



Notes

CA/NV Golden Eagle Research Subgroup

January 13, 2015, 9:00-5:00

In attendance: Pete Bloom (Bloom Biological), Patti Krueger (USFS), Zack Ormsby, Jeep Pagel (USFWS), Brian Woodbridge (USFWS), Mike Collopy (UNR), Adam Duerr (WVU), Todd Katzner (USGS), Joel Thompson (West Inc.), Judd Howell (HT Harvey), Jeff Smith (HT Harvey), Jennifer Brown (USFWS), John Boone (GBBO), Krysta Rogers (CDFW), Cris Tomlinson (NDOW), Heather Beeler (USFWS), Grainger Hunt (Peregrine Fund), Jamie Driscoll (AZGF), Brett Stedman (UCD), Michelle Hawkins (UCD), Sandra Brewer (BLM), Eric Jepsen (Garcia and Associates), Laura Nagy (DNV GL), Carie Battistone (CDFW), Kate Whitney (CDFW), Meg Fratanduono (Lawrence Livermore Lab), Gary Williams (USFWS), Mark Jeter (CDFW).

Plans for November – RRF Meeting (Heather)

- RRF fliers from Allen Fish available for the taking. RRF will be held in Sacramento Nov 4-8, 2015.
- November 4: first half day will be GEWG meeting, second half of the day will be a mini-symposium.
- Mini-symposium topics: Terminology and Prey Ecology, ending with panel discussion
- Small group (Mike Collopy, Jessi Brown, Brian Woodbridge) also working on a day-long symposium for November 5. Pete Bloom will give keynote address. Talks include demography, population trends, cutting edge technologies and techniques, Conservation Planning session
- Proceedings for both the mini-symposium and RRF eagle session will be published in a manuscript to J. of Raptor Research.
- RRF meeting will also have a symposium on wind energy impacts and one on climate impacts.

TWS Bald and Golden Eagle Workshop (Heather)

- TWS eagle workshop taking place Jan 14 and 15, 2015.
- Designed for contractors and agency biologists, including talks on eagle natural history, state and federal permitting processes, modeling, research and 2 hours APLIC workshop.
- Overlapping with USGS eagle meetings occurring on same dates.

Raptor Declines in CA

- Carie sent out letter to raptor researchers in spring 2014 asking people to submit findings on raptor breeding throughout CA.
 - **Action Item:** Send Carie any information you have about observed raptor declines in 2014.

- So far, seems to have been an issue in So. California mostly, but verdict still out.
- Plan is for CDFW to write up a white paper summarizing what was found in 2014. This somewhat depends on the amount of information CDFW is provided.

Draft Golden Eagle Observation Database (Kate Whitney)

- Kate is a database coordinator in CDFW's Biogeographic Branch (BDB), and working with the GEWG Database Subgroup and the Western Golden Eagle Team (WGET) on the GOEA database that has been a subject of conversation since the conception of the GEWG.
- Group has developed an observation database and is working to populate the database with data from large databases, such as NRIS, researcher data, and reports.
- The database template will be posted to the GEWG webpage and will be the avenue for contributing large datasets to the database. Small numbers of records can be submitted via the online submission form – which will be talked about next.
 - **Action Item:** Carie will post the data entry template on the GEWG webpage once finalized.
- Data is currently in 3 sets: CDFW (902 records), USFWS Carlsbad (1930 records), and USFWS Yreka (5509 records). Currently working to merge datasets and eliminate duplicates within all the datasets.
- Records include all observations (nesting or not) for eagles in CA and NV, including negative data. Majority of records are associated with nests.
- This database wasn't set up for dead eagles. There are other avenues for submitting dead eagle data (e.g., DIED). To include this data, we would need some spatial information, and many times we don't know where the eagles came from. There are also law enforcement sensitivities to consider. For eagles coming in to rehab, the information about where it came from is taken when known, and if it looks odd, LE may do a case on it.
- Trying to get historical nest site data from museum specimens (i.e., eggs).
 - **Action Item:** Database subgroup will check on possibility of including egg records in database
- For general inquires about database, contact Carie
- To submit data, contact Kate

CNDDDB Online Data Submission Form (Kate Whitney)

- California Natural Diversity Database (CNDDDB) tracks thousands of species, golden eagle being one of them.
- You can access the new online data submission form by going to Wildlife.ca.gov -> CNDDDB -> Submitting data to CNDDDB
- Internet Explorer does not support the application. Need to use Google Chrome and Firefox.
- To fill out the form you don't need a subscription, you just need to register to create an account
- Once form is accessed, you can work through tabs to enter relevant data. Do not use "back" button.
- Don't use form if entering data outside of California. Send that data to Kate directly.
- Suggestion was made to add subadult to category options. Kate will pass along the suggestion. Kate said this tool was in development before group started working on eagle database, so

some fields may not align exactly with eagle database. Fields that are not directly addressed in the online form could be addressed in the comment field for now.

