

Daniel's Nature Watch Phenology Calendar* (2008)

edelstein@earthlink.net
www.warblerwatch.com

*Phenology Calendar

for the coastal area of northern California /SF Bay Region, including Marin County)

(* = Phenology relates to recurring, seasonal events on land and in the heavens, many of which are often predictable based on weather, climate, temperature, latitude, and time, among other factors.)

(Sky Watch information for each month (BELOW) is courtesy of www.almanac.com. Moon and planet times are based on Pacific Standard Time.)

New to this calendar in 2008:

- Planet Highlights for each month in 2008;
- All Sky Watch information for 2008;
- Moon phases for 2008;
- Meteor shower names, best viewing times, and associated comets to see in 2008;
- Eclipses in 2008;
- **NOTE:** New or enhanced entries appear throughout this year's calendar.

In some cases, I've added new accounts to a month. In other instances, I've added information to entries that appeared in previous years' phenology calendars. Thus, you may wish to continue reading an account that seems familiar from one of your previous readings. New information may appear and, if so, is usually written as add-on text as a new final paragraph or two.

January

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	7:26 AM	5:01 PM

Moon	1:23 AM	12:15 PM
Mercury	8:11 AM	5:35 PM
Venus	4:28 AM	2:32 PM
Mars	3:47 PM	7:03 AM
Jupiter	6:57 AM	4:25 PM
Saturn	9:33 PM	10:44 AM
Uranus	10:52 AM	10:15 PM
Neptune	9:44 AM	8:11 PM
Pluto	6:17 AM	4:30 PM

2) Planet Highlights:

Mars, in the evening sky, shines at its brightest of the year at magnitude -1.5. It briefly equals the brilliance of the brightest star, Sirius; both shine gloriously after 8:00 p.m., with ruddy Mars high and blue Sirius much lower. By the end of the month, Mars has lost half its light. Saturn, bright but not dazzling in Leo, rises around 8:30 p.m. Mercury hovers next to the thin crescent Moon on the 9th and is best seen about 40 minutes after sunset from the 12th to the 28th, about 10 degrees high in the southwest. Venus rules the predawn sky at magnitude -4 and is close to Jupiter at the end of the month. Earth reaches perihelion, its annual position closest to the Sun, on the 2nd.

Full Moon: JAN 22 5:35 am
 Last Quarter: JAN 29 9:03 pm
 New Moon: JAN 8 3:37 am
 First Quarter: JAN 15 11:46 am

Eclipses in 2008

During the year 2008, two solar and two lunar eclipses occur as follows:

2008 Feb 07: Annular Solar Eclipse
2008 Feb 21: Total Lunar Eclipse
2008 Aug 01: Total Solar Eclipse
2008 Aug 16: Partial Lunar Eclipse

See below within February and August for details.

(For more information about each eclipse in 2008, see <http://sunearth.gsfc.nasa.gov/eclipse/OH/OH2008.html>)

Meteor Showers in 2008 (see each month, below)

Name	Date of Peak	Moon Phase
Quadrantids	January 4, morning	Crescent, rises 4-5 a.m.
Lyrids	night of April 21/22	almost Full
Eta Aquarids	May 5, morning/evening	New Moon
Perseids	August 12, morning	Sets around 2 a.m.
Orionids	October 21, morning	Rises around 1 a.m.
Leonids	November 17, morning	Rises late evening
Geminids	December 13, evening	Full Moon

January 3-4: Quadrantid Meteor Shower

Typically, 40 or so bright, blue and fast (25.5 miles per second) meteors will radiate from the constellation Bootes, some blazing more than halfway across the sky. A small percentage of them leave persistent dust trains. This shower usually has a very sharp peak, usually lasting only about an hour.

Pop Quiz:

Which bird species is probably the earliest breeder in Marin County?

Answer: Early nesting Anna's hummingbirds may lay eggs this month or, in some cases, last month (December, 2007). More information about hummingbirds in California appears in the next account.

Hummingbirds In California: Early Breeders

Anna's Hummingbirds, year-round residents in northern California (and throughout much of the state), may already be laying eggs — perhaps initiating courtship and/or nesting as early as December (!). Some early-nesting females will play hostess to two broods during the breeding season, with second clutches hatching as late as mid-August. Peak breeding and greatest nest abundance occurs in May. Amazing but true, this year's initial breeding cycle began in early November in Marin County where I live. That's when I began seeing courtship dances by male Anna's on my land. Whether the females were receptive then is another question that remains unproven.

Research studies have indicated this hummer species memorizes and learns a song in its first year of life, similar to the behavior of most songbirds. **Allen's Hummingbirds**, which breeds from s. California to s. Oregon, begin to migrate through the Bay Area in the final week of January after spending the winter in Baja California and Chihuahua in Mexico. Their preferred habitat is canyon woodlands, brush and highland meadows. This species breeds in the Bay Area, but by the end of July many have dispersed and/or left the Bay Area, and in mid- to late-August most of the species' population has migrated south.

Rufous Hummingbirds are seen only during migration in California, except for the extreme northern part of the state where their breeding area begins (and stretches north throughout much of Oregon, all of Washington, and into parts of Idaho, Montana and Wyoming, as well as into British Columbia, Alberta and southeast Alaska). Other hummingbirds occur in California, of course, but the aforementioned three species are usually the most common ones to see in the Bay Area/Marin County. **Calliope**, and **Costa's Hummingbird**, and **Black-Chinned Hummingbird** are sometimes observed in the Bay Area, though the initial two of these three species is considered a "casual visitor" to Marin County (and Black-Chinned the most rare, yet still considered a "casual visitor") — with all three occasional to common casual visitors in more eastward Bay Area counties.

Swallows During Winter In Northern California?

They are never a common sight, but it's possible to see the following swallow species in Marin County (and the Bay Area) during the winter in the following order, from most common to rare: Tree, Barn, and Violet-green. Our other northern California summer residents — Northern Rough-Winged, Cliff, and Bank — are considered rare to not present in January, though they may return on migration by no later than the end February during some to most years.

Purple Martin are also typically absent from our area in January and February. As for swift species, White-Throated are by far the most typical one to see, if any, from January-March. Vaux's return on migration in April, while the more uncommon to "casual visitor" swift species — Chimney and Black — are usually spotted (if at all) from May through mid-October in northern California.

Hibernating Birds in Our Area?

Not exactly. But our Common Poorwill (*Phalaenoptilus nuttallii californicus*) (also called the Dusky Common Poorwill as the nominate race among five subspecies in the species) does exhibit winter torpor. According to Wikipedia, the Common Poorwill is the only bird known to go into torpor for extended periods (weeks to months). Such an

extended period of torpor is close to a state of hibernation, a condition not known among other birds. It was described definitively by Dr. Edmund Jaeger in 1948 based on a Poorwill he discovered hibernating in the Chuckwalla Mountains of California in 1946.

By the way, don't let this bird's name fool you. It's never "common" where we live in northern California. In Marin County, one of the best spots to see Common Poorwill is along open areas, hillsides and talus slopes on Mount Tamalpais. More typical, I hear this bird's vocalizations only and, if I'm lucky, then find it.

February

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	7:15 AM	5:33 PM
Moon	3:13 AM	12:24 PM
Mercury	7:35 AM	6:25 PM
Venus	5:21 AM	2:58 PM
Mars	1:22 PM	4:35 AM
Jupiter	5:23 AM	2:54 PM
Saturn	7:24 PM	8:39 AM
Uranus	8:53 AM	8:20 PM
Neptune	7:45 AM	6:15 PM
Pluto	4:19 AM	2:32 PM

2) Planet Highlights:

Venus and Jupiter are close together in the southeast, in Sagittarius, on the 1st. This spectacle is best seen around 6:30 a.m. On the 4th, the crescent Moon hovers below them. Venus gets lower each morning; when it meets Mercury from the 24th to month's end, the duo is only 5 degrees above the horizon at 6:00 a.m. Throughout the month, Mars is easy to view at nightfall. The planet resumes direct (eastward) motion in Taurus, but loses half its light, as Earth races away at 66,000 mph. Saturn, at its closest point of the year,

reaches opposition on the 24th, in Leo, at magnitude 0.2. A total lunar eclipse on the 20th will be visible from North America. (See page 98 for eclipse times.)

