Notes based on Joe Morlan's Ornithology class lecture May 20th, 2010.
Joe Morlan is not responsible for these notes, any errors or omissions in them are mine.

The **Common Loon** has been an indicator species for acid rain. For example the species used to be quite common in the Adirondack Mountains in Upstate New York. Their numbers have declined precipitously there, at the same time the fishermen were noticing that there were a lot fewer fish in the lakes. The acid rain from Cleveland and Chicago, the rust belt which is upwind of the Adirondack Mountains, was spewing a lot of sulfur in the smoke.
Mercury is another problem along with acid rain. From the Wildlife Conservation Society website:
"Mercury, a byproduct of coal-burning power plants and trash incineration, is one of the airborne pollutants threatening loons. It is transported to the Adirondacks and other loon habitats through prevailing winds, and falls to the ground in the form of rain or snow. Along with acid rain, the mercury can then enter lakes, where it is converted into a more toxic form called methylmercury, which accumulates in the aquatic food chain. People, loons, and other top predators are most impacted by this concentration of toxins in the food supply. The neurotoxins concentrated in loon prey can affect the birds' behavior, reproduction, and eventually, their population numbers."

I add the **notes from the general discussion of this week's Wednesday class**. It was quite extensive and since the class topic was review there are no other new notes, so you'll get their general discussion as a bonus.

The **Black-bellied Whistling-Duck** is a bird that has increased quite dramatically in Texas. They now range into Arizona more or less regularly.

The **White-winged Dove** has also been expanding its range and is now surprisingly common in Florida, as is the **Fulvous Whistling-Duck**. Where these birds are coming from is a little unclear, whether they are coming from Mexico or the Caribbean or exactly what the deal is.

Whistling-Ducks are partly nocturnal and they whistle primarily in flight. You can hear them overhead in the middle of the night. They used to be called Tree Ducks. The Fulvous Whistling-Duck does not spend any time in trees at all. All the world's Whistling-Ducks are more or less tropical species. It is thought that Whistling-Ducks are ancestral to the entire anseriform radiation.

Scissor-tailed Flycatchers are just arriving now in Texas.

There was a **class field trip to Lake Merced** on May 16th. That was quite a bit later than Joe has ever done that trip. Most of the ducks were gone.

The **Red-shouldered Hawk** usually shows pale bases to the outermost primaries when seen against a bright sky, these primaries are slightly translucent on the inner webs. What you see when the bird is flying overhead is a crescent shaped pale patch. Be cautious about this field mark though. It can be ephemeral and depends a great deal on the light. On the class field trip it was cloudy and drizzling, this field mark was not visible on any of the Red-shouldered Hawks that were seen flying overhead.
Immature Red-tailed Hawks frequently also show a pale window at the outermost primaries. Even more of the feather is pale on those birds. Those patches are trapezoidal in shape, as opposed to the much narrower, crescent-shaped patches of the Red-shouldered Hawk.

The Red-shouldered Hawk flies rather *Accipiter*-like: flap, flap, flap and glide. The wings are bowed up with the tips pointed downwards while flying out like this, which is pretty different from what Red-tailed Hawks do.

Marsh Wren males build multiple nests and the females choose which nest they like. Some of the males will have multiple females and some will have no females. The nest is normally domed over. They usually start off building a cup and then dome it over at the top. On the field trip a bird was seen from above sitting on the nest it was building which was still not domed over. The female will line the nest with plant fibers, making it soft and livable.
It will take the female about a week until she has laid a complete clutch. Then it takes about two weeks of incubating before the babies hatch and another two weeks of them getting fed in the nest before they fledge. When they fledge they are in a very dark juvenal plumage, no streaks on the back, very different from adult Marsh Wrens. This plumage is very short-lived, maybe three weeks.

Bank Swallows were seen flying around from the nesting colony at Fort Funston.

The **Cliff Swallow** colony appears to have been decimated. There was one pair of Cliff Swallows at that bridge.

An **Osprey** was seen at the north end. They do not breed at Lake Merced but come there to forage.