- You can attach any relevant forms, spreadsheets, wav files, etc., to your online submission as long as attachments under 27 MB.
- Data will not immediately show up on CNDDDB, but will be documented. You can then see how much unprocessed data shows up for any given species pretty quickly. Given the work it takes to get CNDDDB data in, and the relatively small number of CNDDDB staff, the idea behind this tool was to foster faster turnaround.
- Database does not track dead eagle data. Use the Dead and Injured Eagle Database (DIED) for that.
- Suggestion has been made for batch uploading data, rather than single entries. Kate noted this feature may be worked on in future versions.
- For permitting requirements, the online tool has not yet been added to permit language, but likely will. If you submit data this way, just notify permit lead via email.
- Suggestion made for looking into a mechanism for the data to be translated directly to the USGS BBL, or visa versa, to limit duplicate reporting.
 - **Action Item:** Database subgroup to follow-up on this idea.

Online Coordination Tool (Carie)

- Link to the online coordination tool is on the GEWG webpage.
- Intent of the tool was to help GOEA researchers, and those conducting monitoring, coordinate on who was doing what, where.
- Tool does not house eagle data. This is a basic contact database that maps where projects are occurring on the landscape.
- In the tool, you can request access via an email that is generated to Heather and Carie. Heather and Carie will send unique password to get into the site. Once logged on, you hit user data entry tab which takes you to a mapping tool where you can enter points, lines, and polygons. Once an area is delineated, you can fill out contact info for that project. The system then generates an email to Heather and Carie for review. Heather and Carie can label a mapped project as sensitive or not sensitive, and make this determination by working with submitter. “Sensitive” sites are only reviewable to submitter, Heather and Carie. “Not sensitive” sites are viewable to anyone with password.
- So far ~20 people requested access, but there are 0 entries.
- Group felt that sensitivity over lack of coordination was not much of an issue anymore since everyone works well together, though there may still be some sensitivity, particularly for contractors and agreements they have entered with their clients.

Data Sharing Sensitivities

- A general discussion ensued regarding the value of wildlife data for science versus sensitive data and conservation; and providing exact locations of wildlife as well as important use areas (i.e. large winter raptor use areas, colonial nests, etc).
- Some expressed concern over eagle data in general. Group needs to have a thorough discussion about the pros and cons of what the data is and how it is used. Would be good to have a broad understanding of what eagles are doing and where pairs are, but there are some concerns over releasing the data.
- Nevada has a data sharing agreement that restricts data somewhat. The agreement provides criteria which is considered sensitive if harm could come to a species if the exact location were known (i.e. bat hibernacula, sage grouse lek, raptor nest sites). Sometimes data is buffered (i.e. to township-range-section). Yet exact data can be provided for resource uses (i.e. management, scientific, conservation planning, modeling) as long as intended uses are consistent with the constraints identified in the agreement.
- CNDDDB is largely protected from random data requests. One needs a subscription to get the data – commercial or government. Some occurrences are only mapped to the quad level for various security concerns, with nests sites the main concern.
- States have discussed data sensitivity for the golden eagle database. Right now, the system only allows for data requests to come through Carie. Before she would release anything, she would be checking with contributors about the sensitivity of their data.
 - **Action Item:** CDFW will discuss data protections offered in the GOEA database.
- Releasing data such as nest sites to the public can cause harm. Although there is a growing appreciation of the general public for wildlife, it can often translate to harm when people don't understand how their behaviors can affect wildlife (e.g., birders approaching nest too closely).
- Publication of data and archiving of data is becoming more prevalent. Many journals are requiring archiving data. May be unavoidable to keep data private in the future.
- Group realizes it is important we have current data for management decision, such as re-routing something to provide better resource projection, or placement of solar arrays.
- Potential data contributors can decide one of two things – to keep in separate system and whenever the state or feds needed the information would be provide, or decide that it is better to submit data into system. It really comes down to everyone's comfort level because everyone works under different data sharing constraints, and have various past experiences with data sharing.
- It is important that individuals who don't submit data to agencies ensure their legacy data can be used for good. It is critical that datasets are not lost due to the lack of sharing/releasing. If the data doesn't continue to be helpful and then it's gone, a wasted effort.
- Data sharing pros: Assistance with NEPA, publications, law enforcement issues, species status assessments, data available to manager
- Data sharing cons: safety of eagles, professional impact, private land sensitivities, feather black market.
 - **Action Item:** Group to continue discussion on data security in future meetings, considering state and federal FOIA/PRA laws.

