

Santa Cruz County Breeding Bird Atlas II

Phenology Dates

Phenology is the timing of events in the life of a species. Breeding is a major event for all species and the timing of when it occurs varies with climate, resource availability, and many other factors. The breeding phenology of a species can be broken down into three discrete stages: nest building, nesting, and fledging. Nest building for most species occurs before eggs are laid; nesting is when the nest contains eggs or nestlings; and fledging is when the young have left the nest but are still dependent on adults for food or protection.

The breeding season is often defined as “spring and summer” in this region, however many species begin nesting in December while others wait to begin in early summer and continue into fall. For some species, breeding occurs year-round. Atlas data can shed light on the breeding phenology of each species in Santa Cruz County.

Atlas data from 1987-1993 (contributed by David Suddjian) and 2017-2019 were used to compile the earliest and latest date for each stage of breeding that has been found in Santa Cruz County. These dates represent the minimum date range of when each species is breeding. The usefulness of the date ranges is to a great extent dependent on the number of records a species has, which is reflective of the detectability and rarity of the species. Rare species and others that are difficult to confirm breeding usually have fewer records to define their breeding phenology. The following guidelines for interpreting the number of records a species has will help determine the usefulness of the date ranges for the species.

>200 records—adequately represents the full date range of when a species is breeding and all three breeding stages, as appropriate for the species.

101-200 records—adequately represents the full date range of when a species is breeding and at least one of the three breeding stages.

50-100 records—adequately represents the full date range of when a species is breeding, but breeding stages are usually poorly defined.

<50 records—data deficient

Other published and unpublished sources have additional phenology records in Santa Cruz County, and these sources will be integrated with atlas data in due time. For now, this preliminary compilation can be used to plan when to look for certain behaviors which confirm breeding. For example, Western Wood-Pewees are known to build their nest in Santa Cruz County between May 3 and June 30, which is a good time to watch for adults carrying nest material.

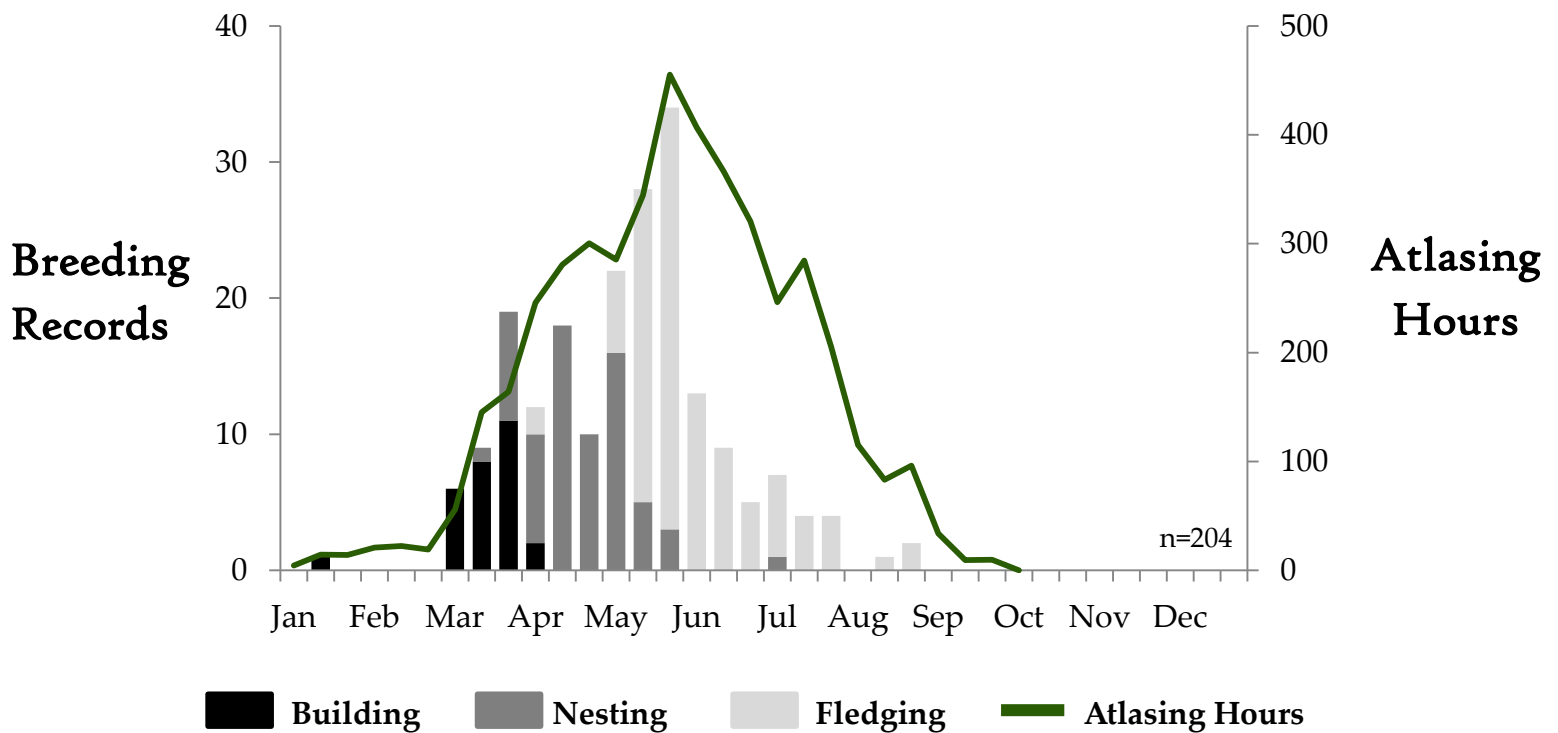
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The phenology dates can also be used to evaluate the significance of specific observation. A Warbling Vireo incubating an active nest on April 10 would be the earliest nesting record in the atlas database, while a Wrentit feeding young on August 15 would be the latest.

