

## CA-NV Golden Eagle Working Group Notes

December 12, 2012

### US Forest Service Wildland Fire Training Center, McClellan CA

*Contributors to Notes: Laura Nagy, Jeep Pagel, Heather Beeler, Kevin Cahill, and Carie Battistone*

**Purpose of Meeting:** To provide a forum to discuss and coordinate activities on golden eagle inventory, monitoring, research, and conservation efforts in California and Nevada.

California Department of Fish and Wildlife is host agency for 2012/2013

#### **Objectives of Meeting:**

- Provide background on last meetings
  - November 2011
  - Database Subgroup
  - Research Subgroup
- Share federal and state agency update
- Symposium
  - Overview
  - Debrief
- Report from USGW bird banding laboratory
- Report on Oregon's monitoring program
- Provide time for 4 small groups breakout session(s)
- Hear brief summary from each group
- Captures action items
- Evaluate this meeting

**Introductions** (group participants introduced themselves)

#### **Review of Action Items from Last Meeting (Carie Battistone)**

- Handout of summary of the working group action items
- FOIA Summary
  - States may have better protection than federal agencies
    - Group will look into that
  - Phillip Kline (USFWS Solicitor) in Tucson with USFWS, is up to date on FOIA information
  - State law that requires NDOW to provide information. Sensitive species locations cannot be kept confidential. If NDOW is the holder and can provide to BLM, then BLM says that NDOW is the originator of the data. Allows for some control.
  - USFWS and USFS lost a 1998 lawsuit for not releasing data. Some data is protected under law and they can refer the person requesting data to the organization that collected the data. Databases for states, e.g. CA and NV have more of an ability to not

provide site specific location of territories and sightings . See <http://www.foiadvocates.com/exemptions.html>

- Tom Lupo (California Department of Fish and Wildlife) said that there are certain categories of data within the database that are not well tested and the protections might be more of an illusion
- Is there a follow up item regarding data availability/confidentiality policy?
- California has some protection, but it hasn't been tested. If there is a need to have some data sets protected, need to clearly identify what mechanisms are or are not in place
- NDOW database using a state policy to buffer data. If you can reasonably expect harm by knowledge of that information, then it can be buffered, but the data are provided in a more generalized form.
- Yesterday's symposium was good at getting data caught up, but she wants to know how to make those data accessible. Thinks the next big topic is the data management side.
- Data security is a subset of the data management issue
- Two big questions seem to be 1) Protection of information, and 2) Propriety nature of the data and how that would be used
- Make sure the BLM and other federal agencies will be involved when compiling info on FOIA and PRA.
- Topic discussed in detail of breakout session. Group will discuss and summarize in a meaningful way.
- Action Item: Need to articulate and clarify what protection strategies are in place
  - Example: National Parks Service Data Sensitivity Policy
  - Heather Beeler and Chris Tomlinson to work on this.
- **Big Horn Sheep Literature**
  - Action item: Carie will post the information that she distributed regarding the impacts of helicopter overflights on bighorn sheep on the golden eagle working group webpage.
- **Database Subgroup**
  - Online coordination tool
    - Does the group think this would be useful?
    - This would be an internet platform hosted by BLM most likely
    - Purpose of an online tool would help researchers coordinate among themselves, e.g. where helicopter or telemetry studies are occurring to try to avoid duplicating efforts
    - Platform allows users to communicate who is doing what, when, and where.
    - No data would be posted, only minimal project information and contacts
    - Could have different permissions
    - Tools would be for researchers and the state/federal agencies know information about where surveys are done they can focus effort of thinking elsewhere
    - Would also help identify the gaps in research
    - E.g. of issue - last year researcher went to band at a nest and there were already banded birds in a nest

- Is this something that should be followed up with? Are people are going use it?
- Other ideas:
  - Apply for an SCP and then get a list of the other people in the county or area where research is to be performed.
  - Put a spreadsheet together for improving the coordination.
  - List of everyone potentially doing eagle research/monitoring and agency staff could call the people in order to start the communication.
    - Problem is the level of effort this may take from agency staff that are already swamped.
    - Possibly coordinated by non-agency staff (e.g. NGO)?
- At this point, SCPs in CA are not issued for people who are doing just non-invasive surveys.
- Lots of work is weather related, and may not know until week before that surveys are being done. Also, may look at 20 sites and only enter one of those territories nests.
- If the group can provide the information on when/where helicopter surveys are being done to Heather and Carie, then they could compile the information to make sure that efforts are not repeated.
- Latta – would be nice if there was a point person. Did fly over nests that had been banded. Didn't know that the site was overlapping and found that Daniel was trapping and Dave was banding. Same thing with general field work and let someone know with a point person. At the same time, ran into a problem about the confidentiality agreements.
- Should put the tool together and talk to industry and NGO's about increasing communication.
- Action Items: Develop Research/Monitoring Online Coordination Tool
  - Details to be discussed more in the small group breakouts and then followed-up on by the Database Subgroup