Mortality database update

- Creating a new database (USFWS Bird and Bat Injury and Mortality Reporting System). Those that have Special Purpose Utility (SPUT) permits can use an excel spreadsheet that is compatible with the DIED database (<http://www.fws.gov/forms/3-202-17.xlsm>). On-line entry tool will be available to update the data.
- For tracking purposes, the SPUT permits will require that all eagle carcasses have some type of waterproof tag. Everyone has to be on board for this to be useful.
- DIED is a research database – not for general public. Database received all dead and injured eagle data that is collected. Data will be put into that database to look at potential trends on fatalities of eagles. Data will be released to researchers and will be vetted. DIED will eventually be incorporated into the USFWS Bird and Bat Injury and Mortality Reporting System database.
- A guide has been developed on how to photograph dead eagles in the field – this is in peer review and should be out shortly. Recommendation within that guide that a card with the location, etc, will go into the DIED system.
 - **Action Item:** Send information to group when available regarding photographic guide for dead eagles
- DIED may include eagles involved in law enforcement cases, but only if prosecution has gone forward and reached resolution, then it is up to LE to decide if that information would be released.
- Current format is an excel spreadsheet. When online, you can click on link for annual report form, which pulls up the spreadsheet.
- There are general fields to fill out, but additional information can be inputted as well. More information the better in the long term.
- Eventually there will be one master database for all dead bird information, including eagles.
- Generally, USFWS directs that all eagle carcasses be shipped to the repository. Samples are collected and archived. Eagles with transmitters are shipped to the SW disease studies. Eagles that die a suspicious death are generally sent to Ashland. USFWS Regions that are authorizing deviations need to explain what authorizing they are working on.
- USFWS R8 has worked with Millsap and Repository, and it was agreed that all dead eagles in California go to Krysta at CDFW's Wildlife Investigation Lab. Krysta works them up and extracts data from each bird. There are others that also have state and national salvage permits (i.e. Todd Katzner), so coordination is needed. Feds and state have working closely with Millsap and working on methods to make sure that everything is being done in the same way.
- The federal and state law enforcement has also been advising on what to do with eagles.
- Need to get the word out about eagles going to Krysta – for example, refuge folks don't know.
- In NV problem is that all the birds go to law enforcement and not sure how much information is collected on them before they go to the Repository.
- Due to its work on the condor program, the Ashland lab may do more contaminant testing based on protocols and the WGET would pay for it. Conversations recently initiated here.

Mentoring Program (Zac)

- This group was interested in a mentoring program from the start to gain/keep budding raptor biologists rather than lose them.
- Time limitations are a reality for many seasoned field researchers who may participate in such a program. However, there are definite benefits for data sharing and information exchange between experiences and non-experienced scientists/researchers.
- Zac started collecting data on process for a program with Lincer and Bloom. Have been looking online on at other mentoring systems.
- Zac requested more time to collect data and report back to group in November 2015.
 - **Action Item:** Add to the agenda for the next working group meeting.
- Zac will hand out survey to our group in November as well.
- May also be a good opportunity for a poster at the RRF since a mentoring program is of great interest to the young careers group.
- RRF created an apprenticeship program for field work. This type of certification may be a good element to put in our program.