The atlas publication will have a similar table as is in this compilation, but will be more robust with the addition of two more years of atlas data and records from other sources. This compilation will provide the first comprehensive look at when species are breeding in Santa Cruz County. The table will also be supplemented by detailed visual representations of when species are breeding, such as the figure below.

Phenology of Oak Titmouse



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Acorn Woodpecker	226	Apr 2–Sep 1	-	Apr 2–Aug 30	Apr 12–Sep 1
Allen's Hummingbird	79	Feb 17–Jul 9	Feb 17–Jun 24	Feb 27–Jun 26	Apr 8–Jul 9
American Avocet	2	May 20–Jun 7	-	-	May 20–Jun 7
American Bittern	16	May 10–Sep 4	-	May 10–Jul 24	Jun 15–Sep 4
American Coot	149	Mar 4–Sep 7	Mar 4–Jul 7	Apr 3–Aug 27	Apr 3–Sep 7
American Crow	210	Mar 7–Aug 20	Mar 7–May 28	Mar 9–May 30	Apr 11–Aug 20
American Dipper	15	Mar 25–Jul 4	Mar 25–May 10	Apr 3–Jun 15	May 11–Jul 4
American Goldfinch	56	Apr 22–Aug 30	Apr 22–Jul 15	May 27–Jul 19	Jun 2–Aug 30
American Kestrel	33	Mar 19–Aug 8	Mar 19	Apr 9–Jun 10	May 21–Aug 8
American Robin	267	Feb 16–Sep 10	Feb 16–Jul 8	Apr 1–Aug 10	Apr 17–Sep 10
Anna's Hummingbird	167	Nov 11–Aug 7	Nov 11–Jul 12	Jan 19–Jul 13	Jan 22–Aug 7
Ash-throated Flycatcher	139	Apr 23–Aug 29	Apr 23–Jul 28	May 10–Jul 28	May 30–Aug 29
Bald Eagle	10	Mar 17–Jun 28	-	Mar 17–Jun 1	Jun 23–Jun 28
Band-tailed Pigeon	73	Apr 8–Jul 23	Apr 8–Jul 8	May 10–Jul 21	May 26–Jul 23
Bank Swallow	2	Jun 6–Jun 11	-	Jun 6–Jun 11	-
Barn Owl	21	Mar 15–Jul 12	-	Mar 15–Jul 12	May 29–Jun 8
Barn Swallow	213	Mar 31–Sep 7	Mar 31–Jul 22	Apr 7–Aug 18	May 13–Sep 7
Bell's Sparrow	1	Jun 16–Jul 9	-	-	Jul 9
Belted Kingfisher	11	May 20–Jul 16	May 28	May 2–Jun 26	Jun 30–Jul 16
Bewick's Wren	203	Mar 9–Sep 3	Mar 9–Jul 15	Apr 18–Jul 15	Apr 7–Sep 3
Black Oystercatcher	37	May 18–Aug 8	-	May 18–Jul 19	Jun 2–Aug 8
Black Phoebe	292	Mar 17–Aug 23	Mar 21–May 30	Feb 27–Aug 18	Apr 20–Aug 23
Black Swift	13	Jun 17–Aug 20	Jun 28–Jul 1	Jun 17–Aug 20	-