#### **USFWS National Bald and Golden Eagle Injury and Mortality Database (Jeep Pagel)**

- Database slated to be "live" next month. This portal goes into the current law enforcement servers and database; hence access will be highly regulated
- First access will only be made available to USFWS staff, then after the first month and proper vetting, to other agencies, then other individuals, as appropriate.
- Want to make sure that the data going into the database is stellar
- If someone has an eagle that they want to go into the database, or any questions, they should contact Jeep ([joel\\_pagel@fws.gov](mailto:joel_pagel@fws.gov) , put eagle mortality or injury on subject line)
- Based on beta tests, it only takes about 4-10 minutes for each data entry. Made it easy with pull down menus.
- For meta analysis, will want standardized data (e.g., measurements, age)
- Would also be good to have diagrams or photographs to show what to measure.

- Some of the birds go to wildlife rehab centers; hence the ability to track incidents of eagle injury. The database should have the ability to track what information is found from the necropsy and where those samples are stored, transported, and curated.
- There is a disease and toxicology section
- Can upload photographs or reports connected with an individual eagle
- Questions:
  - Can you require that they get a lateral tarsus measure because it's the only way to determine sex?
    - Can't require anything, but will provide a diagram of how to measure
  - Is there an instruction sheet and is this set in stone?
    - No, but instruction sheets will be available to those that enter the data. At first, most people won't be able to enter data into the system because only USFWS people can at this point due to security issues.
  - Can data sheets be distributed for those people who don't have access to the database?
    - Yes; data sheets are slated to be standardized by Feb. 2013. Before then, if you have a dead or injured eagle, will figure out how to enter it. Contact Jeep.
  - Who was responsible for collecting data for a wind farm or other area of localized mortalities?
    - Jeep suggested that both state and federal law enforcement.
  - Is there a spot to input how degraded the carcass is?
    - No, but a good idea
  - Opportunity for Batch uploads?
    - Yes, we will try to figure it out
- As a reminder, collecting feathers/tissues and handling live, injured, or dead eagles requires getting permit from state and federal wildlife agencies. Need to make sure it is clear on what is required. If you don't have a permit, don't touch it; call USFWS, NDOW, or CDFW law enforcement
- Data forms will be available in February. Stress accuracy in data entry.
- Daniel Driscoll and Grainger have 30 years of sexing data and would be glad to help with diagrams
- Action item:
  - Develop Eagle Mortality Database Instruction Sheet, Distribute Data Forms
    - Lead: Jeep Pagel
  - Work with Dan and Grainger, and others, to develop diagrams
    - Lead: Jeep Pagel
  - Send eagle data for Jeep or other USFWS staff to enter (if questions, contact jeep)
    - All

**CDFW Biogeographic Data Branch (Steve Schoenig)**

- Supervises the biodiversity database (CA)
- Data DFW takes in is for live eagles, not deceased

- Brought in about a year ago to discuss options for DFW hosting a golden eagle database
- It's common for any group of biologists to build these types of databases. But even if you build a database, they won't come unless you continue outreach.
- At this point, there is a pretty good comfort level in DFW hosting this database because it falls within the purview of what they do. Right now we need to define what the database is and what the data structure will do.
- Development of database structure has been with a relatively small group so far – Steve, Carie (CDFW), Jeep (USFWS), Tony McKinny (USFWS), Heather (USFWS), and Cris (NDOW).
- Carie distributed handout of eagle database structure for input
- CNDDDB is a staff of 8, but we get about 70,000 element occurrences. We can't do everything on the special animal list due to workload, but have a rotating priority based on the need for conservation at the moment.
- The desert was under-reported and at 6-7 years ago, until it became a hot spot for renewable energy. CNDDDB had not been prioritizing those entries up until a year or so ago.
- CNDDDB is very expensive and high maintenance. Requires knowledgeable staff that can make key decisions when deciphering data. Now the minimum qualifications are master's degree in biology for CNDDDB.
- For the eagle database, the idea wasn't to make in so intensive for workload and upkeep, but rather, something in between very low to high maintenance. Something like this would be good to set up so an intern can do the data entry.
- There should be a primary entry route where people can put data right into the database, but could also be a bulk upload component where people can submit data.
- Needs some level of security.
- Incorporation of citizen science data (e.g., eBird) could have some sort of qualifier
- There are a lot of gray reports, do they see mining those reports because a lot have T/R/S information including productivity? A lot of this type of data is more accurate than the data being collected right now. There's a level of accurately that is likely better than we might extract from wind farm reports.
  - Mining is not free. At this point CNDDDB staff don't have time for data mining, but if other agencies/groups mined their own data, it could be more easily incorporated.
- Action Items:
  - Send comments on DFW Database Structure to Carie
    - All
  - Database Subgroup to work on development of CA hosted database
  - Devise a mechanism to mine existing data (reports, unpublished data, etc.)

