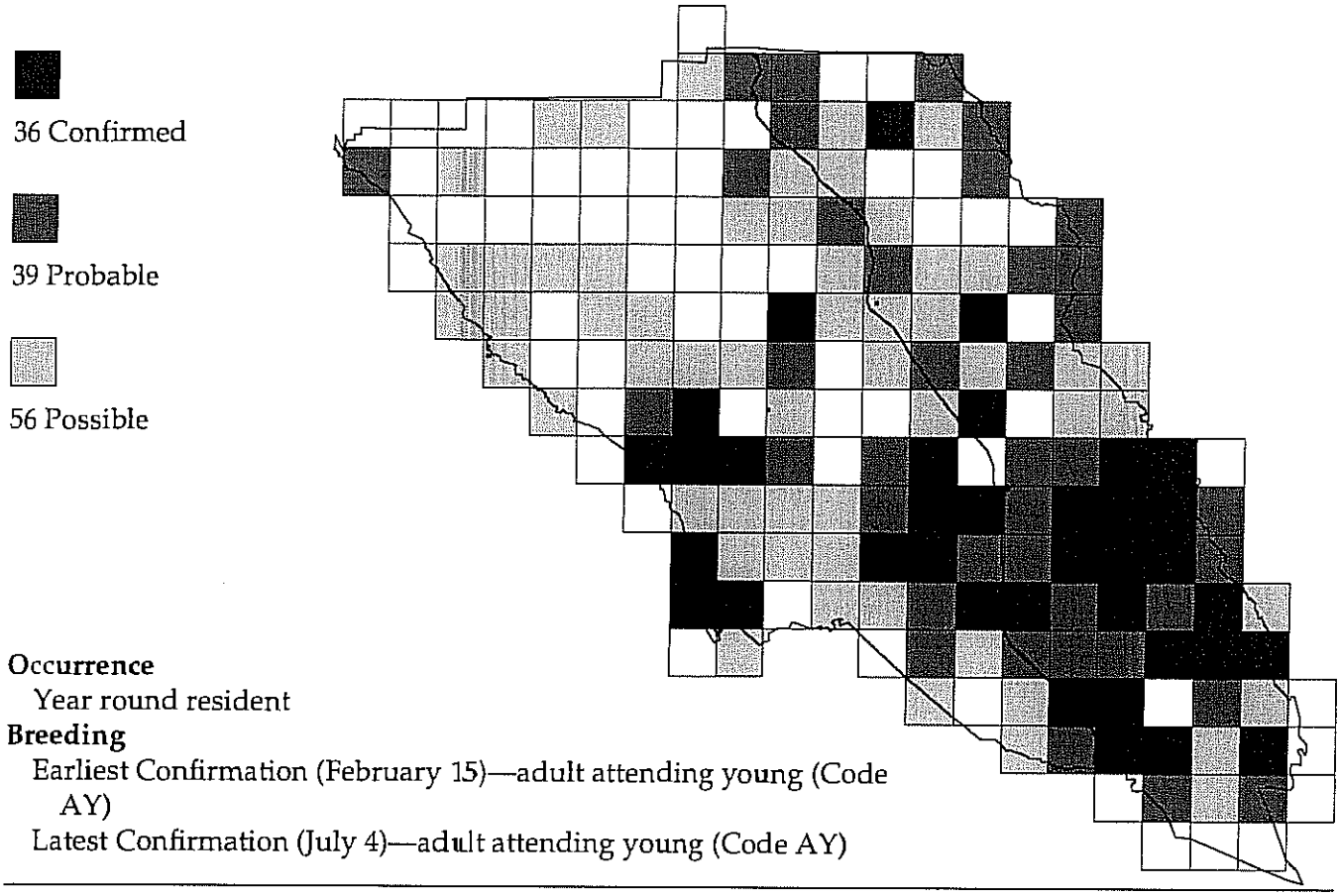
In Sonoma County breeding evidence for this Atlas came from near Hood Mountain, at Bouverie Audubon Preserve in the Valley of the Moon, and south of the Russian River where pairs of White-throated Swifts were reported on May 7 and June 4, 1988. Birds carrying nest materials were also reported in steep and inaccessible territory south and east of the northwestern town of Annapolis in both 1988 and 1989.

–B. Burridge



Anna's Hummingbird

Calypte anna



36 Confirmed

39 Probable

56 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (February 15)—adult attending young (Code AY)

Latest Confirmation (July 4)—adult attending young (Code AY)

Dazzling aerial dives by the dapper male Anna's Hummingbird highlight the courtship of his lady. A sharp popping noise at the bottom of the dive can startle an unsuspecting observer. All this can start as early as December, even before the day has reached its shortest photoperiod. A female builds her nest alone in shaded woodlands, often in live oak, eucalyptus or gardens. Because the female does not enter nocturnal torpor during incubation and brooding, she needs a reliable supplemental source of nectar for energy at dawn and dusk when insects are not available. The female raises the young alone and needs high insect diet to provide for her increased physiological needs to produce eggs and care for the young. Meanwhile, the male is off defending his territory, which must have an elevated lookout post with a broad view and a ready rich source of nectar (Shuford 1993).

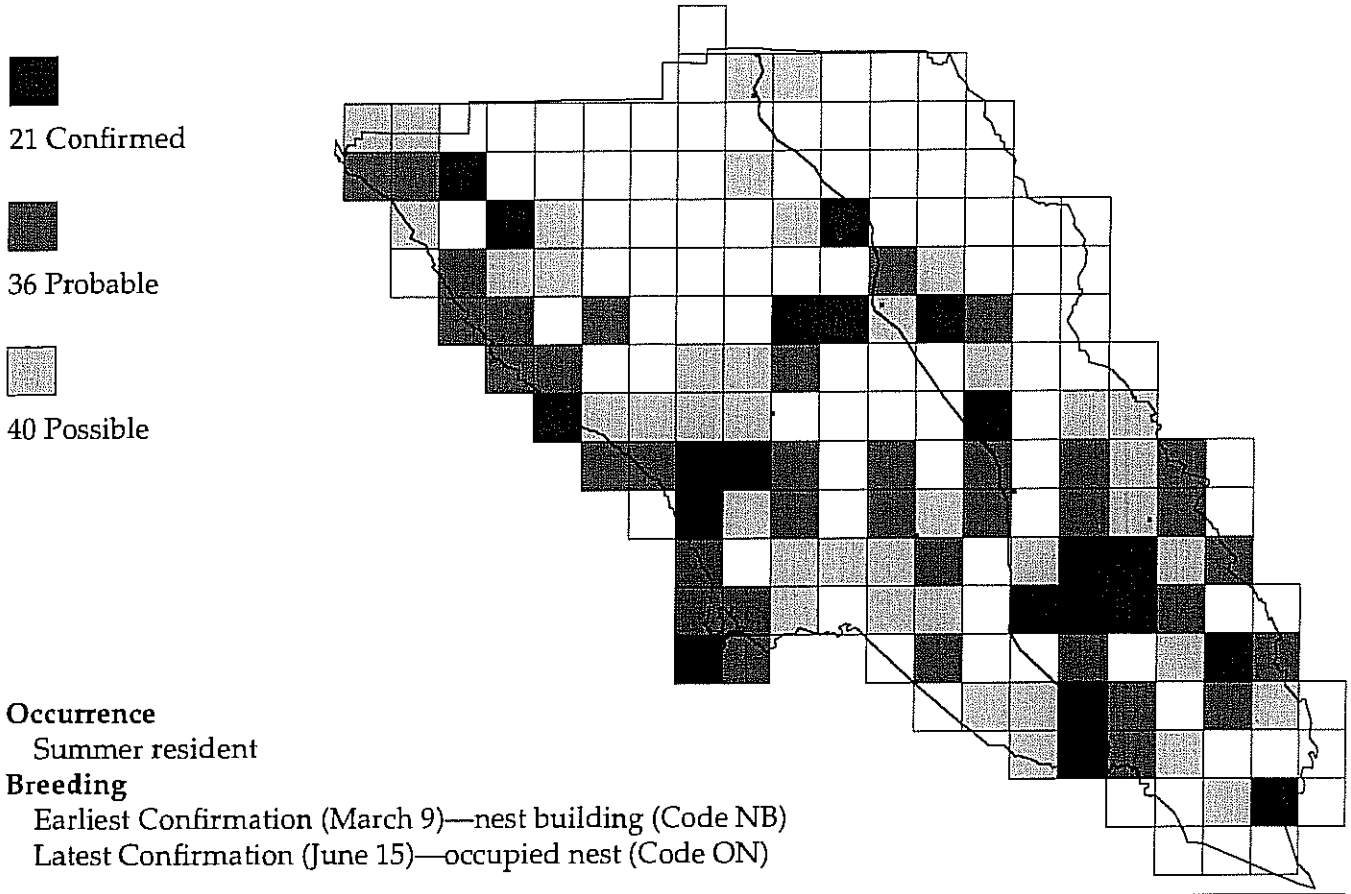
In Sonoma County the Blocks in which Confirmed breeding were found most often were inland and in the southern part of the county. Some Confirmations were coastal south of the Russian River.

The introduction throughout California of new domesticated and naturalized exotic flowering plants since the turn of the century has greatly increased the breeding range of the Anna's Hummingbird (Grinnell & Miller 1944) by enhancing the suitability of breeding territories and augmenting the food supply, especially after September when most sources of native plant nectar disappear.

–B. Burridge

Allen's Hummingbird

Selasphorus sasin



Occurrence

Summer resident

Breeding

Earliest Confirmation (March 9)—nest building (Code NB)

Latest Confirmation (June 15)—occupied nest (Code ON)

The metallic buzz of the Allen's Hummingbird's tail feathers may be your first awareness of his presence. The male displays before a chosen female by diving dramatically in figure 'J' loops above her.

The Allen's Hummingbird is said to be the earliest spring migrant in Sonoma County and the San Francisco Bay Area, with a record of February 7 in Berkeley, Alameda County (Grinnell & Wythe 1927).

The breeding range of the Allen's Hummingbird is the narrow humid coastal belt from the Oregon border south where there are summer fog intrusions. Nesting seldom occurs more than 20 miles inland from the sea or a coastal bay and altitudes of nesting are below 800 feet (Grinnell & Miller 1944).

In Sonoma County the breeding distribution of the Allen's Hummingbird is extensive, including the entire coast as well as the interior southern half of the county. The number of Blocks in which Confirmations of breeding were found (21 out of 99 Blocks, or 21%.) is below the average of 30% for all Sonoma County breeding birds. This is probably because this bird is much more visible away from the nest at feeders than in the nesting territory.

The Allen's Hummingbird has undoubtedly benefitted from increased numbers of hummingbird feeders and variety of early blooming exotics available in urban and suburban settings (Shuford 1993).

–B. Burridge

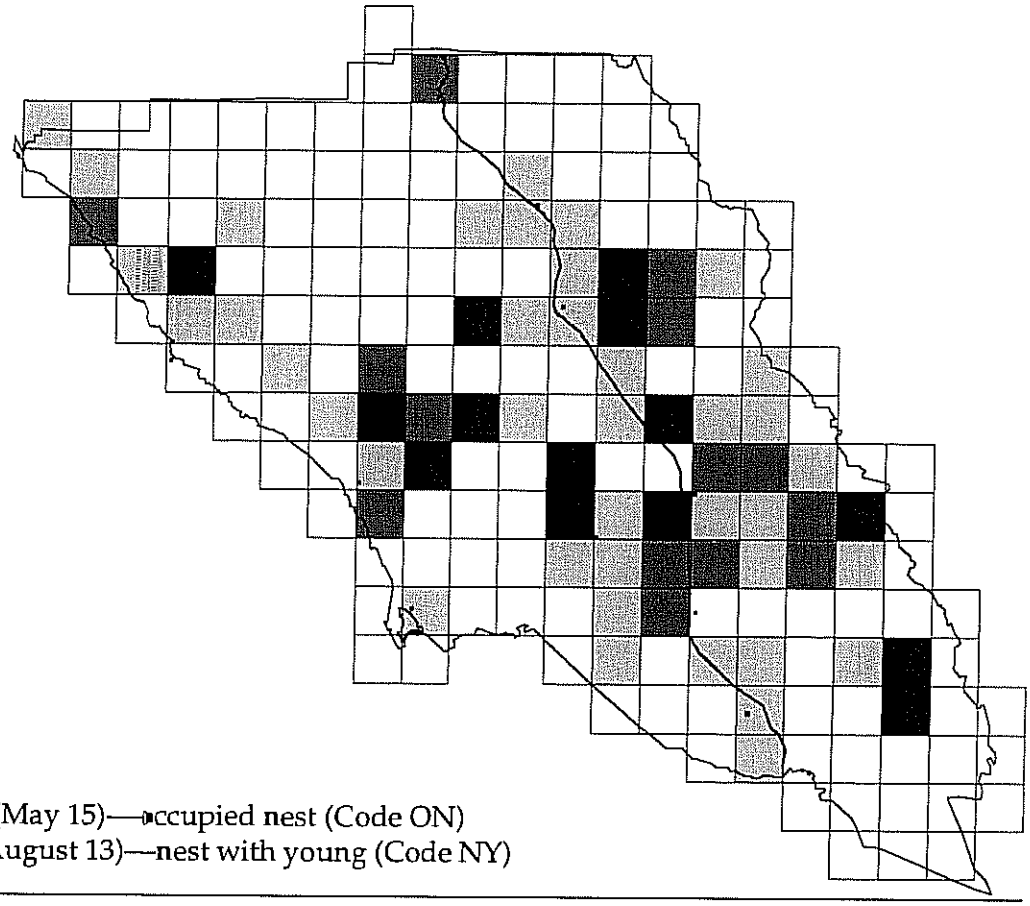
Belted Kingfisher

Ceryle alcyon

14 Confirmed

14 Probable

39 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 15)—occupied nest (Code ON)

Latest Confirmation (August 13)—nest with young (Code NY)

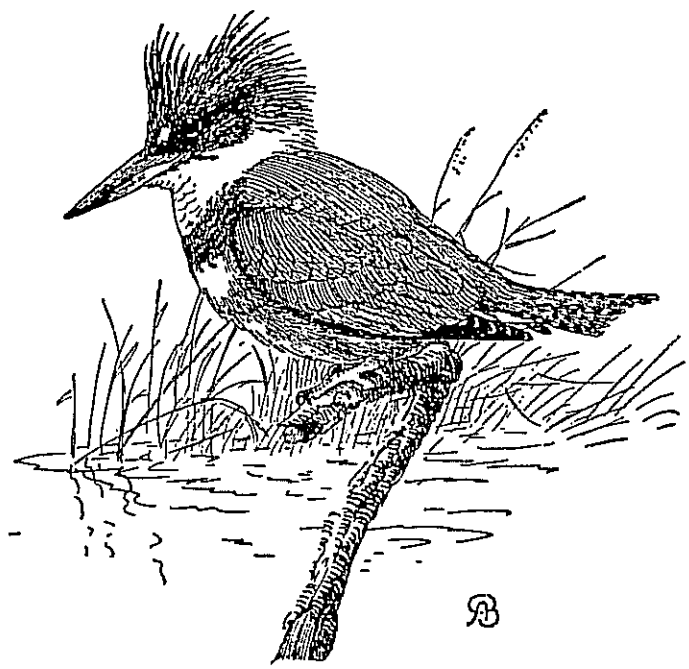
The harsh rattling call of the Belted Kingfisher can be heard along most waterways, lakes and estuaries, whether fresh or salt water. As one of the few 'liberated' birds, it is the female Belted Kingfisher who wears the flashy plumage – a bright rust belly band and flanks. The nest is at the end of a burrow excavated by the kingfisher, usually in a friable earthen or sandy bank or bluff, above or near water (Grinnell & Miller 1944).

Grinnell and Wythe (1927) noted the presence of the Belted Kingfisher in Sonoma County at the Gualala River, Russian River, Freestone, Bodega and Cazadero. In 1944 Grinnell and Miller commented that California Department of Fish and Game had an active policy to shoot the Belted Kingfisher as vermin. This policy was later rescinded when it was realized that this kingfisher helps to control some fish species destructive to trout eggs and young (Shuford 1993).

In Sonoma County the Belted Kingfisher was found to be breeding along all major waterways and in the harbor at Bodega Bay.

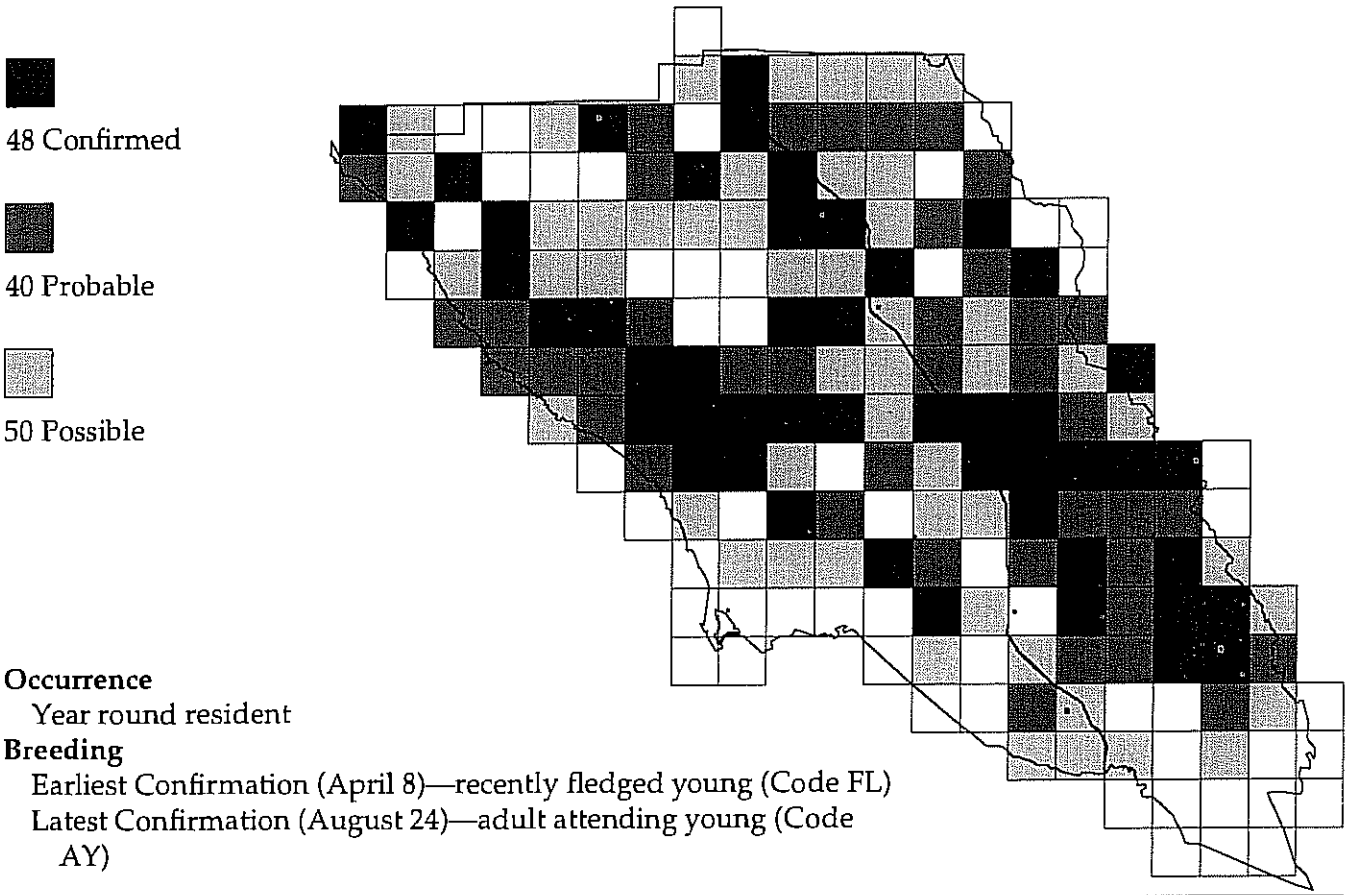
Because of its dependence on stream banks for nesting sites, damming of year round streams and rip-rapping for bank protection can be detrimental to the Belted Kingfisher population (Shuford 1993).

–B. Burridge



Acorn Woodpecker

Melanerpes formicivorus



48 Confirmed

40 Probable

50 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (April 8)—recently fledged young (Code FL)

Latest Confirmation (August 24)—adult attending young (Code AY)

This well-named woodpecker is a very obvious clown-faced resident of our mixed oak and evergreen forests. Without mature oaks, we would be missing one of the most colorfully-marked and vocal woodpeckers. While the Acorn Woodpecker will eat other items, from tree sap to insects, it is very dependent for existence upon acorns in its diet. The Acorn Woodpecker also utilizes oaks in which a communal nest is excavated. But it is not restricted entirely to oaks for nesting; it also excavates holes in other suitably-sized trees or even utility poles. A "granary" where acorns are stored can be in a dead snag, soft bark, utility pole or even a building; it marks the center of a family group's territory.

An Acorn Woodpecker family forms a close and complicated social unit of related individuals that share in all of the duties of incubating and feeding the young in a communal nest. Females may compete to successfully deposit eggs in the nest. The result can be a clutch of three to five eggs, each of different parentage.

In this Sonoma County Atlas the Acorn Woodpecker is represented in all areas where mature oaks are present. It is missing from the marshes in the southern areas of the county, the Sea Ranch area on the north coast, and the immediate coastal plain from Jenner south.

The Acorn Woodpecker is our most widely distributed breeding woodpecker, ranking eighth of all breeding birds represented in this Atlas; it was present in 138 (75%) of a total of 183 Blocks. A 1976 study in Santa Clara County by R. G. Troetschler suggested that the Acorn Woodpecker may be flexible enough to adapt to European Starling competition (Shuford 1993 citing Troetschler). If this holds true the Acorn Woodpecker may continue to do well in Sonoma County. Also required will be the availability of mature oaks through wise urban growth, and logging practices that promote diversity of species (Shuford 1993).

–D. Hofmann

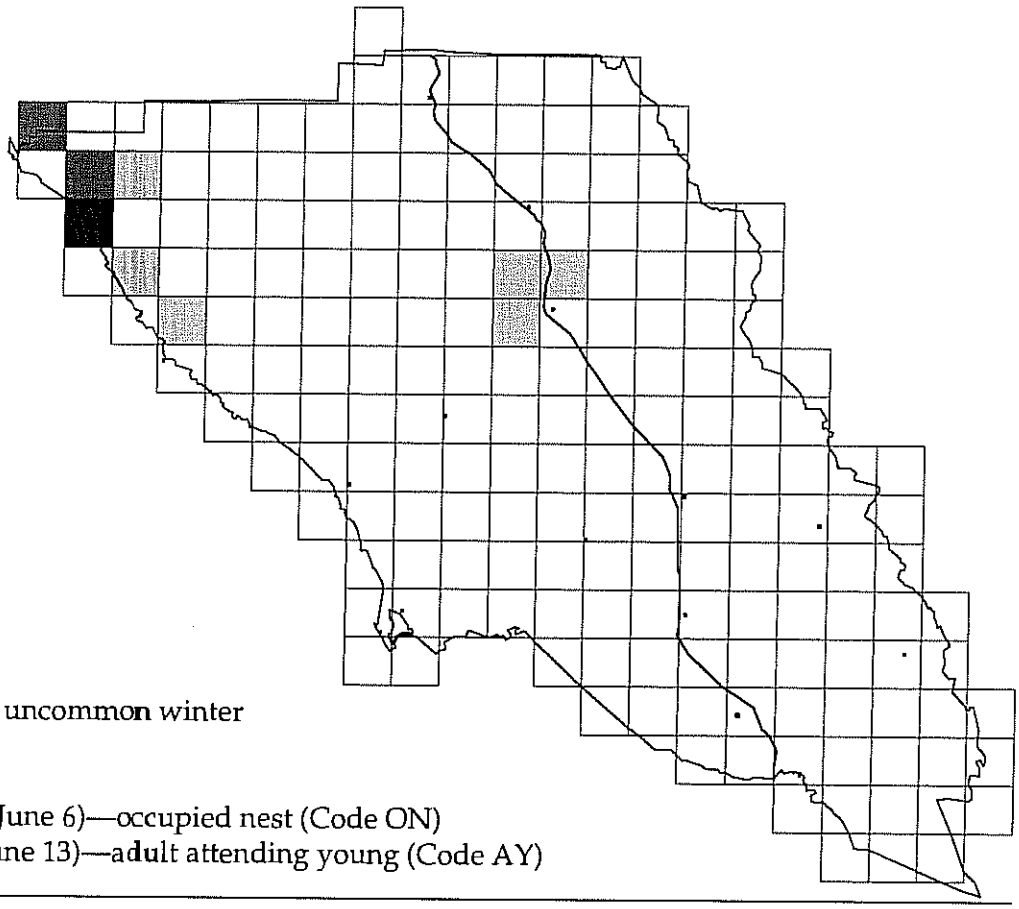
Red-breasted Sapsucker

Sphyrapicus ruber

1 Confirmed

2 Probable

6 Possible



Occurrence

Rare summer resident, uncommon winter resident.

Breeding

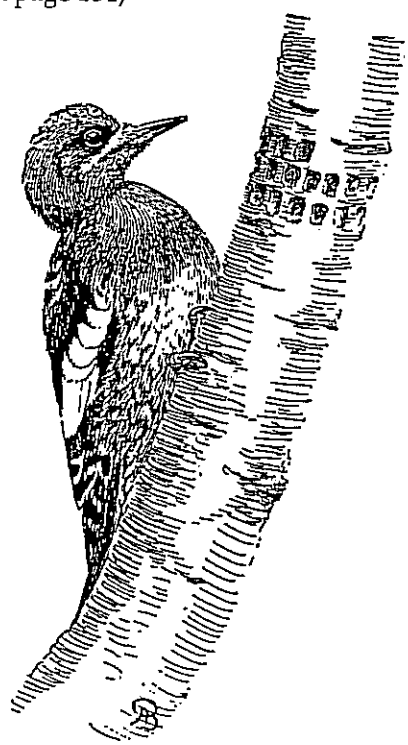
Earliest Confirmation (June 6)—occupied nest (Code ON)

Latest Confirmation (June 13)—adult attending young (Code AY)

Neatly drilled rows of holes in the trunks of trees indicate the presence of the handsome Red-breasted Sapsucker. This is Sonoma County's only woodpecker with an entirely red head, and one of this county's rarest breeding birds.

On June 6, 1992, on Skaggs Springs Road at the bridge over the South Fork of the Gualala River, two adult Red-breasted Sapsuckers were watched coming to a hole in a Douglas fir and feeding two young birds (Doug Ellis pers. comm.). In late May or early June, 1979, an adult bird was watched bringing food to a nesthole in a dead redwood tree at the Gualala Point County Park campground just south of the Gualala River. Young birds were heard and then seen as they were fed (pers. obs.). Other Confirmed breeding dates are also in June: June 8, 1986, (an Atlas record) a pair of Red-breasted Sapsuckers going in and out of a nesthole in a live red alder at Valley Crossing (where the Wheatfield Branch leaves the South Fork of the Gualala River) (pers. obs.); June 5, 1982 on Annapolis Road (Ellis 1982); June 13, 1981, 3 adult birds bringing food to young birds in a nesthole, also in a live red alder, along the South Fork of the Gualala River (pers. obs.). On May 5, 1978, two pairs were observed in courtship activity near "The Hot Spot"

(continued on page 184)



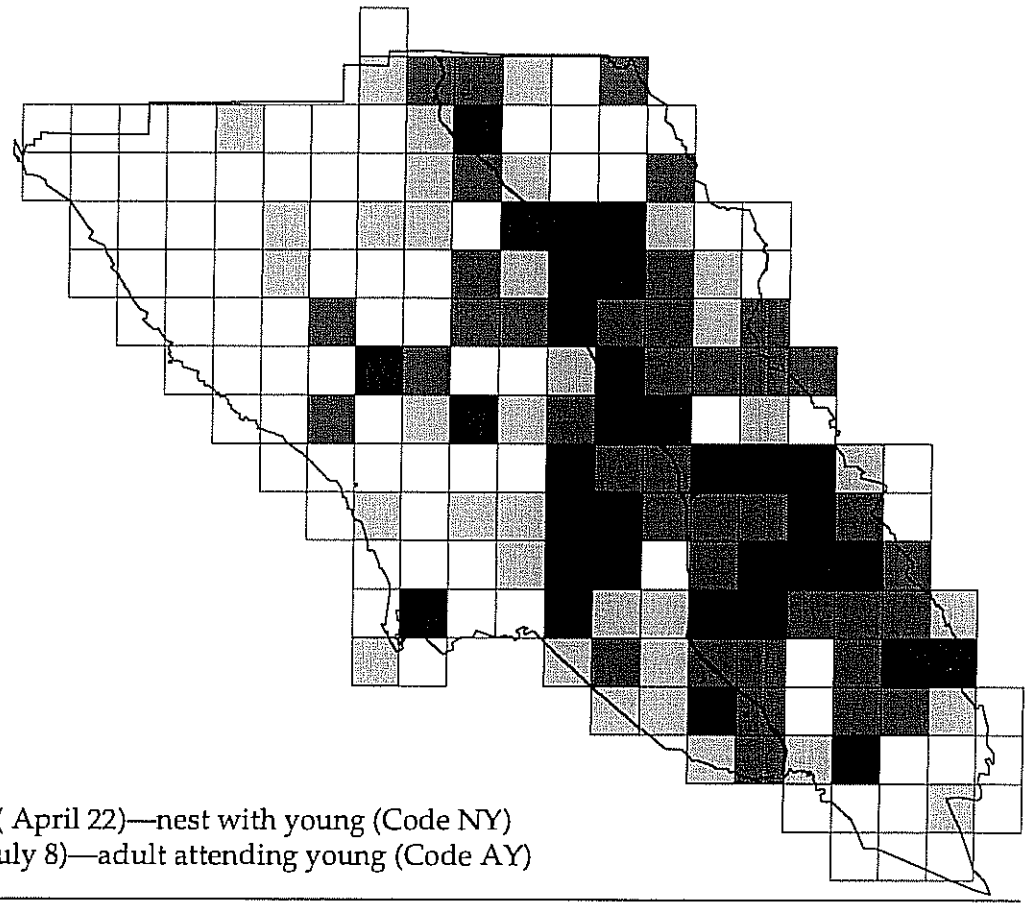
Nuttall's Woodpecker

Picoides nuttallii

32 Confirmed

39 Probable

35 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 22)—nest with young (Code NY)

Latest Confirmation (July 8)—adult attending young (Code AY)

The Nuttall's Woodpecker is a near-endemic in California; almost its entire population lives within this State's borders, the exception being some overlap into northwestern Baja California. There is only one record in this century for this bird in Oregon (Gilligan et al., 1994).

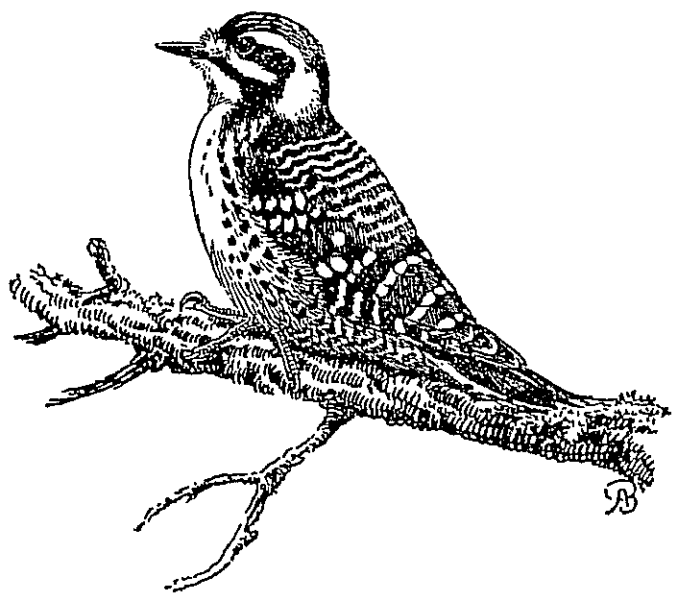
Grinnell and Wythe (1927) considered the Nuttall's Woodpecker to be a San Francisco Bay Area resident in small numbers locally, and referred to records from Santa Rosa, Sebastopol, Petaluma and Bodega. The information from this latter location dates from 1858. Grinnell and Miller (1944) called the Nuttall's Woodpecker a common resident in California as far north as Sonoma and Mendocino Counties.

This bird was recorded widely throughout Sonoma County except in the heavily forested northwestern corner and along the coast where it is considered rare as a breeder (Bolander & Parmeter 1978). One exception was a Confirmed breeding record from June 1988, at the end of Ranch Road, Bodega Bay, 100 yards from Bodega Harbor (FL – recently fledged young) (Nancy Conzett pers. comm.).

The Nuttall's Woodpecker prefers open oak woodlands where it forages. It also uses cottonwoods, sycamores, orchards and large elderberry trees for nesting, roosting and foraging (Grinnell & Miller 1944).

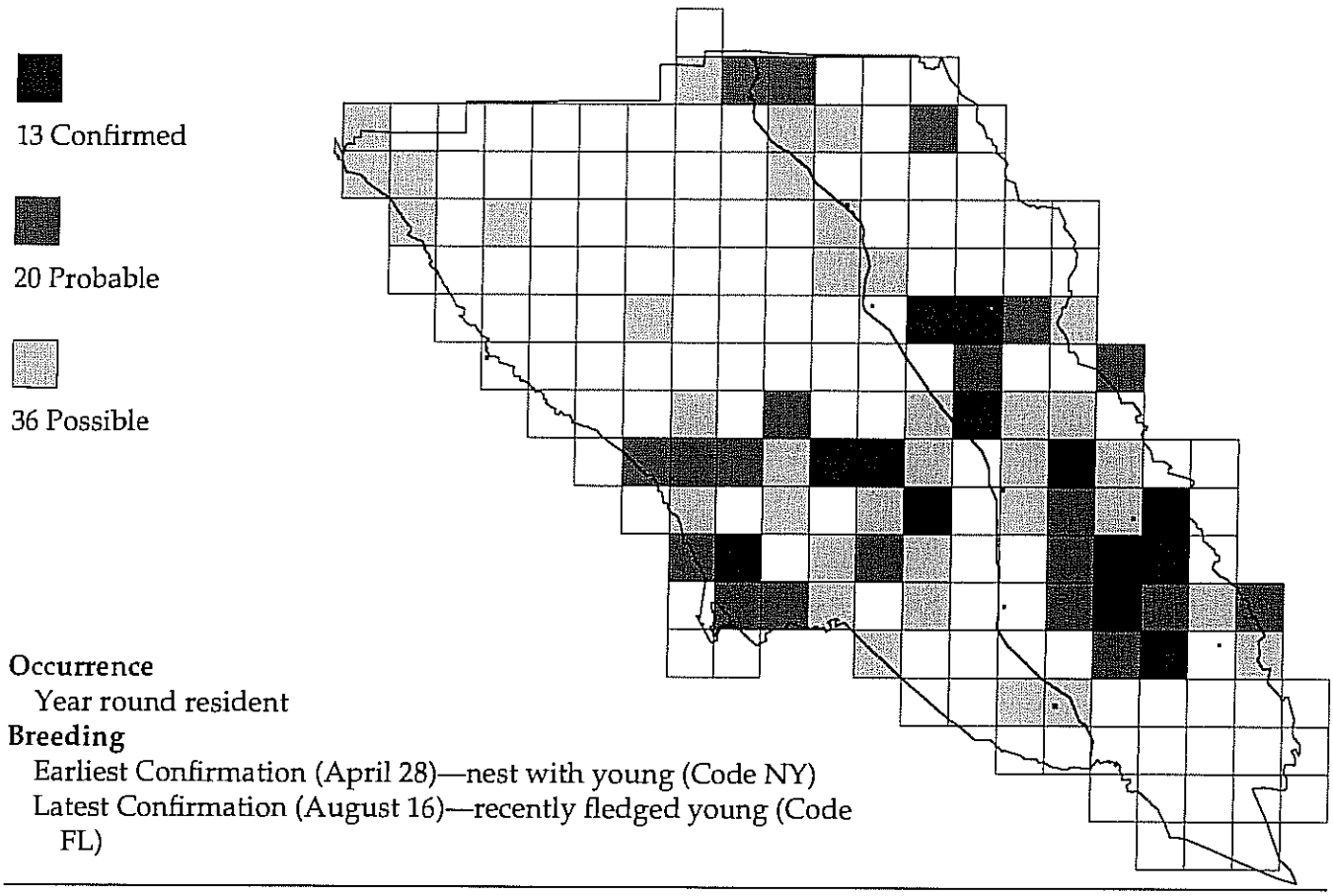
This bird could be confused with the Ladder-backed

(continued on page 184)



Downy Woodpecker

Picoides pubescens



13 Confirmed

20 Probable

36 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (April 28)—nest with young (Code NY)

Latest Confirmation (August 16)—recently fledged young (Code FL)

This, our smallest woodpecker, is a welcomed addition to any yard, orchard or woodlot in Sonoma County. The Downy Woodpecker is a tireless consumer of harmful insect pests that would otherwise do damage to any area left unchecked. Besides being an effective biological control of pests, its old nest cavities provide ready nest sites for many other beneficial birds that cannot excavate their own, such as bluebirds, chickadees and nuthatches. The Downy Woodpecker prefers to nest in riparian habitats or in moist mixed forests of deciduous and evergreen trees. This woodpecker does well in and around inhabited areas since it finds our orchard and yard trees well suited for its foraging and nesting purposes.

This fairly common woodpecker nests in most of the lower elevations of Sonoma County. It is absent in the areas of the southern marshes, the relatively treeless pasturelands and the coniferous forests in the northwestern part of the county.

The population of the Downy Woodpecker appears to be doing well in Sonoma County by taking advantage of the abundant nesting and

feeding habitats available to it. Though the introduced European Starling is a threat to successful breeding of other cavity nesters the Downy Woodpecker's nest cavity is too small for the starling's use. The Downy Woodpecker is such a beneficial bird to have present (Shuford 1993) that we should do all we can to encourage its continued presence in Sonoma County.

–D. Hofmann

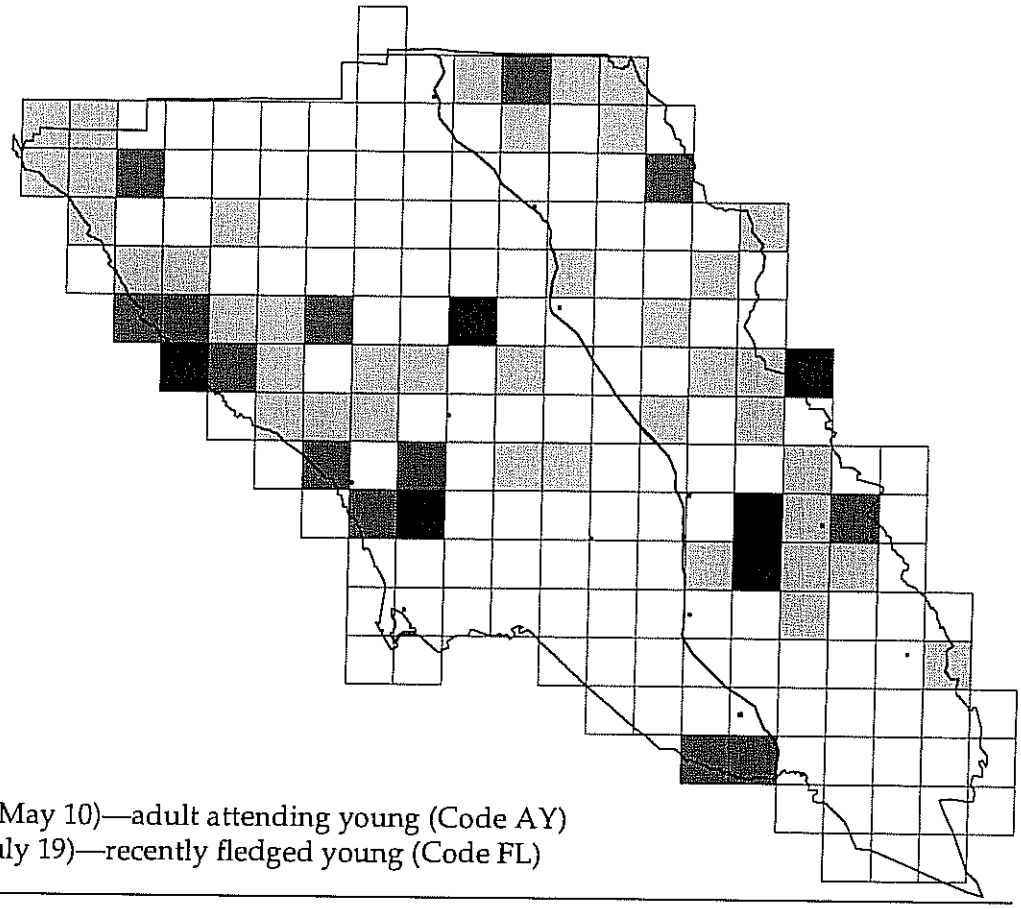
Hairy Woodpecker

Picoides villosus

6 Confirmed

13 Probable

39 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 10)—adult attending young (Code AY)

Latest Confirmation (July 19)—recently fledged young (Code FL)

Named for the hair-like white feathers down its back, the Hairy Woodpecker adds its presence to the denser forested areas of Sonoma County. Even though this woodpecker is just slightly larger than the near look-a-like Downy Woodpecker, the difference in size dictates a different habitat for each. With a longer bill, the Hairy Woodpecker can bore deeper into the bark of trees for beetles and their larva.

Both woodpeckers are necessary to the health of our forests, helping in the control of insect pests. The Hairy Woodpecker, because of its larger size, needs larger trees in which to excavate its nest cavities than the dainty Downy. Old nest cavities of both species may find utility for many years by providing shelter for other wild animals.

In Sonoma County the Hairy Woodpecker nests at higher elevations where there are suitable stands of conifers, mixed conifers and moist evergreen hardwood trees. Examples of this type of habitat include Sonoma Mountain, Sugarloaf Ridge State Park, and the King's Ridge area. The Hairy Woodpecker also nests along the coast, from the mouth of the Russian River north to Mendocino County.

This bird is fairly common in its preferred habitat, and as long as we keep the forested areas that we now enjoy, we should continue to have a healthy population of this beneficial woodpecker (Shuford 1993).

–D. Hofmann

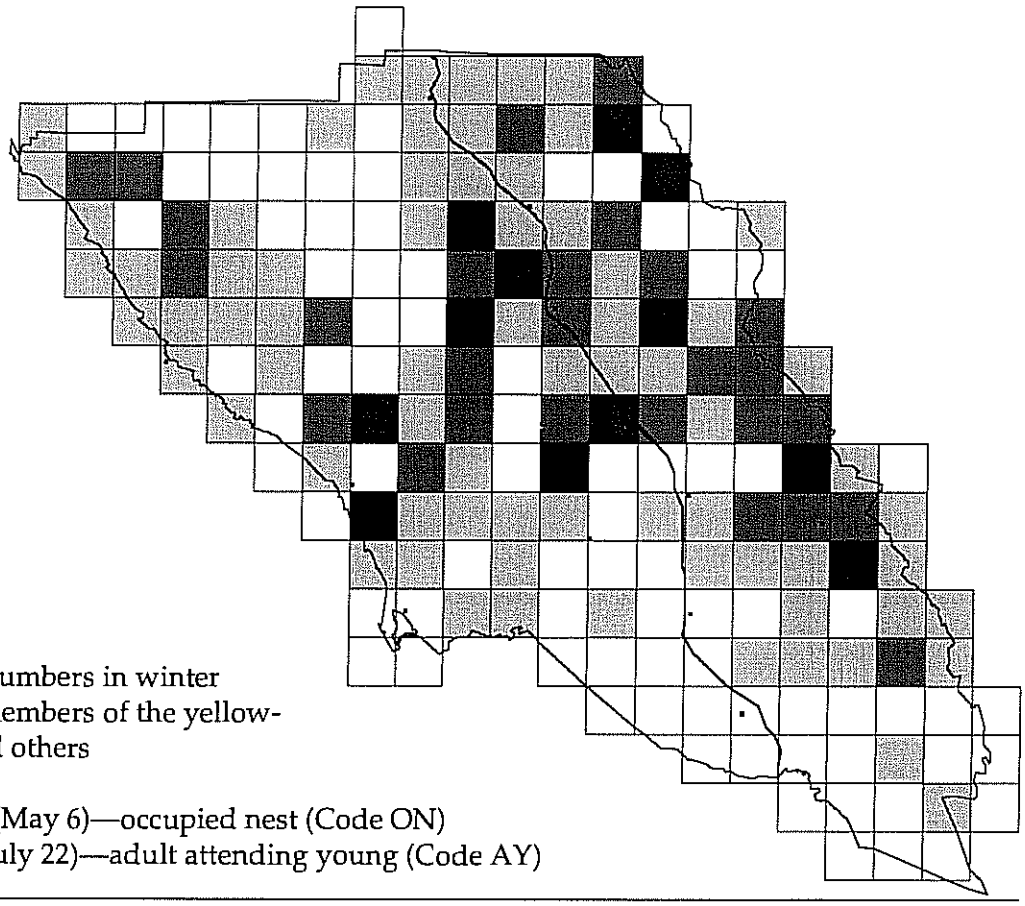
Northern Flicker

Colaptes auratus

12 Confirmed

27 Probable

71 Possible



Occurrence

Year round resident, numbers in winter augmented by some members of the yellow-shafted subspecies and others

Breeding

Earliest Confirmation (May 6)—occupied nest (Code ON)
Latest Confirmation (July 22)—adult attending young (Code AY)

The Northern Flicker is our only woodpecker that can be expected to be seen foraging on the ground. It is our most conspicuous member of its family as it can also be seen perched openly on tree tops, heard giving its raucous call and noticed frequently in undulating flight. Of the two subspecies that are here in the winter, the yellow-shafted is by far the less numerous, with many intermediate (intergrade) birds also being present. The more numerous red-shafted subspecies is here year round, remaining in Sonoma County to breed in the spring and summer months.

The Northern Flicker was considered a common resident almost everywhere in the San Francisco Bay Area in 1927 (Grinnell & Wythe). In Sonoma County it breeds in areas with suitable open ground in which to forage and with trees, some of them dead and decaying, providing good nest sites nearby. Areas that would be unsuitable would be the southern marshes and where the ground is so hard or rocky as to preclude successful foraging for insects. During the Atlas field work evidence of breeding for the Northern Flicker was generally found throughout most of Sonoma County except in the southern marshes.

The Northern Flicker is a ground forager for most of the breeding season, feeding mostly on ants but also on other insects it may happen upon. It will eat acorns, poison oak seeds and elderberries during the fall and winter seasons when those foods become abundant. This flicker's nest site requirements include soft wood such as dead trees or dead limbs in live trees. It will also enlarge old nest holes of other species of woodpeckers

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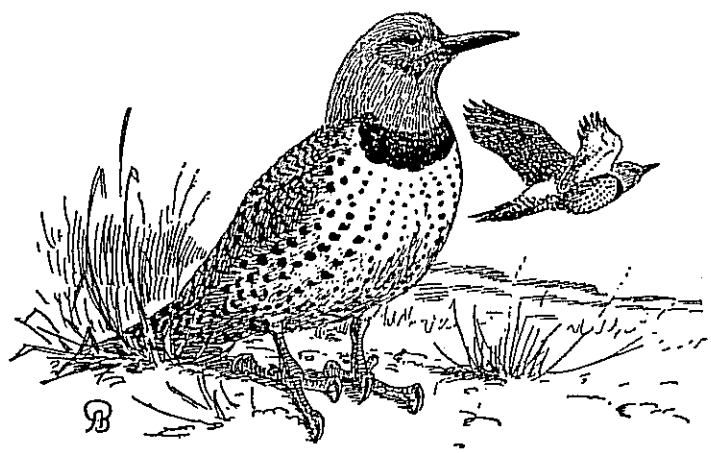
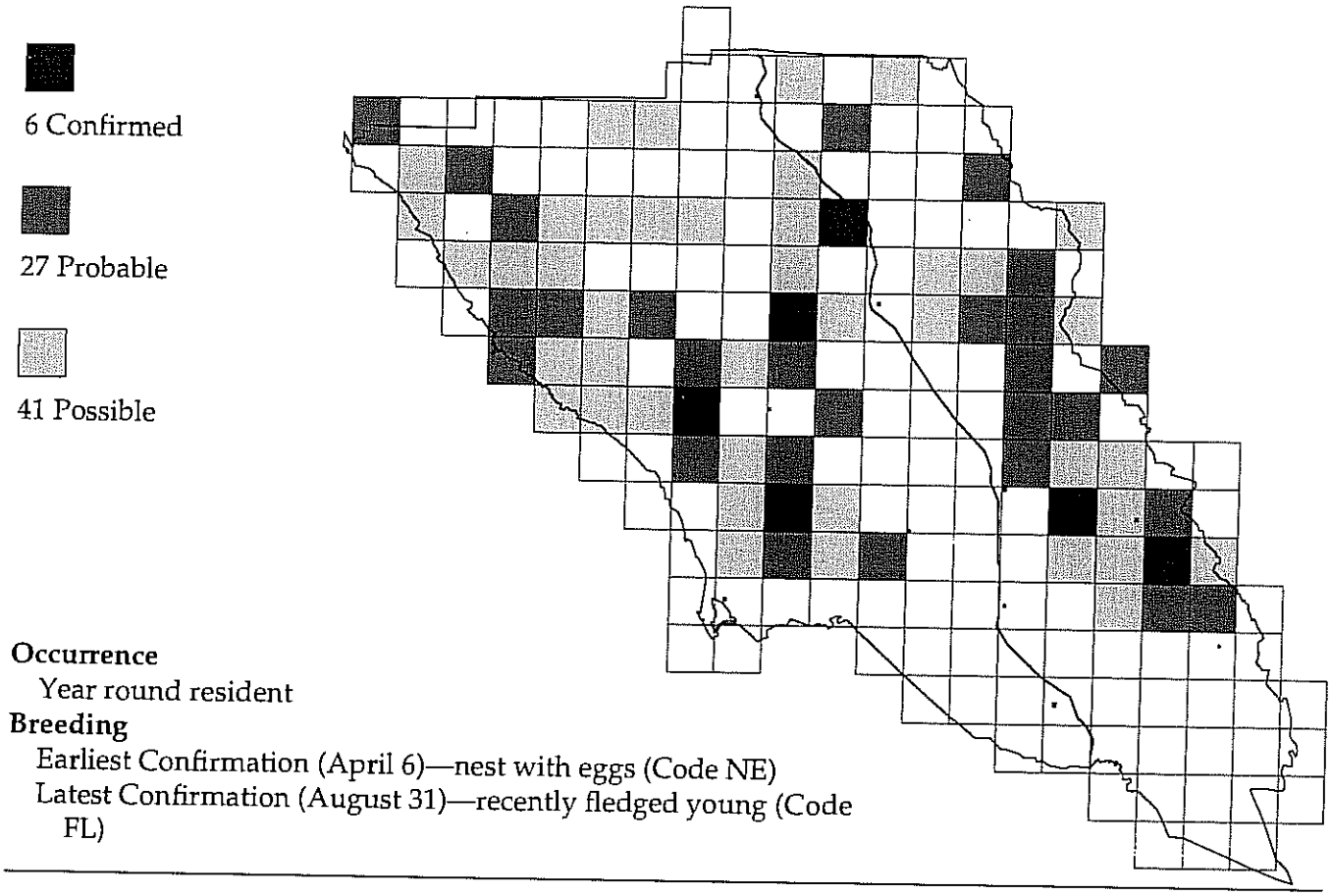


Pileated Woodpecker

Dryocopus pileatus



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 6)—nest with eggs (Code NE)

Latest Confirmation (August 31)—recently fledged young (Code FL)

This striking, crested bird is North America's largest woodpecker since the unfortunate demise of the Ivory-billed Woodpecker. Standing near a hollow tree on which this bird begins drilling can be a deafening experience. Fortunately for us the Pileated Woodpecker's primeval call and drill can still be heard regularly throughout the heavily forested regions of Sonoma County.

Grinnell and Wythe (1927) rated this bird rare in the San Francisco Bay Area and noted its presence in Sonoma County only at Seaview and Cazadero. By 1944 Grinnell and Miller stated that the Pileated Woodpecker was fairly common under favorable conditions, with the local range diminishing commensurately with the extension of lumbering operations in California.

This bird now breeds in all portions of Sonoma County except the Santa Rosa Plain, southern marshes and grasslands. Confirmed breeding locations were near Cazadero, Camp Meeker, Geyserville and Mill Creek (Healdsburg) as well as in Annadel State Park and Jack London State Historical Park. Additional verified breeding records from northeastern Santa Rosa (Diane Trowbridge pers. comm.) and on Tilton Road near Freestone (Carolyn Johnson pers. comm.) were reported in 1992 after the Atlas field work was completed.

John Petersen, resident biologist at Audubon Canyon Ranch's Bouverie Audubon Preserve (BAP) at Glen Ellen recorded some interesting field notes on a nest there. "PILEATED WOODPECKER: Nest about 12 feet off ground, in excavated cavity of dead White Alder located next to creek and main BAP trail. Two nestlings observed to near fledgling stage. Later found pile of Pileated Woodpecker feathers under nest hole. As yet don't know the outcome. May 13, 1987."

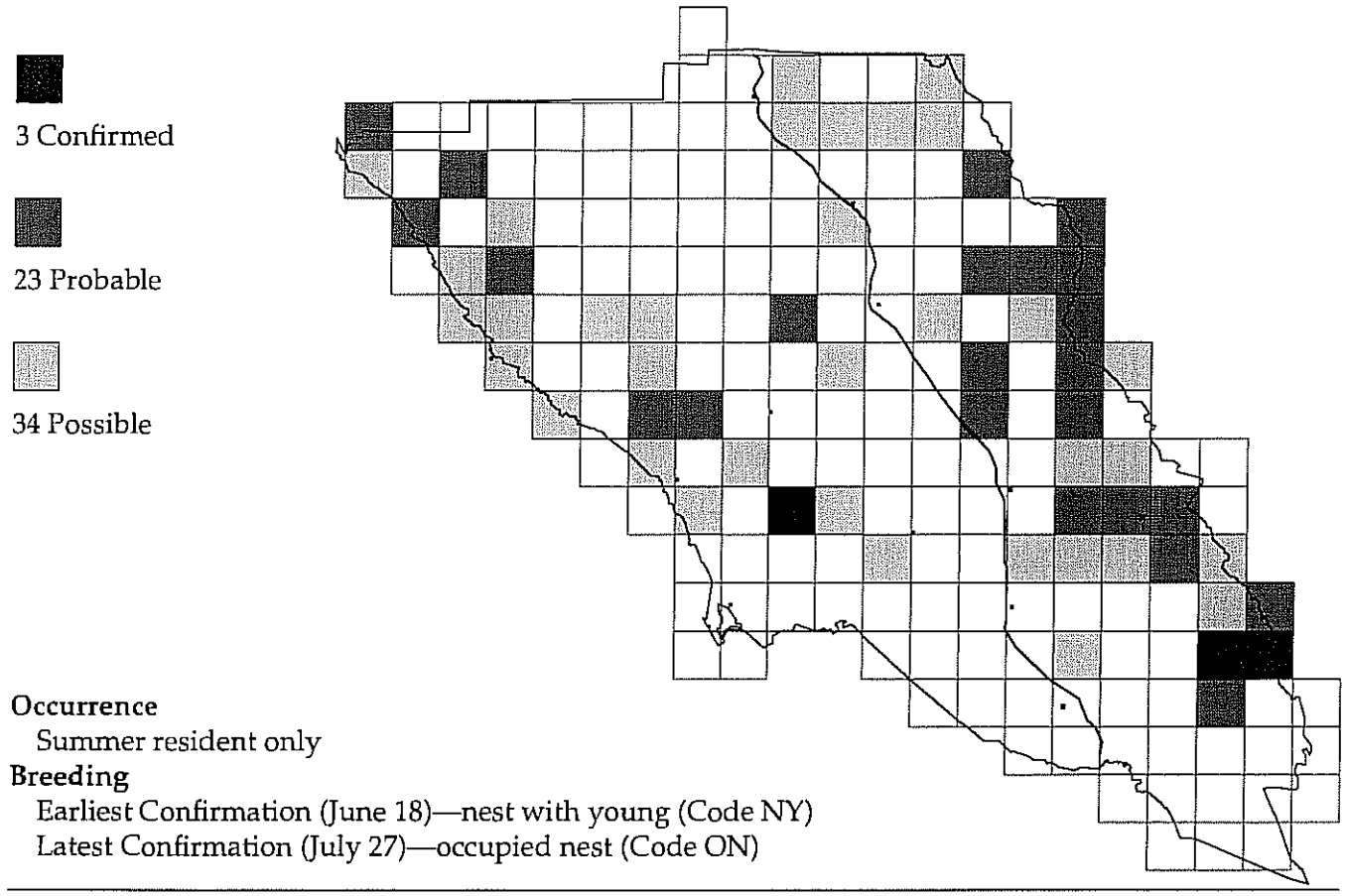
There were only six Blocks with Confirmed breeding records out of 73 Blocks with Atlas records for this bird (eight percent compared to the average of 30 % of Confirmed Blocks for all Atlas breeding birds). This indicates difficulty in finding nests and identifying advanced breeding behaviors for this bird.

The Pileated Woodpecker nests in Sonoma County in Douglas fir and redwood forests, and in mixed evergreen forests that are dominated by Douglas fir. It does not require old-growth trees for nesting, as is often believed, but does use old-growth forests as prime foraging areas. This habitat has many dead or dying trees that provide and harbor a favorite food, carpenter ants (Shuford 1993). A mated pair will defend its territory from encroachment by other Pileated Woodpeckers throughout the year.

–D. Hofmann, B. Burridge

Olive-sided Flycatcher

Contopus borealis



Occurrence

Summer resident only

Breeding

Earliest Confirmation (June 18)—nest with young (Code NY)

Latest Confirmation (July 27)—occupied nest (Code ON)

A clearly whistled "hic-three-beers" call heard across the rugged canyons of Sonoma County's backroads tells that an Olive-sided Flycatcher is near. Its call notes consist of a soft, but agitated, "pip-pip-pip." This robust flycatcher has a heavy bill and a body that is fairly dark-olive throughout. A whitish strip running from chin to belly gives it a characteristic open-vested look.

The Olive-sided Flycatcher usually nests in mixed coniferous forests, especially where tall conifers or snags overlook canyons, meadows or clearings. The quality of the habitat appears less important than the amount of space viewed from the highest snag. Insects are captured high above the treetops with the bird often returning to a favorite perch. Sallies are generally longer and more acrobatic than those of the similar Western Wood Pewee. A bird seen flycatching from atop the tallest snag will usually turn out to be an this bird.

The Olive-sided Flycatcher is uncommon and few nests have ever been found in Sonoma County, with large unoccupied areas between territories. Survey data in much of the west indicate a decline during the 1970s (Robbins et al., 1986). In Sonoma County, there appears to be a fairly regular, small number of birds with scattered, disjunct territories each year. In nearby Marin

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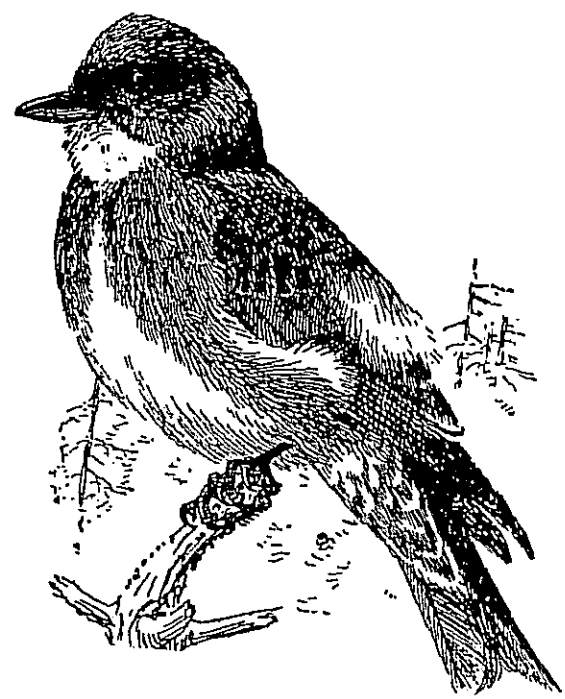


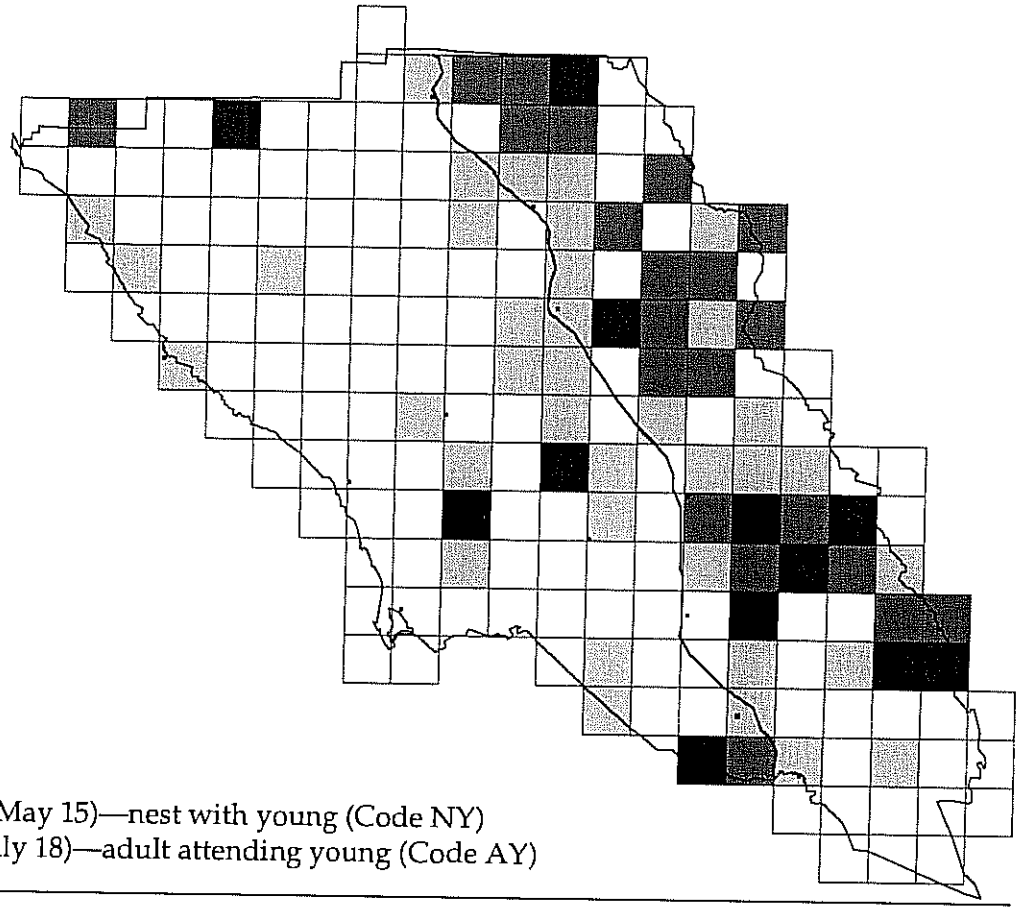
Western Wood-Pewee

Contopus sordidulus

12 Confirmed

21 Probable

37 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 15)—nest with young (Code NY)

Latest Confirmation (July 18)—adult attending young (Code AY)

The Western Wood-Pewee is a small brownish flycatcher of Sonoma County's timbered areas and well-wooded canyons. It is widely distributed in mixed oak woodland, Douglas fir and mixed coniferous forests, gray pine (*Pinus sabiniana*) and occasionally in manzanita scrub habitats. It prefers stands with low to intermediate canopy cover and is most common in edge situations, especially near burned or cutover sites, around meadows, rocky openings or near streams.

The nest is constructed on a horizontal or forked branch (often leafless) of a tree. Made of fine fibers and grasses, the nest somewhat resembles a large hummingbird nest.

A buzzy, descending "bzeeer" denotes the presence of a calling Western Wood-Pewee. During the nesting season, the complete song consists of a three note question, with last note highest, answered by the "bzeeer note": "Tur-di-lee?...bzeeer," usually repeated in succession.

The Western Wood-Pewee primarily eats flying insects, captured on the wing from an exposed perch. Often a favorite perch is used repeatedly. This pewee will also hover-glean, probing at foliage for food, especially during early mornings or wet days when fewer insects

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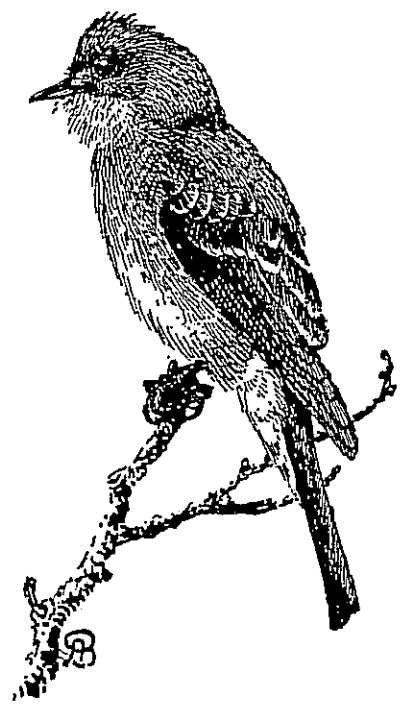
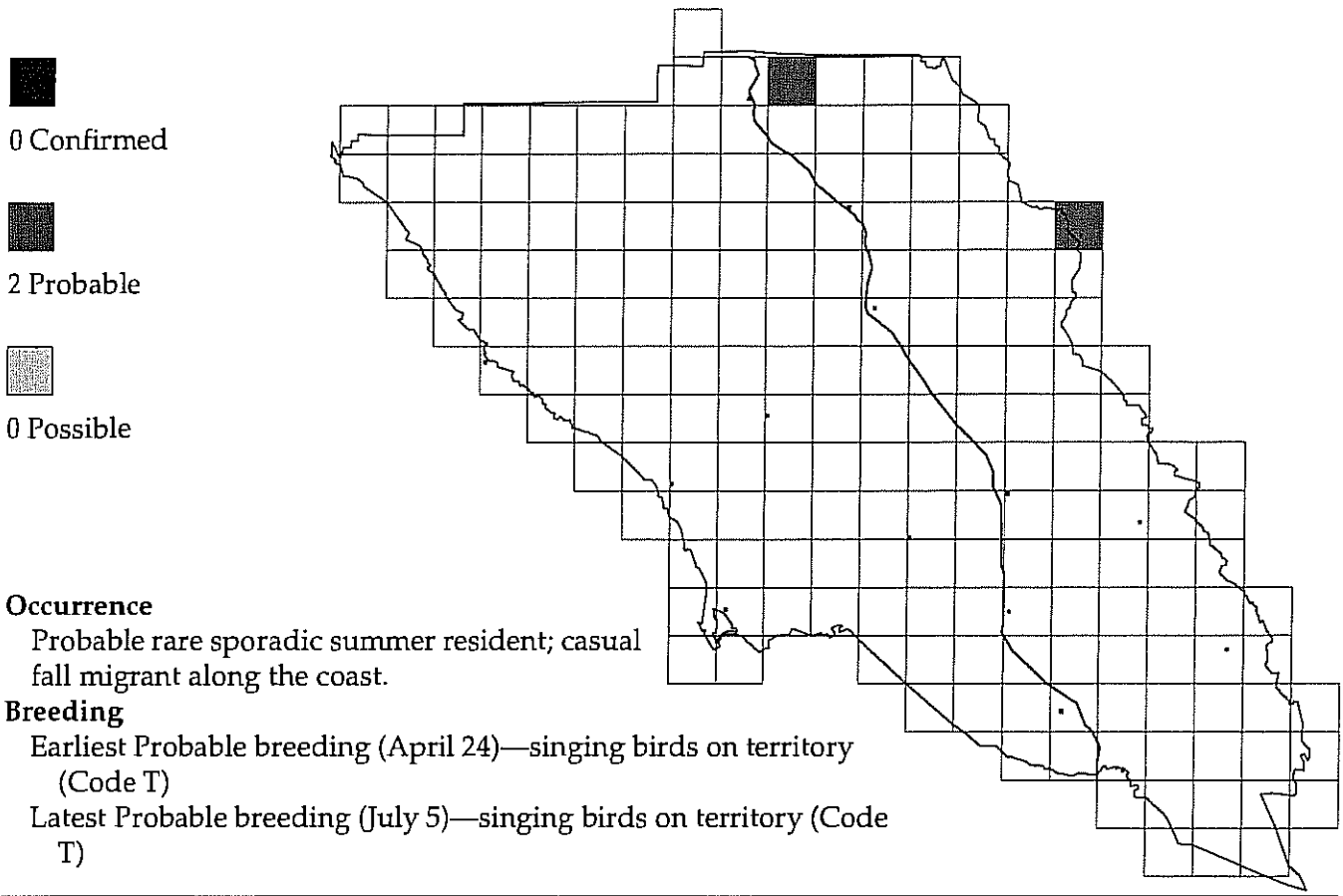


Dusky Flycatcher

Empidonax oberholseri



Occurrence

Probable rare sporadic summer resident; casual fall migrant along the coast.

Breeding

Earliest Probable breeding (April 24)—singing birds on territory (Code T)

Latest Probable breeding (July 5)—singing birds on territory (Code T)

This tiny, difficult-to-identify flycatcher was not expected as a breeding bird within the county when the Atlas project began. The discovery of this bird in Sonoma County during the spring of 1986 was a pleasant surprise and extends the Dusky Flycatcher's probable breeding range southward. Grinnell and Miller (1944) state that this bird breeds in the inner Coast Range (only) as far south as Mount Sanhedrin in Mendocino County. On July 23, 1986, ten Dusky Flycatchers were seen and reported as breeding at Boggs Lake, Mendocino County, four miles northeast of the Sonoma County border (Jon Winter pers. comm.).

The Atlas birds were seen on the summit of Mount St. Helena (elev. 4344') in Sonoma County on May 17, 1986 where two birds were observed singing and were believed to be on territory. The area was again visited on May 24 and June 5, 1986, with two singing birds again being seen. Additional singing birds have been observed there on April 24, 1992, May 25, 1992 and May 16, 1993. The only other recorded location for Probable breeding by the Dusky Flycatcher was three miles northeast of Cloverdale, near Pine Mountain Road. Two territorial pairs were found singing there on May 27, 1989.