Full moon is called the Groundhog Day Moon, FEB 20 7:30 pm

Last Quarter: FEB 28 6:18 pm

New Moon: FEB 6 7:44 pm

First Quarter: FEB 13 7:33 pm

February 7: Annular Eclipse of the Sun

This eclipse will not be visible from North America. The first solar eclipse of 2008 occurs at the Moon's ascending node in Capricornus. An annular eclipse will be visible from a wide track that traverses Antarctica and southern regions of the Pacific Ocean. A partial eclipse will be seen within the much larger path of the Moon's penumbral shadow, which includes the southeastern third of Australia, all of New Zealand and most of Antarctica

February 20-21: Total Eclipse of the Moon

The entire eclipse can be seen from eastern and central North America. The Moon enters Earth's umbral shadow on February 20 at 8:43 P.M. EST, and the eclipse becomes total at 10:01 P.M. EST. Totality ends at 10:52 P.M. EST, and the umbral phase ends at 12:09 A.M. EST on February 21. The penumbral phase (only) will occur over western North America, at the time of moonrise; it will be difficult to see changes in the Moon's appearance.

Wildflowers Rising To The Occasion

Watch now for more than a dozen early wildflowers opening their blossoms in a variety of habitats. Within coast live oak/California bay forests, you're likely to see ground iris, Douglas iris, milkmaids, hounds tongue, mission bells, and California buttercup.

An excellent Web site to track the bloom of spring wildflowers is compiled and maintained by writer/photographer Carol Leigh. To see reports of the latest sightings or to announce your own discoveries, visit:

<http://calphoto.com/wflower.htm>

Loud Waterfalls Announce The Season

Prime time viewing of the Bay Area's and northern California's ample waterfalls are a delight to the senses. What could be more invigorating and awe-inspiring than to feel the powerful force of liquid Earth bombarding the placid landscape? Looking up at the

roaring display of frenetic molecules in motion within a waterfall, it's easy to lose track of time. You're simply "there," and life is good. Your hypnotized gaze is proof that the best things in life are free. Some of the best locations for viewing waterfalls in our area appear in a Web site: www.marintrails.com/falls.html

A different angle is to think how loud, rushing water along your trail walk may challenge your ability to successfully converse with a trailside partner. After a few switchbacks of dialogue that include "what" and "sorry," you decide there's a better solution than yelling and screaming. You decide to surrender. A hike with the mute button "on" is not all bad. You let the anarchic accompaniment of water be your solace, a step-by-step meditation.

Loud Waterfalls, Cacophonous Creeks, And Bird Song

As an extension from the previous entry above, consider the following ecologic mystery while you're walking beside a creek that emits an incessant refrain of rushing water: Does the loud sound affect singing birds and their ability to hear each other while establishing territories and attempting to attract mates along bottomland areas? The answer is only partially understood. In early winter, the question is invalid when no singing bird species in our area have yet begun to use their voices to attract mates or defend territories.

But conditions soon change when February arrives. In particular, now's the time to ponder whether Orange-Crowned Warbler males (that may begin arriving in late February in our area) are negatively impacted by the cacophonous presence of water? Does the noisy environs affect their ability to successfully complete their appointed season's life cycle? And what about Oak Titmouse, Bewick's Wren, and Hutton's Vireo — all of which are often singing in February and beyond within or nearby in upland areas within earshot of noisy bottomlands? Do all of these bird species have to wait until March and April and beyond to attract a mate that can finally better hear them? Or do they simply abandon a percussive bottomland area for more quiet nesting areas elsewhere that offer similar habitat conditions? The answer is a qualified "yes." At least one streamside study has shown birds upland and more removed from loud streams have an easier time hearing the companion birds with which they share the same habitat. The article suggests upland birds more successfully find mates and complete their breeding cycle with newborns fledgling from nests.

Sea Urchins: Low Tide Lookout

This month and next, watch for red sea urchins (a four-inch echinoderm) during low tides along rocky stretches of the northern California coast. Spawning occurs now through March, and their populations appear to be flourishing due in part to the increasing

absence of predators (such as sea otters) in parts of the ranges where both these critters live.

Returning Migrants: Premiering Now

Early returning birds that you may now begin seeing again include several swallow species (beyond populations that did not leave for the winter) such as Tree Swallow, followed by Violet-Green (mid-February), Cliff (mid-February), and Barn and Northern Rough-Winged (late February). Purple Martin will also arrive by April and nest in the area. Bank Swallow is rare to locally extinct in much of the Bay Area.

Ruby-crowned Kinglets: Small Is Beautiful

One of the most common birds you can see in the winter landscape now is the diminutive and frenetic Ruby-Crowned Kinglet. Enjoy them while they're here. They'll soon be gone. By the end of April, most have left for breeding grounds in the foothills/Sierras and latitudes farther north, and all vacate the Bay Area during the breeding season.

Meanwhile, populations of the look-alike Golden-Crowned Kinglet are also present in the Bay Area during this time, and some will remain to breed here (e.g., western Marin County). One major telltale field mark clue is the absence of feather coloring in the crown of most Ruby-Crowned, while all Golden-Crowned, both male or female, exhibit yellow in the crown (with the male adding a golden central median stripe on the crown).

Their feeding behavior is also often an easy way to tell them apart from a distance. One study suggests Ruby-Crowned forage within the upper thirds of trees more frequently and that individuals typically hover while they feed in a tree's interior portions. On the other hand, Golden-Crowned populations often use a gleaning behavior to find food resources at the tips of branches (Kathleen E. Franzreb, *Foraging Habits of Ruby-Crowned and Golden-Crowned Kinglets in an Arizona Montane Forest*, Kathleen E. Franzreb. 139-145, 1984; A. Keast and S. Saunders, *Ecomorphology of the North American Ruby-crowned (*Regulus calendula*) and Golden-crowned (*R. satrapa*) Kinglets*. Auk 108: 880–888, 1991)

Owl All Around

Seeing an owl during the day in open country? If so, you may be observing the Short-Eared Owl, which wears a dark facial disk that emphasizes its yellow eyes. Short-eared Owl is rarely seen in Marin County, but individuals are sometimes spotted in isolated portions along Tomales Bay or in distant trails and raised embankments accessible from the Las Gallinas Ponds in San Rafael.

Other day-flying, or diurnal, owl species to look for include the Burrowing, Long-Eared and Barn Owl. Which is the most common owl species in our area? The answer is the Great Horned Owl, a species that is more common in urban-suburban areas than people realize. Even the slightest sliver of natural surroundings may attract this species that has evidently adapted well to living within and near developed areas.

The Burrowing Owl is rare and usually only seen in open areas during the non-breeding season. Long-Eared are also rare and perhaps best found in dense growths of vegetation such as riparian corridors. Barn Owl nests throughout the area, both in human structures or in trees such as oaks.

Mammal Watch

Winter-active mammals you can spot at higher altitudes this time of year include pikas, deer mice, pocket gophers and tree squirrels. Other active foraging mammals to search for are meadow mice, mountain beaver (or aplodontia), shrew, and porcupine.

March

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	6:41 AM	6:04 PM
Moon	2:53 AM	11:55 AM
Mercury	5:29 AM	3:48 PM
Venus	5:37 AM	3:55 PM
Mars	11:52 AM	3:02 AM
Jupiter	3:52 AM	1:26 PM
Saturn	5:18 PM	6:40 AM
Uranus	7:03 AM	6:33 PM
Neptune	5:54 AM	4:26 PM
Pluto	2:28 AM	12:41 PM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Sap Moon, Crow Moon or Lenten Moon: MAR 21 11:40 am

Last Quarter: MAR 29 2:47 pm

New Moon: MAR 7 9:14 am

First Quarter: MAR 14 3:46 am

March 3rd: Total Eclipse of the Moon

This eclipse will be visible only in eastern N. America, so the times here are in Eastern Standard Time. The moon will begin to show a shadow across its face (i.e., the earth crosses between the sun and moon, thereby creating the shadow of eclipse upon the moon's face that we see) at 3:16 p.m. EST and will leave the penumbra ("shadow") at 9:25 p.m. EST.

March 18: Partial Eclipse of the Sun

You have to be in Alaska to see this solar eclipse. It begins at 4:38 p.m. Alaskan time with a peak at 6:32 p.m. Alaskan time.

March 19: Spring begins at 10:50 p.m. PST

Baby Time

Which animals give birth this month? A large variety. Watch for baby Western Tree Squirrels, Opossum, and Raccoons. We don't usually get lucky enough to see newborn mammals because the mother or both parents typically hide their young from any potential predators. But you can sometimes see Western Tree Squirrel mothers transferring their babies from one tree "nest" to another or spot a family of Raccoons at night.