### **Research Subgroup Update**

- Group drafted purpose and need.
  - Laura Nagy to develop, Heather to distribute for input.

- To develop research needs and priorities, group members wrote down list of top priority research for them and ranked as a group. This led to much discussion as to what top research needs are for CA and NV.
  - Product from the last meeting was a top ranked research priority list. Thanks to Adam and Grainger for putting this together.
- Discussion surrounded past, present and future work important to CA and NV>
  - Short-term goal was to host research symposium
- Symposium Planning team formed: Jeff Smith, Patti Krueger, Heather Beeler, Carie Battistone
- Steering committee formed to help take research subgroup forward: Carie Battistone, Jeep Pagel, Jeff Smith, Heather Beeler, Adam Duerr, Carl Thelander
- Carie distributed member list and also posted to the web,
- There is an effort to gather information/data on what we know in California and Nevada. Todd Katzner, Pete Bloom and other researchers pulling this information together. Carie will poll group about when they can get together. Todd has an example of publication for eastern population of golden eagles, so that would be something that could post to the website as an example.
- Would like to get a feel when might be a good time for the Research Subgroup to meet next. Asked members to write down options for next meeting on evaluation forms today.
- Action Items:
  - Convene a conference call with several researchers to strategize a publication on historical and current status of eagles in CA and NV.
    - Lead: Carie Battistone to organize, participants – Todd Katzner, Carl Thelander, Pete Bloom, Tom Scott, Loyd Kiff, Dave Bittner, Grainger Hunt
  - Post example of publication for eastern population of golden eagles to webpage
    - Lead: Carie

#### **USFWS Update (Marie Strassberger, Heather Beeler)**

- Nationally:
  - Not known when new version of Eagle Conservation Plan guidance document will be released. It's with the Assistant Secretary of Interior's office and unknown if it needs to go to OBM. Would like to get out to maintain continuity of approaches
  - In August of 2012, the draft technical appendices (Eagle Conservation Plan Guidance Module 1-land-based Wind Energy Technical Appendices) were informally shared with some companies that the Service is actively providing technical assistance to for wind projects.
  - Wind Energy Guidelines have already been released (March 2012)
  - Eagle Management Team lead is Brian Millsap (Brian\_Millsap@fws.gov)
    - Eagle Technical Assistance Team is subgroup of Federal and State biologists working on eagle-centric conservation and energy related topics.

- USFWS issued a draft rule that would change the permit term from a 5-year to a 30 year permit. Went out for public review earlier this year. Supposed to be coming out very, very soon.
- Regionally:
  - Tom Dietsch is the new Migratory Bird Biologist in Carlsbad. Have had multiple transitions in Carlsbad (Dr. Eric Kershner, Ms. Erin Chandler), but he's now on board and getting up to speed. New permits person in regional office, Eddie Owens to help catch up with backlogs.
  - Special Purpose Utility Permits (SPUT) – This is a permit that allows utility companies, solar and/or wind companies to salvage dead birds under MBTA. Permit holder must be project owner, not consultant or agency. The application must include a 3 year post construction mortality monitoring plan (PCMM) that is acceptable to the USFWS. Heather will be working on solar and sind SPUT permits in January and February.
  - DRECP (Desert Renewable Energy Conservation Plan) is intended to be a HCP to be accompanied by NCCP. CDFW is a big player along with BLM. Are in the process of trying to evaluate cumulative effects, but working forward on that. Would include existing facilities and transmission lines. As of Friday (14 Dec.), USFWS will be rolling out a number of documents, one of which is a framework document on how the DRECP would be implemented. Will have FAQ and a rule set which are sideboards of how to avoid harassment, appropriate buffers, etc. Will also include draft biological goals and objectives. These will be available to the public, roll out is December 14<sup>th</sup>. Group, e.g. all eagle researchers and those with other biological information/interest are encouraged to provide input. Contact Marie and/or the USFWS Regional Director for specific response time and email address (marie\_strassburger@fws.gov)
  - There was a May meeting to discuss eagle conservation with agency and research/industry groups. David Cottingham (USFWS) and industry ocused on the DRECP to improve collaboration.
    - Heather will distribute these notes to the group.
  - Mining and solar are recent issues. Although guidance documents do not specifically address mining, USFWS have been giving the wind technical appendices to project proponents to help them understand approaches for Bayesian and REA analysis.
  - Newmont Mining Co. provided a well thought-out document and have been actively working with other partners. Potential for creating a mining or Nevada-specific subgroup to discuss mining issues in the state.
  - Shilo IV Wind Farn Eagle Take Permit EA.. Initially goal was to have review of the permit application decision by December of this year. Working with EDF; this will likely be the first programmatic eagle take permit issued to a iwnd farm nationally because West Butte in OR isn't going to be. Hoping to make decision in March 2013.
- Questions:
  - Does USFWS see additional modules for mining, solar, and development?
    - Not yet. Wind and Solar have been the primary focus. However, every entity is treated equally under the Bald and Golden Eagle Protection; e.g. all Industries

