



STATE OF NEVADA
SAGEBRUSH ECOSYSTEM COUNCIL
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MINUTES

Date: Friday, May 12th, 2023
Time: 8:30 a.m.
Place: Nevada Department of Wildlife
Main Conference Room
6980 Sierra Center Pkwy
Reno, Nevada 89511

Virtual Access:

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Council Members Present: Chris MacKenzie, Bevan Lister, Sherm Swanson, Steven Boies, William Molini, Kyle Davis, Jake Tibbitts, Alan Jenne, Alan Shepherd for John Raby, Lara Enders for Dan Cox, James Settelmeyer, Chris Rose for Jay Gibbs, Julian Goicoechea

Council Members Absent: None

1. CALL TO ORDER

Chairman MacKenzie called the meeting to order at 8:34 a.m.

2. PUBLIC COMMENT

No public comment.

3. APPROVAL OF THE AGENDA - *FOR POSSIBLE ACTION*

Member Davis moved to approve the agenda; Member Boies seconded the motion. The motion was unanimously approved. ***ACTION***

4. APPROVAL OF MINUTES - *FOR POSSIBLE ACTION*

Member Swanson moved to approve the minutes for the meeting on April 28, 2022. Member Lister seconded the motion. The motion was unanimously approved. ***ACTION**

5. COUNCIL MEMBER ITEMS AND CORRESPONDENCE

- A. Member Lister made the board aware that there are a couple of initiatives at play, one in NV Legislature and one at the Federal level, that have the potential to gut the program. Work in constituent areas to amend or kill those initiatives. AB349 set up another conservation program channeling a separate set of funding. BLM Public Land Balance Management Rule. Oppose those. AB349 amended to be useful but not effective as is. Mr. Jenne responded: Have you talked to the sponsor? (no). There is a foundation set up under 501c3, like the NV dream tag, but opened for donation and endowments. We have had individuals set up endowments. There is a process currently, but being a state system, it is not set up for large endowments. This is an opportunity centered around Recovering America's Wildlife Act, proposed to come with the same 3-1 match. Allows for individuals for those endowments. There are amendments that are being contemplated as far as membership, but I don't see your concerns.
- B. Member Molini said Senate Bill 90, which proposes to designate the wild horse as state mustang, is to be heard Tuesday at 9 am. We are very much opposed to that bill because it won't help with the removal of wild horses from public land.
- C. Mr. Rabi stated the Public Lands bill is a proposed rule. June 1st meeting in Reno for public comment. There has been a lot of interest around it. Conservation leasing portion one potential advantage is that provide the same level of certainty for restoration efforts on public lands as currently received on private lands. We need to be very specific as we can about proposed changes to the bill.

6. ELECTION OF SAGEBRUSH ECOSYSTEM COUNCIL CHAIRMAN AND VICE-CHAIRMAN. APPOINTED COUNCIL MEMBERS WILL VOTE ON SELECTING OFFICERS. - *FOR POSSIBLE ACTION*

Member MacKenzie asked for Vice Chair Nominations. Member Molini nominated member Boies. Member Lister second the motion. Member Boies replied, I appreciate it. I realized that after today I am the last original. I think it is time to leave, next year is the end of my term. I don't think I would be the right choice for that. But I am going to suggest a new member for Vice Chair. (Motion withdrawn prior) Jake Tibbitts. Second from Member Davis. Member Tibbitts replied, I am filling remainder of JJ's term, but happy to accept the motion. Member MacKenzie asked to nominate the chair. Member Lister moved to nominate Member MacKenzie. Member Boies second the motion. Member MacKenzie replied, happy to help, but if anyone else wants to do it? (No)

7. PRESENTATION AND DISCUSSION ON UPDATED SCIENCE AND CORRESPONDING TOOLS CURRENTLY USED IN THE CONSERVATION CREDIT SYSTEM. SPECIFICALLY, AN UPDATE TO THE EXISTING ABUNDANCE AND SPACE USE INDEX (ASUI), HABITAT SUITABILITY INDEX (HSI), AND POTENTIAL UPDATES TO THE SEP HABITAT MANAGEMENT CATEGORIES MAP. *Dr. Peter Coates, Research Wildlife Biologist, USGS*

Member Swanson responded first saying the intent is to avoid, minimize, and mitigate. Avoid and minimize is clear that we are putting more importance on source areas. Where there are likely to be credits and how. In those areas that are important, they are important, and we do conservation projects to make things better. Is there a connection between making things better and protecting or enhancing the ability of the right areas to be more source and less sink. That may take a conversation that involves what areas that looks like and what areas are submitting for credits. What are we doing through our program to help sage grouse and resiliency of the sagebrush ecosystem? Dr. Coates replied, I think that is to be shown by the SETT on calculations. But these indexes are modeled responses. So, if we simulate the action, we can model the change and that gives us a value on the uplift for that population, which can correspond to the projects that are happening. In Phase I conifer, selected by grouse, but now it's an obvious sink, when you cut the trees and rerun the model, that can convert to a source. Another example is sagebrush restoration following wildfire using resiliency and resistance of the landscape. Predict in the future what the improvement is on the index scale. Anything you can come up with, the index can inform. Some things like fences and powerlines become a little more challenging as they weren't in the model. Member Swanson responded, are we getting those kinds of things to happen through our credit program, or could we? Mr. McGowan replied if these tools are adopted, they are going to improve our ability to identify the impact more accurately and on the credit side, be more surgical where credits are developed and create uplift. We are working with several debit proponents to identify areas on public lands to offset their debit amount. The model was great where we began but it was more habitat based. Everyone has seen the population numbers. They are in decline. We need to try to

have an impact on populations as well, not just habitat. And these tools are going to assist us in more effective conservation on the ground. Dr. Coates replied what that does is serve as a multiplier of the quality of the habitat. We are not losing any variation on the habitat, but the biggest improvement is bringing the population data, which allows us to differentiate habitat where there are no grouse with areas where there are grouse.