They're Back: Returning Migrants

During most breeding seasons, you can expect this month to feature a variety of migrating birds returning to coastal northern California in good numbers, including the House Wren, Warbling Vireo, Wilson's Warbler, Pacific-Sloped Flycatcher and Cliff Swallow.

Rare Bird Alert Hotline

Do you wish to see rare, accidental or early bird migrants in northern California? Call the "Bird Box" to find out at 415/681-7422. You may also record your own bird sighting reports at the same phone number.

Fluttering By: Butterflies and Moths

Now's the time to watch for the appearance of various butterflies and moths. One of the most appealing is the Silkmoth (*Saturnia mendocino*), which wears a striking black-rimmed eyespot on each wing. Look for them most commonly in coastal and mountain chaparral.

Mountain Lookout: Birds Up High

Going to the California mountains this time of year? Be on the lookout for several species of birds: Williamson's Sapsucker (a woodpecker that feeds on the sap of lodgepole pine during the summer but eats more insects in the winter), Black-backed Woodpecker, Mountain Chickadee (that eats larvae of the lodgepole needleminer during the winter), Pine Grosbeak (less common in winter up high), Red-breasted Nuthatch, and Red Crossbill (also less common). The latter two species are year-round residents in Marin County, but they are never common to see, and are often detected initially by a birder's ear tuned to the landscape.

Bon Voyage: Winter Resident Migration

Some winter resident birds in the Bay Area and northern California begin to leave now for breeding areas elsewhere, including species such as American Pipit and Cedar Waxwing.

Wake Up Call: Awakening From Hibernation

Which true hibernating mammals are getting closer to "waking up" from their long winter's sleep? In foothill and mountainous areas of northern California, yellowbelly marmot, least chipmunk, California ground squirrel, and western jumping mice all hibernate. Some of these species may spend seven to eight months in a torpid state, though not all ground squirrel populations hibernate and many individuals in our area remain above ground or are active by January.

The Numbers Are In: Returning Bird Migrants

Migrating birds whose return to northern California typically occurs in higher numbers now (and into the first two weeks of April) include MacGillivray's Warbler, Black-headed Grosbeak, Yellow Warbler, Olive-sided Flycatcher, Lazuli Bunting, and Swainson's Thrush. Excellent guides to birding in our area include "Birder's Guide to Northern California" (Lolo and Jim Westrich, Gulf Publishing Co., 1991) and "Birding Northern California," John Kemper, A Falcon Guide, Globe Pequot Press, 2001). You

may also wish to find guided birding walks that are pre-scheduled on local Audubon chapter web sites that are accessed through www.audubon.org (Click on the home page's button titled "states and chapters" to access any local California Audubon chapter among the dozens listed.)

April

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	6:54 AM	7:34 PM
Moon	4:29 AM	2:54 PM
Mercury	6:31 AM	6:21 PM
Venus	6:19 AM	6:03 PM
Mars	11:47 AM	2:48 AM
Jupiter	3:07 AM	12:45 PM
Saturn	4:06 PM	5:32 AM
Uranus	6:05 AM	5:40 PM
Neptune	4:55 AM	3:29 PM
Pluto	1:27 AM	11:40

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Grass Moon or Egg Moon: APR 20 3:25 am

Last Quarter: APR 28 7:12 am

New Moon: APR 5 8:55 pm

First Quarter: APR 12 11:32 am

April 21-22: Lyrid Meteor Shower

The swift and bright Lyrid meteors disintegrate after hitting our atmosphere at a moderate speed of 29.8 miles per second. They often produce luminous trains of dust that can be observed for several seconds. In the predawn hours, look south to find meteors that could possibly peak at 12 per hour, depending on how dark your viewing location is in relation

to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). Thatcher is the name of the comet that causes the Lyrid meteor shower.

Butterfly Sightings?

If you've recently seen a butterfly species and wish to know if other people have witnessed the same kind or others, then visit a Web site link that is devoted to tracking the appearance of butterfly species throughout North America:

<http://www.naba.org/sightings/sightings.html>

Mountain Beavers: A Family Of One

Have you ever seen a Mountain Beaver? Not many people have been lucky enough to observe these solitary rodents that are in a different family than the more common American Beaver that lives throughout North America. To find a Mountain Beaver, you have to search in moist habitats along the Pacific coast from northern California through Washington and into southern British Columbia, Canada. Little is known about mountain beaver behavior during the breeding season. Breeding activity occurs mainly from January to March with gestation lasting about 30 days. Young are born blind and hairless, weighing about 3/4 ounce (20 g). They develop incisors at about 30 days and are weaned at about 8 weeks. Young animals are often active in May. Females apparently do not bear young until they are two years of age.

As the only member of its family (Aplodontidae) and genus (*Aplodontia*) in North America, a Mountain Beaver leaves evidence of its presence in the form of packed ground that forms a trail next to its burrow within a forest canopy and/or thick understory. Mountain Beavers are active year-round, but a rare sight, perhaps primarily because their habitat is usually inaccessible and off-trail from where most hikers prefer to explore.

Skinks Underfoot

Look under a flat board or log now for the Western Skink, a common, yet secretive reptile that lives throughout northern California from sea level to 7,000 feet. Males wear a distinctive blue belly and join females in a variety of habitats, most commonly in open areas or places undergoing early regrowth of vegetation after logging. Mating occurs in spring soon after emerging from winter slumber.

Big Time: Pacific Giant Salamanders

Pacific Giant Salamanders (also called California Giant Salamanders) are entering their peak breeding time in northern California. At lengths of five to six inches, this

salamander is the largest in our area. They are year-round residents of north-central California (from southern Santa Cruz County to extreme southern Mendocino and Lake counties) that live up to 6,500 feet, primarily in humid coastal forests, and especially in Douglas-fir, redwood, red fir, and montane and valley-foothill riparian habitats. Look for aquatic adults and larvae in cool, rocky streams and occasionally in lakes and ponds.

Roadside Mammal Sightings

Roadside mammal sightings now may seem more common for a good reason: Mothers are giving birth to babies, including those born to opossums. As the only pouched mammal (marsupial) in the USA, opossums often give birth to 14 embryos that have large hands to quickly crawl and attach to their mother's 13 teats. Of course, in a tongue-and-cheek kind of way, this means the oversupply of babies for available teats makes opossums players of "musical chairs," a game they have been playing for millions of years prior to the first appearance of evolved primates such as humans.

Everywhere and Omnipresent: Western Fence Lizards

Probably the most common reptile in California, the Western Fence Lizard is now more easily seen. This abundant, plainly-marked species begins courtship as early as March (and more commonly April), with copulations also occurring in May and June. Egg-laying after copulation typically occurs in two to four weeks (May through mid-July is the peak of egg-laying), and the incubation period is around 60 days. Found throughout California except in deserts (where it is confined to riparian areas), Western Fence Lizards live from sea level to 10,000 feet. Of course, like any common animal, populations of Western Fence Lizard may be locally rare if suitable habitat is removed as a consequence of development.

Aerial Acrobats: Swifts in Northern California

Although you can now see two species of swifts (Vaux's and White-throated) that nest in northern California (including Marin County), the White-throated is more common until it begins to disperse and migrate by the end of July and early August, after which they become a more rare sight throughout autumn and into winter. According to studies, all species of swifts obtain their food exclusively while aloft. Copulation also occurs in the air. Such aerial feats make sense, as seeing a swift perched is an uncommon sight, given their underdeveloped feet and leg muscles that are weak in comparison to those designed for perching birds such as songbirds.

Wakeup Call: Emerging Marmots

Detecting obvious signs of global warming's presence is indicated by changing hibernation dynamics in some mammal species. Consider that yellowbelly marmots

(close relatives of woodchucks), which usually hibernate for eight months during the long winter at high altitudes, are emerging from hibernation earlier (38 days earlier over the past 23 years) and may risk starvation as they wait longer for snow to melt before they can feed.

May

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	6:13 AM	8:02 PM
Moon	3:49 AM	3:57 PM
Mercury	6:56 AM	9:29 PM
Venus	5:52 AM	7:07 PM
Mars	11:02 AM	1:43 AM
Jupiter	1:17 AM	10:57 AM
Saturn	2:04 PM	3:32 AM
Uranus	4:11 AM	3:49 PM
Neptune	2:59 AM	1:34 PM
Pluto	11:24 PM	9:42

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Planting Moon or Milk Moon, MAY 19 7:11 pm

Last Quarter: MAY 27 7:57 pm

New Moon: MAY 5 5:18 am

First Quarter: MAY 11 8:47 pm

May 4: Eta Aquarid Meteor Shower

In the predawn hours, look southeast to find meteors that could possibly peak at 20 per hour, depending on how dark your viewing location is in relation to the glow of nearby

urban areas and the clarity of the sky (in terms of its moisture content percentage). Halley is the name of the comet that causes the Eta Aquarid meteor shower.