are held to the same standards: Reduce, Minimize, Avoid. Needs a thorough assessment of biological status. USFWS happy to provide assistance with compliance to standards.

- For existing wind farm, what is the monitoring requirement going to be?
  - Having conversations with National Eagle technical assistance teams. USFWS trying to find a balance. At minimum visit at least 1/3 of turbines and expect at least 3 years of PCMM surveys. Want people to report and want anyone to be able to use the local birds for SEEF and CPT.
- If it's an existing project, they don't need a permit?
  - USFWS doesn't require permits, however any 'take' of eagles, including disturbance, would be against the law. The Service strongly recommends that existing projects have discussions with the USFWS regarding lethal take under MBTA, and valid take permits per BGEPA. SPUT permit is one option. If someone is seeking a new eagle permit, it doesn't mean that USFWS isn't going to ask for robust monitoring.

#### **California Department of Fish and Wildlife Updates (Carie Battistone, Kent Smith, Elliot Chasin)**

- Golden eagle working group web page
- Have a grant with Todd for research in the Mohave desert, Elliot is the Project Manger
- Golden eagle is a fully protected species. Fully protected status is a legislative process. Last year legislature allowed for take of fully protected species to be taken in the context of any NCCP, but right now this is the only avenue that California has for take of fully protected species besides take related to research.
- If DRECP is an NCCP, golden eagle can be taken.
- The DRECP document coming out on Friday is not NEPA/CEQA and not legally binding, but it is the direction the group is moving. This is the first time that the department is issuing take for golden eagle so we are interested in comments. The document is somewhat watered down so might be short on metrics (Conservation Actions or Rule Sets).
- Questions:
  - What is the interface between the state-level and federal permits for the data collection?
  - Short answer is that they try to work out with the USFWS the simplest way of doing this. The state does not have the equivalent of a federal salvage permit. Some of these things are in the process of beginning worked out state doesn't have all of the answers at this point.
  - NDOW allows salvage through scientific collection permits.
- Action Items:
  - Review DRECP documents
    - Who: All
  - Crosswalk FWS/CDFW permitting issues with salvage
    - Lead: ?

### **Nevada Department of Wildlife Update (Cris Tomlinson)**

- NDOW will now get reimbursement costs for conservation measures and data for projects. Bill now supports them with funding and will use to expand GIS database.
- Mining industry funded another statewide survey in 2013 and NV is working closely with mining association. Have a polygon map that shows eagle nest clusters. May be an avoidance area for eagles. Buffered already so that can provide out.
- Data requests can be buffered through data sensitivity policies.
- Working with the partners in the state and in the Mojave Desert region on foraging areas and prey base study.
- USGS will be looking at prey base and guide how to address solar applications. DOD may have some opportunities and funding for more telemetry for the Great Basin.

### **Bureau of Land Management Update (Sandra Brewer, NV)**

- On hold with national guidance waiting for ECP guidance to come out. For now, BLM still using expired guidance. Will go as far as decision record but won't sign until the ECP is satisfactory.
- Participated in training session held by USFS and BLM. Session had all the BLM state leads to train the BLM field biologist.
- Thanks to USFWS for making post-construction mortality monitoring mandatory.
  - Heather Beeler clarified that post construction monitoring was not mandatory but integral to getting a permit
- -Energy guidance can apply to other development projects, so biologist need pull out relevant procedures and use them as guidelines until the future modules come out.
- Trying to figure out how to balance the dual NEPA need. USFWS NEPA may or may not need to be done.