Member Boies responded saying you mentioned survivability by agricultural areas. You have data that says they have a lower survival in irrigated areas. We have seen extreme drought in the last few areas. If they didn't have those ag areas, I don't know if they wouldn't survive. We saw the broods later in the season where they were half grown. I am not sure where this is going down the road. I can see more predation in those areas. I am concerned. Dr. Coates replied there is a lot of variation across the state on impacts of ag fields to the grouse. How many pivots make a difference? We didn't see a survival effect with one or two pivots. With multiple pivots stacked together, they become a more hazardous zone. With water at the lower elevations, they also might not move up in elevation as they should without the pivot there. But we are seeing the more ag fields together, ag field density, it became very strong to have a negative effect on survival. Few ag fields and no water in upper elevations can be helping those grouse, but more ag fields are not. Mr. Goicoechea asked what is that interface with sagebrush close by or terrain close by. Did you tease those out? Chairman MacKenzie asked What is your confidence in more range wide impacts like weather. You might update these every couple of years. What if we have a wetter winter that brings more birds on the landscape. Is this a trend or more a snapshot? Dr. Coates replied, the model parameters are more interested in factors, the amount of sagebrush might remain the same, but the influence on sagebrush might change with the amount of precipitation. If we are to take dry years only, we won't have a reliable prediction. What we have done is collect data across decades to capture both, so the generalizations we are making are more for a general outcome, not from dry years, not from wet, and how the birds respond to them. Everything always gets better over time; we are getting better with weather on a spatially explicit scale. There are refinements in the future that can be useful, but it gets complicated when you try to see all the variation in all the maps. Chairman MacKenzie responded we are getting less general and more specific. Seems like you must stay on top of it every year, and there is more room for error year to year. Dr. Coates replied we are getting more specific spatially, but we are taking more time.

Member Lister responded saying it's a model, dependent on inputs. As in any model, it's a generality. We are doing things to make it more site specific but it's a generality. It's a big state with a lot of different factors. It's hard to create a model that follows specific changes in specific areas. When data is agenda driven, then the data will reflect that agenda. My experiences with agriculture are different. I have agriculture. One is a leftover for sage grouse, the other is in the heart of the best sage grouse in the world. So, you talked about predation based on density. The first unit is in a dense area of agriculture. The second is more isolated but I had more predators in that area than in the first. As far as agriculture being a sink, I've heard this for a while. My personal brood, she had 8 chicks, she graduated 5 at the end of September, but I see that on a regular basis on my fields. There was never a sage grouse on that site until 10 years after we started farming. My point is models are based on data. Dr. Coates answered Member Lister, saying there was an agenda. That was to capture, in the most rigorous manner, the landscape and the spatial variation out there and test it and go with the outcomes that the data expresses. WE have validated the data. The more generalizable the model, the more predictable the model becomes if done right. We have validated these models. Yes, there is a lot of variation as far as ag fields. We have many papers describing ravens and raptors in urban areas. We have established relationships on the predators and the impact on nest survival. We are willing to look at any variable anyone has to offer. It's a collaborative effort. We would like anyone to present information in a spatially explicit manner that we can test.

Member Tibbitts stated we are often reactive based on projects being proposed. When we go out and collar birds, we find more leks and more information. How nimble can we be? I'd like to find a balanced way to allow projects on the landscape while not hurting the birds. How can we adjust the tools without holding things up. Dr. Coates replied 1-5% of leks are unknown. There are a lot of lek searches to find these leks. In areas we are losing leks, we see new leks established. It takes a few years of repeated attendance to establish new leks. The more dynamic the process, the more useful the process. Every couple years of updates are good. Member Swanson responded these sink areas are a problematic place to invest. These sink areas are attractive if we can make them not a sink. Temporal changes, we can't really have a map based on precipitation, as far as we know it is to reflect an average, so we don't worry about that. But other things change through times that are predictable. Like trees grow. After a fire, we can predict whether we can get back the sagebrush. Returning to sagebrush is a slow process. At what point is it sagebrush again. Some publications talk as if this is a yes or no, but it's more a continuum. At some point an area that is a sink can become a source and investing in that where it can do that better or investing in places that are to become a source habitat can be useful. I realize we must use the data we have, but as we think about this to manage the CCS, at what time are we to be contemplating a change where we fully recognize a problem of a sink but also the opportunity of a source. Dr. Coates replied that is a question for the SETT about debits and credits but converting a sink to a source can happen fast or slow. We are working on measuring that and how

quickly the population responds. We are seeing a strong recovery of sagebrush after 4-5 years of seeding and a response on populations nearby. Using that information may help to quantify the process and what actions merit continuation. We do have models that predict success.