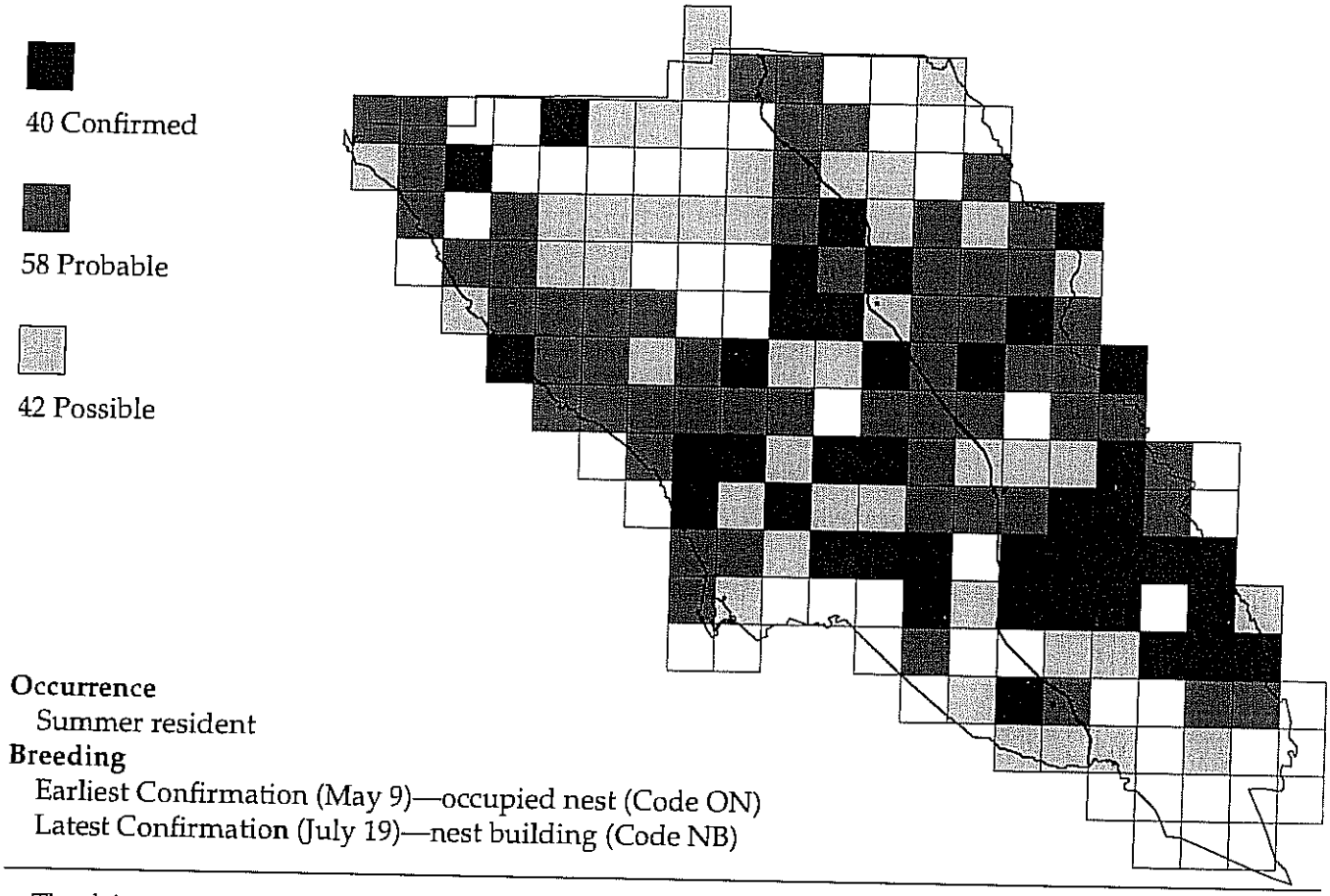
The Dusky Flycatcher also appears as a casual fall migrant along the coast. Typical fall dates are September 1, 1981, Russian Gulch State Park; September 22, 1990 and September 12, 1994 (Jon Winter pers. comm.), Bodega Harbor; and August 31, 1991, Shell Beach State Park.

Care must be taken in identifying this species as it closely resembles the Hammond's Flycatcher. The Sonoma County birds were identified by careful observation of field marks and, in instances of singing birds, by comparing the songs to known tape recordings of the song of the Dusky Flycatcher. The birds on Mount St. Helena utilized knobcone pine, sugar pine, and Douglas fir as singing perches.

–B. D. Parmeter

Pacific-slope Flycatcher

Empidonax difficilis



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 9)—occupied nest (Code ON)

Latest Confirmation (July 19)—nest building (Code NB)

The dainty, wing-flicking Pacific-slope Flycatcher is Sonoma County's most common member of the notoriously difficult to identify Empidonax genus. In spite of the specific epithet "difficilis," this is the easiest member of this genus to identify. It was formerly called the Western Flycatcher.

Its presence is often first detected by a thin, whistled "see-wit?" with second note higher than the first, or a thin, faint "pik" similar to the call of a distant warbler. These notes are later incorporated into the full three-part song during nesting–"see-wit.....s-lit.....pik," repeated in series.

The Pacific-slope Flycatcher generally nests in habitats with dense canopy closure, preferring the lower shady areas inside the canopy. Other flycatcher species generally avoid these areas. The Pacific-slope Flycatcher competes with the Ruby-crowned Kinglet and Yellow-rumped Warbler when first returning from its tropical wintering grounds. However, these competitors largely have moved on to nest elsewhere by the time this small flycatcher begins nesting.

In Sonoma County, the Pacific-slope Flycatcher is widely distributed both near the coast and inland. Locating the nests, however, can be difficult due to its secretive nesting behavior. It undoubtedly nests in many of the Blocks listed as Probable. Generally, nest sites are near seeps, springs or small streams. Nests are built on vertical surfaces - ledges in rocky banks, downed logs, forks of large trees, mossy road cuts or upturned roots of fallen trees. It prefers mixed broadleaf conifers, mixed evergreens and riparian forests but can be found in a variety of situations where ample shade and moisture are present. Not uncommonly, it nests on porch lights in the entryways of homes in semi-rural areas of Sonoma county (B. Burridge pers. comm.). Post-breeding birds disperse across Sonoma County's valleys and often accumulate along the coast in late summer in moist patches of willows, Monterey cypress and eucalyptus.

–D. Nelson

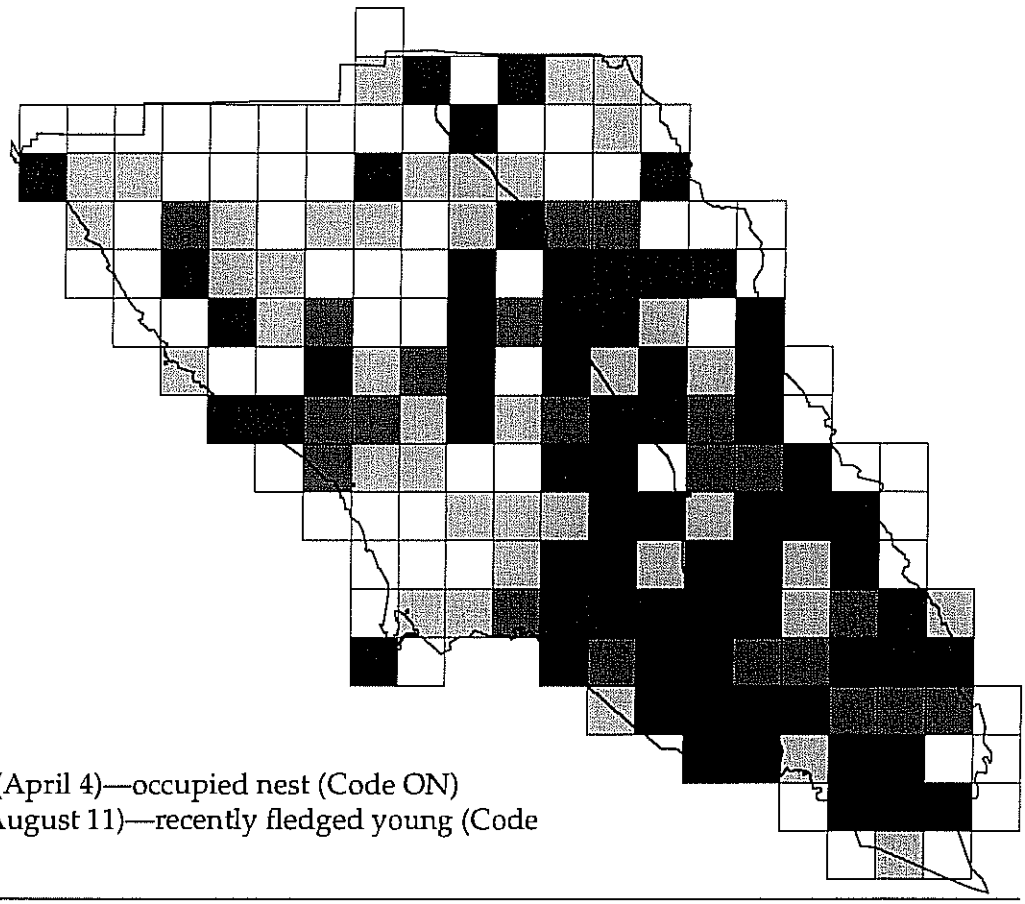
Black Phoebe

Sayornis nigricans

66 Confirmed

21 Probable

40 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 4)—occupied nest (Code ON)

Latest Confirmation (August 11)—recently fledged young (Code FL)

The Black Phoebe's cheerful "fee-bee" call and bold black and white attire make it a favorite to watch for in parks, suburbs and open areas. Breeding throughout the county, it is one of our most common and easily observed flycatchers.

The Black Phoebe has a characteristic fondness for water. It is often seen near ponds, streams, vernal pools, wet fields and cattle troughs. This flashy flycatcher often perches low near the water's edge to obtain a good view of insects rising above the surface. It is often seen scanning the air for insect prey. In urban areas, the Black Phoebe is attracted to backyard swimming pools and fish ponds. Typically, such an area is visited for five to ten minutes for several brief sallies into the open air in pursuit of prey; then on to another, often distant, unseen foraging locale. During the breeding season the Black Phoebe generally stays close to the nesting area.

The settling of Sonoma County has probably benefited the Black Phoebe population. The construction of all types of structures and buildings unintentionally created new artificial nest sites. And, the addition of many new agricultural water sources to the landscape helped as well. Favorite nesting sites today include the underside of bridges which span small creeks,

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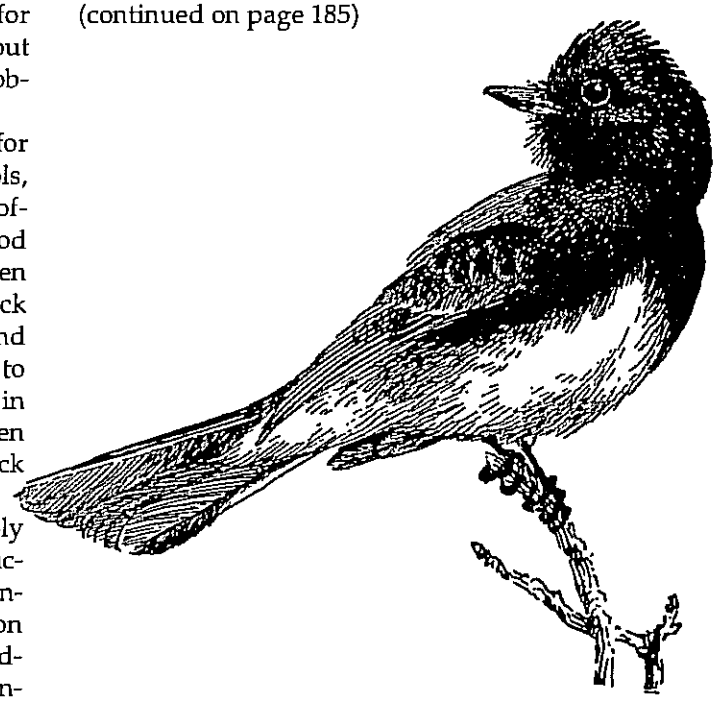


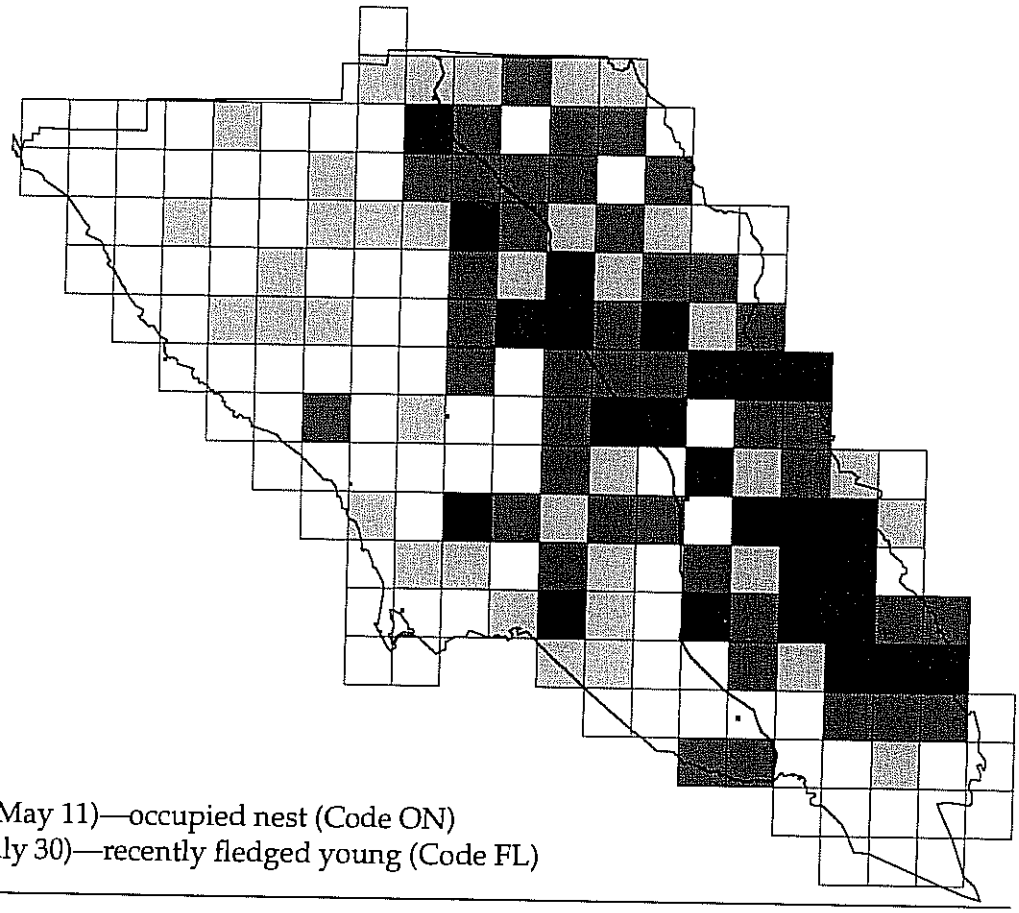
Ash-throated Flycatcher

Myiarchus cinerascens

25 Confirmed

41 Probable

37 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 11)—occupied nest (Code ON)

Latest Confirmation (July 30)—recently fledged young (Code FL)

The Ash-throated Flycatcher is a relatively vocal flycatcher and is often heard before being seen. The song is a sharp "Tea for two", often repeated and usually heard only on the nesting grounds. Calls often heard are "Chi-beer" and "p-prrrt". It is a comparatively large, grayish-brown, slightly crested flycatcher of the drier portions of Sonoma County. It prefers open oak woodlands mixed with grass and chaparral-edge habitats, although it can sometimes be found in riparian edge habitats. Stands with a low percentage of canopy coverage are favored by this species. For nest sites, the Ash-throated Flycatcher requires natural cavities or knotholes in trees, often oak or cottonwood. At times, nests have been in birdhouses or other man-made structures placed in proper habitat (pers. obs.).

The Ash-throated Flycatcher feeds primarily on insects caught on the wing; captures are made from open air sallies or from foliage while hover-gleaning. It occasionally lands on the ground to feed or to further subdue large prey (pers. obs.).

The Ash-throated Flycatcher nests mainly in the eastern half of Sonoma County, particularly in the drier hills lacking regular coastal fog.

–D. Nelson

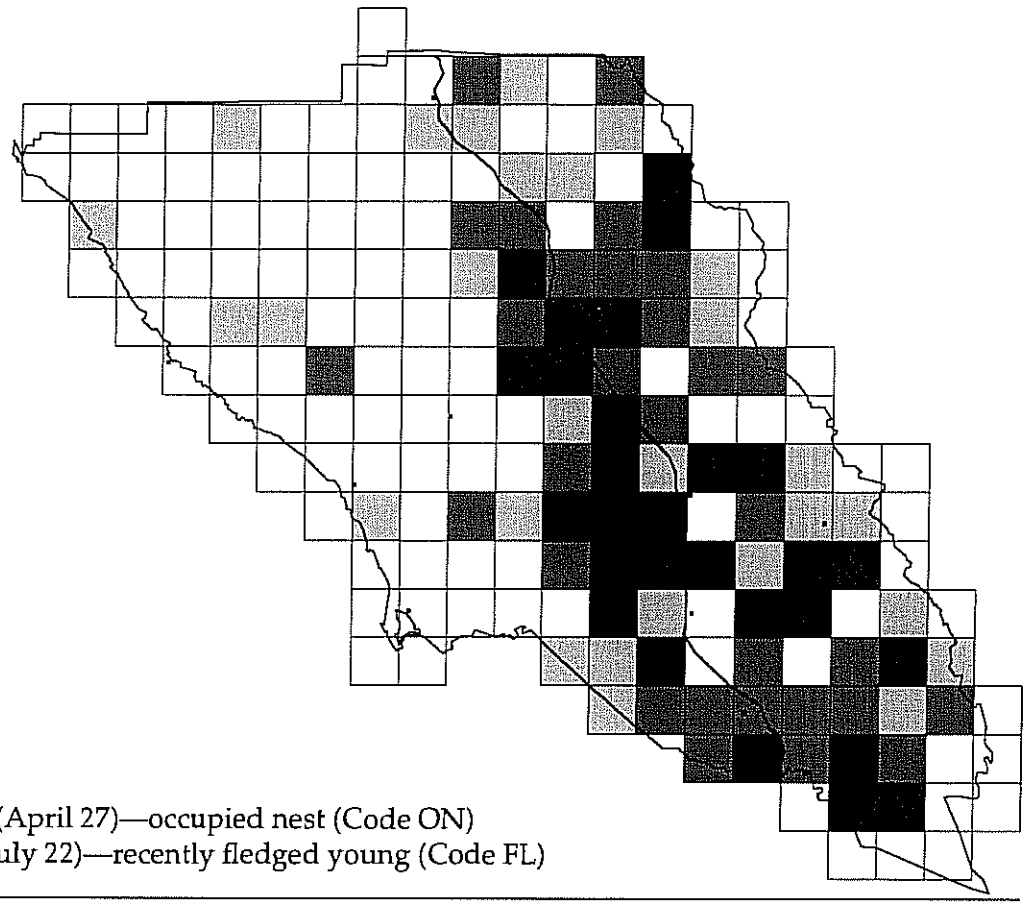
Western Kingbird

Tyrannus verticalis

28 Confirmed

30 Probable

28 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 27)—occupied nest (Code ON)

Latest Confirmation (July 22)—recently fledged young (Code FL)

With an under-stated soft yellow and gray suit, the Western Kingbird will be found quietly alone on a perch over-looking our dry grassy lowlands that are its insect smorgasbord. Yet it can be very vocal and startlingly aggressive in defense of its territory.

Confirmed breeding sites are restricted mostly to the inland valleys and open farmland in Sonoma County. In this chosen area this member of the tyrant flycatcher family (*Tyrannidae)* can see low-flying insects at long distances. Then the good part: a brief foray out, gulp, and back on the perch. Similar open grassy areas near the coast are of little interest to this lover of arid lands.

Nesting requires a tree or other structure to provide the height and camouflage necessary for protection from predators. Eucalyptus stands are often associated with open ranch situations and are well suited to this kingbird's nesting demands.

–B. McLean

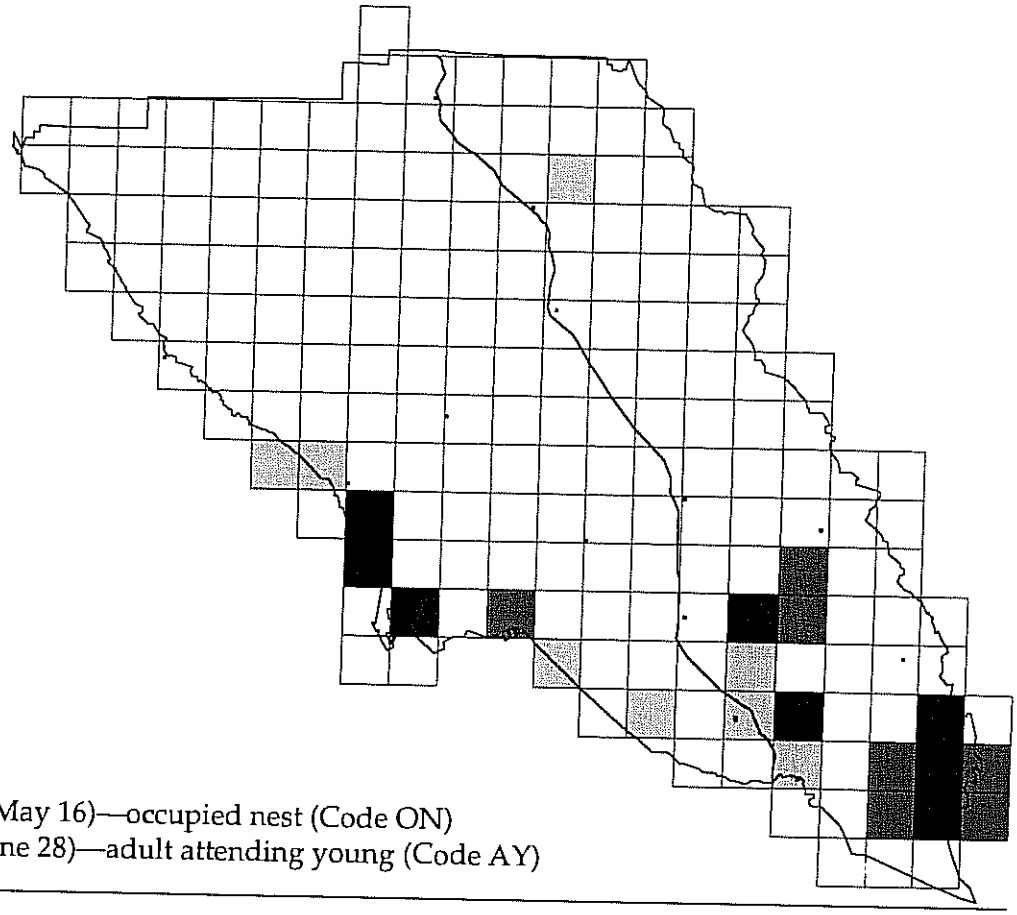
Horned Lark

Eremophila alpestris

8 Confirmed

7 Probable

8 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 16)—occupied nest (Code ON)

Latest Confirmation (June 28)—adult attending young (Code AY)

The conspicuous yellow and black head pattern of the Horned Lark mysteriously helps this bird to blend, unseen, in dull dry short grasses or bare ground. However, once in flight it can be quickly identified by the initiated birder by its distinctive tinkling jumble of notes. This is our only true lark.

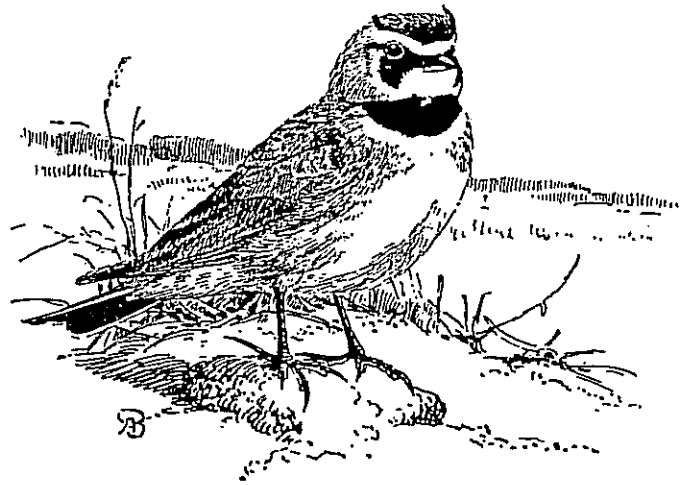
This bird is a common resident in the salt grass pastures and drier barren areas, including short grass prairies, from 2000 ft. elev. to sea level. Its favorite nesting locations are the dry high humps in pastures that are well-grazed and do not have much cover. It also nests in vineyards, in sparsely growing grain fields of all kinds and on golf courses (Bent 1962). The nest is placed in a shallow cavity on the ground and is often protected by a rock or small tuft of grass (Shuford 1993).

In Sonoma County most evidence of Horned Lark breeding was found along the flat fields and pastures adjacent to the Petaluma River and in the extreme southeastern part of the county on or near Tubbs and Skaggs Islands. Some data also came from the coastal area near Bodega Bay and from Sonoma Mountain.

Because of the Horned Lark's preference for flat open land, populations of this bird are encouraged by expansion of grazing activities and fallow fields. On the other hand, increased cultivation and development will limit this bird's habitat and numbers (Shuford 1993).

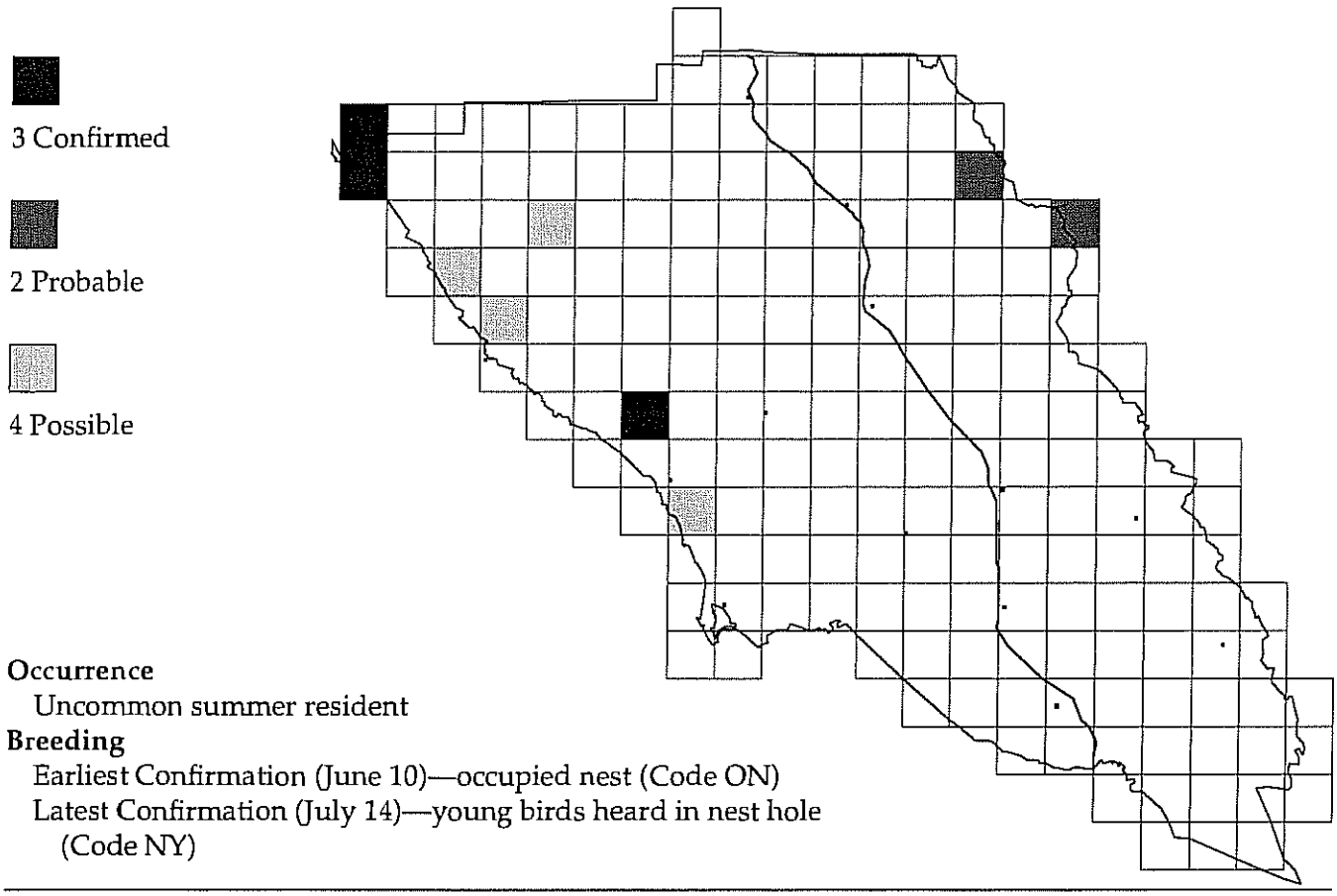
The California Horned Lark (*E. a. actia*), the race found locally in Sonoma County (Grinnell & Miller 1944), is currently designated by the California Department of Fish and Game as a Species of Special Concern, and by the U. S. Fish and Wildlife Service as a Category 2 Candidate for Federal listing as Threatened or Endangered (CDFG 1994).

–B. Burridge



Purple Martin

Progne subis



Occurrence

Uncommon summer resident

Breeding

Earliest Confirmation (June 10)—occupied nest (Code ON)

Latest Confirmation (July 14)—young birds heard in nest hole (Code NY)

The Purple Martin, our largest swallow, is often heard calling as it flies about well before dawn. In general, it is seen across the northern part of the county, and at higher elevations along the inner Coast Range. The south end of the Gualala River bridge at Hwy 1 is a regular observation site and birds can usually be seen perched on the wires along the bridge in the early morning during the nesting season.

The Purple Martin was reported in only nine Blocks during the Atlas study. The first Confirmation of breeding was three miles inland from the town of Gualala and birds nest regularly under the Hwy 1 bridge at the Gualala River.

On June 16, 1993, (after the Atlas period) three colonies were noted along the Ft. Ross-Cazadero Road between Niestrath Road and Black Mountain Camp turn-off (pers. obs.).

During recent Breeding Bird surveys small numbers were reported along the Annapolis Road between Valley Crossing and the town of Annapolis. Birds are frequently noted near the Gualala Point County Park campground on the south side of the Gualala River just east of the bridge. They are also seen going in and out of the tall snags just east of the campground during the breeding season (pers. obs.) The bird was formerly seen regularly on Ida Clayton Road and along Pine Flat Road (Redwood Region Ornithological Society, filed trip lists, unpubl.) where there are also recent sight records for May 16, 1992 as well as May 1993 and 1994 (Dan Nelson pers. comm.). The summit of Mt. St. Helena was formerly a regular spot to see this bird during the breeding season (last seen here May 17, 1986). It has also been noted along the western portion of Stewart's Point Road in recent years.

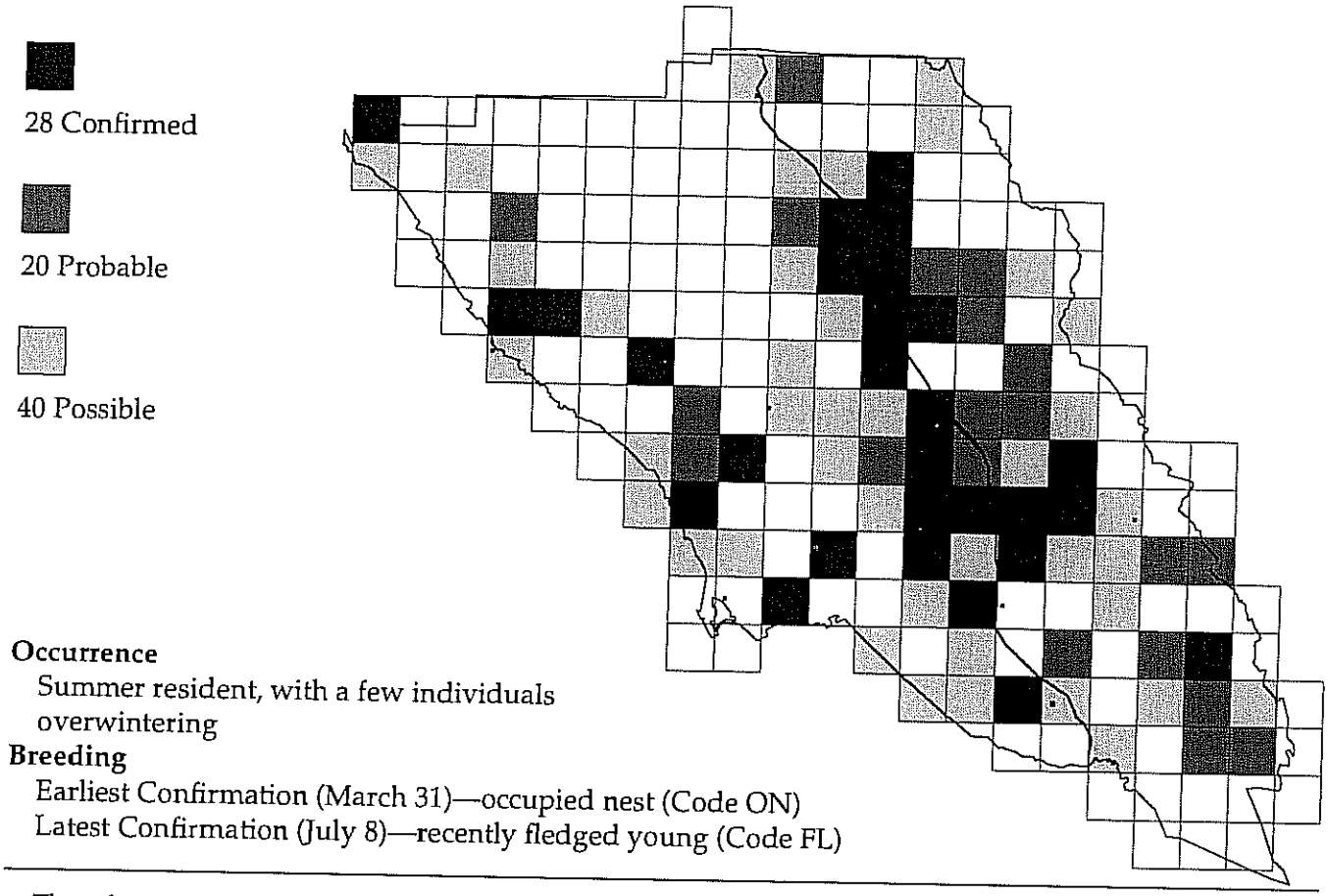
This species' numbers in Sonoma County have decreased significantly in the past 30 years. Grinnell and Wythe (1927) give two locations (Sebastopol and Petaluma) for this bird in Sonoma County, neither of which has colonies now. J. Mailliard (1931) noted a colony in the Bohemian Grove utilizing an old woodpecker nesting site. There are no modern nesting records in this area.

The bird, a colonial hole nester, uses dead tree snags for its nesting sites. Usually it takes over some abandoned woodpecker nesting holes. In the west, it does not usually come to martin houses as it does in the midwest U.S.

The Purple Martin is designated as a Species of Special Concern by the California Department of Fish and Game (1994).

–B. D. Parmeter

Tree Swallow
Tachycineta bicolor



Occurrence

Summer resident, with a few individuals overwintering

Breeding

Earliest Confirmation (March 31)—occupied nest (Code ON)
Latest Confirmation (July 8)—recently fledged young (Code FL)

The dramatic aerial displays of this dapper blue/black and white swallow can be observed in summer near or over almost any wet area of Sonoma County. Care must be taken to separate it from the Violet-green Swallow, a near relative displaying more white on the face and across the rump.

The Tree Swallow depends on holes in trees, either areas of natural decay or previous excavations by woodpeckers, or nest boxes as the main source of nest sites. Crevices in buildings may also be used. The House Sparrow, bluebird and House Wren all compete with the Tree Swallow for nest cavities (Ehrlich et al., 1988). For the best breeding success, nearby there will be water with a generous accompaniment of flying insects (Shuford 1993).

In Sonoma County, the Tree Swallow is very widespread during the breeding season. Atlas data, however, show few or no records in the interior of the northwestern corner of the county, possibly due to the inaccessible terrain and resulting decreased intensity of atlasing effort put forth there.

The Tree Swallow is so dependent on pre-excavated or decaying cavities in older and dead trees for nest sites that forestry practices that remove snags and dead wood can potentially limit the number of breeding territories (Ehrlich et al., 1988).

–B. Burridge

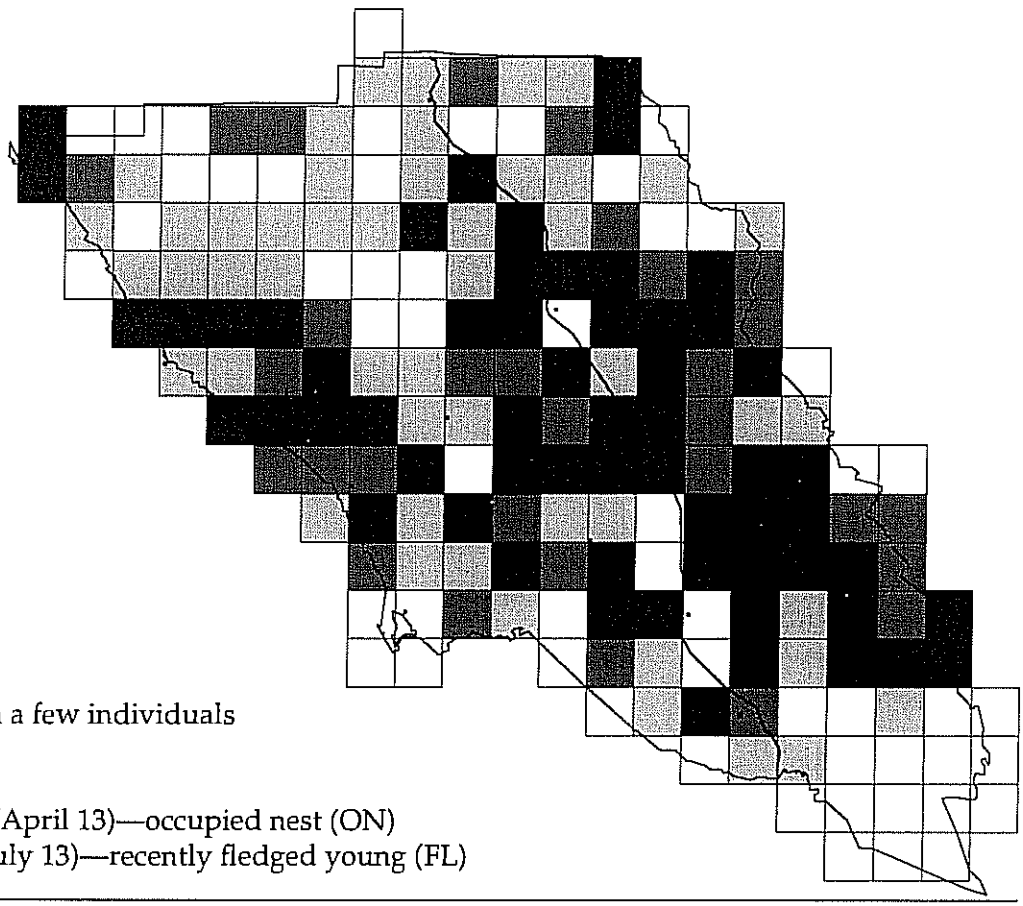
Violet-green Swallow

Tachycineta thalassina

59 Confirmed

30 Probable

49 Possible



Occurrence

Summer resident, with a few individuals overwintering

Breeding

Earliest Confirmation (April 13)—occupied nest (ON)
Latest Confirmation (July 13)—recently fledged young (FL)

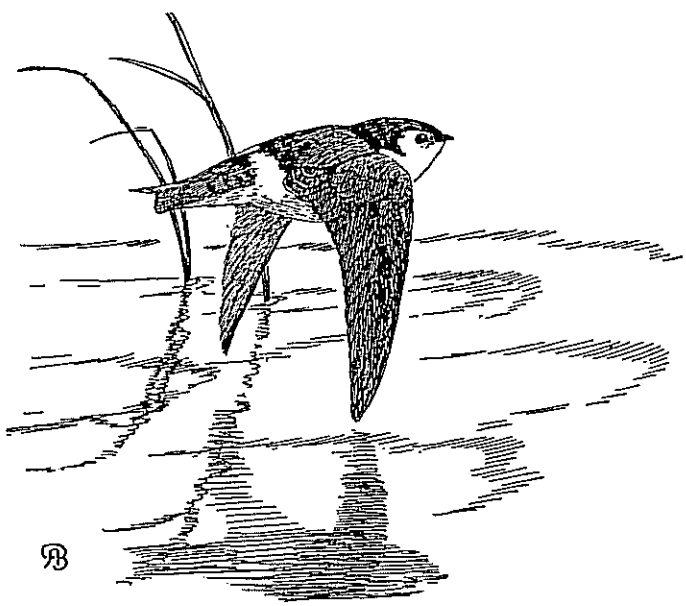
The soft velvety violet-green upperparts of this, our most widespread Sonoma County swallow, contrasts breathtakingly with the immaculate white face and underparts. Though perfect lighting conditions are needed to fully appreciate this sight, it is absolutely worth the patience and persistence required.

The Violet-green Swallow is a hole-and-crevice nester, using previously excavated woodpecker holes in dead trees, crevices in cliffs and canyons, and nest boxes. It is not as dependent on water as is its near relative, the Tree Swallow (Grinnell & Miller 1944).

In Sonoma County the Violet-green Swallow has breeding records spread widely throughout, except in the treeless grasslands of the extreme south-eastern corner. It was the eighth most widespread breeding bird in this Atlas, being represented in 75% of all Atlas Blocks.

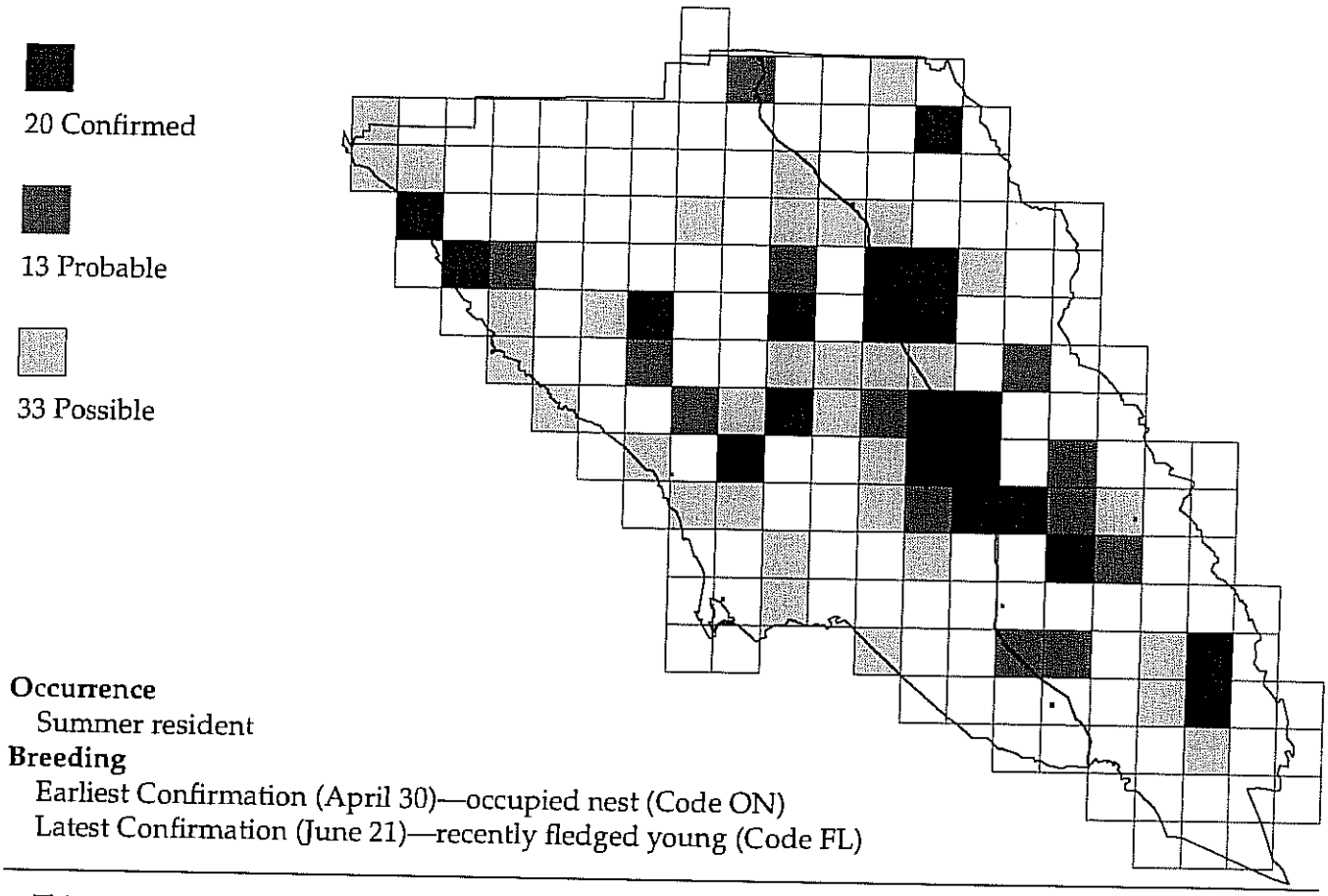
Forestry practices that eliminate standing dead trees will limit the availability of nest sites for this species.

–B. Burridge



Northern Rough-winged Swallow

Stelgidopteryx serripennis



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 30)—occupied nest (Code ON)

Latest Confirmation (June 21)—recently fledged young (Code FL)

This earth-toned swallow forages for its insect prey in a fairly languid manner over open country. The Northern Rough-winged Swallow can be overlooked not only because of its drab appearance, but also because it is usually in the minority when seen with other swallows.

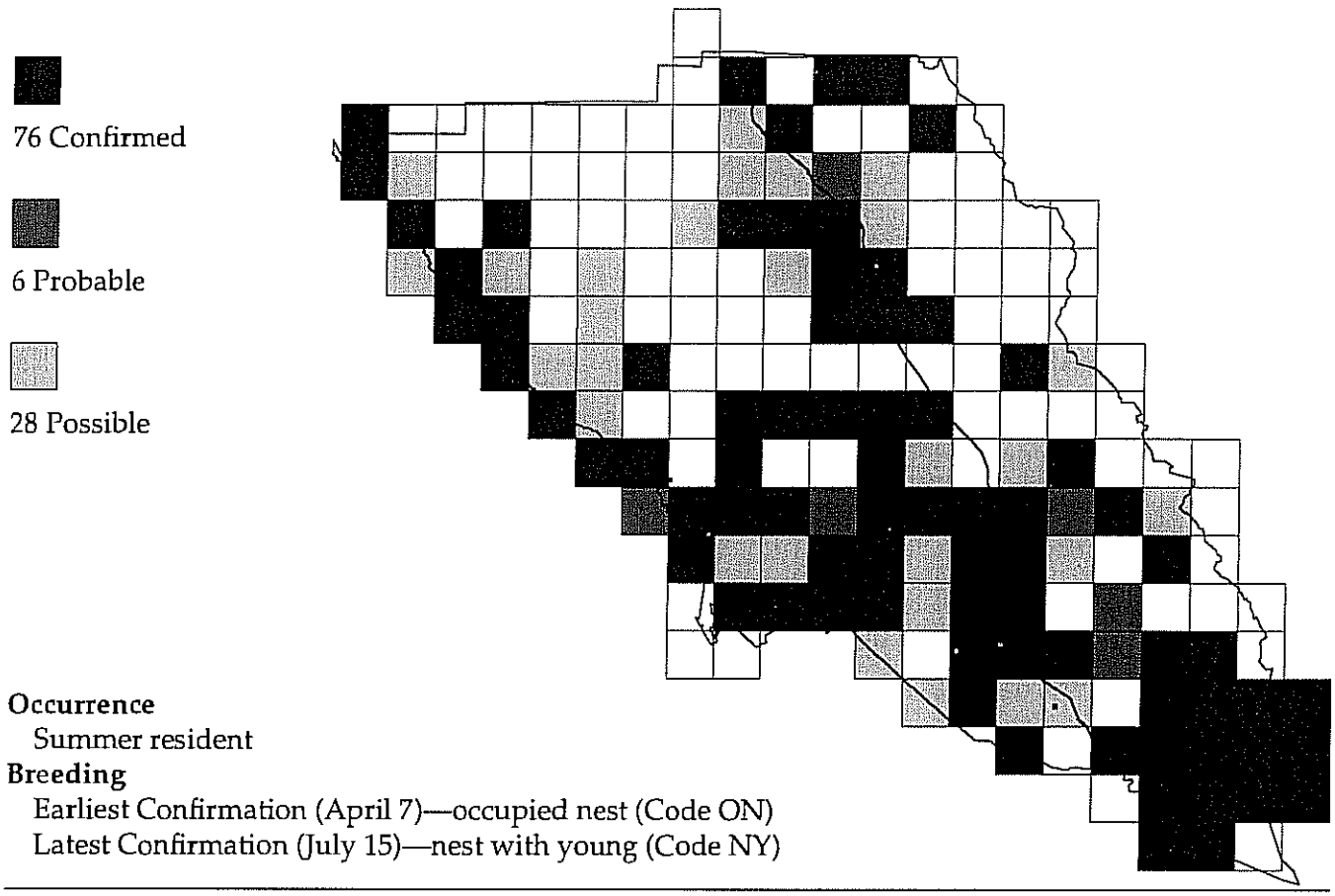
It nests in burrows, cavities or crevices, often using pre-excavated rodent or kingfisher burrows in low earthen banks, culverts or pipes, and various niches and structures under bridges. Although slow moving water is often present near the nest site, open territory, either moist or arid, seems a more vital element for this species (Shuford 1993). This swallow is certainly more likely to be seen in arid areas than others. It is not a colonial nester as are other swallows and therefore its population may seem smaller than is actually the case because it is never seen in great concentrations (Grinnell & Miller 1944).

In Sonoma County during the Atlas study the Northern Rough-winged Swallow was recorded mostly inland in open valleys and rolling foothills. There are, however, two north-coastal Atlas breeding locations: Stewart's Point and southern Sea Ranch.

–B. Burridge

Cliff Swallow

Hirundo pyrrhonota



Occurrence
Summer resident
Breeding
Earliest Confirmation (April 7)—occupied nest (Code ON)
Latest Confirmation (July 15)—nest with young (Code NY)

This conspicuous, highly gregarious swallow most frequently adds its gourd-shaped mud nest to those of many others attached to some man-made structure: house, bridge, dam etc. Seldom does it nest true to its name using the face of a cliff or bluff, as it did before human structures. During the atlasing years a notable exception was a loose colony of Cliff Swallows nesting on a high sheer wall in a quarry in Cheney Gulch, on the south side of Highway I east of the town of Bodega Bay (J. Winter pers. comm.).

In Sonoma County the Cliff Swallow is a wide spread breeder of the low rolling hills, valleys, and urban areas. It is mostly absent in the rugged mountainous areas of the interior northwestern corner of the county and the eastern mountains bordering Lake and Napa Counties.

Historically the Cliff Swallow was a common summer resident of the rural parts of the San Francisco Bay Area (Grinnell & Wythe 1927). In 1944 Grinnell and Miller called the Cliff Swallow "with little doubt considerably more numerous in the aggregate now (in California) than under original conditions."

The population of the Cliff Swallow is encouraged, in general, by urban development, which provides the man-made structures used by this species for nest sites. Increased irrigation and watering also can provide a significant supply of mud for nesting materials. However, all too frequently the noise and droppings of these swallows are considered a nuisance and the nests are often destroyed purposely for convenience. Dense urban development can also limit open areas used for foraging grounds. The aggressive, non-native House Sparrow which abounds in urban areas parasitizes Cliff Swallow nests and may remove the eggs and young (Shuford 1993).

–B. Burridge

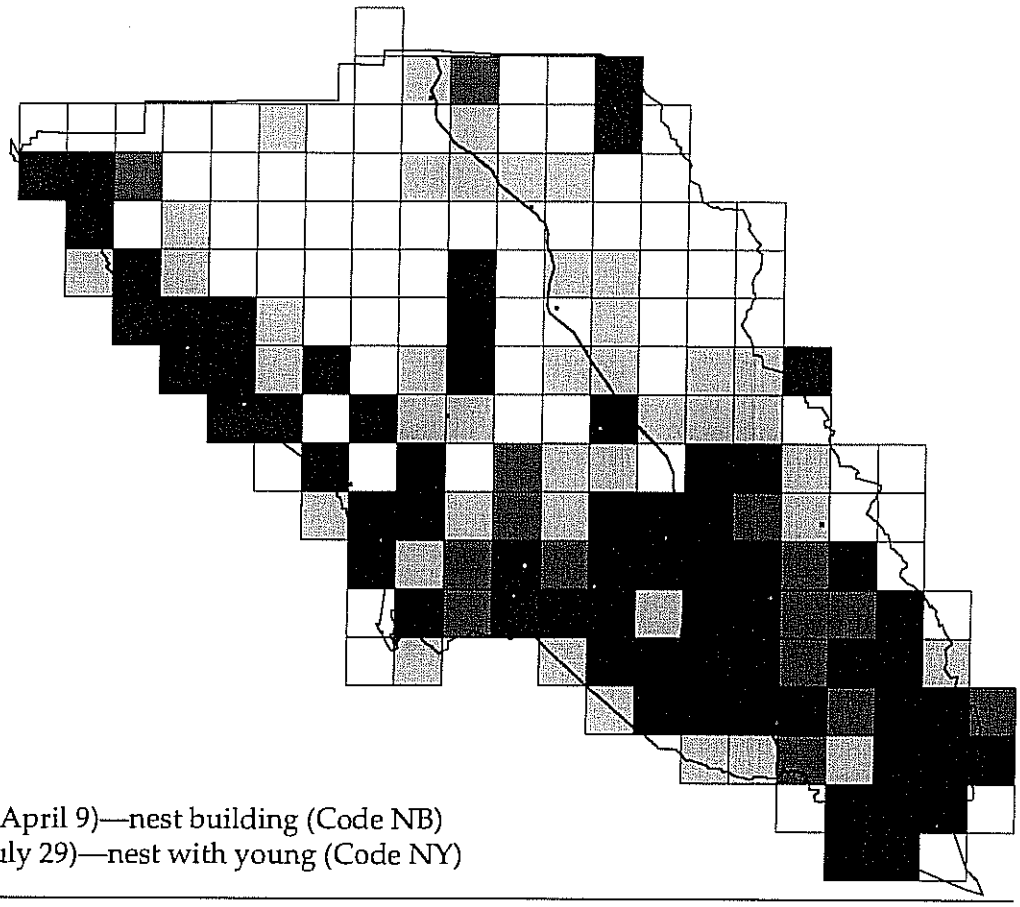
Barn Swallow

Hirundo rustica

63 Confirmed

15 Probable

41 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 9)—nest building (Code NB)

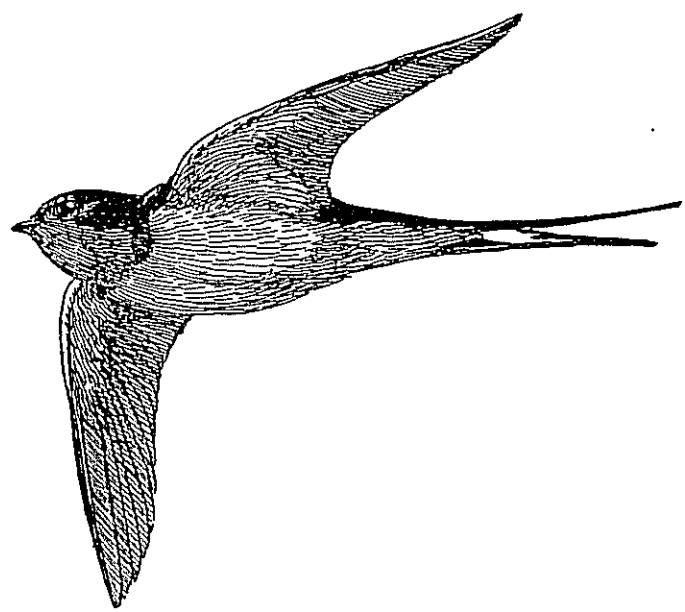
Latest Confirmation (July 29)—nest with young (Code NY)

The Barn Swallow, dark steel-blue upperparts blazing and long outer tail feathers streaming behind, is a familiar sight streaking low over Sonoma County's open fields and wetlands as it hawks flying insects.

Grinnell and Wythe (1927) considered this bird a common summer resident throughout the greater part of the San Francisco Bay Area and listed Sebastopol, Sonoma County, as a typical locality where the bird was to be found. Prior to the European settlement of California the Barn Swallow nested in caves and on rock faces; however, it now has adapted to nesting mainly on man-made structures such as the eaves of or inside barns and other buildings, in culverts and under bridges. The nest is an open cup of mud, reinforced with straw, grasses or horse hair and stuck to the vertical face of a wall near the ceiling (Shuford 1993).

The Barn Swallow's breeding range covers the entire county except forested mountainous areas, such as the interior northwestern corner and the county's eastern border with Lake and Napa Counties.

–B. Burridge



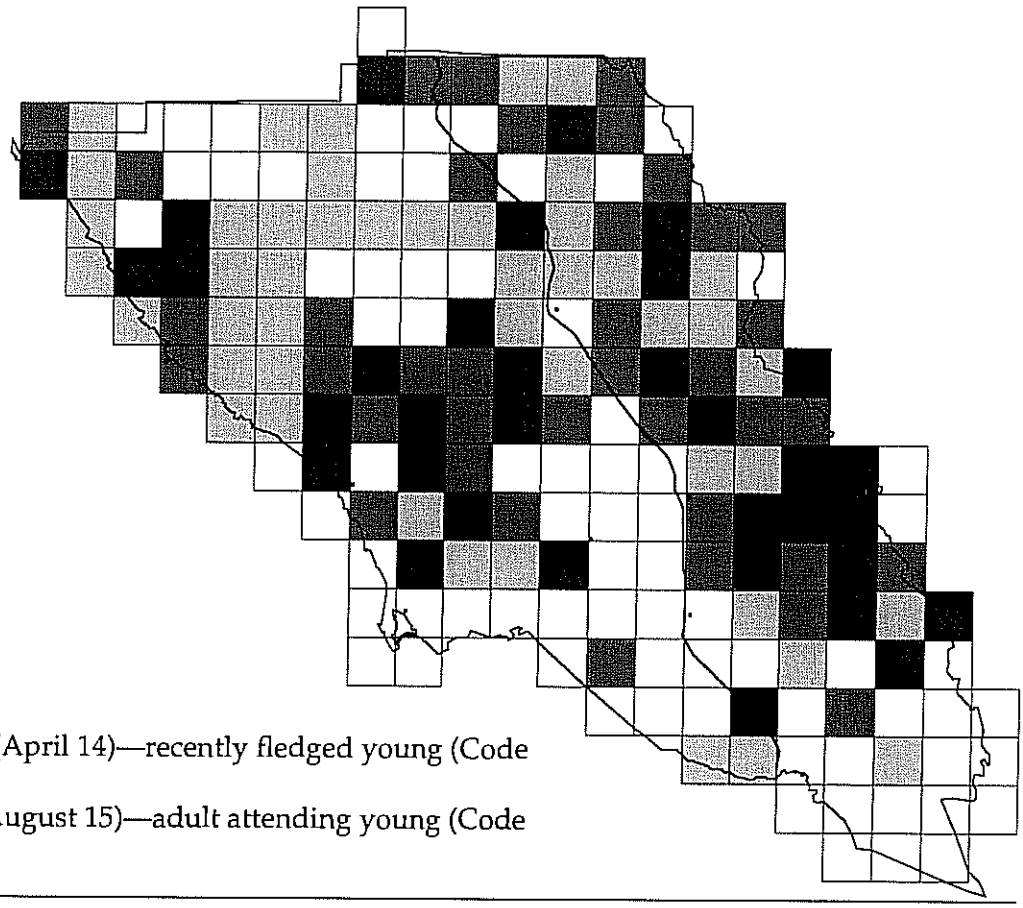
Steller's Jay

Cyanocitta stelleri

34 Confirmed

38 Probable

46 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 14)—recently fledged young (Code FL)

Latest Confirmation (August 15)—adult attending young (Code AY)

This conspicuous uninvited guest at every picnic and the investigator of everything, the Steller's Jay, is, like his relative the Scrub Jay, a predator on other birds. Normally a harsh-voiced scolder, the Steller's Jay is a skilled imitator of other birds' voices. His version of the call of the Red-tailed Hawk is especially good. A sound not often heard by a casual birder is the low-voiced musical "whisper call."

The Steller's Jay is widely represented in Sonoma County, having been recorded in 65% of all Blocks with data in this Atlas. It is generally absent from the Laguna de Santa Rosa and the southeastern corner of the county.

As for its nest, mud is an important item. The nest may vary from five to 50 feet from the ground and outwardly is composed of small twigs, moss, and dry grass. The whole is well-cemented with mud up to the rim and is lined with a thick layer of fine roots (Bendire 1895 citing Anthony p.364).

The Steller's Jay usually lays four (three to six) eggs and incubates them for about sixteen days. There is usually only one brood. This bird is omnivorous. On one occasion two freshly trapped mice were stolen from the table while the collector was preparing to weigh them (pers. obs.). As one writer said, "They will try anything once." Approximately 75% of the Steller's Jay's food is vegetable and 25% animal matter.

–J. Arnold

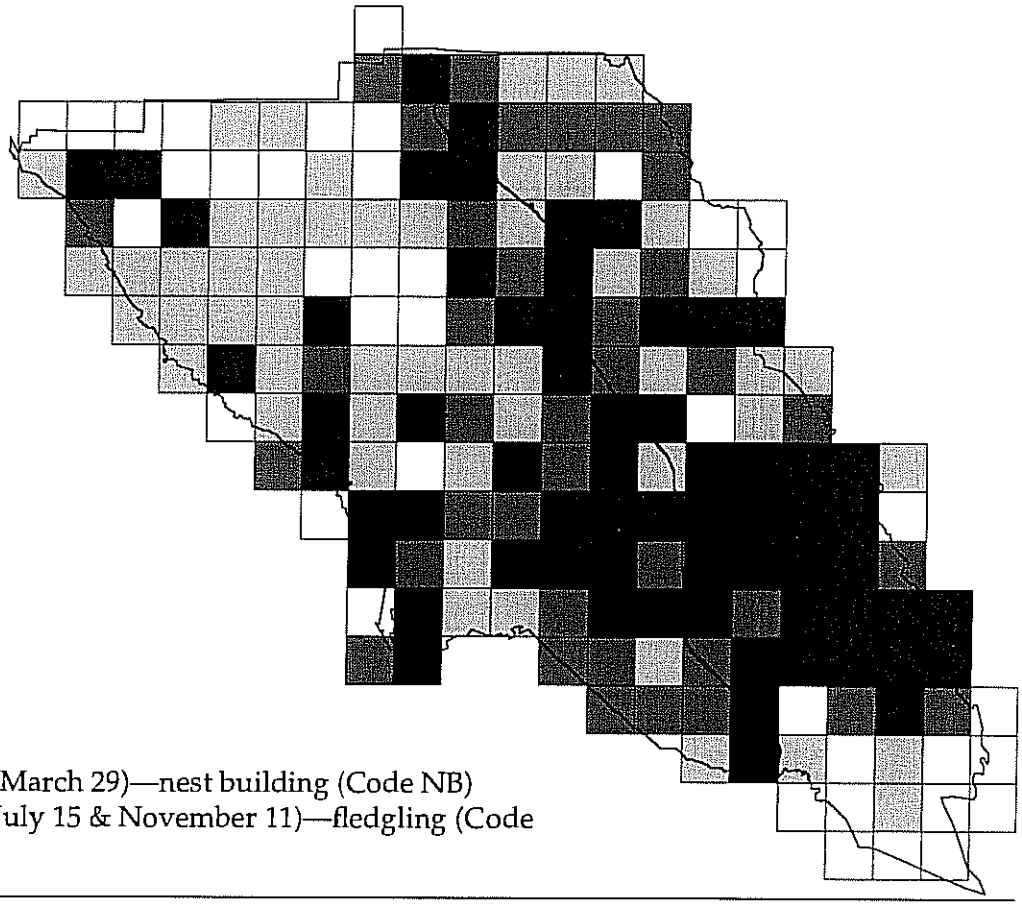
Scrub Jay

Aphelocoma coerulescens

64 Confirmed

38 Probable

52 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 29)—nest building (Code NB)

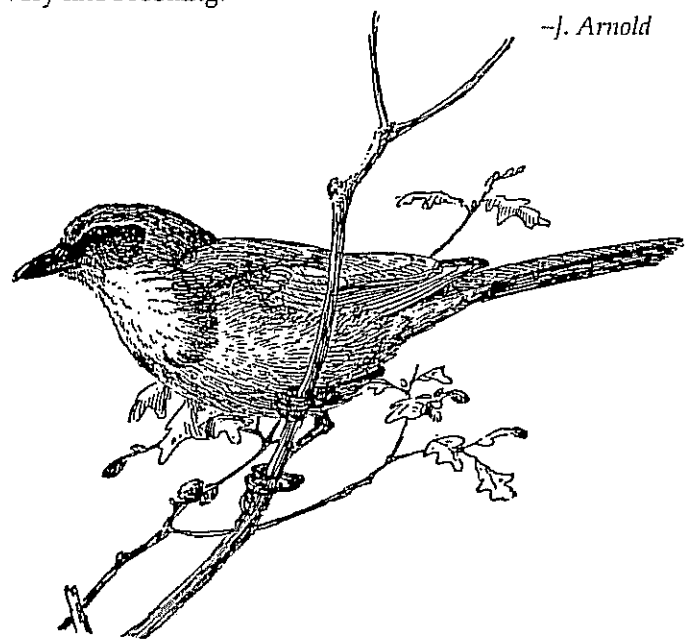
Latest Confirmations (July 15 & November 11)—fledgling (Code FL)

This loud-mouthed, egg-stealing resident is wide spread in Sonoma County (found in 85% of all Atlas Blocks with data), but in fewer numbers in evergreen forests where the Steller's Jay is resident. The Scrub Jay, earlier called the California Jay, has been associated with oaks, brushy canyons, scrubs along water courses, and, of recent years, with orchards and urban plantings.

Early oologists-ornithologists wrote more extensively of nesting, nest construction and eggs. Major Charles Bendire (1985) wrote the following: "The nests are found quite frequently on a horizontal limb of an oak, varying in height from three to 30 feet from the ground. In the majority of cases the nests are located near water, but sometimes one may be found fully a mile distant. Externally they are composed of a platform of interlaced twigs, mixed occasionally with moss, wheat stubble and dry grass: on this the nest proper is placed which consists of a lining of fine roots, sometimes mixed with horsehair. No mud enters into the composition of their nests.

"The number of eggs in a set varies from three to six; the male assists in the construction of the nest and to some extent in incubation, which lasts about 16 days. The young are able to leave the nest in about 18 days and follow the parents for some time."

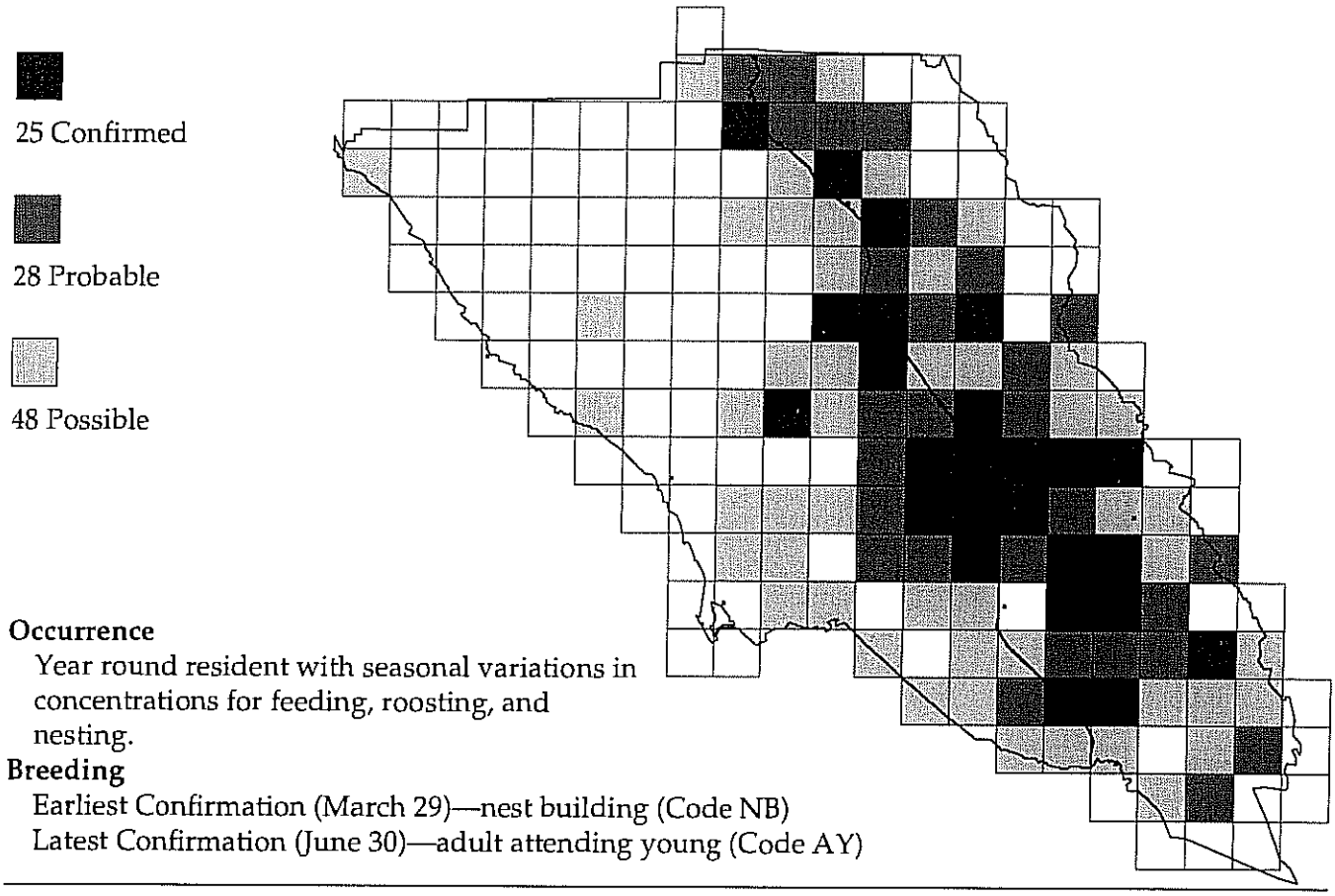
The Scrub Jay breeds from late March through mid-July. The finding of a Scrub Jay fledgling at Spring Lake Park on November 11, 1993, estimated to be ten days out of the nest (Martha Bentley pers. comm.) postulates a very late breeding.



–J. Arnold

American Crow

Corvus brachyrhynchos



Occurrence

Year round resident with seasonal variations in concentrations for feeding, roosting, and nesting.

Breeding

Earliest Confirmation (March 29)—nest building (Code NB)
Latest Confirmation (June 30)—adult attending young (Code AY)

Our crow forages on the ground in open fields, in school yards, urban parks, and even city back yards. The American Crow's choice of foods is as wide-ranging as small insects, newly planted corn, carrion on highways and the eggs of small birds. The proportion is about 75% plant material to 25% animal. Crows often mingle with gulls at garbage dumps.

The American Crow is widely distributed throughout Sonoma County except for the entire coastal area and the northwestern corner.

In Sonoma County, the crow has a long nesting period. (According to Dawson (1923) THE month in California is April.) A substantial nest of small branches and twigs is built at varying heights in trees. The nest is lined with strips of bark, grass rootlets, horse hair, and often bits of rabbit fur. The female lays four, five or rarely, six eggs of bluish-green base with spots or blotches of olive. Eggs are incubated for from fourteen to eighteen days. While usually there is only one nest in a tree, sometimes a loose colony may occur in an orchard or wooded area.