### **U.S. Forest Service Update (Patti Krueger)**

- Budget cuts resulted in loss of surveys
- Most of the wind and solar haven't moved to final proposal
- Wind testing is occurring and are finding other aspect needed to get structures up on USFS land
- Concerns are impacts to golden eagles based on management. Pace and scale for ecosystem management has increased. Difficult to survey for golden eagles in timbered habitat. Focusing biologist to documenting all the golden eagles and inputting data.
- USFS transferring all their data to the CNDDDB once a year.
- Still looking at functional areas where golden eagle surveys are occurring mostly due to area closers to protect cliff nesting raptors. This is done primarily by the local biologists. Example is Sunrise Power Link project.
- Hosted research subgroup and also provided this facility for symposium

### **Thoughts on Research Symposium (Jeff Smith, Jim Nelson, Group)**

- What worked:

- Speakers and content were excellent
- Wide representation from CA and NV
- Well organized
- Excellent moderator
- Uploading information prior to information – would be good to have accessible power points
- Management of the sound, technical, and logistics
- Opportunities/Suggestions:
  - Need for a more engaging program post lunch
  - Put PPTs on the webpage
  - Expand presentations – more time need for some
  - Distribute contact information of participants (e.g., emails)
  - Improve interaction from remote sites
  - Develop edited proceedings
  - Address take/harvest discussion – e.g., harvest optimization models
  - Incorporate a panel of experienced researchers, managers, etc. to discuss directed topic
  - Encourage more comments and questions from in-person and remote participants
  - Consider a multi-day symposium
  - Have symposium focus on more regional topics (e.g., cumulative take, mitigation to offset take)
  - Tie in with TWS meetings
  - Include presentations/discussion on mortality
  - Include presentations/discussion on toxicology
  - Include presentations/discussion on population trends

#### **Summary of Golden Eagle Banding and Encounter Records from the BBL (Bruce Peterjohn)**

- Presented a summary PPT of information in the USGS Bird Banding Laboratory
- Golden eagle bandings were highest in the 1990s. Total of 1540 since 1960's..
- Banding dropped off in the 1990's but picking up again now.
- 11,807 GOEA banded nationwide from 1960-2012
- Total in California of 1,178; most local
- Bandings broken down by season
  - Spring 53%, summer 16%
  - Fall 18%, winter 13%
- Eagles by age class: NV had majority of the birds were banded in the nests
- Mortality rates of eagles by age
  - Local 12.6% (in nest)
  - HY (hatch year) 4.7%
  - AHY 8% (after hatch year)
  - SY 8% (second year)
  - ASY 4.4% (after second year)

- TY 23.1% (third year)
- ATY 18.0% (after third year)
- Overall 11.7% (nationally closer to 9%)
- Continental banding records, effort concentrated in the great basin
- Most of the CA/NV banded birds are the Goshutes, Altamont, SW CA.
- Most birds banded in CA were encountered within CA, with some moving into CA
- Process of obtaining a banding permit:
  - Both bald and golden eagle require special authorization from the BBL
  - Species need to be specifically listed
  - About 37 people have authorization to band golden eagles in CA/NV
  - Need to request permit from the BBL, need to demonstrate their experience in banding eagles, and have to have a project or justification for doing so
  - Need to have a valid state permit otherwise the federal permit is invalid
- BBL concerns regarding GOEA banding/marketing:
  - Increased demand to band/mark GOEA for wind energy projects
  - Effects of PTT transmitters on GOEA
    - Indication of increased mortality under some circumstances
      - Transmitter design and attachment methods implicated in mortality.
      - Data sample size small because the banders often stopped marking the birds quickly if there appeared to be an issue with mortality.
      - Root cause is to be determined
      - Don't think mortality enough for population effects, but not clear. If a lot of birds are going to be marked in a small area, could potentially have an impact on eagle populations
  - Effects of wing tags and possibly other markers on GOEA (aerodynamic, prey capture)
  - Qualification of application for GOEA banding and authorization, especially for attaching devices.
  - Data accessibility: telemetry data viewed as proprietary which, at times, makes it unavailable for conservation, management or science.
  - Economic incentives to band/mark large numbers of birds. Some people in the business if marking birds only to sell data. Can be lucrative.
  - Potential for conflicts over marking specific populations. Creates a conflict over some territories/sites due to limited number of eagles on the landscape. May be a bigger problem as more energy facilities come on line.
- BBL thoughts on GOEA opportunities
  - Develop/participate in studies to improve GOEA marking techniques. There have been some improvements here.
  - Development "best practices" guidelines for banding/marketing GOEA. Collective wisdom or the veteran community. How can those who want to get involved learn from the experienced individuals?

- Identify research/management priorities for GOEA banding/marketing projects. Needs a short-list of priority projects to advance conservation and management. What have we learned over the past 50 years?
  - Conduct through analysis of existing banding/marketing data for CA/NV GOEA
- Thoughts/Comments from group:
  - Dave Bittner - Mortality with tag is not higher than mortality w/out tags
  - Doug Bell - Will you make data available?
    - Yes – send request to BBL