Mr. McGowan stated I think the real upside to a credit project is the annual monitoring that goes with it so we can see over time and have measurable results in 15 years when they must rerun their analysis, assess the recovery from a sink to a source. The annual monitoring should be able to indicate success or failure visually. How long does monitoring go on and how effective is the application. And how do we learn from it? Upside to credit system and any projects on public land will have that requirement so we can feed the model new information every 3-5 years. Member Boies asked you are using inventories? Dr. Coates replied the information coming out of the model, we have predictions of abundances that go into this model. Member Boies responded I want to bring up concern about when we start down that road. We have areas with very good habitat. Critical habitat. And still populations trending down. My concern is that this data is going to be used by others and that management changes are proposed in areas with good habitat but low population numbers and does not reflect what is happening on the ground. Just because the pop is going down doesn't mean the habitat isn't in bad shape. Dr. Coates replied drought comes into play, but also other factors such as predators. And a cumulation of these factors such as drought and increased predators can impact these populations. Where those areas are, because we are using the HIGHEST population number, we can know what to expect in that population. I haven't interacted vegetation with climate and the dependency between the two, but that takes a lot of processing, a place to go in the future. Thinking about the variables that go in this. It's important to understand the process behind the variables and split them. How does a mesic area impact sage grouse? And combine all the mesic areas. They all function differently, and if we fit a model, we aren't going to have a strong effect because of the variation. Same with sagebrush impacts on sage grouse. Big has a different effect than low. What we are trying to do is parse out, what we can do is tease out the garbage to delineate all the variables as best as we can. Using the best layers that we have. Not focusing on one single layer but looking at the predictiveness of these models to come up with the best variable. This causes refinement and shows that some are more hazardous than others. We are just messengers of data. That's what the grouse shows after years of data.

Mr. Jenne responded you look at the assimilation of all this data and I think about all the refinements in management and contemplation in the avoid minimize and mitigate. We need to think about those low success, low survival places that are going to be categorized in a scenario that we scratch those out. Focus efforts on areas that are important. This is a better refinement. If we are trying to contemplate the best science, this is what our science at the beginning leads to. Everyone knows Pete's reputation. He is one of the top sage grouse scientists in the world. The testing he is doing, he is trying to get to that predictive piece of each variable and grabbing your data to see if the model agrees with your data. He has tested this and backed it with real data. I think to that point, we have been moving this way, before, it was cutting edge, but this is more refined. There are benefits and downsides, but it is good overall and only going to get better.

Member Davis asked how do you determine the cause of population impacts. If something is a sink, does it show why it was that way? Does it look at that? Dr. Coates responded yes. The underlying process is to take a measurement of the bird on the landscape compared to various factors. The regression model highlights the cause and effect. We can assume, which is what we do in the sciences, and we can look at the variables that go in and show the probability of that variable. That allows us to diagnose the problem, look at the sink areas, and find the cause for the sink and run a simulation in the model on a conservation action to uplift that back to where we want to be. The model allows us to diagnose, treat, and measure outcome. Member Davis replied we are talking about these concepts where you have use from the birds, but it's not actually productive. I am trying to figure out bad habitat seeing use, but good habitat with no use. What is the possibility there is use in that good habitat and we just haven't found it. Dr. Coates replied that we are not seeing good habitat not being used if the birds have the ability to use it. Member Boies talked about declining populations in good habitat. They are using it, but their survival is declining over time. If you look at the flexibility of this bird, it is pretty rigid. It doesn't adjust to changes as well as others. It hasn't evolved in landscapes that change rapidly. When you have a changing landscape and a bird that doesn't adapt well, it's going to make bad decisions. We are seeing a lot more potential looking at population performance as a metric for habitat suitability. Member Davis responded seems like there's a lot of reliance on the use of lek counts when figuring out these trends. When we are talking about managing these populations, we want the right data. Dr. Coates replied that lek counts do give us good information on how many show up on a lek, but there's an issue with visitation rates and an issue with counting ability or observer error. We are working on standardizing that. We bring all the rates into our model. The model looks at the variation and allows for error in there. It accounts for the uncertainty, but we are not making definitive statements on what the population is. We then get a confidence limit for those estimates. This is a massive opportunity that others who work on other species don't have. We have it easy that we have those data where they come out and let us count them.

Member Tibbitts stated I hear what Bevan and Steve are saying and I see a danger in the messaging that people take in that information. There's usually an abrupt edge between source and sink. Is a pivot better than a subdivision? I think there's a danger in projects who cite this map to show where it's good to put a project, but it's right next to a source area. It's such a complex thing to look over. I look at farm areas. We have 30,000 acres in Diamond valley. Those are going to have to go away at some point. What are we going to do with those fields? It's a complex thing. I do see a big unintended consequence to pushing projects to these sinks. Dr. Coates replied the image I brought up is to demonstrate the effect, but there is a lot of variation across the landscape. I am simply showing the concept here. If you are taking a good ag field and put a development in there, you are going to get a different response, you are going to have a no habitat zone, not just a sink. We see a lot of variation and you can do a lot around the ag field to make it less of a sink. There is a lot of fruit for research there. If there is not a lot of water in the uplands, then ag fields. We do see areas that are drier, birds in ag fields. There is nothing definitive, it's a continuum and those effects exist. Member Molini stated I think what you are doing and what you have done is an immense step in the right direction. Is anyone looking at insect availability? Dr. Coates replied there are papers published and data being collected about that. It's showing up to be another hot topic. We are marking birds and tags on chicks, and we are looking at bugs at burned and unburned landscapes. Mrs. Enders replied what you presented here is the science and now we need to take those pieces and decide what management should occur. How it plays out in the Credit System, how to take this and turn sinks into sources and what areas are not going to be used long term.

Mr. McGowan responded saying this is a good indicator as a day in the life of the SETT. We sit around the table daily about each project. We do spend a lot of time on credit projects. We want to achieve the greatest benefit from these private lands. Uplift is challenging. We do discuss that edge where the private meets the public and how critical that edge can be. You can have the best meadow but if your edge isn't good... We don't want to create good edges and draw them into a sink as well. If we can get a graduate student to inform us on these ag fields what can be done to make them beneficial. Can we leave an outer layer? Not mow it or mow it at a higher height. These are things we all understand have benefit, but what can they do to increase biological values. There's no real black or white. This is one of the many things we consider. Having Pete and the information that feeds into these models helps us narrow the grey area. It benefits anyone interested. It doesn't matter if you are a project proponent, having this level of information is helpful. We are going to have to get better at trying to achieve avoidance and minimization and mitigating residual impacts to accurately account for impacts and getting the same values on the credits side.