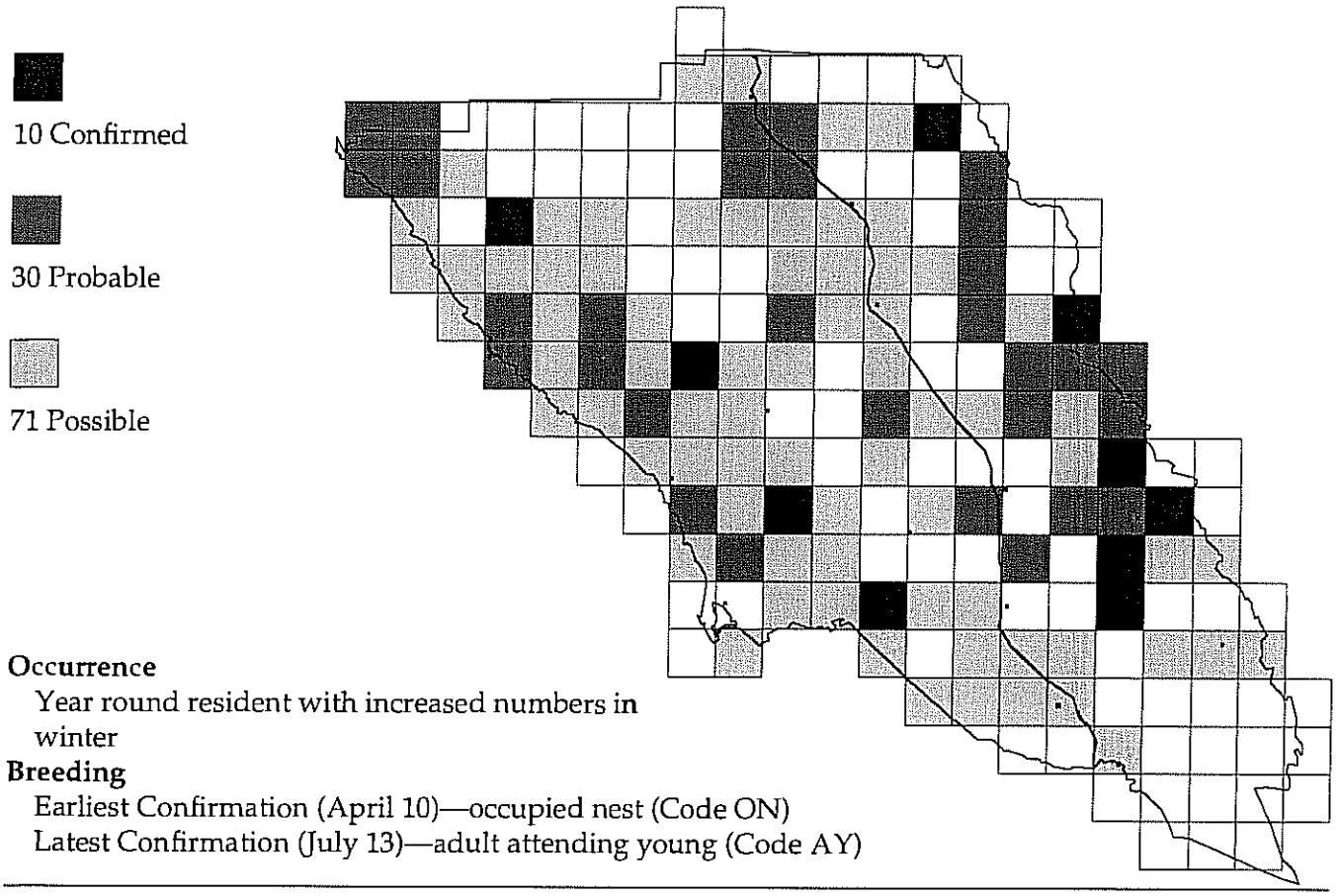
Angell (1978 p. 83) under "Language and Communication" says,

"The crow's code has not been broken by any means, but we have made progress toward understanding.."..."All corvids incorporate calls of other species to embellish their own vocabulary." ..."Whisper songs...include a spontaneous repertoire as diversified and lovely, by human standards, as that of any warbler, oriole, or thrush."

–J. Arnold

Common Raven

Corvus corax



Occurrence

Year round resident with increased numbers in winter

Breeding

Earliest Confirmation (April 10)—occupied nest (Code ON)

Latest Confirmation (July 13)—adult attending young (Code AY)

This jet black larger relative of the American Crow can often be seen soaring overhead in its search for carrion. It also commonly is found foraging at waste disposal sites.

Grinnell and Wythe (1927) noted that while this species had been considered common in the San Francisco Bay Area around 1850, by 1927 it was rare except at Point Reyes in Marin County and along the Sonoma County coastline. Whereas it had previously been present in practically all parts of the State, Grinnell and Miller (1944) further documented the decline of this species' numbers by noting that although it was still common in some local areas, the number of such areas had decreased. At the same time the Common Raven was described by them as scarce or absent in settled areas of the State but, fortunately, still common along the Sonoma County coastline. Around 1960 to 1962 there was a movement among some local sheep ranchers to extirpate the local raven population; however, the Sonoma County Agricultural Commissioner took a firm position against such a policy (J. Arnold pers. comm.). Such action would have been illegal under the Migratory Bird Treaty Act of 1918.

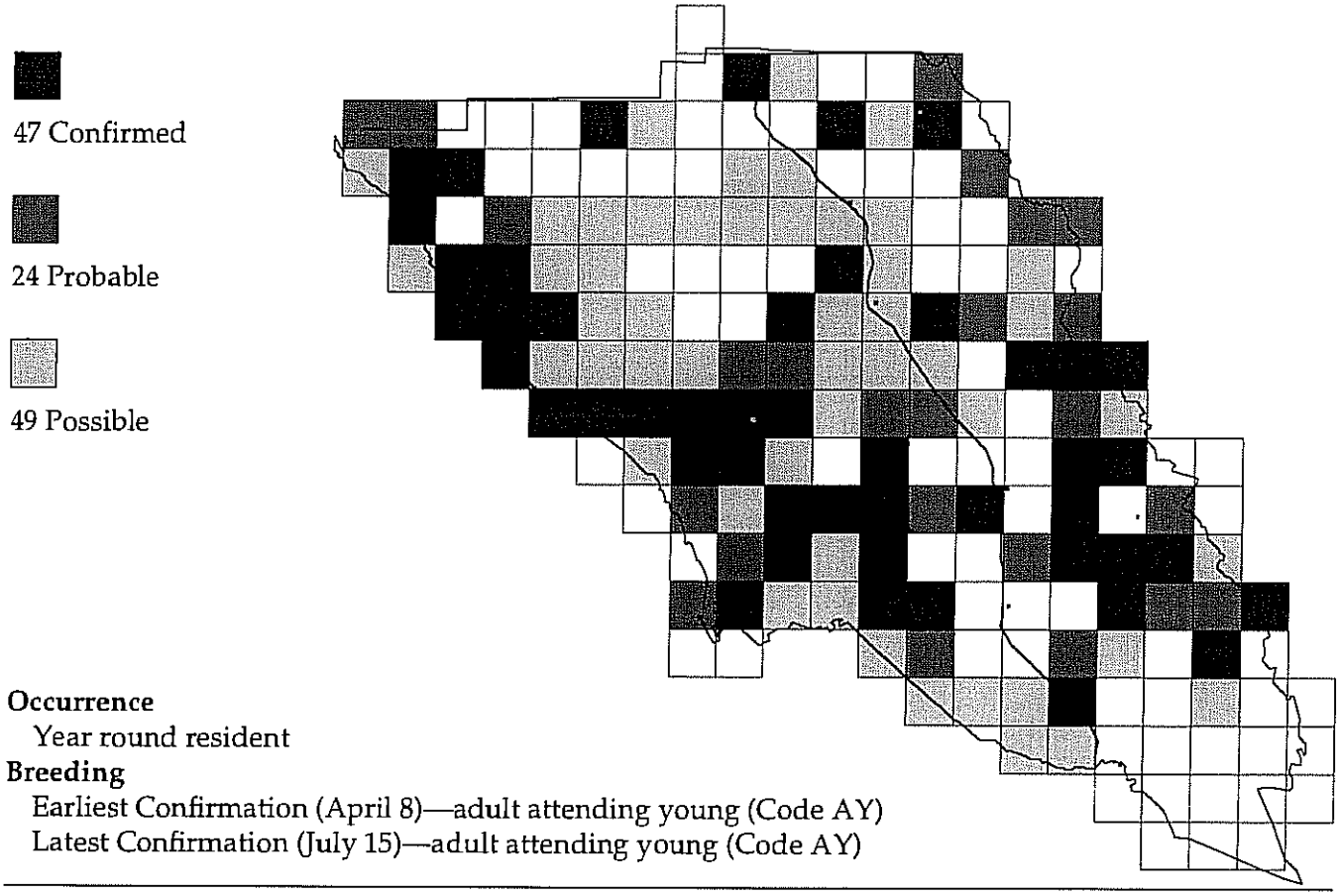
In this Atlas breeding behaviors for the Common Raven were identified mainly along the western and eastern borders of the county in the inner and outer Coast Ranges. A cluster of Possible breeding records in the southern part of the county presumably represents birds that are perhaps nesting elsewhere, and foraging or commuting near two refuse disposal sites. No Atlas records exist over the flat San Pablo Bay marshes. Nests are difficult to locate because of their remoteness, as indicated by the existence of only 10 Confirmed breeding records for the Atlas.

This largest of all the passerine (perching) birds in the world requires large areas of open or semi-open terrain for foraging. The faces of cliffs, bluffs or sea walls provide niches for nests safe from quadrupeds, although trees and deserted human structures are also used. The Common Raven is omnivorous but prefers meat and includes some living vertebrates and large insects in its diet (Grinnell & Miller 1944).

–B. Burridge

Chestnut-backed Chickadee

Parus rufescens



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 8)—adult attending young (Code AY)

Latest Confirmation (July 15)—adult attending young (Code AY)

Flitting about in the canopy of the forest, this "CLG" ("cute little guy") is often heard before it is seen. "Chick-a-dee-dee" (or is it "tseek-a-dee-dee"?) can be heard throughout Sonoma County in moist, shady woods. During fall migration, birders often listen and look for chickadee flocks, as they may well harbor an uncommon warbler or two. Even if the flock contains "only" Chestnut-backeds, the observer is rewarded by the acrobatic feeding techniques of the chickadees as they hang upside-down or sideways from small twigs in order to gather whatever morsels they have chosen.

Sonoma County Atlas records for this bird show Confirmed breeding throughout the county, with the exception of the relatively treeless southeastern corner.

Grinnell and Wythe (1927) list this bird as a "common permanent resident in the forested coastal district of Sonoma County south to the vicinity of Freestone and southeast to near Sebastopol: also locally to the eastward, on Mount St. Helena, and in Rincon Valley, three miles northeast of Santa Rosa." Grinnell and Miller (1944) described the status of the Chestnut-backed Chickadee in California as "...common at north and coastwise; only fairly common to southward, and sparse interiorly..."

The Chestnut-backed Chickadee is a cavity nester, often appropriating old woodpecker holes; nest boxes, holes in buildings and old pipes (Bent 1946) may also be used. Nests range from one and one-half feet to 80 feet above the ground (most less than 10 feet); the cavity is lined with soft materials such as moss, feathers, and fur (Bent 1946).

–D. Ashford

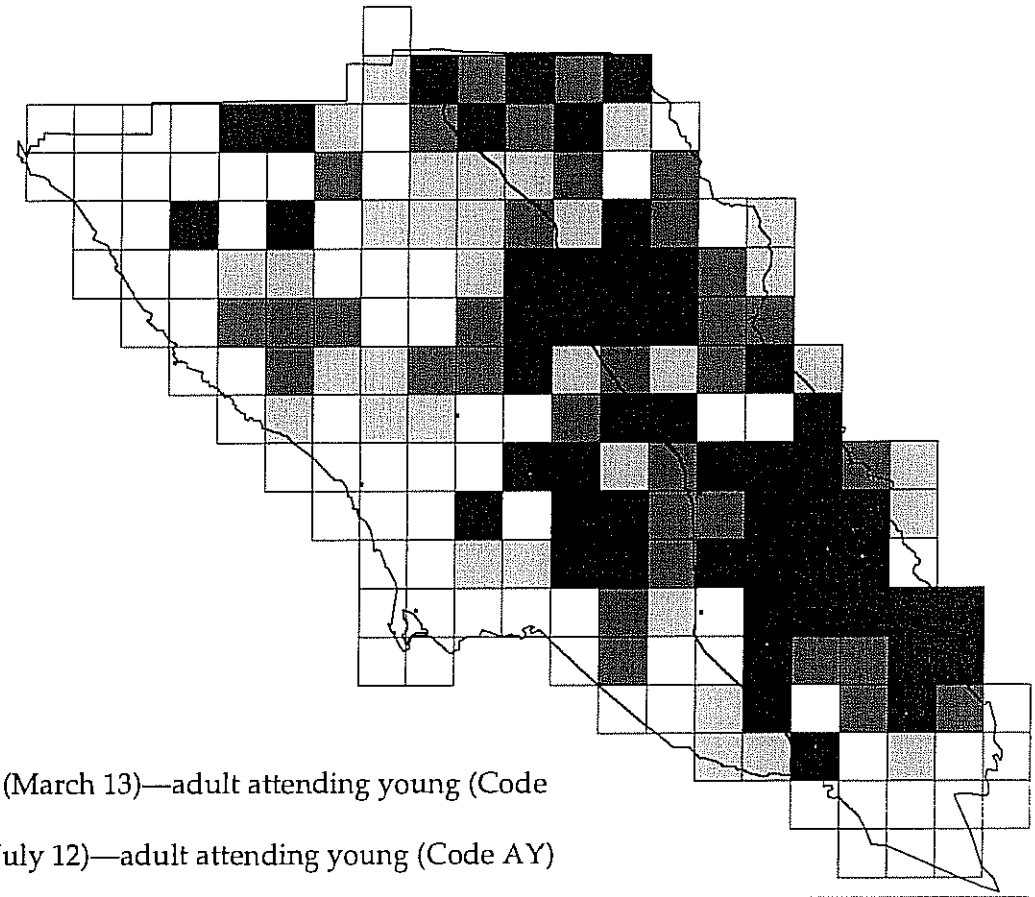
Plain Titmouse

Parus inornatus

51 Confirmed

33 Probable

33 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 13)—adult attending young (Code AY)

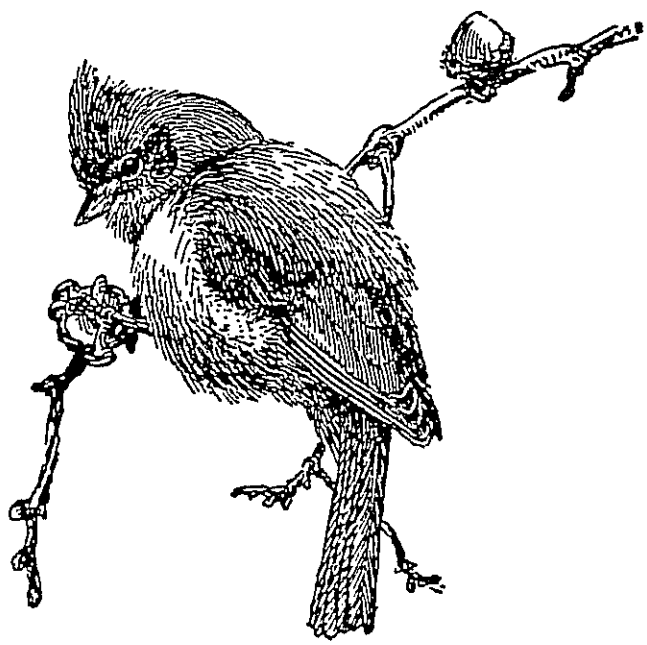
Latest Confirmation (July 12)—adult attending young (Code AY)

"I saw a plain little bird in my yard the other day but it had a crest, you know, like a Cardinal!" The Plain Titmouse is indeed "plain". Its specific epithet (scientific name), inornatus, means "unadorned", but even non-birders notice its erect crest and are often stimulated to inquire as to its identity. Frequently seen in residential neighborhoods with mature landscaping, this small bird can be found throughout Sonoma County generally in urban or rural open woodlands. The Plain Titmouse will not be found in this county's northwestern heavy forests or along the coast (B. D. Parmeter pers. comm.).

The Plain Titmouse has several calls. One which is reminiscent of chickadees is often misleading to beginning birders. Its distinctive short song is rather loud for such a small bird. First time observers are often surprised when they discover that this bird is capable of making that noise. The Plain Titmouse readily responds to "pishing", an enticing noise made by birders to excite and locate birds, and is often one of the first "scolders" on hand to chase away an offending Pygmy Owl or birder. This species searches for food in a similar but slower manner than our local chickadee (Shuford 1993).

Plain Titmouse nest sites are cavities ranging from three to 32 feet above the ground. The cavities are either naturally decayed wood, old woodpecker holes or nest boxes (Bent 1946).

–D. Ashford



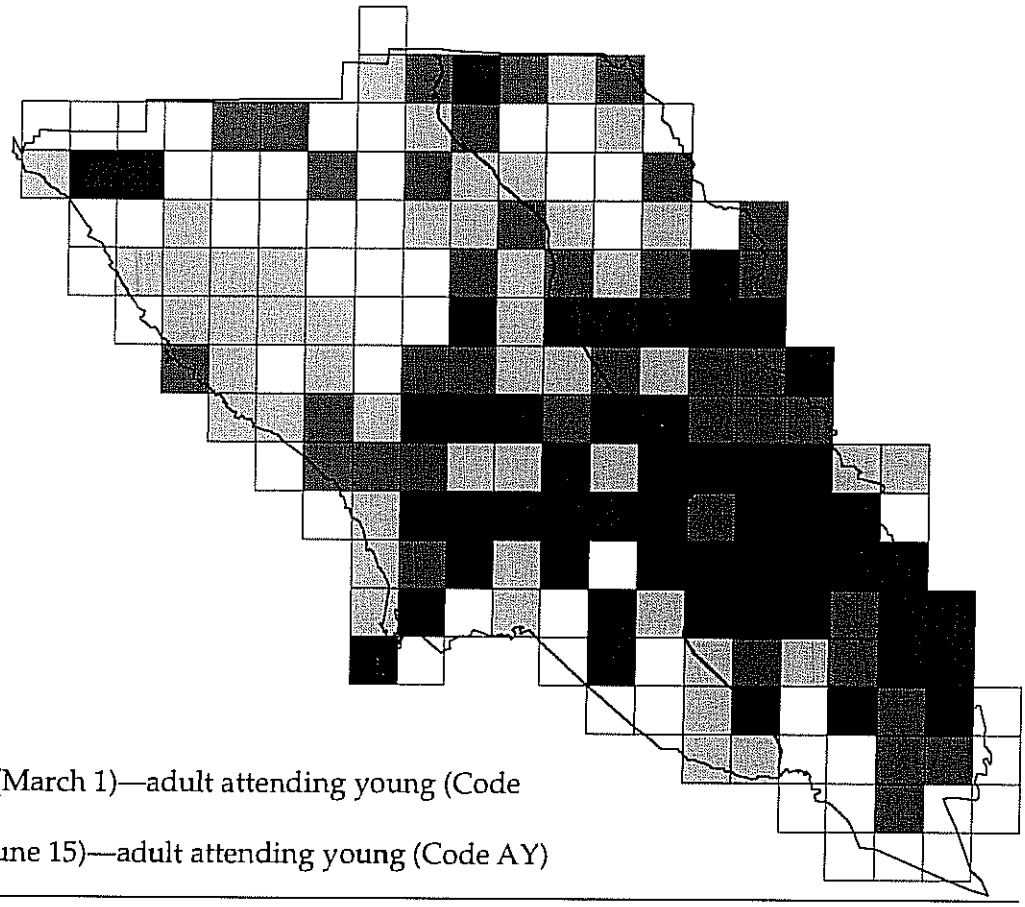
Bushtit

Psaltriparus minimus

52 Confirmed

38 Probable

47 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 1)—adult attending young (Code AY)

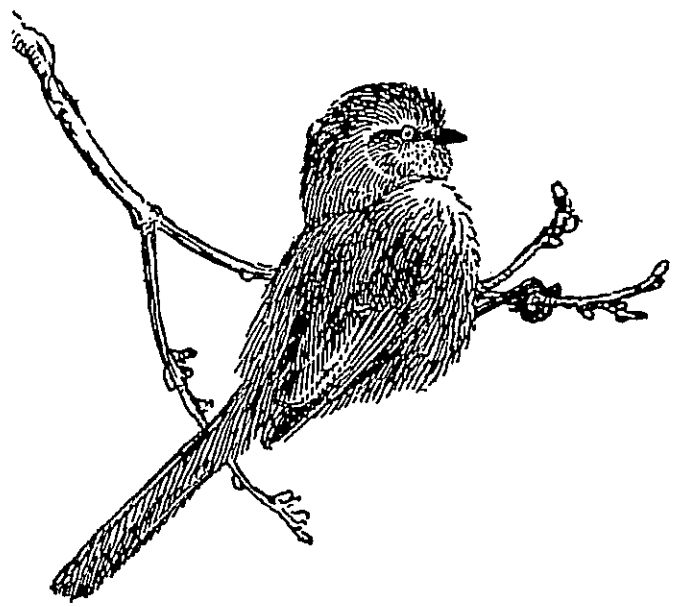
Latest Confirmation (June 15)—adult attending young (Code AY)

Bushtit families (in the societal, not the taxonomic, sense) are a common sight throughout Sonoma County. After the young leave the nest, groups of these tiny, gray, long-tailed birds can be seen flitting through the trees, twittering as they go about their business. Often, the flock will stop while each bird silently preens; that done, off they go, testing the observer's hearing in the upper frequency ranges.

Sonoma County Atlas records indicate that the Bushtit bred widely during the atlasing period. Confirmed breeding behaviors were observed throughout the county.

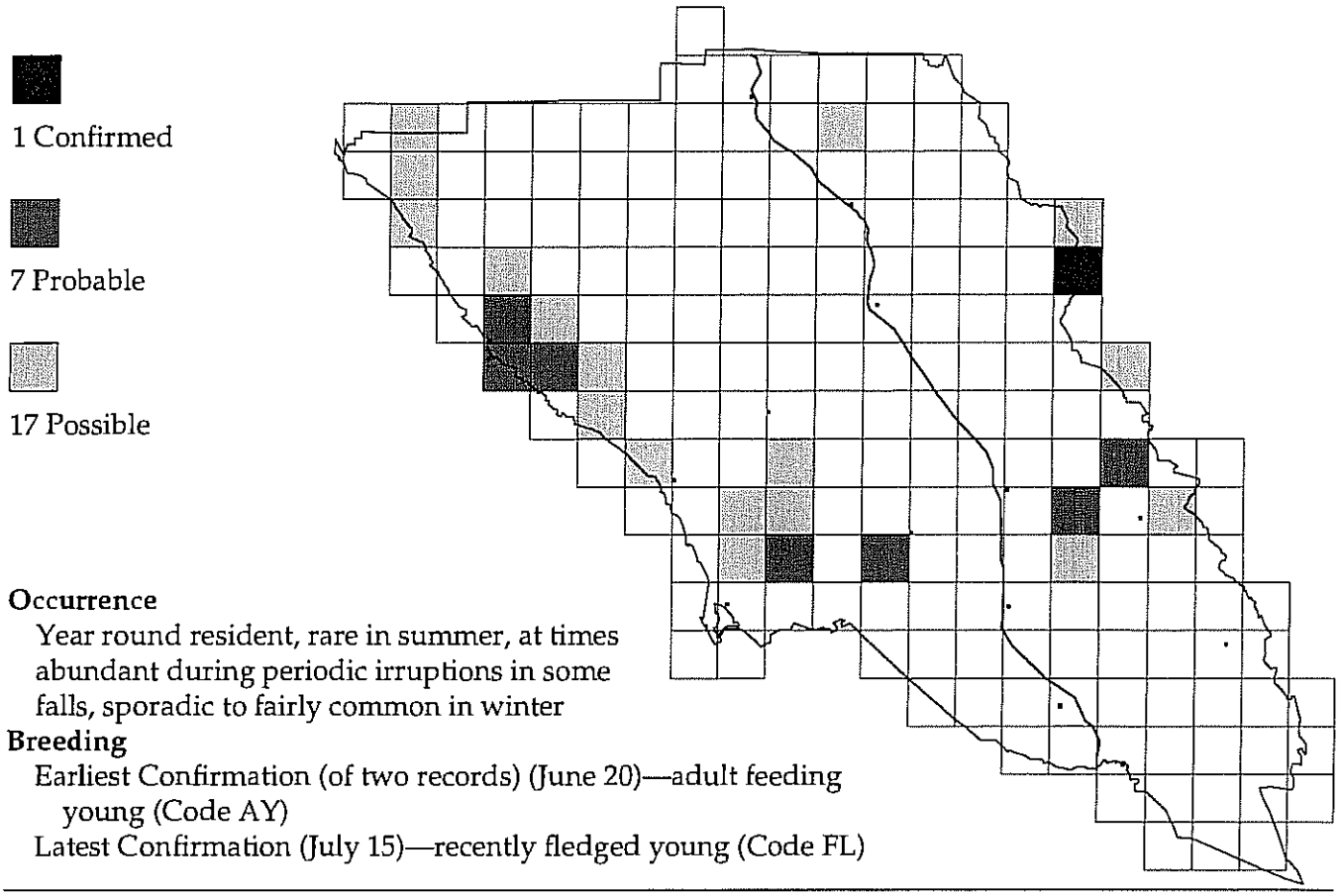
Bushtit nests are pensile, usually less than 15 feet from the ground (Bent 1946). The nests are well-concealed but the patient observer will be rewarded with discovery of the seven- to ten-inch sack which is often woven with lichens and mosses. Once the young begin to grow, the nest often can be seen in gentle swaying motion as the young birds jostle about at the bottom of their hanging home.

–D. Ashford



Red-breasted Nuthatch

Sitta canadensis



Occurrence

Year round resident, rare in summer, at times abundant during periodic irruptions in some falls, sporadic to fairly common in winter

Breeding

Earliest Confirmation (of two records) (June 20)—adult feeding young (Code AY)

Latest Confirmation (July 15)—recently fledged young (Code FL)

The call of this tiny resident of the coniferous forest has been likened to that of a toy horn. The Red-breasted Nuthatch's stubby tail (it appears almost tailless when observed from far below) and jerky flight are distinctive (Farrand 1983).

The Red-breasted Nuthatch has an interesting behavior; it invariably smears the entrance to the cavity with pitch (Bent 1948). Shuford (1993) speculates that this may serve to repel nest predators, such as squirrels.

At times population irruptions into the lowlands occur in late summer and early fall if seed-cone crops are scarce. This nuthatch then becomes abundant in Sonoma County (Bolander & Parmeter 1978) sometimes well into winter (Dan Nelson pers. comm.).

The first record for Red-breasted Nuthatch nesting in Sonoma County was on June 17, 1982 in Annadel State Park (Ellis 1982) although a pair of birds in Annadel on May 21, 1980 was suspected to be nesting at that time (Ellis 1980). Other locations of this bird in April through early August for 1979 and 1980 are Annapolis, Cazadero, Sugarloaf Ridge State Park, and Salmon Creek Road.

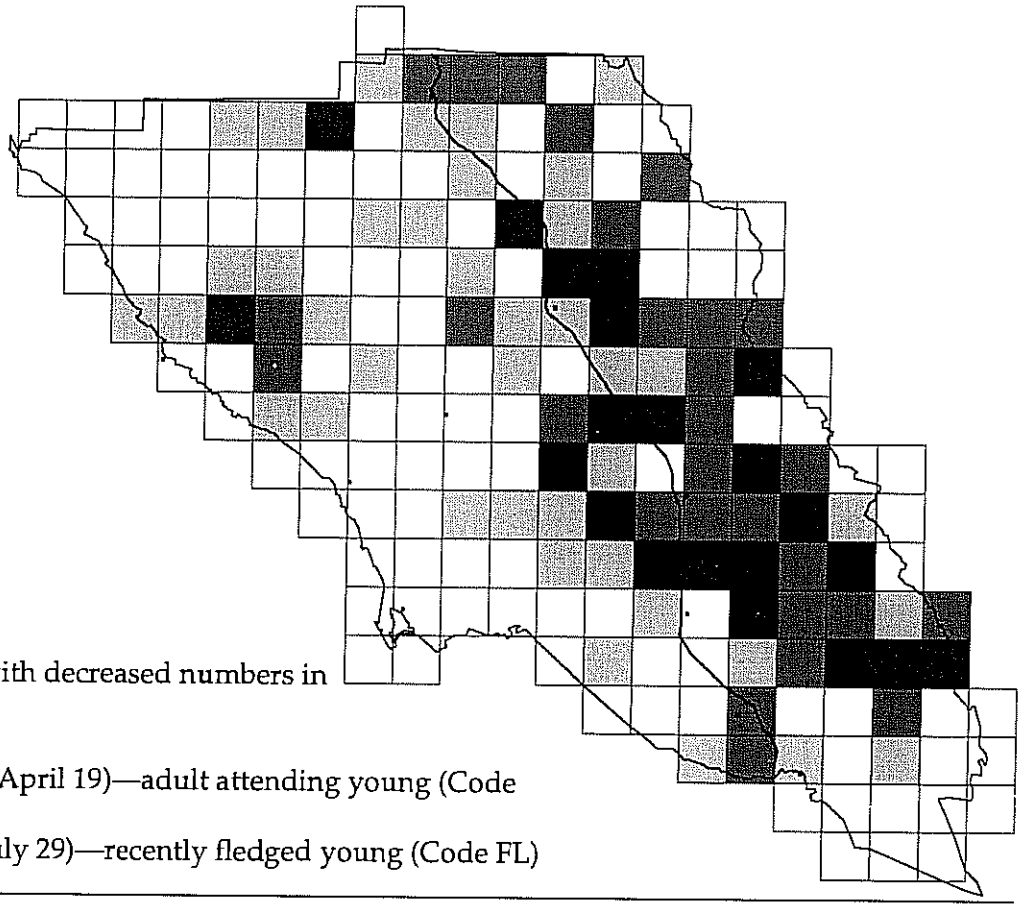
The only Confirmed record from the Atlas period was a family group with recently fledged young on July 15, 1990, along the Mount St. Helena fire road (Bill Grummer pers. comm.). Other locations for Probable and Possible breeding records came from the coniferous forests along the coastal belt, the eastern mountainous areas and at Annadel State Park and Taylor Mountain.

However, on June 20, 1994, at least one recently fledged Red-breasted Nuthatch was observed being fed seeds by an adult at a feeder on Joy Ridge Road in Block 500-245 (Suzanne Cogen pers. comm.).

–D. Ashford

White-breasted Nuthatch

Sitta carolinensis



21 Confirmed

28 Probable

39 Possible

Occurrence

Year round resident, with decreased numbers in winter

Breeding

Earliest Confirmation (April 19)—adult attending young (Code AY)

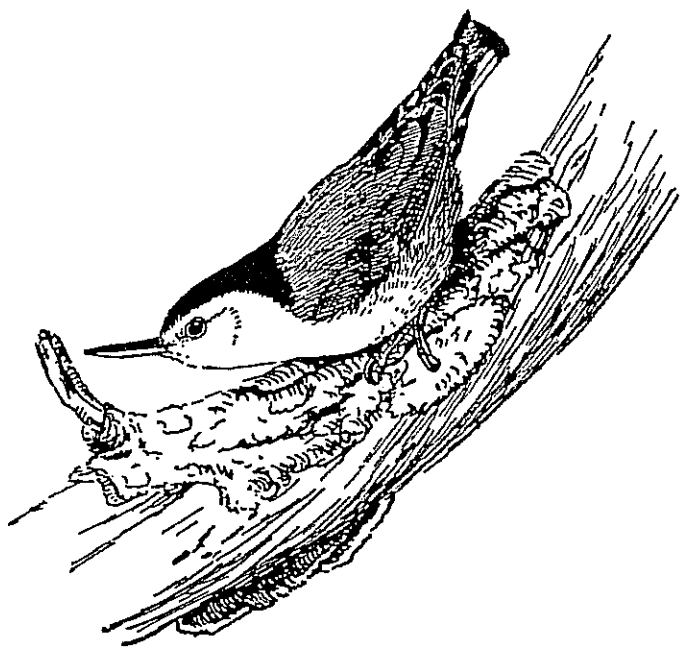
Latest Confirmation (July 29)—recently fledged young (Code FL)

The White-breasted Nuthatch is known to many by its call notes, a brief series of sharp nasal "keer, keer"s. In fact, this distinctive call is often the first indication that this species is in the vicinity. Less well known are its other calls including its springtime song, a series of low, one-note whistles. Like all nuthatches, the White-breasted is frequently found foraging upside-down on tree trunks and branches.

Oak trees appear to provide the rough bark required for this bark-foraging bird. The bill probes, pokes and picks, searching for insects which may be hidden in the bark crevices. Most breeding records for this species were found in the eastern portion of Sonoma County, which corresponds generally to the distribution of oak woodlands. This habitat also produced the most breeding Confirmations in Marin County (Shuford 1993).

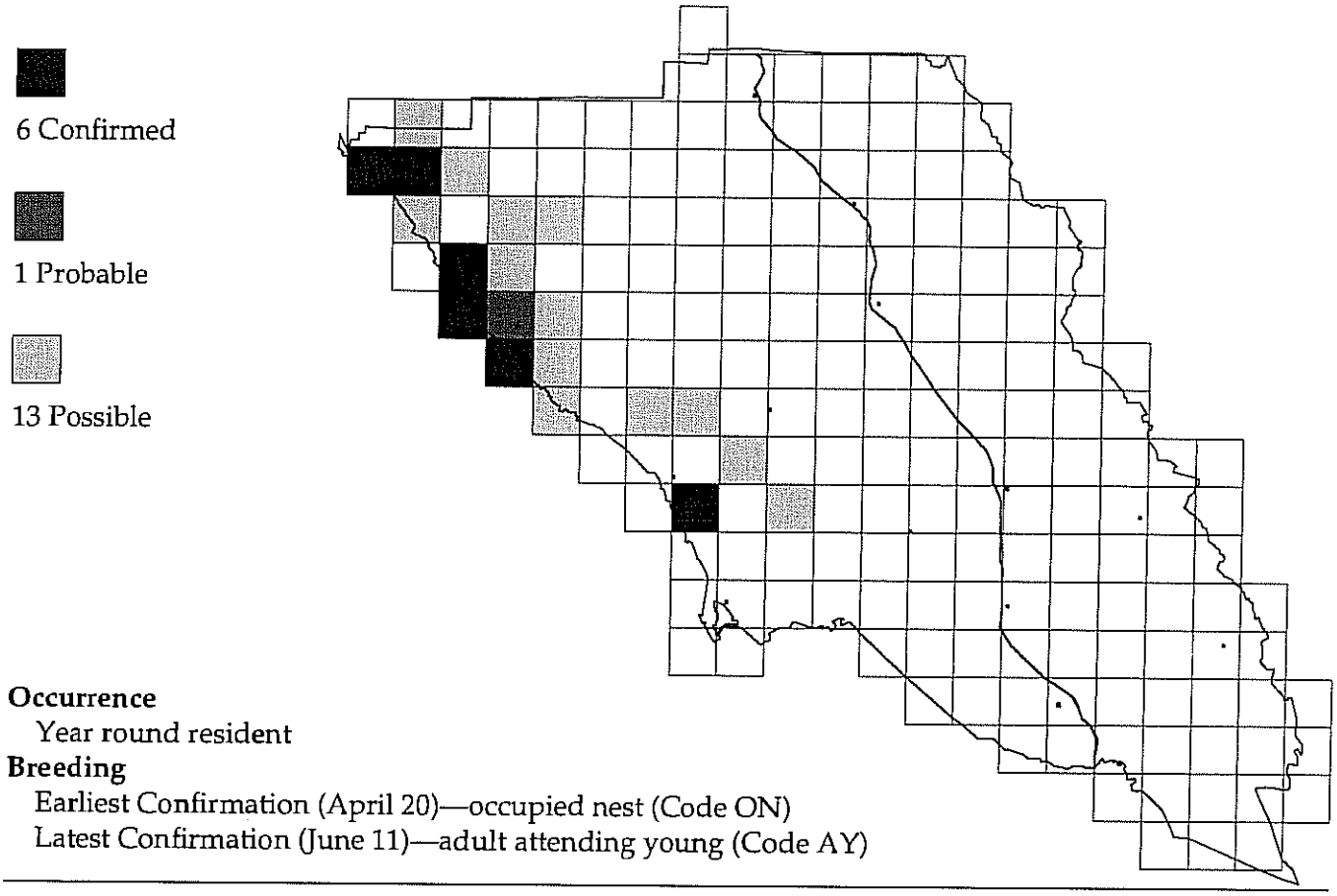
The White-breasted Nuthatch nests almost exclusively in cavities. These cavities, often old woodpecker holes, can be found from 15 to 60 feet above ground (Bent 1948). Shuford (1993) mentions an interesting trait exhibited by the White-breasted Nuthatch—it sweeps insects and other objects held in the bill back and forth over the bark. Sweeping is concentrated in the vicinity of the nest entrance; this behavior may make use of the chemical defense secretions of insects to repel squirrels from the nest site. (See the Red-breasted Nuthatch account for another defense strategy.)

–D. Ashford



Pygmy Nuthatch

Sitta pygmaea



Occurrence

Year round resident

Breeding

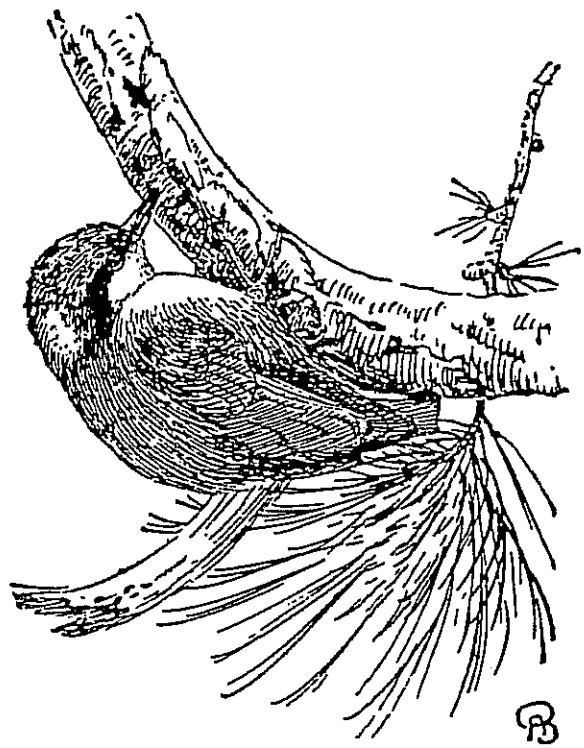
Earliest Confirmation (April 20)—occupied nest (Code ON)

Latest Confirmation (June 11)—adult attending young (Code AY)

Boisterous Morse Code messages tinkling down from the upper reaches of a pine or fir presage the appearance of this tiny gregarious nuthatch. The Pygmy Nuthatch is much easier to locate by sound than by sight. Although birds pair off during the breeding season, this species feeds in flocks and roosts communally during the non-breeding season (Shuford 1993). This species can also be found in coast redwoods (B. D. Parmeter pers. comm.).

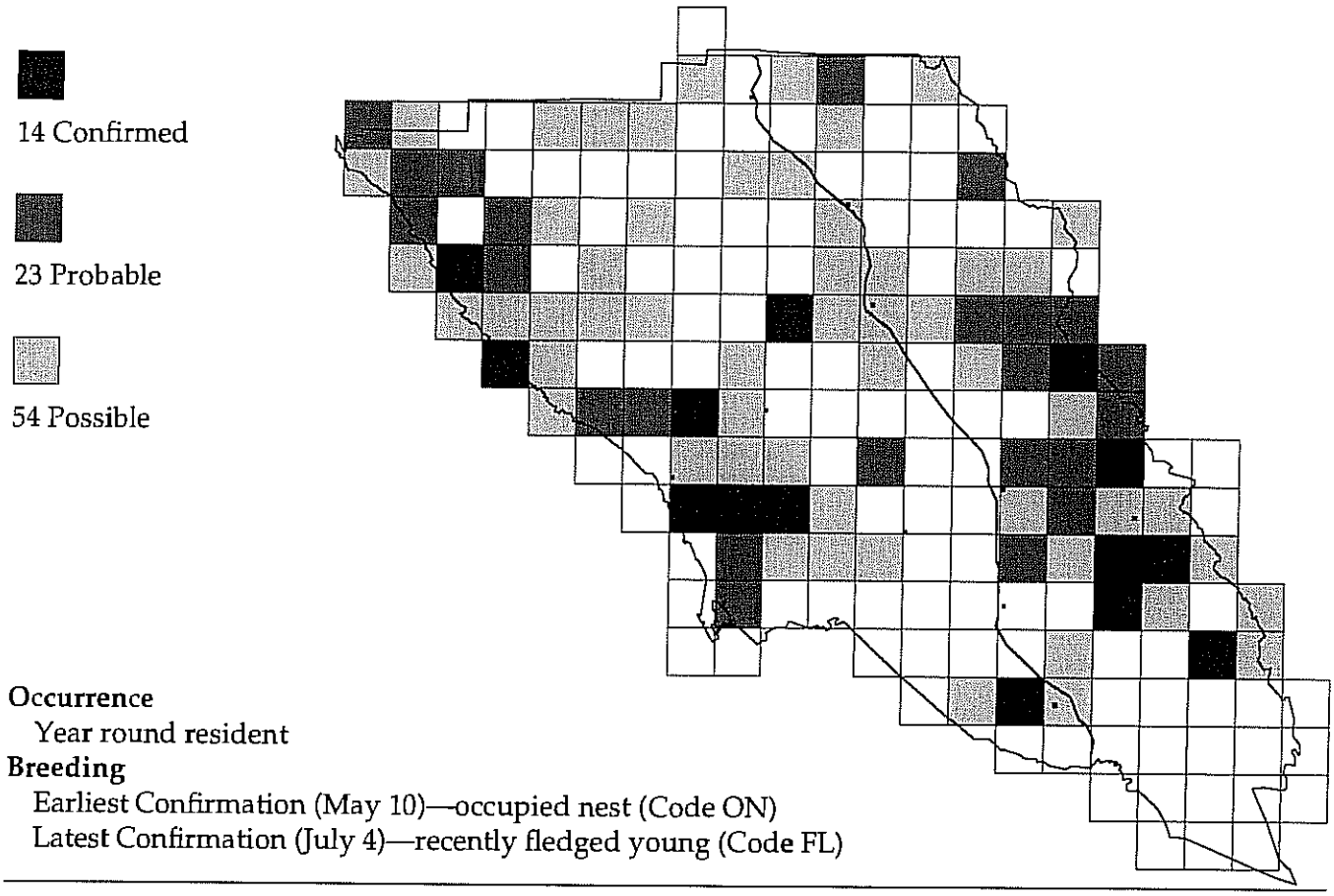
In Sonoma County, breeding records came exclusively from the coastal fog belt as predicted by Grinnell and Miller in 1944. Grinnell and Wythe (1927) cited county records for the Pygmy Nuthatch in tracts of pines near Plantation (on the northern border of Salt Point State Park). And now, sixty years later, Plantation is again confirmed as a preferred area of the Pygmy Nuthatch for there is a Probable breeding record in the Block containing 'Plantation', with two adjacent Blocks reporting Confirmations. The repetition in this Atlas of findings from these two earlier bird distribution reports lends credibility to all these studies, and reassures us that some things can remain the same even in these times of seemingly inexorable and inevitable change.

–B. Burridge



Brown Creeper

Certhia americana



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 10)—occupied nest (Code ON)

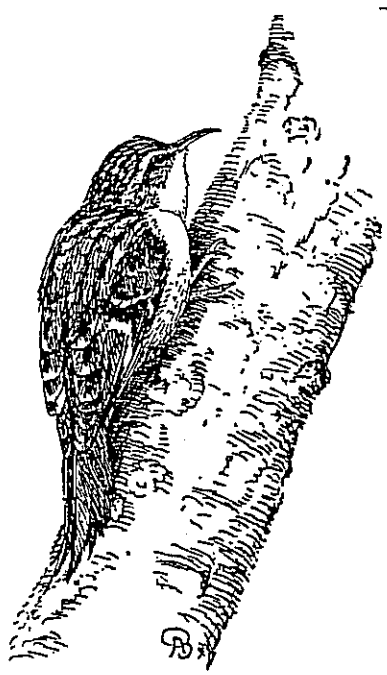
Latest Confirmation (July 4)—recently fledged young (Code FL)

This small nondescript bird is hard to spot because of its well-camouflaged brown plumage. And its faint high-pitched lisping call can be difficult to hear. Watching for motion on a tree trunk or large limb is a preferred way of locating this bird for, when foraging, the creeper spirals upward from the base of a tree, examining all the crevices with its long slender bill. This sequence is then repeated at a nearby tree ad infinitum. Its food consists almost entirely of insects not useful to man (Pearson 1936).

The Brown Creeper breeds throughout Sonoma County in Douglas fir, redwood, bishop pine, and mixed conifer hardwoods that are well-shaded and moist. There is some withdrawal of the population to the lowlands in winter (B. D. Parmeter pers. comm.).

For successful nesting, crevices or spaces in or beneath the bark must be available (Grinnell & Miller 1944). Very rarely the nest will be located in deserted woodpecker holes. Dead or dying trees are preferred because of the loose bark. The nest is made to fit the cavity and is constructed of fine bark, wood fibers, moss, and feathers attached to the bark with spider webs and insect cocoons. In this nest five to eight white or creamy eggs freckled with cinnamon and lavender specks will be laid.

Other names: Common Creeper, American Creeper, and Tree Creeper.



–J & J Tonascia

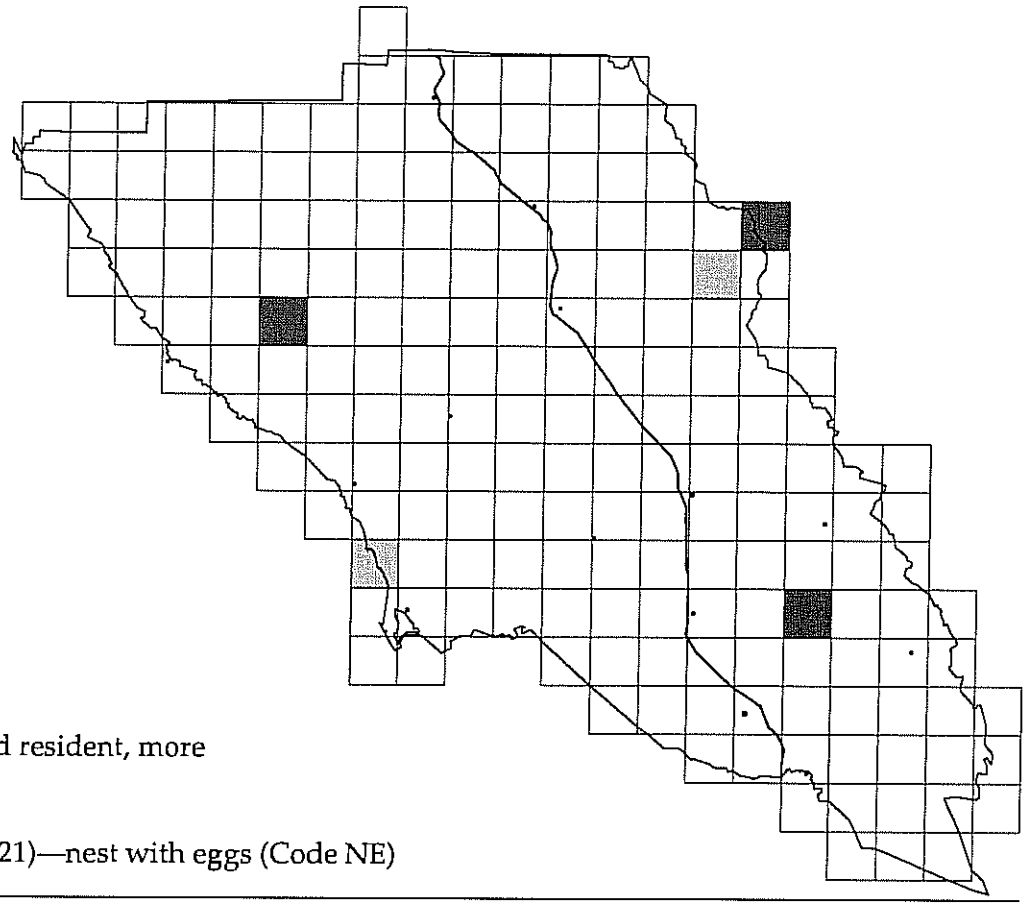
Rock Wren

Salpinctes obsoletus

0 Confirmed

3 Probable

2 Possible



Occurrence

Uncommon year round resident, more widespread in winter

Breeding

Earliest nesting (April 21)—nest with eggs (Code NE)

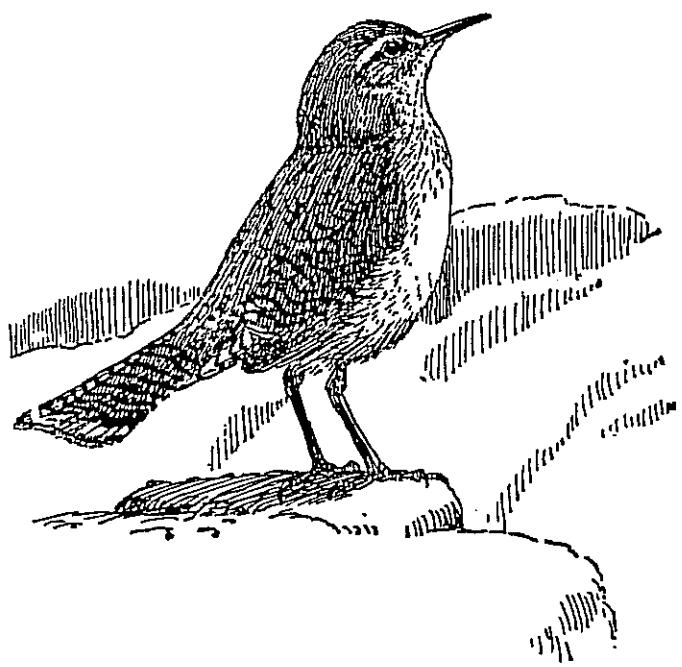
This noisy, active wren is found in open arid to semi-arid rocky habitat. Although there seem to be many likely nesting areas with rocky slopes or cliffs in Sonoma County, the Rock Wren was not Confirmed as a breeding bird during the Atlas study period.

Grinnell and Wythe (1927) described the occurrence of the Rock Wren as sparingly resident in the San Francisco Bay Area; it was mentioned specifically as a resident on Mount St. Helena, one of the areas in which it was found also during this Atlas study. Western Foundation of Vertebrate Zoology (Camarillo CA) records document a set of 6 eggs, collected on April 21, 1913 in Rincon Valley by Gurnie Wells (H. Cogswell pers. comm.).

Grinnell and Miller (1944) commented that the Rock Wren had not been reported from the northwest coast belt north of Marin County. However, there was a singing Rock Wren reported on the coast north of Jenner, April 4, 1983 (Ellis 1983), and one of the Atlas Probable breeding records came from rugged terrain north of Seaview. Bolander and Parmeter (1978) considered this wren an uncommon permanent breeding resident in suitable habitat and more widespread in the winter.

During the Atlas field work territorial behavior was

(continued on page 185)



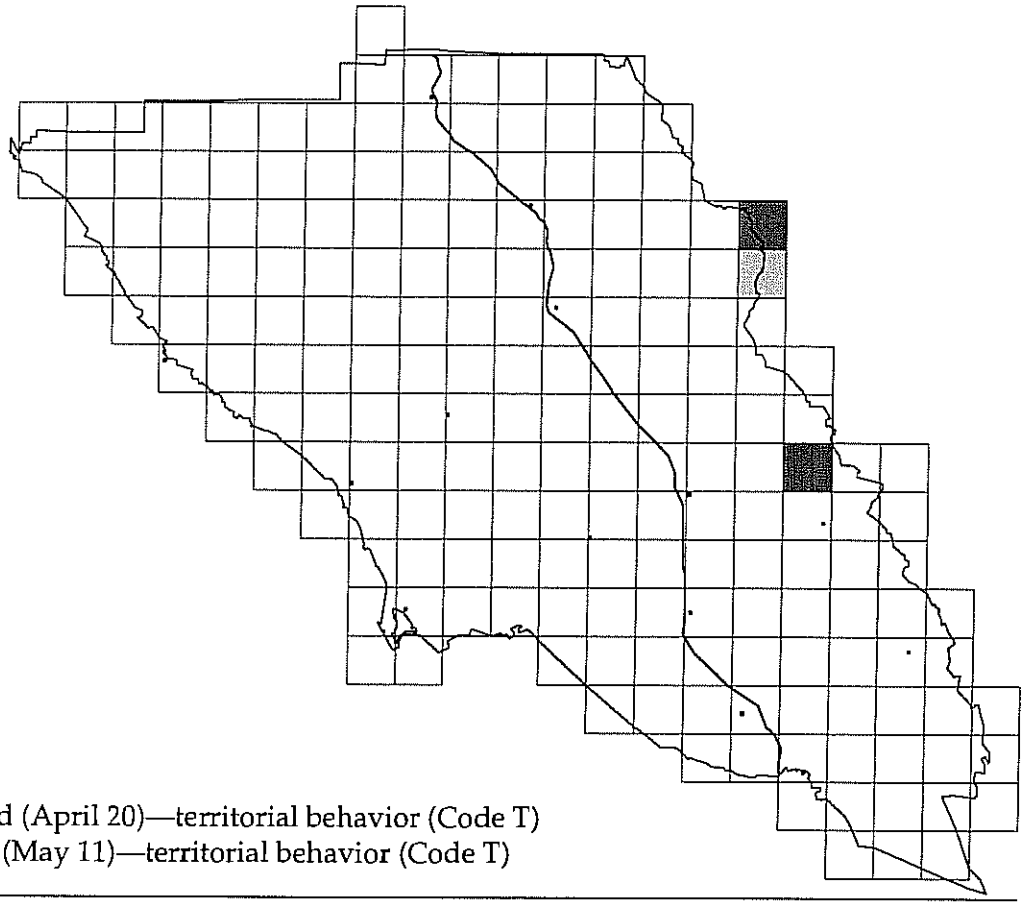
Canyon Wren

Catherpes mexicanus

0 Confirmed

2 Probable

1 Possible



Occurrence

Year round resident

Breeding

Earliest Probable record (April 20)—territorial behavior (Code T)

Latest Probable record (May 11)—territorial behavior (Code T)

The Canyon Wren is a rare to uncommon, very localized resident of rocky and somewhat mountainous terrain in Sonoma County's eastern portion. It especially loves rocky, talus-covered slopes similar to those found on Mount St. Helena where rocky pinnacles and steep cliffs are also present. These cliffs also possess cracks, small sinkholes and cave-like holes which provide cover and nest sites for this tiny mountaineer.

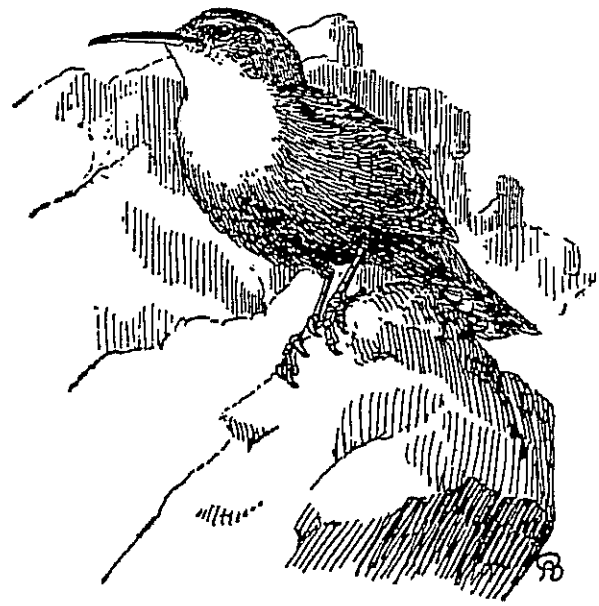
The Canyon Wren forages by creeping along rocky faces, probing its bill into cracks and holes in search of spider and insect prey. Occasionally a bird will vanish completely as it freely enters small holes, disappearing into the rock during the search. A shrill, cascading song reaffirms the presence of this cryptically plumaged bird. This is one of the most interesting and distinctive songs heard anywhere in the west. A dry, somewhat hoarse "ink" note can be heard more commonly, especially at close range.

Usually placed in lofty cliff faces and the like, nests are occasionally found in man-made structures.

In Sonoma County nests are likely to be found in traditional habitat with the probability of climbing gear being required to actually see a nest.

No actual nests were located in Sonoma County during the Atlas project. The Canyon Wren was detected in only three Blocks, each in optimum habitat that could well support more than a single pair of birds: Mount St. Helena (two Blocks) and Hood Mountain (one Block). In any event, probably no more than a handful of Canyon Wrens reside in Sonoma County.

–D. Nelson



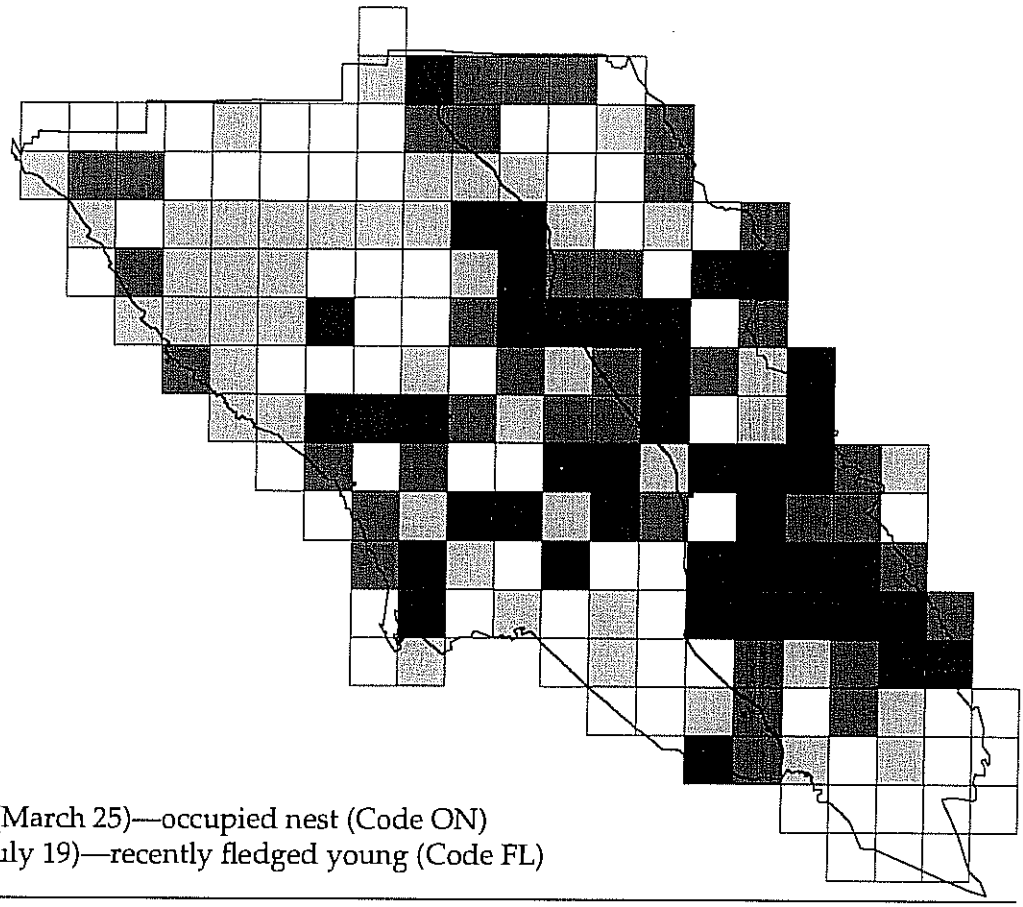
Bewick's Wren

Thryomanes bewickii

42 Confirmed

37 Probable

46 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 25)—occupied nest (Code ON)

Latest Confirmation (July 19)—recently fledged young (Code FL)

Not a voluble chatter, like that of the House Wren, but clear, strong, and cheery; easily heard for a quarter of a mile — such is the song of the Bewick's Wren (Pearson and Burroughs 1936). This small wren's cocky side-ways flitting tail is nearly the length of its body, the outer tail feathers tipped with grayish white (Scott 1983). Its nest can be located almost anywhere: in outbuildings, boxes, stumps, watering pots, or any hollow object hanging from trees or lying on the ground (Pearson and Burroughs 1936, pers. obs.).

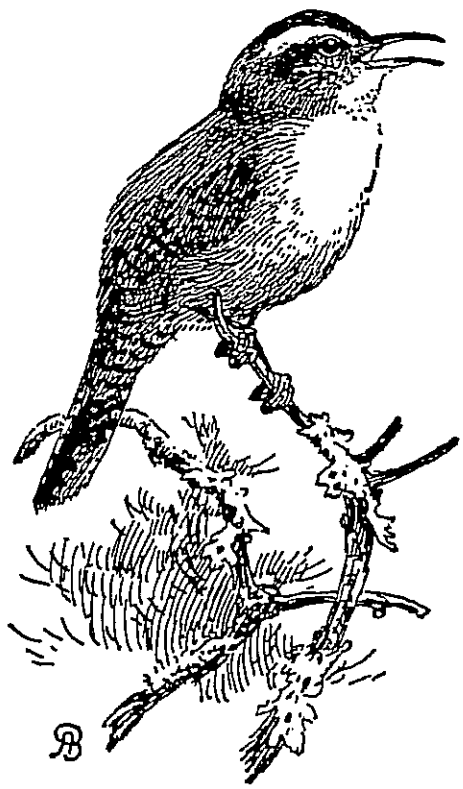
Bewick's Wren habitat is hillside brushland and tangled vegetation at the forest margins (Grinnell & Miller 1944) and in riparian willow and alder thickets along canyons (Grinnell & Wythe 1927).

It has long been a common resident of the San Francisco Bay Area and was specifically noted to be present around Guerneville, Freestone, Santa Rosa and Sebastopol by Grinnell and Wythe (1927).

During the Atlas study it was found to be breeding throughout Sonoma County, with a somewhat decreasing presence in the northwestern corner.

The economic value of this wren's feeding habits is very great, for 97% of its diet is composed of insects (Pearson and Burroughs 1936).

–J. & J. Tonascia



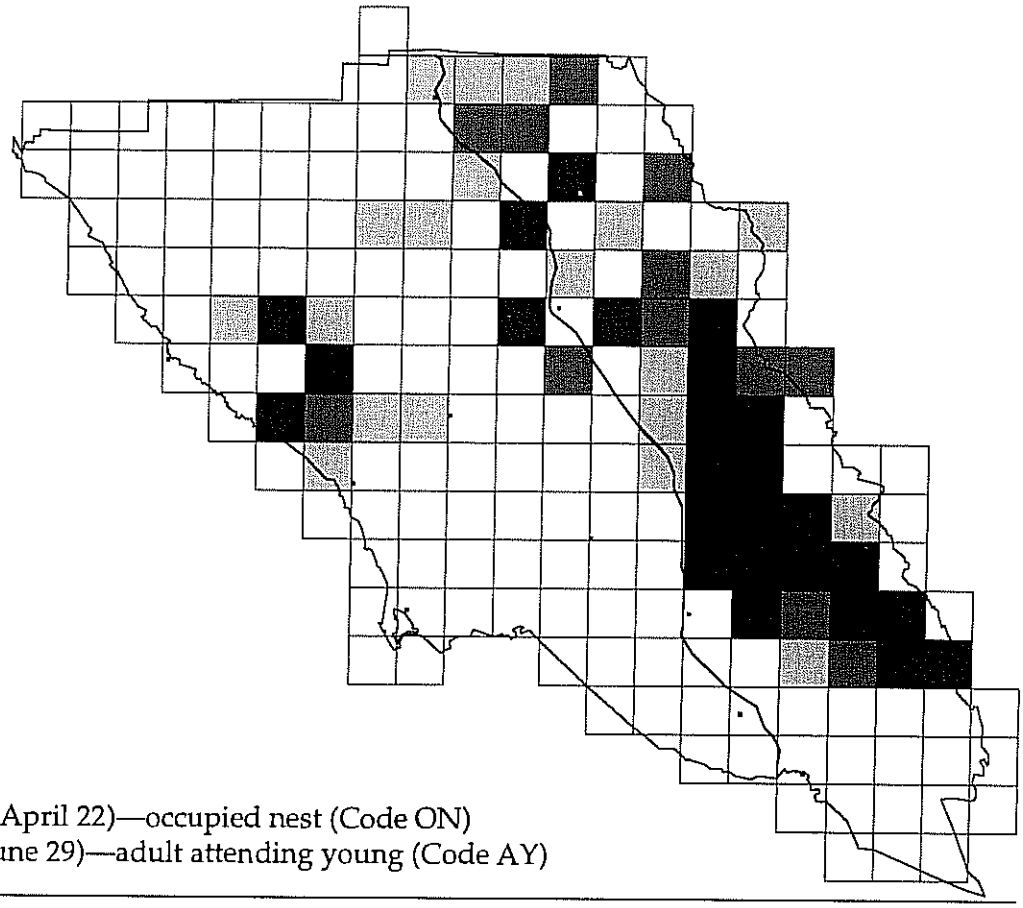
House Wren

Troglodytes aedon

25 Confirmed

12 Probable

20 Possible



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 22)—occupied nest (Code ON)

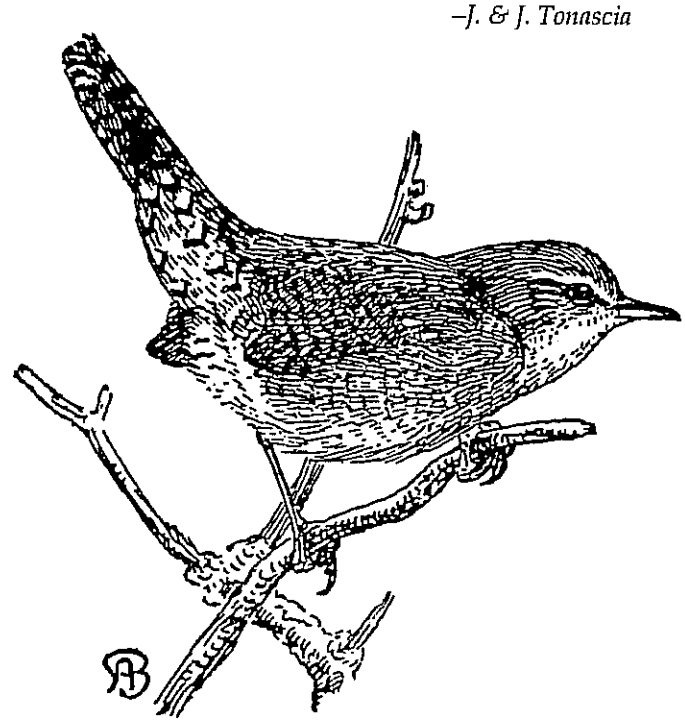
Latest Confirmation (June 29)—adult attending young (Code AY)

"Jenny" Wren arrives on the nesting grounds after the male has already established his territory and often started a nest.

In this Atlas, breeding locations for the House Wren were concentrated in the southeastern corner of Sonoma County. There are scattered breeding Confirmations on the coast near and just north of Fort Ross, and along the Highway 101 corridor north to Geyserville. Sugarloaf Ridge State Park was a regular breeding area for this bird in the 1970s (B. Burridge pers. comm.) and into 1980 (Ellis 1980). However, intensive atlasing efforts there revealed only Possible breeding activity between 1986 and 1991. Meanwhile Annadel State Park continued to be an active breeding location throughout the Atlas study.

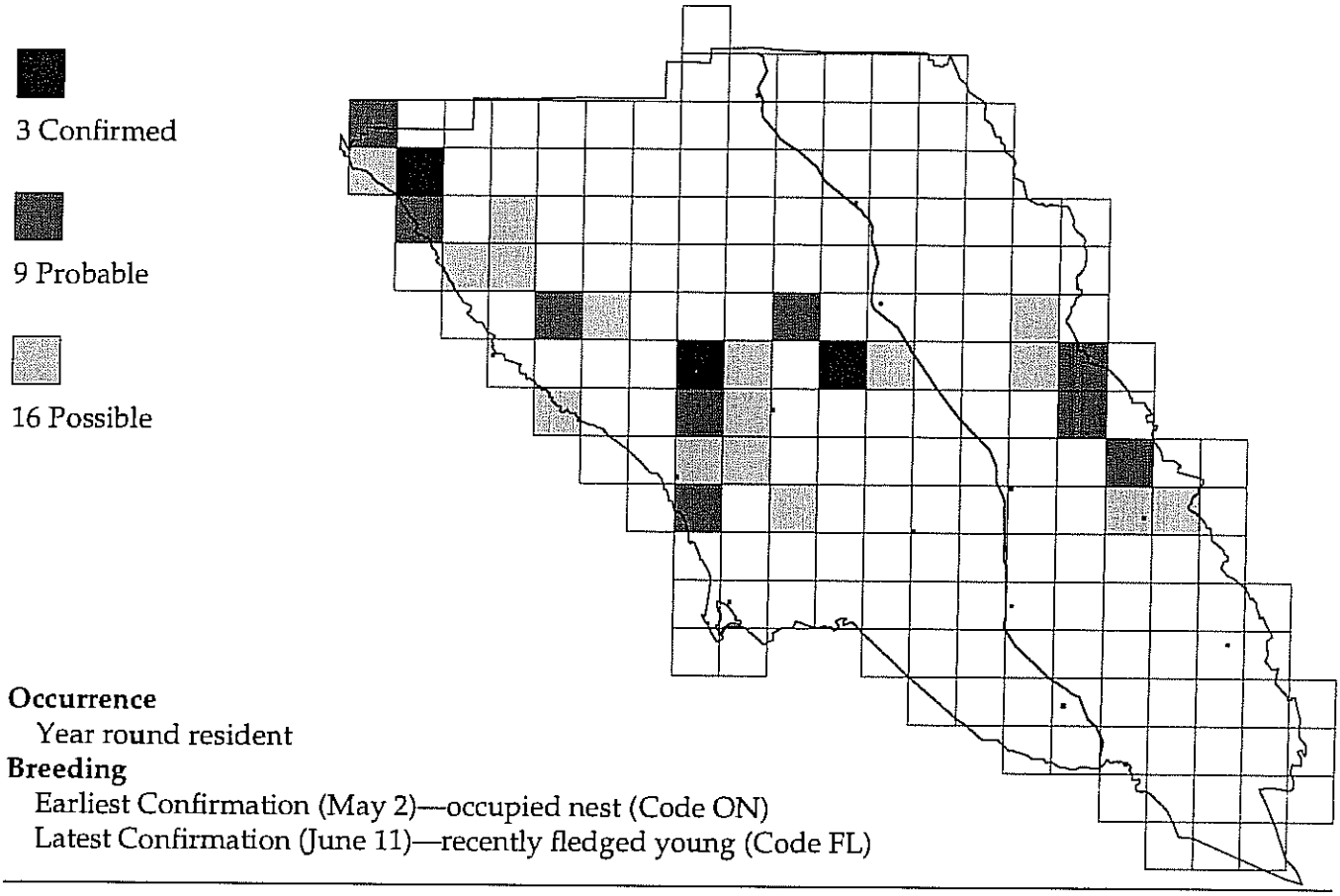
Habitat for foraging is thickets, low trees, or chaparral. Most food-seeking is done within four feet of the ground, but for successful nesting, a House Wren must be within a short cruising distance of the thickets and trunks of trees in which cavities are available. These cavities may be the results of decay or woodpecker excavations. As a rule, those cavities chosen are in fairly open deciduous trees. The use of redwoods and other conifers for either foraging or nesting is unusual. Cavity size with the House Wren is somewhat flexible because of its constructive ability to fill up a large space with coarse material until the finished nest size is reached (Grinnell & Miller 1944).