Two **Western Grebes** were seen accompanied by two chicks. One of the chicks was darker gray then the other. Both chicks had gray crowns all the way down to the forehead which the National Geographic guide shows in the Western Grebe chick. There was also a Clark's Grebe. Both species have nested at Lake Merced in recent years, Clark's Grebe being the more common breeder there This is very recent, neither of the species are listed in the San Francisco Breeding Bird Atlas which was published in 2003 at
http://sffo1.markeaton.org/Breeding%20Ecology/San%20Francisco%20Breeding%20Bird%20Atlas.pdf

A **Bell's Vireo** was found on Monday at Bayfront Park in **Menlo Park**.
The species used to breed regularly in riparian habitat in the Central Valley and foothill areas of CA up until the 1940s and 50s, by which time it was wiped out by the invading Brown-headed Cowbird. By the 1970s the Bell's Vireos that breed in CA (the small gray subspecies *pusillus*, the Least Bell's Vireo) was considered to be endangered. There were very few localities in southern CA were the population still persisted. Money was allocated for a recovery plan. The recovery plan involved trapping and euthanizing Brown-headed Cowbirds in areas where Bell's Vireos occurred.
Bell's Vireos are very vocal and pretty easy to census because like all vireos they tend to sing all day long.
There have been at least three Bell's Vireos in the Central Valley this spring, all near Davis. One in the Putah Creek area and another two in the Yolo Bypass area. That is exceptional. One wintered in Inverness in Marin County one year. Wintering Bell's Vireo is just off the wall. One wintered in SF near the Lily Pond in GG Park a few years back. That was a very colorful bird, not a Least Bell's Vireo, but very likely one of the eastern subspecies. It is not really an eastern species, it ranges through the Ohio Valley and down to Illinois and Indiana and into Mexico.
The one that showed up this week at Bayfront Park was reported to be a Least Bell's Vireo. It can be heard singing from the parking lot. It is a real skulker but Joe got several really good views. Some people got good photos. The bird does have a little tinge of green on the rump, but it is

otherwise completely gray. It has a molt limit on its wings which means it is a first year bird. The bird may be settled in and waiting for a female to show up. If time goes by and it can't find a mate it may move on. But right now there is an enormous amount of food at the site. Joe was covered in leaf hoppers when he went to get closer to the bird. The biomass is enormous and there are a lot of birds there. Western Tanagers were singing, there were Western Kingbirds, big flocks of Cedar Waxwings, a Yellow Warbler.
The voice is unmistakable. It goes teedle, teedle, teedle, teee, teedle, teedle, teedle, tooo. A very emphatic series of phrases, very energetic. Unlike any other CA bird. Some resemblance to the White-eyed Vireo's song.

The **vireos** can be divided up into **two groups**. Those that have spectacles and wing bars and those that lack wing bars and have an eye brow.

Bell's Vireo is a little gray bird with thin spectacles and at least one faint wing bar visible.
It is different from the Warbling Vireo, which has no wing bars and an eye brow.

Physically **Gray Vireo and Bell's Vireo** are hard to tell apart, the differences between them are very subtle. Bell's Vireo typically has a thinner tail than Gray Vireo and it is typically cocked in the air, giving the bird a somewhat wren-like appearance. Bell's Vireos typically droop their wings. Gray Vireos don't do any of that. They don't flick their tails around particularly. They are a more upright type of bird and they tend not to droop their wings.
The Gray Vireo has a very different song and occurs in very different habitat. The Gray Vireo is severely imperiled in CA but remains fairly common in arid pinyon-juniper habitat in the Great Basin region. Also in some of the Great Basin ranges in Nevada and Utah.

Vireos in general are **vulnerable to cowbirds**. Bell's Vireos prefer riparian habitat, particularly second growth riparian habitat. It is not a rare habitat, but it is a habitat the cowbirds tend to focus on. The birds that have been impacted mostly by cowbirds in CA are Bell's Vireo, Yellow Warbler, Willow Flycatcher, Yellow-breasted Chat, Swainson's Thrushes in the Central Valley. Riparian habitats have the highest diversity of landbirds breeding in them.

There are **several subspecies of Bell's Vireo**. The Least Bell's Vireo *pusillus* of California and Baja is the endangered subspecies. There is another, similar looking population, *arizonae*, in parts of Arizona and New Mexico. They are really pale and a bit larger than our coastal birds. They are much more common. They are found in somewhat more arid habitats. Another race is *medius* in west Texas and parts of New Mexico. They are more colored with more green on the back and yellow on the sides and flanks. The nominate subspecies *belli* is found in Ohio and down to Illinois, Indiana and into northern Texas, probably Missouri. That is the bird that is closest to the one that wintered in GG Park. There was a featured Photo of it in Western Birds, the article is here: http://elibrary.unm.edu/sora/wb/v37n02/p0119-p0122.pdf

Bell's Vireo sometimes shows up on the **east coast**. Those are mostly nominate birds, but there is at least one really gray bird. Joe has photos of a bird from Vermont that they thought was a western Bell's Vireo.