8. REVIEW THE UPDATED SCIENCE AND THE PROPOSED IMPROVEMENT TO THE CONSERVATION CREDIT SYSTEM'S HABITAT QUANTIFICATION TOOL. CONSIDER ADOPTION OF UPDATED SCIENCE TOOLS, SPECIFICALLY UPDATES TO THE ASUI AND THE HSI. ADDITIONALLY, CONSIDER FOR ADOPTION THE METRIC PROPOSED IN THE CALCULATION OF CREDITS AND/OR DEBITS WHILE APPLYING THE UPDATED SCIENCE. - *FOR POSSIBLE ACTION* SEP staff

Mr. McGowan presented to the Council. Member Tibbitts responded to the Tower example, survival index is built in, does this take into account design features? Survival has a lot to do with subsidies. Mr. McGowan replied not in this specific example but we do take that into account on a project by project basis. We have had examples of such in the past with minimization measures. Member Boies stated for credit projects, a project that has more leks closer, there will be more credits. There will be more value. Mr. Small replied it will put more emphasis on areas with leks. Member Boies asked can a person go back? Ms. Petter replied with a new uplift project yes, but not for an existing preservation project. Mr. Boies asked why did one drop (lost two leks in the vicinity in the update). Ms. Petter replied new uplift is an option to incentivize uplift if this is an increase. Member Lister responded I am having some misgivings about wrapping the new data into our processes. I understand modeling and the benefits of modeling. But nothing can replace that onsite visit. If we incorporate another modeling technique into our system, it leads us further away from that onsite data gathering. Mr. McGowan replied be assured people that modeling is not taking the place of onsite data collection. That is still a major component. Take these values with a grain of salt. Ms. Petter said almost all have field data incorporated. Mrs. Enders replies the HQT already includes pieces of these, but with new science. Help clarify, the process is already in play, just subbing in new updated science. Chairman MacKenzie asked do we have concerns about a general application, do we have possibility of losing places for future habitat for the bird? Mr. McGowan replied it shouldn't. What this really does helps us ID the core areas and doing what we can to protect them, moving out from those core areas and implement conservation activities to grow the core areas. What it will represent, if you are a project proponent, and you want to put in something on a site with low value, it is going to indicate that. Conversely, if you are a credit project proponent and you are far from leks, your values are going to reflect that. It incentivizes what we are hoping to achieve, which is to effectively mitigate to get the credits in the right place.

Member Davis asked what's the practical impact as to what this is doing? Are we essentially creating a situation where this could have debits that fall. (yes). Mr. McGowan responded saying site fidelity factor. Once you reduce lek populations significantly, they are going to be challenged to persist unless there is a source nearby that continues to feed the population. This is not to discount habitat that is more marginal. It puts a higher inference on core habitat and connectivity. It's a tool, something that should be revisited as we gain more data. Dr. Coates replied saying it does appear that there are tradeoffs. Weighing the advantages and disadvantages. The old may be undermining the most important populations that have profound impacts across the landscapes. Affecting one main lek might affect leks around it. Whereas the new layer will debit those more and get to the philosophy of protect the core grow the core. We are incentivizing projects in marginal habitats, but those are marginal for a reason. The development needs to be somewhere. The purpose is to coexist, and we have the information now to inform that decision. Mr. Small backs up Dr. Coates by expressing the intent of the update was to assess and interpret these larger scale impacts and lek clusters. If you reduce these larger lek's lambda, you reduce their ability to feed source populations, and when you stratify that across time it will have a greater effect than reducing a smaller non-source lek lambda. For Example, reducing a 100 bird lek by 10 % will have a greater impact overtime vs a 10 bird lek by 10 %. Dr. Coates replied saying these birds are maxed out, there's a maximum growth rate with good conditions. If the project is preventing them from hitting the max, that means more to populations of smaller sizes vs pops of larger sizes. The abundance impacts are what is happening. If we impact lower abundance, then that has a lesser impact as a whole.

Member Tibbitts responded my perspective is incentivizing avoidance is our main goal. We want to decrease the number of debits overall to provide more information on siting. The fate of geography exists. You can't change where the mineral deposits exist. I would hope that we won't just look at this and increase the debits but incentivize people to move to lower their debits. Mrs. Gabor stated this in a vacuum. The Land use plans are multilayered with protections on disturbance caps and design guidelines. This is the backstop. We have all sorts of provisions, and we need to relook at them. This is the final impact step after a project is allowed. Member Boies replied in the beginning I proposed the question, are we ignoring the areas close to disturbances but not impacted those areas? Mr. McGowan replied saying none of us has a crystal ball and we talked about leks that don't persist, but the habitat is in good condition. We need to be careful about the tools we use that say this area is disposable. Can this be retrofitted; can we lower the impacts? Whether it's fire or anthropogenic that has degraded the value of the habitat, we don't exclude it, for there may be opportunities in the future to improve the habitat. We shouldn't discount what can be done in the future to reduce the impacts on the landscape. Back to presentation. Two partners, science, then metric. Mr. Small replied Mine 2 with a high lek cluster and the increased debit amount shows that, on top of a lek cluster and a few source leks. The lower numbers show that they are near to more isolated leks. It gets at the avoidance question, what can we do to put in more avoidance to lower those debits. Mr. McGowan replied hopefully this is going to be an opportunity for more redesign scenarios. We have seen debit impacts if they relocate a disturbance or bury a powerline. This is a powerful tool to identify those opportunities. Member Davis asked so that doesn't show up in the old science. Mr. McGowan replied it does, just not as pronounced. More general. Member Lister responded saying we have been at this a while, and we have gathered a lot of data. So, when a proponent comes with a project and there are impacted leks, can we say XX is the limiting factor of that population? If we cannot say what the limiting factor is, are we just throwing mud at the wall? Mr. Jenne stated being able to represent the impact is the goal of the System, not getting to the limiting factor. That may be thought about on the credit side, but on the debit side, it's representing the impact itself. Member Lister replied I see that, but we are assessing the potential impacts to the habitat, but not the population because we don't know what the population is being limited by. We have good information but how is it going to help the bird on the ground? We can look at habitat potentials, but if we don't know what the population needs it's throwing mud at the wall.