–J. & J. Tonascia



Winter Wren

Troglodytes troglodytes



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 2)—occupied nest (Code ON)

Latest Confirmation (June 11)—recently fledged young (Code FL)

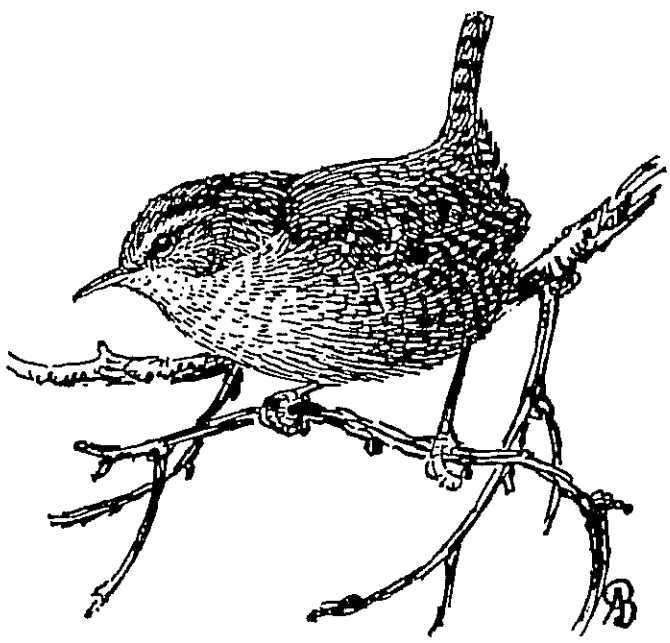
"Such a dapper, fidgety, gesticulating, bobbing-up-and-down-and-out-and-in little bird, and yet full of such sweet, wild melody!" is Mr. Burrough's capital description of the Winter Wren (Pearson 1936). This tiny brown bird somewhat resembles other small wrens; however, its characteristically cocked-up tail is much shorter.

The distribution of this bird in Sonoma County, as represented in this Atlas, includes the Austin Creek and Mark West Springs Creek drainages, the moist northwestern coastal area and the northeastern rim of the Valley of the Moon.

This uncommon and secretive little wren nests in dense tangly brush found in Sonoma County's shady moist forests of redwoods and other conifers, broadleaved evergreens and hardwoods with nearby permanent streams. The nesting sites can be found in the small holes in the upturned roots of fallen logs or under rotted fallen trees. Occasionally it will nest in old woodpecker holes. Most nests are built from ground level up to 12 feet high. The globular-shaped nest fits the shape of the small cavity and has a very small side entrance. It is constructed mostly of mosses with weed stems, small twigs and rootlets woven together and lined with fur, feathers, delicate rootlets and filamentous lichens (Shuford 1993).

The Winter Wren's diet is almost exclusively animal matter consisting of spiders, beetles, caterpillars, and other small bugs (Horne and Bader 1990).

–J. & J. Tonascia



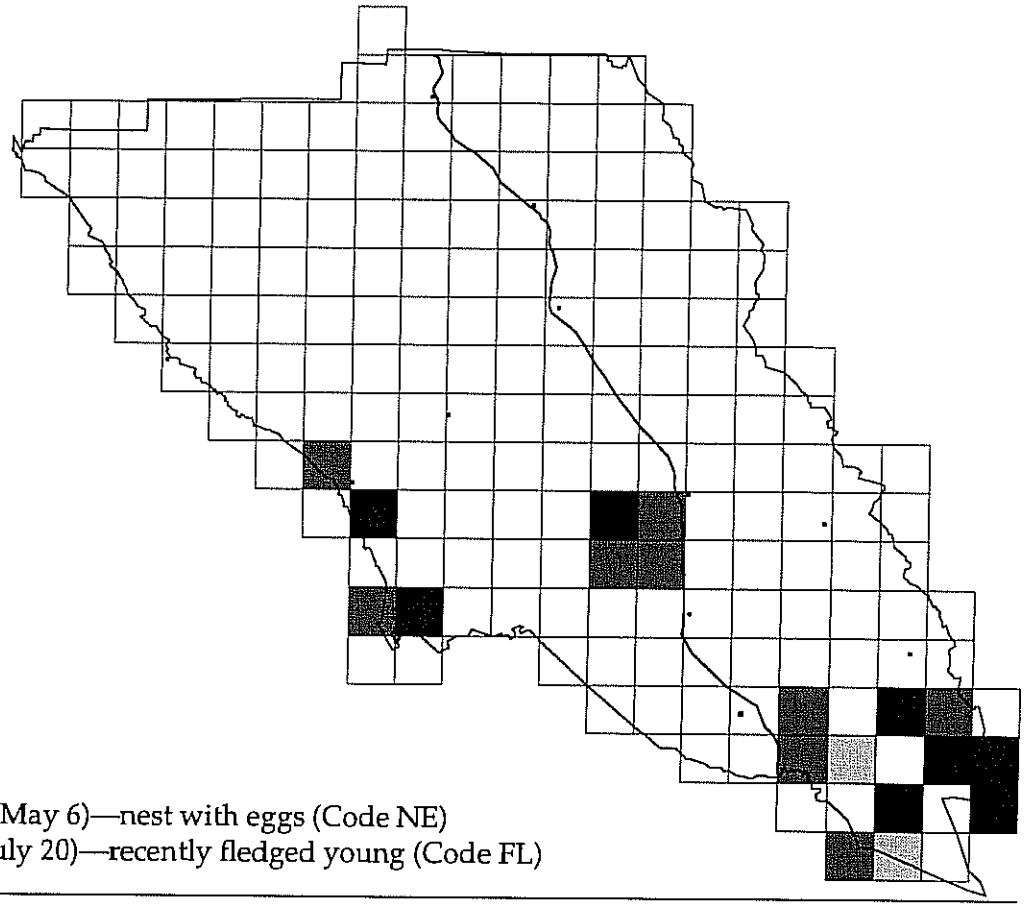
Marsh Wren

Cistothorus palustris

8 Confirmed

9 Probable

2 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 6)—nest with eggs (Code NE)

Latest Confirmation (July 20)—recently fledged young (Code FL)

The perky little Marsh Wren with its exuberant liquid burbling, gurgling song builds more than one nest, most of them dummies, to meet the needs of its polygamous lifestyle (Shuford 1993 citing Verner). The nest seldom overhangs the water and is globular with a well camouflaged opening on the side. It may be placed six inches above the ground in low marsh vegetation, or as high as 15 feet in the trees (Pearson 1936).

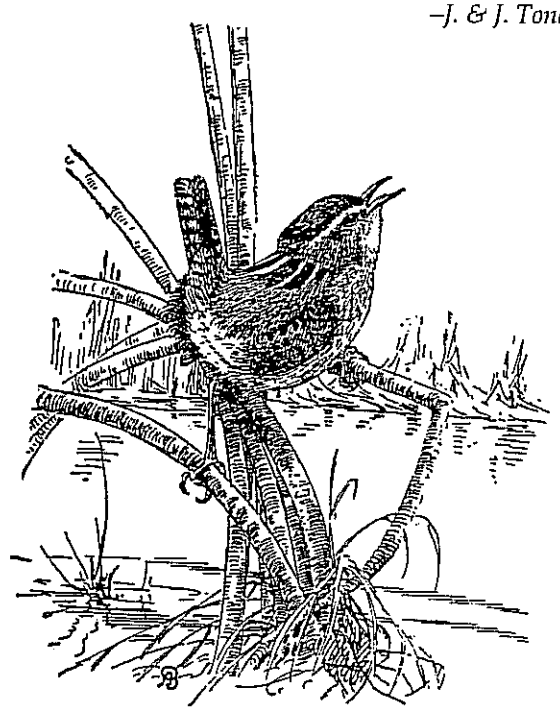
The preferred habitat is freshwater and brackish marshland and coastal swales with standing water and tall dense marsh vegetation for concealment and placement of nests (Shuford 1993).

The diet is obtained mostly from the marsh vegetation or neighboring willows and is almost entirely animal matter. Marsh Wrens have been known to occasionally prey on the eggs of other marsh birds (Bent 1948).

Historically, marshland has been freely drained and filled for agriculture and development. And fresh-water marsh is the plant community with which the Marsh Wren is most closely associated. It follows that the historical population levels of the Marsh Wren have declined considerably in Sonoma County.

In Sonoma County Confirmed breeding records for the Marsh Wren have been limited to the wetlands in the Laguna de Santa Rosa, the southeastern corner bordering San Pablo Bay, and the coastal wetlands between the mouth of the Russian River and Bodega Bay.

–J. & J. Tonascia

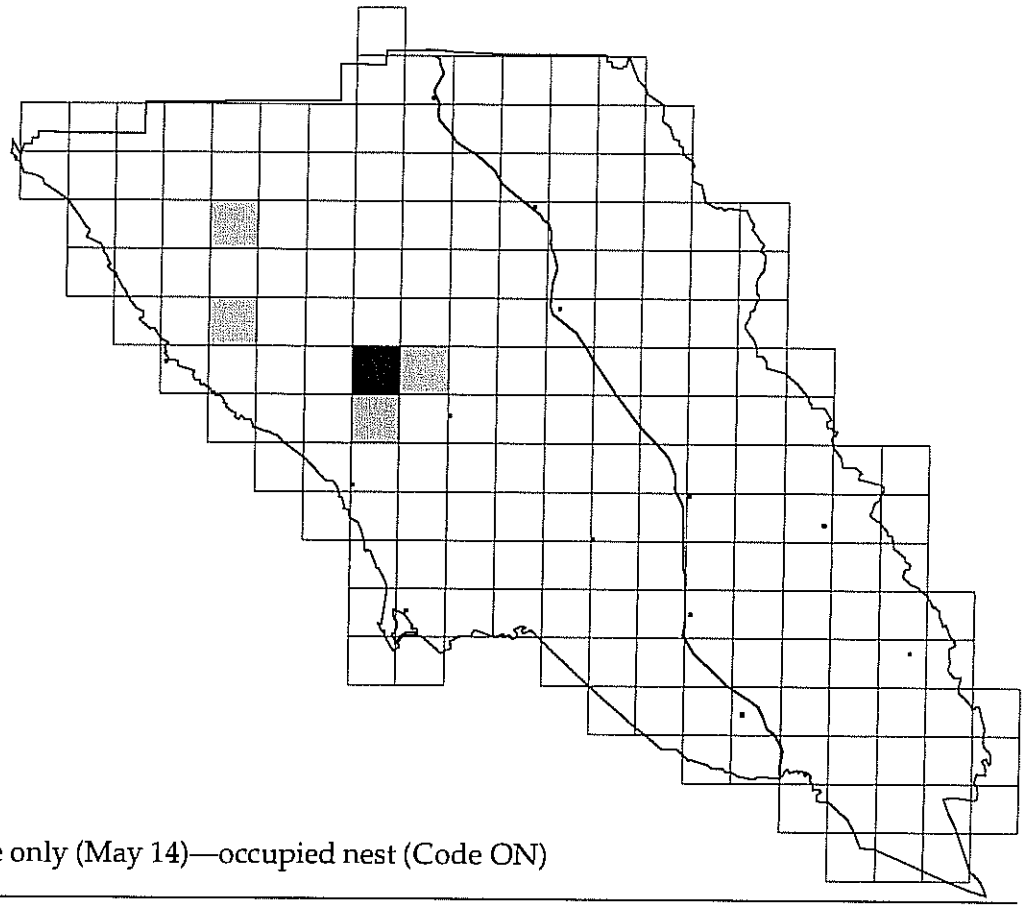


American Dipper
Cinclus mexicanus

1 Confirmed

0 Probable

4 Possible



Occurrence
Year round resident
Breeding
One Confirmation date only (May 14)—occupied nest (Code ON)

Throughout its range the dipper seldom departs from the company of clear, permanent, swift-flowing streams. In Sonoma County, suitable streams are scarce and occur in rather remote, undisturbed localities. When such creeks are flowing, the dipper's sweet, trilling phrases rise gently above the sounds of running water. This inland waterbird seldom flies over land, but follows favored creeks regardless of waterfalls, hair-pin turns, or other natural topography. The dipper forages for aquatic insects by scanning the water from low rocks, usually at the water's edge or frequently in mid-stream. Bobbing throughout, this bird will stand thigh-high facing into the current, then submerge the head to search the bottom for insect larvae. To feed, the dipper jumps head first into the current, disappearing beneath it while using strong, sharp claws to grip along the rocky bottom. Nictitating membranes protect the eyes while the dipper is underwater.

This bird was reported as fairly common (Grinnell & Wythe) in 1927 and as common in suitable habitat (Grinnell & Miller) in 1944 but by 1978 it was judged to be an uncommon resident, being found only on Austin Creek, Big Sulphur Creek and upper Dry Creek (Bolander & Parmeter 1978). Other records since then include a singing bird on Wolf Creek along Skaggs Springs Road on March 23, 1985, a winter Christmas Count record on Santa Rosa Creek 'many years ago' (B. D. Parmeter pers. comm.) and a sighting at Sugarloaf Ridge State Park on April 13, 1980 (Bill Payne pers. comm.). Today it is one of Sonoma County's rarest breeders.

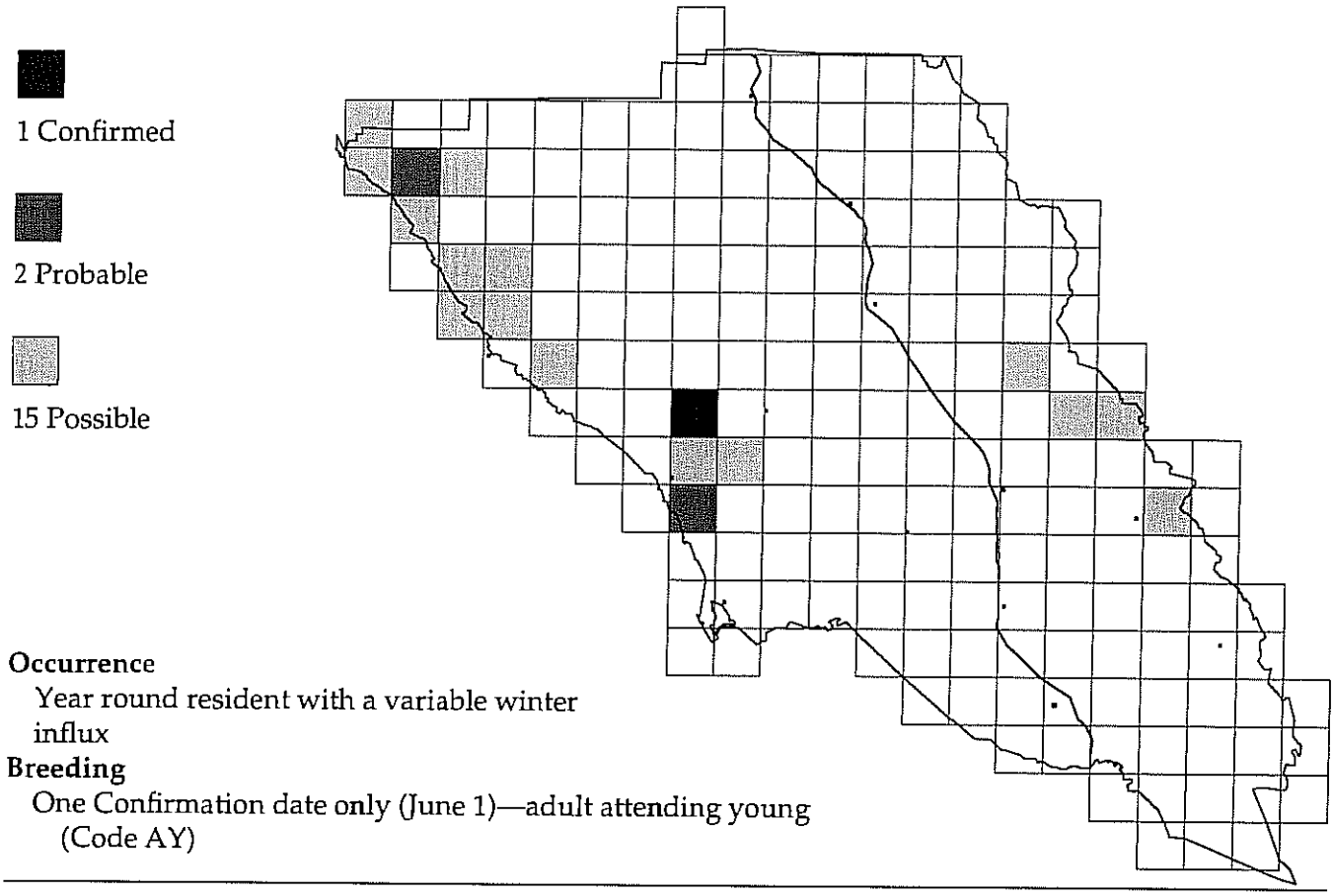
According to Atlas records dipper breeding was confined to the Austin Creek drainage which feeds into the Russian River. This is where Gerry Mugele consistently finds the only dipper(s) to count on the Western Sonoma County Christmas Count each winter. Some evidence of breeding by this species was also detected in the drainage of the Gualala River's South Fork, which has a similar wet micro-climate and suitable habitat.

In 1994 the dipper was observed in two other localities previously known as nesting sites: Upper Sonoma Creek, off Adobe Canyon Road on September 17 (Chris Tarp pers. comm.) and Big Sulphur Creek, east of Cloverdale on November 23 (pers. obs.).

Nests are generally within a few feet of permanent streams. Constructed with available green mosses, the nest is placed under overhanging banks, in vertical rock crevices, behind waterfalls or even within support structures of bridges. Dipper presence is likely in (continued on page 185)

Golden-crowned Kinglet

Regulus satrapa



1 Confirmed

2 Probable

15 Possible

Occurrence

Year round resident with a variable winter influx

Breeding

One Confirmation date only (June 1)—adult attending young (Code AY)

The distinctive but almost inaudible high pitched "tsee-tsee" call is our best chance to recognize the presence of the Golden-crowned Kinglet. Having heard that and being of sound mind, one will pass by saying, "Ah-ha, a fine bird to be heard." Only the persistent will try to see this tiny inconspicuous species. If you know to look on top of a branch, half-way up the tallest conifer in the area, there it will be, the size of your thumb and in colors that blend well with the spots before your eyes.

This busy little bird is at home in Sonoma County in our coniferous and broadleaf evergreen forests during the breeding season. Then it disperses widely during the winter, foraging successfully from branch to branch through almost all forested areas including riparian woodlands (Bolander & Parmeter 1978).

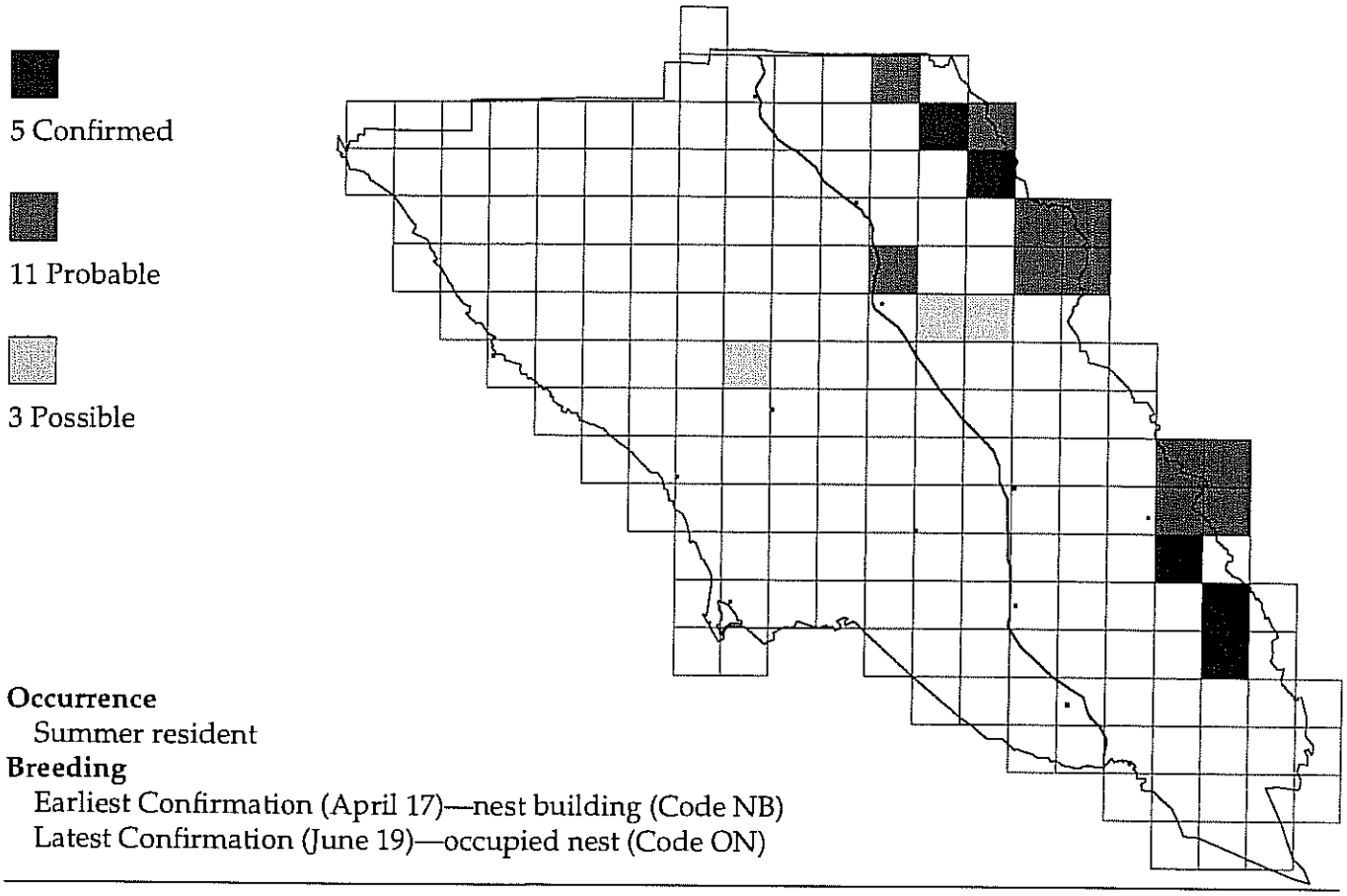
Most of the sightings of this species during this project were from coastal coniferous regions with a few Possible breeding records from inland mountainous areas with conifers.

Well-concealed nests high in the densely needled boughs of redwoods and Douglas fir (Grinnell & Miller 1944) make proof of nesting difficult to record. The one Confirmed breeding record, that of a young bird being fed by a parent, came from near Cazadero. This distribution corresponds well to early twentieth century breeding season sightings of the Golden-crowned Kinglet near Guerneville and on the South Fork of the Gualala River (Grinnell & Wythe 1927 citing H. H. Sheldon 1908).

–B. McLean

Blue-gray Gnatcatcher

Polioptila caerulea



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 17)—nest building (Code NB)

Latest Confirmation (June 19)—occupied nest (Code ON)

The presence of the diminutive Blue-gray Gnatcatcher is most often revealed by the wheezy calls emanating from its favored brushy habitats.

Grinnell and Wythe (1927) felt that this bird "doubtless nests (rather sparingly) in the Mount St. Helena area"; by 1944 Grinnell and Miller still had no specific references to this bird breeding in Sonoma County, perhaps because of low observer coverage in the Blue-gray Gnatcatcher's habitat, areas of broken chaparral or scrubby oak. By 1978 Bolander and Parmeter listed this bird as breeding in Sonoma County. Records show its presence on Schocken Hill near Sonoma April 27, 1980 and April 17, 1982; at Pine Flat Road on April 15, 1982 and May 16, 1981; on Ida Clayton Road April 24 & 25 and May 16, 1981; on Spring Creek Trail in Annadel State Park on April 21, 1981 and Los Alamos Road on March 27, 1980 (Ellis 1980, 1981, 1982). There is a record of nest building on Pine Flat Road for May 18, 1985 (Jack Arnold pers. comm.).

Atlas records show this active insectivore in the eastern portion of the county. It is, for the most part, absent from the central and western parts although one Possible record west of Healdsburg points out the presence of this bird in the northwestern hills and mountains, where suitable breeding habitat does occur.

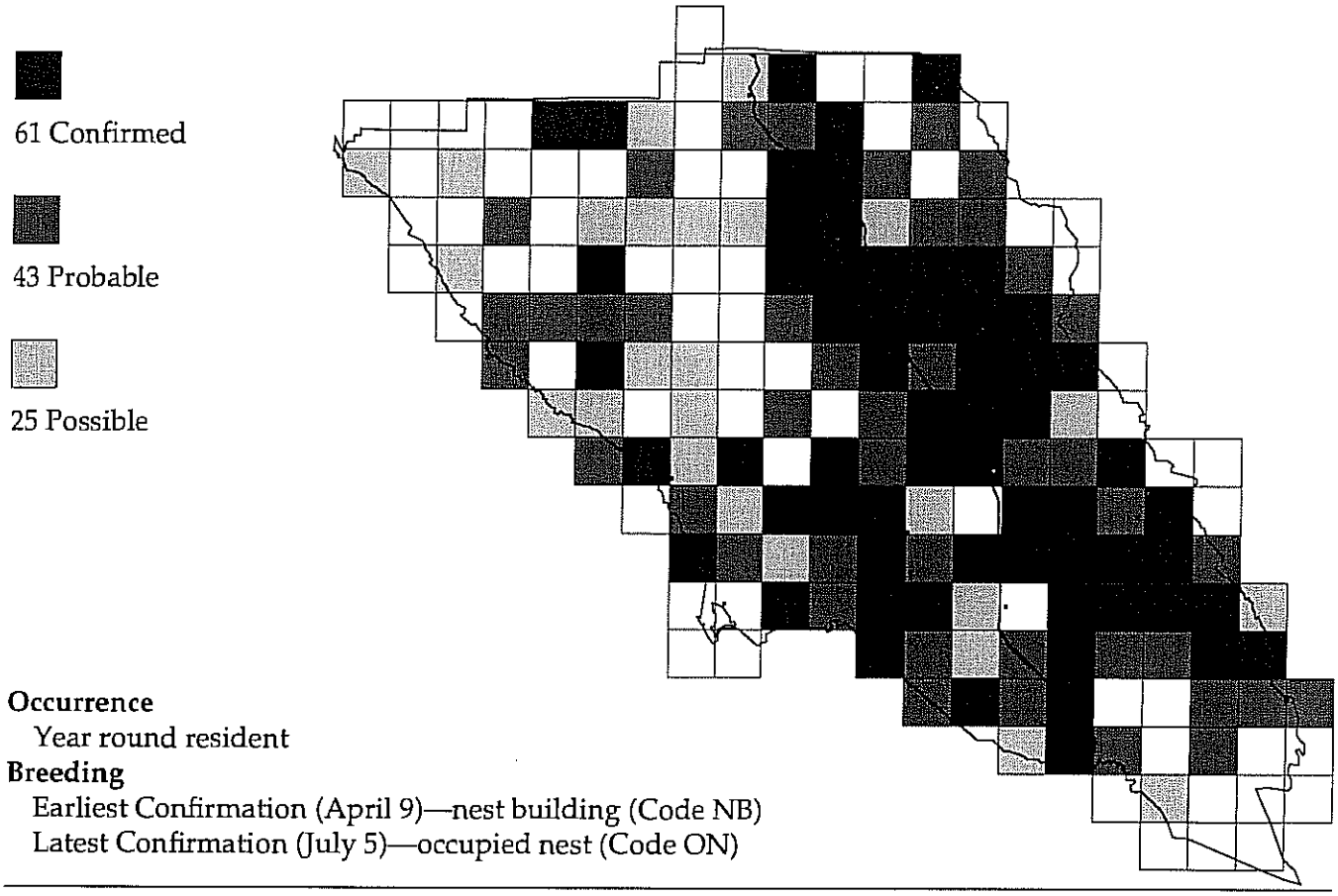
This rare summer resident is present in Sonoma County from April through November (Bolander & Parmeter 1978), although most breeders probably leave earlier (John Parmeter pers. comm.).

This bird builds a cup-shaped nest of plant fibers held together by spider silk. The nest is attached to branches and twigs at a wide range of heights above the ground (Shuford 1993). The Blue-gray Gnatcatcher camouflages its nest well; this may explain why only five Blocks had Confirmations of breeding out of nineteen Blocks in which the species was recorded. The Blue-gray Gnatcatcher population in California appears to be stable or increasing in recent years (Shuford 1993 citing USFWS unpubl. analyses).

–A. Wight

Western Bluebird

Sialia mexicana



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 9)—nest building (Code NB)

Latest Confirmation (July 5)—occupied nest (Code ON)

Generally occurring in small flocks, the colorful Western Bluebird is found in oak-savannah (grasslands) and similar open habitats throughout most of Sonoma County. While foraging, this bird prefers grassy areas with nearby perches, where it sits motionless, then swoops down and takes the prey on or near the ground. Most of Sonoma County with the exception of the heavily-forested northwest has habitat that meets this bird's needs, as can be seen by its wide distribution of Atlas records (found in 129 (71%) of the Blocks).

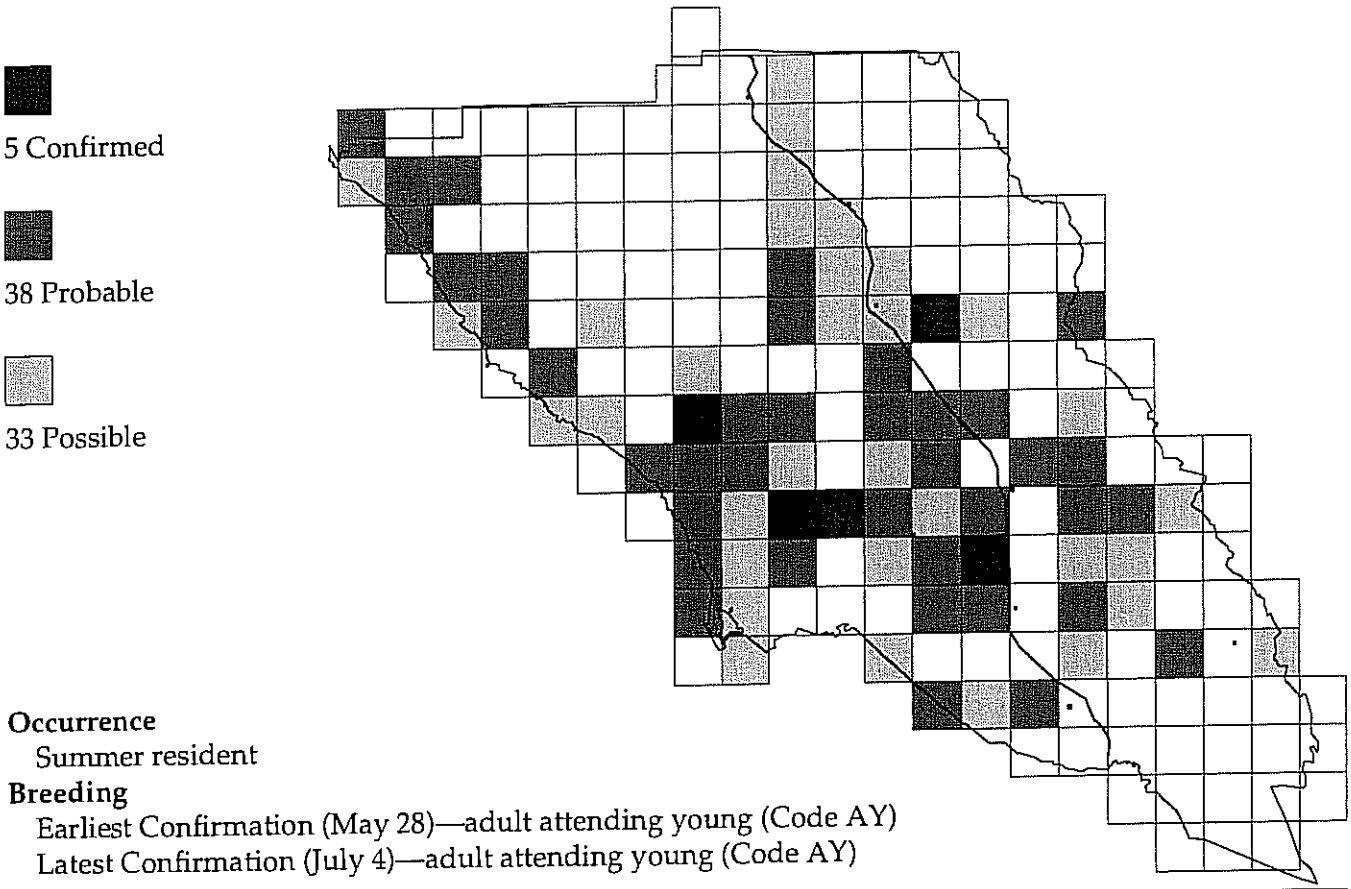
This pleasant-natured bird is a cavity nester and must compete for nesting sites with other birds including the introduced European Starling and House Sparrow. It will use a man-made bird house for nesting. The Western Bluebird's color and choice of open habitat makes it fairly obvious near the nest site, and thus, its nest is among the easiest to find. Confirmations of nesting were made in 47% of the Blocks where breeding evidence was found for this species. (The average percentage of Confirmations to total breeding records in this Atlas is 30%.)

The Western Bluebird has been on various lists as a species of concern in 1972, 1978-1981, 1982; however, its populations appear to have declined only slightly from 1968 to 1989 (Shuford 1993 citing USFWS unpublished analyses).

–A. Wight

Swainson's Thrush

Catharus ustulatus



Occurrence

Summer resident

Breeding

Earliest Confirmation (May 28)—adult attending young (Code AY)

Latest Confirmation (July 4)—adult attending young (Code AY)

In late spring a visit to dense riparian growth almost anywhere within the county can result in the visitor hearing the lovely rising song of the Swainson's Thrush. Seeing the vocalist is a much more difficult proposition, however.

The Swainson's Thrush breeds throughout Sonoma County except in the higher elevations of the northwestern and northeastern mountains and the grasslands of the southeastern corner. Whereas the Hermit Thrush likes canyons with coniferous forests, the Swainson's Thrush prefers the dense undergrowth of the county's riparian habitat in valleys and along the coast.

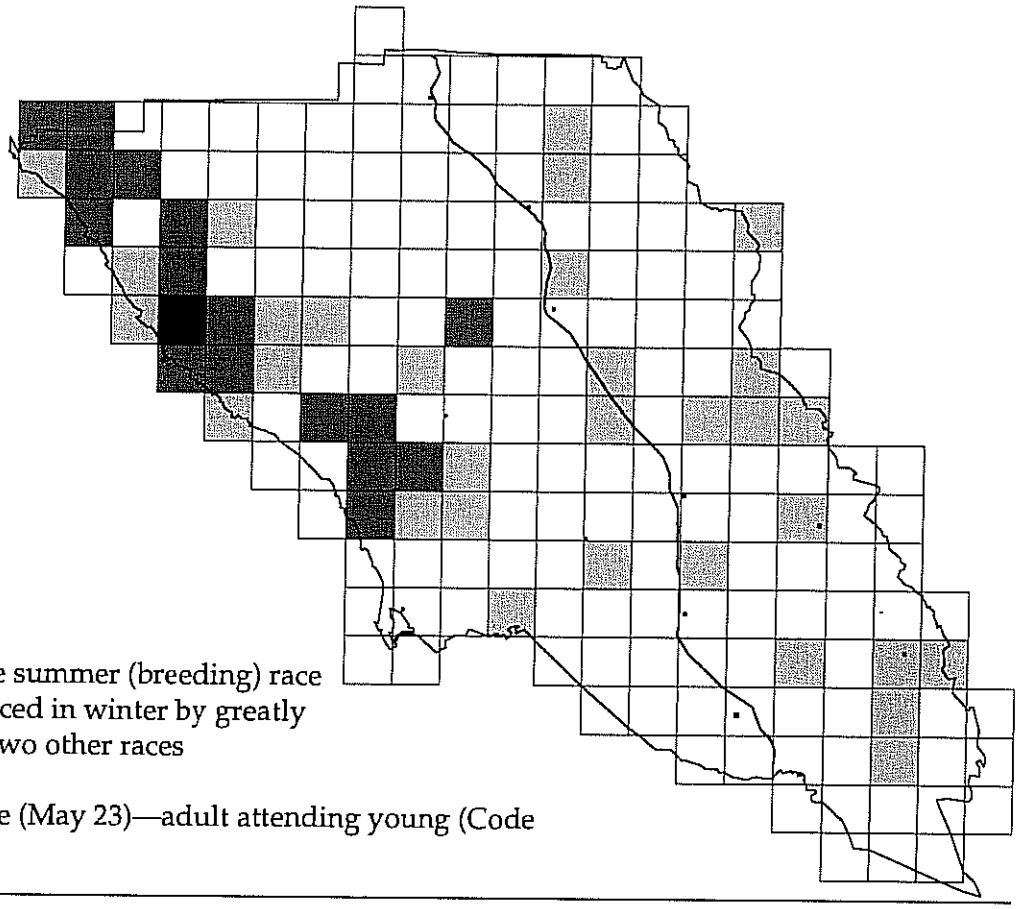
As with the Hermit Thrush, the nest of the Swainson's Thrush is very difficult to find. Atlasers were able to find a nest in only one Block out of the 76 in which evidence of breeding was recorded. Adults attending young (Code AY) were observed in an additional four Blocks, resulting in breeding Confirmations in only five (of the 76 Blocks) or less than seven per cent of Blocks where this species was recorded.

The entire Swainson's Thrush population migrates out of Sonoma County each fall, spending the winter from southern Mexico to central South America. There has never been a satisfactory winter record of this bird in Sonoma County (Bolander & Parmeter 1978). W.D. Shuford (1993), citing U. S. Fish and Wildlife Service unpublished analyses, reports Swainson's Thrush populations in California to be stable or declining slightly in recent years.

–A. Wight

Hermit Thrush

Catharus guttatus



1 Confirmed

16 Probable

31 Possible

Occurrence

Present year round, the summer (breeding) race being completely replaced in winter by greatly increased numbers of two other races

Breeding

Only Confirmation date (May 23)—adult attending young (Code AY)

In late spring the Hermit Thrush sings its beautiful song from within a shady forest. The coastal race that is present during the breeding season in Sonoma County is *C. g. slevini* (Grinnell & Miller 1944).

During the Atlas project, this species was found mainly in coastal coniferous forests in the northwestern part of the county. There are also several records for Possible breeding in the eastern half of the county; these are mostly in cool forested canyons. The single Confirmed breeding record for this bird in Sonoma County was about three miles from the coast near Plantation.

The scarcity of Confirmations indicates the difficulty of verifying breeding of this species. The Hermit Thrush builds a cup-shaped nest of twigs and other plant materials. Nests are generally well-hidden in bushes or small trees at a height of three to five feet above the ground (Shuford 1993).

In the fall, our breeding race of the Hermit Thrush (*C. g. sleveni*) migrates south, only to be replaced by considerably increased numbers from two other Hermit Thrush races (*C. g. nanus* and *C. g. guttatus*) that breed farther north and seek a milder winter climate (Grinnell & Miller 1944).

During the winter months the Hermit Thrush can be found in wooded areas throughout the county. Hermit Thrush populations in California appear to be stable or increasing in recent years (Shuford 1993).

–A. Wight

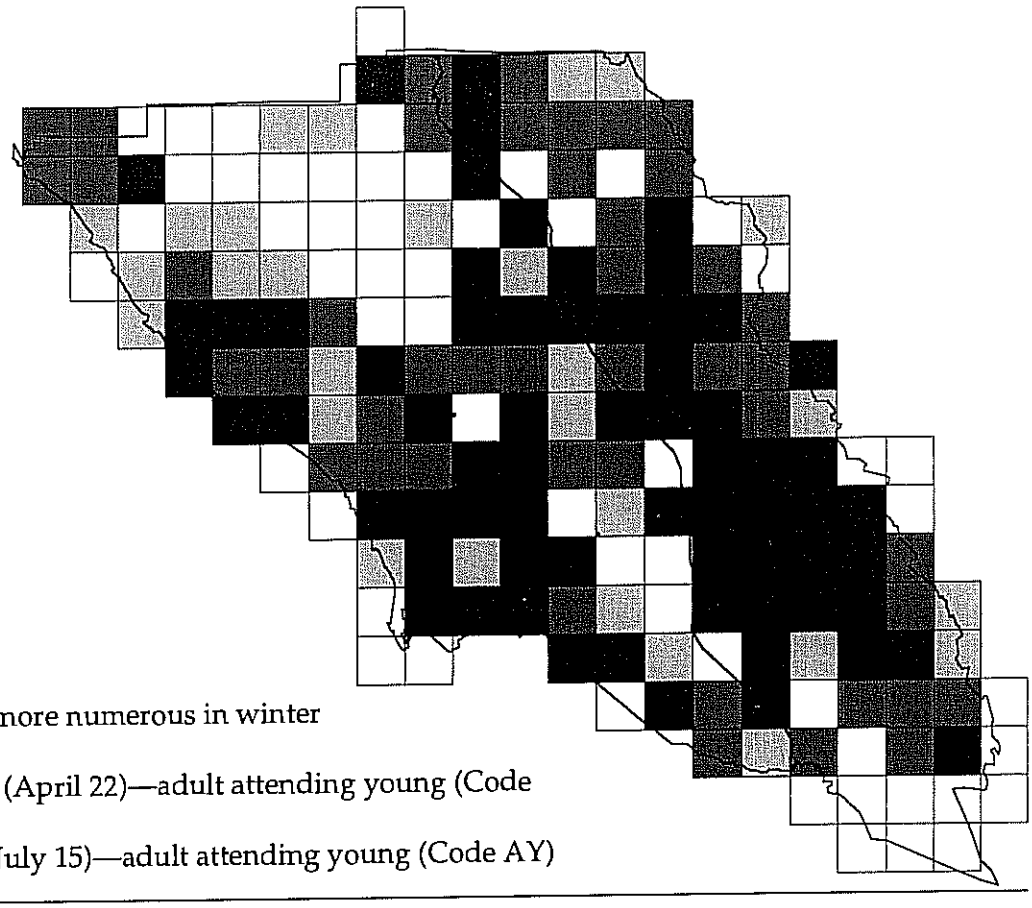
American Robin

Turdus migratorius

66 Confirmed

44 Probable

28 Possible



Occurrence

Year round resident, more numerous in winter

Breeding

Earliest Confirmation (April 22)—adult attending young (Code AY)

Latest Confirmation (July 15)—adult attending young (Code AY)

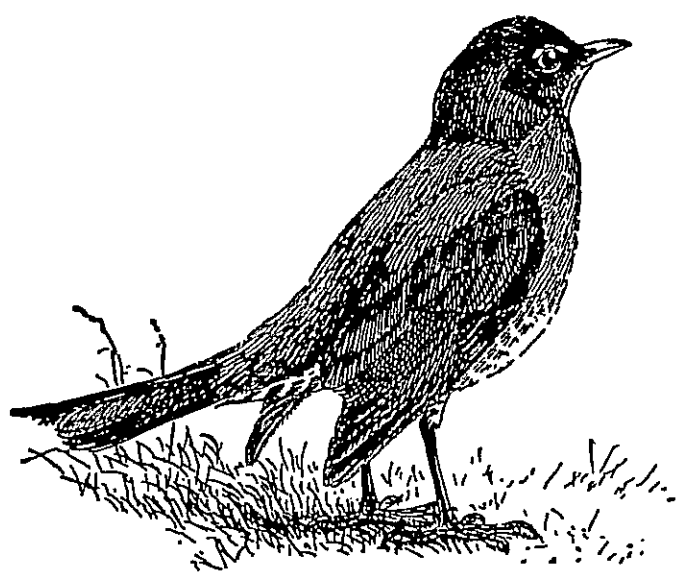
Almost everyone will say they know the color robin's-egg-blue, but it really must be seen to be believed; the startling intensity, purity and depth of hue is truly breathtaking. And even though most people also think they know what a robin looks like, a good close look at an adult male in spring can confound a beginning birder; the glorious rusty-red breast, bright white eye-ring and clear yellow bill make this bird look truly exotic.

While this robin probably always has been more or less abundant in winter throughout the San Francisco Bay Area, it was not a Bay Area summer resident south of Seaview and Cazadero (Sonoma County) prior to 1915 (Grinnell & Wythe 1927). Since that time its summer range has spread south through Monterey County and across the Central Valley into the Sierra and southern California mountains (Grinnell and Miller 1944).

According to Atlas records it is one of the most widely distributed birds in the county, evidence of its breeding being reported in 77% of the Atlas Blocks. It was found throughout Sonoma County except in the densely forested northwestern mountains and in the San Pablo Bay wetlands.

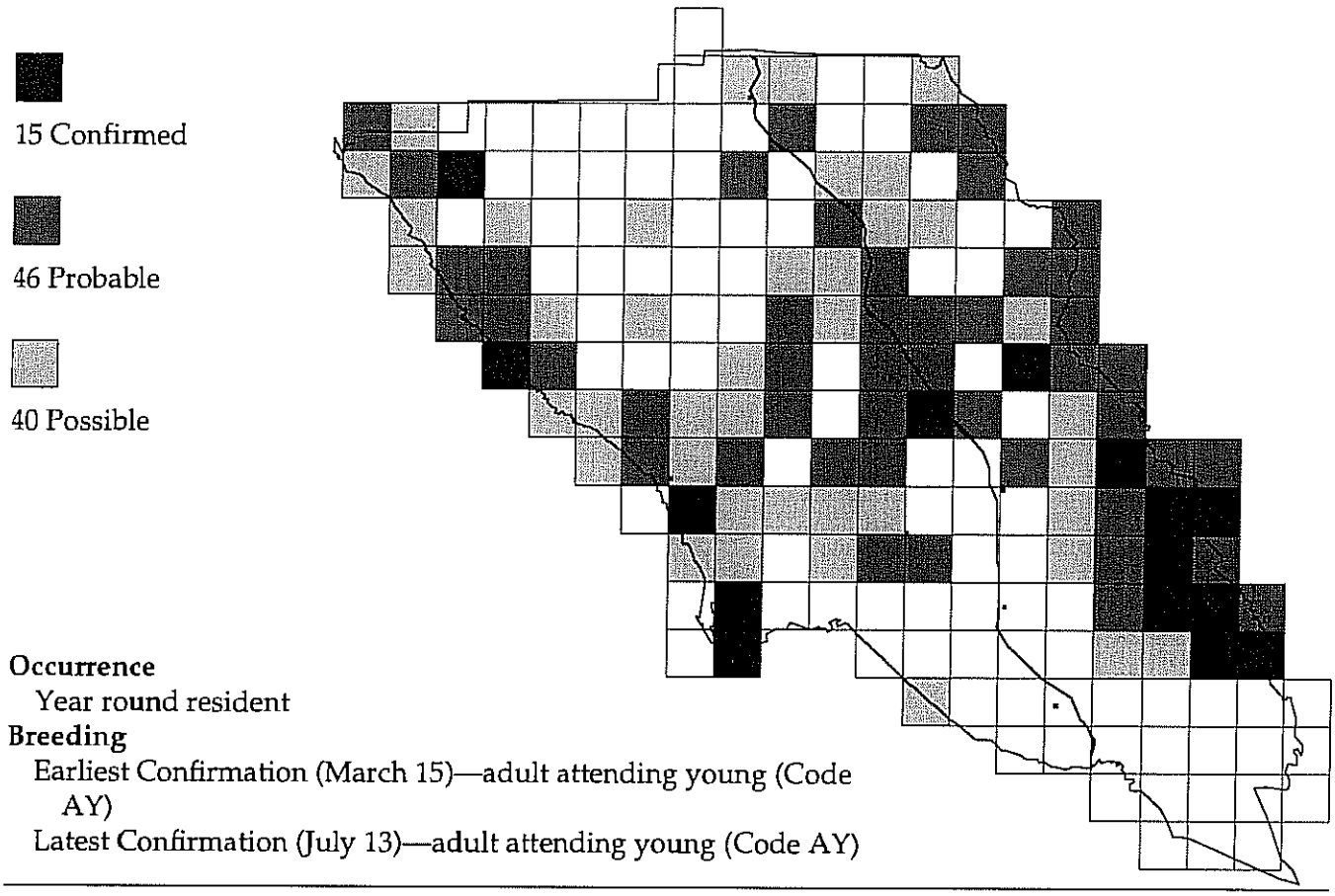
Preferred breeding habitat for the American Robin is meadows, moist stream sides and soft cultivated land and gardens with adjoining open or scattered trees for nest sites. Prime requisites are soft organically-rich turf harboring earthworms and insects, and mud for the nest cup (Grinnell & Miller 1944).

–B. Burridge



Wrentit

Chamaea fasciata



15 Confirmed

46 Probable

40 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (March 15)—adult attending young (Code AY)

Latest Confirmation (July 13)—adult attending young (Code AY)

The Wrentit is a special member of our avifauna. It has no near relatives in North America and is found only in the western parts of California and Oregon. It occurs in a variety of shrub habitats in Sonoma County, including chaparral, coastal scrub, shrub understory in coastal coniferous forest and in riparian thickets.

This diminutive bird spends its entire life within its brushy world. Individual territories are small, ranging from one-half to three acres (Erickson 1938, Mans 1961). It does not forage on the ground preferring instead to glean insects, spiders, berries and other small fruit from foliage, twigs and bark. Over the year vegetable and animal food figure equally in its diet (Zeiner et al., 1990). However, like most passerines, animal food dominates during the breeding season. The cup nest is located in a bush within four feet of the ground.

The Wrentit is found breeding widely in Sonoma County though it is absent from open areas near San Pablo Bay, the Sonoma/Marin County borderlands and the Santa Rosa Plain, as well as the forests of the northwest. In places where chaparral and coastal scrub do not occur it can be looked for in thickets along streams. In the closed-cone pine forest at Salt Point it frequents the understory.

The Sonoma County population is quite large and probably stable. Human activities seem not to be negatively affecting Wrentit habitat to a significant extent.

–L. Stafford

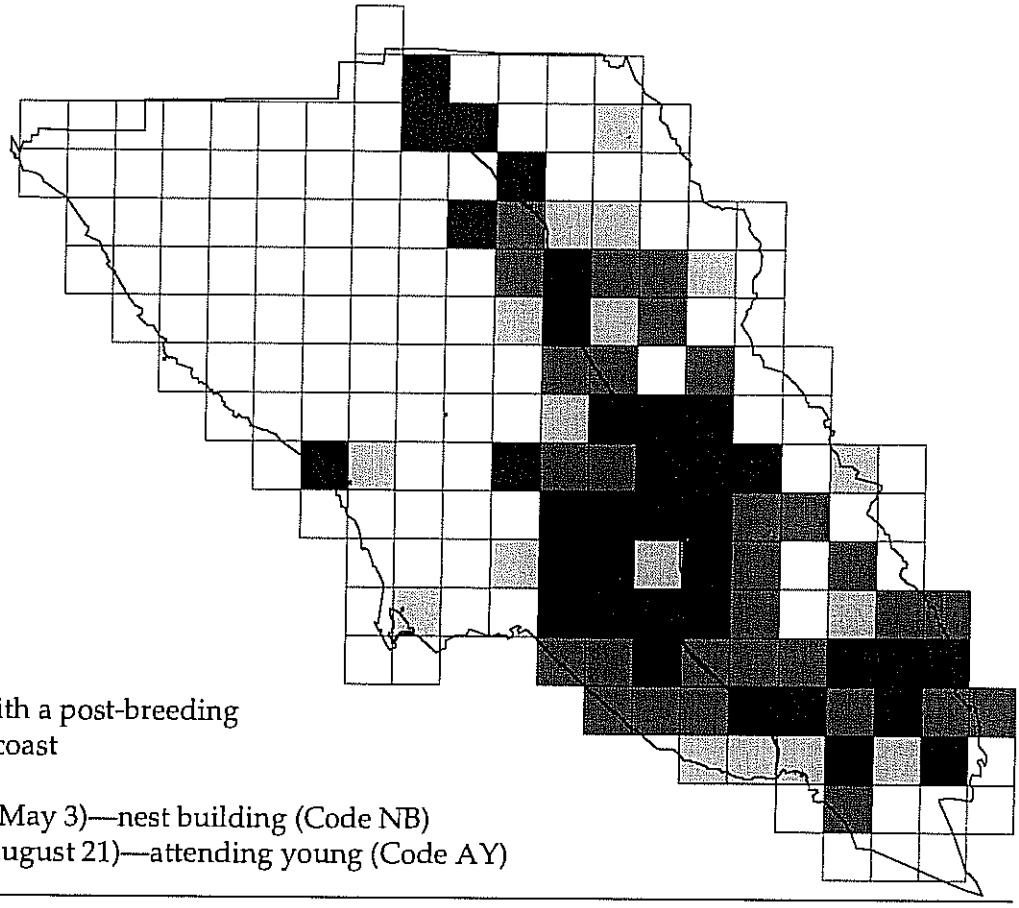
Northern Mockingbird

Mimus polyglottos

35 Confirmed

29 Probable

17 Possible



Occurrence

Year round resident with a post-breeding expansion toward the coast

Breeding

Earliest Confirmation (May 3)—nest building (Code NB)

Latest Confirmation (August 21)—attending young (Code AY)

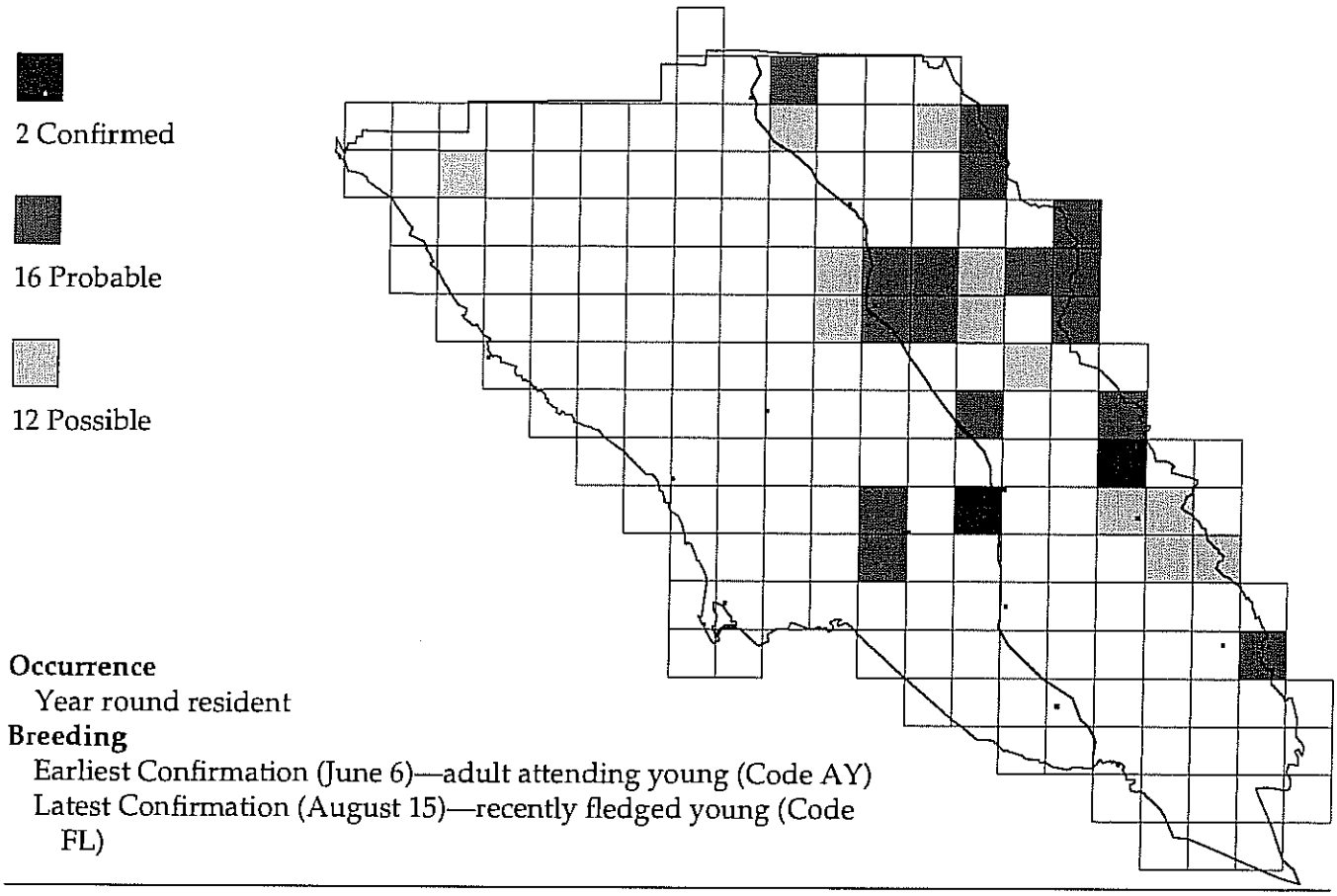
"What is that bird that sits outside my bedroom window and sings loudly without stopping all night?" "There's this gray and white bird that sits on the utility pole by my house, and it jumps/flies/hops straight up in the air, and sings all different songs for hours on end. What is it?" Such questions are fielded regularly in spring and summer on the Audubon phone line. The answer is the Mockingbird. His amazing antics are simply ways of advertising and defending his breeding territory. An adult Mockingbird attending young on May 7th in Atlas records indicates breeding activity in late April.

This "imitator of many voices," *Mimus polyglottos*, has followed the urbanization and agricultural expansion in California. This spread of breeding range has been studied thoroughly for many years (Grinnell 1911; Arnold 1935, 1980).

The Mockingbird, known for its postbreeding wanderings, was first recorded in the county on October 28, 1928, in Petaluma by E.L. Bickford (pers. comm.). The first summer report and possibly the first breeding record for the county was a June 7, 1953 record by the late Gordon Bolander. Previous records by Bolander (continued on page 185)

California Thrasher

Toxostoma redivivum



2 Confirmed

16 Probable

12 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (June 6)—adult attending young (Code AY)

Latest Confirmation (August 15)—recently fledged young (Code FL)

Any discussion of the California Thrasher must include 'brush' and 'thicket'. This secretive chaparral resident, a relative of the mockingbird, is often first detected audibly by its loud 'chuck' call. When glimpsed running along the ground or singing from a bush top it may resemble a large California Towhee with a long curved bill.

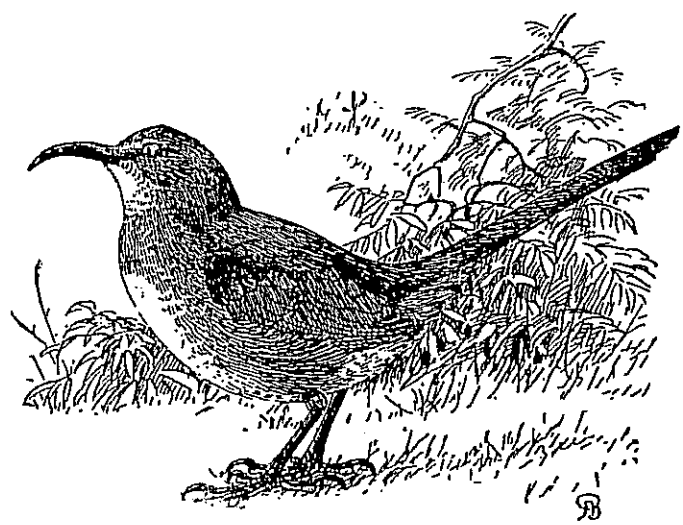
The California Thrasher requires tall, dense brush with continuous canopy cover and openings at the ground (Grinnell & Miller 1944) such as older, mature stands of chaparral. This omnivorous ground-hugger digs, rakes and probes in litter under brush cover, rarely venturing more than a few feet into the open. During the breeding season, food may be mostly animal.

Breeding season lasts from December into August, often with two broods. Parental duties are shared in this apparently monogamous species. The nest, a platform of coarse plant materials, is hidden in dense branches, usually a few feet off the ground (Zeiner et al., 1990).

In Sonoma County the brush habitat needed by this thrasher is found primarily on interior chaparral-covered slopes, especially in the eastern hills. Small populations are in extensive riparian thickets along the Russian River and other streams. It is absent from the coyote brush-dominated scrub on our coast.

Sonoma County's population seems fairly stable, with risks of declines coming from habitat destruction for hillside chaparral vineyard construction and development, which may also increase pressures from feral

(continued on page 185)



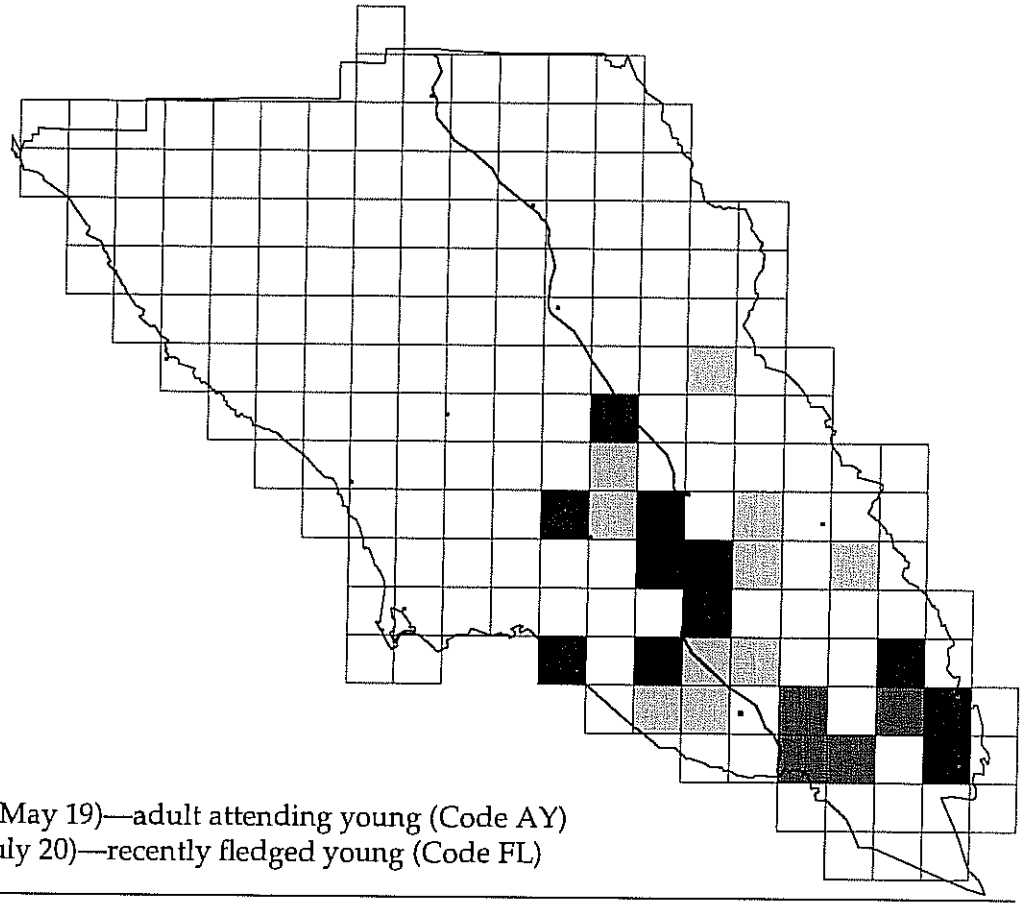
Loggerhead Shrike

Lanius ludovicianus

11 Confirmed

4 Probable

10 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 19)—adult attending young (Code AY)

Latest Confirmation (July 20)—recently fledged young (Code FL)

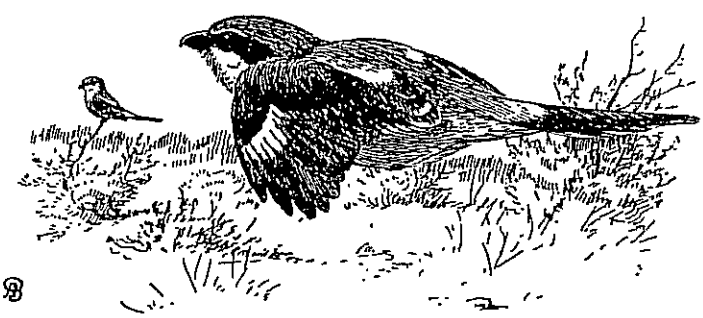
A small bird drops off a fence, maintains a low, even flight across a pasture, then rises abruptly to land on another low perch. The Loggerhead Shrike is a regular inhabitant of Sonoma County's open areas: pastures, open fields, and widely-spaced oak woodlands. Much has been said about this small predator's trait of impaling large insects and even small vertebrates on thorns and barbed wire. Although it is often assumed this is done for storage, most impaling is performed just prior to eating, apparently as compensation for not having large, strong talons to hold the food while the strong head and bill rip the item apart (Shuford 1993).

Habitat requirements include open areas with scattered perches at least two feet high (Zeiner et al., 1990). These perches may be shrubs, trees, tall weeds or fences. The shrike either flies frequently from perch to perch looking for prey, or passively waits at one location. In order to be attractive for nesting, the habitat must include shrubbery or trees dense enough to conceal the platform nest.

Although the Loggerhead Shrike was described as abundant in most of Sonoma County (and somewhat less numerous near the coast) by Grinnell & Wythe in 1927, its current numbers are considerably reduced. Field Trip lists of the Redwood Region Ornithological Society (RROS) from 1962 through 1975, as well as records from Madrone Audubon Society show consistent sightings of this bird up to 1970 from April to July on Ida Clayton Road as well as the Laguna de Santa Rosa, on the coast and at Sears Point. Unfortunately there are no Atlas records of the Loggerhead Shrike on Ida Clayton Road and only one record on the coast, a Possible breeding record at Gualala Point. By 1978 Bolander and Parmeter described this shrike as an uncommon summer resident, becoming fairly common during the winter.

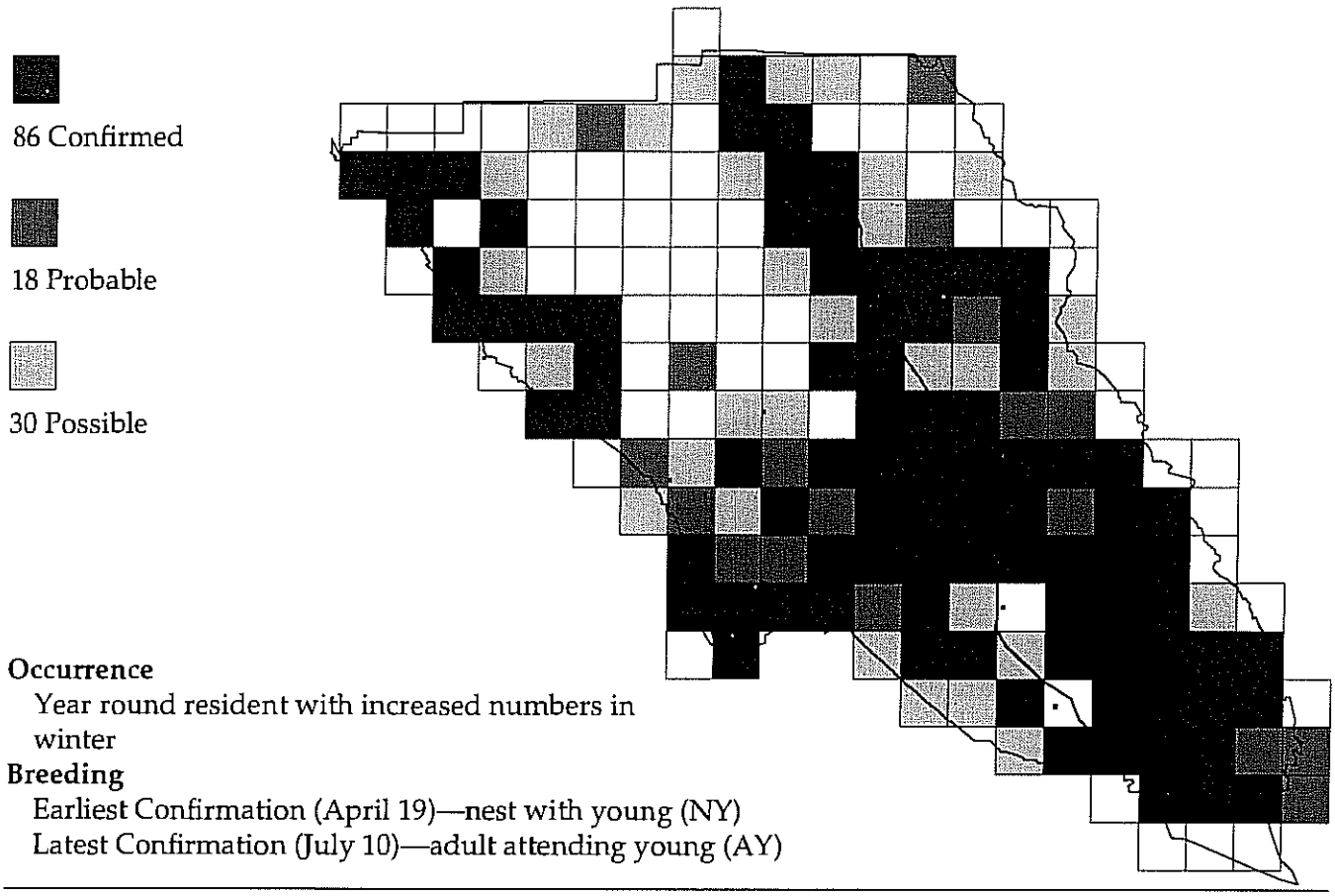
During the Atlas project the shrike was found breeding from Healdsburg south past Petaluma to the edge

(continued on page 185)



European Starling

Sturnus vulgaris



Occurrence

Year round resident with increased numbers in winter

Breeding

Earliest Confirmation (April 19)—nest with young (NY)

Latest Confirmation (July 10)—adult attending young (AY)

The first California sighting of the European Starling was made in January 1942, a flight of 40 individuals near the Oregon border (Jewett 1942). This non-native bird has found our State very suitable since then and now breeds in all of California except the highest mountains.

Our present starling population, which spreads over the entire continent, originated from the release of 100 birds in New York's Central Park in 1890 and 1891, although there were some preliminary release attempts in the East in the mid- to late 1880s (Bent 1950).