Migrating Swainson's Thrushes

Northern California's greatest abundance of Swainson's Thrush arrive this month on their breeding grounds, joining April's initial vanguard that returns from non-breeding areas in Mexico, Central America, and, even, perhaps, from as far south as mid-South America. Northern California's populations have been studied less rigorously than eastern populations that complete a 3,000 mile from Panama to Canada. In an amazing effort spanning 34 years of tracking migrating thrushes in spring, W.W. Cochran's discoveries inspired Martin Wikelski, a biologist at Princeton University in 1999, to measure how much energy thrushes expended in migratory flight.

Wikelski's results were counter-intuitive to what common sense would suggest: the thrushes traveling north in spring spent less energy in flight than they did while resting and foraging during daytime layover episodes. In total, Wikelski and his collaborators found a typical thrush completed its long migration journey over 42 nights while averaging 4.6 hours per night flight of approximately 158 miles. Losing 0.3 calories per mile on average, each thrush's heart beat about 840 times per minute while flying — a hyper-aerobic workout that failed to be as caloric intensive as the seemingly more loitering, casual effort required when merely perched or foraging.

Watching Radar To Follow Migrating Birds

Anyone with an Internet connection to the World Wide Web can use radar images to see whether migrant birds are aloft and how large their flocks are in abundance while heading your way. Visit the fascinating and well-respected Clemson University Radar Ornithology Laboratory Web site at <http://virtual.clemson.edu/groups/birdrad>. These radar images are forecasts for East Coast viewers wishing to track spring migrants, but, nonetheless, it's probably also fascinating for West Coast Web surfers to interpret how an evening's weather pattern influences the movement of migrating birds.

An equally interesting source of migration information available through radar maps is operated by the College of DuPage in Illinois. The ideal time to look at its radar maps is two to four hours after sunset at <http://weather.cod.edu/analysis/analysis.radar.html>. At this time, you'll be able to interpret the magnitude of migration and the direction and speed traveled by birds en masse by the different concentrations of colors appearing on each radar map.

Born Free: Northern Alligator Lizards

Northern Alligator Lizards are commonly seen now in a variety of forested habitats and montane chaparral from northwestern California, in the Coast Ranges south to San Luis Obispo Co. and in the Sierra Nevada Mountains south to the Kern River in southern California. Although mating probably occurs as early as mid-April, live alligator lizard young (in litters of 3-8) are typically born in August and September. As long as temperatures remain above freezing into November, these reptiles will roam free and usually disperse no more than five to seven miles from an original birthing area.

Rare Find: California Red-Legged Frogs

The federally endangered California Red-legged Frog breeds from March to July in northern parts of California and from January to July (peak in February) in the southern part of the state. It inhabits quiet pools of streams, marshes, and occasionally ponds where emergent vegetation provides hiding places. Look for this species west of the Sierra-Cascade crest and along the Coast Ranges the entire length of the state usually below 4,000 feet.

Wash First: Newborn Raccoons

Newborn raccoons born this time of year may number 2-7 in a litter. Do they and their parents truly wash their food? Sometimes, but dipping their meal is merely thought to be a tactic that helps them tell edible objects from non-edible items. There is no evidence from field observations to suggest raccoons attempt to clean off their prey by washing them with water before feasting.

Water Magnets: Attracting Birds To Your Yard

What's one technique that may attract more birds to your yard? Try installing a backyard in-ground pond or above-ground water source. A perpetual spray or fountain that recycles water can attract birds drawn in by the sound of running water, especially passerines such as American Robin, Chestnut-backed Chickadee, Oak Titmouse, House Finch, American Goldfinch and many others.

Better Late Than Never: Western Wood-Pewees Arrive

Western Wood-Pewees, one of our latest returning neotropical migrants, are now settling into breeding habitats such as woodlands, pine-oak forests, and river groves.

Got Skunks?

What is the strange scent in the air along roadsides? Perhaps you're smelling night-active skunks whose home range may extend beyond 10 acres, within which a portion is used

more often, including sheltering areas such as abandoned burrows of other animals. Skunks sometimes also dig their own burrow or use protected cavities underneath buildings. Some naturalists suggest mothballs work to repel skunks from habitually entering a shelter under, for example, a house or patio.

Care Package: Feeding Thirsty Hummingbirds Correctly

Changing sweet mixtures regularly every 2-3 days in hummingbird feeders becomes important as days grow warmer. Washing the feeder in hot water is also an important preventive measure to care for the health of hummers. A four to five parts water to one part sugar combination usually works best, though you may experiment (fun!) to judge which mixture is most often visited by hummingbirds. Bee and ant guards are a good idea to prevent potential problems. If you're hanging more than one feeder, the best strategy (if possible) is to space them apart by at least 30-40 feet. This action may help prevent the guarding of two feeders by an overaggressive male hummer that defends the territory in between both feeders.

June

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	5:49 AM	8:28 PM
Moon	3:43 AM	6:30 PM
Mercury	6:30 AM	8:59 PM
Venus	5:44 AM	8:16 PM
Mars	10:26 AM	12:35 AM
Jupiter	11:09 PM	8:52 AM
Saturn	12:06 PM	1:32 AM
Uranus	2:11 AM	1:52 PM
Neptune	12:57 AM	11:33 AM
Pluto	9:20 PM	7:37 AM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Rose Moon, Flower Moon or Strawberry Moon 30th day:

JUN 18 10:30 am

Last Quarter: 8th day: JUN 26 5:10 am

New Moon: JUN 3 12:23 pm

First Quarter: JUN 10 8:04 am

14th-16th: Lyrid meteor showers

The June Lyrids is a low-rate shower during which you could see up to 10 meteors per hour during its peak.

21st: Summer begins at 5:01 p.m. PST

23rd: St. John's Eve tonight used to be celebrated more so in the past in England when bonfires would be set to glow throughout the long and late-striking twilight hours and into the night.

Bird Quiz

Pop bird quiz: How many species of warblers nest in northern California along and near the coast (e.g., Marin County)? During most breeding seasons, at least eight species breed annually in suitable habitat (Orange-Crowned, Yellow, Yellow-Rumped, Black-throated-gray, Hermit, MacGillivray's, Common Yellowthroat, and Wilson's). Irregular to rare annual breeders in n. CA may include Northern Parula, American Redstart (annual in far n.w. CA along the coast) and Yellow-breasted Chat. Note that all eight of the initially mentioned species above may be seen during the non-breeding season, with the Common Yellowthroat and Yellow-rumped considered resident in Marin County.

Note, however, that some Yellow-Rumped populations may arrive from the north during the non-breeding season to displace breeders of the same species that migrate away from Marin County's higher altitudes that host small breeding populations. In our area, Orange-crowned is uncommon, yet not rare to see during the non-breeding season, while Hermit is often also seen, especially during the County's annual Christmas Bird Count surveys conducted by volunteers. The least common species to see during the non-breeding season (December through March) from the list above (in descending order of abundance) are Yellow, Black-throated gray, Wilson's, and MacGillivray's).

Final Avian Arrivals

In northern California, it's a good bet that Western Wood Peewee and Common Nighthawk are the latest arriving avian migrants among species that do not over winter in the state. According to the Point Reyes Bird Observatory Biologist Dave Shuford's chart (Marin County Breeding Bird Atlas, Dave Shuford, Bushtit Books, Bolinas, CA 1993) that highlights the arrival of avian migrants in northern California (see www.warblerwatch.com and click on the "Bird Arrival Times" button), Western Wood Peewee may arrive in May and as late as early June during some years. Common Nighthawk is usually a June arrival, probably because their primary food resource — aerial insects of various species — do not bloom in abundance until this time.

What's That Sound? Could It Be A Chipmunk?

Unlike the Sierra mountains where many species of chipmunks may be seen, the Sonoma Chipmunk is the only species of chipmunk you'll see in coastal areas of northern California, including the San Francisco Bay area. Breeding from February through July, one litter is born per year consisting of three to seven young. Gestation occurs for 30 days in a pregnant chipmunk and individuals mature at around one year. Not surprisingly, people often mistake the soft chirping of the Sonoma chipmunk for a bird.