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Black-chinned Sparrow	2	Jun 22–Jul 9	-	-	Jun 22–Jul 9
Black-crowned Night-Heron	6	May 9–Jul 21	May 9	May 9–Jun 16	Jul 5–Jul 21
Black-headed Grosbeak	214	Apr 12–Aug 23	Apr 12–Jun 23	Apr 26–Jul 6	May 13–Aug 23
Black-necked Stilt	6	May 17–Jul 20	-	May 17–May 24	Jun 7–Jul 20
Black-throated Gray Warbler	68	Apr 25–Jul 31	Apr 25–May 28	May 15	May 15–Jul 31
Blue Grosbeak	3	Jun 27–Jul 30	-	-	Jun 27–Jul 30
Blue-gray Gnatcatcher	25	Apr 20–Aug 6	Apr 20–Jun 18	May 2–Jul 17	May 12–Aug 6
Brandt's Cormorant	123	Feb 4–Aug 14	Feb 4–Jul 13	Feb 7–Jul 31	Jun 19–Aug 14
Brewer's Blackbird	234	Mar 23–Aug 1	Mar 23–Jun 2	Apr 13–Jun 26	Apr 23–Aug 1
Brown Creeper	173	Apr 2–Aug 6	Apr 2–May 26	Apr 28–Jul 9	May 14–Aug 6
Brown-headed Cowbird	84	May 17–Aug 25	-	Jun 8–Jun 26	May 17–Aug 25
Bullock's Oriole	29	Apr 13–Aug 1	Apr 13–May 10	May 6–Jun 22	May 25
Burrowing Owl	1	Jun 10	-	-	Jun 10
Bushtit	468	Jan 23–Aug 4	Jan 23–Jun 15	Jan 29–Jun 16	Apr 4–Aug 4
California Quail	283	Apr 16–Sep 3	-	Apr 25–Jun 15	May 8–Sep 3
California Scrub-Jay	326	Mar 1–Aug 29	Mar 19–Jun 10	Apr 12–Jun 11	Mar 16–Aug 29
California Thrasher	51	Mar 3–Jul 31	Mar 3–Jun 12	Apr 1–Jul 4	Apr 15–Jul 31
California Towhee	442	Mar 23–Sep 26	Mar 23–Aug 1	Apr 14–Jul 26	Apr 29–Sep 26
Canada Goose	49	Apr 1–Jul 13	-	Apr 1–May 20	Apr 10–Jul 13
Cassin's Vireo	48	Apr 15–Jul 22	Apr 27–Jun 2	May 6–Jun 20	Apr 15–Jul 22
Cedar Waxwing	21	May 26–Aug 5	May 26–Jul 13	Jun 30–Aug 5	-
Chestnut-backed Chickadee	1129	Jan 15–Aug 8	Jan 15–Jun 23	Mar 18–Jul 16	Mar 12–Aug 8
Chipping Sparrow	14	May 17–Jul 22	May 17	-	Jun 2–Jul 22
Cinnamon Teal	14	Apr 19–Aug 5	Apr 19	-	May 9–Aug 5
Cliff Swallow	329	Mar 19–Aug 23	Mar 24–Jul 11	Mar 19–Aug 15	May 13–Aug 23