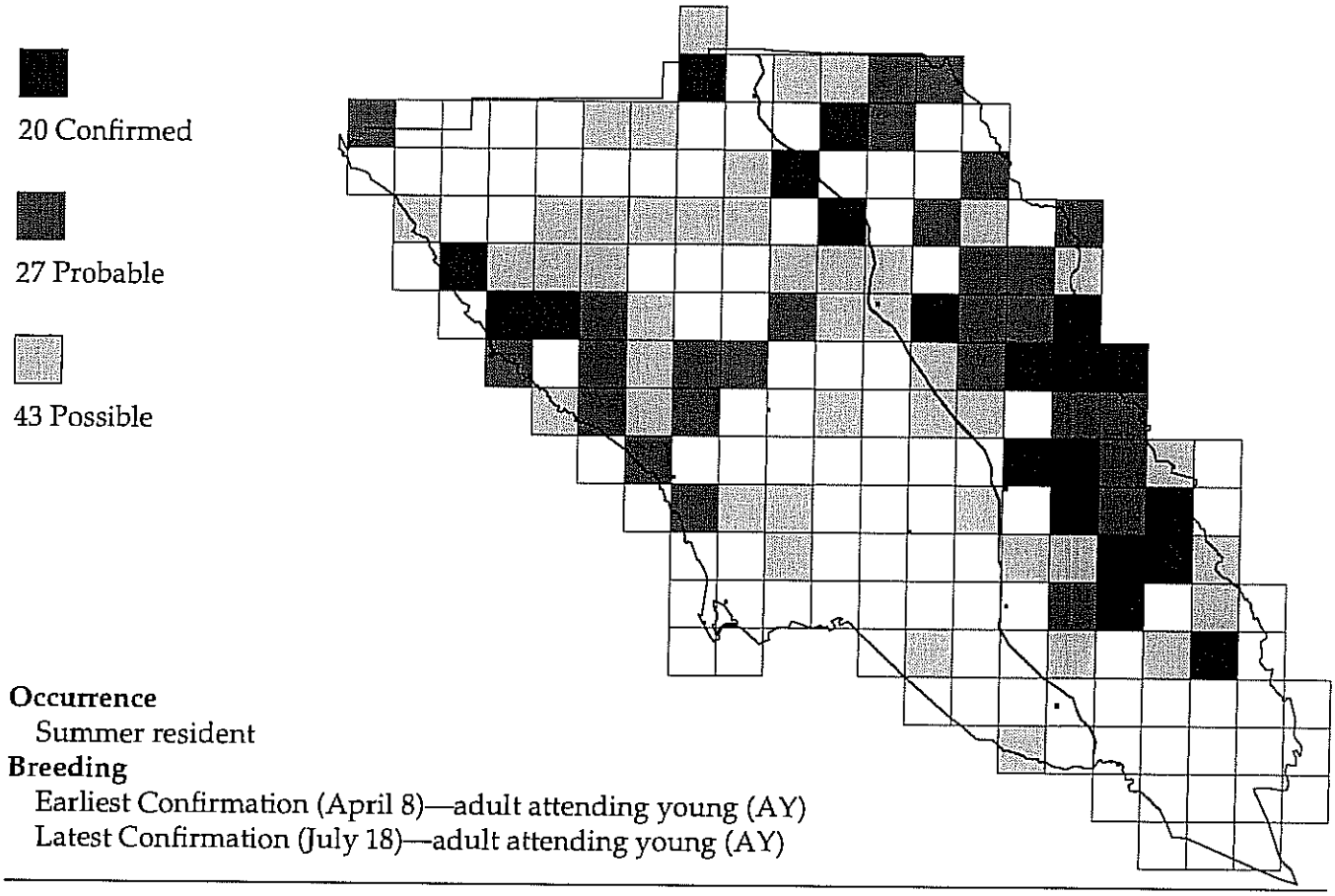
Here in Sonoma County it has become a dominant member of the avifauna of several habitats. The considerable summer population is further augmented in winter. Winter roosts of over one million individuals have been reported in Freestone (Bolander & Parmeter 1978) and near Cloverdale (Stafford 1993 unpubl.). And in the winter of 1994 electrical failures in Bennett Valley were blamed on masses of starlings roosting on power lines causing the lines to sag dramatically. When the birds took off en masse, the lines rebounded, touching each other and causing widespread short-outs, six reported in total (Martin 1994).

The European Starling is most common in urban, cropland, pasture, and orchard-vineyard habitats (Zeiner et al., 1990). Nesting has been confirmed throughout Sonoma County except in the interior of the northwestern section. This gap is possibly at least in part due to decreased observer coverage in that area. The starling is essentially an edge species, preferring to live where two or more habitats interface. Trees or buildings are usually required for nesting and roosting; open habitat is essential for foraging. It is omnivorous, but the winter diet favors plant matter, whereas summer birds feed mostly on insects. Nests are placed in almost any cavity with an entrance diameter greater than 1.5 inches (Zeiner et al., 1990). Besides tree cavities, holes and cracks in buildings or even in the ground are used.

–L. Stafford

Solitary Vireo

Vireo solitarius



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 8)—adult attending young (AY)

Latest Confirmation (July 18)—adult attending young (AY)

The Solitary Vireo, with its characteristic rising then falling "question-answer" song, is one of Sonoma County's regularly encountered insect-gleaning woodland breeders. It frequents several forest-type habitats, concentrating its foraging in the lower canopy and understory. Its well-shaded cup nest is suspended by the rim from a forked horizontal branch (Grinnell & Miller 1944).

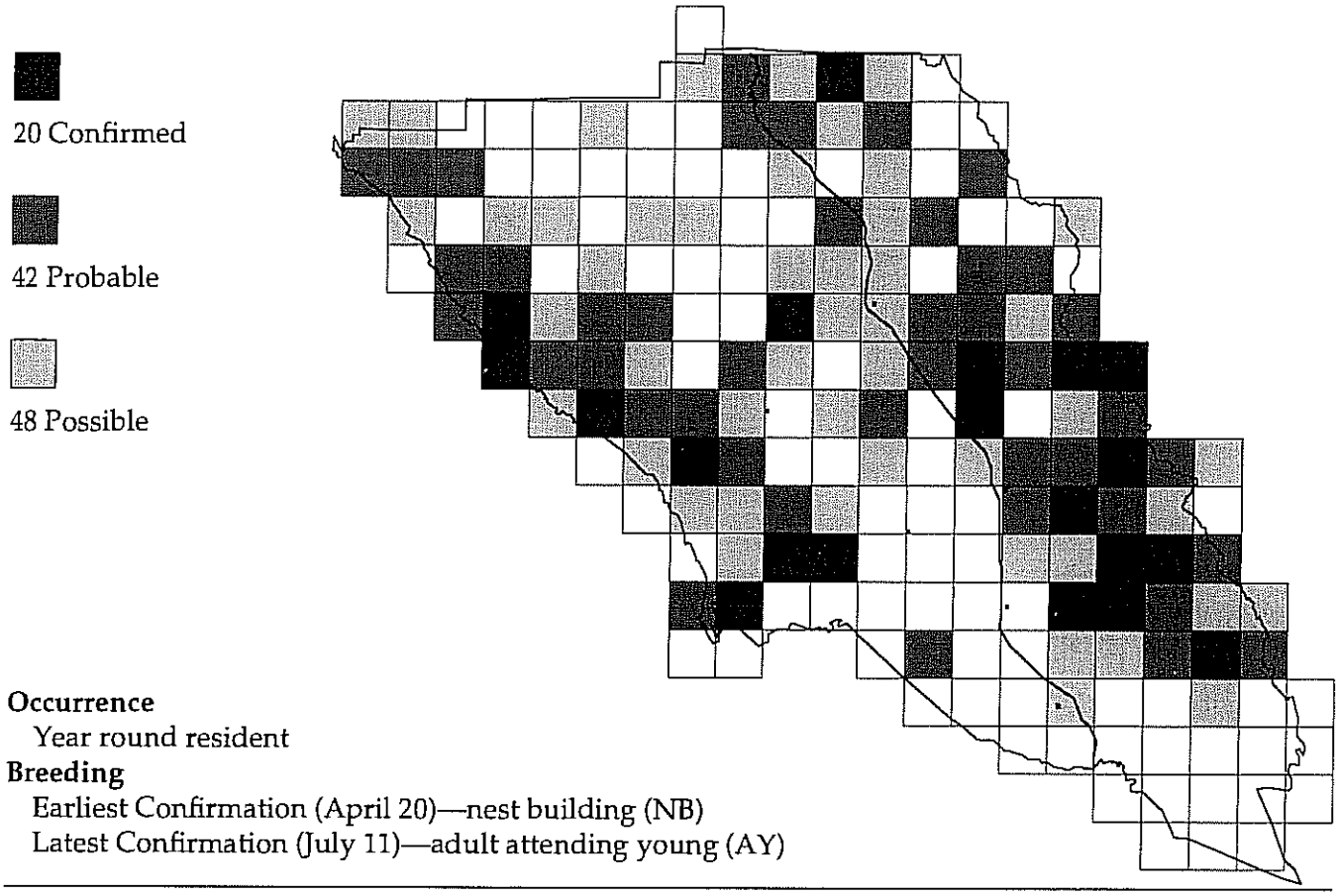
This vireo is distributed throughout the county wherever there is suitable woodland habitat. As expected, it is absent from the county's treeless parts: the Sonoma-Marin borderlands, the edge of San Pablo Bay, and Santa Rosa Plain. Nesting has not been verified for the triangle between Healdsburg, Sebastopol, and Guerneville, but should be expected in woods in this region.

The three nesting vireos found in Sonoma County have overlapping but somewhat differing woodland habitat requirements. Hutton's Vireo prefers (requires?) live oaks to be present; it is found in riparian forests, but only if evergreen trees occur there. The Warbling Vireo is partial to deciduous trees; it is the most abundant vireo in cottonwood-willow riparian forests. The Solitary Vireo seems to be more of a habitat generalist than the others, although it does show a preference for mixed oak-conifer stands (Grinnell & Miller 1944, Bolander & Parmeter 1978, Stafford unpubl., Zeiner et al., 1990). There are many locations in Sonoma County where all three vireos can be heard and seen during the summer.

–L. Stafford

Hutton's Vireo

Vireo huttoni



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 20)—nest building (NB)

Latest Confirmation (July 11)—adult attending young (AY)

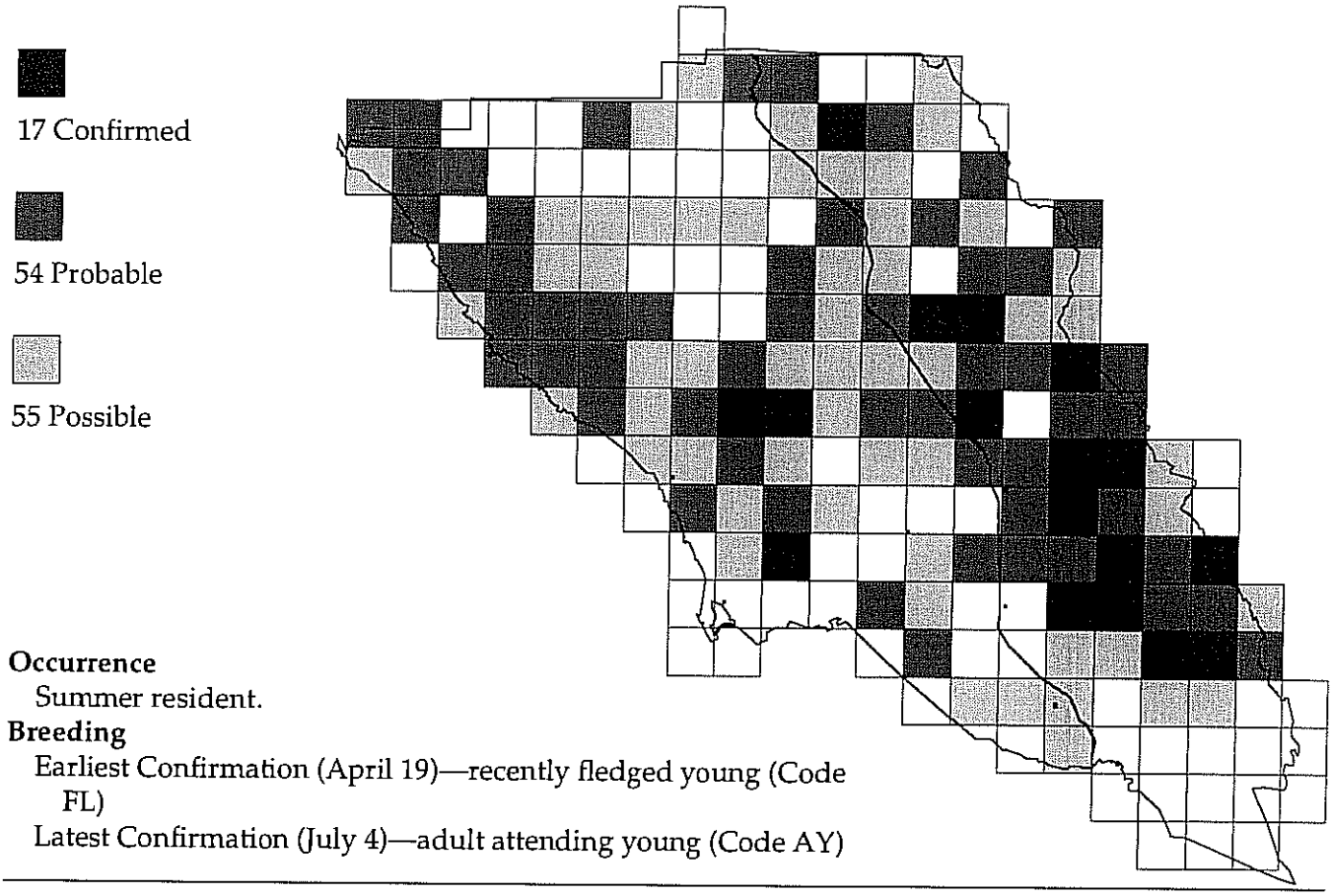
A persistently uttered, nasal ch-weet song and brief glimpses of a small olive-green body moving deliberately through live oak foliage betray the presence of the Hutton's Vireo. This often-overlooked insect gleaner is one half of a well-known identification problem that includes the very similar appearing Ruby-crowned Kinglet. Fortunately for the casual observer, of the two, only the vireo is present in Sonoma County during the breeding season.

The Hutton's Vireo is closely associated with live oak woodlands throughout the year. In and under the protective crown of evergreen oaks this species attends to its full cycle of activities (Grinnell & Miller 1944), although it also uses mixed deciduous forest and Douglas fir in Sonoma County (B. D. Parmeter pers. comm.). The cup nest, in vireo fashion, is suspended by its rim from forks of a twig. Van Fleet (1919) reported 100 breeding pairs per acre in suitable habitat in Sonoma County. There may be some movement after breeding season into non-live oak woodlands, such as adjacent riparian corridors (L. Stafford unpubl.).

Breeding has been reported from most parts of Sonoma County, including the coast. Most dense populations are in oak and mixed evergreen woods on hill slopes, and along coast live oak-lined streams. This vireo is apparently absent from the treeless Sonoma-Marin borderland and the edges of San Pablo Bay. It also is uncommon between Sebastopol and Cotati, and throughout the Santa Rosa Plain.

–L. Stafford

Warbling Vireo
Vireo gilvus



17 Confirmed

54 Probable

55 Possible

Occurrence

Summer resident.

Breeding

Earliest Confirmation (April 19)—recently fledged young (Code FL)

Latest Confirmation (July 4)—adult attending young (Code AY)

The vociferous Warbling Vireo is a common breeder in Sonoma County's woodlands containing deciduous trees. The often-repeated song of the male, so like the Purple Finch melody, aids the seeker of nests of this species. The nest is to be looked for in deciduous trees or shrubs, mostly below 12 feet. It usually is suspended by the rim of the cup from the fork of a branch (Bent 1950).

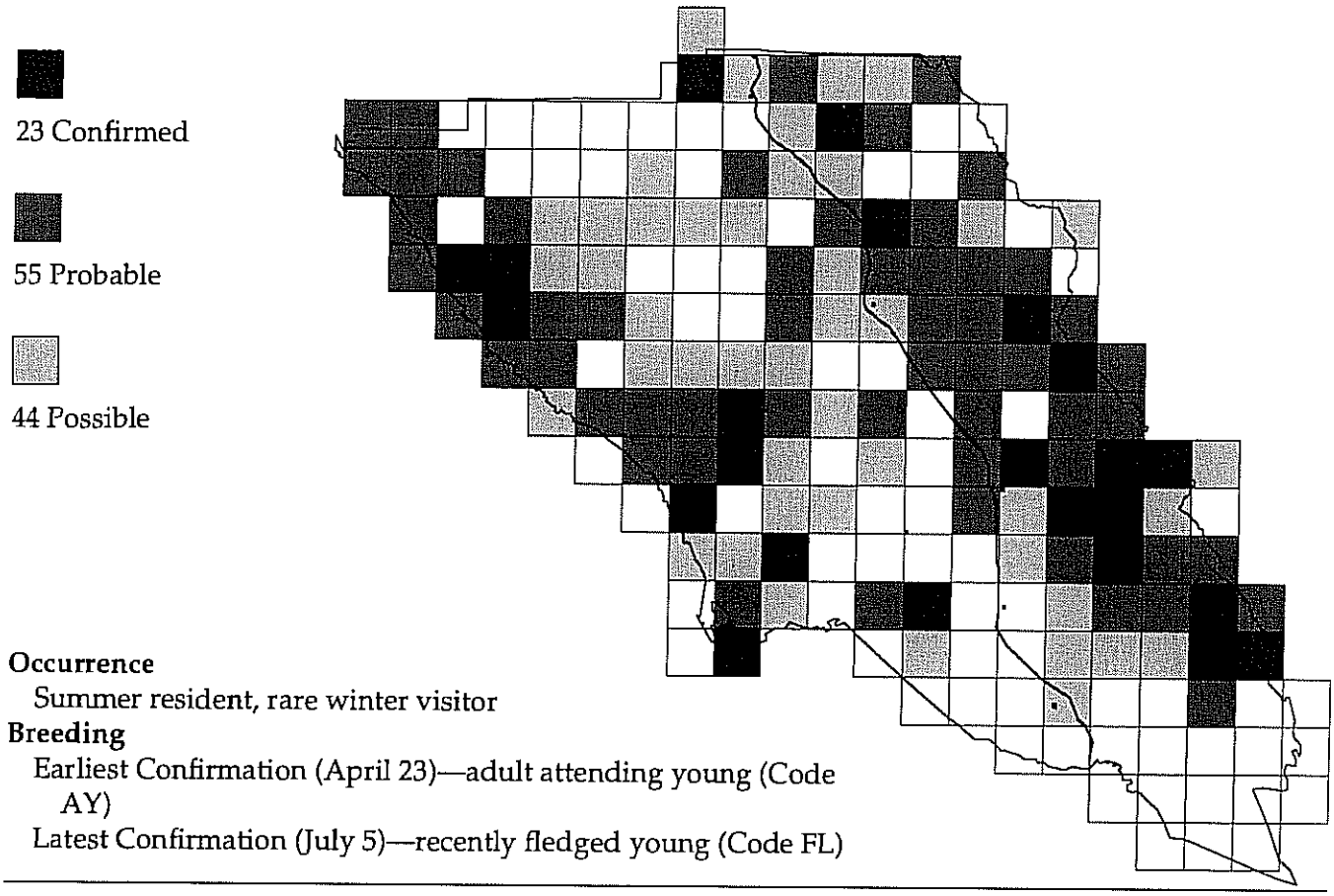
In Sonoma County, this species is found in oak woodlands, broadleaf evergreen forests, and riparian forests (Bolander & Parmeter 1978). It occurs throughout the county with the exception of the treeless stretches along the coast, much of the Sonoma-Marin borderlands and the open areas adjacent to San Pablo Bay.

Warbling Vireo numbers have decreased in recent years in much of California, possibly due to cowbird parasitism and, in drier regions, destruction of riparian habitat (Garrett & Dunn 1981). Although it has been eliminated as a breeder in the Central Valley and is now less common on the southern California coast, this vireo is still very much a part of Sonoma County's woodland breeding bird scene.

–L. Stafford

Orange-crowned Warbler

Vermivora celata



23 Confirmed

55 Probable

44 Possible

Occurrence

Summer resident, rare winter visitor

Breeding

Earliest Confirmation (April 23)—adult attending young (Code AY)

Latest Confirmation (July 5)—recently fledged young (Code FL)

The Orange-crowned Warbler is the commonest, most widely-distributed breeding warbler of Sonoma County. Its lazy, descending trill emanates from brushier woodlands as early as March, before most other nesting warblers return from their wintering grounds. It breeds in most oak woodlands, coastal scrub, riparian thickets and generally scrubby areas throughout Sonoma County.

Somewhat shy, this drab member of the greenish race (*V. c. lutescens*) which nests here is one of our most nondescript songbirds. Like others of the genus *Vermivora*, Lucy's Warbler being the exception, the Orange-crowned Warbler generally nests on the ground in a lined depression beneath vegetation to conceal the nest from above. Thus a moderately dense ground cover is a vital component of suitable breeding habitat.

The Orange-crowned Warbler forages by gleaning insects from leaves, often leaning, stretching and twisting the body to reach its fine bill into leaf clusters, flowers and buds. Occasionally it will hover-glean to pick prey items from the undersides of leaves or flower surfaces.

During the Atlas project, the Orange-crowned Warbler was widely distributed as a Confirmed or Probable breeder in Sonoma County. Confirming breeding is difficult due to this species' shy behavior and great skill in hiding the nest. The Orange-crowned Warbler is generally absent from the brushless fields and oak savannahs of interior valleys, grassy, treeless areas in the southern county and any older, mature forest lacking a brushy understory.

–D. Nelson

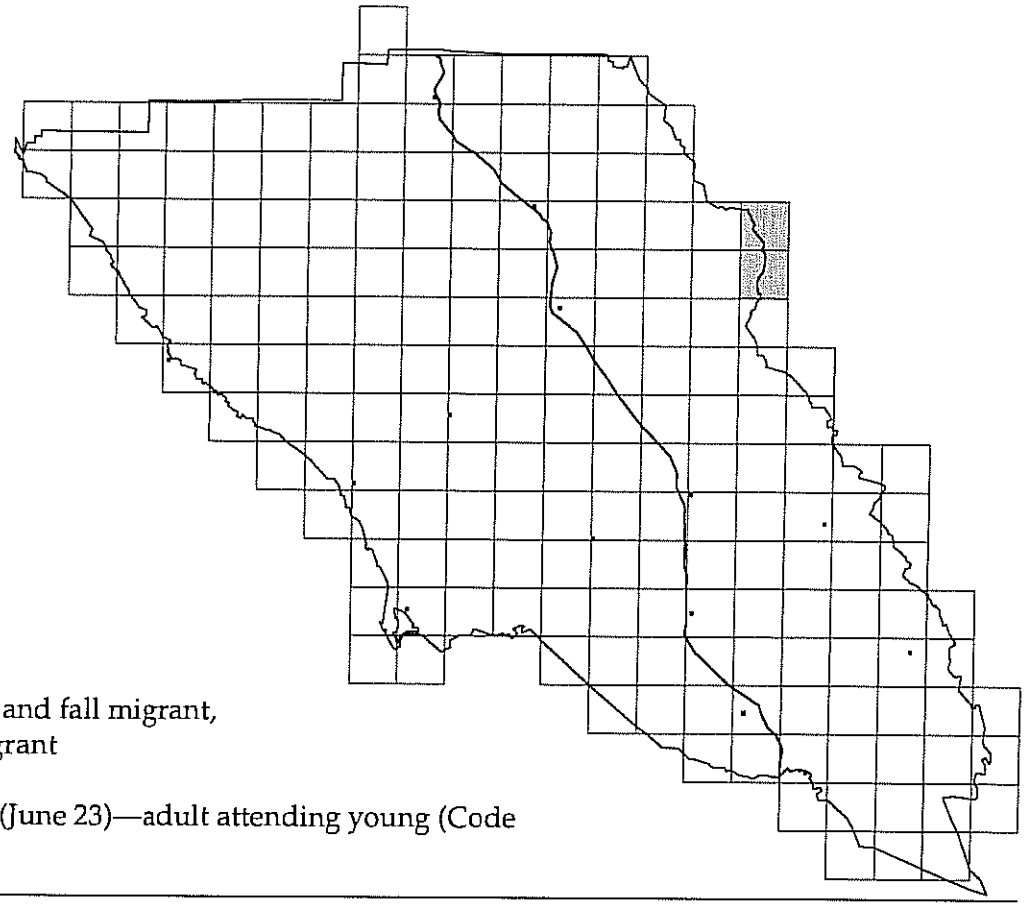
Nashville Warbler

Vermivora ruficapilla

0 Confirmed

0 Probable

2 Possible



Occurrence

Rare summer resident and fall migrant, uncommon spring migrant

Breeding

One nesting date only (June 23)—adult attending young (Code AY)

Look twice. The Nashville Warbler bears at least a superficial resemblance to the celata (Alaskan, gray-headed) race of the Orange-crowned Warbler.

No Confirmed breeding records existed for this warbler in Sonoma County through the entire Atlas period. The closest verified nesting was on Mount Sanhedrin to the north in Mendocino County. However, there were consistent records of sightings from May and June on Ida Clayton Road, on seven out of nine field trips by Redwood Region Ornithological Society between 1962 and 1973. Additional records exist on Ida Clayton Road (Ellis 1980, 1981).

The only two Atlas records were single birds singing during May and June on Mount St. Helena and Ida Clayton Road which have similar habitats. This bird evaded all efforts by atlasers to prove nesting.

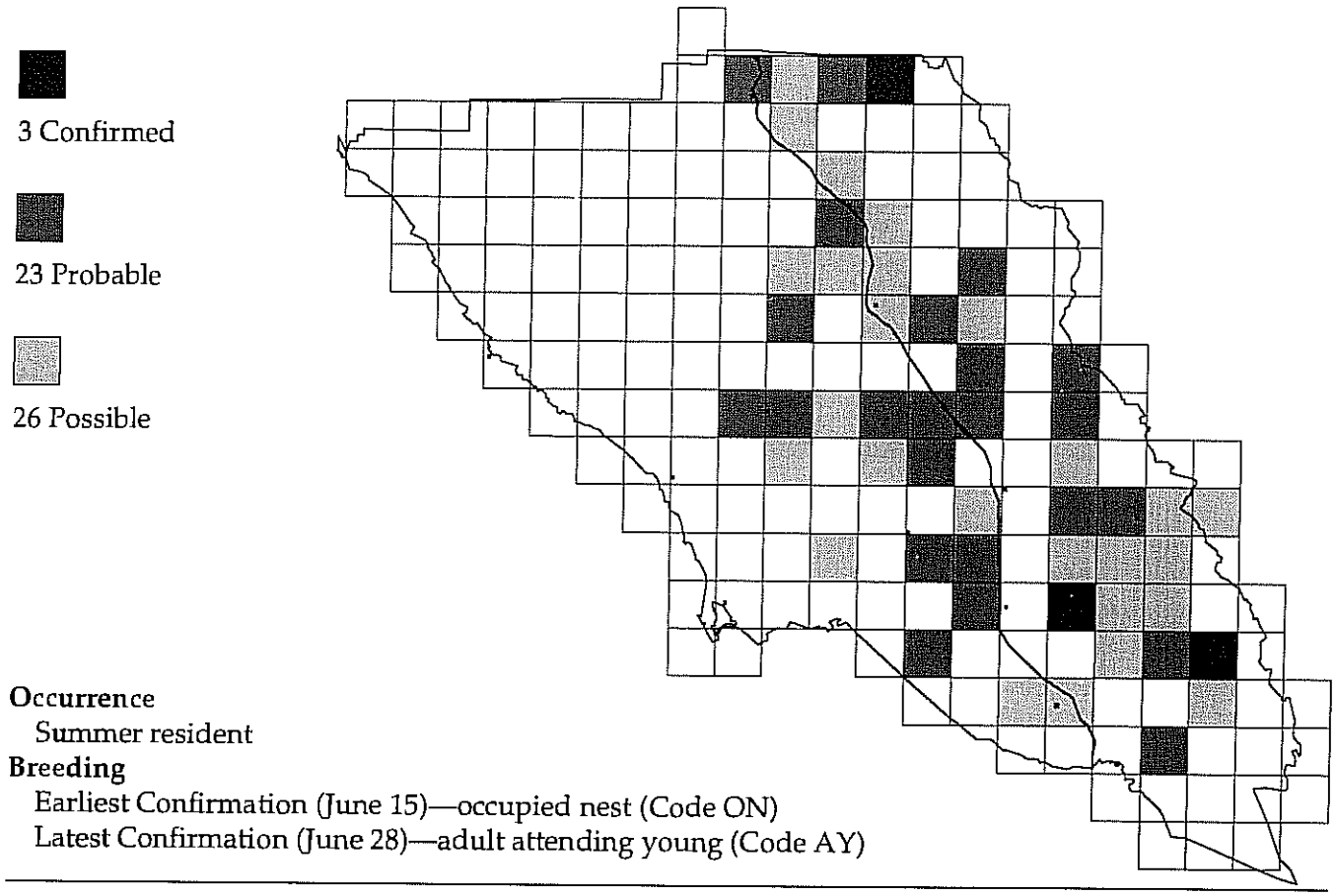
However, on June 23, 1993, on Pine Flat Road, two newly-fledged juveniles were discovered being fed by an adult on the forest floor near Little Sulphur Creek at an elevation of about 2000 feet (Leslie & Cindy Lieurence, Suzanne Cogan pers. comm.). This was a first Sonoma County breeding record.

The Nashville Warbler usually nests only in moderately open forest, such as black oaks and maples, which permit undergrowth of scattered chaparral or bushes, like ceanothus, at elevations of 2000 to 8000 feet (Grinnell & Miller 1944).

–B. Burridge

Yellow Warbler

Dendroica petechia



3 Confirmed

23 Probable

26 Possible

Occurrence

Summer resident

Breeding

Earliest Confirmation (June 15)—occupied nest (Code ON)

Latest Confirmation (June 28)—adult attending young (Code AY)

This bright yellow riparian woodland warbler breeds locally throughout much of Sonoma County. It is most common along stream courses with well-developed deciduous tree canopy cover, especially that of willows, alders, and cottonwoods. It is also found nesting in some landscape plantings of deciduous trees in urban parks. The Yellow Warbler is particularly common in riparian groves along the Russian River and the larger wooded streams of the county, such as Sonoma, Santa Rosa, and Mark West Creeks. It may be absent in riparian habitat close to the coast, such as lower Willow Creek. It breeds only uncommonly in the dry eastern hills, and apparently is not found along the edge of San Pablo Bay and in the Sonoma-Marin border grasslands. This warbler has not been reported nesting in northeastern Sonoma County, but is to be looked for in the Gualala river drainage.

During the breeding season, the Yellow Warbler feeds on insects by gleaning and hovering in the upper canopy of well-developed riparian deciduous trees. The open cup nest is placed close to the trunk or in saplings or brush (Zeiner et al., 1990).

Its numbers are declining drastically in many lowland areas, particularly in southern California and the Central Valley. The good news is that it is still relatively common in Sonoma County and much of northern California. Cowbird parasitism has been blamed for much of the decline (Bent 1953, Garrett and Dunn 1981, Remsen 1978). Degradation of mature riparian woodlands undoubtedly is a contributing factor.

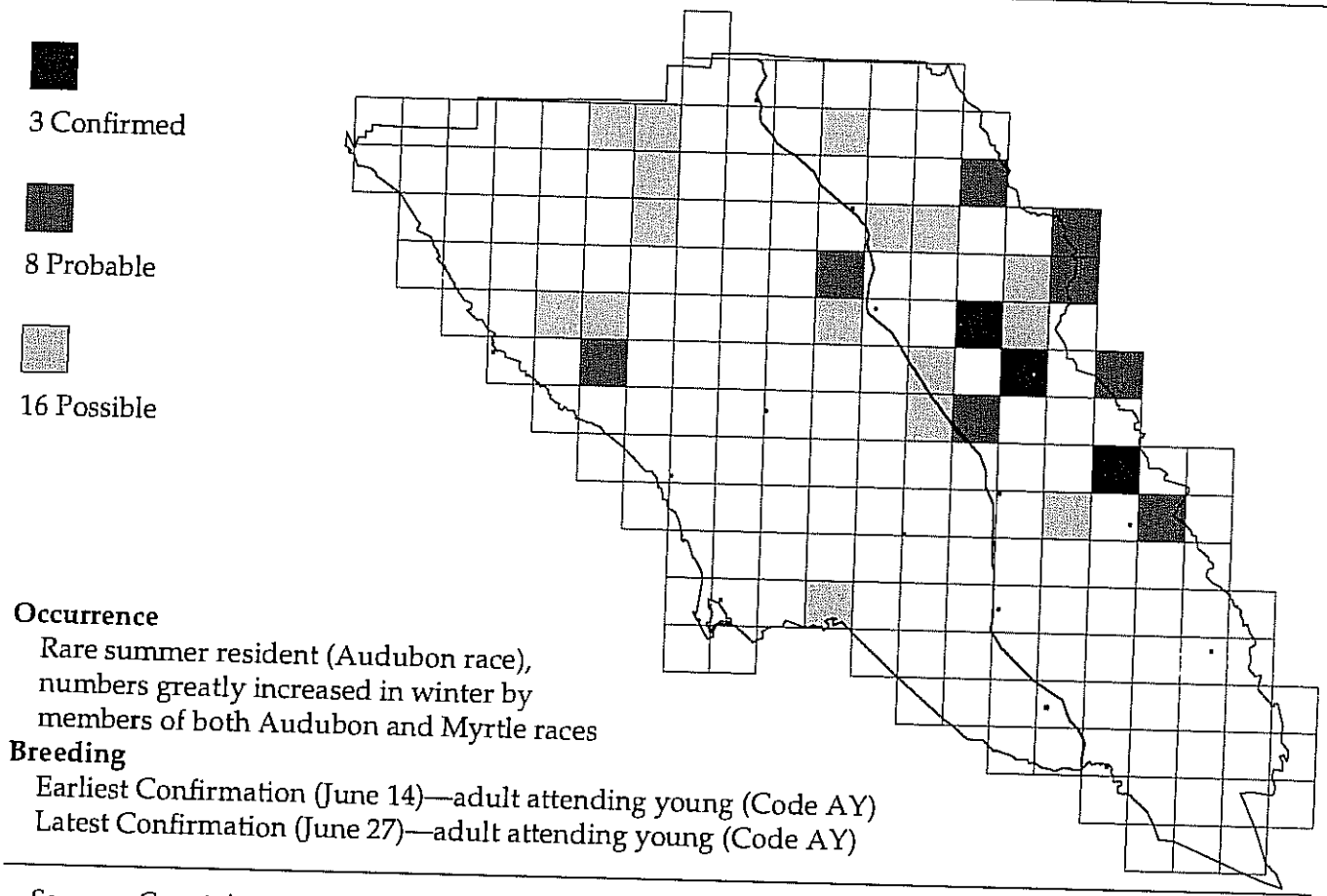
Several pairs are nesting in the planted alders on the campus of Sonoma State University (pers. obs.). The University recently altered future landscaping plans in order to augment Yellow Warbler habitat. Existing alder groves will be preserved, and other groves are being planted along Copeland Creek. Environmental Studies classes are assisting in the project, and the Biology department is monitoring this population.

The Yellow Warbler is a neotropical migrant with wintering grounds mainly south of the U. S.-Mexican border. The race present in Sonoma County, *Dendroica petechia brewsteri*, is listed by the California Department of Fish and Game as a Species of Special Concern (CDFG 1994).

–L. Stafford

Yellow-rumped Warbler

Dendroica coronata



Occurrence

Rare summer resident (Audubon race), numbers greatly increased in winter by members of both Audubon and Myrtle races

Breeding

Earliest Confirmation (June 14)—adult attending young (Code AY)
Latest Confirmation (June 27)—adult attending young (Code AY)

Sonoma County's most common winter resident warbler, affectionately dubbed the 'butter butt' by the late Gordon Bolander, is also one of Sonoma County's rarest breeding birds. Its first Sonoma County Confirmation was at Pepperwood Ranch in the dry interior hills of Sonoma County at about 1000 feet elevation. On June 14, 1987 both parents repeatedly carried food from a field to a probable nest site in a group of blue oaks. Thirteen days later (June 23rd) a juvenile Yellow-rumped Warbler, still "not yet fully feathered and sporting a few downy feathers around its head", was being fed nearby by the adult male. Both parents were of the yellow-throated 'Audubon's' race (J. Duerr, S. Schafer pers. comm.). Other Atlas records include Confirmations of adults attending young on Hood Mountain (June 27, 1989) and again at Pepperwood Ranch (June 15, 1987); a Probable breeding record of a pair of birds (May 20, 1990 or later) was near Seaview (north of the Russian River and about 3 miles inland from the coast).

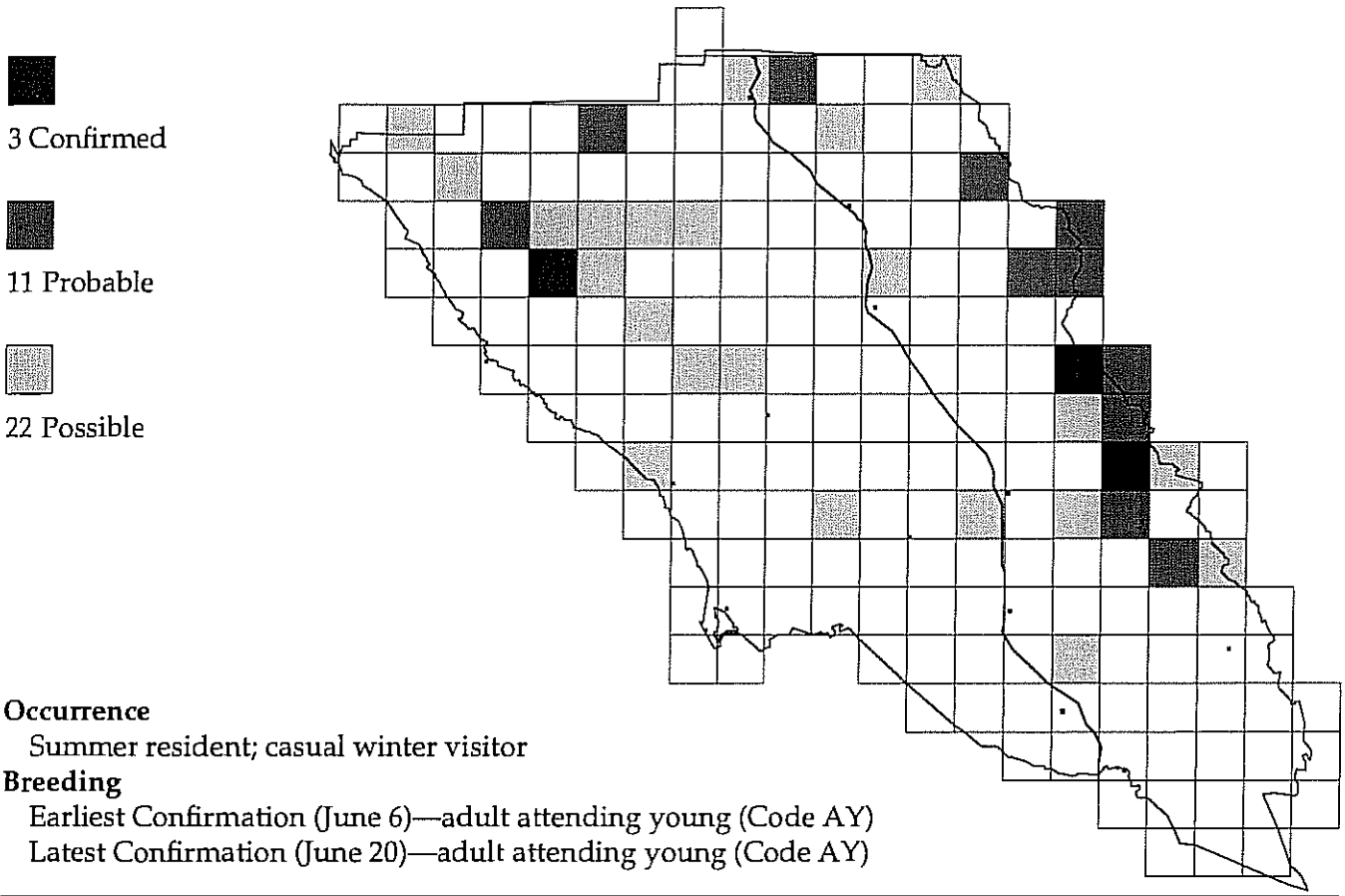
Historically, Grinnell and Wythe (1927) cited a report from J. Mailliard in the Condor (1908) of Yellow-rumped Warblers "seen among the Douglas spruces (sic.) near Fort Ross, Sonoma County, on May 11, when the birds' actions led the observer to think it likely that they were about to nest there." Grinnell and Miller (1944) described this bird's California summer distribution as principally in the mountains and south in the coast ranges to Sonoma and Napa Counties, at elevations from 500 feet to 11,000 feet. Bolander and Parmeter (1978) suggested that it might breed on Mount St. Helena and in the northwestern portion of the county. And McCaskie et al., in Birds of Northern California (1979), listed it as breeding locally in coastal Northern California, mainly in the northern part of that district.

Preferred nesting habitat for the Yellow-rumped Warbler is coniferous forests; rarely, nesting may occur in broadleafed trees in meadows and orchards (Grinnell & Miller 1944).

–B. Burridge

Black-throated Gray Warbler

Dendroica nigrescens



Occurrence

Summer resident; casual winter visitor

Breeding

Earliest Confirmation (June 6)—adult attending young (Code AY)

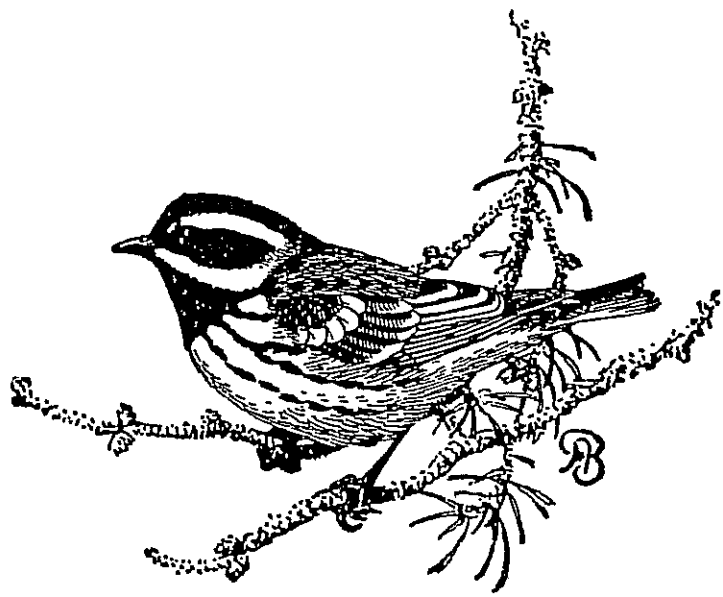
Latest Confirmation (June 20)—adult attending young (Code AY)

The strikingly plumaged Black-throated Gray Warbler is a fairly common summer resident of Sonoma County's oak woodlands. It occurs in a variety of oak species in association with other hardwoods or conifers and prefers sunny, dry areas with a low percentage canopy closure. Most commonly used are black oak-madrone woodlands, interior live oak-chaparral associations, and black oak-Douglas fir forests, which have a few yellow and sugar pines mixed in along the eastern edge of the county. With a dry, wheezy warble, the Black-throated Gray Warbler stakes claim to his arid domain and will continue singing through warm afternoons when most other songbirds retire from the heat.

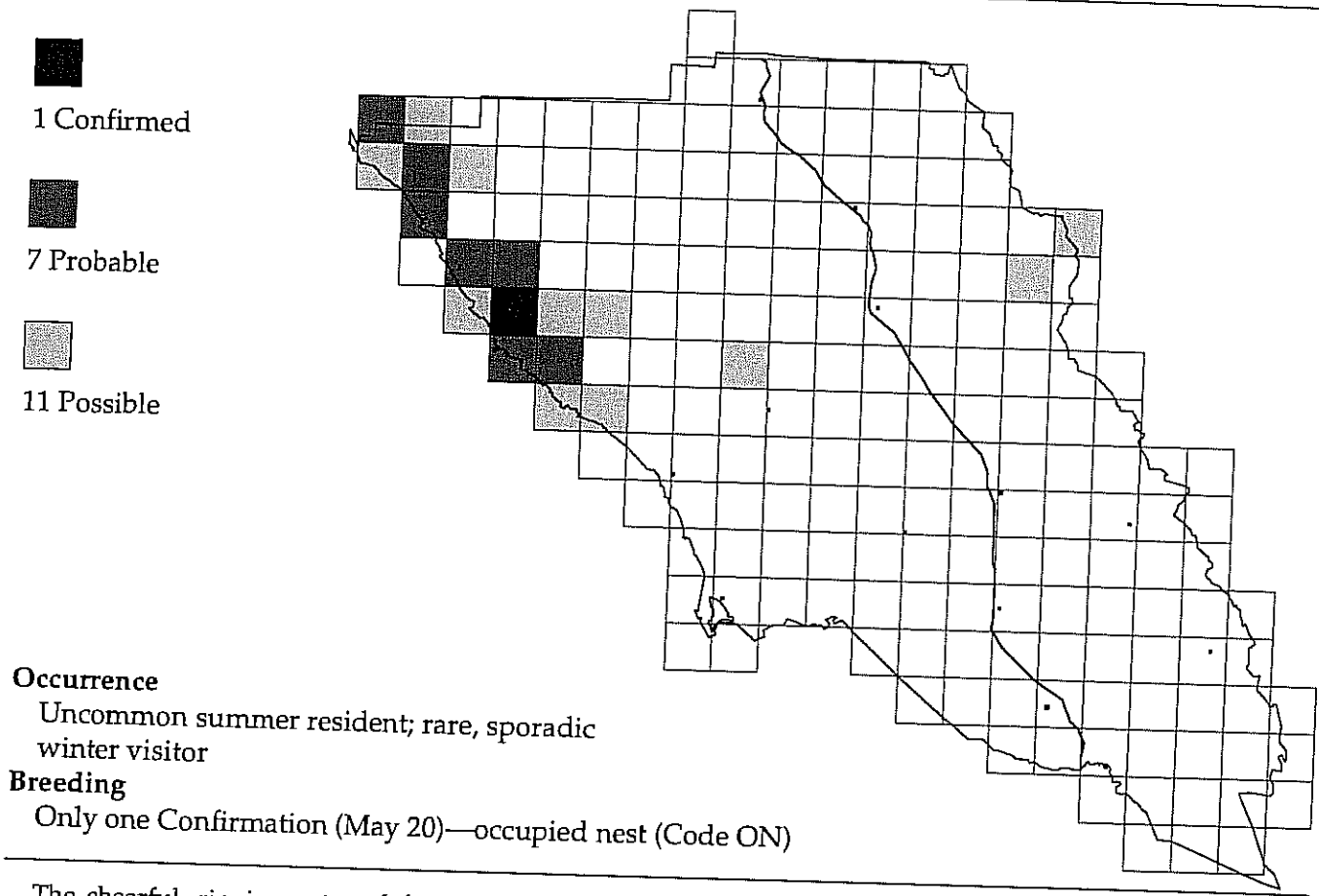
The Black-throated Gray is primarily an insect gleaner, aggressively probing its bill into leaves, needles, or other foliage to search for insect prey. Occasionally it will fly-catch or hover-glean before a leaf cluster, briefly flashing white outer tail feathers edging the dark gray tail.

During the atlasing period, Black-throated Gray Warbler breeding activities were confined to interior portions and upland ridges of Sonoma County, away from the reaches of damp coastal fog and above the moisture of interior "tule" fogs. Often the scrubbiest-looking oak hides the nest while Douglas firs or other taller trees are used for foraging and singing. Relatively small numbers of nests were found compared to the wide display of Black-throated Gray presence, a reminder of the great skill warblers possess in concealing nests.

–D. Nelson



Hermit Warbler
Dendroica occidentalis



Occurrence

Uncommon summer resident; rare, sporadic winter visitor

Breeding

Only one Confirmation (May 20)—occupied nest (Code ON)

The cheerful, ringing notes of the Hermit Warbler cast across coniferous tree-tops add a delightful presence to older forests during the summer months. In spite of the bright gold-helmeted attire, the Hermit Warbler is a very difficult warbler to observe because of its fondness for the upper reaches of the very tallest trees.

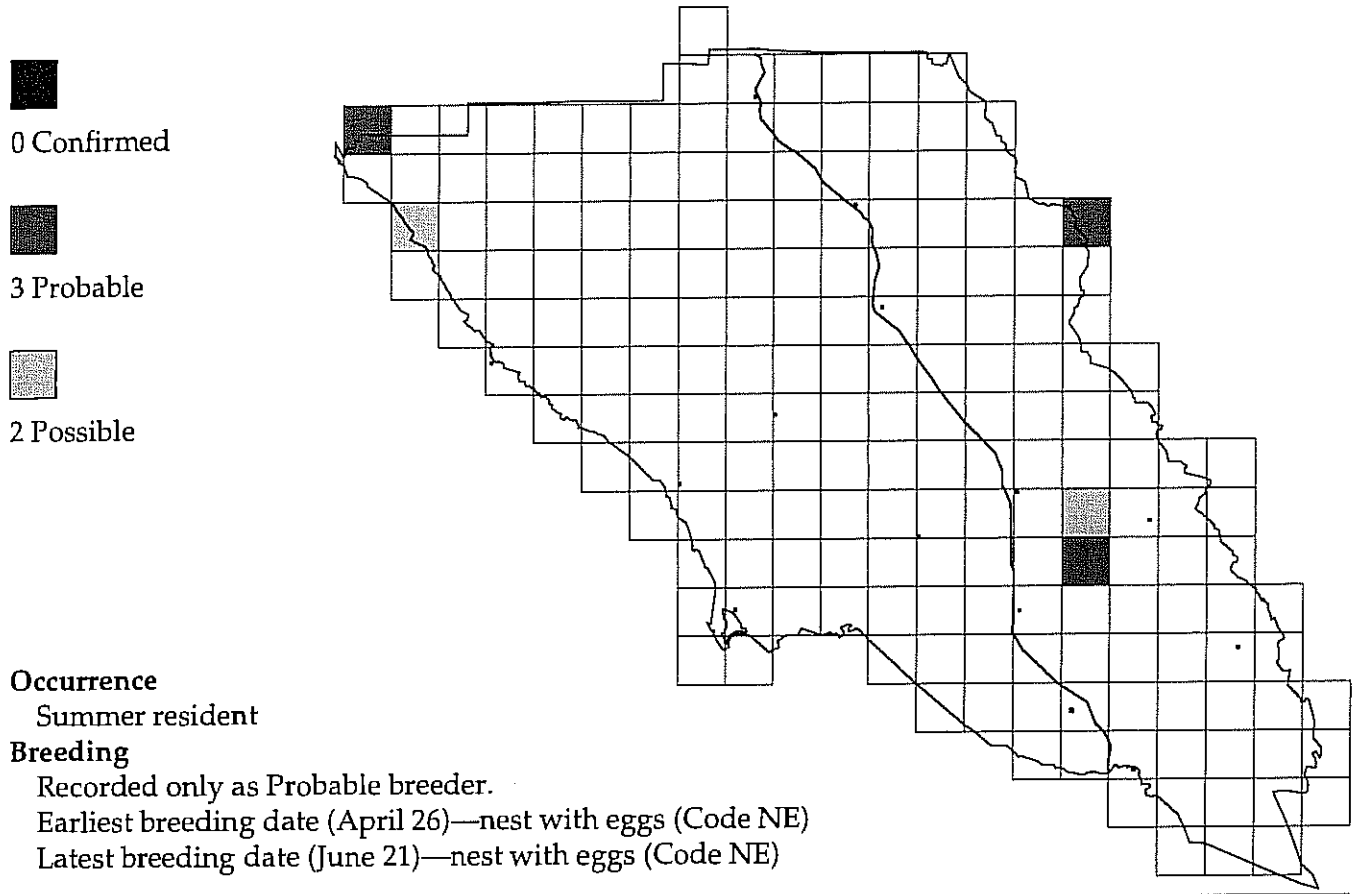
In Sonoma County, it primarily inhabits blended stands of towering Douglas fir, coast redwood and pine. Such forests are usually old-growth or healthy, mature second-growth and provide satisfactory amounts of high, moderately closed canopy. Here this bird searches the foliage and probes needle clusters for insect prey. Occasionally the Hermit Warbler will fly-catch among the high branches, leading the observer's eyes to the right spot. The nest is usually (but not always) high and placed well out on a horizontal branch far from the trunk.

During atlasing field work Hermit Warbler nesting activities were identified in just the northwestern corner of the county where this bird is fairly common in the proper habitat. Recording breeding evidence of this lofty recluse was a painstaking chore during this study even in Blocks where it undoubtedly nests. Each spring a few Hermit Warblers are found along the ridges of eastern Sonoma County in habitats marginally similar to those of the Sierra; however, it appears these individuals pass on through as migrants, without remaining to breed.

–D. Nelson

MacGillivray's Warbler

Oporornis tolmiei



Occurrence

Summer resident

Breeding

Recorded only as Probable breeder.

Earliest breeding date (April 26)—nest with eggs (Code NE)

Latest breeding date (June 21)—nest with eggs (Code NE)

The beautiful MacGillivray's Warbler is a persistent skulker and is quite hard to see even with binoculars. It can frequently be "pished" into view, but remains only a second or two, then dives back into a thicket. Despite efforts to see the bird a second time, it seldom returns for an encore. This warbler's song is fairly strong and, once learned, serves to reliably locate this species when one is in an area of suitable habitat. It prefers dense thickets along mountain streams or nearby hillsides.

This charming bird is becoming very scarce as a breeder in Sonoma County. Grinnell and Wythe (1927) listed the species as a sparse summer resident in the areas of Sonoma and Sebastopol. Records from the Western Foundation of Vertebrate Zoology (Camarillo CA) document 17 egg collections taken from in or near Sonoma, Rincon Valley and Alpine Valley from 1895 to 1923 by H. W. Carriger and Gurnie Wells. Breeding dates for these sets of eggs range from April 28 through June 21 (H. Cogswell pers. comm.). There are no recent breeding records for either Sonoma or Sebastopol in this Atlas.

On field trips during the breeding season to the Franz Valley, Mark West Springs Road, Ida Clayton Road, and the western portion of Skagg's Spring Road this species was noted commonly during the 1960s, the 1970s, and early 1980s. There are no recent records for Franz Valley or the Mark West Springs area. The top of Ida Clayton Road, formerly the most dependable spot to see this bird, has not had a record since 1990.

Locations for Atlas sightings include near the top of Ida Clayton Road on the northwest slope of Mt. St. Helena (April 26, 1986), at Valley Crossing (where the Wheatfield Branch of the Gualala River meets the south Fork of the Gualala River) (June 2, 1991), in the Sonoma Mountains and just east of the town of Gualala (pers. obs.).

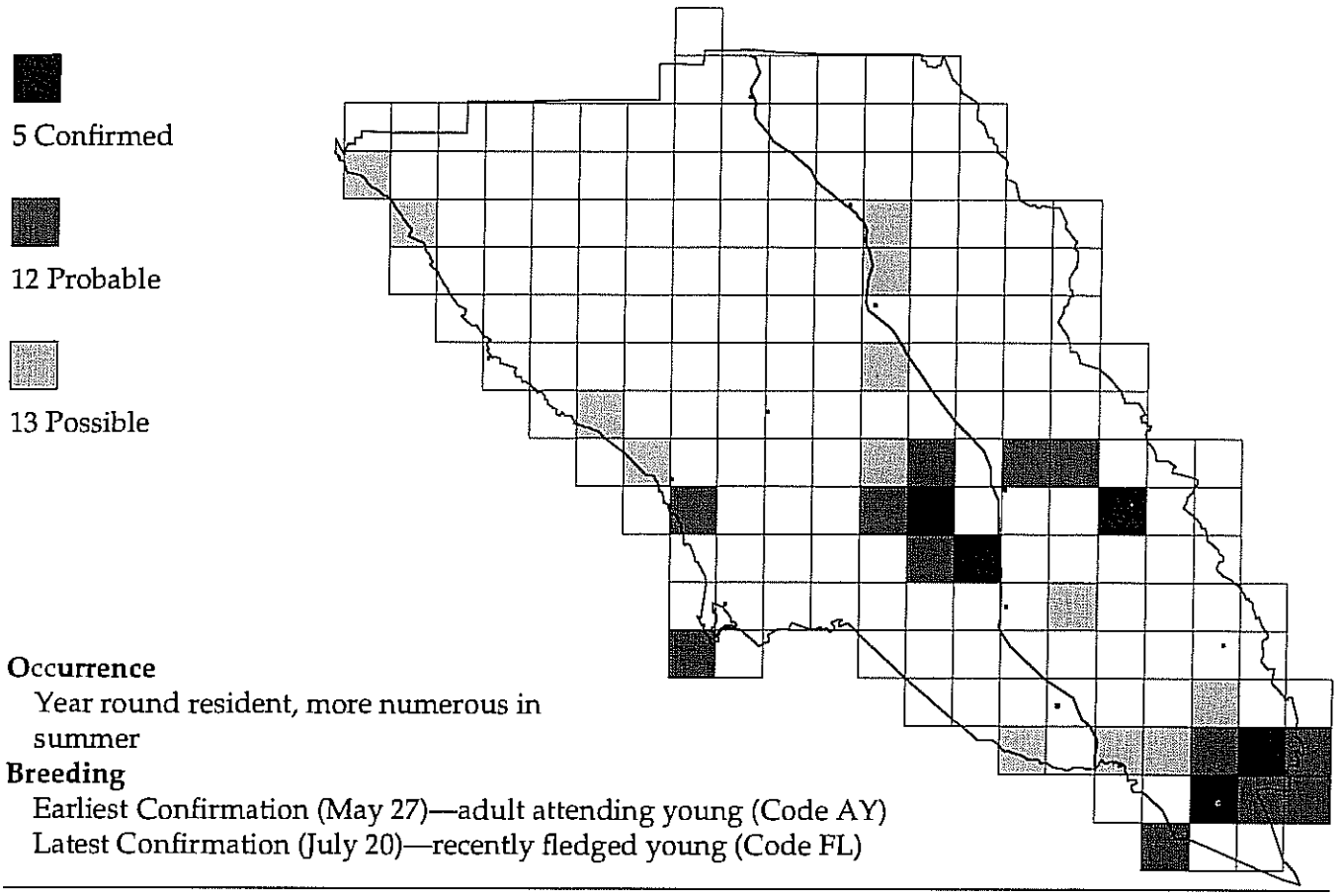
The MacGillivray's Warbler is an uncommon fall migrant along the coast. Inclusive dates are August 18 to November 17 at Bodega Bay. It is rarer inland as a fall migrant but has been recorded at Laguna de Santa Rosa and at Santa Rosa as late as November 23. The latter date is the latest fall record for Sonoma County.

This species sings in migration, as do several other western montane species, and care must be taken in determining that a bird heard singing in April or early May is actually on territory and not a spring migrant which will be leaving the area where heard.

–B. D. Parmeter

Common Yellowthroat

Geothlypis trichas



Occurrence

Year round resident, more numerous in summer

Breeding

Earliest Confirmation (May 27)—adult attending young (Code AY)

Latest Confirmation (July 20)—recently fledged young (Code FL)

Look for this tiny yellow-greenish warbler (the male sports a dashing black mask) foraging for insects low (five to six feet over ground or water) in marshy wetland vegetation (Shuford 1993). Listen for its insistent "tortilla-tortilla-tortilla" call, sometimes translated into "witchity-witchity-witchity" by the more politically correct. Its generic name 'Geothlypis' means ground-hugging.

Of all North American warblers, it is the most widely distributed, occurring in every state, except Hawaii, in every Canadian Province and throughout most of Mexico (Evens 1989).

Two races are present in Sonoma County: *G. t. occidentalis* in northern Sonoma County including Santa Rosa; and *G. t. sinuosa*—the Saltmarsh Yellowthroat—south of Santa Rosa (Grinnell & Miller 1944), especially in the Petaluma River marshes (Helen Pratt pers. comm.). No effort was made to visually identify yellowthroats to race in this Atlas project, although Grinnell & Miller (1944) state that the Saltmarsh Yellowthroat (*G. t. sinuosa*) uses both salt and freshwater marsh habitats in summer, preferring the latter, while saltwater and brackish wetlands are preferred in fall and winter.

In this Atlas breeding records come from the Laguna de Santa Rosa (between Santa Rosa and Petaluma), Spring Lake, the Hole-in-the-Head at Bodega Bay, and the marshes south and east of Petaluma.

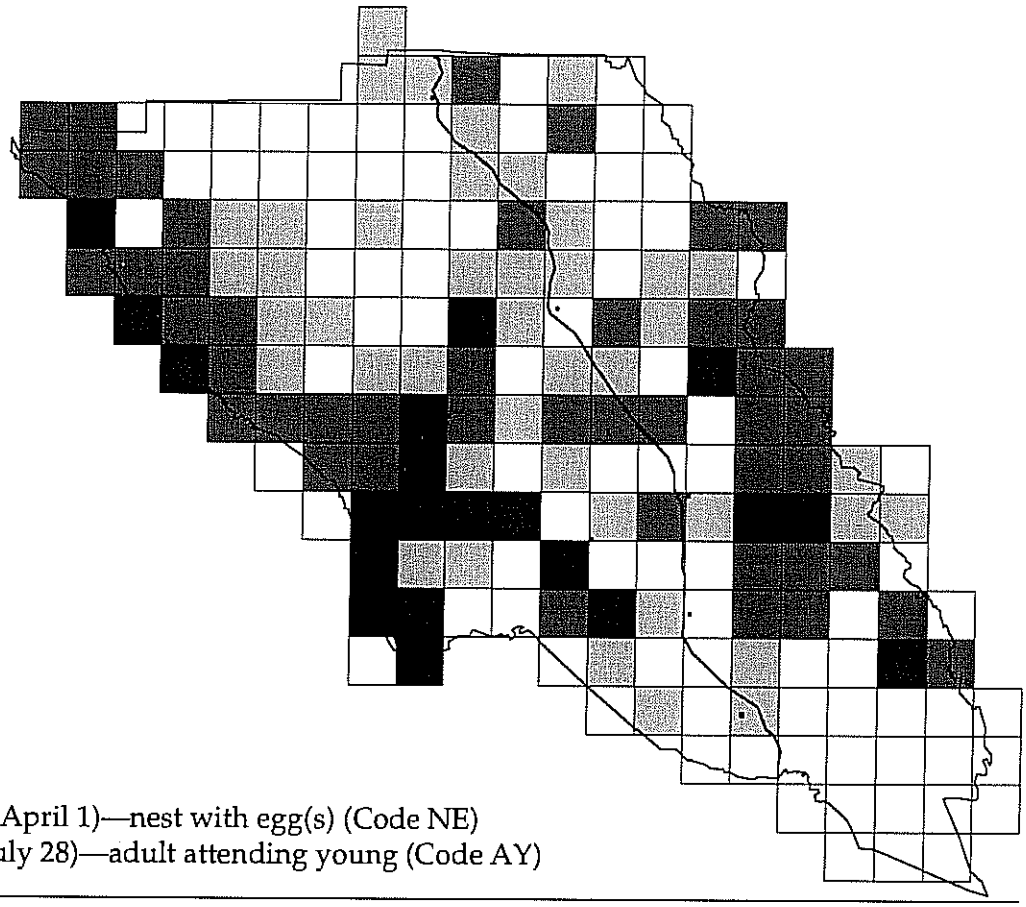
The extent of tidal marshes in the San Francisco Bay ecosystem is estimated to have decreased 60% - 95% over historical levels (Shuford 1993 citing Nichols & Wright 1971, Josselyn 1983). Conflicting statistics exist concerning population declines for the Common Yellowthroat, but it is clear that there has been a decline of major proportions (Shuford 1993). This species is still imperiled by further declines in habitat, including degradation and fragmentation from various sources ranging from land development to flood control management (Shuford 1993).

The Saltmarsh Yellowthroat was on the National Audubon Society's Blue List in 1973 because of concern in Northern California (Shuford 1993 citing Tate). It is currently designated by the California Department of Fish and Game as a Species of Special Concern, and is a Candidate (Category 2) for listing as Threatened or Endangered by the U. S. Fish and Wildlife Service (CDFG 1994).

To quote well-known local biologist Jules Evens (1989), "..emphatic songs of yellowthroats each spring (continued on page 186).

Wilson's Warbler

Wilsonia pusilla



20 Confirmed

46 Probable

42 Possible

Occurrence

Summer resident

Breeding

Earliest Confirmation (April 1)—nest with egg(s) (Code NE)

Latest Confirmation (July 28)—adult attending young (Code AY)

This perky, beady-eyed bright yellow warbler is common in summer in riparian thickets. It is easily separated from other warblers by its distinctive black cap. The nest is placed in willows, alders or similar growth on or near ground level in dense cover. It can be seen gleaning insects from foliage low in the canopy or in understory. Stewart (1973) reported territory size averaging 1.3 acres in a Marin County study. Small thicket-choked gullies as well as larger stream margins are used as habitat.

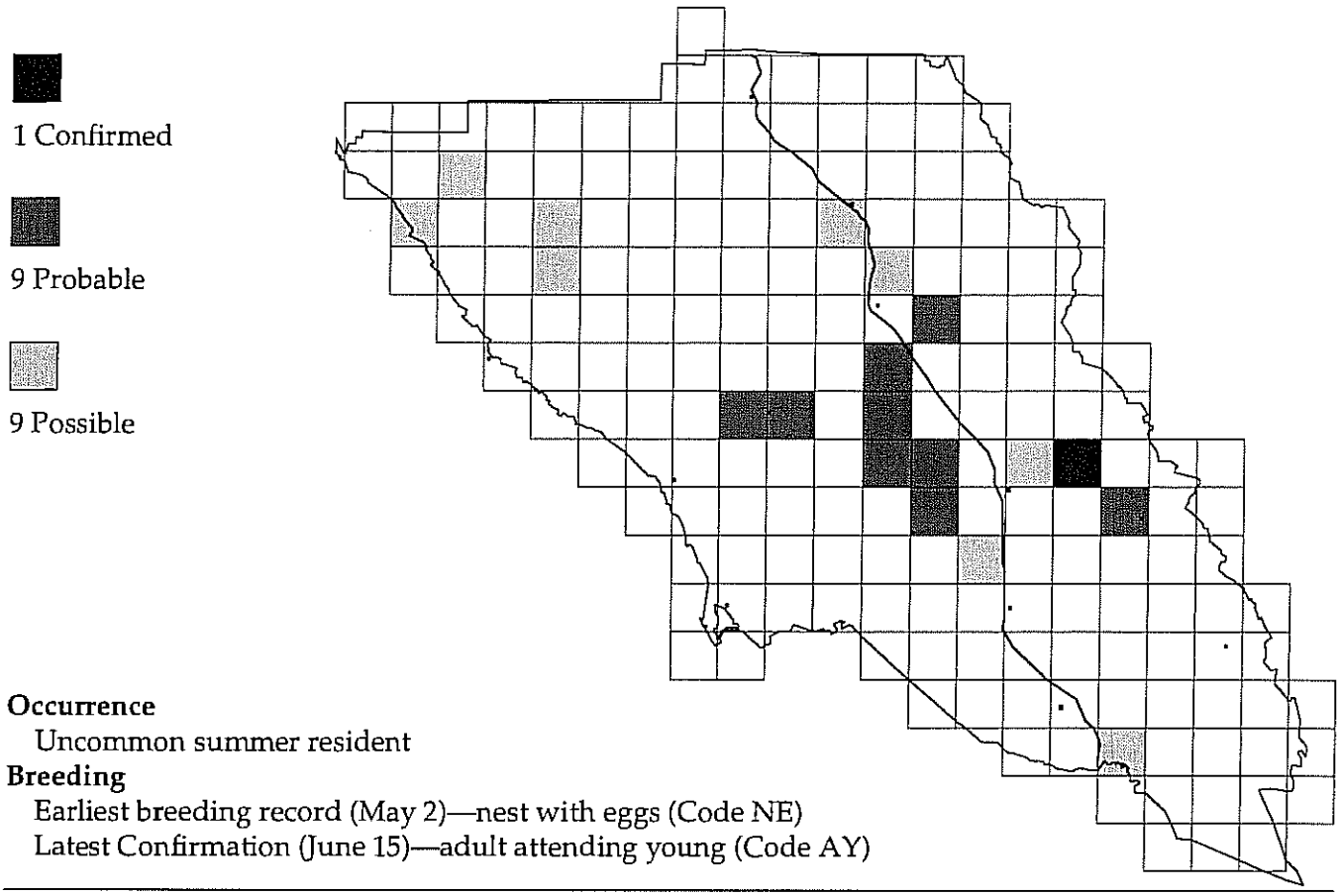
Nesting has been reported throughout Sonoma County in appropriate habitat except the lowlands near Petaluma and San Pablo Bay. Also, it is a sporadic nester on the Santa Rosa Plain and in the drier hills of eastern Sonoma County.

Unlike several riparian specialists, the Wilson's Warbler population appears not to be declining. Possibly this is because its preferred habitat often occurs in early successional stages of streamside growth. Frequent human disturbances increase the proportion of young brushy areas in the riparian zone. However, cattle grazing in streamside willow thickets (a common event locally) reduces the understory and thereby can eliminate the preferred nesting habitat of this species (pers. obs.).

–L. Stafford

Yellow-breasted Chat

Icteria virens



Occurrence

Uncommon summer resident

Breeding

Earliest breeding record (May 2)—nest with eggs (Code NE)

Latest Confirmation (June 15)—adult attending young (Code AY)

The Yellow-breasted Chat is a skulker living in the densest riparian growth along waterways throughout the county. It will occasionally respond to a "pishing" noise and show itself to the observer for a few seconds. He who gets a good look at the intense yellow of the breast in strong light has seen one of nature's most beautiful colors. While being difficult to see, the bird calls loudly both day and night. Thus, its territory can readily be defined. It has a variety of calls that include whistles, rattles and squeaks, all quite unmusical, yet easily heard and recognized. On occasion it will respond to imitations of its calls, and allow itself to be seen. The male may sing from an exposed perch and perhaps even allow the observer to see its remarkable fluttering courtship flight.

It was, perhaps, not unexpected that this species has only one Confirmed breeding record in this Atlas. This chat is extremely secretive at all times but especially so near its nest. Atlas Probable breeding records are based on observations of pairs on apparently established territories.

The only Confirmed Atlas record was on Channel Drive near the Annadel State Park parking lot. The Yellow-breasted Chat has also been found during the breeding season along Santa Rosa Creek as it enters Spring Lake; the Russian River at Guerneville, Rio Nido and Summmerhome Park; Dry Creek, northwest of Healdsburg; the Russian River in Alexander Valley. It has also been noted along the Gualala River at Valley Crossing and along Sonoma Creek. There are records for this species from the Laguna de Santa Rosa, the last on May 15, 1965 (pers. records). Other former locations are Mark West Creek, Austin Creek and, during the 1960s, Duncan's Mills and Penny Island near the mouth of the Russian River for a few years in the nesting season (pers. obs.). About the same time it was a regular summer resident on Santa Rosa Creek near the Talbot Avenue Bridge (Ernie Smith pers. comm.).

Records from the Western Foundation of Vertebrate Zoology (Camarillo CA) document eight sets of eggs collected at or near Sonoma between 1897 and 1920 by H. W. Carriger, and one set of eggs collected from Rincon Valley on May 22, 1921 for Gurnie Wells (H. Cogswell pers. comm.). Dates for these collections range from May 2 to May 31.