Blinded By The Light

On warm nights now and the rest of the summer, it's wonderful to linger outdoors and gaze at the stars. There's only one problem. It's increasingly more difficult to see the stars through the glare discarded by people and their surroundings. Do you care about the increasing problem of light pollution that makes it more difficult to clearly spot celestial objects? If so, you might consider joining the International Dark-Sky Association. Call 520/293-3198 for more information or look at its Web site: <http://www.darksky.org>

Spotting Spotted Deer?

Will you still see young deer this late in the spring? Yes, it seems the normal range of births for deer extends into late June and beyond. I've seen white-spotted fawns well into July and, even, occasionally as late as August and September in our area, the burgeoning population due in part to the plentiful forage and ideal habitat that continues to expand as more suburban landscapes and their associated gardens displace forests, forest borders, and meadows.

Gray Fox: Dog Family Member All Around Us

On trails near urban areas throughout the Bay Area, you can often find the scat or tracks of gray foxes. (Many people may automatically assume these signs are from domestic dogs. Telltale signs of gray fox include the presence of hair and a sharp, tapered point at least one end of the scat.) More common than ever in our region, these solitary mammals

may be active both day and night. Unlike other dog family members, the gray fox is able to climb trees where they may hang out during the day.

Coastal Nester: Western Gull

Which gull in California is the only species nesting along the coast (e.g., Marin County)? The Western Gull, which nests from southern Baja to Washington. Distinguishing this species from other gull species is not too difficult. Three field marks often give away their identity: pink legs, large bill, and extremely dark gray backside/mantle. Note the lower portion of the bill has a small crook or angle near its end, a field mark that is called the “gonydeal angle.”

Attracting Mammals

Do you want to attract mammals into view in your backyard? One fun technique for doing so is to place a Q-tip (that has been dipped into musk oil or other animal-attracting oil potion) into the ground. Place a small circle of sand under the Q-tip so that you can see the tracks of the animals you attract. (You can order a large variety of animal attractant oil and vocal call devices from M & M Fur Co., 1-800-658-5554.)

July

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	5:51 AM	8:37 PM
Moon	3:57 AM	7:49 PM
Mercury	4:33 AM	6:50 PM
Venus	6:19 AM	9:04 PM
Mars	9:57 AM	11:21 PM
Jupiter	9:00 PM	6:39 AM
Saturn	10:19 AM	11:35 PM
Uranus	12:14 AM	11:55 AM
Neptune	10:55 PM	9:34 AM
Pluto	7:19 PM	5:36 AM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Thunder Moon or Hay Moon: JUL 18 12:59 a

Last Quarter: JUL 25 11:42 am

New Moon: JUL 2 7:19 pm

First Quarter: JUL 9 9:35 pm

July 28-29: Delta Aquarid Meteor Shower

At peak time about 20 bright, yellow meteors can be observed per hour. Because these meteors nearly broadside the Earth, their speed is a moderate 25.5 miles per second.

There is no known comet that causes this meteor shower.

Autumn In July? Yes, If You're A Shorebird

Visit San Francisco Bay shorelines this month to note the arrival of Arctic and Alaskan populations of Western and Least Sandpiper, northern California's initial returning migrants that will spend the non-breeding season here or at points farther south. An interesting fact relates to how some tardy northward migrating Western and Least Sandpiper populations in June may actually pass early southward migrating male individuals belonging to the same species. Imagine this phenomenon happening infrequently, but when it does, it's likely to happen in Washington or British Columbia coastal areas — and not as typical in the San Francisco Bay Area where the initial returning shorebirds/peeps usually return as early as the last week of June and in greater numbers during the initial two weeks of July.

Trailside Nest? It's Probably A Wood Rat

The Dusky-Footed Wood Rat is a common small mammal that is often overlooked when people walk in woodlands. Active only at night, its presence is easily noticed by its often elaborate and conspicuous conical nest of twigs and branches that can grow two to three feet tall (as more twigs accumulate each year). The wood rat occupying a nest is solitary except for during the breeding season.

Hopping Around: Brush Rabbits

By now, you may see first-year brush rabbits on the landscape. Born from January through August in our area (with greater activity from March through June), young

rabbits remain in their nest for two weeks. Females produce 2-4 litters per year, of 1-6 young (average 3-4).

Beating The Heat: California Ground Squirrel

Another common northern California mammal, the California ground squirrel (or Beecheyi's ground squirrel), is more difficult to spot now because the dry, warm weather reduces vegetation as a food source and therefore induces estivation ("summer slumber") in some individuals during this time of the year. From now through mid-winter, these 9-11 inch mammals may retire to a burrow until more green growth appears with the first rains and in mid-winter. At higher elevations, these squirrels hibernate from late October through May.

Wood-Warblers Leaving Already?

Do some warblers actually begin dispersing from their breeding areas already? Yes, and this movement includes populations of California-nesting Orange-Crowned Warblers that first disperse to higher altitudes in the foothill and the Sierra Madre Mountains (to the east and northeast of Marin County) where they feed and molt for a period before eventually migrating south in late summer and early autumn.

More Babies? Western Tree Squirrel

Tree squirrels may be having their second "hatch" of babies by now. Using tree cavities as birthing sites, the adults occasionally move the babies from one locale to another in the canopy.

Autumnal Exit: Migrating Birds

Be on the lookout for south migrating shorebirds and sandpipers as they begin their early treks back to wintering grounds from northern breeding areas. Likely first candidates to spot along ocean beaches and in esteros include Western and Least Sandpipers, Greater Yellowlegs, Lesser Yellowlegs (less common than Greater), Willet, Marbled Godwit, Black Turnstone, and, by the end of September, Dunlin. Curiously, it's actually possible to see both north and southbound migrating birds this month. Go to Limantour Beach at Point Reyes National Seashore, for example, and it would be plausible to see late-migrating northbound Least Sandpipers passing by the first southbound migrating birds of the same species that have already bred to the north.

Hatching Butterflies

The hatching times of butterflies vary throughout the spring and summer. One excellent online resource for the butterfly breeding biology in the McLaughlin Reserve (in Napa

and Lake Counties, northwest of Davis by two hours) is accessed at <http://nrs.ucop.edu/reserves/mclaughlin/species/butterflypheno.htm>. An excellent butterfly field guide that reveals hatching range times is “Butterflies Through Binoculars: A Field Guide to the Butterflies of Western North America,” by Jeffrey Glassberg.

August

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	6:13 AM	8:19 PM
Moon	6:26 AM	8:42 PM
Mercury	6:26 AM	8:37 PM
Venus	7:26 AM	9:07 PM
Mars	9:29 AM	10:06 PM
Jupiter	6:43 PM	4:18 AM
Saturn	8:33 AM	9:41 PM
Uranus	10:07 PM	9:51 AM
Neptune	8:51 PM	7:28 AM
Pluto	5:14 PM	3:31 AM

2) Planet Highlights:

Check back soon for this month’s Planet Highlights.

Full Moon is called the Red Moon or Green Corn Moon: AUG 16 2:16 pm

Last Quarter: AUG 23 4:50 pm

New Moon: AUG 1 3:13 am

First Quarter: AUG 8 1:20 pm

August 12-13: Perseid Meteor Shower

In the predawn hours, look northeast to find meteors that could possibly peak at 60-75 per hour, depending on how dark your viewing location is in relation to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). Swift-Tuttle is the name of the comet that causes this meteor shower.

August 1st: Total Eclipse of the Sun

In North America, totality will be visible only from arctic Canada. The partial phase will be visible from extreme northeastern areas of North America, where the Sun will rise partially eclipsed.

August 16: Partial Eclipse of the Moon

This eclipse will not be visible from North America.

Woodpecker Residents

How many resident species of woodpeckers can you typically see in northern California? Five common ones (Acorn, Nuttall's, Downy, Hairy, Northern Flicker) are year-round residents, while the Pileated is a less common resident. Red-breasted Sapsuckers arrive in greater numbers during the fall and winter, but they are still never a common sight in Marin County and in most of the Bay Area except for the northwestern portion of Sonoma County where they nest.

Where Can You Find Black-tailed Jackrabbit?

One of the best places to see Black-tailed Jackrabbits (hares) (*Lepus californicus*) is along San Francisco Bay area recreational lands where trails wind through grasses, forbs and shrubs. April and May are the most common months for Bay Area hares to give birth, with four litters per year consisting of three to four hares the typical reproduction rate for one female. Hares are also common throughout the state, except at the highest elevations.