Member Swanson replied saying we have a CCS that on average gets it right, but doesn't change how it is applied from one to another to another. Hopefully it's going to accomplish good on average. Agencies spend money to fix the limiting factors because you can be more tailored. Can we be more tailored on average? Mr. McGowan replied I think to some degree, there is opportunity. We have tools and threats and opportunity, I know today we are focusing on the CCS and how it's calculated, but for each project, we should be looking at predators, fire rehab, PJ, whatever the threat. We just need to understand there are certain projects that even when they are designed well, sited well, minimized, extirpation is going to occur. It's just the impact of a source lek. It's not just the main lek but also the satellite leks around it. If the population declines to a point where it's not sustainable, we are going to lose them. These products are to pick up on that. When there is a significant impact authorized to proceed, we need to do the best to offset it. Member Swanson stated on average we need to get it right. Everyone else is working to conserve agriculture and ecosystems. Member Davis replied saying the example you gave, a project that there are other factors that could impact the population, but this project could cause extirpation. There are a number of other factors. I think the short answer is that we don't know that the project is causing. Mr. Jenner responded stating we have a map; we have a habitat and data on how the bird uses the landscape. The

bird is telling us where to focus. If you had a dollar to preserve sage grouse in the future, you aren't going to want to throw it at a sink or satellite lek. You are going to want to bolster that source lek that contributes to the whole landscape. I think this does a good job to point out areas for sage grouse management to discuss those other threats. We will use it for that. Member Tibbitts replied we have a state plan, the CCS is part of the state, adaptive management process, those things get to causal factors. What can locals bring to the table to do something about it? Hopefully we can work together to make the state plan work. Mr. Shepherd responded saying the key thing is that we all must get on the same page looking at the same map. We have followed the 2015 map forever at the BLM. We updated only 2 years ago to get to the 2020 map. These maps, working with Pete, are going to play into our current planning effort. How do we take 2015 science and improve it to 2023 and do the best we can. Like Alan says, we all must get to the same point and look at the same piece of paper. What Pete has is a much more improved piece of paper to talk to proponents with, whether improvement or avoidance.

Member Tibbitts replied I think science is great. It's about going through the state plan process to ID what we can approve and find that common ground. Mrs. Gabor replied there are multiple processes going on. With any project that comes to the SETT for the Avoid, Minimize, Mitigate hierarchy. Can the project be done, can it be adjustable, if not, that's where the final debit calculation comes into play. I think this process is hugely important to have that conversation to avoid mitigation. \$57m in the forest service is on the ground for fire protection. There are multiple ways this will be used from direct discussions about siting sometimes we have discretion and sometimes we don't. I don't want to beat a dead horse, but these processes all work differently, I can see this being used like that. Mr. Small replied I appreciate what Mr. Shepherd said, where he described the modern world. There is a model that Pete did with the geothermal plant showing the effects through time for the McGuinness project. A dataset funded by McGuinness and a lot of that data is going into these maps. On a larger scale a lot of these effects are hard to pick up, but when you are impacting a larger lek cluster at the local scale, those effects are so overwhelming you cannot pick up the larger spatial effects until you move quite a distance away. Dr. Coates replied are we throwing mud at the wall, what effects are out there? What we are doing right now is producing indexes as tools for decision making. Behind it is research on those effects. We do have a lot of information out there. We are looking at changes of lek number, etc. We marked a lot of birds at McGuinness for 10 years to decipher what is causing reduction in lek numbers. Lek numbers are declining in relation to anthropogenic subsidies. What we found is that a lot of the birds that were in the site prior to the activity were in source habitat and they were growing even in drought years. Some of the habitat can be so good that grouse can persist even in drought years. Tracked them through time and looked at nest survival, etc. Demonstrated that the plant itself was contributing to the reduction of survival and population reduction. It formulated a clear picture that these populations are declining purely related to distance and topography to the plant itself, to demonstrate the cause and effect of the impact. Replicated that across the state on a much larger spatial scale. The distance effects are coming out identical to that one site. We are going to publish our results, but it shows the validity to that distance effect. Now we can create a distance index to use as a tool. These birds have a carrying capacity on the landscape. What we are seeing with trend models and a sagebrush integrity index, taking political boundaries away and allowing them to be defined by sagebrush, we find growing populations in the high integrity areas. When we add these anthropogenic disturbances, it lowers the carrying capacity and lowers the integrity and populations start going down. In northeast NV there are growing populations where there hasn't been a lot of disturbances to sagebrush integrity. With all that data, I think there is enough rational that distance to that lek is capturing the effect of carrying capacity.