### **Oregon's Monitoring Program (Jeff Everett)**

- Group is interested in hearing about the extensive use of volunteers
- West Butte Wind Project example:
  - Which of the 2 BCR's do the fatalities hit against
  - Graphic with original turbines with 2011 and historical dataset
  - Established territories – number of nests clustered into territories
  - Most recent occupied nest in 2009 went up in flames in BLM burn
  - It is a butte but doesn't have cliff faces, something to consider when monitoring
  - With the wind from the west, the biggest concern were being blown into the turbines
  - Historical data didn't make it clear if there were nest sites – gave a place to start concentrating
- General maps of historic dataset up to 2010
- Would write own purpose and need, but would not have own EA or EIS.
- Discussed "tiering" with BLM and other agencies on NEPA documents to avoid redundancy
- Often the wind energy projects that are in the initial design phases on private lands
- Often get multiple companies tracking the same birds
  - Lots of wind companies contributed financially to the projects, instead of hiring consultants, the relied on the state to reduce the conflict and disturbance
- How did the monitoring program work?
  - Frank Isaacs really made this work. Need someone with the right personality, expertise.
  - Frank had already summarized the existing dataset to create a rough framework of where we wanted to visit.
  - Had a sense from the wind energy development on where the greatest need was
  - Localized volunteer effort.
  - Used phone-tree methodology for volunteer recruitment.
  - Started with Oregon eagle foundation, Portland Audubon and other groups to see if people were available for field work.
  - Lots of this work took place prior to the big push in 2011; many nests already known historically from other eagle work by Frank, Ralph Opp, and others.
  - Didn't get in 2011 to all of the sites, but covered all the areas in 2012. 2011 – covered 58% of historical sites + 575 – covered the rest in 2012. Should have the 2012 report out in a week or so.

- Budget estimated at \$150K per year to pay for Frank's time as a coordinator, with small amount left to pay per diem costs to volunteers. \$300K total for 2 years. \$300K mostly pays for coordinator position, not agency staff time
- Most money came from federal, BLM and USFWS + variety of the energy companies.
- 8,000 hours of effort include agency staff time
- If we were going to continue in 2013, would have to contact the private land owners now for land access.
- Need to establish the long-term relationship with the private land owners
- Don't have solid sense on where the OR program goes from here.
  - Considerable value in having some regular monitoring and perceived future impacts
  - Possibly not do a complete survey, but mine the data for a subset to extrapolate from
  - One of the questions is where do the young go?
    - Initiated a banding studies - just using leg bands
    - Tagged 32 young in the central part of the state
      - Easily accessible nests
      - Know when the eggs were laid
- How to make volunteer program work
  - Need a leader with a good reputation
  - Need assistance and funds from Wind Energy companies
  - Coordination with volunteer groups
  - Effort focused in areas of high need
  - Biologists with history of the area as contributors
  - Connections
  - Patience and perseverance
- Volunteer ideas
  - Coordinator/Coordination
  - Remote camera stations/bait stations
  - Todd Katzner has protocol to share for baited camera stations; this is used for some survey effort in CA
  - Useful to gather and process old data
  - Use for other needs
  - eBird as a data source
  - Use existing and functioning volunteer groups
  -
- Discussion of volunteer labor:
  - Good idea, but it takes an 'artist' to execute
  - NDOW has a huge volunteer program and volunteer coordinator
  - More people near the urban areas, but try not to use them for complicated/technical sites

- Todd Katzner uses a network of camera trap sites from Maine to Alabama to get golden eagles to bait piles during the winter. There are elements that are very low skill, here problems with disease and other thing. Paid \$2-3 K in cameras. Likely can't replicate straight out in CA because of the disease issues with deer and pig. Has a protocol for camera trapping.
- AZ roadkill mortalities for monitoring eagles on the road.
- How long is the volunteer training?
  - Coffee and cookies, one evening in the gym.
- Some programs are now using eBird because people like to do it and submitted in a special ISS portal
- Large citizen science group in the central valley for shorebirds, been published, big group and are willing to help out and would fill in some of the gaps
- There are existing functioning volunteer groups (e.g. GGBO)
- Need a point of contact to have an informed discussion about who is available
- May be good to come up with sampling protocol to subsample different areas and get an idea of what different densities are
- Action Item: Summarize volunteer group efforts, send volunteer contacts to Carie
  - All

## Notes from Breakout Sessions

### GROUP 1: Development

Purpose: Allow opportunity for industry to voice opinion on what issues they feel are important for the GEWG to address

- Considered alternative – broader name to include more industries.
  - Various industry representatives to facilitate information exchange
  - Better guidance from GOEA working group to inform, e.g. siting decisions
  - Mitigation measures
  - Portal to research group – library of resources/knowledge
  - Coordinate monitoring and research energy
1. Regional Conservation Plans for BCRs
    - Cumulative impacts
    - Manage for net gain
  2. Impacts from solar, especially power towers
    - More focus on GOEA impacts from habitat loss, i.e., other industries, mining, housing, solar
  3. Guidance on process for getting a solar project permitted (road map)
  4. Conservation/mitigation tools that can help GOEA populations
  5. Inform – siting, permitting processes
  6. More research (creative thinking) on alternative mitigation measures
    - Lead
    - Habitat restoration/improvement (Cheat Grass)
  7. Is a subgroup needed? What would the role be? Private sector outreach needed?