Long Distance Frequent Flyer: Blackpoll Migration

Most long-distance avian songbird migrants fly at night. Feeding during the day replenishes their energy. Traveling for long distances over unsuitable habitats and water is not uncommon. Perhaps the most Herculean southerly migration flight is performed by the Blackpoll warbler whose eastern populations, in part, are known to travel nonstop some 2,200 miles over the Atlantic ocean from New England and eastern Canada to their non-breeding grounds in northern South America. This trip may take the warblers 72-90 hours in flight time, during which they burn .08 grams per hour. If one portion of a Blackpoll's autumn migration takes 36 hours before they arrive to temporarily rest on the island of Bermuda, then researchers have calculated it would log some 720,000 miles to

the gallon if it burned gasoline instead of its own fat (Timothy and Janet Williams, “An Oceanic Mass Migration of Land Birds.” *Scientific American* (239) (1978): 166-76.)

Birders Guide To Northern California

Vacationers in California occasionally ask me about places that are good for birding. One excellent resource is the book “Birder’s Guide to Northern California,” by LoLo and Jim Westich (Gulf Publishing, 1991). It lists and describes hundreds of birding spots throughout seven regions in northern California and also provides addresses for obtaining more than 25 regional and local bird check-lists.

Feathered Jewels: Hummingbirds In The Bay Area

Which species of hummingbirds are you most likely to see in northern California along the coast (e.g., Marin County)? Six species have been observed in Marin County just north of San Francisco: Anna’s are year-round residents, while Allen’s are present as breeders from mid-March through mid-July. Rufous Hummingbirds may also be seen during spring and autumn migration times, while less frequently observed are Black-chinned, Costa’s and Calliope Hummingbirds.

September

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	6:40 AM	7:39 PM
Moon	8:41 AM	8:26 PM
Mercury	8:47 AM	8:34 PM
Venus	8:34 AM	8:39 PM
Mars	9:04 AM	8:50 PM
Jupiter	4:34 PM	2:07 AM
Saturn	6:50 AM	7:49 PM
Uranus	8:03 PM	7:44 AM
Neptune	6:47 PM	5:22 AM
Pluto	3:12 PM	1:27 AM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon Corn Moon or Full Barley Moon: SEP 15 2:13 am

Last Quarter: SEP 21 10:04 pm

New Moon: SEP 29 1:12 am

First Quarter: SEP 7 7:04 am

September 22:

Autumn begins at 8:46 am PDT

...And The First Hibernating Mammal Is:

You were correct if you said Yellowbelly Marmot (*Marmota flaviventris*), an inhabitant of high altitudes that turn cool early in southeastern, eastern, and northeastern California. Some individuals of this species may begin hibernation in August, prior to which they begin estivation as early as June (!). A mammal that begins hibernation in September is the Western Jumping Mouse (*Zapus princeps*), which has a breeding range that extends from New Mexico north to Alaska and the Northwest Territories. The northernmost populations probably enter hibernation prior to southern individuals, with northern California populations possibly entering their winter "sleep" phase in mid- to late-October.

Given this mammal's breeding range does not include Marin County, it's likely that our only hibernating mammals could be the Little Brown Bat (*Myotis lucifugus*) and some localized populations of California Ground Squirrel (*Spermophilus beecheyi*). Least Chipmunks (*Eutamias minimus*) in far eastern and northeastern California also hibernate, as do some Whitetail Antelope Squirrel (*Ammospermophilus leucurus*) populations in northeastern California.

Secret Code: Fireflies In California? Elsewhere?

Does California host fireflies like much of the rest of the USA? Yes, but our species do not have the ability to create bioluminescent light patterns. Elsewhere in the USA (especially in the Midwest/East), watch for the pulsing light show of fireflies in meadows, fields and forest borders. The aerial flights of flashing light are made by male fireflies only. Females may respond in kind from their perches on the ground. Males checkout the light pattern emitted from females by flying closer, then mating if the flashing pattern is acceptable. If you see a different pattern of flashing light from a

firefly, it may be another species. You can attempt to distinguish species from one another by noticing the number, duration and time lapse between flashes.

Bats: Lucky 13 In The Bay Area

How many species of different bats can be found in California? Twenty-one, according to a checklist compiled by Daniel F. Williams (Dept. of Biological Sciences, California State University, Stanislaus, Turlock, CA 95382; see <http://arnica.csustan.edu/esrpp/calilist.htm>). Approximately 13 of these species can be seen in the San Francisco Bay Area. At least 40 species of bats occur in N. America, some of which are threatened or endangered.

Migrating Butterflies I Have Known

Besides monarchs, who are the other migrating butterflies? Two of them are the painted lady and red admiral. High ridges are especially good vantage points to spot monarchs moving south. Butterfly watchers in the East and Midwest will see monarchs on their trips south to where they will remain throughout the winter in the Transvolcanic Mountain range of central Mexico. Western populations of migrating monarchs often congregate together in huge colonies along the central California coast (e.g., Pacific Grove near Monterey, CA).

We're Outta Here: En Masse Exit

Now is the time to notice "staging" behavior of some birds. Swallows and nighthawks, for example, congregate in large groups on telephone lines and in trees before migrating south together en masse. Unlike most passerine birds, many swallows and nighthawks migrate during the day — as do Lesser, Lawrence's, and American Goldfinch, in addition American Robin and Northern Flicker.

Introducing The Names Of Introduced Mammals

Thirteen species of mammals living in California are introduced non-natives, including the Virginia opossum, eastern gray tree squirrel, fox squirrel, wild burro, wild horse, axis deer, fallow deer, nutria (probable), feral goat, and Himalayan tahr (a kind of bovid).

Are Hummingbirds Around During Winter?

Where do hummingbirds go for the winter? Most species depart from the United States, though some populations of the Anna's hummingbirds appear to remain in California throughout the winter. During many years, this species may begin courtship in December (before Winter begins!) in some parts of its range. Ruby-throated hummingbirds east of the Mississippi River begin migrating south around now through October. Many spend

the winter in southern Mexico, though a few live on Florida Key islands and in Cuba (95 miles from Key West).

A curious phenomenon in recent years is the increasing diversity of hummingbirds appearing during the winter in the eastern USA. Rufous Hummingbirds appear to be the most common “newly-discovered” hummingbird species seen in the southeast, while two Calliope Hummingbirds spent much of the 2001-2002 winter at feeders near New York City. Some researchers and bird banders believe the Rufous may either be more commonly noticed in the East because it has recently changed its migration/dispersal behavior (due to global warming?) and/or it is more accurately observed now because of recently-increased banding and monitoring.

Rare Bird Sightings

One of the best West Coast places to spot vagrant songbirds is in western Marin Co. in Point Reyes National Seashore. At the point near the lighthouse and amidst nearby groves of Monterey Cypress trees, diverse species of wayward eastern wood-warblers are best spotted in September and October. If you go, don't be surprised to see American Redstart, Blackpolls, Blackburnian, Black-and-White, and Prairie Warblers. Note: American Redstart and Black-and-White are not considered vagrant species in California by some theorists because the state sometimes hosts nesting individuals annually or irregularly. Other songbirds that may make cameo appearances here include Rose-breasted Grosbeak and Baltimore Oriole.

October

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	7:06 AM	6:53 PM
Moon	9:36 AM	7:48 PM
Mercury	8:06 AM	7:01 PM
Venus	9:39 AM	8:09 PM
Mars	8:44 AM	7:40 PM
Jupiter	2:39 PM	12:12 AM

Saturn	5:10 AM	6:01 PM
Uranus	6:02 PM	5:40 AM
Neptune	4:47 PM	3:21 AM
Pluto	1:15 PM	11:25 PM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon is called the Harvest Moon: OCT 14 1:02 pm

Last Quarter: OCT 21 4:55 am

New Moon: OCT 28 4:14 pm

First Quarter: OCT 7 2:04 am

October 8-9: Draconid Meteor Shower

In late evening hours, look northwest to find meteors that could possibly peak at 6-10 per hour, depending on how dark your viewing location is in relation to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). Giacobini-Zinner is the name of the comet that causes this meteor shower.

October 21-22: Orionid Meteor Shower

In predawn hours, look south (within and nearby the Orion The Hunter constellation) to find meteors that could possibly peak at 20-25 per hour, depending on how dark your viewing location is in relation to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). Some of these meteors are fast moving at 41.6 miles per second and are known to produce fireballs. Halley is the name of the comet that causes this meteor shower.