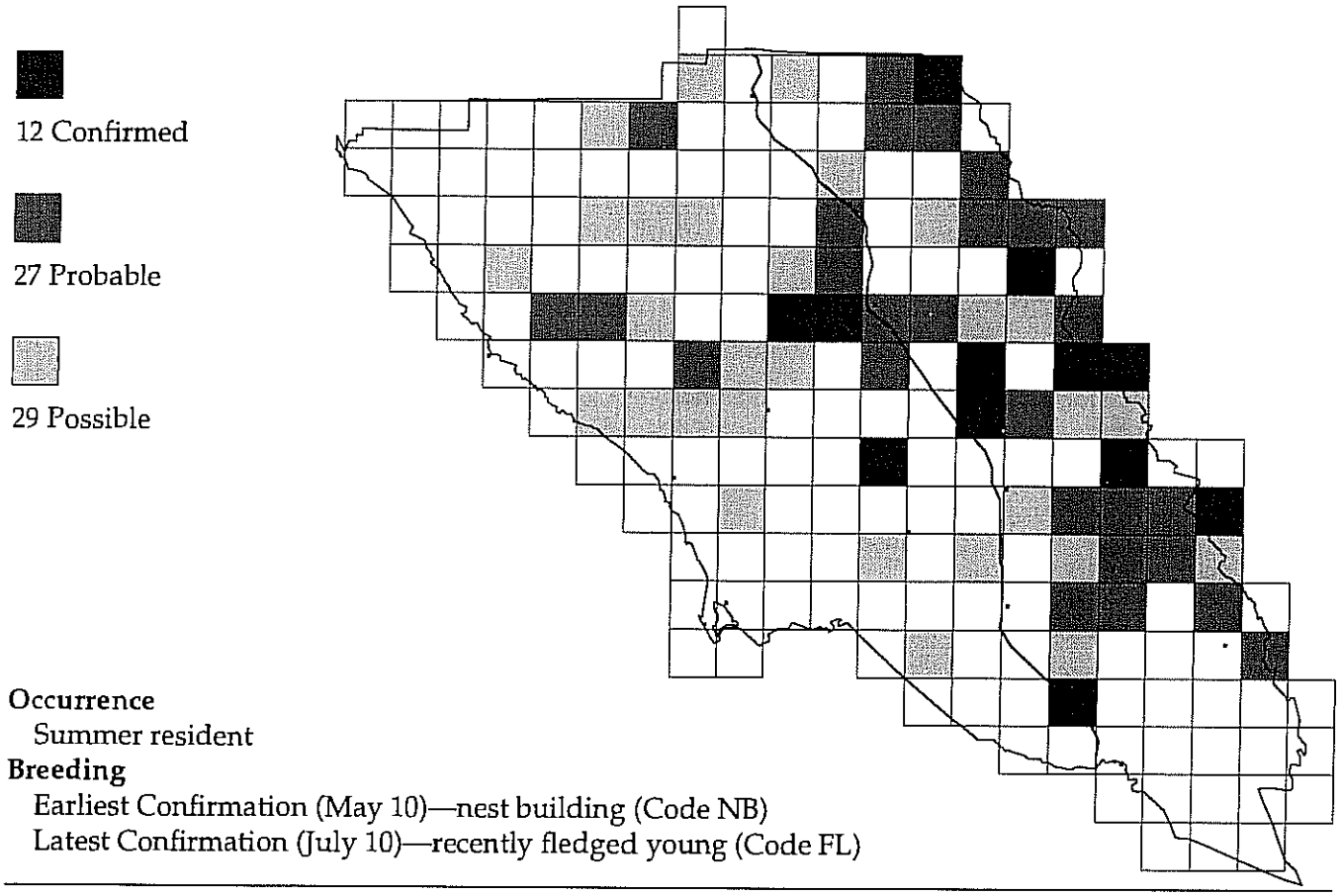
It is an occasional spring (earliest date April 27) and fall (latest date September 4) migrant.

The Yellow-breasted Chat is classified as a Species of Special Concern by the California Department of Fish and Game (CDFG 1994).

–B. D. Parmeter

Western Tanager

Piranga ludoviciana



12 Confirmed

27 Probable

29 Possible

Occurrence

Summer resident

Breeding

Earliest Confirmation (May 10)—nest building (Code NB)

Latest Confirmation (July 10)—recently fledged young (Code FL)

You are in the mountains, tall trees all around; you are looking up; there it is, that flash of red, black and yellow, the male Western Tanager.

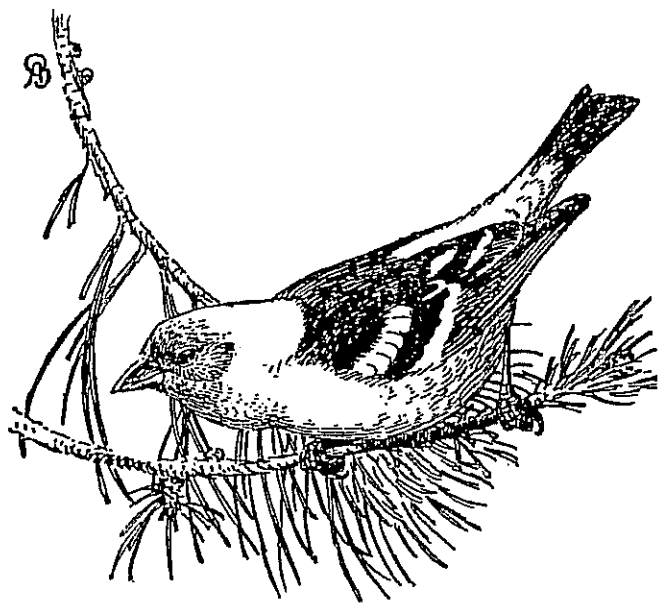
The flashy male certainly provides an attractive decoy for the female tanager who blends fully with the shadows and the shades of green wherever she goes in our forests.

The Western Tanager was described in 1927 by Grinnell and Wythe as "transient throughout the (San Francisco) Bay region as a whole, but also found as a summer resident locally. Two definite instances of nesting are known, both for Sonoma County: at Mark West Springs, May 19, 1884, and at Seaview, May 17, 1908 (see J. Mailliard, Condor, xiii, 1911, pp. 50-51)." Tanagers found by other observers were at the Gualala River, Cazadero, and Guerneville, all in Sonoma County during the month of June, and on Mount St. Helena, Napa County, in May.

Although this tanager now can be seen widely throughout the county, breeding was Confirmed in only 12 blocks. Most of these locations feature mountains of some elevation with mixed conifer or other wooded areas. These trees must provide desired areas for insect foraging as well as elevated and camouflaged nesting sites.

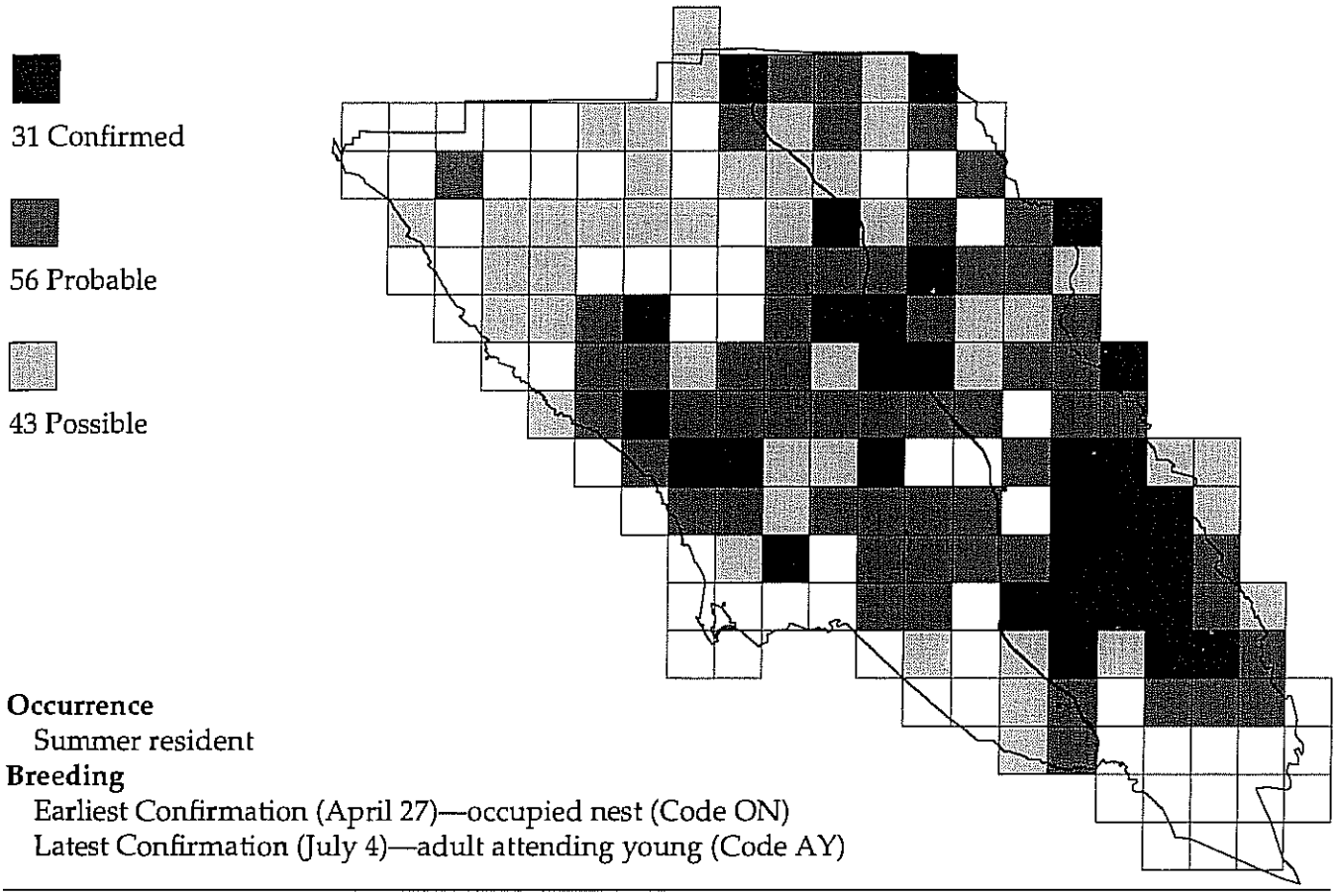
Many Blocks with seemingly similar habitat did not capture the interest of any breeding Western Tanager. However, the town of Petaluma seemed just right. As a sage person once said, "Birds are where you find them."

–B. McLean



Black-headed Grosbeak

Pheucticus melanocephalus



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 27)—occupied nest (Code ON)

Latest Confirmation (July 4)—adult attending young (Code AY)

The Black-headed Grosbeak, with the loud melodious song of the male, is one of the most obvious breeding birds of several wooded habitats in Sonoma County. It occurs in open woodlands and near edges of dense stands, with a preference for deciduous trees and a diversity of plant life (Zeiner et al., 1990). In Sonoma County these features are found in broadleaf evergreen forests, coniferous forests, riparian woodlands and oak woodlands (Bolander & Parmeter 1978). This species is found breeding in most wooded sections of the county, being absent in the open areas adjacent to San Pablo Bay and in the Sonoma-Marin borderlands, and rather scarce along the coast.

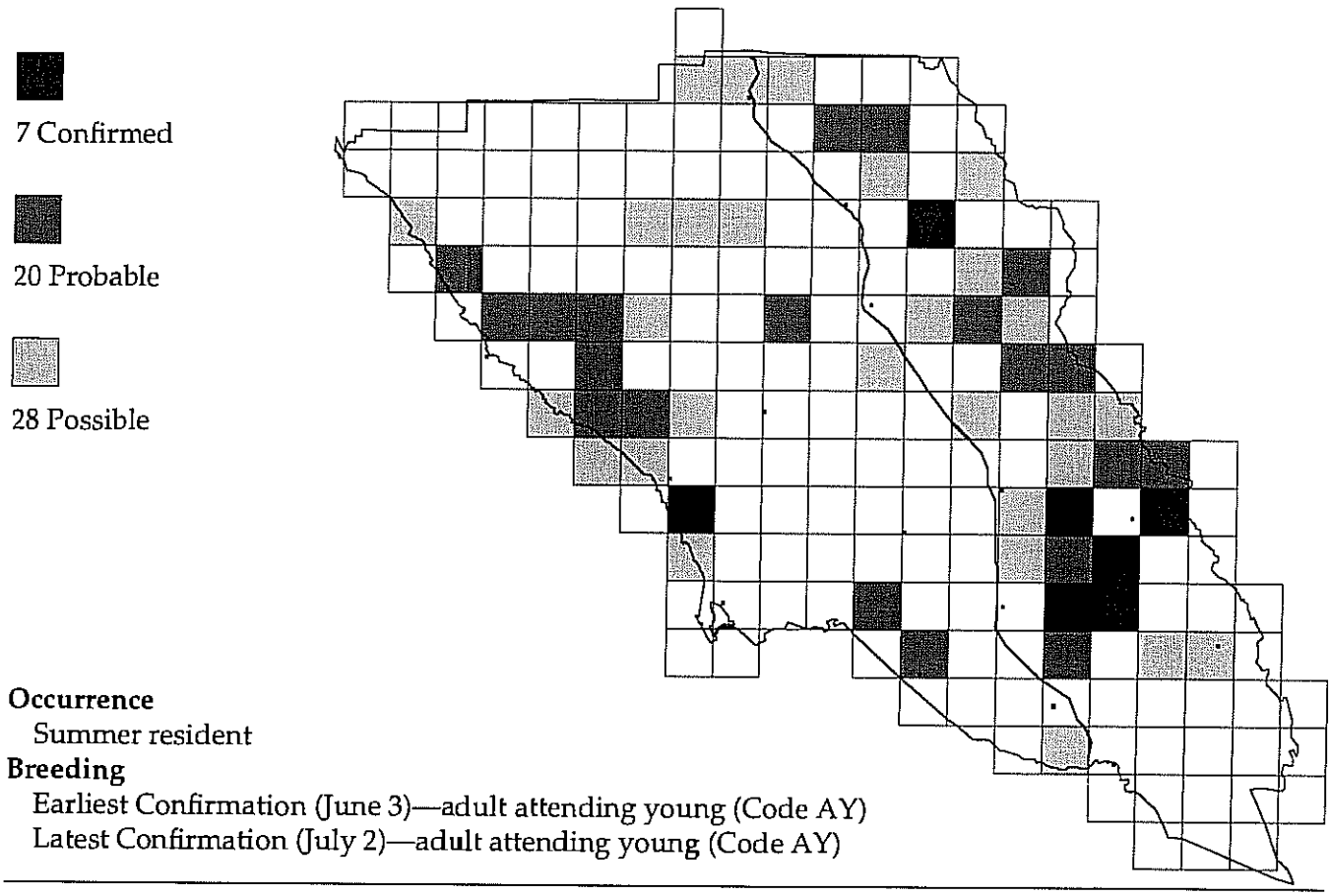
The cup nest is placed in the foliage of a shrub or tree usually less than 12 feet high. This species is monogamous, with both parents incubating and tending one brood each year (Weston 1947).

The generalized habitat requirement, generalized diet and low incidence rate of cowbird parasitism may contribute to the stable population being maintained by this grosbeak.

–L. Stafford

Lazuli Bunting

Passerina amoena



Occurrence

Summer resident

Breeding

Earliest Confirmation (June 3)—adult attending young (Code AY)

Latest Confirmation (July 2)—adult attending young (Code AY)

The colorful Lazuli Bunting is a fairly common breeder in Sonoma County's brushy oak woodlands and forest edges. Generally occurring in sites possessing low percentage canopy closure, this bird will even inhabit chaparral slopes if a few trees are present for song posts. The Lazuli Bunting is an edge-loving species, being especially fond of creekside areas with low, dense vegetation.

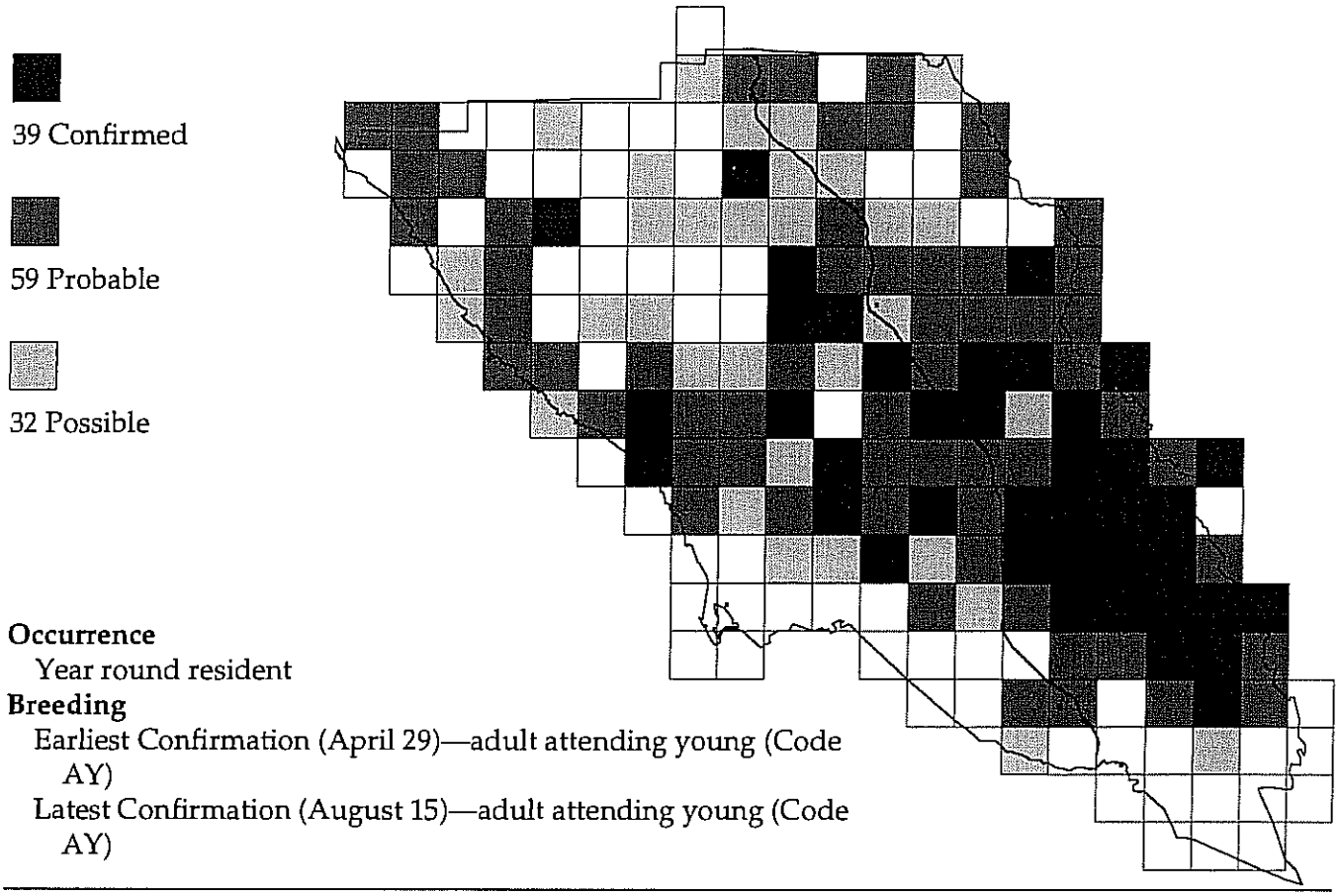
During late spring and early summer, the brilliant turquoise-blue male will sing from an exposed perch, often late into the afternoon. In more open areas with fewer or shorter trees males often sing from utility wires. Sometimes accompanied by his drabber-plumaged mate, the male will explore the tangled undergrowth for seed and insect matter. Nests are woven from dried grass and are placed between the supporting stems of durable shrub and weed stalks. In grazed areas, thistle patches and blackberry vines which generally deter livestock, deer and predators are preferred.

During the Atlas study the Lazuli Bunting bred mostly in the drier brushy interior of Sonoma County away from developed areas. It is absent from the grassy open expanses of the south county and the flat brushless interior valleys. This bird is common along the coast from Jenner north to Fort Ross and there are a some Probable breeding records just inland from the coast as well. As a migrant, it is seldom found in coastal locations where other migrants appear.

–Dan Nelson

Rufous-sided Towhee

Pipilo erythrophthalmus



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 29)—adult attending young (Code AY)

Latest Confirmation (August 15)—adult attending young (Code AY)

Even with its dynamic red eyes, flashy white-spotted black back and rufous colored plumage, this common bird is unknown to many casual bird observers because it blends so well into its favored sun-dappled brushy habitat. Previously this bird was called the Oregon Towhee and the Spotted Towhee (Grinnell & Miller 1944), and our western (spotted) population may indeed again be given that name if, as anticipated, it is recognized as a separate species from the eastern (unspotted) population of the Rufous-sided Towhee.

This towhee breeds throughout Sonoma County, excepting the southeast corner, and the rugged and heavily forested interior northwest.

Easily heard while rummaging noisily among dead leaves, the Rufous-sided Towhee kicks simultaneously with both feet. A well-developed leaf litter and humus layer provides good foraging success for seeds for this towhee (Shuford 1993). It also eats insects and berries. This bird can be found in chaparral, undergrowth, forest edges, city shrubs (Peterson 1961) and streamside tangles (Grinnell & Miller 1944).

Typically, the nest is built in a depression with the rim flush or slightly above ground level, invariably in sites protected from above by overhanging vegetation (Shuford 1993). The nest is loosely cupped, constructed with a framework of strips of inner bark, dead leaves and coarse grass, and an inner lining of fine dry grass stems or rootlets (Shuford 1993).

–K. Wilson

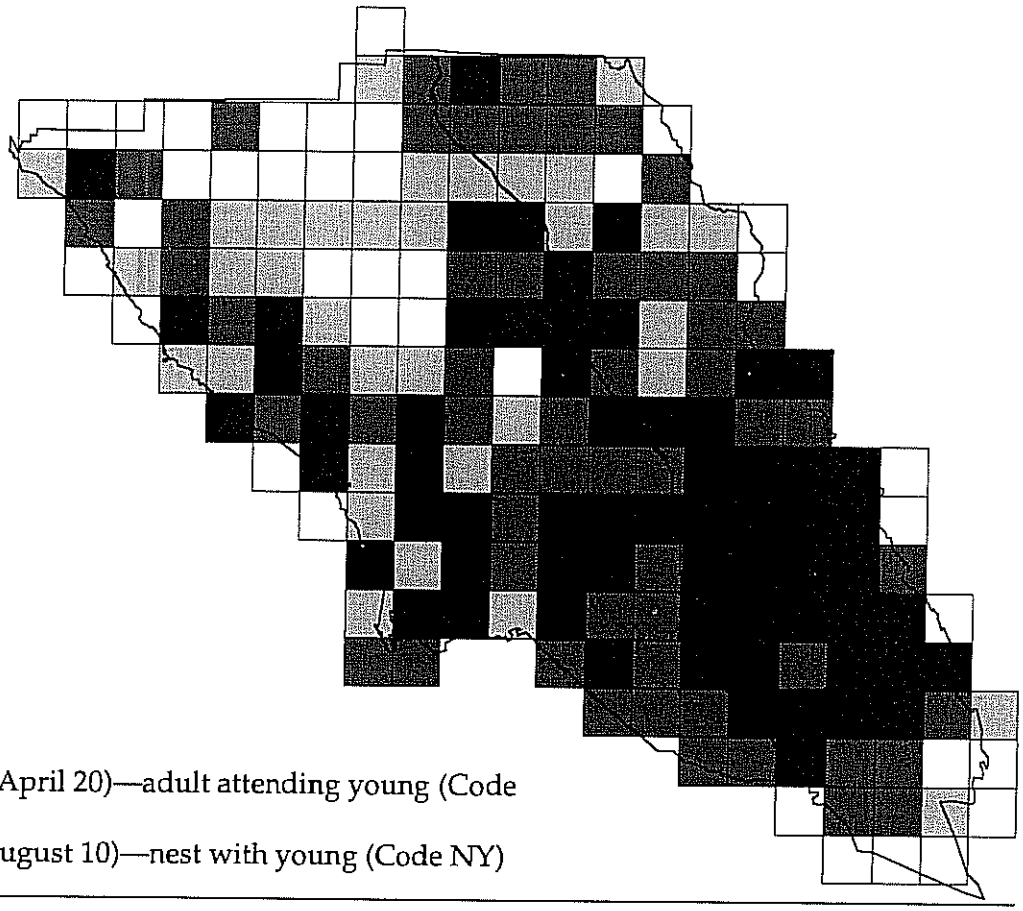
California Towhee

Pipilo crissalis

64 Confirmed

57 Probable

34 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 20)—adult attending young (Code AY)

Latest Confirmation (August 10)—nest with young (Code NY)

Usually seen in pairs, this highly territorial feeder bird (formerly called the Brown Towhee), is drawn also to water for bathing. Widespread in Sonoma County, it prefers open ground for foraging, and brush and trees for cover and resting.

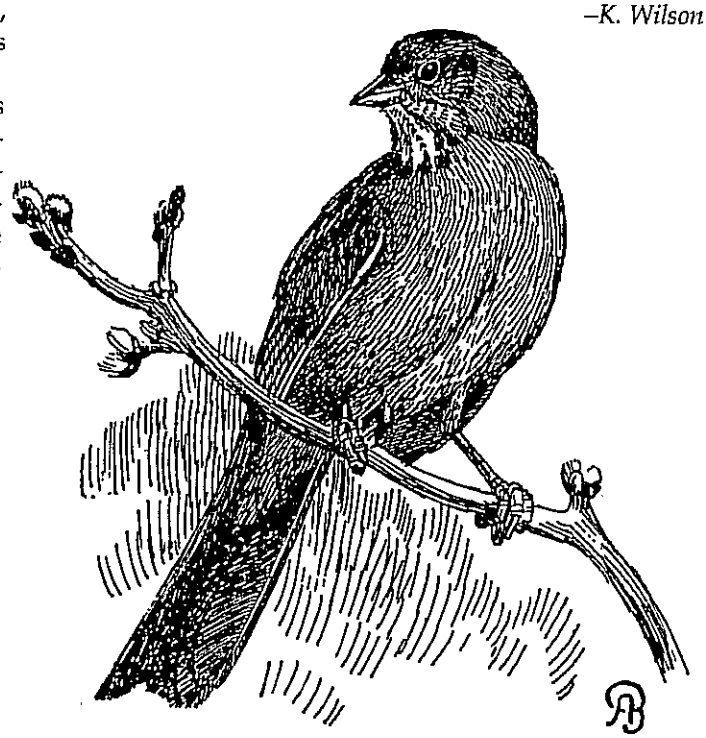
Although some of man's activities have made parts of the California Towhee's original haunts uninhabitable, this has been more than compensated for by expansion of parks, backyard gardening and ranching into formerly barren lowland terrain. Undoubtedly the clearing of some forested areas has also opened up habitat to this towhee's liking. From 1986 to 1989, California Towhee numbers were relatively stable on Breeding Bird Surveys in California (Shuford 1993 citing USFWS unpubl. analyses).

It eats mainly vegetable matter: seeds, new vegetation, insects and berries. Nestlings start out on a diet entirely of insects, particularly grasshoppers and caterpillars but graduate to consume up to 8% vegetable matter before fledging (Shuford 1993 citing Martin et al., 1951).

The nest is cup-shaped, built of grasses, plant stems and bark strips, and is generally close to the ground in dense shrubbery.

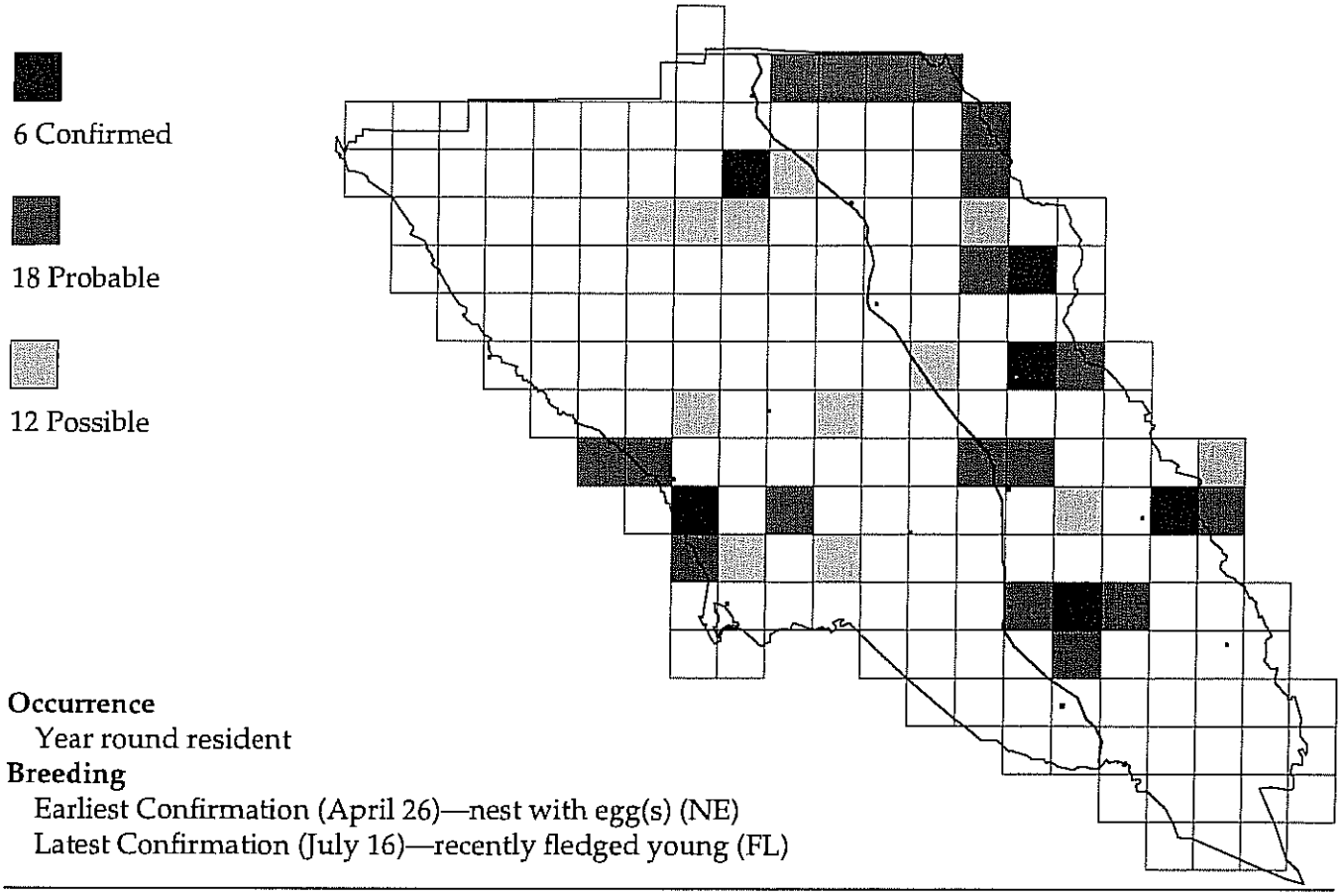
The first brood usually stays around the nest site still begging for food well into the hatching of the next brood (Proctor 1985).

–K. Wilson



Rufous-crowned Sparrow

Aimophila ruficeps



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 26)—nest with egg(s) (NE)

Latest Confirmation (July 16)—recently fledged young (FL)

This brightly-capped seldom seen sparrow is probably much more common than is reported but suitable habitat is not widespread. This skulking, ground-hugging bird can be difficult to observe until located by its clear "dear, dear" notes.

In Sonoma County breeding evidence for it was found along the mid-central coastal area, and the hilly and mountainous northern and central areas. It was absent from the flat southeastern corner of the county. Representative areas where it lives are on the south-facing slopes along Willow Creek Road, the southwestern slopes of Fountaingrove Reservoir, near the eastern end of Warm Springs Dam and on lower Ida Clayton Road.

Grinnell and Wythe (1927) reported the presence of the Rufous-crowned Sparrow in Rincon Valley (northeastern Santa Rosa) where there is a Probable breeding record in this Atlas.

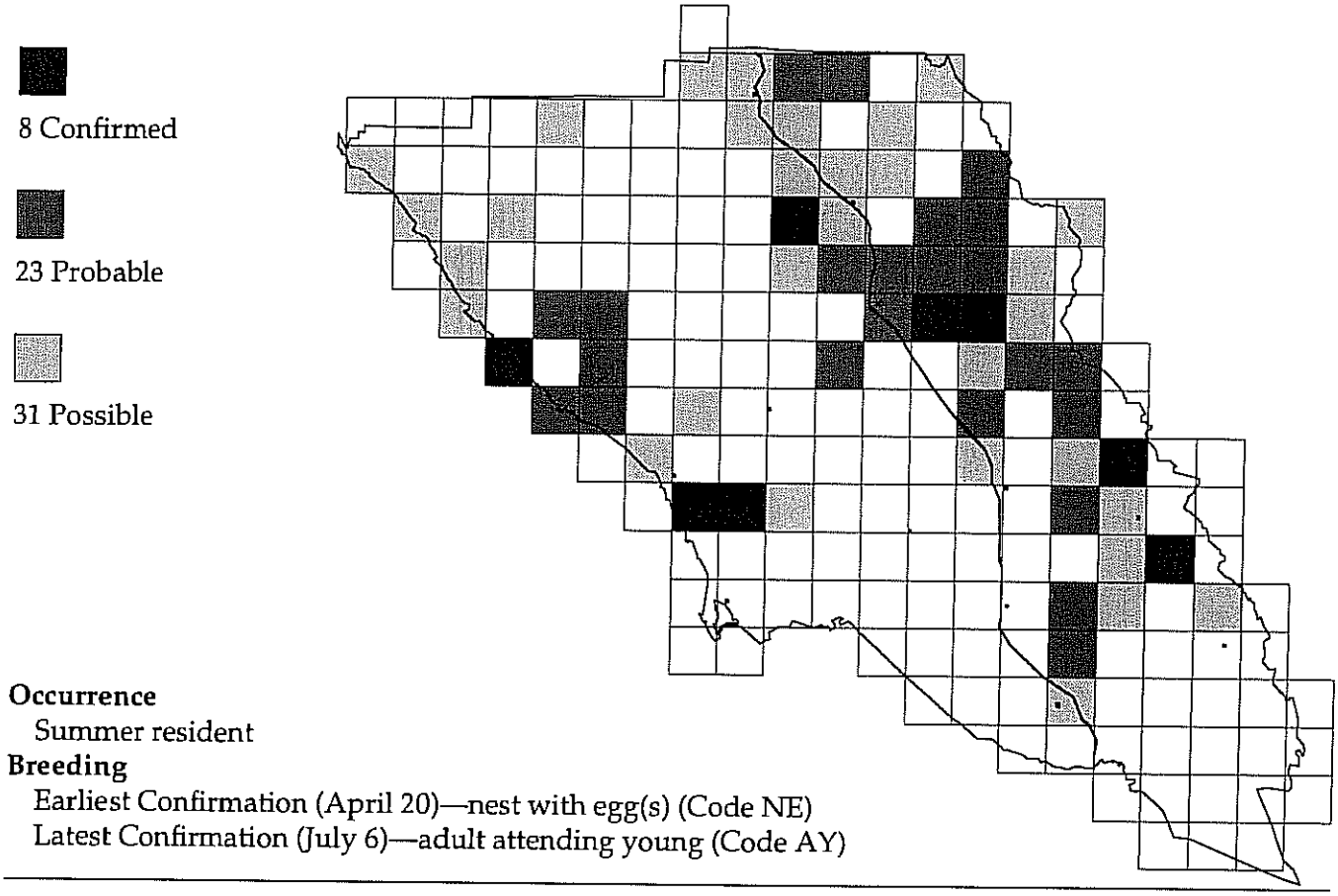
In some parts of the United States this bird is called the rock sparrow because of its close association with rocky areas (B. D. Parmeter pers. comm.). Preferred habitat for the Rufous-crowned Sparrow is hillsides that are grass-covered and grown to sparse low bushes, scarcely dense enough to constitute true chaparral. Rarely, bushes may be absent if rock outcrops are present. Slopes frequently are sunny and well drained. Birds stay on or close to the ground and, most of the time, out of sight in the cover. Flights over the bush tops are rapid, short and usually downhill (Grinnell & Miller 1944).

The preference of the Rufous-crowned Sparrow for sparse brush suggests it is a short distance colonizer adapted to invade areas swept by fire or other disturbances that open up the cover. Long term fire suppression since the turn of the century has likely reduced numbers of this bird in California because chaparral has thus been allowed to grow in dense decadent stands (Shuford 1993).

–B. Burridge

Chipping Sparrow

Spizella passerina



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 20)—nest with egg(s) (Code NE)

Latest Confirmation (July 6)—adult attending young (Code AY)

The rusty-capped head of the adult Chipping Sparrow is usually the first visual give-away for this bird's presence in summer. Once you have learned to distinguish its dry buzzy trill from the less harsh but roughly similar calls of the Dark-eyed Junco and the Orange-crowned Warbler, recognition of this bird 'by ear' is assured.

In Sonoma County breeding evidence for the Chipping Sparrow was absent in the relatively treeless southeastern corner, and generally present along the central coastal area as well as the northeastern and east-central forested and mountainous areas. Representative areas for breeding were along Willow Creek Road west of Occidental, on Hood Mountain, in the Valley of the Moon and in the hills bordering the Russian River east of Healdsburg.

Grinnell and Wythe (1927) reported that Chipping Sparrow numbers were down in the San Francisco Bay Area from former years and noted records of this bird in Cazadero, Petaluma, Santa Rosa and Sebastopol.

Preferred habitat in summer always includes trees that are scattered or in open stands through which much light penetrates to the ground. Also included is ground foraging area that is essentially bare or covered with short grass, and ground that is not heavily shaded or extensively brush-covered. Near the coast preference is shown for the more exposed sunny parts of forests and woodlands. Foraging is carried out principally on the ground, but in spring also in the foliage of trees when insect food and young buds are sought (Grinnell & Miller 1944).

–B. Burridge

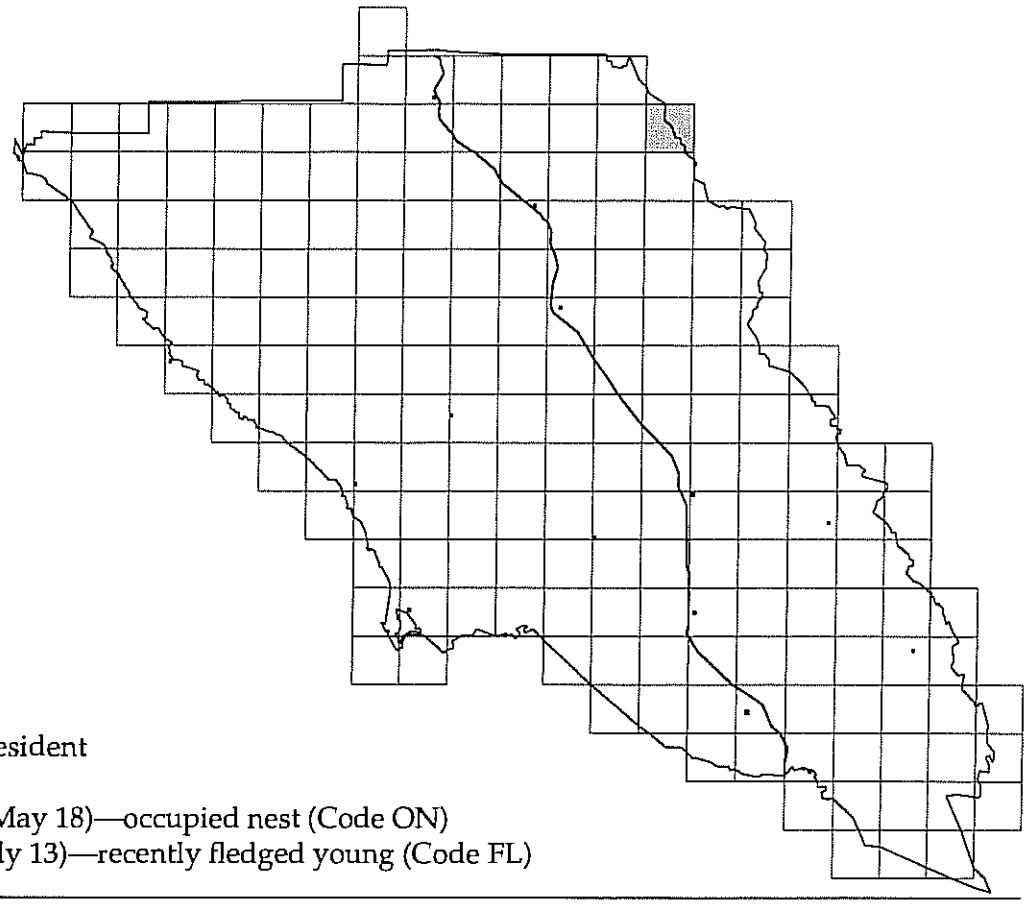
Black-chinned Sparrow

Spizella atrogularis

0 Confirmed

0 Probable

1 Possible



Occurrence

Rare erratic summer resident

Breeding

Earliest nesting date (May 18)—occupied nest (Code ON)

Latest nesting date (July 13)—recently fledged young (Code FL)

The Black-chinned Sparrow is a rare sporadic spring and summer resident of Sonoma County's brushy chaparral slopes in the drier eastern portion. Its dry 'bouncing ball' trill is usually detected only on warm south-facing slopes among mixtures of chamise, ceanothus and various seed-producing weeds. This bird is primarily restricted to shrubby habitats, particularly those in early successional stages such as in years following fire.

Following the Atlas period one such location at 3500 feet elevation atop Pine Flat Road showed breeding activity only 18 to 24 months following a fire. Nesting was documented there on May 15, 1994 (pers. obs., Lynn Stafford pers. comm.). There were no Confirmed breeding records for this bird during the Atlas period; however, the presence of the Black-chinned Sparrow is so erratic that breeding efforts by this bird could easily have been missed during atlasing efforts.

A few historical records exist from these areas. One is a sighting by Baron McLean on July 13, 1968 of two adults, a male and a female, with three juvenile birds on Ida Clayton Road (Madrone Audubon Society Field Trip lists, unpubl.). Two additional sightings from Ida Clayton Road on May 4, 1968 and May 9, 1970 also exist (Redwood Region Ornithological Society field trip lists, unpubl.).

Noteworthy nest records from nearby Marin County occurred near the Palomarin Field Station of PRBO in early June 1972, and again 12 years later in 1984. Despite intensive coverage, the only other records reported at Palomarin were singing birds observed in May of 1973 and 1974 (Shuford 1993). Such records from coastal sage/scrub habitats are very exceptional; none exists for Sonoma County.

In Sonoma County's most favorable sites, small numbers that are present one year may be scarce or absent the next. The rarity and erratic occurrence of the Black-chinned Sparrow compounds our lack of knowledge and understanding of the population dynamics of this bird, leaving many of its secrets hidden and still untold.

–Dan Nelson

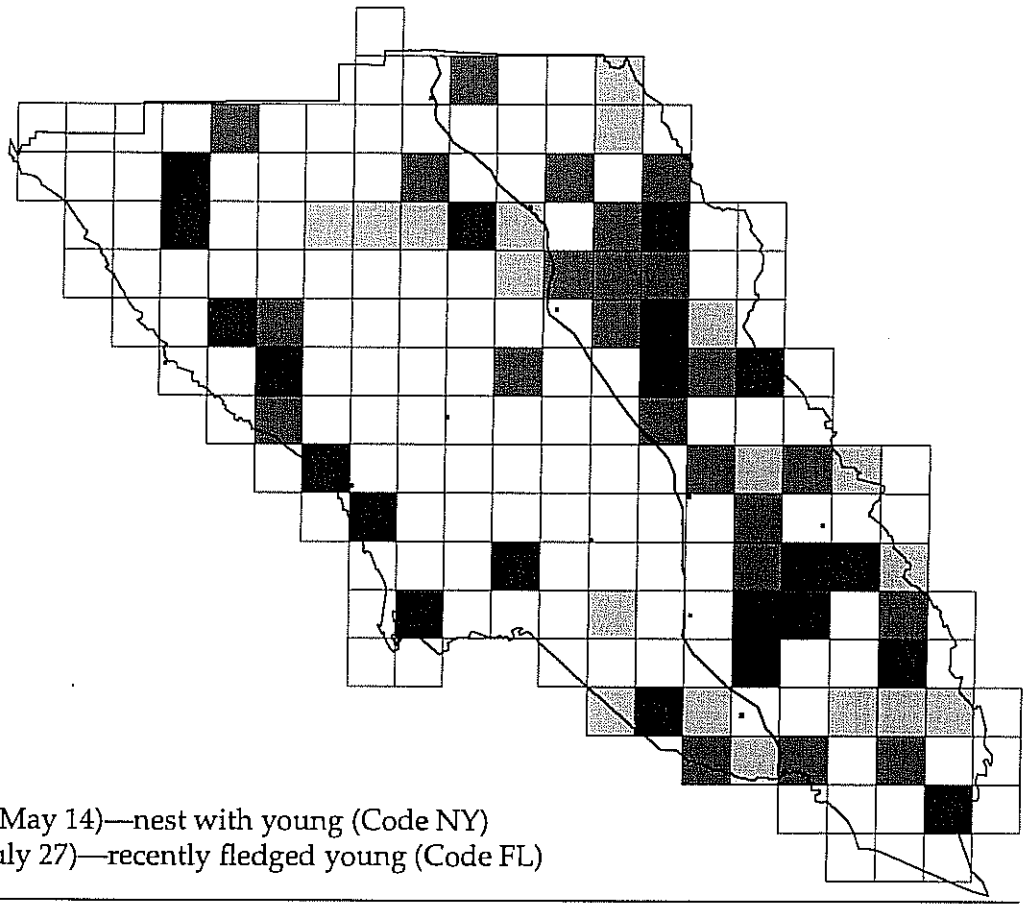
Lark Sparrow

Chondestes grammacus

21 Confirmed

23 Probable

18 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 14)—nest with young (Code NY)

Latest Confirmation (July 27)—recently fledged young (Code FL)

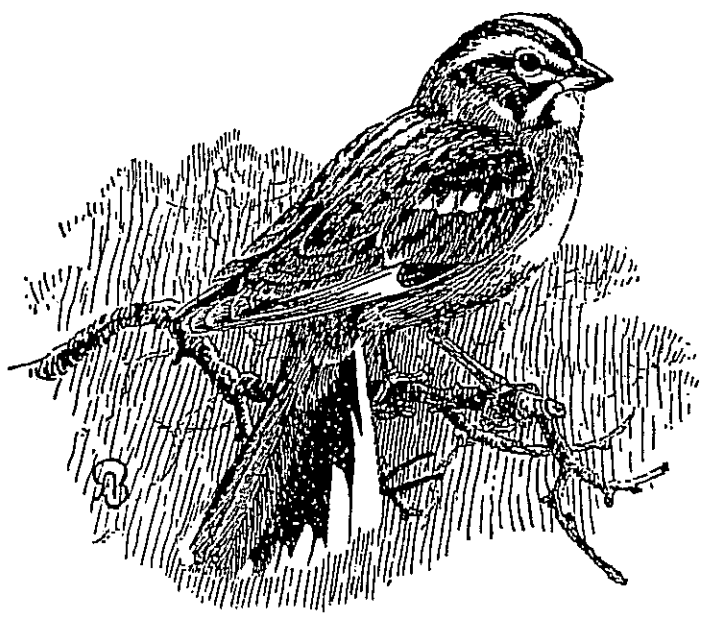
Whenever one is in drier, fairly open terrain in Sonoma County and a sparrow with flashy white outer tail feathers is seen in flight, the Lark Sparrow is the first bird to suspect. Once carefully observed on a fence post, the beautiful adult with its distinctively-patterned head will captivate any casual observer.

In Sonoma County the Lark Sparrow was generally present along the central coastal area, the wooded mountains to the east and the southeastern corner grasslands. This species was absent from the Laguna de Santa Rosa and the Highway 101 corridor.

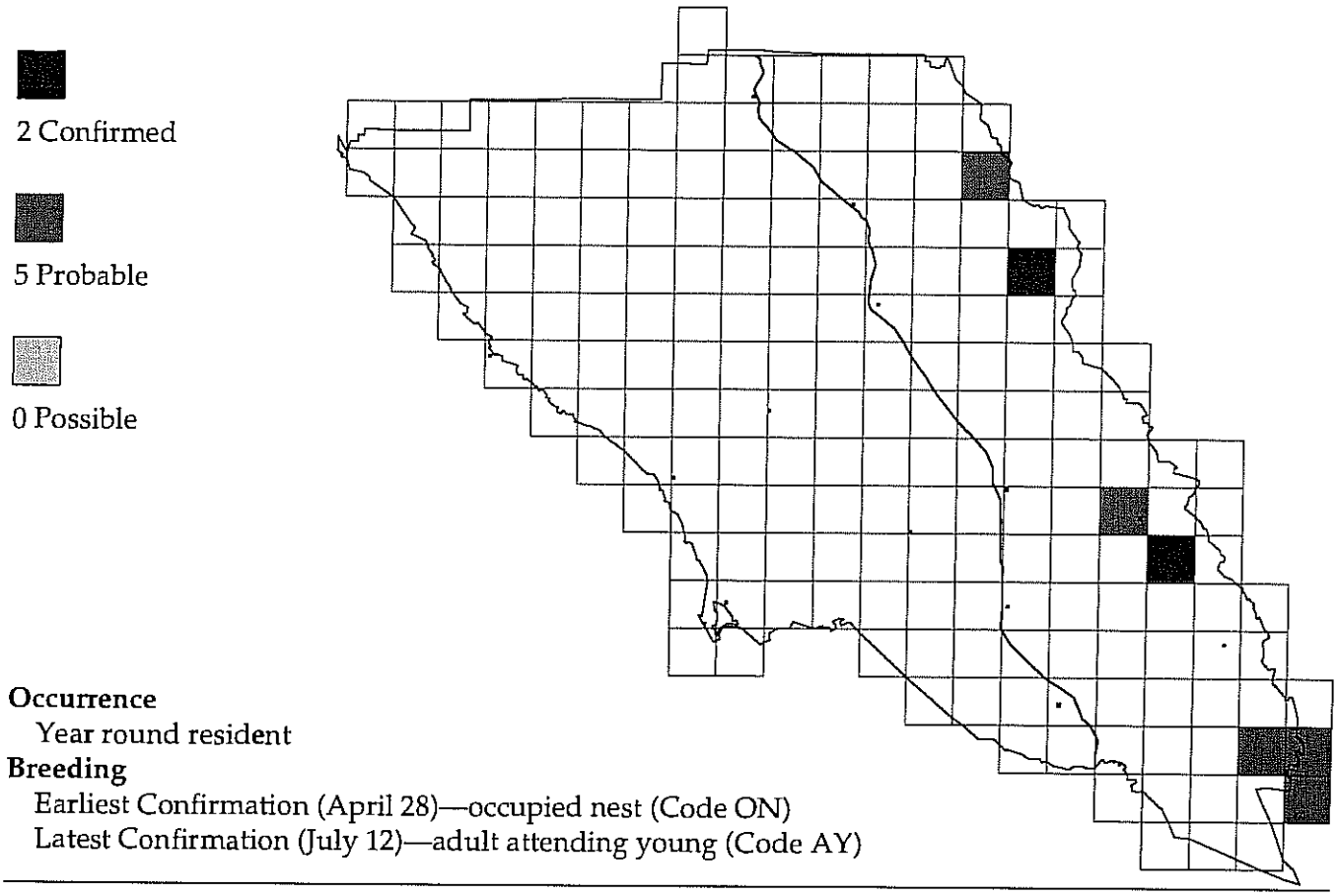
Grinnell and Wythe (1927) noted this bird's presence in spring and summer at Sebastopol and Cazadero. There are no records in this Atlas from either of these locations.

Grinnell and Miller (1944) describe the Lark Sparrow's preferred habitat as a combination of open terrain with scattered bushes and trees (edge). Foraging activity takes place low; nesting takes place from the ground up to 20 feet in height; flock gatherings, lookouts and singing range from bush top level into trees of moderate height.

–B. Burridge



Sage Sparrow
Amphispiza belli



Occurrence
Year round resident
Breeding
Earliest Confirmation (April 28)—occupied nest (Code ON)
Latest Confirmation (July 12)—adult attending young (Code AY)

As its descriptive name implies, this sparrow inhabits sage-covered brushlands and arid chaparral-covered hillsides. The race present in Sonoma County and other coastal counties, *A. b. belli*, (Grinnell & Miller 1944) was once regarded, perhaps justly, as a separate species, the Bell's Sparrow (R. Hoffmann 1927). Unlike the paler, sage-loving race of interior California, it primarily inhabits chamise chaparral. The endemic Sonoma sage also blends its pretty purple hues with some of Sonoma County's nesting Sage Sparrow habitat.

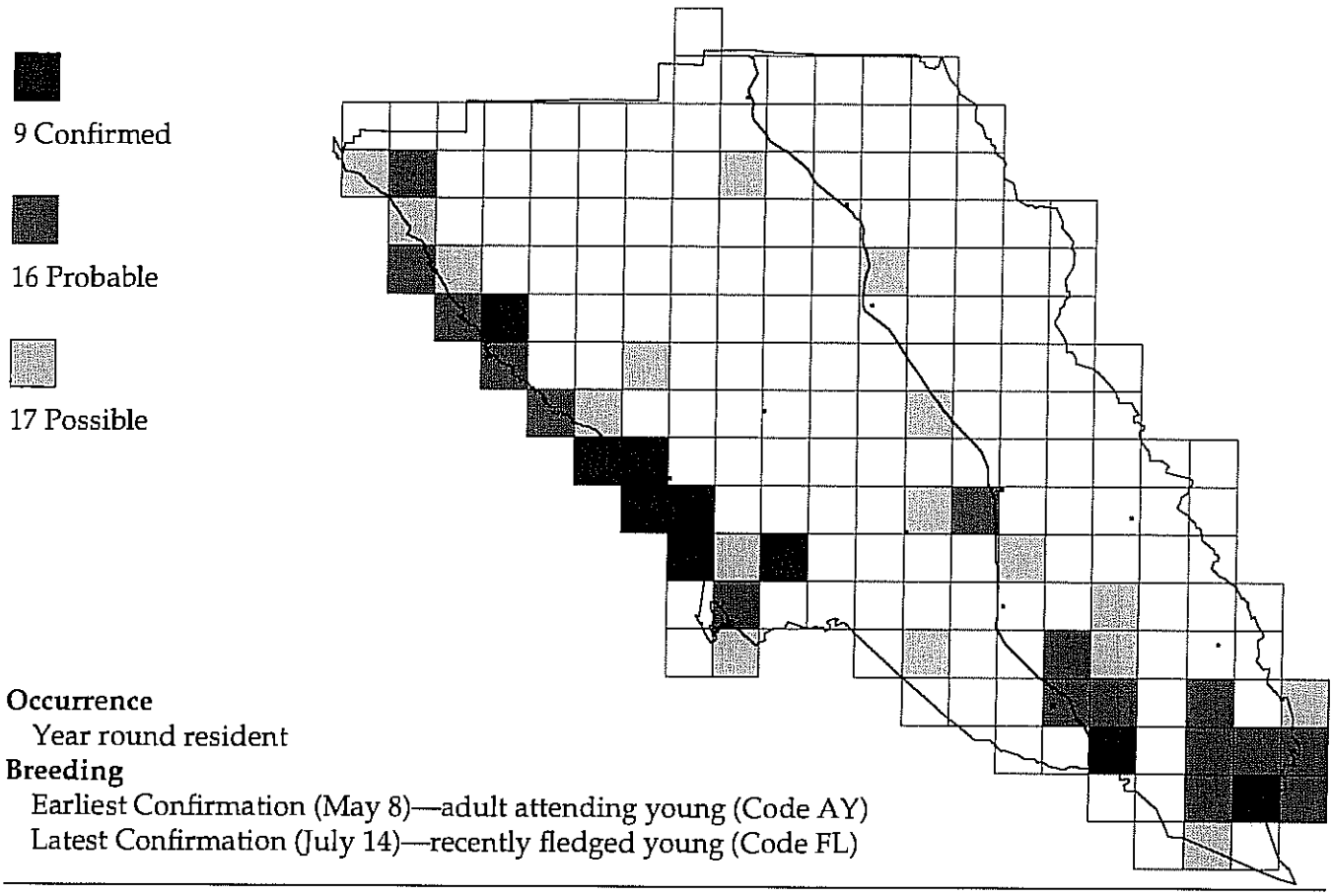
During atlasing, the breeding Sage Sparrow was uncommon and distributed locally in eastern portions of the county where the largest continuous stands of dry chaparral exist. High overgrown stands generally hold fewer birds than shorter ones recovering from recent fires. The Sage Sparrow is shy and difficult to see. It feeds on the ground within small openings often deep within the shrubs. With quick footwork the Sage Sparrow darts beneath nearby shrubs to avoid any possible threat. Luckily for those searching for this bird, the male sings from a visible exposed perch, often just above the level of his brushy domain.

Long-term fire suppression alters natural plant succession and eventually reduces the amount of Sage Sparrow habitat available for breeding. The patchy distribution of this bird coupled with the increasing development of Sonoma County's previously undisturbed brushlands has caused significant encroachment on the breeding habitat for this bird in the last 20 years. Currently, the Bell's Sage Sparrow is a Category 2 Candidate for listing as a Threatened or Endangered Species by the United States Fish and Wildlife Service and is also a Species of Special Concern of the California Department of Fish and Game (CDFG 1994).

–D. Nelson

Savannah Sparrow

Passerculus sandwichensis



9 Confirmed

16 Probable

17 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (May 8)—adult attending young (Code AY)

Latest Confirmation (July 14)—recently fledged young (Code FL)

Perched on top of the world to the Savannah Sparrow may mean clutching the upright twig of a bush that is just knee high. Such is life when one chooses a treeless marsh or grassy slope as home. Quite satisfied with life close to the ground, these small, drab yellow-lored birds thrive amongst moist low growing dense vegetation.

Breeding habitat in the county is found primarily in a narrow band along the coast, around the San Pablo Bay, and extending into upland grassy slopes in the fog belt.

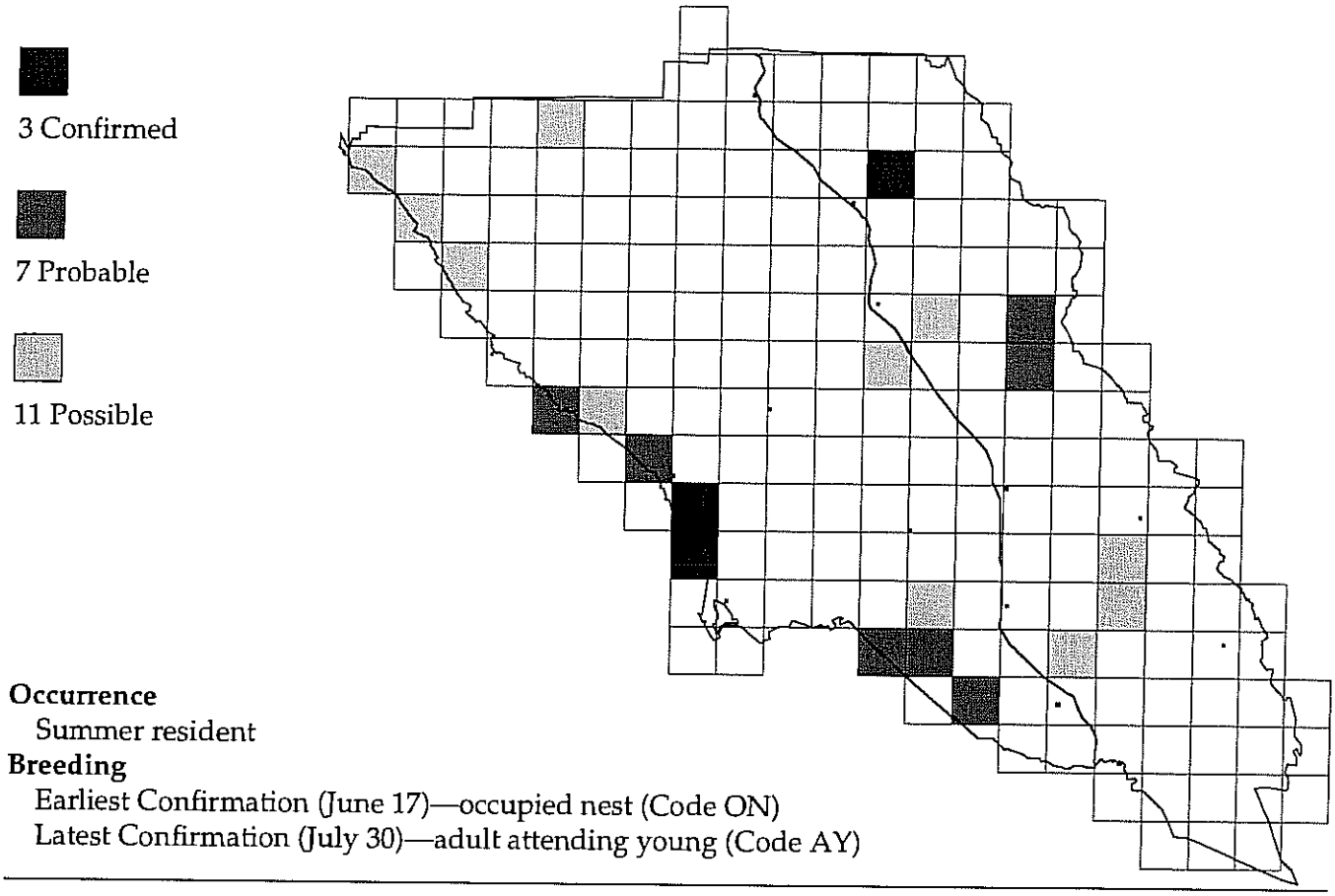
The natural browns of this bird's cryptically striped and mottled plumage blend well with the tangled vegetation in Savannah Sparrow habitat. In marshes, saltgrass and pickleweed (salicornia) provide the dense cover for optimum shelter and foraging conditions. In upland locations, moist ground around springs and small swales is favored.

Nests are placed on the ground and are well hidden amongst tangled vegetation (Grinnell & Miller 1944) and are fairly difficult to locate. Atlas records show that although Confirmations of breeding were recorded in ten Blocks out of the 34 in which this bird was reported, only two of those Confirmed sightings involved visual and/or auditory identification of a nest. On one occasion two Savannah Sparrows, each carrying grubs for nestlings, were observed for about 30 minutes near dense clumps of pickleweed (salicornia) at an area of diked marshlands on the Petaluma River, without either bird revealing the location of the nest (B. Burridge pers. comm.).

–B. McLean

Grasshopper Sparrow

Ammodramus savannarum



Occurrence

Summer resident

Breeding

Earliest Confirmation (June 17)—occupied nest (Code ON)

Latest Confirmation (July 30)—adult attending young (Code AY)

This secretive sparrow is often overlooked in its preferred habitat of ungrazed or lightly grazed grassland. The Grasshopper Sparrow is named for its insect-like buzzy song that does not carry far, thus contributing significantly to the difficulty of finding this bird.

Grinnell and Miller (1944) described it as a sparse and irregularly-distributed California resident from Mendocino County south coastally, variable in occurrence year to year and partially colonial. There were no actual records of its presence in Sonoma County until June 8, 1975 when it was found during a U. S. Fish and Wildlife Service Breeding Bird Survey in short grassland on bluffs overlooking the Pacific just north of Jenner (B. Burridge, D. Harper, A. Nelligan, C. Patterson pers. records). It was a Life Bird for all observers! (ed.)

The Grasshopper Sparrow was still considered a rare summer resident by Bolander and Parmeter in 1978. Having been found in only 21 Blocks during this Atlas study, this sparrow certainly is still not common; however, it was found to be considerably more widely distributed in Sonoma County than expected. The Grasshopper Sparrow may yet be even more common here in our coastal hills but permission for access is often very difficult to obtain. In the Atlas study, the Grasshopper Sparrow was also found on some dry interior hills.

There is no doubt that it is a difficult bird to document. Intensive effort during atlasing in Marin County was needed to identify Grasshopper Sparrows in a surprisingly high 43% of the Blocks there, mostly in coastal locations (Shuford 1993).

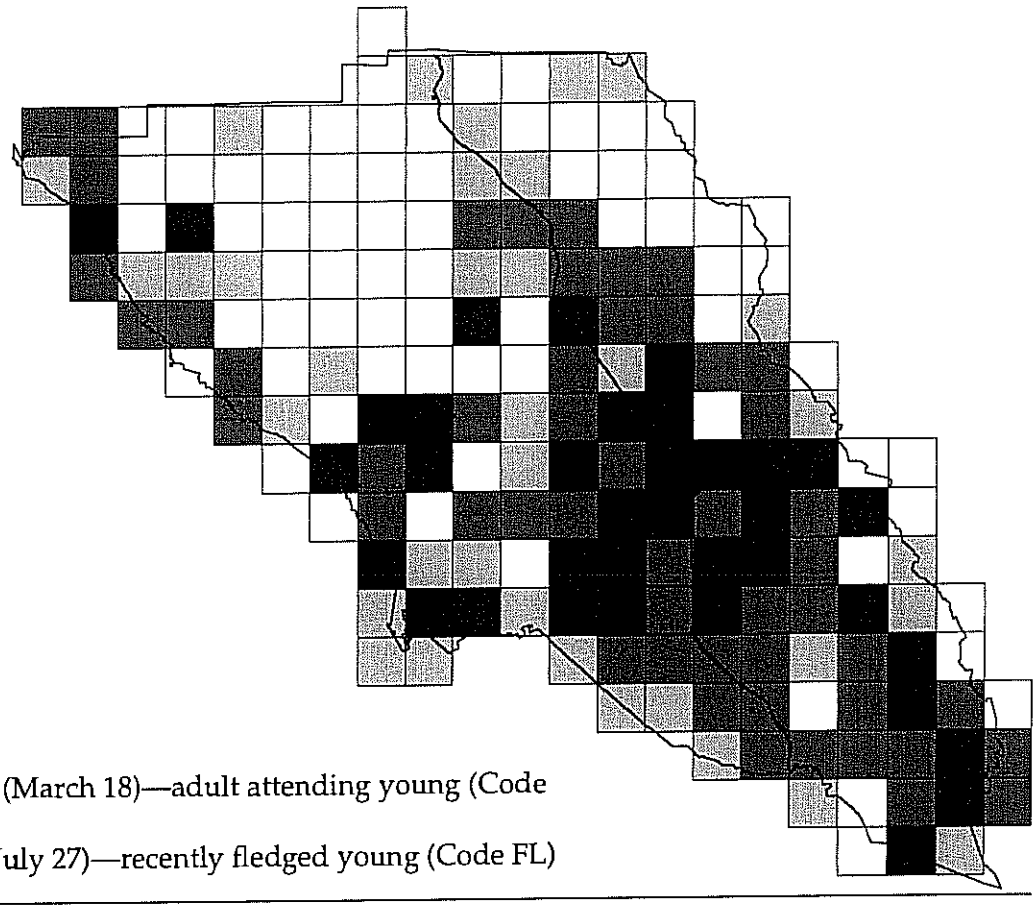
The Grasshopper Sparrow nests on the ground, thus becoming vulnerable to a variety of predators and to overgrazing. Adults avoid revealing the location of the well-concealed nest by first running away from the nest and then flying up some distance from the nest site (Harrison 1979). This was observed locally in coastal grassland near a large outcropping of rock. The fledglings ran/fluttered to cover in a bunch of grass following their parent, without the actual nest ever being discovered (pers. obs.).

The most obvious serious threats to this sparrow are land development and over-grazing.

–R. Rudesill

Song Sparrow

Melospiza melodia



36 Confirmed

51 Probable

35 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (March 18)—adult attending young (Code AY)

Latest Confirmation (July 27)—recently fledged young (Code FL)

The Song Sparrow is one of the most common and widespread perching songbirds in Sonoma County during the breeding season. It nests in dense riparian thickets, emergent wetlands (including salt marshes) and dense thickets in other moist situations. Near the coast it may frequent thickets and coastal scrub where fog drip and a moist climate compensate for lack of surface water (Zeiner et al., 1990). In an avian habitat study of Russian River riparian communities, the Song Sparrow was found to be the most numerous breeding bird species in almost all riparian habitats (L. Stafford unpubl.).

Exposed singing perches are utilized by breeding males. The nest is usually well hidden on or within four feet of the ground. This species is monogamous with pairs often producing two and even three broods per season (Harrison 1987).

Two subspecies breed in Sonoma County. The Marin Song Sparrow (*M. m. gouldii*) is found in all non-marine habitats. The San Pablo Song Sparrow (*M. m. samuelis*) occurs in Sonoma County along the San Pablo Bay border and Petaluma River in salt marshes. The San Pablo subspecies (race), is designated by the California Department of Fish and Game as a Species of Special Concern. This listing is based on limited geographic distribution and dependency on salt marsh vegetation, a declining habitat. The San Pablo Song Sparrow also is a Category 2 Candidate for federal listing as Threatened or Endangered by the U. S. Fish and Wildlife Service (CDFG 1994).

–L. Stafford

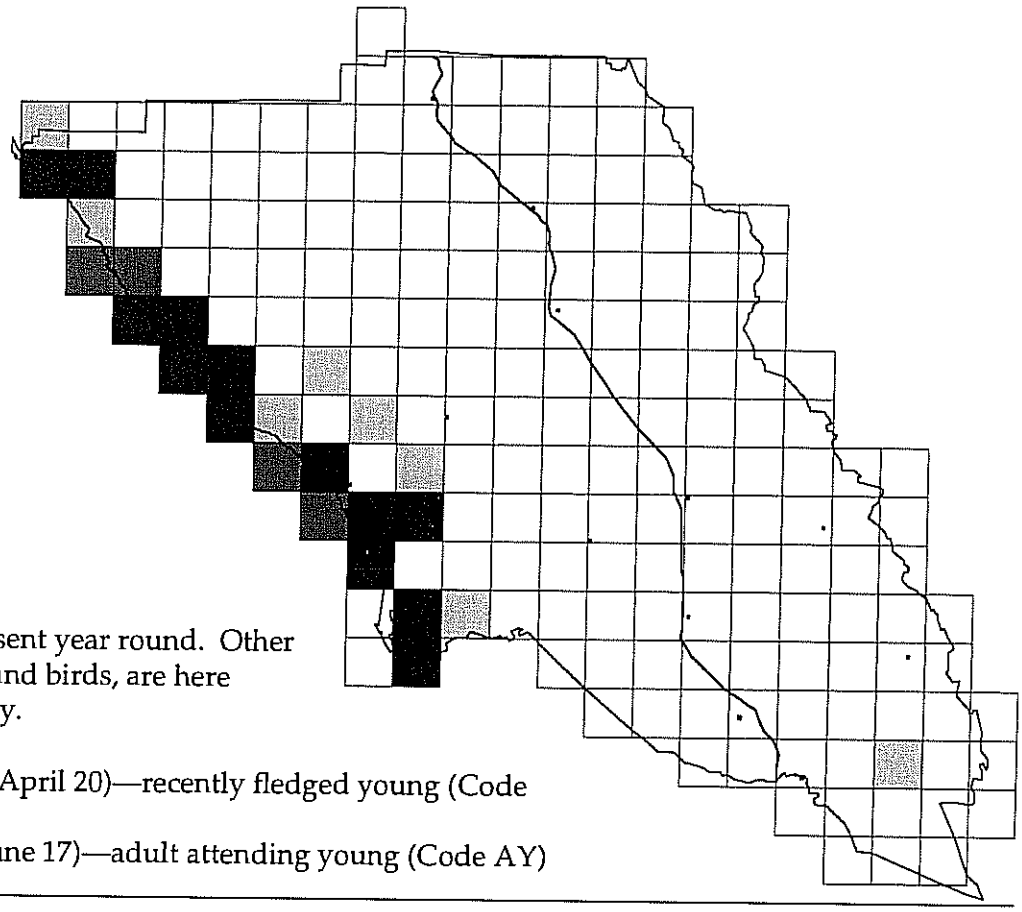
White-crowned Sparrow

Zonotrichia leucophrys

13 Confirmed

4 Probable

8 Possible



Occurrence

One coastal race is present year round. Other races, including all inland birds, are here September to April only.

Breeding

Earliest Confirmation (April 20)—recently fledged young (Code FL)

Latest Confirmation (June 17)—adult attending young (Code AY)

A common sparrow at Bodega Bay, the White-crown often feeds in small flocks on the ground, darting nervously in and out of lupine or other coastal scrub. The adult of our breeding Nuttall's race (*Zonotrichia leucophrys nuttalli*) has a yellow bill, brown back with black stripes, and a white eyebrow beginning at the base of the upper mandible. It is overall a dingier bird than the other races of the White-crowned Sparrow, which are present in Sonoma County only from mid-fall to mid-spring.

Most individuals of the Nuttall's race live their whole lives within or very near the territory in which they were hatched. This race is never found more than a couple of miles from the ocean or large estuaries (Stallcup 1992).