One of Joe's favorite old bird books is **Birds of the Pacific States by Ralph Hoffman**, published in the 1920s. It is a collector's item. It was written by somebody who clearly knew the birds. He talks about the habitat the birds are in and about their songs. Very simple language but very evocative at the same time.

There are **three large species of grebes in NA**. They average all twice the size of a Horned or Eared Grebe.

Red-necked Grebe

Called Holboell's Grebe in some of the older litterature.
The subspecies of NA and the Russian Far East is *Podiceps grisegena holboelli*, named for the Danish explorer of Greenlandic birds Carl Peter Holbøll.
The nominate subspecies is found in Europe and western Asia.

OCCURRENCE

The rarest of the three big grebes in CA. An uncommon to rare winter visitor, primarily along the immediate coast. More common in the northern half of the state, in southern CA very scarce.
Even in the Bay Area it is an uncommon species. It probably occurs regularly in the wintertime off the Pt Reyes peninsula, particularly places like Limantour Estero. Often reported off the Fishdocks, frequently at considerable distance off shore.
One or two have wintered for several years off Crissy Field, sometimes reasonably close to shore because the water is fairly deep in the channel.
In general the birds that we see in CA are winter plumaged birds. Sometimes birds that have wintered in CA may molt before they migrate.
Common in Alaska. Nest on lakes in downtown Anchorage. Presumably fairly common in western Canada as well.
Essentially a salt water bird in the winter, a fresh water bird during the breeding season.
Scarce on inland lakes and reservoirs when wintering in CA, always noteworthy.
They are also regular in Monterey Bay. Something to look for on a pelagic in the late fall or winter. Frequently reasonably close to shore, not way out where the albatrosses are, but too far away to get a good view from shore.
A real shocker was many years a go in June a juvenal at Berkeley Aquatic Park. The species does not breed anywhere near there, has never nested in CA at all and they are not supposed to migrate in juvenal plumage. It certainly did not nest at Berkeley Aquatic Park, nobody saw any adults there. Completely unexplainable.

FIELD MARKS

Yellow bill with a very dark culmen. Much thinner bill than any loon, more substantial than Horned or Eared grebes.
Smaller head than any loon (all grebes).
Flat head, flat forehead and peaked rear.
Thicker neck than some of the other grebes, about the proportions of Horned Grebe.
A bit smaller than Western or Clark's grebes, which are shaped more like swans with very long thin necks, they also have thinner heads and longer thinner bills.
White along the leading edge of the wing.

Summer

Whole foreneck strikingly red.
Whitish gray throat and cheeks contrast strongly with the dark cap.

Winter

Tends to blend in as a rather nondescript looking grebe, pretty easy to overlook.
Rather drab with some dinginess on the face, a little like an oversized Eared Grebe.

Head shape flatter than Eared Grebe, a little more like Horned Grebe.
Bill dull yellow colored.
White chin and throat with an extension up behind the dingy cheeks, forming an angled, boomerang-shaped white stripe around the face.
More generalized dull gray pattern around the face on the first winter birds in Nat Geo.
Sibley has a correction saying that some birds have a lot more white on the cheeks.
Grayish neck as often seen in Eared Grebe.

Chicks
Very stripy.

Clark's Grebe and Western Grebe

Split in 1985.
Were considered two species in the 19th century but eventually lumped together and considered to be color morphs.
There was a very interesting article by Robert Storer published in a journal called Living Bird. (Today original research is no longer published there.) He found positive assortative mating., which means that the number of mixed pairs was way lower than the expected number if mating was random. (There are other birds with positive assortative mating between color morphs like Blue and Snow geese or some of the jaegers.) There are other differences between these grebes as well. Vocal differences. Also a slight difference in their behavior, Clark's tend to prefer deeper water than Western. When they dive Clark's tend to leap out of the water slightly and then dive while Western tend to slither under the water without jumping.

The AOU in their infinite wisdom decided to retain the name for the dark bird and just rename the light colored bird Clark's Grebe.
That has been a disaster. There are still people with old field guides saying they saw a Western Grebe. You don't know what they saw. It also leaves us really unclear about vagrants showing up well outside these birds' ranges in the east. Those old records were all called Western Grebe and very few of them were photographed. We really have no idea what those birds were. It is likely they were what we now call Western Grebe, because the Western Grebe is much more common than the Clark's Grebe in the northern and in the eastern part of its range.

Sibley says on p.26 that *Aechmophorus* grebes are incapable of walking. That is wrong.