Dead Eagle Protocol for California (Krysta – CDFW Wildlife Investigation Lab)

- Krysta has federal permit to necropsy and sample eagles prior to sending to the Repository. If you have carcasses, Krysta will take them.
- Ideally seeking fresh carcasses (dead less than 48-72 hours).
- If >3 days, frozen carcass is better than refrigerator. If <3 days, refrigeration better (particularly if interested in parasite infestation).
- Each carcass should be placed in individual plastic bag (maybe even double-bagged). Bag needs to be big enough for the bird.
- Suggestion that a tag be put on the eagle and inside the bag so the tag and eagle do not get accidentally separated.
- Things to record:
 - Photographs of the carcass before it is picked up
 - Species
 - Date found and an estimate how long it has been there
 - Location – as precise as possible
 - Land use – urban, agriculture, etc.
 - Clinical signs or behaviors observed before death
 - Recent weather information
- Contact Krysta for details on how to ship to the lab. Wildlife Investigation Lab can provide shipping supplies. General packaging and shipment should include:
 - Hard sided or other coolers
 - Blue ice or ice packs (might not be necessary if frozen) pack empty space in case of leakage
 - Ship Fedex express/priority overnight (Mon-Thurs)

- Krysta is also doing an all-raptor disease/contaminant surveillance study. Raptor carcasses are coming in from a variety of places: rehab centers, researchers, industry, the public, etc. See below discussion for more details.
- The Wildlife Investigation Lab does have a mortality reporting form online. Krysta generally finds it more reliable if she reports the carcass to the mortality database rather than relying on the submitter to do so.
- Some issues may arise for those doing carcass bias trail where every carcasses available is important. Carcasses used for trails need to be fresh. This limitation was understood and Krysta will take whatever carcasses is available.
- It's important for the word to get out about the Wildlife Investigation Lab's ability to take in eagles (and other raptors) for sampling. AZ sends it out every year as a constant reminder that there is a protocol, and it took about 3 years for people to understand and implement.
- The CDFW and USFWS have been working on getting letters out to rehabbers.
- It was suggested the group send out a letter to all interested parties so that they understand that there is one central routing point in California.
 - **Action Item:** Krysta and Carie to develop letter to send out to interested parties regarding eagle carcass submission to WIL

Laurence Livermore Lab (Meg)

- Lawrence Livermore Lab has a research and development center. Center is exploring ways to expand into ecological studies, including renewable energy impacts.
- Livermore Lab wants to do novel research with people who have great ideas. For example, Lab already has technologies developed for things like sensing earthquakes, but are using them for other applications. Looking similar type of opportunities with this group.
- Livermore Lab started talking with Heather and hope to network with this group as they move forward.
- Livermore Lab does have opportunities for funding.

CDFW Wildlife Investigation Lab Disease and Contaminants Raptor Studies

- The Wildlife Investigation Lab is mandated to monitor diseases that impact wildlife, historically game species, but that has changed to nongame species over time.
- The Lab conducts disease surveillance (e.g., avian influenza), pesticide surveillance, training (e.g., sample collection), field support related to population health type monitoring and research.
- Krysta and Stella McMillin (also from the Lab) recently started a disease and contaminant surveillance study on California raptor species. Covers rare species, and common and wide-spread sentinel species, including eagles. Lab will be testing for various disease, heavy metals, anticoagulant rodenticides, organophosphate and carbonates, trauma, etc.
- Timing of research is good due to the AR and Pb ban regulations in California.
- In 2013, 12 golden eagle carcasses were collected, 48 in 2014. They are scattered across California. Preliminary results found trauma (wind) to be most prevalent. Other causes

included vehicle collision, ARs, Pb poisoning, WNV, starvation, secondary infection, capture myopathy. Still undergoing additional testing to rule out other complicating factors.