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Common Gallinule	18	Apr 20–Jul 28	-	-	Apr 20–Jul 28
Common Merganser	28	May 6–Jul 26	-	-	May 6–Jul 26
Common Raven	69	Apr 1–Aug 3	Apr 10–Apr 17	Apr 1–Jul 11	May 29–Aug 3
Common Yellowthroat	57	Apr 4–Aug 26	Apr 4–Jun 7	Apr 28–May 22	May 6–Aug 26
Cooper's Hawk	50	Mar 3–Sep 2	Mar 3	Mar 16–Jun 10	Jun 6–Sep 2
Dark-eyed Junco	821	Mar 12–Sep 2	Mar 12–Jul 8	Mar 28–Jul 29	Mar 21–Sep 2
Double-crested Cormorant	33	Mar 1–Aug 9	Mar 1–Jun 29	Mar 11–Aug 9	-
Downy Woodpecker	66	Mar 2–Aug 7	-	Mar 2–Jul 15	May 6–Jul 27
Eurasian Collared-Dove	31	Mar 3–Aug 7	Mar 3–Aug 7	Apr 4–Jul 19	Jun 17–Jul 24
European Starling	314	Mar 4–Sep 9	Mar 4–Sep 9	Apr 7–Aug 19	Jan 23–Aug 8
Gadwall	30	May 11–Aug 14	-	Jun 18	May 11–Aug 14
Golden Eagle	5	Jun 4–Aug 12	-	Jun 11	Jun 4–Aug 12
Golden-crowned Kinglet	27	Apr 29–Aug 21	Apr 29–May 17	-	May 17–Aug 21
Grasshopper Sparrow	20	May 14–Jul 30	May 14–Jun 2	May 17–Jul 3	May 20–Jul 30
Great Blue Heron	53	Dec 30–Aug 9	Dec 30–May 3	Feb 19–Aug 9	-
Great Egret	18	Apr 20–Aug 5	Apr 27–Jun 26	Apr 20–Aug 5	-
Great Horned Owl	99	Jan 21–Sep 8	Jan 21–Jan 26	Mar 1–Jun 29	Apr 7–Sep 8
Great-tailed Grackle	6	Apr 14–Aug 13	Apr 14	-	Jun 12–Aug 13
Green Heron	39	Apr 27–Aug 26	Apr 27–Jun 3	May 22–Aug 6	Jun 2–Aug 26
Hairy Woodpecker	124	Apr 20–Aug 29		Apr 20–Jul 16	May 1–Aug 29
Hermit Thrush	36	May 5–Aug 3	May 5–Jun 30	May 29–Jun 15	Jun 1–Aug 3
Hermit Warbler	15	May 17–Jul 21	May 17–Jun 2	Jun 9	Jun 14–Jul 21
Hooded Oriole	103	Apr 10–Aug 27	Apr 10–Jul 4	May 2–Jul 26	May 4–Aug 27
Horned Lark	3	May 16–Jun 23	-	Jun 17	Jun 19–Jun 23

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House Finch	467	Mar 15–Sep 13	Mar 15–Jul 13	Mar 26–Aug 27	Mar 31–Sep 13
House Sparrow	176	Feb 12–Oct 8	Feb 12–Jul 5	Feb 26–Oct 8	Apr 30–Aug 15
House Wren	27	Apr 10–Jul 21	Apr 10–	Apr 26–Jul 3	May 27–Jul 21
Hutton's Vireo	96	Mar 9–Aug 14	Mar 9–Jun 29	Apr 21–May 28	Apr 22–Aug 14
Killdeer	75	Mar 18–Aug 8	-	Mar 18–Jul 15	Apr 24–Aug 8
Lark Sparrow	12	May 10–Jul 18	May 10	-	Jun 2–Jul 18
Lawrence's Goldfinch	5	Jun 17–Jul 24	Jun 17	-	Jun 30–Jul 24
Lazuli Bunting	17	May 20–Aug 21	-	May 20–Jul 11	Jun 15–Aug 21
Lesser Goldfinch	172	Mar 25–Sep 20	Mar 25–Jun 22	Mar 25–Jul 31	Apr 30–Sep 20
Loggerhead Shrike	11	Apr 15–Jul 26	Apr 15–Apr 29	Jun 2–Jun 23	Jun 12–Jul 26
Long-eared Owl	7	Mar 21–Jul 21	Mar 21	Mar 21–May 5	Jun 4–Jul 21
MacGillivray's Warbler	2	May 17–Jul 20	May 17	-	Jul 20
Mallard	436	Mar 5–Aug 26	-	Mar 13–Jul 11	Mar 5–Aug 26
Marbled Murrelet	12	May 17–Jul 9	-	May 17–Jul 9	-
Marsh Wren	23	Apr 15–Aug 31	-	Apr 15–Jun 17	Apr 29–Aug 31
Mountain Quail	1	Jun 16	-	-	Jun 16
Mourning Dove	188	Jan 17–Sep 18	Jan 17–Aug 13	Feb 25–Aug 15	Mar 23–Sep 18
Mute Swan	4	May 6–May 31	-	-	May 6–May 31
Northern Flicker	72	Apr 28–Aug 3	-	Apr 28–Jul 27	Jun 6–Aug 3
Northern Harrier	17	Mar 2–Jul 19	Apr 15–Apr 28	Mar 3–May 26	Jun 6–Jul 19
Northern Mockingbird	111	Mar 12–Sep 14	Mar 12–Jul 21	Apr 20–Aug 21	-
Northern Parula	1	Jul 25	-	-	Jul 25
Northern Pygmy-Owl	5	Jun 30–Jul 22	-	-	Jun 30–Jul 22
Northern Rough-winged Swallow	61	Mar 12–Jul 12	Mar 12–May 20	Apr 21–Jul 12	May 4–Jul 6