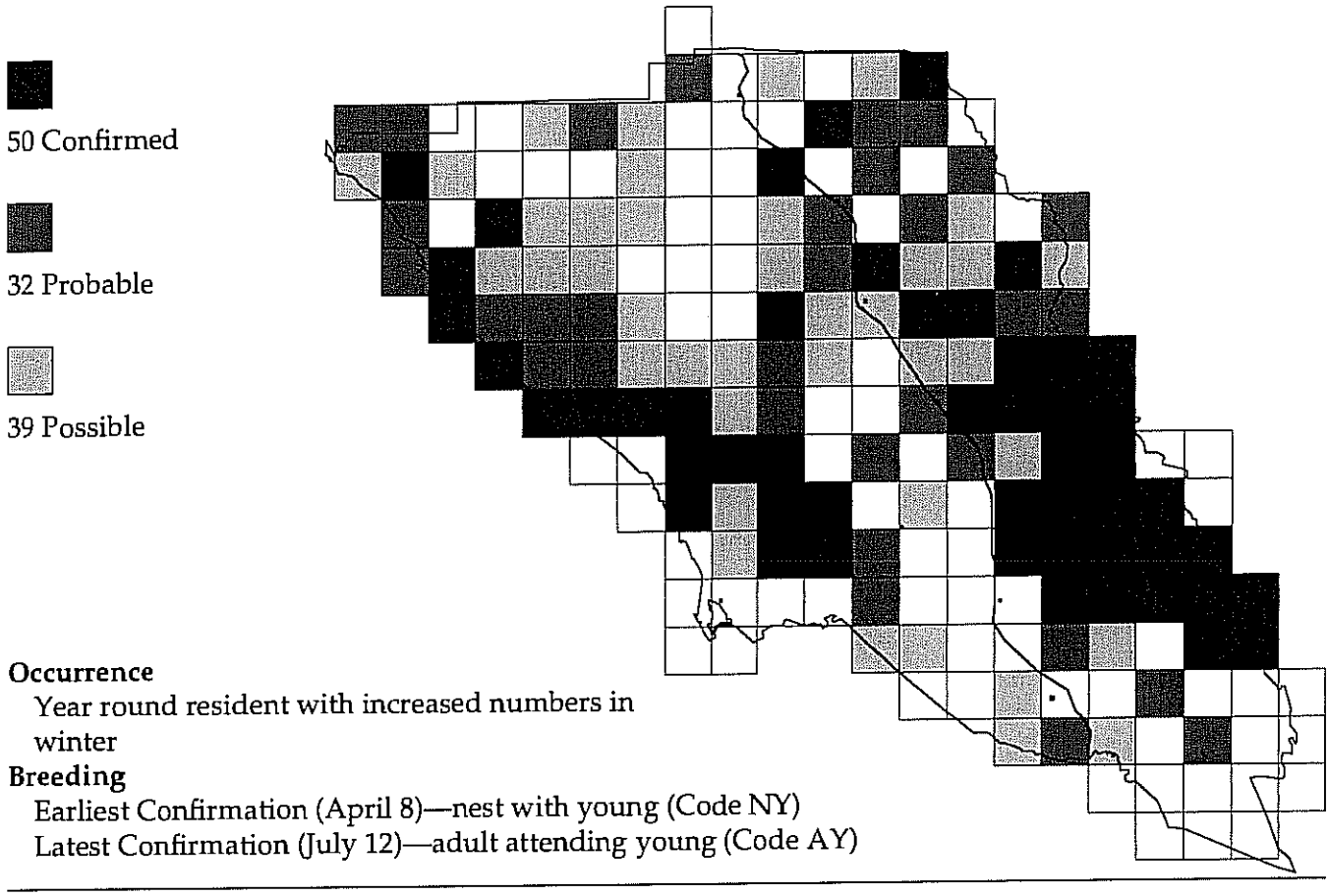
The Nuttall's White-crowned Sparrow looks like and probably used to be part of the migratory Puget Sound race (*Zonotrichia l. pugetensis*) (Stallcup 1992).

The Nuttall's White-crowned Sparrow rarely nests on the ground (Shuford 1993 citing Blanchard 1941), preferring to conceal its deep cup-shaped nest in bushes or vine tangles.

–B. Burridge

Dark-eyed Junco

Junco hyemalis



50 Confirmed

32 Probable

39 Possible

Occurrence

Year round resident with increased numbers in winter

Breeding

Earliest Confirmation (April 8)—nest with young (Code NY)

Latest Confirmation (July 12)—adult attending young (Code AY)

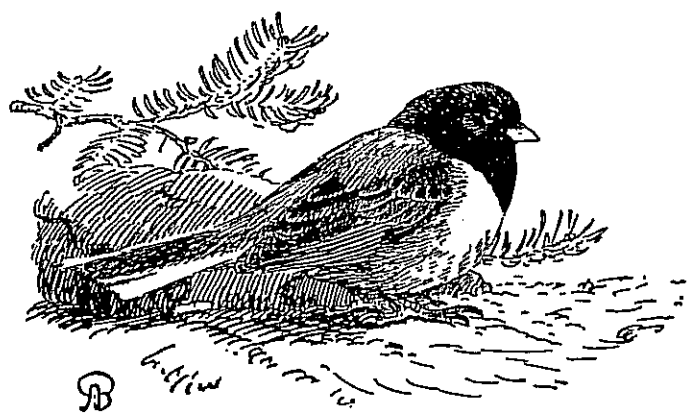
The constant twittering and one-note musical trills of the Dark-eyed Junco becomes background sound in any walk in spring or summer through the wooded hills of Sonoma County. This junco is more numerous in lowland urban areas and particularly our domestic gardens in winter than in the spring and summer breeding months.

Although the Dark-eyed Junco prefers moist edges of conifer forests, most Blocks in our county, with the exception of those entirely on dry open lowlands, provide some satisfactory habitat for breeding. Any sort of wooded area including eucalyptus or other plantings provides the shaded area with live ground cover needed to safely forage.

This junco eats primarily vegetation, but moves to seeds and insects depending on availability.

The Dark-eyed (Oregon) Junco, our local race, has black, gray, brown and white coloring blending well with the forest bottom it prefers. Nests are placed on the ground under some type of cover.

–B. McLean



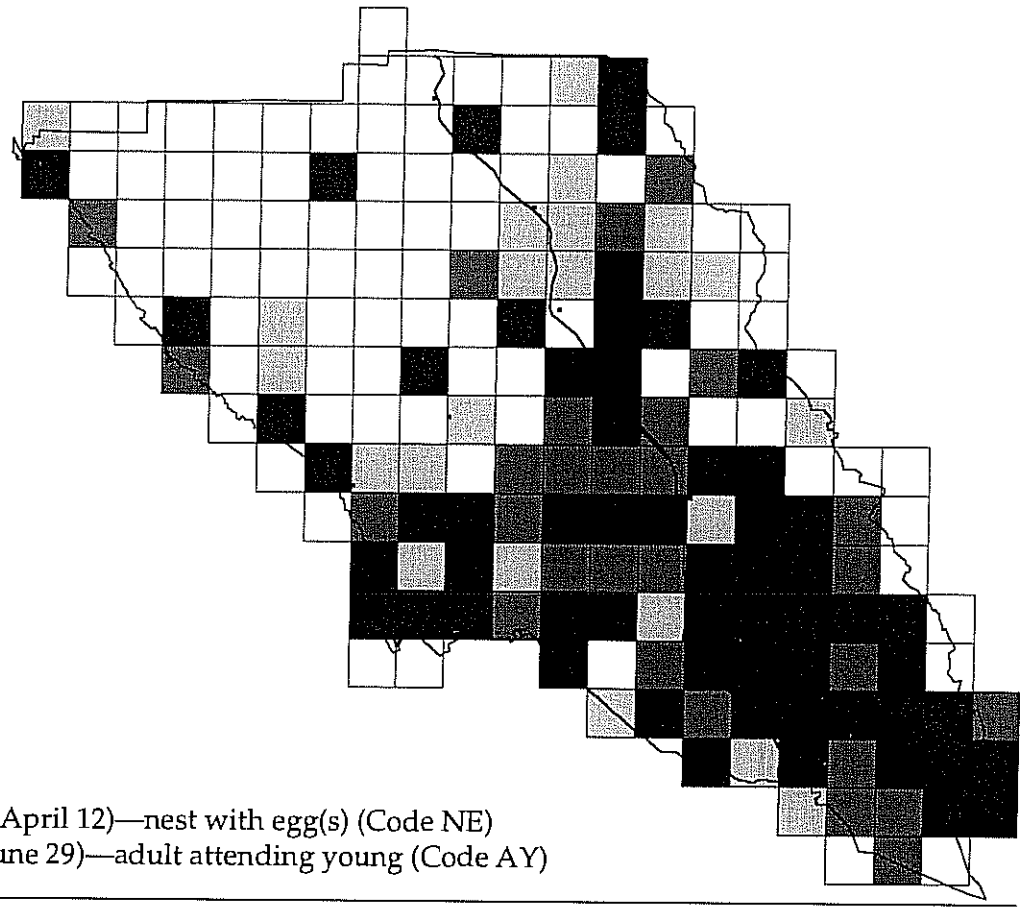
Red-winged Blackbird

Agelaius phoeniceus

59 Confirmed

28 Probable

23 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 12)—nest with egg(s) (Code NE)

Latest Confirmation (June 29)—adult attending young (Code AY)

One of the first signs of spring in Sonoma County is a male Red-winged Blackbird flashing his bright scarlet epaulets while perched on a stalk in a huge field of wild yellow mustard.

This bird is one of the most noticeable and abundant birds in Sonoma County where it is found in wetlands and agricultural areas throughout the year.

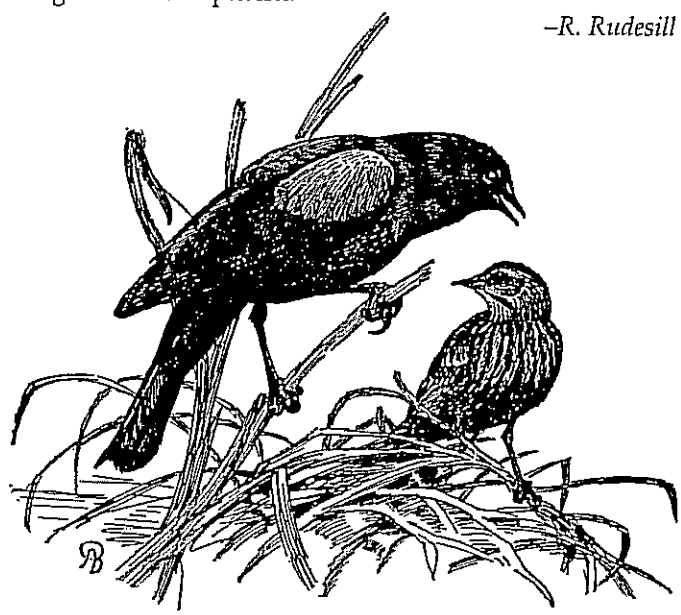
The bicolored race, which lacks a yellowish or buffy edge to the scarlet wing patch, makes up almost all of the Sonoma County breeding population of red-wings. The American Ornithological Union (A. O. U.) check list of 1910 considered the Bicolored Blackbird to be a separate species (Hoffmann 1927).

The Atlas breeding locations for this bird are mostly in the southern part of the county, away from areas of higher mountains or arid chaparral hillsides.

The Red-winged Blackbird nests in loose colonies in marshes, wet meadows or fields, usually tending to prefer edge habitat and to have water nearby (Harrison 1979). However, this bird is rather adaptable and will accept even marginal nesting locations; a roadside ditch or the smallest pond with a few cattails (pers. obs.). The nest is surprisingly hard to locate, at least partly because of the very cryptic coloration of the female. Still, there were 60 Atlas breeding Confirmations and some evidence of breeding behavior found for this blackbird in 111 Blocks.

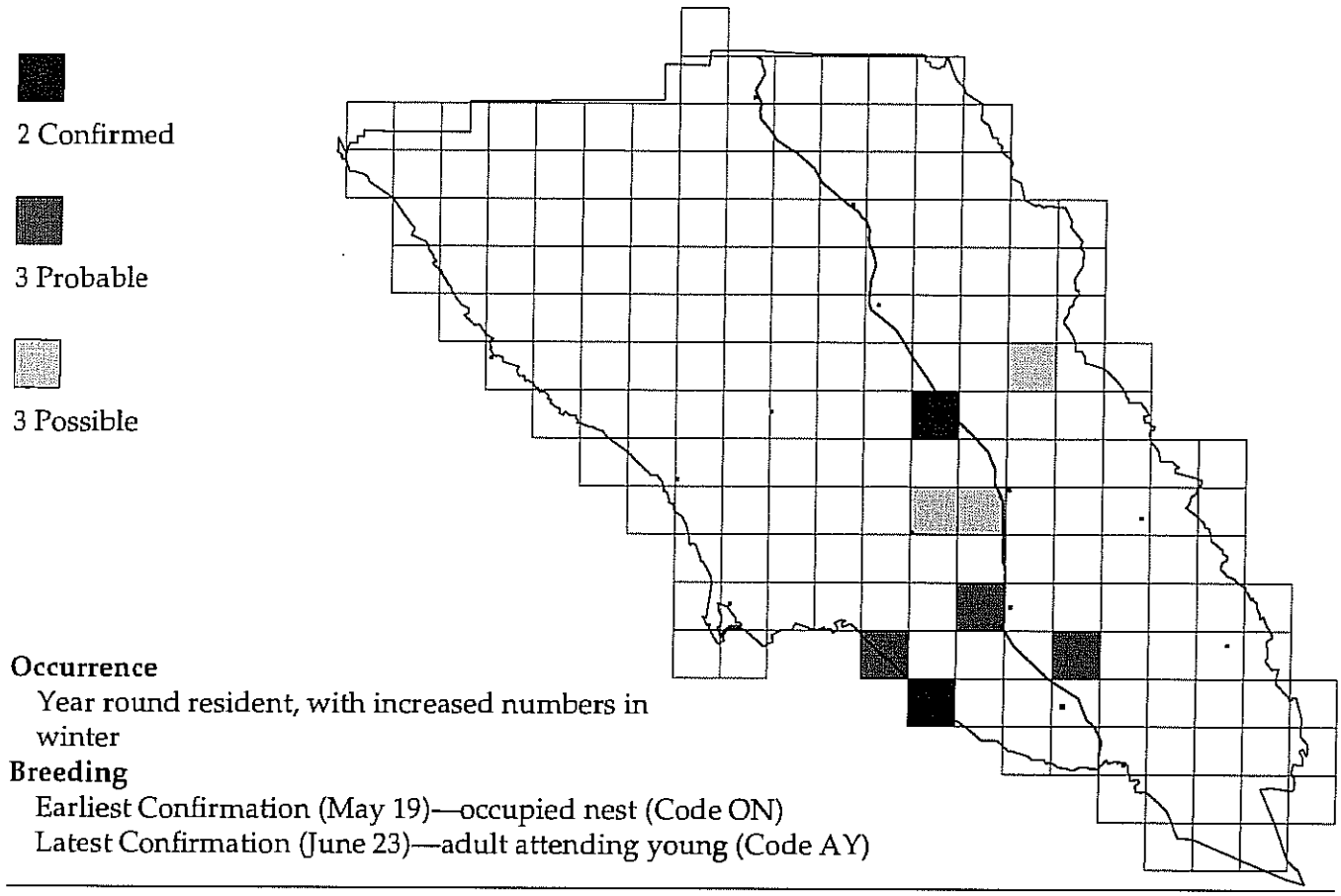
Despite its current abundance the Red-winged Blackbird population could be negatively affected by increasing land development.

–R. Rudesill



Tricolored Blackbird

Agelaius tricolor



Occurrence

Year round resident, with increased numbers in winter

Breeding

Earliest Confirmation (May 19)—occupied nest (Code ON)

Latest Confirmation (June 23)—adult attending young (Code AY)

California has several bird species that live and breed primarily within its borders. The Tricolored Blackbird is one of these. The female is darker than the female of the closely related Red-winged Blackbird and there are many other field marks that separate the two. Much less abundant than the Red-winged, the Tricolored Blackbird also has habitat requirements that are less broad, leading to its listing as a Species of Special Concern in California and a Category 2 Candidate for federal listing as a Threatened or Endangered Species (CDFG 1994).

The Tricolored Blackbird nests in colonies and requires dense vegetation in freshwater marshy habitat, nesting in emergent tules and cattails or, if displaced, in blackberry, willow or edge thickets with open foraging areas nearby (Shuford 1993 citing Orians 1961). This bird has evolved a nomadic, intensely colonial breeding pattern with a short nesting cycle, apparently in response to California's often unpredictable rainfall and drought cycles (Shuford 1993 citing Orians 1980).

Grinnell and Wythe (1927) note the presence of this bird at Sebastopol and Petaluma without any dates or other details. Grinnell and Miller (1944) give the geographic range for the Tricolored Blackbird during the breeding season as including the coast district from Sonoma County south to the Mexican border.

In Sonoma County, it was considered a widely scattered breeder by Bolander and Parmeter in 1978. One colony with 100 nests and fledged young was reported on Copeland Creek at Sonoma State University campus on May 11, 1969 (Jack Arnold). One mile farther east on Copeland Creek there were 3,000 individuals reported in April 1971 by Norwitt. During the 1970s several other colonies were documented at Sonoma State University or within five miles of that location (J. Arnold pers. comm.). New records were colonies near the Sonoma County Airport, April 27, 1976 (American Birds data file); near Sebastopol, late April 1976 (American Birds data file); at Americano Creek near Valley Ford, June 1976 (American Birds data file); and one quarter mile west of Highway 128 on Franz Valley Road, where 100 pairs were present on April 24, 1993 (Benjamin D. Parmeter pers. comm.).

During the Atlas study period only two Confirmed nesting sites were identified: the Sonoma County Airport and the Coast Guard Training Station at Two Rock. The few additional Possible and Probable breeding records are scattered throughout the southern part of the county.

The Tricolored Blackbird is vulnerable to habitat destruction and urban development in this county. The (continued on page 186)

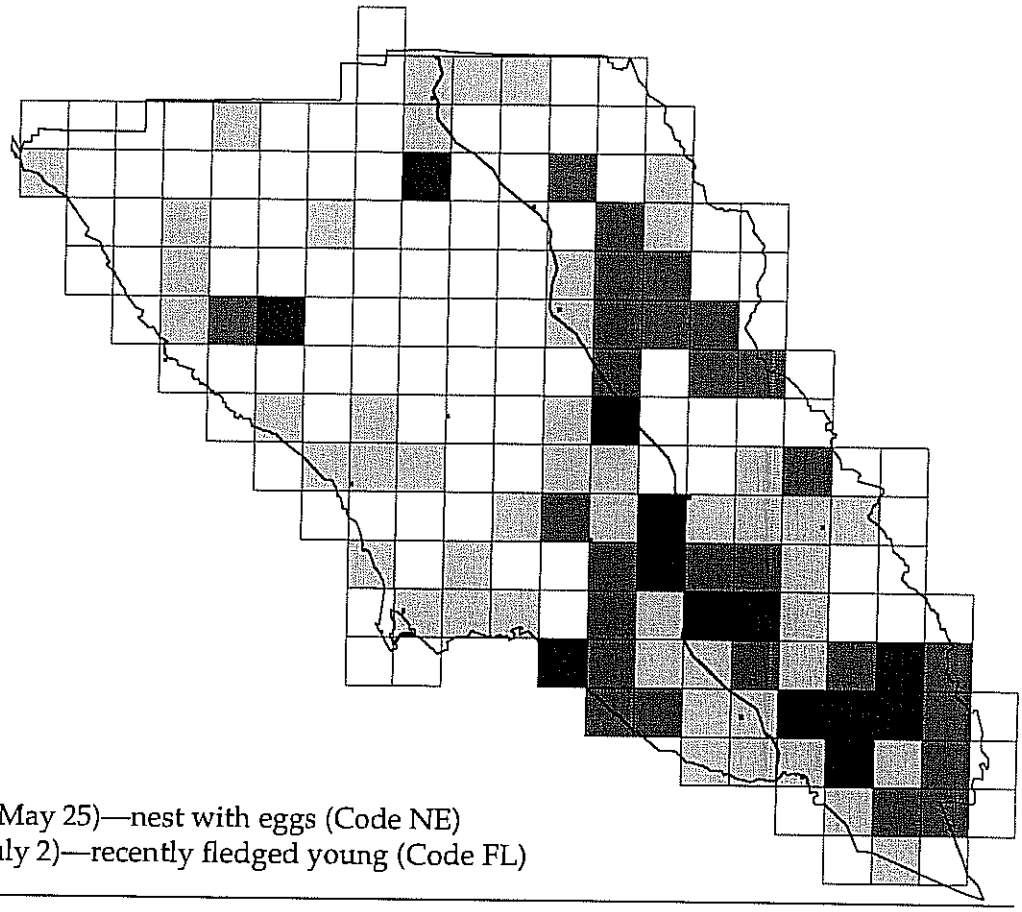
Western Meadowlark

Sturnella neglecta

13 Confirmed

27 Probable

48 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (May 25)—nest with eggs (Code NE)

Latest Confirmation (July 2)—recently fledged young (Code FL)

"... The Meadowlark sings a song that is a distillation of day break — a pure yellow burst, a breastful of glory-coming-over-the-rim-of-the-earth notes" (Douglas Chadwick 1993).

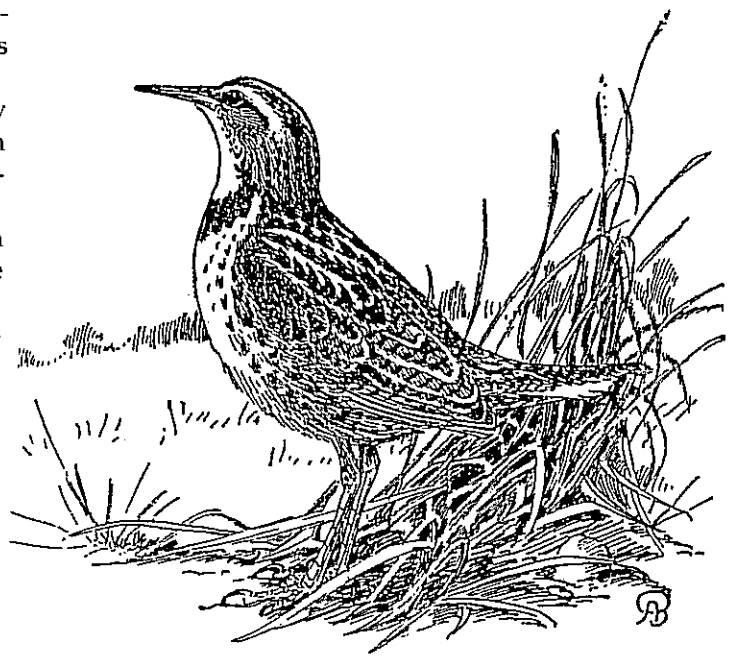
This beautiful bird is so abundant that many of us pay little attention to it, until we hear it sing. The Western Meadowlark is a member of the blackbird/oriole subfamily, *Icterinae.*

Fond of open pastures and grassy fields, the Western Meadowlark fortunately still has plenty of living space in agricultural Sonoma County.

Atlas breeding records came primarily from the eastern and southern sections of the county.

Nests are in depressions (natural or scraped) on the ground and are difficult to locate. The depression is filled with coarse grass and lined with finer grass or hair. Domed canopies are made from grass, bark, and surrounding vegetation (Ehrlich et al., 1988). While walking through a grassy field in early summer it is very possible to almost step on an active nest without being aware of its presence.

–D. Ashford



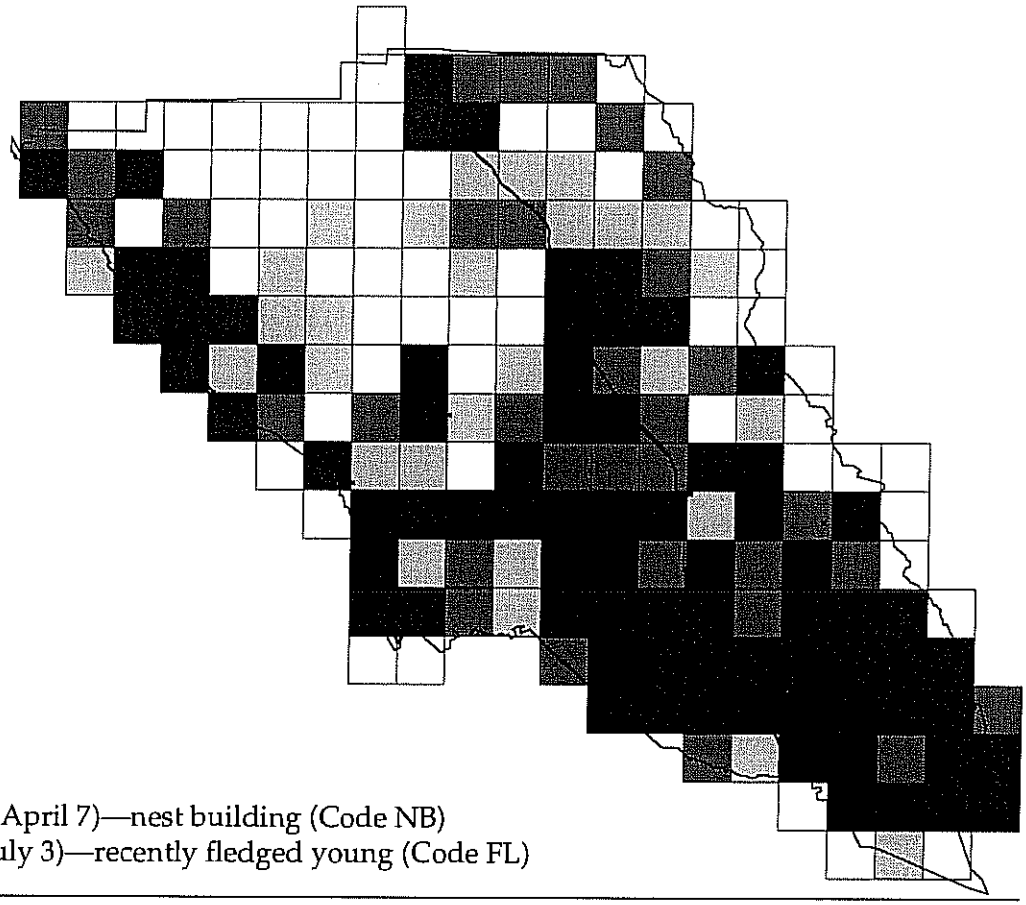
Brewer's Blackbird

Euphagus cyanocephalus

75 Confirmed

32 Probable

28 Possible



Occurrence

Year round resident.

Breeding

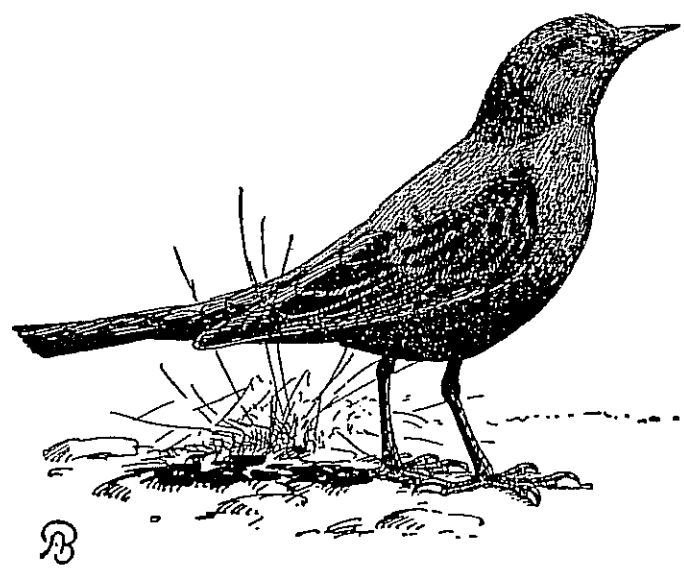
Earliest Confirmation (April 7)—nest building (Code NB)

Latest Confirmation (July 3)—recently fledged young (Code FL)

The gregarious iridescent blackbird with the shiny yellow eyes is the male Brewer's Blackbird which frequents picnic areas and parking lots, looking for tidbits of leftover lunches. The female Brewer's, who usually accompanies the male, is uniformly chocolate brown with a dark eye. The Brewer's Blackbird nests widely throughout Sonoma County. Some evidence for breeding was found for this bird in 75% of all Atlas Blocks. It sometimes nests solitarily but mostly in colonies in a wide range of habitats from remote pastures to urban landscapes. The nest is usually found in low vegetation near or on the ground but may also be in thick brush or ivy.

The Brewer's Blackbird will defend its nest aggressively, flocking on and attacking whatever is perceived as a threat, be it a raven or a human or other predator. Pairs nesting in ivy in front of a busy Petaluma office building prevented employees from entering the building by their repeated dive attacks! (pers.obs.)

–R. Rudesill



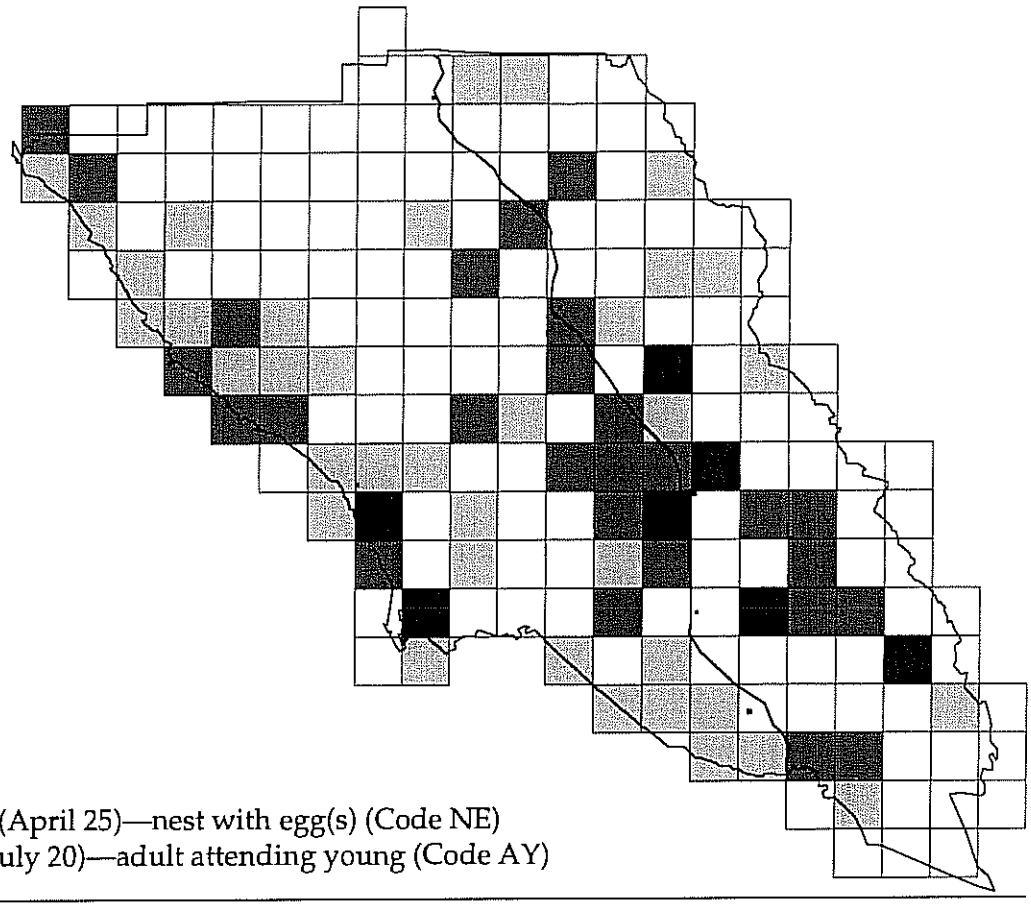
Brown-headed Cowbird

Molothrus ater

7 Confirmed

27 Probable

37 Possible



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 25)—nest with egg(s) (Code NE)

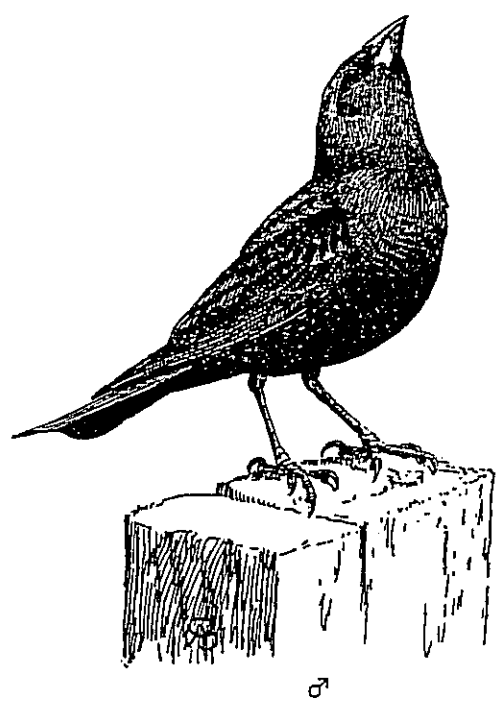
Latest Confirmation (July 20)—adult attending young (Code AY)

You don't see too many "Save the Brown-headed Cowbird" tee shirts. This bird is not on anyone's "birds I most want to see" list. Its survival strategy of brood parasitism is believed by many to account directly for part of the decline in North American songbird populations, and that, in turn, has led to the cowbird's unpopularity. There are those who feel that cowbird control is the answer. This subject has become the subject of serious debate amongst wildlife management officials and is being implemented in some areas.

A handwritten note by Gordon Bolander in his personal copy of Grinnell and Wythe (1927) indicates the presence of one cowbird at Tennessee Cove, in neighboring Marin County, on May 4, 1930. Yet by 1944 Grinnell and Miller still had no Sonoma County records for this bird even though the southern tip of this county was included by them in a general range map. By 1978 the Brown-headed Cowbird was a common permanent resident of Sonoma County (Bolander & Parmeter 1978) as it remains today.

As one might expect, Atlas records of Brown-headed Cowbird nest locations are widely distributed throughout Sonoma County except the densely forested northwestern corner and northeastern border.

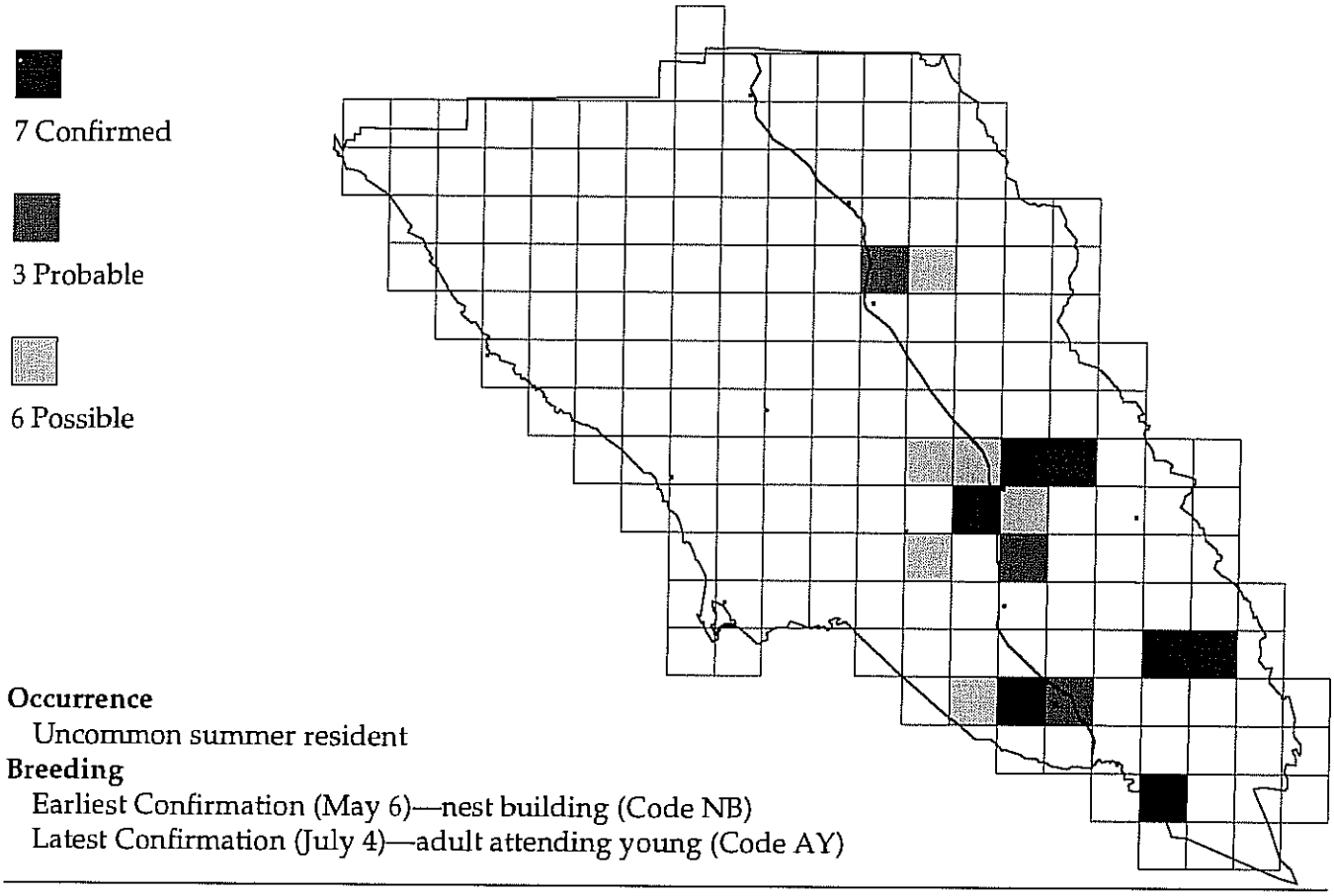
(continued on page 186)



♂

Hooded Oriole

Icterus cucullatus



Occurrence

Uncommon summer resident

Breeding

Earliest Confirmation (May 6)—nest building (Code NB)

Latest Confirmation (July 4)—adult attending young (Code AY)

Our "other" oriole, the hooded is far less well-known than the familiar Bullock's, our western race of the Northern Oriole. The Hooded Oriole is very strongly associated with fan palms. In fact, its northward expansion in California is largely a reflection of the use of fan palms in urban and suburban areas; in neighboring Marin County nearly all Hooded Oriole nest sites can be referred to by street address (Shuford 1993). A well-known location for finding this flashy bird in Sonoma County is historic Sonoma Plaza – just listen for its distinctive chatter amongst the palms.

In Sonoma County, Atlas breeding records clustered around urban areas including Sonoma, Petaluma, Santa Rosa and Healdsburg. In 1991 at Petaluma one pair even had a second nesting progress at least as far as hatched young being heard in the nest (Shirley Jewell fide M. McCulley). In 1994 a nest on the Sonoma State University campus in Cotati was being built on May 6. This breeding record was followed throughout incubation into late May but the nest eventually failed, apparently destroyed by a Scrub Jay or other predator (Dan Nelson pers. comm.).

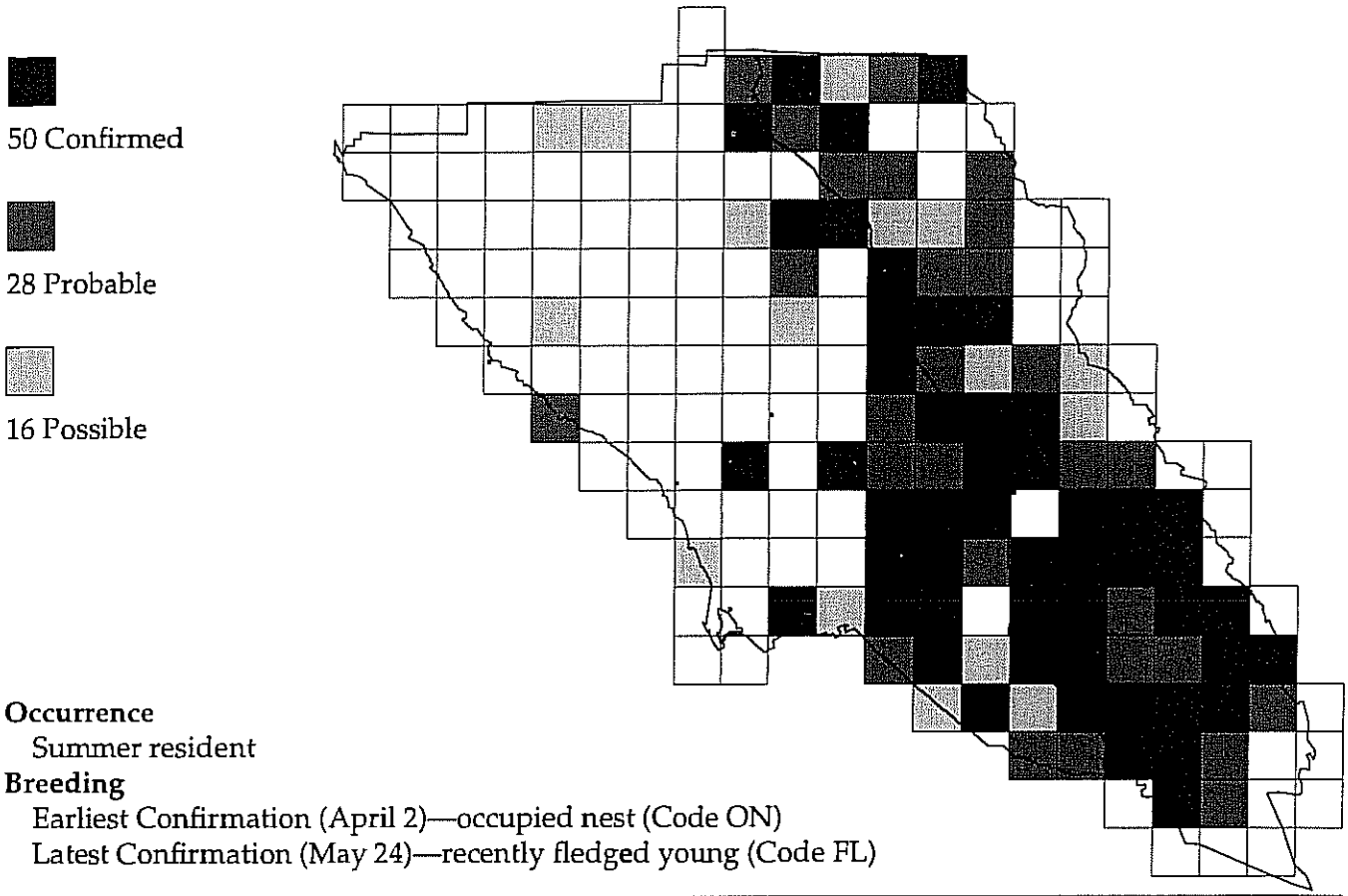
There is no mention by Grinnell and Miller (1944) of the presence of this bird north of San Francisco prior to 1944. The first nesting record for Sonoma County was from the city of Sonoma in 1977. There were also three other sight records in Sonoma County of single birds for May (Bolander & Parmeter 1978).

Nest sites are normally found from 12 to 45 feet above the ground. The elongated, saclike nest is usually made from palm fronds (Ehrlich, Dobkin, and Wheye 1988).

–D. Ashford

Northern Oriole

Icterus galbula



Occurrence

Summer resident

Breeding

Earliest Confirmation (April 2)—occupied nest (Code ON)

Latest Confirmation (May 24)—recently fledged young (Code FL)

What? This brightly-colored, boldly patterned bird is related to the blackbirds? Well, maybe the bill shape, but... This member of the *Icterinae* sub-family is the former Bullock's Oriole, now "our" western race of the Northern Oriole. Formerly recognized as a separate species, Bullock's Oriole was "lumped" with the eastern Baltimore form to become the species now called Northern Oriole.

It is found in riparian and oak woodland, especially where deciduous trees are large and well spaced (Grinnell & Miller 1944). In residential neighborhoods this bird may be "the big yellowish (female or immature) or orange and black (adult male) guy" attempting to feed from your hummingbird feeder. Nesting records come predominantly from the entire Highway 101 corridor, Santa Rosa Plain and eastern and southeastern sections of Sonoma County.

Sebastopol and Santa Rosa were mentioned as regular localities for summer sightings of the Bullock's Oriole by Grinnell and Wythe by 1927.

Nest sites have been found from six to 60 feet above the ground, usually between 15 and 30 feet. The elongated, pendulous nest hangs suspended – either attached at its rim or secured at its sides to a drooping branch (Ehrlich et al., 1988).

–D. Ashford

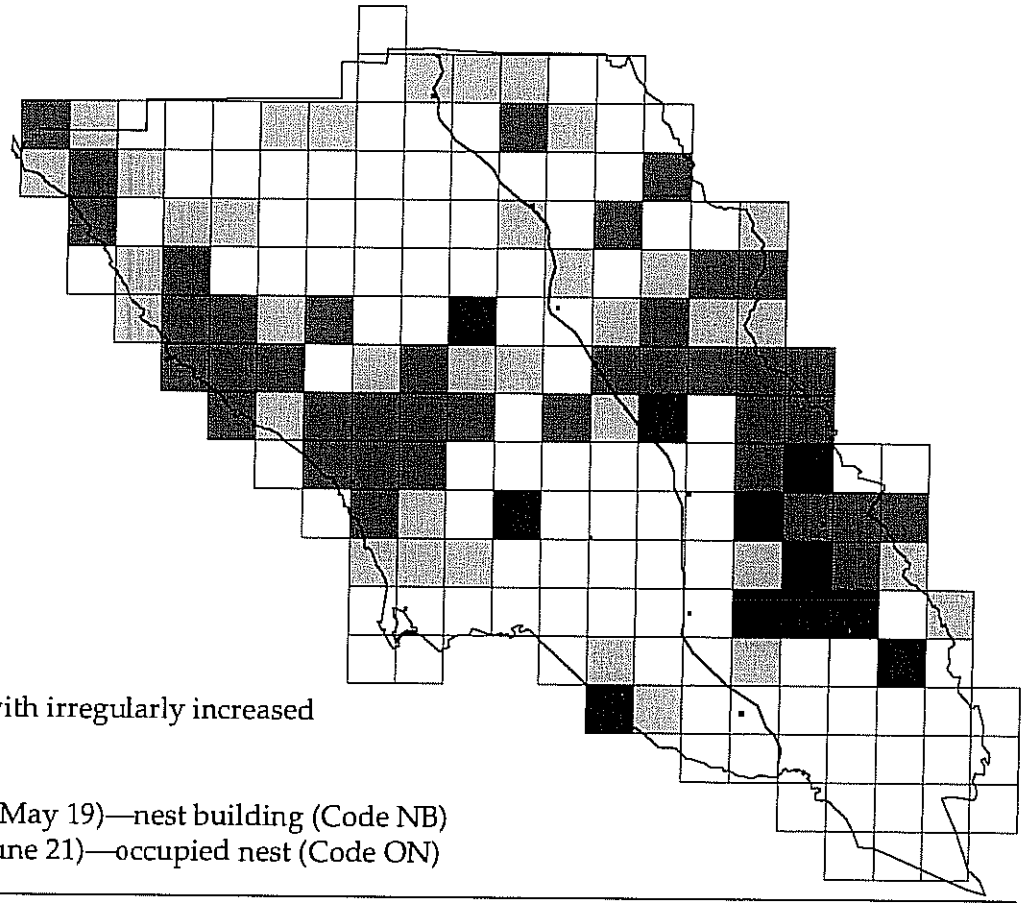
Purple Finch

Carpodacus purpureus

11 Confirmed

39 Probable

36 Possible



Occurrence

Year round resident, with irregularly increased numbers in winter

Breeding

Earliest Confirmation (May 19)—nest building (Code NB)

Latest Confirmation (June 21)—occupied nest (Code ON)

The male Purple Finch looks as if he has been dipped head first in raspberry juice, yet both he and the female still need to be carefully observed to avoid confusion with a close relative, the House Finch.

Designated as a common resident of the more humid portion of the San Francisco Bay Area by Grinnell & Wythe (1927), this bird was known from Guerneville, Freestone and Cazadero in Sonoma County prior to 1927.

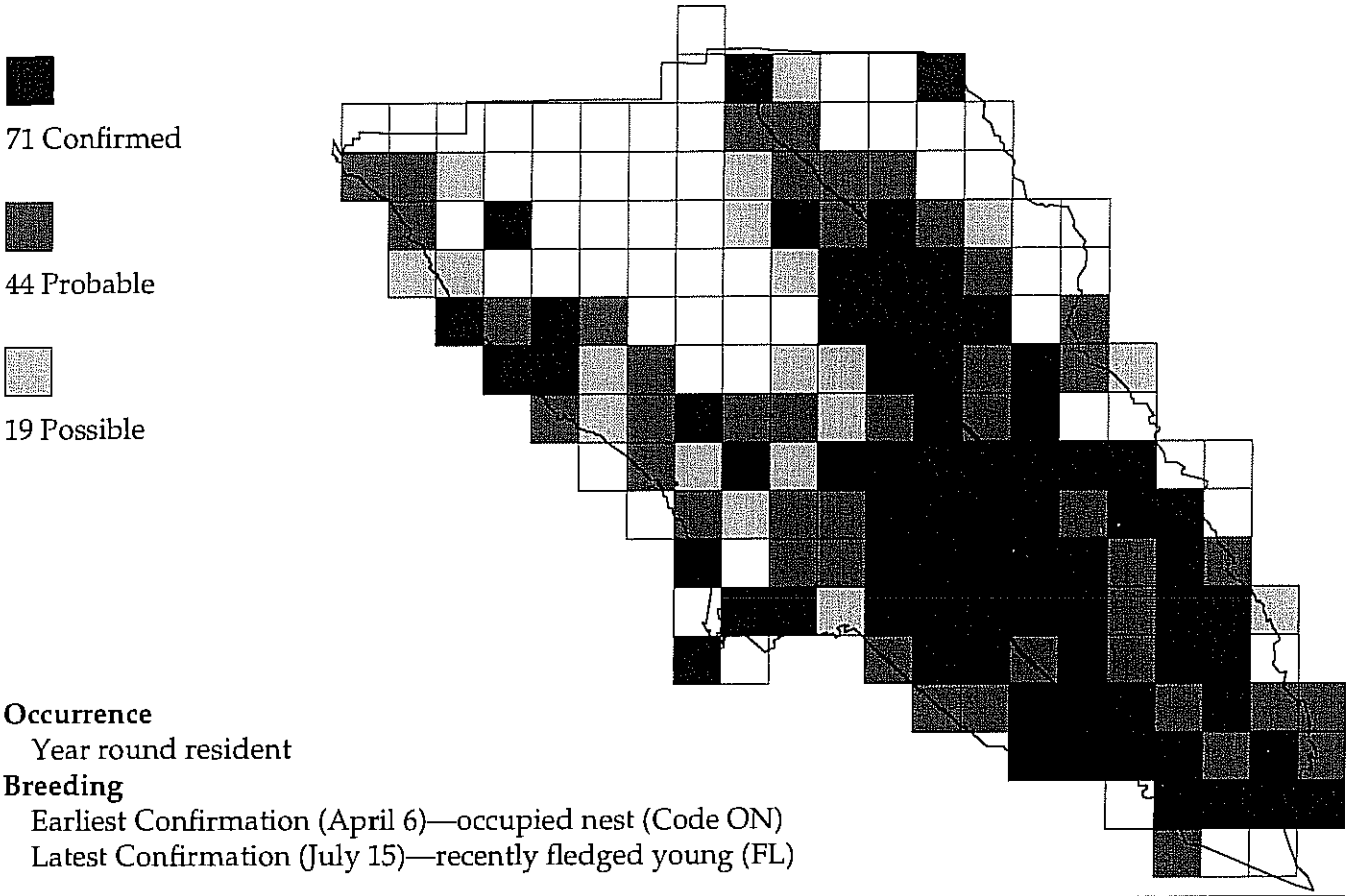
During the Atlas study, breeding records for the Purple Finch centered in the outer and inner Coast Ranges and along the Russian River. It was notably absent from the south and southwestern portions of the county and sparse in the drier Highway 101 corridor.

This bird likes moist and shaded places more than the House Finch, and can be found in oak woodlands and coniferous forest with densely foliaged trees or compact tree clumps (Grinnell & Miller 1944). In early spring it may rely on blooming trees and bushes for food; in Santa Rosa a small flock of these birds completely stripped a flowering plum tree of buds before it could bloom in January 1993 (pers. obs.).

–B. Burridge

House Finch

Carpodacus mexicanus



Occurrence

Year round resident

Breeding

Earliest Confirmation (April 6)—occupied nest (Code ON)

Latest Confirmation (July 15)—recently fledged young (FL)

The gregarious House Finch is probably the most common bird at urban and suburban bird feeders in Sonoma County. It is also the bird most likely to nest in a hanging flower basket on a porch or in residential landscaping. Neophyte bird watchers commonly assume, incorrectly, that the brightly colored male is a separate species from the drab, streaky female.

The House Finch is one of the most numerous and widely distributed breeding birds in Sonoma County; there are breeding records from 75% (136) of the Blocks surveyed in this Atlas. The House Finch was found throughout the county except in the eastern mountains and the northwestern outer Coast Range, also called the Mendocino Highlands, which are moist and heavily forested.

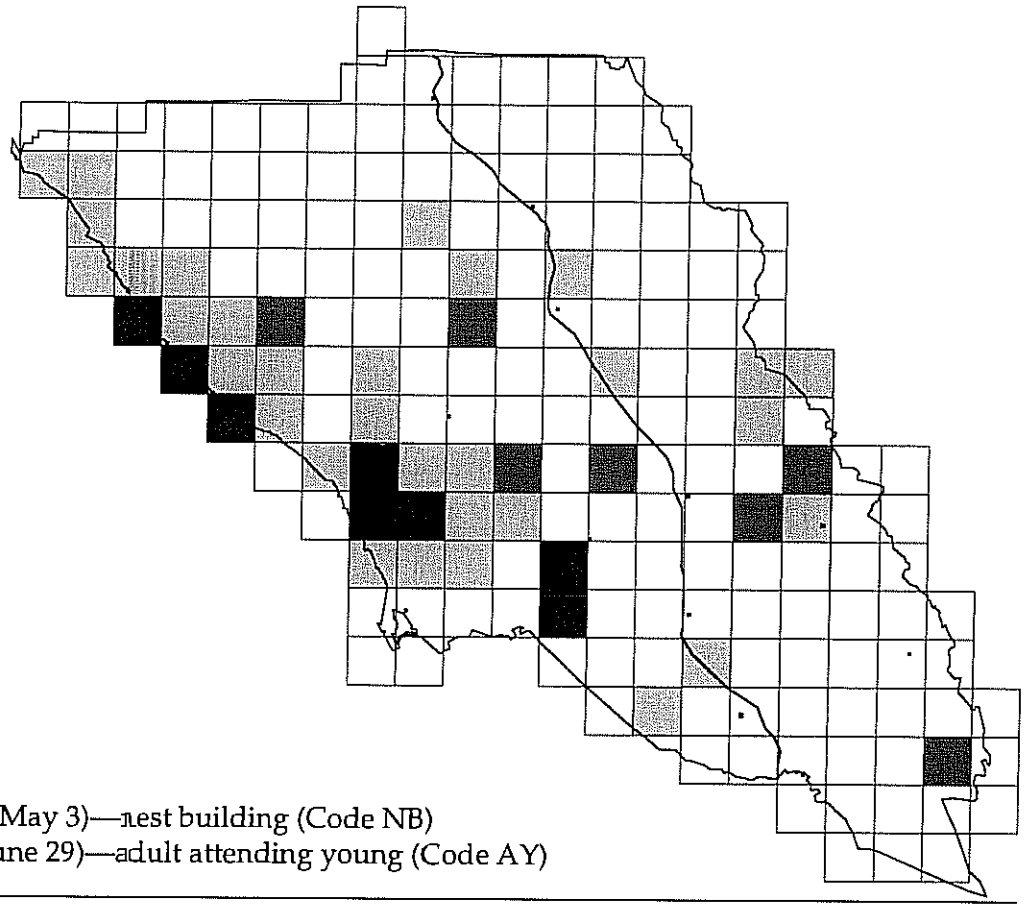
Primarily a fruit-eating vegetarian, this bird can incur the wrath of ranchers and farmers when it damages their crops.

The House Finch likes edge habitat which provides its living requirements: a reasonably close water source; open ground for low seed-producing plants; and trees, cliffs or man-made structures for roosts, lookouts, and nests. It likes drier, sunnier areas than its close relative, the Purple Finch, and will not be found in forest, continuous chaparral or most areas with cool, moist summer weather (Grinnell & Miller 1944).

–B. Burridge

Pine Siskin

Carduelis pinus



8 Confirmed

7 Probable

31 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (May 3)—nest building (Code NB)

Latest Confirmation (June 29)—adult attending young (Code AY)

A small, dark, rather plain bird, the Pine Siskin surprises observers with a flash of yellow in the wings, thus establishing its identity as a close relative of the goldfinches. This social bird is usually seen foraging in small groups (breeding season) or larger flocks (winter). In winter, one may see mixed flocks of Pine Siskins and the true goldfinches. During the Atlas period most breeding records were from the northwestern part of the county, a reflection of this species' association with the moist forests of the coastal range.

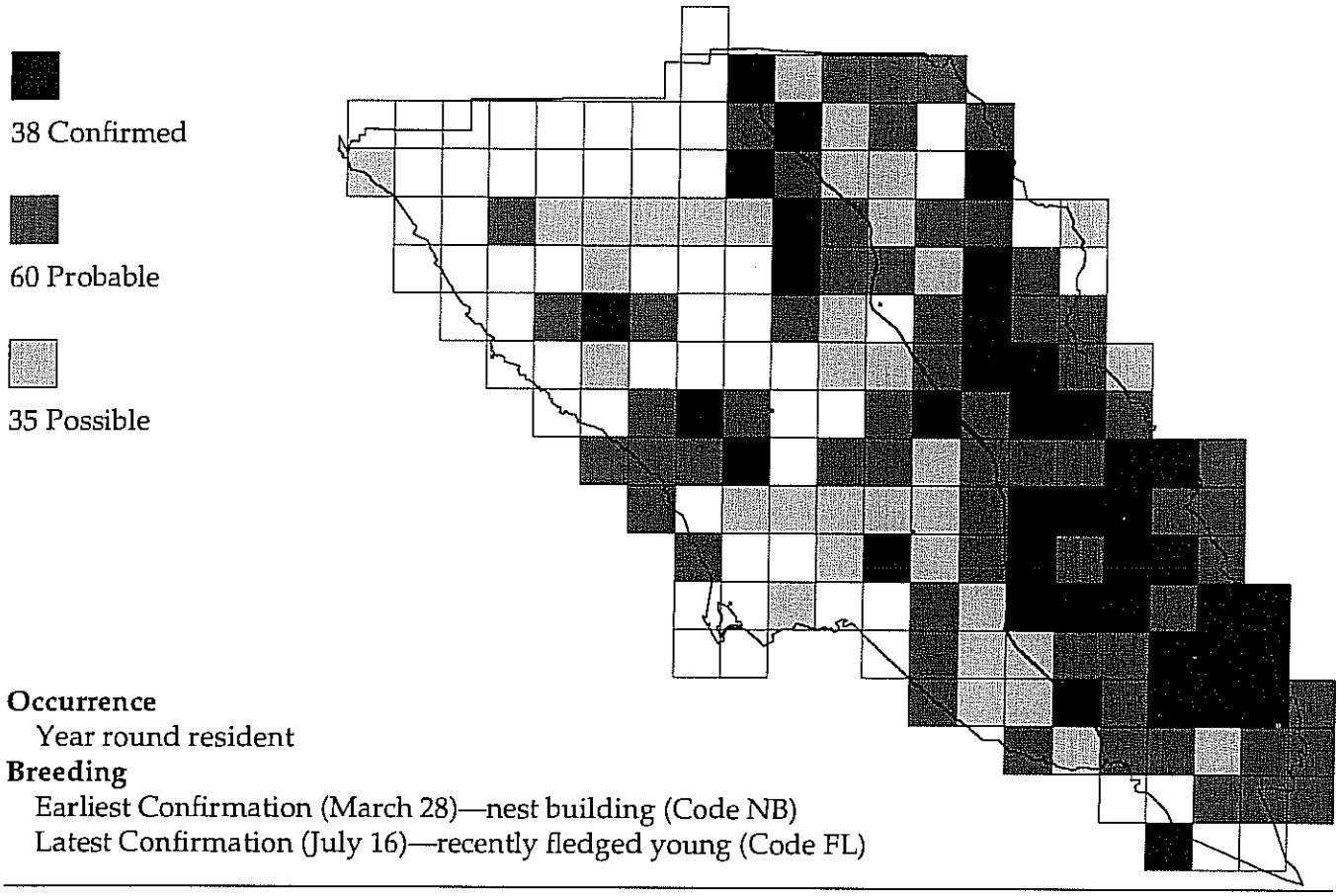
Grinnell and Wythe (1927) noted this bird to be a common resident of the San Francisco Bay Area and remarked on its presence in Sonoma County at Gualala, Stewart's Point, Fort Ross, Seaview and Cazadero, all north-coastal locations.

Pine Siskin nest sites are found from three to 50 feet above the ground. The saucer-type nests are located on horizontal limbs well out from the trunk. The female chooses the site (Ehrlich, Dobkin, and Wheye 1988).

–D. Ashford

Lesser Goldfinch

Carduelis psaltria



Occurrence

Year round resident

Breeding

Earliest Confirmation (March 28)—nest building (Code NB)

Latest Confirmation (July 16)—recently fledged young (Code FL)

A thin minor key series of notes introduces this tiny 'wild canary'. All of our local males are green-backed, compared to the black-backed eastern birds.

Grinnell and Wythe (1927) described this bird as an abundant resident in the San Francisco Bay region. In this Atlas it is widespread throughout Sonoma County except along the moist, foggy coastal area and the northwestern corner of the county.

The Lesser Goldfinch is more plentiful in drier interior habitats than the similar American Goldfinch. The closely related but less well represented Lawrence's Goldfinch prefers even drier areas than either of these other two finches.

The Lesser Goldfinch nests in almost any tree, shrub or tangle of vines (Grinnell & Wythe 1927) and likes open terrain with scattered trees or bushes (Grinnell & Miller 1944).

In winter it flocks with other goldfinch species but pairs off to breed in spring and establishes its territory only after selecting a nest site (Shuford 1993 citing Coutlee).

–B. Burridge

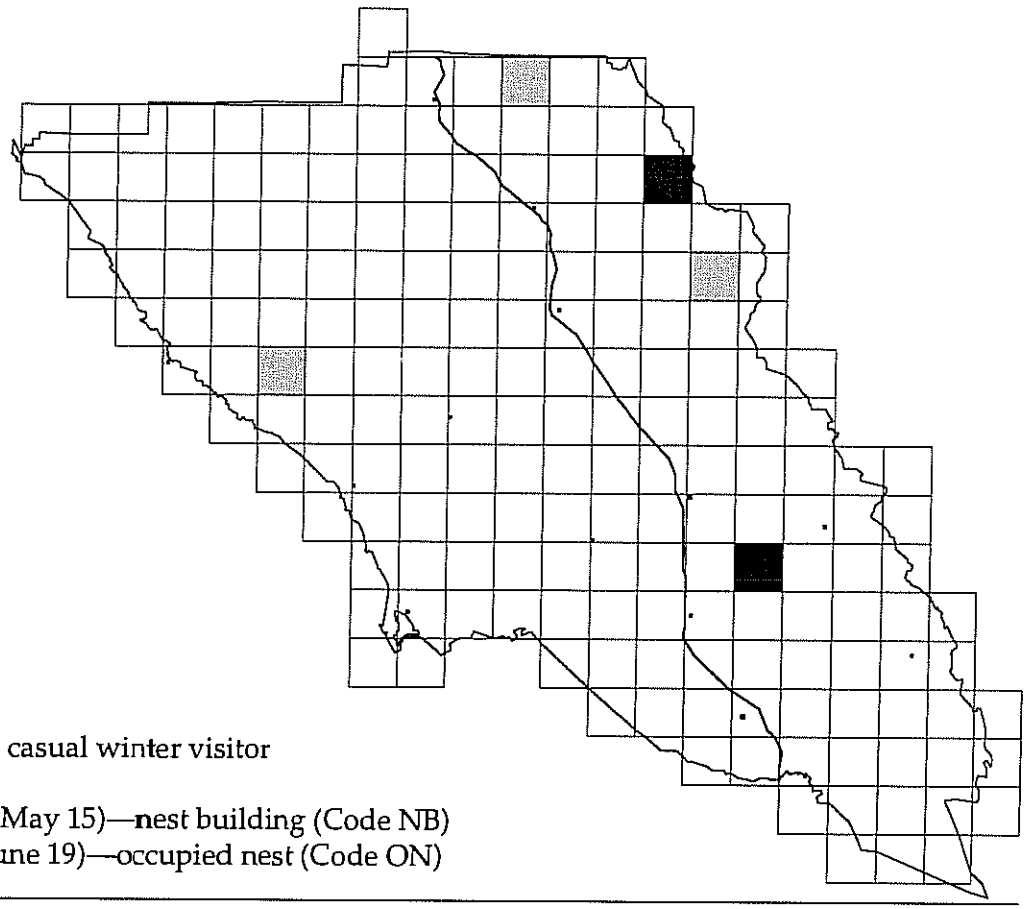
Lawrence's Goldfinch

Carduelis lawrencei

2 Confirmed

0 Probable

3 Possible



Occurrence

Rare summer resident, casual winter visitor

Breeding

Earliest Confirmation (May 15)—nest building (Code NB)

Latest Confirmation (June 19)—occupied nest (Code ON)

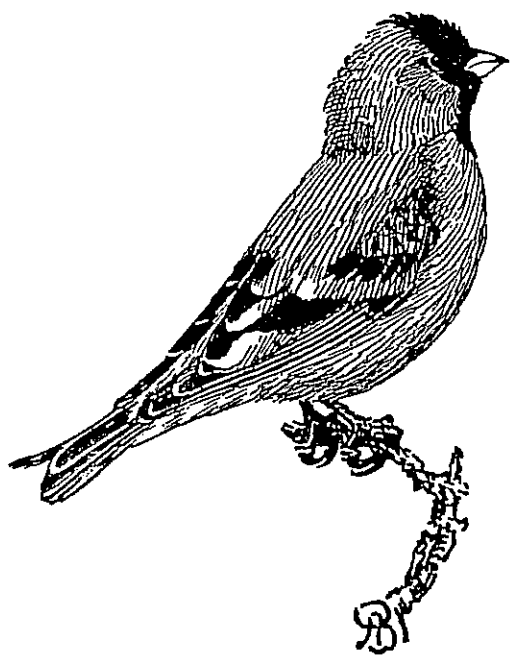
The handsome Lawrence's Goldfinch is a rare sporadic breeder in Sonoma County's grassy oak woodlands and dry forest edges bordering weedy grasslands. A truly nomadic species, the Lawrence's Goldfinch is so irregular in Sonoma County that its status is impossible to predict from year to year. In some years small numbers may be present in given localities, yet scarce or absent in following years. Occasionally birds will wander through suburban areas or even moist coastal climes. There is a record of two adults feeding a juvenile bird on Salmon Creek Road near the coast on August 9, 1979 (Ellis 1979).

Like other finches, such erratic movements are generally related to a specialized diet coupled with cyclical shortages of preferred staples, such as seeds of the wildflower known as fiddleneck.

South of Sonoma County the Lawrence's Goldfinch is more common but no less erratic in the dry inner coast ranges and Sierran foothills. This bird will fly relatively long distances to gorge on good food supplies but usually nests near a water source. Indeed, many observations of this species are of birds in undulating flight overhead, uttering their characteristic flute-like notes.

In Sonoma County the overall breeding population

(continued on page 186)



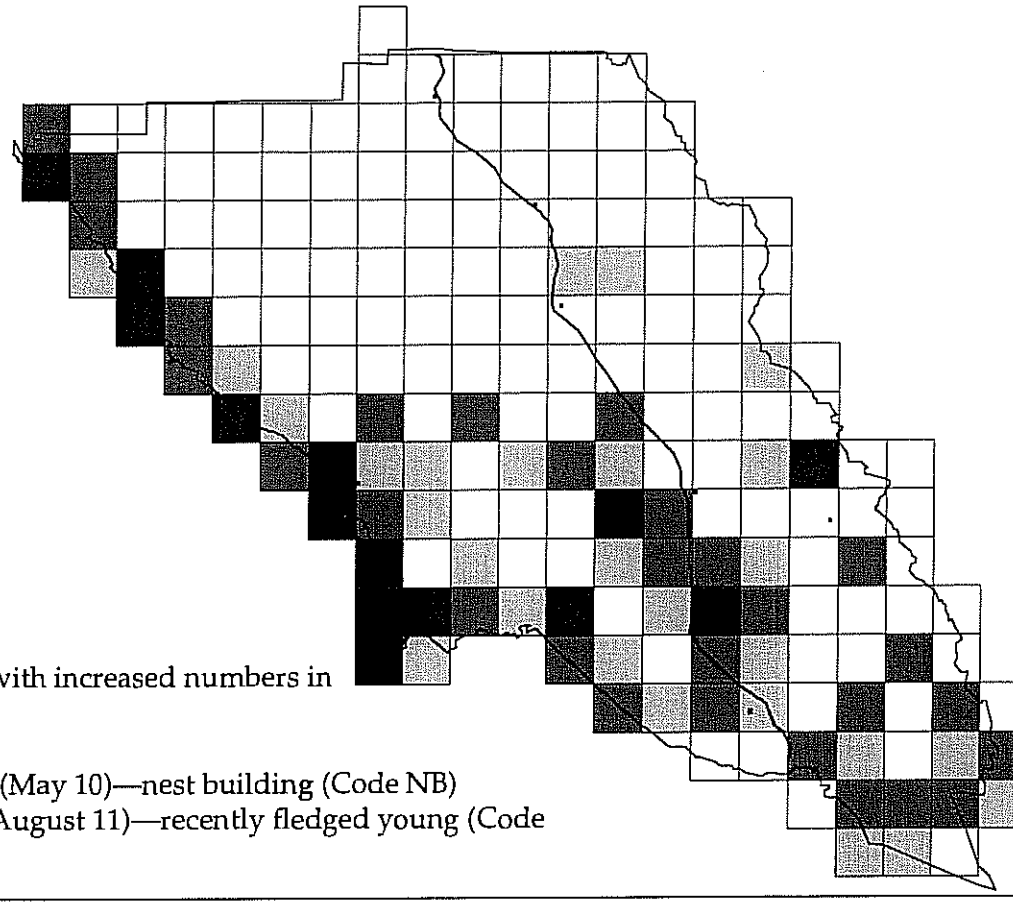
American Goldfinch

Carduelis tristis

14 Confirmed

29 Probable

27 Possible



Occurrence

Year round resident, with increased numbers in winter

Breeding

Earliest Confirmation (May 10)—nest building (Code NB)

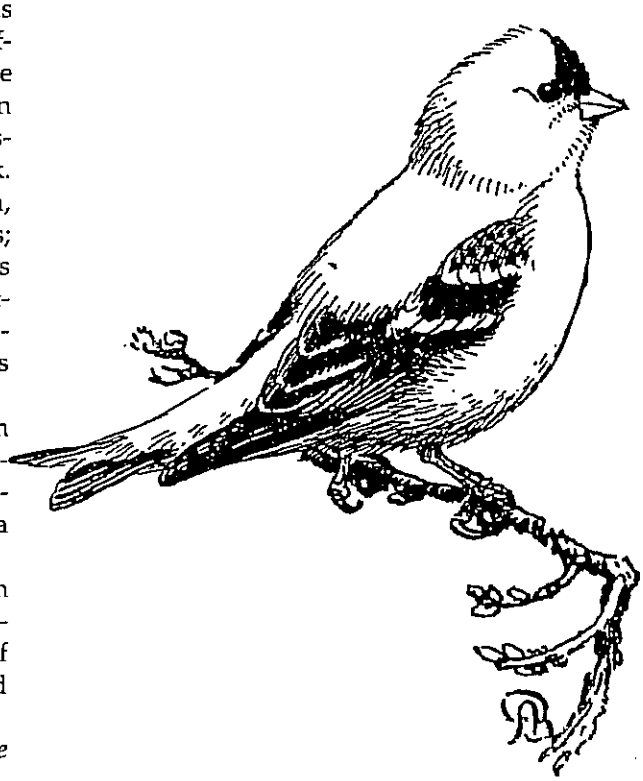
Latest Confirmation (August 11)—recently fledged young (Code FL)

The acrobatic generic 'wild canary' feeding on weeds and thistles near the homes of casual birders is most often actually a goldfinch. Several plumages are possible for our two common species but it is the American Goldfinch male in breeding plumage that has the distinctive black cap and forehead, and bright yellow back. The California form, formerly called Willow Goldfinch, is not restricted to willows, though they are favorites; it also shows a preference for cottonwoods and alders for nesting (Grinnell & Miller 1944). Shuford (1993 citing Stokes) also mentions this bird nesting in a wide variety of bushes, saplings, trees, stout herbaceous plants and even ferns.