- Golden eagles had exposure to >2 AR compounds.
- It is difficult to tease out Pb-related death when Pb may cause other secondary health issues.
- Mange (mite infestation) in GOEA: 3 confirmed cases in California in 2013 and 2014 – Alameda, Monterey, San Benito and Tulare counties. One case was treated for 9 months at UCD Raptor Center, and then released. One other case was grounded and euthanized, and the other was reported but never captured.
- Daniel Driscoll found another eagle with potential mange at the NV/CA boarder.
- This is likely a new species of mite that causes feather loss on head, neck, legs, and abdomen. Secondary infections and debilitation (e.g., bacteria and other parasites, difficulty seeing, thermal regulation). Contributing factors may be Pb, rodenticides, environmental stresses, over-crowding, and climate change.
- There is a collaborative effort to maximize resources and expertise to deal with the mange issue – CDFW, NDOW, UCD, USFWS, USGS.
- PCR developed.
- Sample collection on a live bird:
 - Look for mites around bill and face. On lower leg at the foot and the ankle joint
 - Skin scraping, duller edge preferred. Scrape across the skin, don't cut into it. Scraping from multiple locations, stored in separate containers the best so we can get a better idea of the best place to collect samples.
 - Clear tape can be useful to confirm presence of mites, but not for genetic analysis
 - Deposit specimens into small tube or vial containing sterile saline
 - Store in fridge or freezer
- Sample collection at the nest – collect handful (1 cup) of nest materials from active nests in a zip lock. Soft materials preferred – vegetation, molted feathers, and smaller pieces of woody debris. When collecting material may want to triple bag and make sure that the bag is sealed. Use gloves. Store at room temperature. Get to Lab overnight.
- If interested, Krysta does have a cheat sheet for the protocols she can share.
 - **Action Item**: Krysta to distribute protocol to group
- Suggestion to add sampling language to be a condition of the state permit. For California, there is currently language in new eagle permits/MOUs regarding reporting potential mange cases.
- Recent publication on mange just out.
 - **Action Item**: Michelle will send everyone the recent publication.
- Also interested in skin scraping from other suspect bird species. Reports have been made for mites in Swainson's Hawk and Red-tailed Hawk, but undetermined if the same species seen in Golden Eagles.
- WIL is getting kits together to send out to biologist and rehab centers.
 - **Action Item**: Contact Krysta to obtain kits.
- Some concern over transmission/spreading while conducting field activities. Mites can be spread directly and indirectly through people, clothing, and equipment. The Lab working on

developing a recommendation for minimizing spread. It is best to assume transmission is happening, so disinfect clothing and equipment between nests when feasible.

- **Action Item:** When complete, Krysta will send out recommendations for minimizing spread for mangle
- Questions on whether mangle birds should be live-trapped and treated. This should be considered on a case-by-case basis. For the case that was at the UCD Raptor Center, it was trapped and treated. Holding was long due to multiple treatments and to facilitate feather re-growth. Couple things to keep in mind is time of year, or if they have dependent young. Trapping and treatment may be limited due to the limited availability of facilities that can house these raptors (permits, quarantine, and lengthy treatment).

Chlamydia Study (Michelle Hawkins, UCD Raptor Center)

- UCD studying Chlamydia in raptors.
- Chlamydia is an obligate intercellular bacterium. Doesn't always cause clinical signs. Can be transmitted to humans. Symptoms are flu-like in humans.
- A winter time disease (Dec-Mar).
- We are likely missing many cases as people may not know a bird is presenting symptoms.
- Processing samples was limiting before (\$50/sample), but new collaborator willing to process samples for little to no cost.
- Michelle has kits to distribute to researchers for sampling.
 - **Action Item:** Contact Michelle to obtain kits.

Western Golden Eagle Team (Brian Woodbridge)

- Brian Woodbridge provided update of what WGET has been working on and future products. E.g., banding, telemetry, prey, database assistance, habitat modeling, threats, meta-analysis.
- Carie distributed WGET summary report prior to meeting.
- Jessi Brown and Dave La Plant working on habitat modeling should have some products by March 2015.
- WGET website will be publically available by ~early-summer.

Volunteer Monitoring Program

- Group has expressed interest in starting a statewide volunteer monitoring effort in CA, somewhat like Frank Isaac's work in Oregon.
- Working group was identified – Carie Battistone, Todd Katzner, Eric Jepson, Joe Di Donata, Allen Fish, Jeep Pagel, Harv Wilson and Doug Bell.
 - **Action Item:** Carie will convene working group to discuss details of starting a program. Topics to discuss will include timing, funding, methodology, and training
- Doug Bell and Harv Wilson started a local volunteer program 3 years ago in the East Bay. Recently this has expanded to the Central Valley. UCD Raptor Center (Bret) has been involved with this new effort and is the lead for the Central Valley team of volunteers.
- Harv has developed an online training tool for volunteers. Includes modules with tests.

- Look for volunteers with proactive field skills and dedication, and other programs for process – East Bay effort, BBS
- Katzner has trap capture programs in other states using volunteers. Every state works differently for permitting this. Something to consider for the volunteer program.