Member Davis replied asking Dr. Coates you have carrying capacity and you are seeing it go down with anthropogenic disturbance, do you see the same with higher levels of horses? Dr. Coates replied these are dynamic pieces in the landscape, but horses can be included in the model, just at a larger scale. We are getting better on capturing that and understanding how much over AML makes an impact. Ravens are another one, but we have more information on raven densities. We looked at ravens in the models. When ravens get high enough density, they negate the topographical impedance benefit. And anthropogenic creates subsidies for the ravens. More improvements are needed though. These are dynamic processes, but we can capture them in a static sense. Member Davis responded saying the numbers of horses and ravens have gone up. Mrs. Enders replied three decisions? 1) New Science subbed in the new layers 2) Increase the value of conservation in higher population densities – Lek importance metric debits 3) Same with the credits. Member Molini moved that we adopted the proposed metric for update of science. Member Swanson seconded. Member Davis responded these comments are going to apply to all components. My big issue is the practical impact that it has is going to increase the cost to projects, sometimes significantly. I am not sure I see a meaningful positive impact to sage grouse. This is going to give a lot more value to proximity to leks. Is there an imbalance between the debits and credits in the system, especially in a world where we aren't doing any projects on public lands. There are a number of impacts that we can see to the state if these projects can't move forward. There are leks where there are no disturbances, and we still see a decrease. Members have told me about cases where there are leks near projects and we lose those leks due to other impacts. Heard in the discussion that the current model drives modification of projects. This does show up with current science, you do

see an incentive to move your projects to make the debits go down. The only impact is to increase that debit requirement. The big picture in terms of what that does to populations of sage grouse, improved sage grouse numbers and habitat, etc., if we are going to make this change, if we aren't going to see a benefit to populations then this won't move us away from a listing.

Mr. Goicoechea replied go back when USFWS decides to list, last time it was lack of regulatory certainty. We are zeroing in on anthropogenic disturbance, those partners when we do get to public land projects are going to be putting the money on the ground. Member Swanson replied given concerns and what Lara said, I would like to say what I think is an ideal outcome is not more cost to industry but a continuation of cost to industry motivating enough conservation to get on average a little bit of gain. Provide enough incentive to ranching and other landowners to accomplish good on the ground to provide net gain. The CCS is taking a huge amount of time and yet not changing the major impact to sage grouse. We have avoided the cap. Ideal way is to keep things even so that the industry isn't paying more but some in priority places where we can award conservation in the priority places. We didn't get a recommendation. Which way can we do this so that we end up with that balance and the prioritization of the locations so that we are getting the SMART science to inform us where to put our dollars and that we are doing it in a way that keeps the program moving to keep doing what we can do and not worry about what we cannot do. The SETT created these tables, what do you recommend? Mr. McGowan stated I've always been proud to be affiliated with this program and this body. I am glad that we don't have to make the decision in house. One of the things that I will say that I am proud of is that we have always gone with the updated science and the expert advice, and the tools and we work with the science working groups and scrutinize the tools. I think it is imperative for you guys to strongly consider adopting the new science. The metric is a little different in that the tools work well replacing the old tools. What gets underrepresented is that impact to populations and that's why the metric was created. To get at both debit and credit side. But I will say, the adoption of the tools does give us a fair account of habitat suitability, abundance, survival, and a new market system. Member Swanson replied we need to do this and what keeps the integrity of the market. Which scenario is going to be workable for the SETT but keeps the integrity of the market? Mr. McGowan replied the 1:1. We are not going to do this retroactively. Yes, there may be a higher demand on credits.

Member Molini responded if we just adopted the science, I don't think that gets us to where we need to be. I understand the economic wellbeing of Nevada, but we are here to ensure a future for sage grouse. This improvement gets us there, makes a step to ensure the future of sage grouse. Member Swanson amended motion in addition to using science, use the ASUI and the 1:1 for credits to keep the parity. Member Boies replied we have a lot of credits not sold. I don't see this big concern for not having enough credits. I live in an area where there were projects, and the leks blinked out. I have difficulty here being too worried about a power plant spending a few million for sage grouse habitat deciding to not put it there. This does get at science and direct dollars to the important areas. As far as the credits are concerned, we haven't sold them all yet. It's a balance, but we are at a place where we are looking at a listing. Chairman MacKenzie responded to Member Davis, I hope you aren't advocating getting rid of the CCS completely, because these are factors are already incorporated. You proposed to increase debits, we aren't going to do that, so you came back with credits. We need to incorporate science but how is it going to impact the proponents and be careful how much impact we put on industry. We cannot just say ignore the best available science. But how to do that so industry isn't hurt so badly. Incorporate the science but figure out how it has a fair impact between credit and debits. What is the best option if we are making it fair across the board. Mr. McGowan replied that is the challenge. If it were the new science plus the metric. Dr. Coates clarified by just adding 1 to the ASUI, it provides it as a multiplier. So much of the landscape is a 0. If you were to multiply the HSI with ASUI, then all those values become 0. The 1 allows the value of the HSI, back to using the HSI, and the population level effect, adding a better multiplier on the HSI that allows equal impact to the ASUI and HSI in areas with proximity to the lek. You can also divide that metric by 2 if you wanted to provide more weight to the habitat and not the population. Where's that balance? The science is there, but there are ways of juggling the implications of the science. Right now, it's treating them equally. Member Tibbitts said if the new science and metrics were in place from the beginning, maybe projects would be designed differently. Without looking back and not knowing, we aren't sure if that is indeed the increase. Member Lister stated on the motion at hand, I trust Dr Coates's work and knowing of his intensive scientific mind, I have no trust in the population data that has been supplied, as it has been supplied by an environmental advocacy group that hates agriculture.