OCCURRENCE
Clark's and Western grebes' ranges almost completely overlap, both breeding and wintering.

Clark's Grebe becomes much more common as you go further south and west.
In the Bay Area both species are now breeding pretty much side by side. For example at Lake Merced. Also in Alameda Creek in some of those gravel pits that have been turned into a regional park. A majority of those birds are Clark's Grebes. Sweetwater reservoir in San Diego County is loaded with Clark's but has a few Western, too.

Western and Clark's can be very common at times on SF Bay or along the ocean. In the wintertime you see a couple of hundred sometimes right under the GG bridge. Flocks also seem to gather locally at places such as off Rodeo Beach in the Marin headlands.

They always seem to be quite abundant right off SF on the ocean and on the bay. Even common in mid summer when these are non-breeding birds, probably birds that could not find territories.

A friend of Joe's did a study on these grebes wintering off the Berkeley Marina. He found that during the winter the Clark's and the Western were randomly distributed. But by February they had started to molt and changed their facial pattern and they started to segregate.

In CA these birds breed primarily in the northeast in the Great Basin region, the Klamath basin and the Modoc basin. Tule lake National Wildlife Refuge.
They were considered to be declining in CA. That was because the birds used to nest at Clear Lake in Lake County and other similar sites. Natural lakes, not necessarily reservoirs that are subject to big fluctuations in water levels because they need the reed beds in stable lakes like Elsinore and Clear Lake. Places like that had habitat but got overrun by people with vacation homes and boats. They do not tolerate power boats or a lot of noise and disturbance on their nest sites. They were pretty much wiped out as a breeding bird, the numbers have declined from hundreds of pairs to a few pairs.

FIELD MARKS
Both have a thin neck and a very graceful curvature to the head, are sometimes called Swan Grebe.
A very thin yellow bill.
Dark gray on the back.
Look pretty much the same year round although the pattern around the eye gets dingier in the middle of the winter.
Quite a bit of white on the trailing edge of the wing. Clark's more than Western. We see them seldom fly.

DIFFERENCES

Eye area (only in summer plumage!)
On Clark's the eye is incased in a white area on the face in summer.
On Western the eye is completely encased in a dark area of the extended cap which comes down further on the face in summer.
But the pattern may be ambiguous and when the bird is diving it may be hard to tell exactly where the eye is. When the birds are sleeping they frequently hide their face in a way that you can't see anything there.
In the wintertime the Western Grebes get more white around the eye and the Clark's Grebes get more dark around the eye, so they tend to converge in the wintertime, making identification much more difficult.

Bill color
A better mark which seems to work fairly well year round.
Clark's: bill very bright yellow, shiny with often an orangey cast to it.
Western: duller bill, greenish yellow rather than orange yellow. Sometimes almost olive in color.

When in doubt, if the bill color is unambiguous, go with bill color. There are cases where the bill color is also ambiguous. Then you have to either use other characters or just say you don't know. Some birds have bills that are just sort of plain neutral yellow without a

bright orangey cast to it but not really with a greenish cast either. A lot of those birds will have intermediate eye patterns as well. There are definitely individuals that cannot be confidently identified, you can't force every single grebe.

Females of both species have the bill slightly upturned and males have the bill straighter, more dagger-like. The bill shape does not distinguish the species.

Body color

Clark's tend to have more white on the body. There is an average difference in the amount of white near the waterline. But that will depend a whole lot on whether the feathers are fluffed, how high the bird is riding on the water and a variety of other things as well as just plain individual variation. It is a tertiary field mark at best. Something you might look at to get additional confirmation. But certainly if you have a pale body and a head that looks like a Western, the head pattern and bill color are going to trump body color.

Back of the neck

It has been claimed that Clark's have the dark stripe down the back of the neck narrower than Western. The only way you can assess the thickness of the stripe on the back is when the bird is swimming directly away from you. Most of the time the bird is sideways or angled in one position or another. It also is a matter of judgement.

VOCALIZATIONS

Both sound like frogs. Clark's gives a single note that is slightly two-parted. In Western there is a definite gap between the two notes.

COURTSHIP DANCE

This is apparently the same for both species. That is strange because different types of dances are usually considered to be species specific to establish pair bonds.
The dance consists of a number of different things. The male usually bobs its head and then picks up a piece of vegetation and offers it to the female. She has to be very careful about accepting anything that the male offers because any acceptance is an invitation to mate.
They also do this wonderful thing where they raise their heads in the air, the head goes back, the bill goes down, they lift themselves up out of the water and go paddling in unison, their necks arched.