Waterfowl Invasion

The San Francisco Bay and northern California bodies of water host an amazingly large population of ducks that spend the non-breeding season in our area. Survey results indicate half the entire population of Northern Shoveler spend the non-breeding season in northern California, as do an almost equally massive percentage of both Lesser and Greater Scaup populations. By now, you may also spot other returning winter resident waterfowl in open waters, including Canvasback, Redhead (less common), American Wigeon, Green-winged Teal, Ring-necked Duck, Northern Pintail, Red-breasted Merganser, Gadwall, Mallard, Common Merganser, Northern Pintail, and Ruddy Duck

— with the latter five species as residents in Marin County that are joined by newly-arriving populations from the north.

Feeder Philosophy With Hummingbirds

When should you stop feeding hummingbirds sugar water nectar? In northern California/Bay Area, you can serve nectar year-round because the Anna's Hummingbird is a resident. In the Midwest and the East, the answer is less clear. One group of birders believe feeders left stocked in the autumn may imperil hummingbirds because this food source allows foraging to occur later than would be accommodated with a normal bloom of wildflowers. Awakening to an early freeze may be difficult for remaining hummingbirds to survive, argue these experts. Others believe it is okay for nectar feeders to remain well into autumn. Hummingbirds are uninfluenced by food source availability and migrate when prompted by an "inner clock," according to these people. This viewpoint is in concert with researchers who have studied migration. These experts point out that many species of migrating birds are undistracted by food sources that would normally attract their interest.

Night Aversion: Arctic Tern

It's well known that the arctic tern makes the longest migration (22,000-25,000 miles roundtrip) of any bird along with the Bristled Curlew that migrates in autumn from the Arctic to the South Pacific. In northern California, you won't often see them along the coast, while your chances of observation during their migration improve if you take a pelagic boat trip onto the open ocean.

Less publicized is how far our familiar barn swallow travels. Look for them now moving south in groups during the day as they proceed on the southern portion of their roundtrip migration that may amount to as high as 7,000 miles. Some researchers speculate that Arctic Tern populations never see darkness, given their range encompasses living in northern and southern latitudes where 20 or more hours of daylight are normal during summer before the birds again migrate toward an opposite pole as days become shorter in one of the two hemispheres they inhabit.

Prime Time Viewing: Migrating Raptors

Although hawks and eagles begin migration through Mid-Atlantic states before this week, now is an ideal period to see them if you visit a prominent ridge or mountain top to view. Two of the best vistas on separate coasts are both called Hawk Hill. At the West Coast's Hawk Hill (operated by the Golden Gate Raptor Observatory; for directions, see www.ggro.org) is near Sausalito, California just north of San Francisco overlooking San Francisco Bay and the Pacific Ocean), as many as 19 species of raptors are seen each

autumn. Hawk Hill Mountain in central Pennsylvania is another popular vista to observe more than a dozen migrating raptors, the most common raptorial passersby being American kestrels, red-tailed, sharp-shinned and Cooper's hawks.

Autumn and Winter Residents

Typical winter resident woodland birds you can now (or soon) see in the Bay Area include Golden-crowned Sparrow, Varied Thrush and Ruby-crowned Kinglet. The Golden-crowns are interesting simply because many sing throughout much of the winter even though they do not breed here. More typically, winter residents merely emit simpler call notes, and only begin singing when on breeding grounds. (i.e., The answer as to why this species sings in the winter is not totally clear, but one reason may allude to first-year Golden-crowns practicing their songs before they become truly defined and articulate (crystallization) singers at the age of 11 to 12 months.). At least one subspecies of the White-Crowned Sparrow also visits the Bay Area before migrating north in the spring.

Common Croaker: Pacific Tree Frog

Often unidentifiable and puzzling to listeners, the muffled call of the Pacific tree frog (*Pseudacris regilla*) is more common to hear than many people might believe. Hike through a variety of northern California upland habitats and the quick, low, gruff note of this frog is often present beyond the breeding season. After leaving their watery breeding sites, these frogs seek cover in moist niches in buildings, wells, rotting logs or burrows. Breeding occurs between January and July throughout much of California. In even small bodies of water that are only temporary during these times, look for egg clusters that are deposited on submerged or emergent vegetation.

There Goes The Neighborhood: Coyotes Are Coming

More common in urban and suburban areas than ever, be on the lookout for coyotes in the Bay Area. They are now a permanent resident throughout California, living in almost all habitats and successional stages. Coyotes frequent open brush, scrub, shrub, and herbaceous habitats, and may be associated opportunistically with croplands. They're also found in younger stands of deciduous and conifer forest and woodland with low to intermediate canopy, and shrub and grass understory. Complaints from people regarding the increased presence of the adaptable coyote are plausible. Then again, many of the complainers have invaded previously natural habitat that was the domain of wild animals for eons before people arrived.

Arboreal Fantasia: Autumn's Flaming Colors

The intensity of the tree's fall colors are in part affected by the amount of moisture that fell during the past summer. A dry summer with below normal rainfall tends to mute the

golden and red colors so that the leaves on many trees are more uniformly brown. In the West, few deciduous trees exhibit a stunning array of fall colors, though the Big-leaf Maple and the Quaking Aspen wear stunning golden sheens. Elsewhere, my own experience while living in the mid-Atlantic suggests the Black Gum (*Nyssa silvatica*) is the prettiest in displaying bright rainbow colors, as are Sugar Maples that grow in more northerly and higher elevations locales.

November

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	7:36 AM	6:11 PM
Moon	11:22 AM	8:31 PM
Mercury	6:23 AM	5:39 PM
Venus	10:47 AM	8:07 PM
Mars	8:28 AM	6:38 PM
Jupiter	12:51 PM	10:24 PM
Saturn	3:25 AM	4:07 PM
Uranus	3:58 PM	3:34 AM
Neptune	2:44 PM	1:18 AM
Pluto	11:16 AM	9:25 PM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon moon is called the Frosty or Beaver Moon (perhaps to account for beavers that are preparing their lodges for the oncoming of winter's inclement weather):

NOV 12 10:17 pm

Last Quarter: NOV 19 1:31 pm

New Moon: NOV 27 8:55 am

First Quarter: NOV 5 8:03 pm

November 17-18: Leonid Meteor Shower

In predawn hours, look south to find meteors that could possibly peak at 20 per hour, depending on how dark your viewing location is in relation to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). The Leonids are best known for their 33-year peaks, during which 100s of meteors per hour can be observed. The last of these peaks occurred in 2001. Tempel-Tuttle is the name of the comet that causes this meteor shower.

Wild Turkeys: Band On The Run

If you're like most drivers in northern California, you've been forced to hit the brake to avoid bands of Wild Turkeys crossing the street. Why are they so common? Like many non-natives in northern California, Wild Turkey populations have an easy time in suburban and semi-rural areas where successful predation by Gray Fox, Bobcat, and Mountain Lion remains below this gallinaceous bird's prodigious breeding rate that usually consists of 10-12 eggs per brood (and multiple broods for some females each breeding season).

In addition, Wild Turkey benefit from joining together in bands of six or more this time of year so that at least one individual is likely to sense any imminent predation attempt and, subsequently, alert other turkeys in a group that quickly flees from harm's way. Plentiful harvests of acorns are another major factor in supporting large Wild Turkey populations, with native oak species (including Coast Live Oak, *Quercus agrifolia*) providing ample supplies of these birds' favorite food. In years when the crop of acorns is low from Coast Live Oak, other native oak species (Black Oak, *Quercus kelloggii* and Blue Oak, *Quercus douglasi*) may make up the difference by yielding high acorn numbers. A final reason relates to how mild winter temperatures in our area limit mortality of populations whose odds of perishing increase in more frigid locales within this bird's range that includes portions of New England and the upper Midwest.

Autumn Chores: Western Gray Tree Squirrel

What are western gray tree squirrels doing now? Many are preparing for winter when they'll make brood nests in tree and snag cavities, often enlarging an abandoned woodpecker cavity. They are also known to construct nests on branches of oak, fir, or pine trees. If you see a nest, look for it to contain shredded bark, grass, moss, and lichen.

Aquatic Insects Are (Almost) Everywhere

Seeing an abundance of aquatic insects might seem odd at this time of year when the days are getting progressively colder, correct? Not entirely. Many kinds of aquatic insects are actually abundant in many freshwater streams throughout the late autumn and into winter,

with some (such as stoneflies) even changing into terrestrial adults and flying into autumn and winter's landscape. Finding aquatic insects may be easier than you think. Pick up small rocks within shallow creeks and look on their backsides. You may see the diverse homes of caddisfly larva, with a variety materials used by each species in a shelter bound together from a caddisfly's own secretions.