Chairman MacKenzie moved to vote motion: three ayes and three nays. Member Tibbitts stated I don't feel comfortable adopting this at my first meeting. Member Swanson responded the examples show that the projects are not randomly distributed across the source sink scale and there is no impact plus or minus. But maybe there is. Member Davis replied one of the points that I made, our projects are theoretically located throughout Nevada, and the credit projects exist on private lands. The other thing I was going to say I learned a lot from the discussion. There may be a way to figure this out, but I want to go back to do more research. Chairman MacKenzie stated vote no, motion does not carry. Further discussion.

Collaboration part is very important. Member Swanson asked can the voters propose a motion that is comfortable for them? Member Tibbitts replied wait until we have a full board and full team for the appropriate representation. Member Davis replied agree. I think about when we had this discussion, where we are right now, what is the timeline in making the updates and what is required from a staff workload perspective. Mr. McGowan replied we didn't miss the season. When folks go out and collect the data, that is the data collection window. When they submit it, unless their management plan is signed or the QA is completed, within 90 days they are locked into the old system, outside of that they are subject to the new version. On the second part, we already have the tools. It's not a challenge to implement. It depends on what is adopted. As far as implementing it so that it is operational, we have already done the work. Member Swanson asked do we know what we don't know?

Mr. McGowan asked you are concerned about a fully appointed board, then we can't move forward until then? Mr. Small said there are few things currently happening that are taking the Governor's attention. Member Lister responded I fully support the use of the best science. And the 1+ on the debit and credit systems, my point is that I don't trust the input into the science. If I can be shown that I am incorrect or that there is some reason to change the opinion, then I can change. There are numerous ways to play data. Mr. Small asked are you talking about lek counts only, because there are hundreds of thousands of both UHF and VHF telemetry points from USGS used to train and verify the model. Dr. Coates replied the map product, the HSI suitability layer has no lek data input. All telemetry and locations collected by satellite. We do have VHF location, but as far as where the birds go, the satellite grabs that. The USGS has collected multiple data working for various agencies, and we have a lot of datasets from universities and grad students, and there is no real direction where this data comes from and where the birds go. Where the birds are is where they are. If they end up in riparian, ag pivots, or trees, then that's where they end up. We have devoted a tremendous amount of resources marking and gathering this data. The lek data is updated from NDOW database. The ASUI is formed by that database. That's not driving the HSI, which is the biggest response from the old model to the new one is from telemetry. The lek counts are captured from NDOW, USGS, consultants, volunteers, etc. Our goal is to capture every lek out there. It's the most comprehensive database out there because of the state's efforts. The data in the state of Nevada is solid and other states are using this data as a benchmark for their own data. We do data releases, and you can dig into the metadata. Open book and I can bring and show you the data and what projects were collecting it.

Chairman MacKenzie replied saying get one more person on the team. I would like more time to look at the options. Member Molini replied since the motion failed, we have no choice but to delay this. Member Davis responded worthy of a discussion at a future meeting. New things from the staff. Running some numbers with some different options. Maybe half. Mrs. Enders replied there are two decisions. One is updating science, and the second is a knob turn. Understanding the datasets and their integrity. Chairman MacKenzie said don't want to abandon best available science but wait for another person or two. Member Tibbitts asked what does it mean on the ground? Member Lister replied it's not the staff but doing our homework and our understanding. Dr. Coates responded saying I think Lara is exactly right on the science. And then what to do with that 1. What that is doing is giving equal weight on population and habitat. That can be adjusted. Dividing the 1+ASUI by 2. Chairman MacKenzie replied bring it back when we have a full team. Member Swanson replied how much is a change going to affect the value of the credits already developed? How much is the change going to affect the debits? How do we do this in a way that doesn't penalize those who came before? Chairman MacKenzie responded it doesn't. It should be an equal increase and decrease. Mr. McGowan stated it is easy to just take the science. Then you start talking about the values of credits and debits. Public land credits devalue private? Not being seen. It takes risk to develop credits through uplift. Member Boies replied if we don't have enough credits to move projects forward some projects may not do so. Mr. McGowan responded for the first time, the anticipated debits exceed the amount of debits in the system. It's not a chicken little moment. We are already working with a number of project proponents to plan for the development of projects on public lands. We are trying to get them prepared to do this uplift on public land. It's a good pilot study to see what the cost is.

9. REVIEW OF THE JANUARY – JUNE 2023 SAGEBRUSH ECOSYSTEM PROGRAM'S SEMI-ANNUAL REPORT TO THE GOVERNOR'S OFFICE. THE COUNCIL WILL CONSIDER APPROVAL OF THE REPORT. *FOR POSSIBLE ACTION*

Kelly McGowan, SEP Manager

Member Lister moved first and Molini second to approve the report.

10. STAFF BRIEFINGS AND UPDATES TO THE COUNCIL

- A. Inter-agency mitigation planning with proponents
- B. Meeting with industry to review CCS policies and NAC 232.400 – 232.480
- C. Outreach/review with public land management agencies the CCS and Mitigation
- D. 2015 Greater Sage-Grouse amendment requests

Mr. McGowan reported projects that are in NOI and projects push to amend the requests. Member Davis asked to explain. Member Lister asked in that last bullet, is the greater sage grouse amendment out yet? (Process has started just not out yet). Mr. McGowan replied potential for a solar classification review and changing that to 100% site scale direct impact. Currently 25%. We probably won't have sage grouse nesting under solar panels. Within the actual footprint, we believe it is common sense to consider the impact to be 100%. Mr. Shepherd responded saying there are some proposals in Southern Nevada regarding solar where they are not grading it flat. They are looking at areas where they are looking at leaving shrubs.