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Northern Saw-whet Owl	23	Apr 28–Jul 31	-	Apr 28–May 13	May 30–Jul 31
Nuttall's Woodpecker	36	Apr 16–Aug 5	Apr 16	May 6–Jul 7	May 10–Aug 8
Oak Titmouse	257	Jan 15–Aug 29	Jan 15–Jun 17	Mar 18–Jul 6	Apr 2–Aug 29
Olive-sided Flycatcher	66	Apr 22–Aug 3	Apr 22–Jul 15	May 20–Jul 31	May 19–Aug 3
Orange-crowned Warbler	176	Mar 23–Jul 30	Mar 30–Jun 2	Mar 23–Jun 16	May 5–Jul 30
Osprey	31	Mar 17–Aug 7	Mar 17–Apr 10	Apr 17–Jul 17	Jul 7–Aug 7
Pacific Wren	54	Apr 7–Aug 12	Apr 7–Apr 10	Jun 14	May 2–Aug 12
Pacific-slope Flycatcher	266	Apr 4–Aug 30	Apr 4–Jun 23	Apr 12–Aug 5	May 30–Aug 30
Pelagic Cormorant	47	Apr 16–Aug 17	May 20–Jun 27	Apr 16–Aug 17	-
Peregrine Falcon	26	Mar 3–Jul 5	Mar 20	Mar 3–Jun 4	May 13–Jul 5
Pied-billed Grebe	162	Feb 17–Oct 21	Feb 17–May 18	Mar 21–Aug 5	Apr 20–Oct 21
Pigeon Guillemot	64	Apr 28–Sep 7	-	Apr 28–Aug 31	-
Pileated Woodpecker	17	May 16–Jul 31	-	May 16–Jul 9	Jun 25–Jul 31
Pine Siskin	56	Apr 9–Aug 20	Apr 9–Jun 29	Jun 7–Jun 26	May 9–Aug 20
Purple Finch	117	Apr 22–Aug 20	Apr 22–Jul 20	May 24–Jul 13	May 6–Aug 20
Purple Martin	5	Apr 30–Jul 9	-	Apr 30–Jul 9	-
Pygmy Nuthatch	212	Mar 12–Aug 24	Mar 12–Jun 7	Mar 31–Jul 14	Apr 28–Aug 24
Red Crossbill	3	May 2–May 31	May 2	-	May 17–May 31
Red-breasted Nuthatch	24	Apr 12–Jul 21	Apr 27–May 22	Apr 12–Jul 13	May 23–Jul 21
Red-shouldered Hawk	70	Feb 16–Aug 10	Feb 16–Mar 31	Apr 1–Jul 10	May 9–Aug 10
Red-tailed Hawk	158	Jan 27–Aug 4	Jan 27–Jun 13	Feb 26–Jun 23	May 25–Aug 4
Red-winged Blackbird	99	Mar 22–Aug 22	Mar 22–May 29	Apr 23–Jun 27	May 7–Aug 22
Rhinoceros Auklet	6	May 29–Jul 16	-	May 29–Jul 16	-
Rock Pigeon	95	Oct 19–Aug 30	Feb 7–Oct 19	Feb 18–Aug 30	May 9–Jul 3