A Chorus of Crickets?

Are you still hearing crickets? — even though the first frost may have invaded your area. Crickets survive well into autumn because their body fluids contain an “anti-freeze” agent called glycogen. Its composition as an animal starch includes glucose molecules that retard the inevitable freezing of a cricket's body fluids until more severe and consecutive nights of frigid weather arrive.

Snakes In Winter

Where do snakes hang out now and during the winter? Many retreat to underground dens where they coil en masse together to remain warm. In northern areas, rattlesnakes are particularly known for congregating into large groups (of up to 250 or more). Most live in dens on slopes protected from northern winds that have orientations toward the low winter sun in the south. Sometimes you can see rattlesnakes lie near their den entrances on the last warm days of autumn or on the initial warm days of spring.

Coaxing Deer Into Your View

Coax deer into view throughout the upcoming winter by placing a salt lick block at the edge of woods. However, you may wish to deter deer from eating your property's plants with a variety of strategies that are too numerous to mention here (See literature distributed free by Sloat Garden Store in the Bay Area.) To limit deer accidents with windows/patio doors, prudent property owners place decals at a deer's eye level so it will recognize an approaching barrier.

Winter Resident Wood-Warblers

Some brave warblers survive hang out throughout the winter in regions you might not expect. Unlike warblers that have vacated North America for points farther south, Yellow-Rumped Warbler (six subspecies constitute the entire species, including four Audubon's and two Myrtle*) are able to survive inclement winter weather while living in mid-Atlantic states because they are able to digest wax myrtle, juniper and, even, poison ivy berries. These same areas may also host small populations of Pine and Palm warblers throughout the winter in the mid-Atlantic, in addition to occasional yellow-breasted chats and common yellowthroat warblers.

On the West Coast during winter, one kind of both Audubon and Myrtle Yellow-Rumped Warbler subspecies may be seen in northern California. In total, we see two of the six subspecies for the Yellow-Rumped Warbler species.

(* = In total, four subspecies have been identified in the Audubon's group and two subspecies in the Myrtle group, according to the Field Guide to Warblers (by Jon Dunn and Kimball Garrett).

December

Sky Watch:

1) Moon & Planet Rise & Set Times

For The 1st of This Month (at Latitude: 38:03:38 N, Longitude: 122:32:27 W, which is Novato, CA, 20 miles north of San Francisco, CA in Marin County):

SPHERE	RISES	SETS
Sun	7:08 AM	4:51 PM
Moon	10:28 AM	8:17 PM
Mercury	7:29 AM	4:57 PM
Venus	10:24 AM	7:49 PM
Mars	7:17 AM	4:51 PM
Jupiter	10:13 AM	7:51 PM
Saturn	12:38 AM	1:15 PM
Uranus	12:59 PM	12:34 AM
Neptune	11:47 AM	10:17 PM
Pluto	8:22 AM	6:31 PM

2) Planet Highlights:

Check back soon for this month's Planet Highlights.

Full Moon: DEC 12 8:37 am

Last Quarter: DEC 19 2:29 am

New Moon: DEC 27 4:22 am

First Quarter: DEC 5 1:26 pm

21st: Winter begins with the solstice at 4:04 a.m. PST.

December 13-14: Geminid Meteor Shower

The most reliable meteor shower of the year, the Geminids are characterized by their multi-colored display--65% being white, 26% yellow, and the remaining 9% blue, red and green. After darkness prevails and all night long, look northeast to find meteors that could possibly peak at 65 per hour, depending on how dark your viewing location is in relation to the glow of nearby urban areas and the clarity of the sky (in terms of its moisture content percentage). There is no comet known to be associated with this meteor shower.

Snake Look-Alike: Pacific Slender Salamanders

Pacific slender salamanders are active underground from April or May until November or December. After the first winter rains, when moisture and temperature conditions are favorable, they increase surface activities. Normally, they are active at night, and return to cover during daylight. If exposed to periods of extended rainfall, they may remain on the surface during the day to feed. Surface activity is limited by extremes of temperature and unfavorable moisture conditions.

Feeding Winter Birds

In some potentially inclement northern California locations (especially inland), now's the time to make sure you have a waterproof, shock-proof heater to place in a backyard water pan or birdbath so that when overnight temperatures dip below freezing the birds still have a water source for drinking and bathing. Look for them at Wild Bird Center outlets (a national chain of stores).

Basking Garter Snakes

On warm days, look for the common and widespread Western Terrestrial Garter Snake. Sometimes you'll see them basking in the sun at the entrances of hibernacula where snakes gather together during the winter to preserve and conserve their body temperatures as temperatures plummet. Likely places to see them extend from the Oregon border south throughout northern California and south to southern Santa Barbara Co., in addition to various locales in the Sierra Nevada mountains south to southern Tulare County. Courtship begins in spring soon after their emergence. Seven to 30 young are born in July and August.

Four Thrush Species Occur Here in Winter?

Which thrush family members are you likely to see during the winter in northern California? In the Bay Area, for example, look for Hermit Thrush, Varied Thrush, American Robin, and Western Bluebird. The initial two on the list are especially

brehtaking to view, as their abrupt entrance onto the landscape is punctuated with their subtle hues of rust and orange. The eerie, shrill, one-note song of the Varied Thrush adds additional intrigue to the damp forests they inhabit while only temporarily visiting our area during the winter.

Strangely, though the Hermit Thrush is seen throughout the year in Marin County, it's probable that the individuals we see during the non-breeding season arrived here from where they breed farther to the north as far as Alaska. During the summer (after migration), Hermit Thrush in Marin County are uncommon and found only at higher altitudes where they breed sporadically throughout the county.

How Many Salamanders Can You Find?

From now through late winter, look for seven species of salamanders that live in the San Francisco Bay area. Perhaps the most common to see is the California slender salamander, which looks like a large worm with tiny legs. Look for them in damp places, especially under logs and in leaf litter. The six other species to find are the arboreal, yellow-eyed, Pacific giant salamander and three newts: California, rough-skinned and red-bellied. The California newt is the most common one to see nearby and within Marin County riparian/creekside areas (while rough-skinned is the next most common species that I see; red-bellied is much less common and is restricted to portions of the coastal areas of Marin County.)

Backyard Feeder Advice

Simplifying the best and most efficient ways to feed backyard birds throughout the winter is not easy. However, if you were forced to choose two of the best foods to feed birds, the best choices are black sunflower seeds and niger thistle. Both have been proven over the years to attract a more diverse group of winter avian visitors than other food options, such as millet, cracked corn and striped sunflower seeds. Suet (either chicken or beef) feeders are also usually successful in attracting chickadees, nuthatches and various woodpeckers.

Irruptive Birds Erupt On The Landscape

Non-seasonal movements of birds, or "irruptions," may begin occurring around now through the rest of winter, depending on the supply of food in a bird's normal range. Without adequate mast crops of spruce and pine cones, some finch family members (Red and White-winged Crossbills, Pine Grosbeaks, Evening Grosbeaks, Pine Siskins, Common Redpolls, Hoary Redpolls) may appear farther south in the East, Midwest and Mid-Atlantic than in years when normal tree seed harvests are present. "Short-stopping" is another term applied to these bird species that roam farther south during some winter

seasons in search of resources, “(short) stopping” when they find food, often at backyard feeders that remain a loitering spot for extended periods.

Detecting these “irruptive” movements to the south is sometimes easier if your feeders are filled with niger thistle seed, a favorite substitute feed source for many of these wayward winter species. As a word, “irruptive,” is appropriate because it means “bursting in” or “surprise,” in the way these irruptive species catch us off guard when they make their cameo appearances. In Marin County where I live, irruptions are not necessarily the appropriate term to apply to the red crossbill and pine siskins appearing on the landscape, given these birds nest in the state. Detecting them remains rare to occasional only because they are nomadic in their behavior while searching vast areas for abundant food resources.

Offering niger thistle as a backyard feeder food in the Bay Area is an excellent way to see pine siskin during the winter. I’ve never seen Red Crossbill at my feeders nor heard of other folks attracting them to California feeders.

Courting Owls

Courting Great-Horned owls soon begin laying their eggs, with babies hatching by January (or February) throughout much of this bird’s vast North American range. Now is a good time to attract them closer to within listening range of where you stand after performing a mimicking owl vocalization (or using a recording of a Northern Pygmy or Western Screech Owl, for example, to attract this species and/or other curious owl species, including the Great-Horned).