11. FEDERAL AGENCY UPDATES AND COMMENTS:

E. US Fish and Wildlife Service

Mrs. Enders reported the Field supervisor position has been vacant. Still is. The bistate listing decision is up again and proposed as listed. Submitted a federal register document for comments. Through the final rule process for that with a goal date of May 24. Public meetings this summer to work on the conservation strategy 2.0. FWS received bipartisan infrastructure funding. \$1m per year. 27 projects in, won't be able to fund all of them.

F. Bureau of Land Management

Mr. Shepherd RMP modernization process is on hold but receiving some funds through the inflation reduction act to help with baseline studies to move it forward. The national sage grouse planning effort led by Washington office HQ is proceeding. We are having Tuesday the 16th is the next CA meeting with the counties and state agencies. Pete will be presenting the population modeling and mapping efforts. Identical to what he presented today. Following, on a 2-week interval, we will be holding cooperators meetings to keep looking at things and advancing that. Each state is doing the same with their cooperators. Our national leaders are attending all these meetings. Solar and wind coming in a lot around Greenlink west and north. Battle Mountain is the worst, but it is spread out. The draft for the EIS for Greenlink W is coming out around August. Lots of energy and infrastructure. Number of mining applications in the works. Doing 6 gathers this summer, July through Sept. 5000 horses for the summer. Member Swanson asked how much population growth this year? Mr. Shepherd replied depends on the counts, out on the range, maybe drop maybe rise. Winter was hard. Public lands rule was announced 45 days ago. New proposed rule in the BLM for a framework for conservation and preservation of lands in the BLM. 75 days for public comment. 45 days in. 5 public meetings set up in relation to the proposed rule on the 15th, June 1st in person meeting in Reno at the Reno convention center. June 5th another virtual meeting in the morning from 9:30-11:30am mtn. It's for the betterment and support for what groups like this are trying to do. To expand and improve the habitat. ID priority areas. Unsure what a lease would look like. Ask those questions at the virtual and public meetings. Not intended to limit development and existing rights use. Mr. Goicoechea replied saying culverts, those will not be able to continue when not consistent with the conservation lease. Mr. Shepherd replied we got this at the same time as you all did and are asking the same questions. How is it going to affect our people. Is it going to impact what we can do in restoration? The most positive aspect is the keying in on restoration and give legitimacy on putting money on the ground. Federal, public, or private.

G. US Forest Service

Mrs. Gabor reported USFS has not started any new plan amendment process for GRSG. Aerial herbicide application NEPA, NDOW and NDA CAs on that. Notice of proposed action no later than mid-June. Contract NEPA out. Decision by early October. Wildfire crisis strategy. Sierra front and Elko front. Working with UNR for an internship. Working with agencies for priorities. Competitive opportunities, community wildfire defense grants. Hope to get that this year.

H. USDA – Natural Resources Conservation Service

Mr. Brooks reported waiting on a permanent state conservationist. Taking applications for FY24 for Farm Bill and IRA projects. Working on agreements with partners to increase capacity and boots on the ground. Work with the SETT to target private land.

I. Other

12. STATE AGENCY UPDATES AND COMMENTS:

A. Office of the Governor

NA

B. Department of Conservation and Natural Resources

Mr. Settelmeyer reported we have hired new people in forestry to convert prison crews to full-time, not seasonal. Fill SETT program manager position. 26 days left in the legislature. Reach out to the governor's office on appointments. A name has been put forth for energy. Reach out if you have a name for tribal.

C. Department of Wildlife

Mr. Jenne reported they hired a new habitat division chief, Mark Freese and game division chief, Sean Espinosa. Mr. Espinosa reported lek counts have wrapped up across the state. Attendance was up for most of western Nevada and N of I80. Austin to Ely looks down. Eureka and White Pine down. White pine had severe drought conditions and no monsoonal flow. Inactive a lot of those leks. Bistate, saw a good increase over last year. California leks are reporting the same. Indicate a higher-than-average winter survival. Also working with technical advisory committee to revise the 2012 action plan and working on that the remainder of the year. Mark Ono on raven control. USFWS places over 6400 egg baits. Monitoring those baits and what has been taken. Only 786 have been returned untouched. Monitoring raven numbers through raven survey transects. For what can be done on raven control, be done as comprehensively as possible.

D. Department of Agriculture

Mr. Goicoechea reported coordination with Elko and Sierra Fronts, emergency detection and response is ongoing. Reminder that they can certify weed free material. Second seed purchase for the foundation seed program. Noxious weed projects award up to 30000.

E. Other

NA

13. REVIEW OF ACTION ITEMS AND FUTURE AGENDA ITEMS DISCUSSED DURING THIS MEETING AND SCHEDULING NEXT SEC MEETING - *FOR POSSIBLE ACTION*

Mr. McGowan said Tour next meeting, Martin Fire. Half day meeting with guest presenters and afternoon, run to Nevada Lithium Thacker Pass, and then the next day tour the Martin Fire. Wildlife Services regarding raven taken, Fire rehab efforts. Chairman MacKenzie stated thank Kelly for all his hard work! Mr. McGowan gave an exit speech.

14. PUBLIC COMMENT

No public comment.

15. ADJOURNMENT

Member Swanson moved to adjourn, and Member Lister seconded the motion. Chairman Goicoechea adjourned the meeting at 12:31 pm.

All details not covered in these minutes can be heard on the meeting recording at <https://sagebrusheco.nv.gov/Meetings/Meetings/>.