Grinnell and Wythe (1927) listed the American Goldfinch as a common local resident in the San Francisco Bay region, noting Stewarts Point, Fort Ross, Duncans Mills and Guerneville as locations in Sonoma County where this bird had been recorded.

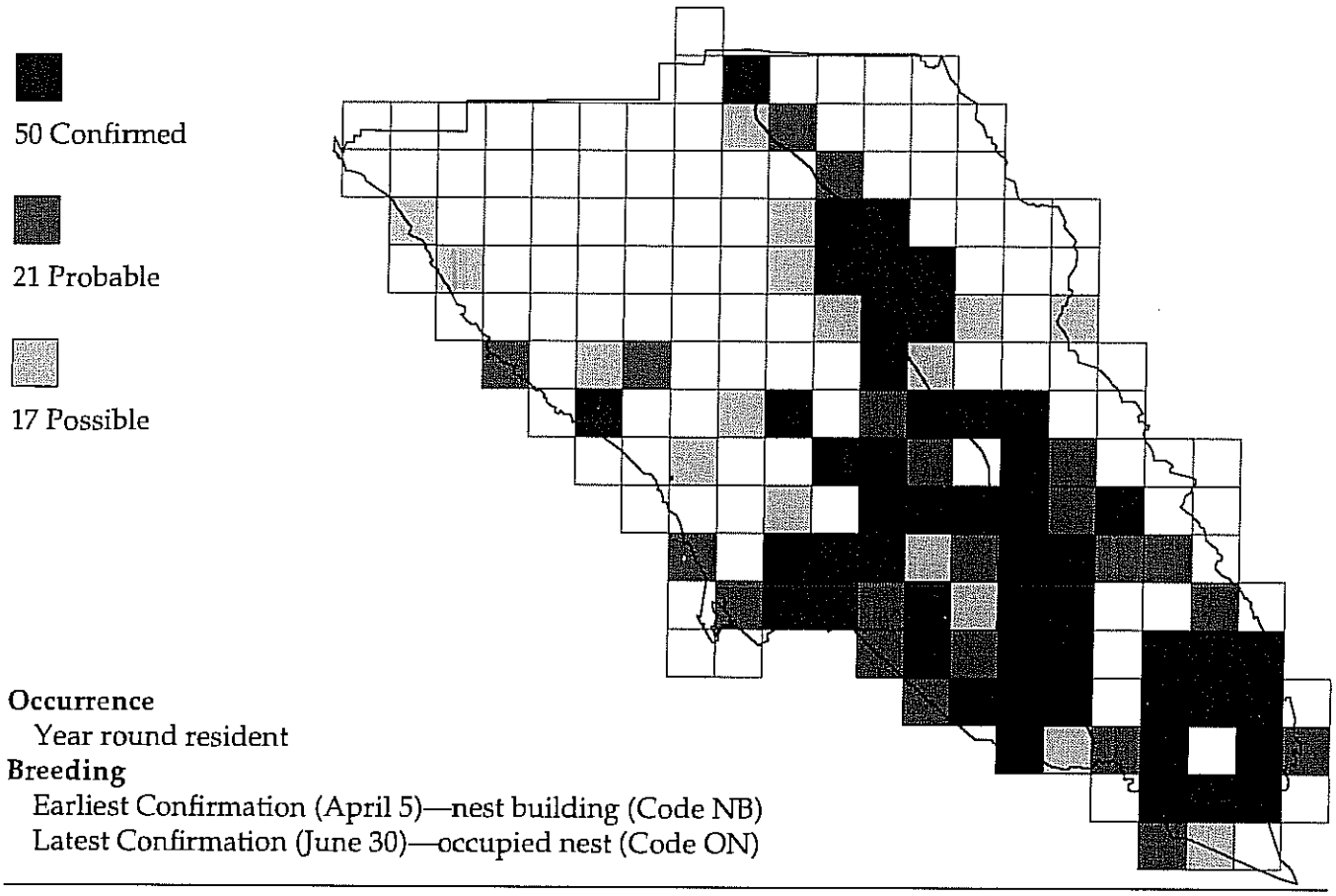
In this Sonoma County Atlas the American Goldfinch was found to be concentrated along the coast, in the Laguna de Santa Rosa and the southeastern corner, all of which are moist areas which this bird prefers (Shuford 1993).

–B. Burridge



House Sparrow

Passer domesticus



50 Confirmed

21 Probable

17 Possible

Occurrence

Year round resident

Breeding

Earliest Confirmation (April 5)—nest building (Code NB)

Latest Confirmation (June 30)—occupied nest (Code ON)

The House Sparrow is possibly the most widespread land bird on earth (Summers-Smith 1963). It was first introduced on this continent in New York City from 1851 - 1853 with many other introductions to follow. European immigrants longed for the familiar birds of their homeland, and they believed the sparrows would be useful in controlling insect pests (Shuford 1993). House Sparrows were introduced in San Francisco in 1871 or 1872. By 1881 some agriculturalists, naturalists and a few citizens were already recognizing the need to control its population. However, efforts had little effect except to lessen numbers locally. The House Sparrow population continued to spread rapidly. By 1886 it was reported to be common in the settled portions of the San Francisco Bay Area (Grinnell & Wythe 1927). Its spread is thought to have been facilitated by railroad lines, through adventitious transportation in grain and stock cars (Grinnell & Miller 1944) as well as by highways which the bird followed picking up grain dropped by passing vehicles or semidigested grain from the droppings of horses (Shuford 1993). Its date of arrival in Sonoma County is unrecorded, but by 1915 it had spread to virtually all sections of the State (Grinnell & Miller 1944).

The House Sparrow prefers conditions best met in cities, towns and in highly populous arable lands, particularly where livestock and small farm animals are kept (Shuford 1993).

During the Atlas period, the House Sparrow predominantly bred in Sonoma County along the Highway 101 corridor and the arteries to and along the coast. Other areas of breeding density were the farming areas of the southeastern portion of the county. It was noticeably absent from the sparsely human-occupied and heavily forested areas of the county.

The nesting House Sparrow requires food, nest sites and roost sites all to be in close proximity. Nests are usually in and about buildings, in crevices and crannies, bird boxes, ivy and trees, (especially palms) (Shuford 1993).

While the House Sparrow has been vilified for many sins against human interests, perhaps the greatest "fault" is its aggressive interactions with native birds. It occupies prime nest sites and displaces many other species, especially cavity nesters. Most efforts to control the House Sparrow population are successful only locally and temporarily. Our native birds, especially neotropical migrants, are already facing massive man-made threats to their survival and the House Sparrow (continued on page 186)

SPECIES ACCOUNTS (CONTINUED)

Pied-billed Grebe (continued from page 24)
near the Marin County line. In mid-August a single pair of adults was observed in this pond with young Pied-billed Grebes indicating successful breeding (Dan Nelson pers. comm.).

This small grebe, which spends practically its entire life in the water, appears susceptible to pollution, predators, human disturbance, and wetland habitat loss.
D. Ellis, R. Rudesill

Double-crested Cormorant (continued from page 26)
County (Shuford 1993). Its numbers increase greatly in winter (B. D. Parmeter pers. comm.).

The Double-crested Cormorant builds a bulky nest of sticks, tules, or kelp lined with a softer substance like feathers and grasses. The nests may be used year after year (Harrison 1979).

Double-crested Cormorant is a fish eater and therefore can be sensitive to water pollution. This bird is listed as a Species of Special Concern in California and data concerning rookeries are being recorded in the CDFG -- Natural Diversity Data Base (CDFG 1994).
R. Rudesill

Black-crowned Night Heron (continued from page 34)
As with all colonial nesting species, this night-heron can attract predators to the heronry (pers. obs.). And, since it forages near or in water, habitat loss and pollution can also threaten this species (Shuford 1993). The Black-crowned Night-Heron is a species of concern being recorded in the California Department of Fish and Game -- Natural Diversity Data Base (CDFG 1994).
R.Rudesill

Osprey (continued from page 45)
the nest (Harrison 1979). The Osprey pair nests solitarily or in loose colonies (Shuford 1993).

The Osprey is an important indicator species, requiring healthy creeks, bays, estuaries and rivers to sustain its population.

The Osprey is classified as a Species of Special Concern by the California Department of Fish and Game (1994).
R. Rudesill

Cooper's Hawk (continued from page 49)
The Cooper's Hawk was on the Audubon Society's Blue List of concern from 1972-1981 and in 1986. Cooper's Hawk populations declined continent-wise, but mostly in the East, from the 1920s to the 1960s (Palmer 1988). Currently it is designated as a Species of Special Concern by the California Department of Fish and Game (1994).
B. Burridge

Red-shouldered Hawk (continued from page 50)
species. An example is the much needed Spring, 1995 Todd Road widening project which required the cutting down of a huge eucalyptus tree where a pair of Red-shouldered Hawks had begun to build a nest (pers. obs.); that tree had been a raptor nesting site for over 20 years.
B. Burridge

Blue Grouse (continued from page 56)
of the intersection of that road and Highway One (B. Black pers. comm.).

Only three locations were recorded for the Blue Grouse for this Atlas: two Possible breeding records at the northwestern tip of Lake Sonoma, and just north of Soda Springs on Skaggs Springs/Stewarts Point Road where there are reports of grouse all along Skaggs Springs Road as it parallels the Gualala River (Doug Ellis pers. comm.). A single Probable breeding record was four miles east of Salt Point State Park. Thompson Ridge west of Cloverdale is also a regular spot for this bird (B. D. Parmeter pers. comm.). Bolander & Parmeter, citing O. Kolkmann (1978), reported "no recent records (in Sonoma County), but within the last year (1977) (the Blue Grouse) has been recorded near Hopland in Mendocino County within one or two miles of the Sonoma County Line." On April 10, 1981 ten birds were reported from Rockpile Road (Ellis 1981) which has been a traditional place for Blue Grouse to be heard and seen in the spring since the late 1970s (pers. obs.). There are no recent records of Blue Grouse in Sonoma County south of the Russian River (B. D. Parmeter pers. comm.).
B. Burridge

Black-necked Stilt (continued from page 68)
River near Lakeville (Carmen Patterson pers. comm.) (Bolander & Parmeter 1978). These were the first Sonoma County breeding records for this species.

The Black-necked Stilt's habitat preferences are similar to those of the slightly larger American Avocet; however, prey availability appears more critical than specificity of habitat criteria for both of these shorebirds (Shuford 1993).
B. Burridge

Western Gull (continued from page 72)
within the murre and cormorant colonies. Personally, I have always marveled at the successful co-existence of well-established Western Gull and Black Oystercatcher nests in the same vicinity at Bodega Head.

Western Gull nests are easily seen on the closest sea stacks at the southwestern end of the main parking lot at Bodega Head, as well as at Duncans Landing, approximately eight miles north.
N. Conzett

Band-tailed Pigeon (continued from page 75)
and generously stocked backyard bird feeders (pers. obs.). The population in Sonoma County increases in winter, supplemented by numbers of birds from the north and the Sierra Nevada Range.

The Band-tailed Pigeon requires forests that are at least 20 years old for nesting (Shuford 1993 citing Glover). Although favored berry- and fruit-producing trees and shrubs are abundant in the early stages of forest regeneration after logging or fire, these are often eliminated by herbicide spraying that targets broadleaved species (Shuford 1993 citing Grenfell et al.,).
B. Burridge

Burrowing Owl (continued from page 81)
nearly or quite level grassland; prairie; and desert floor. There is conspicuous dependence of the Burrowing Owl, in its subterranean nesting needs, upon the larger burrowing mammals, notably the California ground squirrel, west of the Sierran Divides (Grinnell & Miller 1944).

The Burrowing Owl is currently classified by the California Department of Fish and Game as a Species of Special Concern (CDFG 1994).
B. Burridge

Spotted Owl (continued from page 82)
e. g., large cavities, broken-off tops, mistletoe infections, or other forms of decadence to serve as nest sites, and numerous large snags or standing dead trees. Typically these structural attributes of superior habitat do not become prominent until stands are 150 -- 200 years old, but can develop in 80 -- 100 years along the narrow band of coastal redwood forest (Thomas et al., 1990).

The Northern Spotted Owl is listed as a Threatened Species by U. S. Fish and Wildlife Service (CDFG 1994).
Dan Nelson

Red-breasted Sapsucker (continued from page 92)
at Sea Ranch (pers.obs.). Individuals have also been seen during May and June at Valley Crossing, Annapolis Road, Clippermill Bridge, the Gualala Point County Park campground near the Highway One Bridge, and west and northwest of Healdsburg. The latter sightings all suggest Possible nesting in those areas. Grinnell and Miller (1944) list this species (then named *Sphyrapicus varius daggetti*) as breeding south only as far as central Mendocino County. There is a small discontinuous breeding population in west-central Marin County (Shuford 1993).

All nesting or possible nesting activity is referable to the northwestern portion of Sonoma County. In winter the Red-breasted Sapsucker becomes wide-spread though uncommon throughout the county. In winter it utilizes riparian woodland, oak woodland, suburban gardens, orchards, and coniferous forest. On both the Western Sonoma County and Santa Rosa Christmas Bird Counts, it is recorded regularly in small numbers. Two closely related species, the Yellow-bellied Sapsucker (*Sphyrapicus varius*) and the Red-naped Sapsucker (*Sphyrapicus nuchalis*), have been noted rarely in the county and only in winter.
B. D. Parmeter

Nuttall's Woodpecker (continued from page 93)
Woodpecker. Fortunately, accuracy of differential identification is greatly enhanced as these species have separate ranges; the Nuttall's Woodpecker is present west of the Sierran divides and the Southern California deserts.
D. Hofmann, B. Burridge

Northern Flicker (continued from page 96)
when these are abandoned by the original owners. With forested areas being cleared for modern human needs, more prime habitat for the Northern Flicker becomes available, insuring that it will continue to be a notable resident of our county well into the future (Shuford 1993).
D. Hofmann, B Burridge

Olive-sided Flycatcher (continued from page 98)
County, it is believed the Olive-sided Flycatcher has actually expanded its range slightly within the last fifty years, gradually moving into lowland areas as planted cypress and taller eucalyptus trees have grown to adequate heights (Shuford 1993).

Due to its specialized requirements for tall, often dead snags the Olive-sided Flycatcher is quite sensitive to change in its environment. A windstorm could effectively ruin an entire territory by toppling one or two of the tallest snags. This might explain why birds mysteriously disappear from areas that were once productive territories.

In 1987, the U.S. Fish and Wildlife Service placed the Olive-sided Flycatcher on the list of Migratory Non-game Birds of Management Concern for Region I, of which California is a part (USFWS 1987).
D. Nelson

Western Wood-Pewee (continued from page 99)
are flying. Unlike most Empidonax flycatchers, the Western Wood-Pewee sits fairly still while perched, scanning the air for insect prey. It often lands on telephone wires which afford an unobscured vantage and rigid take-off point for hot pursuits. The Western Wood-Pewee's foraging niche is the intermediate level canopy, at levels lower than the Olive-sided Flycatcher, yet above and more exposed than Pacific-slope Flycatcher haunts.

In Sonoma County, the Western Wood-Pewee is most numerous in the drier eastern portions during the nesting season. During migration, however, birds can be chanced upon in a wide variety of habitats such as small woodlots, borders of suburban areas, yards, and coastal areas in a mix of non-native trees.
D. Nelson

Black Phoebe (continued from page 102)
and the eaves of abandoned barns and buildings. Here, a half-cup shaped nest of mud and grass is plastered to the wall, often so that the structure provides a natural overhang to protect the nest from above. Moist pellets of mud are bound by straw-like grasses and lined by finer grasses or hair from nearby horses or cattle. When dried, these very durable nests often last for years. Occasionally old Barn Swallow nests, which are structurally very similar, are used (pers. obs.).

The Black Phoebe's breeding range extends throughout Sonoma County and is primarily dependent on the availability of nest sites, water sources and open space.

Although the Black Phoebe population may expand with some increased rural development, continued increase in land development and construction density with concurrent loss of open space can be expected to be generally detrimental to Black Phoebe presence.
D. Nelson

Rock Wren (continued from page 123)
observed on Sonoma Mountain, in rugged terrain north of Seaview (part of the northwest coast belt) and on Mount St. Helena.

This bird is usually quite vocal and active but perhaps when actually nesting it chooses more inaccessible areas and becomes quieter and more secretive. It prefers rocky habitats, typically talus slopes, broken rock outcrops, fractured rock faces and lava rim-rock. It also is attracted to dry storm-cut earth banks especially where penetrated by rodent burrows, stony road-side banks, human-built rock walls and sometimes deserted wood buildings or fallen logs. Crevices in which to forage, seek shelter and locate the nest are essential features. The Rock Wren creeps far into these fissures and thus comes the closest to being subterranean of any of our birds (Grinnell & Miller 1944).
R. Rudesill

American Dipper (continued from page 129)
suitabloe areas if there are thick, pasty white droppings what accumulate on low, flat rocks in mid stream.

In neighboring Marin County, the construction of four dams on Lagunitas Creek during the last century is thought to have claimed the small number of suitable nesting areas that once existed in that county (Shuford 1993).
D. Nelson

Northern Mockingbird (continued from page 137)
were for winter and fall sightings.

Annual Christmas Bird Count data since 1961 in Santa Rosa show the average number of Mockingbirds sighted during the 1961-1964 counts was 25 individuals, while for the 10 years from 1982-1991 that average was 114 individuals with a high count of 142.

Much has been written about the imitating ability of the mockingbird and of its night-long singing. William Leon Dawson in his Birds of California, 1923, devoted EIGHT PAGES to the singing and posturing:

"A Mocker singing before me on the cross-piece of a telegraph pole is leaping every now and then into the air to emphasize his ecstasy. The wings are fluttered slowly, revealing their white areas, and the tail with its white border is displaced to the utmost. Singing is not interrupted..." (p. 524)
J. Arnold

California Thrasher (continued from page 138)
and domestic cats, both known to be successful predators of this species (Zeiner et al., 1990). Reduction of riparian habitat especially along the Russian River and Laguna de Santa Rosa has decreased bottomland dweller populations.
L. Stafford

Loggerhead Shrike (continued from page 139)
of San Pablo Bay marshes and in the open areas of Sonoma Valley and adjacent low hills. Breeding also occurs in the Sonoma/Marin county borderlines between Petaluma and Valley Ford. There were only 26 Blocks in which breeding behavior for this shrike was observed, compared to the average of 57 Blocks for all birds in this study, indicating a relatively small breeding population.

There has been national decline in this species. In Sonoma County continued conversion of rural areas to suburbs and commercial sites and replacement of pastures with vineyards will steadily reduce available habitat. As with other predators, the Loggerhead Shrike is at risk for the adverse effects of pesticides and other chemicals. This shrike has been designated as a Species of Special Concern by the California Department of Fish and Game (1994) and is a Category 2 Candidate for listing as Threatened or Endangered by the U. S. Fish and Wildlife Service.
L. Stafford

Common Yellowthroat (continued from page 151)
morning remind us that the area is supporting its rightful component of wetland species. As with red-wings and cattails, a marsh is not really a marsh in the fullest sense without its resident yellowthroats."
B. Burridge

Tri-colored Blackbird (continued from page 170)
entire population has declined an estimated 89% (Shuford 1993 citing Beedy et al., 1991). This species needs careful monitoring and protection for it to be able to continue to breed in Sonoma County.
R. Rudesill

Brown-headed Cowbird (continued from page 173)
Nest sites are variable in location and type. While the Brown-headed Cowbird is rare in unbroken stands of chaparral and dense forests, this bird commonly uses forest edges or open woodland (Shuford 1993) and is often found near horse corrals and cattle. As our wooded and forested areas become increasingly fragmented by clearing, favored edge habitat for the Brown-headed Cowbird is created.

The female Brown-headed Cowbird lays her eggs exclusively in the nests of other birds; e.g., vireos, flycatchers, warblers and sparrows.
D. Ashford

Lawrence's Goldfinch (continued from page 180)
is extremely limited. During the Atlas period, birds were observed primarily in the dry, eastern portions of the county. A nest found in 1989 was eight feet from the ground, halfway out on a horizontal branch of a Douglas fir, at the junction of two smaller branches. The rather large conifer stood alone, within a meadow bordering oak woodlands.
D. Nelson

House Sparrow (continued from page 182)
is one more threat on that list. Shuford (1993) suggests eliminating food supplies that attract House Sparrows and removal of nest materials before nesting is well established in order to control local populations but it is too early to gauge the success of this strategy.
K. Wilson, B. Burridge

BIRDS OF UNCERTAIN, FORMER, POTENTIAL AND/OR IRREGULAR BREEDING STATUS

Many birds have been found to have unclear or uneven records of breeding in Sonoma County. While some may have very small populations which fluctuate during the breeding season year to year, others have very few sight records in past years, especially before there were the numbers of birders and detailed published data available to the general public. Still other species may be expanding or decreasing their ranges and populations. There follows a brief account of these birds:

EARED GREBE (*Podiceps nigricollis*) One record for breeding exists for this bird in Sonoma County. On August 25, 1979, two young flightless birds were seen begging for food from an adult at the Petaluma wastewater ponds on Lakeville Highway (B. Burridge, D. Nelson pers. comm.) (Ellis Oct. 1979). This habitat meets the nesting requirements of this bird, namely fresh water ponds with shallow margins growing aquatic vegetation such as cattails and tules (Grinnell & Miller 1944). On June 28, 1983, two breeding-plumaged Eared Grebes were observed one time only at the Cader Lane ponds (Kurt Campbell pers. comm.).

During the Atlas study there were only two records for the Eared Grebe: single birds in suitable habitat at the West Third Street wastewater ponds in Santa Rosa and at the Petaluma wastewater ponds on Lakeville Highway.

The Eared Grebe is a common winter resident coastally and a fairly common winter visitor on inland waters in Sonoma County (Bolander & Parmeter 1978).

B. Burridge

CATTLE EGRET (*Bubulcis ibis*) This small whitish egret has been regularly reported in Sonoma County during the winter season for many years, but no evidence of true breeding behavior was found until John Kelly of the ACR Heron and Egret Project discovered one occupying a nest in a mixed heronry in west Santa Rosa late in May 1995 (pers. comm.). It was here that a single bird had been seen in the presence of Black-crowned Night-Herons and Snowy Egrets on April 26, 1995 by Chris Wood and Ken Wilson (pers. comm.). Thus, an expansion of breeding range seems to be underway into Sonoma County.

The closest other verified breeding colony is a small one about 100 miles away at Mallard Slough on the southern edge of San Francisco Bay (John Kelly pers. comm.)

B. Burridge

MANDARIN DUCK (*Aix galericulata*) This Asian relative of the Wood Duck is not a native species. Due to its spectacular beauty it is a popular captive bird in many zoos and private bird collections; however, some birds have escaped and/or been released. There is now a free-flying population in Sonoma County. These birds reproduce on local creeks and ponds where nesting boxes have been placed to enhance the Wood Duck population, and feed at local bird feeders.

In early March 1986 up to two pairs of Mandarin Ducks were reported by Karen and Ted Nagel on Nathanson Creek in northeastern Sonoma. On April 6 there were three nesting pairs on that creek (Bob McLean pers. comm.).

In summer of 1987 two pairs of Mandarin Ducks fed regularly at a seed feeder in Sonoma, at times bringing six ducklings with them. In March 1988 a pair with a banded male, and another pair with a banded female arrived, and by April 30 the latter pair brought five newborn ducklings to the same yard. By mid-April two more males and a female began to share the feeder (Phyllis Baekgaard pers. comm.).

Other locations in 1986 include: a private, fenced pond on Denmark Street, with up to 16 pairs of Mandarin Ducks plus eight young, and one or more pairs of Wood Ducks that were visible only early in the morning; Sonoma Creek south of Leveroni Road where a pair flew regularly along the waterway; Nathanson Creek behind the High School where one pair had eight young; a private pond on Fifth Street East, Sonoma, where a pair rested each evening (Bob McLean pers. comm.).

Bob McLean estimated the Mandarin Duck population in Block 545-235, which includes most of the town of Sonoma, at 20 pairs in 1986.

With a Mandarin Duck population which seems to be becoming well established in the wild, and a competing population of native Wood Ducks, it seems prudent to encourage studies of the present status and futures of these two closely related birds in Sonoma County.

B. Burridge

BLUE-WINGED TEAL (*Anas discors*) A rare summer resident and spring migrant, the Blue-winged Teal is the eastern counterpart of our (western) Cinnamon Teal. A sharp white facial crescent on a half-sized duck easily marks the male, yet the female is so similar to the distaff Cinnamon Teal that considerable experience and a superb view is required to distinguish between the two ladies. And

then there is always the possibility of another complication, for not only do these two species overlap in habitat use, being often found in each other's company, but they are also known to hybridize in the wild (Shuford 1993 citing Harris & Wheeler 1965).

Historically, between 1900 and 1938, an estimated 90% of the Blue-winged Teal breeding habitat had been eliminated in the U. S. by drought, drainage and agriculture. Ninety-five percent of these birds migrate south of the southern border of the United States to winter in Central or South America (Kortright 1942 citing Bennett 1938.)

Grinnell and Wythe (1927) considered the Blue-winged Teal to be a rare visitor to the San Francisco Bay Area, with only two records (Napa, Napa County; Vallejo, Solano County) in neighboring counties. This bird was listed as a summer resident from May to October and locally very common in the elevated northeastern portion of California in 1944 (Grinnell & Miller 1944). And pairs of Blue-winged Teals have been reported at Arcata Marsh Preserve in coastal northern California in the 1980s (R. Rudesill pers. comm.). To date there are still no Confirmed records of Blue-winged Teal in Sonoma County.

During the Atlas study two pairs of Blue-winged Teal were found in wetlands west of Santa Rosa (R. Merriss pers. comm.). Confirmation of breeding was not secured.

Preferred habitat is in the vicinity of fresh water ponds and slow flowing streams. Differential identification of the females of these two species is vital to establishing breeding status. Distinguishing marks (bill size and shape, plumage shading, the distinctiveness of facial markings), subtle though they may be, all need to be skillfully and carefully observed to produce a convincing identification record (Shuford 1993). For details of the differences, please refer to National Geographic Society's "Field Guide to the Birds of North America," or other authoritative references.

B. Burridge

AMERICAN WIGEON (*Anas americana*) A rare summer visitant and common winter resident, this duck is nicknamed "Baldpate" because of its wide light crown stripe. Four Probable Atlas records, all pairs of birds in April and early May, may only indicate late spring migrants and do not definitively indicate actual breeding here. One sighting was in wetlands near coastal southwestern Estero Americano; one was at the Cader Lane Ponds just south and east of Petaluma; and two were near San Pablo Bay.

Grinnell and Wythe (1927) and Grinnell & Miller (1944) listed no breeding records in the San Francisco Bay Area.

Recently, the American Wigeon has bred sporadically or accidentally around San Francisco Bay, though it occurs there primarily as a winter resident (Shuford 1993).

For breeding, this bird uses chiefly fresh water marshes, streams and lakes especially when adjacent to grassland; it is prone to visit irrigated land, and "repairs, at least for daytime loafing purposes, to shoal waters of larger coastal bays" (Grinnell & Miller 1944).

B. Burridge

BALD EAGLE (*Haliaeetus leucocephalus*) This magnificent raptor is a regular winter visitor to the northern part of the county but there are no recent breeding records. However, it is known that the Bald Eagle did nest here in 1904 at Guerneville (Shuford 1993 citing Detrich). This bird is a fish and carrion eater and therefore was a victim of pesticide use in many parts of its range. It has been suggested that this eagle was extirpated from our area during the heavy logging and ranchland clearing earlier in the century (Shuford 1993). However, this State and Federally Endangered Species (CDFG 1994) has made a comeback and, with protection, may possibly become a breeder in Sonoma County again. Lake Sonoma may offer an appropriate site for future breeding by the Bald Eagle, especially since a considerable section of the lake is off limits to the public.

R. Rudesill

NORTHERN GOSHAWK (*Accipiter gentilis*) There are breeding records for the Northern Goshawk in neighboring Mendocino County but none for Sonoma County. The habitat used there extends uninterruptedly south into Sonoma County making breeding here seem likely in the near future. One nest was active in 1991 on the Noyo River near Fort Bragg (Mendocino County) (David Hines fide L. Stafford pers. comm.) The other nest was in the Navarro River drainage northeast of the town of Navarro (Mendocino County) (Lynn Stafford pers. comm.)

The first Sonoma County sight record was in October 1974 at Timber Hill by Gordon Bolander (Bolander & Parmeter 1978). In the late 1970s another record, a goshawk in a stoop, was at Warm Springs Dam (Bob Hudson, Mike Nelligan pers. comm.). Repeated observations have occurred in heavily forested habitats in northern Sonoma County (Ken Jewitt pers. comm.). These areas support populations of Blue Grouse and abundant numbers of Band-tailed Pigeons, both favorite prey items of the goshawk.

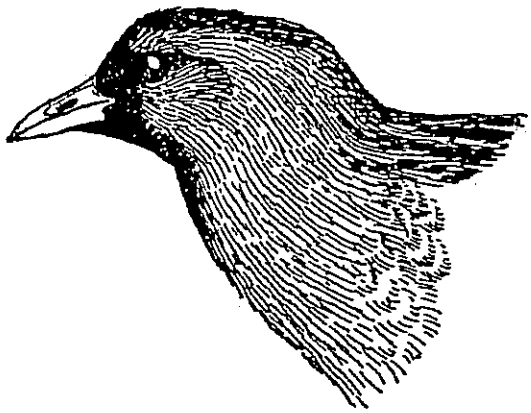
One knowledgeable local Master Falconer, who requested anonymity, acknowledged seeing a pair of goshawks flying together over the outer Coast Range north

of the Russian River. And there are rumored incidents of free-flying wild Northern Goshawks venting their territorial wrath on trained captive Goshawks being flown by their Master Falconers/'Hawkers' in northern Sonoma County forests. It seems possible that these dense coniferous forests in the rugged northwestern corner of Sonoma County could already harbor a small breeding population of the Northern Goshawk.

Summer breeding habitat is described by Grinnell and Miller (1944) as within and in the neighborhood of coniferous forests.

B. Burridge, D. Nelson

SORA (*Porzana carolina*) Much more frequently heard than seen, this small rail breeds in fresh water marshes. It is much less numerous in Sonoma County in the breeding season than during the rest of the year when it may move into salt water marshes.



The Sora was previously a fairly common resident on marshlands in the San Francisco Bay Area, nesting at Lake Merced in San Francisco and in fresh water marshes near Alvarado, Alameda County (Grinnell & Wythe 1927). Grinnell and Miller (1944) considered this bird common and widely distributed in California in summer. But by 1978 Bolander and Parmeter (1978) described it as only an uncommon winter resident.

There were three breeding season reports of the Sora during the Atlas study, sight records at Fairfield Osborn Preserve on Sonoma Mountain on July 21, 1991 (Rick Palmer pers. comm.) and at Ledson Marsh in Annadel State Park (no specific date) (Chris Wood pers. comm.), and a calling bird at the north end of Spring Lake (no specific date) (Terry Babineaux pers. comm.). None of these constitute evidence that is substantial enough to establish an Atlas breeding record.

No reports of nesting exist for Sonoma County. Marin County has one Confirmed and several Probable and Possible atlas breeding records but it is clear that as a breeding bird, the Sora is, at best, very rare north of San Francisco.

The Sora needs standing fresh water and dense cover for nest sites, shelter and brooding areas. Its breeding habitat is very similar to that of the Virginia Rail but the Sora is much less widespread and appears to have more stringent requirements (Shuford 1993).

B. Burridge

MARBLED MURRELET (*Brachyramphus marmoratus*) The nesting habits of the Marbled Murrelet were a mystery until 1974 when a worker in Big Basin State Park (San Mateo County) first discovered a Marbled Murrelet nest in a tree he was trimming. It is now known that these birds nest on large limbs in old-growth forests, mainly using Douglas fir and redwood trees up to 25 miles inland from the coast (David Suddjian pers. comm.).

No Confirmed breeding records exist for Sonoma County. Some summer sightings have been reported at Arched Rock near the mouth of the Russian River on August 7, 1979 and off Bodega Head from July 30 throughout August 1981. Two birds were at Sea Ranch on June 13, 1981 and eight birds at Duncan's Landing on April 4, 1983 (Ellis 1979, 1981, 1983).

There were also two sight records from the Atlas study, both on the northwestern coast near Sea Ranch: a single bird and five birds on nearshore waters. However, more positive evidence of breeding inland would be needed to include this controversial bird as a breeding species in this Atlas since both breeding and non-breeding birds could be seen on nearshore waters at any time of day (B. Dolman pers. comm.).

Special efforts were made by atlasers to census specifically for nesting Marbled Murrelets in old-growth redwood forest at Armstrong Redwoods State Reserve near the Russian River, with no success.

The Marbled Murrelet possibly nested previously in neighboring Marin, (as well as Sonoma County) before the era of intense observer coverage and before logging eliminated extensive nesting habitat along the coast (Shuford 1993). Marbled Murrelet numbers in California have probably declined mainly because of the destruction of old-growth forests (Shuford 1993 citing Carter & Erickson 1988). This population decline is estimated to be 95% (David Suddjian pers. comm.).

The Marbled Murrelet is listed by the California Department of Fish and Game as Endangered and by U. S. Fish and Wildlife Service as Threatened (CDFG 1994).

B. Burridge

RHINOCEROS AUKLET (*Cerorhinca monocerata*) This seafaring diving bird nests in deep burrows on offshore islands. Although there are many sea stacks and islands along the Sonoma County coast few have the sand and dirt that are requirements for nesting burrows, which measure four to 25 feet deep (Shuford 1993 citing Richardson). There were three Possible breeding records for the Rhinoceros Auklet during the Atlas project, unfortunately without details of number of birds or plumage: May 30 and July 22, 1982 at Bodega Head and May 30, 1982 at Arched Rock (Ellis 1982). In the last 20 years there have been only a few other sightings during the breeding season for these birds: single birds at Arched Rock on August 4, 1979 and June 9, 1980 and two birds at Gualala Point Island on July 13, 1980 (Stephen F. Bailey -- AMERICAN BIRDS records, pers. comm.).

Nearby in Marin County there has been some fairly recent apparent nesting at Bird Rock off Tomales Point and near the Point Reyes Lighthouse (Shuford 1993). The California Department of Fish and Game has designated this bird as a Species of Special Concern (CDFG 1994).

R. Rudesill

TUFTED PUFFIN (*Fratercula cirrhata*) A resident of the open ocean, the Tufted Puffin nests on the Farallon Islands off neighboring Marin County and has been sighted sporadically on the Sonoma County Coast. Grinnell and Wythe (1927) report a single bird observed about the cliffs at the mouth of the Russian River, Sonoma County, in summer (July 17, 1916). Grinnell & Miller (1944) note this bird nesting from the Oregon line to the Santa Barbara Islands, however there is no mention of any nesting in Sonoma County. The Tufted Puffin was known to inhabit offshore sea stacks near the Russian River mouth in the late 1970s, and a pair were observed in May or June 1980 by Roger Marlowe and Betty Burridge in a burrow at Arched Rock. In spite of extensive observation of this and nearby likely sites during the Atlas study no similar sightings were made. The single Tufted Puffin record for this Atlas remains a Possible record of two birds in the Russian River estuary on May 26, 1991 (Lynne Cody fide Terry Colborn).

The California Department of Fish and Game has designated this bird as a Species of Special Concern (CDFG 1994).

B. Burridge

YELLOW-BILLED CUCKOO (*Coccyzus americanus*) A former summer resident in the Laguna de Santa Rosa near Sebastopol (Grinnell & Miller 1944), this bird has suffered from habitat loss of old growth riparian forest in Northern California. One record reported a nest site five miles southeast of Sebastopol (Shelton 1911). There have been no nesting records for over fifty years in Sonoma County.

There was one sighting of this bird in early July 1988 in a riparian area on West Dry Creek Road, Healdsburg (Byron Olson pers. comm.); however, extensive searches immediately thereafter did not relocate the bird which must be regarded as a vagrant. The California Department of Fish and Game has listed the Western Yellow-billed Cuckoo (*C. a. occidentalis*) as an Endangered Species (CDFG 1994).

R. Rudesill

GREATER ROADRUNNER (*Geococcyx californianus*)

There were no sightings reported for this bird during the Atlas project; however, there is a strong history of its presence in Sonoma County.

Grinnell and Wythe (1927) reported it near Sebastopol and commented that the roadrunner was already becoming increasingly rare throughout the San Francisco Bay area at that time. While its range is interior to the fog belt along the coast from the Mexican border to Mendocino County, one of its northernmost record stations is near the mouth of the Gualala River, Sonoma County (Grinnell & Miller 1944).

Bolander and Parmeter (1978) call this bird a rare permanent resident in the drier sections of the eastern part of the county but there were no verified breeding records then, as there are still none as of the writing of this account.

Benjamin D. Parmeter has a personal record of a single bird calling on lower Ida Clayton Road for April 29, 1978. There are also records of sightings by Baron McLean of single birds in the Sonoma Valley on April 29, 1969 and May 16, 1969 (B. D. Parmeter pers. comm.).

An interesting incident followed a controlled burn in Annadel State Park in the summer of 1994. On July 26, Kathy Alford, who lives at the edge of the park, reported seeing a roadrunner, a strange unfamiliar bird that she had never seen before near her home. Diligent searching by local birders including Dr. Jack Arnold, emeritus professor of Biology at Sonoma State University, failed to produce another sighting. However, the description of the appearance and sounds of the bird were so precise and convincing that Dr. Arnold as well as the others believe this bird to have been a Greater Roadrunner (J. Arnold, J. McDonagh, W. Payne pers. comm.).

This species was considered by Grinnell and Miller (1944) to be a (breeding) resident wherever it is found at all. Its preferrred habitat is mixed open ground and tracts of brush, arid open land and edges of chaparral. Parts of Annadel Park have all of these characteristics. This bird also requires a plentiful supply of large terrestrial insects, lizards and other animal prey.

B. Burridge

BARRED OWL (*Strix varia*) Often considered to be an eastern United States bird, this owl has a range that extends westward through Canada to British Columbia. In the west this species is now rapidly expanding southward through Washington, Oregon and into northern California (Gilligan et al. 1994). The first State record is from Crescent City on March 13, 1983, by Richard A. Erickson (D. Ellis 1983).

Sonoma County's northern neighbor, Mendocino County, has at least one pair of Barred Owls that established a territory both in 1991 and 1992 on Big River (David Hines fide L. Stafford).

In Sonoma County the only record as yet is a possible hybrid Barred Owl x Spotted Owl that has been on the Wheatfield Branch of the Gualala River for several years. This bird's call, a four or five note mixed pattern intermediate between that of the two owls, is usually heard only once (L. Stafford pers. comm.).

The Barred Owl is larger and apparently more aggressive than its close relative, the Spotted Owl. The Barred Owl is also adapted to a greater variety of habitats and has been known to displace the Spotted Owl in Washington State (Jon Winter pers. comm.).

B. Burridge

LONG-EARED OWL (*Asio otus*) There were no breeding records for this species during Atlas field work. And no breeding records were commonly known until Howard Cogswell (pers. comm.) recently (May 1995) searched the records of the Western Foundation of Vertebrate Zoology in Camarillo CA, and uncovered documentation of two sets of Long-eared Owl eggs collected in Sonoma County many years ago. The first was a set of four eggs taken by Clarence Treuholtz on April 4, 1891 from an unidentified location in the county. The second was a set of five eggs collected in the Russian River bottom near Windsor on April 27, 1920 by 'CCV' and Gurnie Wells.

Grinnell and Wythe (1927) called it a resident, sparsely and locally in the coastal portions of the San Francisco Bay region, and reported this owl at Sebastopol and Bodega (no season or month noted). These two towns were noted to be the northernmost coastal belt locations for this owl in California by Grinnell and Miller (1944) citing Cassin, in Pacific R. R. report #9, 1858:54.

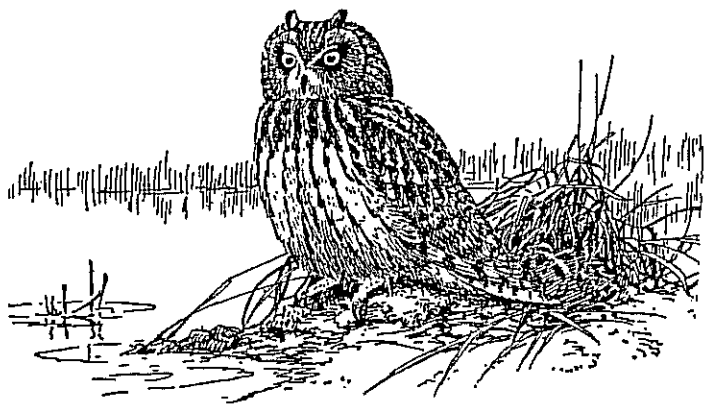
As old and outdated as this report may seem to be, there are still no nesting records and only sparse fall and inter records from the coastal belt north of Bodega: one Christmas Count record from Manchester, Mendocino County, by Jerry and Nicki White December 30, 1989, and 21 fall and winter records from Cape Mendocino north by Dr. C. J. Ralph in *Northwestern California Birds*.

Habitat for the Long-eared Owl is typically bottomlands grown to tall willows and cottonwoods, as well as belts of live oaks, especially when paralleling stream courses. Adjacent open land productive of mice (and other small mammals) is requisite, as is also the presence of old nests of crows and hawks (Grinnell & Miller 1944).

This bird, nomadic and erratic in its breeding range, is notoriously difficult to locate visually because of its extremely effective cryptic plumage and ability to steadfastly remain motionless next to a tree trunk or branch in the shadows. This species is easily overlooked during the day when it is concealed in this way and silent.

B. Burridge

SHORT-EARED OWL (*Asio flammeus*) One record of breeding in Sonoma County for the Short-eared Owl exists, that of a young bird found at Annadel State Park in a meadow north of Lake Ilsanjo (anonymous fide Doug Ellis) and taken to a wildlife rescue center in May 1979 (Ellis September 1979). This was the same year that Marin County had its first Confirmed breeding record for this bird. It was also the year of a great increase in the vole population at Point Reyes, a phenomenon known to arouse breeding behavior in this nomadic and unpredictable consumer of these small mammals (Shuford 1993).



During the Atlas project there was a single sighting of one Short-eared Owl on April 5, 1986 (Richard Merriss). This was in southwestern Santa Rosa where some suitable habitat for the Short-eared Owl exists. However, because there is so little information about any breeding history of this erratic migrant owl in Sonoma County, the significance of that sighting is unclear and it is being considered a migrant.

Grinnell and Miller (1944) describe the preferred habitat of the Short-eared Owl as swamplands of both fresh nd salt water, and lowland meadows. Tules or tall grass are needed for nesting and daytime seclusion for this owl which normally hunts at dawn and dusk.

Annadel State Park has a marsh, lake and many meadows (some wet), any of which could theoretically provide adequate habitat for a successful nesting of this unusual owl.

B. Burridge

BANK SWALLOW (*Riparia riparia*) This now rare colonial-nesting swallow was once reported to be a common summer resident locally in many areas in the San Francisco Bay Area, including Sebastopol (Grinnell & Wythe 1927). In 1944, Grinnell and Miller noted few colony sites of this least numerous of all swallows in California. No Breeding Records exist for this Atlas and there are no other reports of this bird in Sonoma County in recent years. A statewide study by the Department of Fish and Game beginning in 1986 has revealed no Sonoma County records for this bird to date (Ron Schlorff pers. comm.).

However, there is one nesting record from July 23, 1960: a colony with four nests at Jenner found by (the then 16 year-old) Rich Stallcup (Bolander & Parmeter 1978).

The Bank Swallow, using feet and legs barely suited to the task, excavates its own nesting burrow in layers of sand or sandy loam in steep banks and bluffs. The lower courses of large streams, such as the Russian River at Jenner, may provide suitable habitat. In general such nesting sites are scarce throughout California and Sonoma County (Grinnell & Miller 1944).

B. Burridge

INDIGO BUNTING (*Passerina cyanea*) This striking eastern bunting is closely related to our western Lazuli Bunting. Originally the two populations were separated by the Great Plains but, as settlers and commerce increased across the country, plantings, habitat and climate changed allowing a coming together. Some hybridization between these two species was beginning by the 1950s (Shuford 1993 citing Sibley & Short 1959). Sibley and Short (1959) cautioned that all recent records of the Indigo Bunting west of the Great Plains are likely to be hybrids. According to their account, sight records are not satisfactory because hybrid characteristics may not be apparent in the field. However, a study of hybrids in the zone of overlap by Emlen et al., (1975) suggests that most apparent Indigo Buntings reaching California are of "pure" stock (Shuford 1993 citing Emlen et al., 1975).

In Sonoma County there have been regular spring reports of Indigo Bunting sightings on Sonoma Mountain east of Cotati/Rohnert Park. In 1990 an unverified report of previous Indigo Bunting nesting on Burnham Ranch Road on Sonoma Mountain, was made (Nancy Sibbald fide Diane Hichwa). An adult male Indigo Bunting, first seen on Lichau Road (Sonoma Mountain) in 1992, was re-identified there, by plumage, on June 5, 1994. This bird had a mare and was present all month singing on territory (Dan Nelson 1994).

B. Burridge

YELLOW-HEADED BLACKBIRD (*Xanthocephalus xanthocephalus*) This striking blackbird is considered a rare breeder in the San Francisco Bay Area. There is an old record without details from Petaluma (Grinnell & Wythe 1927) and a breeding record with no date from Sebastopol (Grinnell & Miller 1944). This bird was considered by Bolander/Parmeter (1978) to be a casual migrant and winter visitor.

During the Atlas study there was one Probable breeding record at Skaggs Island with a small colony of approximately twenty-five birds on May 28, 1986. These birds were singing ("squawking") and displaying as well as defending their territories in a freshwater tule patch. Both males and females were present (D. Ruiz et al.,). Unfortunately, follow-up information for this colony is not available as the location of the observation, Skaggs Island, was a Navy Base with close security at the time and the observer, a member of the military, was transferred.

There was also a Confirmed nesting during Napa County Breeding Bird Atlas field work in 1991 (Shuford 1993 citing ESa et al.,).

There are a few areas in Sonoma County that might attract this colonial nesting bird, but its preferred habitat of freshwater tules, cattails or other growth that afford nesting sites over water of considerable depth (Grinnell & Miller 1944) is quickly disappearing in Sonoma County.

R. Rudesill

RED CROSSBILL (*Loxia curvirostra*) The Red Crossbill is an enigma in Sonoma County as it is throughout most of its range. The 'chup-chup-chup' calls from members of a flock flying overhead may alert the observer but there is rarely more than a fleeting glimpse of the birds for visual identification. And not only does this bird breed in any month of the year (Shuford 1993 citing Bailey et al. 1953), it is extremely irregular in choosing tree species and locations for breeding. Therefore, nest finding is extremely difficult. Most Atlas field work was undertaken between mid-March and August, a time frame which does not include all the months when these birds may be breeding. This species prefers mature forests with tall, well-spaced trees (Shuford 1993 citing Newton 1973) and is completely dependent on a diet of conifer seeds. Five Possible breeding records were collected during the Atlas study, all in coniferous forest: Sea Ranch (two reports), Salt Point, Fort Ross and Joy Road (west of Freestone and north of Bodega). This Sonoma County range coincides with that of two other coniferous-dependent birds, the Pygmy Nuthatch and Red-breasted Nuthatch.

There are no verified records of nesting for the Red Crossbill in Sonoma County but it is entirely possible that this bird is breeding here undetected.

B. Burridge

LAST MINUTE ADDITIONS

[Editor's Note: Due to the confirmation of the Blue Grosbeak and Gray Jay as new Breeding Birds immediately prior to publication, they appear here rather than in normal taxonomic order.]

BLUE GROSBEAK (*Guiraca caerulea*) On July 25, 1995 a new first nesting record for Sonoma County was reported. A Blue Grosbeak family, adult male and female plus one fledgling incapable of sustained flight, had been found that day by Doug Ellis one mile south of Highway 37 on the private dirt road to Tubbs Island. A used nest was visible in a lone eucalyptus tree, while the young bird on fence wires below was being fed actively by the parents. Since then a second fledgling has been seen and many local birders have observed these birds. Previously, the presence of a Blue Grosbeak in Sonoma County was considered accidental, there being only two sight records prior to 1978 (Bolander & Parmeter).

Typical nesting habitat is low thick vegetation in the vicinity of water, with exposed singing posts and, for foraging, fairly open fields with vegetation and some damp ground (Grinnell & Miller 1944). All of these requirements are met at the nest location which is in an isolated wetlands area situated less than a mile from San Pablo Bay.

B. Burridge

GRAY JAY (*Perisoreus canadensis*) Just hours before the manuscript for this Atlas was sent to the printer the following message was received by the Editor, "15 August, 1995. Hi Betty- On 7th August I watched an adult Gray Jay feed a fledged chick Gray Jay at Gualala Point State Park, the same place this species has been seen since last spring. They *might* have actually nested across the river in Mendocino County. Love, Rich (Stallcup)" It is the Editor's belief that the reporting party's suggestion that the Gray Jay may have bred in Mendocino County rather than Sonoma County was made only in an attempt to reduce any anxiety for the Editor in the event his report arrived after submission of the Atlas to the printer. The status of the Gray Jay as a Breeding Bird for Sonoma County should be classified as Confirmed.

B. Burridge

AFTERWARD

The planning, coordination and execution of a major wildlife survey is not to be taken lightly, especially when it is done on an entirely volunteer basis. Some of us thrive in the atmosphere of professionalism, discovery and accomplishment that is created in a project such as this Atlas. And we plunge in head first, not totally considering or sometimes realizing the extent of the commitment. But ahead we go, in all seriousness, knocking off one hurdle after another, meeting each challenge, achieving each goal along the way. And the seriousness of the study is reflected in the dedication of the workers, the intensity of field work, the attention to detail exhibited by all who deal with the data and editing/production of the final product. On the face of it, one could think that a dedicated straight-faced staff accomplished this Atlas without a hitch.

Well, 'dedicated' certainly applies. It's the 'straight-faced' that frequently would be a stretch of the imagination, I would say. There follow a few inside stories to share with you how this really happened.

For instance, many good folks warned me that coordination of an Atlas project should be a full time paid position. But who was I to listen to the voice of experience and reason. Just because by profession I was a full time Physical Therapist didn't seem reason enough to me, in 1986, to forestall my participation as coordinator of this project. Just because I had no experience in conducting, editing and publishing anything like this Atlas was also no deterrent. So I took on that volunteer position (and also continued to be Co-compiler of the annual Western Sonoma County Christmas Bird Count). During the next eight years, however, it became clear that my "plate was full to overflowing" with personal, professional and family obligations not to mention the Atlas. In 1993 I finally "caught on" and retired from the P. T. profession and the Christmas Count compilation, to devote more time to the editing and publishing of the Atlas and to my family. Some of us seem to be slow learners.

However, I wasn't the only volunteer that bit off a big chunk. At the first orientation meeting in 1986 Steven Schafer from Concord, Contra Costa County, asked me if we had our computer software set up. No, we didn't, but if he wanted to help us that would be fine. Please realize that I had never seen this man before, I had no idea of his qualifications, or even what was involved in setting up the software. The Good Luck Fairy was certainly watching out for us at that very moment, for that decision led us into a fortuitous and very rewarding partnership that resulted in the sophisticated data management and manuscript design program which made the production of this Atlas possible. Steven has since moved to Oklahoma yet he faithfully supported this project to the end, always cheerfully producing an original and user-friendly software program that has been the absolute backbone of this Atlas. His sense-of-humor must also not go unmentioned. The following sample species account he used to demonstrate the design of the pages for this book has proved to be a classic. It is reproduced here in part:

Fan-tailed Wigeon --- Anas fantasticus

Undescribed until 1987, the first Fan-tailed Wigeons were discovered in a parking lot at Sonoma State University. At the time, the birds were believed to be the product of genetic engineering experiments at the university, involving the widespread native Band-tailed Pigeon and the Fan-tailed Warbler, a Mexican species. However, three years later a relict population was discovered in the Peruvian Andes (Drofnats and Anford, 1990) and the bird was consequently awarded full species status. Shortly thereafter, it was determined that the wigeons found in Peru might have stowed away in the luggage of the discoverers, and that there was indeed no population endemic to the Andes (Anford & Drofnats, 1992). At this time, the AOU is reviewing the species' status.

Identification of the Fan-tailed Wigeon is straight-forward, as its appearance is unmistakable. Its overall duck-like build, coupled with its decurved, warbler-like bill and broad, squared tail are shared by no other species of bird in the world. The plumage coloration is variable, ranging across the spectrum and including several metallic shades. It is believed that this coloration is a form of camouflage, enabling the Wigeon to remain undetected in its preferred nesting habitat.

The most remarkable aspect of the Fan-tailed Wigeon is its nesting behavior. The Wigeon has been found nesting only in the grillwork of late-model Studebaker cars. (There is an unverified report of a pair nesting in the grillwork of a 1975 Chevrolet Camaro; this is conceivable, since the Camaro bears an uncanny resemblance to the 1956 Studebaker Hawk.) The very brief nesting season may be related to the timing of the annual convention of the Studebaker Owners Association of America in Santa Rosa.

Outside of the nesting season, the species is unrecorded. Presumably, the birds are somewhere but it is not yet known where that might be. Because suitable nesting habitat is sure to decline over the years, an intensive program of captive breeding has been initiated at Sonoma State University. So far the results are not encouraging, but there is an indication that the birds will nest in other defunct automobile model lines; for example, a female recently laid two eggs in the simulated grill of a 1958 Ford Edsell convertible. Unfortunately, the shape of the grill prevented the pair from effectively incubating the eggs and no young hatched.

R. J. Drofnats, Author. Drofnats RJ and Anford ST (1990) Auk 88:34-40.

At the beginning of the study it was decided not only to start with full five kilometer square Blocks but also randomly selected quarter i.e., 2.5 kilometer square Blocks within each larger Block. How to select the quarter Blocks randomly? Atlas Committee member Jean Smith cheerfully volunteered to roll a die (one half of a pair of dice) for each of Sonoma County's 195 Blocks. Soon afterwards Jean reported that although this activity had fascinated her for the better part of one night, she had decided to retire from dice.

Coordinating the Atlas project gave me a chance to glimpse into many new fields and I soon became adept at giving myself mini-courses as required by the task at hand. After one major failed effort at grant writing I finally hit a string of successful grant proposals that allowed the Atlas project financial self-sufficiency within Madrone Audubon Society's budget.

To choose appropriate maps and grids and advise the Atlas Committee on these matters I haunted the library for books on cartography. And I learned. Undaunted by my computer illiteracy, I acquired a computer for the project and then learned how to use it. Now considered a "dinosaur", old, slow and lumbering, it still resides comfortably in my Atlas office right next to my kitchen.

Probably the most exciting moment with the computer came when I decided to "protect" all my data from the Michelangelo Virus. Somehow I pushed the wrong button and erased my Root Directory, the part of the computer software that makes everything work That crisis was very gently and ably handled by my support team at Empire Computers.

One of my last crash courses was in editing and publishing. Along the way I've snuck peeks at books on statistics, bird distribution, managing and recruiting volunteers and English grammar. And I have lived with the dictionary in my left hand. My motto seems to be, "I'm still learning."

But all the fun wasn't happening in-doors. Take the day that Ruth Rudesill was atlasing in Sugarloaf Ridge State Park and artlessly stepped into a pile of brambles, directly onto a rattlesnake. Now Ruth is no shrinking violet, but snakes are not her favorite critters. A commotion followed. Fortunately our liability insurance was not exercised.

Nor was there serious physical harm when Nancy Conzett atlased a dairy farm down in Bloomfield. Her near fatal mistake was unknowingly stepping from solid ground into a slop pond filled to ground level with cow manure. She was up to her neck and treading you-know-what when the farmer, who was handily doing chores nearby, rescued her from her unpleasant situation. Good sport that she is, she simply adopted the experience as the topic for her weekly column in the local paper, "The Bodega Bay Navigator."

Doug Ellis had the disappointing experience of returning from an atlasing excursion to find that his vehicle had been broken into. Not only were his birding telescope and other personal effects missing, but also his data sheets for several Blocks that he was surveying. Real trooper that he is, Doug retraced his steps and redid all of the areas.

The underground economy including the cultivation of marijuana was a wildly popular activity in earlier decades and is still extant here. In fact locals had warned us about areas and roads where inquiring eyes, especially behind binoculars would not be welcome. We respected these warnings. Some Blocks received no coverage for this reason. Others were only sparingly censused. However, on one occasion Chris Wood and I were off in the "boonies" on a dead end road. We had received permission from a local rancher to survey his vineyard and the riparian habitat bordering that land. Chris was enthusiastically threading his way through the bushes near a creek as I peered intently in that direction. Suddenly I heard his normally sunny, cheerful voice ring out very sternly, "Stand perfectly still; put your binoculars at your side; turn toward the ranch house and walk slowly in that direction." Just then my glasses focused on a forest of marijuana across the creek not 20 feet from where he was standing. I did as he said. No one approached us, we left quietly and laughed a lot once we got to the highway.

There are probably many other stories that could be told, and a few that shouldn't. To say that this has been a wonderful opportunity for learning, creating new friendships and achieving a remarkable goal is a vast understatement.

But perhaps my most moving experience is a closeness with the past that has developed through my use of references of bird distribution and sightings from long ago. I am privileged to have in my reference library volumes from the collection of the late Gordon Bolander, a premier naturalist and local legend. His hand-written notes in these books bring alive the past and a sense of his part in developing our knowledge of the birds of Sonoma County. He loved data, kept meticulous records and would have been a key and valued advisor in this project.

Well, we got through it. And we're still smiling. It was a lot of work. We made a lot of friends and learned much. But it is my earnest desire that this volume be useful and appreciated and that no one asks me to repeat this study in the year 2011.

Betty Burridge

REFERENCES

Anderle, R. F. and J. Carroll. 1988. *The Atlas of Breeding Birds in New York State*. Cornell Univ. Press, Ithaca NY.

Angell, T. 1978. *Ravens, Crows, Magpies and Jays*. Univ. of Washington Press, Seattle WA.

Arnold, J. R. 1936. The changing distribution of the Western Mockingbird in California. Condor 37:193-199.

_____. 1980. Distribution of the Western Mockingbird in California. W. Birds 11:97-102.

Bellrose, F. C. 1980. *Ducks, Geese and Swans of North America*. Stackpole Books, Harrisburg PA.

Bendire, C. 1895. *Life Histories of North American birds -- Parrots to Grackles*. Smithsonian Inst. Contribution to Knowledge, Washington D. C.

Bent, A. C. 1922. Life histories of North American petrels and pelicans and their allies. U. S. Natl. Mus. Bull. 121.

_____. 1938. Life histories of North American birds of prey (Part 2). U. S. Natl. Mus. Bull. 170.

_____. 1942. Life histories of North American flycatchers, larks, sparrows and their allies. U. S. Natl. Mus. Bull. 179.

_____. 1946. Life histories of North American jays, crows and titmice. U. S. Natl. Mus. Bull. 191.

_____. 1948. Life histories of North American nuthatches, wrens, thrashers and their allies. U. S. Natl. Mus. Bull. 195.

_____. 1950. Life histories of North American wagtails, shrikes, vireos and their allies. U. S. Natl. Mus. Bull. 197.

_____. 1953. Life histories of North American wood warblers. U. S. Natl. Mus. Bull. 203.

Bolander G. and B. D. Parmeter. 1978. *Birds of Sonoma County -- An Annotated Checklist and Birding Gazateer*. B. D. Parmeter, Napa CA.

California Department of Fish & Game - Natural Heritage Div. 1994 (August). Special Animals. Sacramento.

California Department of Fish and Game - Natural Heritage Div. 1995 (April). Endangered and Threatened Animals of California. Sacramento.

Carter, H. R., D. L. Jacques, G. J. McChesney, C. S. Strong, M. W. Parker and J. E. Takekawa. 1990. Breeding populations of seabirds on the northern and central California coasts in 1989 and 1990. Draft Final Rept. USFWS, Dixon CA.

Chadwick, D. H. 1993 (October). The American prairie. National Geographic 184:99.

Christenson, W. 1988 (March 23). Hunters can talk turkey on Saturday. The Press Democrat, Santa Rosa CA.

Cogswell, H. 1977. *Waterbirds of California*. Univ. of Calif. Press, Berkeley CA.

Dawson, W. L. 1923. *The Birds of California*. South Moulton Co., San Diego CA.

Ehrlich, P. R., D. S. Dobkin and D. Wheye. 1988. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds*. Simon & Schuster Inc., New York NY.

Ellis, D. 1979, 1980, 1981, 1982, 1983. Observations. The Madrone Leaves. Madrone Aud. Soc., Santa Rosa CA.

Erickson, M. M. 1938. Territory, annual cycle and numbers in a population of wrentits (*Chamaea fasciata*). Univ. Calif. Publ. Zool. 42:247-334.

Evens, J. 1989 (February). The Common Yellowthroat - marsh monitor. Audubon Canyon Ranch Newsletter p. 6. Stinson Beach CA.

Evens, J., G. Page, S. Laymon and R. Stallcup. 1991. Distribution, relative abundance and status of the California Black Rail in western North America. Condor 93:952-966.

Evens, J. and J. Collins. 1992. Distribution, abundance and habitat affinities of the California Clapper Rail (*Rallus longirostris obsoletus*) in the northern reaches of the San Francisco estuary during the 1992 breeding season. Final Report to Carl Wilcox. CDFG, Yountville CA.

Farrand, J., Jr., ed. 1983. *The Audubon Society Master Guide to Birding -- Vol. 2 Gulls to Dippers*. Alfred A. Knopf, Inc., New York NY.

Garrett, K. and J. Dunn. 1981. *Birds of Southern California*. L. A. Aud. Soc., Los Angeles CA.

Gilligan, J., D. Rogers, M. Smith and A. Contreras. 1994. *Birds of Oregon -- Status and Distribution*. Cinclus Publications, McMinnville OR.

Gould, G. I., Jr. 1974. The status of the Spotted Owl in California. CDFG, Sacramento CA.

Grinnell, J. and M. Wythe. 1927. Directory to the bird-life of the San Francisco Bay region. Pac. Coast Avifauna 18.

Grinnell, J. and A. H. Miller. 1944. The distribution of the birds of California. Pac. Coast Avifauna 27.

Harrison C. 1987. *A Field Guide to the Nests, Eggs and Nestlings of North American Birds*. W. Collins Sons and Co., Cleveland OH.

Harrison, H. H. 1979. *A Field Guide to Western Bird Nests*. Houghton Mifflin Co., Boston MA

Herman, S., M. Kirven and R. Risebrough. 1970. The Peregrine Falcon decline in California. I. A preliminary review. Aud. Field Notes 24:609-613.

Hoffmann, R. 1927. *Birds of the Pacific States*. Houghton Mifflin Co., Boston MA

Horne, B. V. and A. Bader. 1990. Diet of nestling Winter Wrens in relationship to food availability. Condor 92:413-420.

Jewett, S. G. 1942. The European Starling in California. Condor 44:79.

Johnsgard, P. A. 1988. *North American Owls: Biology and Natural History*. Smithsonian Inst. Press, Washington D. C.

Kibbe, D. in Sutcliffe, S. M., R. E. Bonney, Jr. and J. D. Lowe, comps. 1986. Proc. Second Northeastern Breeding Bird Atlas Conference. Lab. of Ornithol., Cornell Univ., Ithaca NY.

Kortwright, F. H. 1942. *Ducks, Geese and Swans of North America*. Stackpole Books, Harrisburg PA.

Madge, S. and H. Burn. 1988. *Waterfowl*. Houghton Mifflin Co., Boston MA.

Mailliard, J. 1931. *Birds of the Bohemian Grove*. Published by "A Friend of Bohemia" (anon.).

Manolis, T. 1977. California Black Rail -- Breeding season survey in central California 1977. Endangered Wildlife Program, CDFG, Sacramento.

Mans, M. L. 1961. Coastal chaparral pp. 514-515. *in* G. A. Hall, ed. Twenty-fifth Breeding Bird Census. Aud. Field Notes 15:500-524.

Martin, G. 1994 (December 13). Starling's antics ruffle feathers in Santa Rosa. San Francisco Chronicle.

McCaskie, G., P. De Benedictus, R. Erickson and J. Morlan. 1979. *Birds of Northern California.* Golden Gate Aud. Soc., Berkeley CA.

Nelson, D. 1994 (September). Observations. The Madrone Leaves. Madrone Aud. Soc., Santa Rosa CA.

Page, G. W. and L. E. Stenzel. 1981. The Breeding status of the Snowy Plover in California. W. Birds 12:1-40.

Palmer, R. S., ed. 1988. *Handbook of North American Birds --Volume 4: Diurnal Raptors (Part 1).* Yale Univ. Press, New Haven CT.

Paton, P. W. C. and C. J. Ralph. 1990. The distribution of the Marbled Murrelet at Inland sites in California. N. W. Naturalist 71:72:82.

Pearson, T. G., ed. 1936. *Birds of America.* Doubleday & Co., Garden City NY.

Peterson, R. T. 1961. *A Field Guide to Western Birds.* Houghton Mifflin Co., Boston MA.

Proctor, R., C. J. Walker and T. Parmenter. 1985. *Garden Birds.* Rodale Press, Emmaus PA.

Remson, J. V., Jr. 1978. Bird species of special concern in California. Wildlife Management Branch Admin. Report 78-1. CDFG, Sacramento.

Richardson, F. 1961. Breeding biology of the Rhinoceros Auklet. Condor 63:456-473.

Robbins, C. S., D. Bystrak and P. H. Geissler. 1986. The breeding bird survey: its first fifteen years 1965-1979. Resource Publication 157. USFWS.

Scott, S. L., ed. 1983. *Field Guide to the Birds of North America.* National Geographic Society, Washington D. C.

Shuford, D. W. 1993. *The Marin County Breeding Bird Atlas -- A Distributional and Natural History of Coastal California Birds.* California Avifauna Series 1. Bushtit Books, Bolinas CA.

Sibley, C. S. and L. L. Short, Jr. 1959. Hybridization in the buntings (*Passerina*) of the Great Plains. Auk 76:443-463.

Sonoma County Planning Department. 1974 (October). Sonoma County General Plan Vol. 2., Environmental Resources Management Element, Natural Resources Inventory. So. Co. Plan. Dept., Santa Rosa CA.

Spear, L. 1993. Specialist predator-prey imbalance. PRBO Observer 96:1-10.

Stallcup, R. 1992. Sparrows in winter. PRBO Observer 94:8-9.

Stewart, R. M. 1973. Breeding behavior and life history of the Wilson's Warbler. Wilson Bull. 85:21-30.

Summers-Smith, J. D. 1963. *The House Sparrow.* Collins, London.

Sutcliffe, S. M., R. E. Bonney, Jr. and J. D. Lowe, comps. 1986. *Proc. Second Northeastern Breeding Bird Atlas Conference.* Lab. of Ornithol., Cornell Univ., Ithaca NY.

Thomas, J. W., E. O. Forsman, J. B. Lint, J. C. Meslow, B. R. Noon and J. Verner. 1990. A conservation strategy for the Northern Spotted Owl. Rept. of the Interagency Sci. Comm. to Address the Conservation of the Northern Spotted Owl. U.S. For. Serv., Portland OR; Bur. Land Mgmt; USFWS; U.S. Natl. Park Serv.

United States Fish and Wildlife Service. 1987. Migratory non-game birds of management concern in the United States: The 1987 List. Office of Migratory Game Management, USFWS.

Van Fleet, C. C. 1919. A short paper on the Hutton Vireo. Condor 21:162-165.

Verner, J., K. S. McKelvey, B. R. Noon, R. J. Gutierrez, G. I. Gould, Jr., and T. W. Beck. 1992. The California Spotted Owl -- a technical assessment of its current status. Pacific Southwest Research Station. U. S. For. Serv., Fresno CA.

Voous, K. H. 1988. *Owls of the Northern Hemisphere.* MIT Press, Cambridge MA.

Weston, H. G., Jr. 1947. Breeding behavior of the Black-headed Grosbeak. Condor 49:54-73.

Zeiner, D. C., W. Laudenslayer, Jr., K. E. Mayer and M. White. 1990. California's Wildlife, Volume II Birds. CDFG, Sacramento.

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THE SONOMA COUNTY BREEDING BIRD ATLAS provides:

◆ 159 nesting distribution maps, one for each of the county's 159 breeding birds.

◆ information on the county's rare, threatened and endangered breeding birds.

◆ an overview of Sonoma County's geography, including climate and weather, as it applies to plants and animals but especially to birds.

◆ rankings of the breeding birds that are most widely distributed in the County.

◆ historical data on the status of the County's breeding bird populations earlier this century.

◆ 179 species accounts including facts and anecdotes, one for each of the county's 159 breeding birds, plus 20 more.

BOOK REVIEW

"The Sonoma County Breeding Bird Atlas is quite a document!....(It) will appeal to every person interested in the nature of Sonoma County. While accurate, reliable and scientific in theme, it is also enjoyable reading.
Seventy pen and ink illustrations by the great American bird-artist Major Allan Brooks very much enhance the already attractive layout, and Keith Hansen's cover picture of White-breasted Nuthatches and a Nuttall's Woodpecker 'mobbing' a Pygmy Owl in a native oak is magnificent!
Every person who is interested in nature and native birds....will want to own a copy of this fine, new work." Rich Stallcup

BETTY BURRIDGE

Betty Burridge has close ties to both Sonoma County and nature. Her father learned his first fishing skills as a pre-teenager on Sonoma Creek, during school vacations in Vineburg. Some of her earliest memories are of idyllic out-door family picnics, while her dad plied small streams for trout with his fly rod. Later, her teenage summers were spent at Summerhome Park on the Russian River. She was educated at the University of California at Berkeley and San Francisco, in physical therapy.

She is widely traveled, especially in Europe where she lived from 1961-69 in West Berlin, southern France and a village in the Swiss alps.

Previously smitten by the worlds of mushrooms and wildflowers, she was ruthlessly attacked by the 'Birding Bug' in 1971 and ever since has been deeply involved in learning the mysteries of the avian world. After moving to Santa Rosa in 1974 she was co-compiler of the Western Sonoma County Christmas Bird Count from 1976-93, and an active participant in numerous government and privately sponsored bird studies, including the Marin County Breeding Bird Atlas.

She has previously authored weekly articles for a daily newspaper, The Oakland Tribune, as well as two books: an American cookbook written in German and a guidebook about Berlin.

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