- Coordinate among stakeholders
  - Facilitate data sharing/coordination
  - AWWI (American Wildlife Wind Institute?) – data-sharing model
  - Role for NGOs
  - Working group document to synthesize results
  - Identify common questions from industry
8. Access to agencies – making contact and with whom
  9. Coordination of concerns
    - From industry
    - Between agencies
  10. Information exchange
  11. Identify threats to eagles to provide context for development
  12. Outreach to industry to help improve participation
    - Compliance with guidelines
    - Reporting
    - Build trust
    - Reduce/manage risk
    - Pre-project planning tool development
    - Informed by research

#### GROUP 2: Protocols & Methodology

Purpose: Familiarize group with current protocols available, discuss options for new protocols/methodology.

- Survey protocol (consistent) – aerial and ground
  - Coordination with agencies prior to implementation
- Consistent terminology (apply to database design)
  - Develop glossary (potentially use D Driscoll's glossary)
- Use of protocols: required (via permit) vs. educational vs. recommendations
- Development of “truncated” version of protocols (for project proponents)
- Training/Mentorship (possibly address at next symposium)
  - Monitoring, trapping, marking, sample collection
- Protocols for bio sampling; e.g. tissue and other biological samples– training for all involved (e.g., law enforcement/biologists, etc.)
- Add coordination aspect among researchers/consultants; e.g. get researchers to speak with each other, despite confidentiality agreements with consulting firms
- Best practices guidelines (BPG)
- Monitoring and Research
  - Detailed protocol (e.g., fields the same)
- Problem with data management starts in the field
  - e.g. understanding common language of GOEA
    - Data sheets
- Application for GOEA data collection
  - Make useful paper data forms
  - Make available within 6 months to 1 year
  - Tie in with database subgroup
- Importance of delineating the “quality” of data derived from aerial versus ground survey

- Recommend that all sites classified as occupied until proven otherwise with documented, robust survey by qualified people
  - marginal sites (not occupied annually)
  - use of golden eagle former golden eagle nests by other species<sup>1</sup>
- Prey base analysis/survey
  - Engage mammalogist for study designs
  - Spotlight surveys
  - Consider Daniel Driscoll's protocol as a starting point
- Develop accepted scientific standard (e.g. sustained survey effort of x surveys over X years) for declaring a site/territory/nest unoccupied
  - May not be possible under current methodology; expedited project climate with minimal surveys
- Certification process may not be enough – possibly levels based on mentorship approval and certified skill levels
- Prey base - surveys (need: purpose)
  - Research applicable
  - Project driven
- Standard for small mammal abatement
- How to: research oriented
- 

Summary (top four goals):

1. Use of consistent of protocol and terminology (field survey, biological terms, and database)
2. Develop a training/mentorship program for surveyors to achieve some level of certification
3. Develop a data entry application (app) for tablets, phones, and computers
4. Assist with mechanism for requiring state permits for ground and aerial Golden Eagle inventory and monitoring (survey-only) activities

GROUP 3: Research and Funding:

Purpose: Review past research priorities and options/needs

- Estimate and trends unknown – demography
  - Drivers?
- Cumulative impacts
  - Can it be tackled?
- Does current effort fit goals?
  - Primary Objectives of January 2012 meeting stayed the same
  - Ways to address demography was #1 topic from January
  - RFID Technology
    - Cheap
    - Mobile/moveable
  - Feather sample
    - genetics
  - Camera trapping

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<sup>1</sup> Raven, p-bird, Red-tailed Hawk, geese in GOEA nest

- Increased banding effort
  - Coordinated/focused
  - Monitoring at-risk populations
  - Breeding/non-breeding status to assess mixing

Potential USGS projects:

1. What effect will project have, including mitigation?
  - Mitigate potential impact with good data
  - Adjust project to work with known information
2. How do we measure take?
3. Predicting vs. quantifying
  - Monitoring of rare events
4. Working on finding dead eagles
5. Survival and turnover at nests
  - Genetic analysis
  - Same bird or different
  - Easier than trapping
6. Outcomes of new bird – only apparent survivor
  - Went to nearby nest, went far away, floater, died?
  - Evidence of switching at short distance
  - Divorce rare
  - Higher rates may be indicator of stress
7. High priority for USGS
  - Possible funding (maybe)
  - How a specific or broad project effects the population
  - Series of downward-looking cameras – traffic cameras to detect carcass disappearance, rate under tower
  - Low effort to find eagles
    - Cost effective?
    - Low to no scavenge of GOEA
  - Project may validate general knowledge
  - Useful for other species
  - Spatial scale
    - Rare events
    - Large scale
    - Injuries – walk-offs
  - Table saw tech.
    - Blade stop
    - Flag-detect hit
8. Population-wide effects
  - # to BASE management office
  - Lag effect of floaters
9. How do we deal with additive effects?
  - Multiple mortality agents
  - Large-scale marking
  - Can other species management help in modeling?
  - Colored leg band and RFID
  - Video monitoring