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Ruddy Duck	26	May 4–Sep 20	-	May 4–May 30	May 8–Sep 20
Rufous-crowned Sparrow	1	Jun 4	-	-	Jun 4
Savannah Sparrow	31	Apr 4–Jul 22	Apr 27–May 5	Apr 5–Jun 26	Apr 18–Jul 22
Sharp-shinned Hawk	6	Jun 30–Jul 28	-	-	Jun 30–Jul 28
Snowy Plover	19	Apr 18–Aug 13		Apr 18–Jun 28	May 15–Aug 13
Song Sparrow	295	Mar 6–Sep 4	Mar 6–Jul 8	Apr 5–Jun 12	Apr 8–Sep 4
Sora	1	May 9	-	May 9	-
Spotted Sandpiper	12	Jun 27–Sep 3	-	Jun 27	Jun 29–Sep 3
Spotted Towhee	231	Mar 28–Aug 28	Mar 28–Jul 10	Apr 6–Aug 4	May 16–Aug 27
Steller's Jay	280	Mar 28–Aug 21	Mar 28–Jul 1	Apr 27–Jul 17	May 3–Aug 21
Swainson's Thrush	35	May 3–Aug 3	May 3–Jun 11	May 14	Jun 20–Aug 3
Tree Swallow	82	Apr 16–Jul 21	Apr 16–May 21	Apr 17–Jul 21	May 18–Jul 18
Tricolored Blackbird	8	Mar 28–Jul 4	Mar 28–May 11	-	Jul 4
Turkey Vulture	4	Jun 8–Aug 3	-	Jun 7–Jun 8	-
Varied Thrush	2	May 29–Jul 2	May 29	-	Jul 2
Vaux's Swift	5	May 29–Jul 25	-	May 29–Jul 15	Jul 16–Jul 25
Violet-green Swallow	398	Apr 1–Jul 25	Apr 1–Jul 7	Apr 24–Jul 25	May 8–Jul 24
Virginia Rail	6	May 28–Jul 25	-	-	May 28–Jul 25
Warbling Vireo	103	Apr 11–Aug 18	Apr 11–Jun 10	Apr 20–Jul 1	May 23–Aug 18
Western Bluebird	238	Mar 11–Aug 10	Mar 11–Jul 13	Mar 26–Jul 30	Apr 27–Sep 12
Western Gull	156	Apr 30–Sep 12	May 9–May 31	Apr 30–Aug 16	Jun 7–Sep 12
Western Kingbird	4	Mar 31–Jul 24	Mar 31–May 15	Jun 1	Jul 24
Western Meadowlark	8	May 26–Jul 4	-	Jun 6	May 26–Jul 4
Western Screech-Owl	27	Jun 4–Jul 28	-	-	Jun 4–Jul 28

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Western Tanager	35	May 13–Jul 20	May 13–Jun 1	May 30–Jul 12	Jun 18–Jul 20
Western Wood-Pewee	80	May 3–Aug 21	May 3–Jun 30	May 16–Jul 15	Jun 5–Aug 21
White-breasted Nuthatch	6	Apr 23–Jul 21	-	Apr 23–Jul 10	Jun 15–Jul 21
White-crowned Sparrow	38	Mar 30–Aug 13	May 6	Jun 17	May 17–Aug 13
White-tailed Kite	53	Feb 16–Sep 9	Feb 16–Jun 1	Mar 22–Sep 3	May 24–Sep 9
White-throated Swift	12	Apr 23–Aug 5	-	Apr 23–Aug 5	-
Wild Turkey	61	Apr 18–Aug 4	-	May 1–May 8	Apr 18–Aug 4
Wilson's Warbler	169	Apr 8–Aug 11	Apr 8–Jun 2	May 12–Jul 2	May 6–Aug 11
Wood Duck	47	Apr 23–Jul 31	Apr 30	-	Apr 23–Jul 31
Wrentit	127	Mar 10–Aug 12	Mar 10–Jul 15	Apr 20–Jul 9	May 4–Aug 12
Yellow Warbler	29	Apr 30–Aug 18	Apr 30–May 9	May 3–Aug 3	May 18–Aug 18
Yellow-billed Magpie	4	Apr 17–Jun 30	Apr 17	May 30	Jun 30
Yellow-breasted Chat	1	Jun 8	-	Jun 8	-
Yellow-rumped Warbler	17	May 7–Jul 21	May 7–May 24	May 29–Jun 21	May 27–Jul 21