- Makes determining lambda more achievable
- 10. Mixing of migratory and resident populations
- 11. What birds are relevant to the wind energy projects?
- 12. What level (population scale) should we be concerned with?
- 13. Broad scale coordinated effort – funds?
  - Feather sampling
  - Color bands and RFID
  - Video monitoring, 30-40 units that can be moved around

#### Group 4: Monitoring Coordination

Purpose: Discuss how to best coordinate monitoring and research tracking efforts.

What projects may generate the need for eagle monitoring?

- Wind
- Solar
- Transmission lines
- Research
- Pipelines
- Mining
- Recreation
- Private lands HCPs
- Transportation
- Development
- Timber harvest
- Military activity (off base)
- Resource management/biological surveys

What can be shared:

- WHO: Contact information
- WHAT: Approach, methods
- WHERE: Project location
- WHY: Purpose/goals
- WHEN: Timing; Duration (start, end)
- \*Results (more problematic)

Sharing information:

#### Positives

- Avoid duplication
- Increase cost effectiveness
- ID data gaps
- Decreases stress of birds
- Reduced public disturbance
- Facilitate collaboration
- Positive public image (if no harm to eagles)
- Adds to knowledge of birds

## Negatives

Proprietary information

Time consuming (agreements, coordination)

FOIA

Sensitive data (e.g., nest locations)

Varying quality, format, methods

Negative public image (if harm to eagles)

New ideas - How to best coordinate?

- Centralized POC(AZFG example)
- Coordination requirement
- Timing requirement
- Avian Knowledge Network (integrate existing databases; utilize AKN analysis tools). This addresses “Sharing results” (above). Buffering allowed.

How to best coordinate/track monitoring and research efforts?

- Symposia, workshops
  - More than CA-NV Working Group
  - Annual meeting
- Projects database
  - Easy to use
  - Web based
  - Query capability
  - Agreed-upon protocol/terminology

What to add to Database Subgroup online coordination tool proposal:

- Keep it simple
- Add type of protocol
- Add user-friendly I.D./password
- Add mechanism for verification/validation
- Extend to neighboring states (BCRs)
- Get a template started – get it out there!

Online coordination tool “issues”:

- Participation
- Who inputs information
- How to advertise/market
- Leadership
- Maintenance

## Summary of Follow-up items

1. Data availability/confidentiality policy to address sensitive data and data ownership – summary for CA and NV
  - a. Lead: Heater Beeler and Cris Tomlinson
2. Post Bighorn Sheep Literature on website
  - a. Lead: Carie Battistone
3. Develop Research/Monitoring Online Coordination Tool
  - a. Lead: Database Subgroup
4. Distribute USFWS Eagle Injury Mortality Database Instruction Sheet,
  - a. Lead: Jeep Pagel
5. Send dead eagle data to Jeep to enter (joel\_pagel@fws.gov)
  - a. Who: All
6. Send comments on DFW Database Structure to Carie (Carie.Battistone@wildlife.ca.gov)
  - a. Who: All
7. Devise a mechanism to mine existing data (reports, unpublished data, etc.)
  - a. Lead: ?
8. Draft Research Subgroup Purpose and Distribute for Comments
  - a. Lead: Laura Nagy to draft, Heather to distribute
9. Identify Next Date for Research Subgroup on evaluation form
  - a. Who: all
  - b. Update: Next Subgroup meeting will be held in on Jan 30, 2013, 9-1 at the TWS-WS Annual Meeting. Contact Heather Beeler for details (Heather\_Beeler@fws.gov)
10. Convene a conference call with several researchers to strategize a publication on historical and current status of eagles in CA and NV
  - a. Lead: Carie Battistone to organize, participants – Todd Katzner, Carl Thelander, Pete Bloom, Tom Scott, Loyd Kiff, Dave Bittner, Grainger Hunt
11. Post example of publication for eastern population of golden eagles to webpage
  - a. Lead: Carie
12. Distribute notes from May 2012 eagle meeting at USFWS R8.
  - a. Lead: Heather

13. Review DRECP documents

a. Who: All

14. Crosswalk FWS/CDFW permitting issues with salvage

a. Lead: ?

15. Send volunteer group contacts to Carie (Carie.Battistone@wildlife.ca.gov)

a. Who: All