

1 **MINUTES OF THE CENTRAL WASATCH COMMISSION ENVIRONMENTAL**  
2 **DASHBOARD STEERING COMMITTEE MEETING HELD FRIDAY, NOVEMBER 22,**  
3 **2019, AT 9:00 A.M. IN THE PUBLIC UTILITIES CONFERENCE ROOM LOCATED AT**  
4 **1530 SOUTH WEST TEMPLE, SALT LAKE CITY, UTAH**  
5

6 **Present:** Jim Ehrlinger-Chair, Beth Yetter, Kyle Maynard, Phoebe McNeally, Lance  
7 Kovel, Mary Pendergast, Susan Bush, Mary Rice, Kirk Nichols, Patrick  
8 Nelson, Greg Bunce, Megan Nelson, Marian Rice, Kirk Nichols, Joan  
9 Degiorgio

10  
11 **Staff:** Executive Director Ralph Becker, Deputy Director Blake Perez (via  
12 telephone), Communications Director Lindsey Nielsen, Office Manager  
13 Kaye Mickelson  
14

15 **Via Telephone:** Pat Shea  
16

17 **A. WELCOME**  
18

19 **i. Reintroductions.**  
20

21 Chair Jim Ehrlinger called the meeting to order at 9:00 a.m. and stated that he, Phoebe McNeally,  
22 Mary Pendergast, and Susan Bush would be leading the meeting. Those present introduced  
23 themselves as:  
24

25 Mary Pendergast – Wild Utah Project;  
26 Susan Bush – University of Utah;  
27 Lance Kovel – U.S. Forest Service;  
28 Ralph Becker – Central Wasatch Commission (“CWC”);  
29 Kyle Maynard – Friends of Alta;  
30 Beth Yetter – Alta Ski Area;  
31 Marian Rice – Salt Lake City Public Utilities;  
32 Kirk Nichols – University of Utah and Big Cottonwood Community Council;  
33 Patrick Nelson – Salt Lake City;  
34 Megan Nelson – The Nature Conservancy;  
35 Greg Bunce – AGRC (Automated Geographic Reference Center);  
36 Phoebe McNeally – University of Utah;  
37 Lindsey Nielsen – Central Wasatch Commission;  
38 Kaye Mickelson – Central Wasatch Commission; and  
39 Patrick Shea.  
40

41 **ii. Project Updates.**  
42

43 **B. TECHNICAL COMMITTEE STARTING POINT**  
44

45 **i. Dashboard Structure as of August 2019.**  
46

1           **ii.       Review with Dashboard Element Experts.**

2  
3 Chair Ehrlinger updated the group on what has taken place since the last time the Steering  
4 Committee met. They discussed the Brendle Group and the progress being made on the  
5 Environmental Dashboard. His recollection was that the intent was to have an online live  
6 dashboard. What was to be produced was a written dashboard. There was discussion about  
7 revising the contract. His understanding was that limited progress was made. In July or August,  
8 Phoebe McNeally and Chair Ehrlinger were approached to see if they would submit a proposal in  
9 an effort to get the dashboard online. They accepted the opportunity as long as it could be done in  
10 two phases. The first phase was to find out where they are to get approval. The second phase was  
11 to complete the Environmental Dashboard.

12  
13 Chair Ehrlinger reported that they prepared a proposal for the first phase. Between now and  
14 December the intent was to review the documents that exist, understand what progress has been  
15 made, where the limitations are, and ask the experts to review of the documents that are produced.  
16 It was noted that there had been no conversation with the experts since the initial meeting. Five  
17 sessions were held with each group of experts who revised what they thought would be the  
18 appropriate dashboard elements based on those meetings. They made an additional presentation  
19 to the CWC leadership and sent the draft document to the experts for feedback. Their goal was to  
20 get feedback from the Steering Committee.

21  
22 The highlights were described. A restructuring was thought to be more useful in order to serve  
23 multiple audiences. There was also a focus on information with identification of the missing  
24 components. The proposed revisions of the dashboard were presented. Chair Ehrlinger reported  
25 that the historic dashboard included five major areas including water, air, soil, plants and wildlife,  
26 and ecosystems. It was not clear in reading the document that the dashboard being developed  
27 would meet what were believed to be the multiple interests.

28  
29 **C.       PROPOSED NEW DASHBOARD FRAMEWORK**

30  
31 **i.       Recommendations from Dashboard Element Experts.**

- 32  
33       •       **Adjustments in Focus.**  
34       •       **Restructuring to Serve Multiple Audiences.**  
35       •       **A Focus on Information with Identification of Missing Components.**

36  
37 **ii.       A Proposed Revision for a Living Environmental Dashboard.**

38  
39 Chair Ehrlinger reported that whatever dashboard is produced needs to satisfy multiple interests.  
40 Ultimately, the major change was to not look at targets but measures. He presented what they  
41 ended up with as a structure, which was the result of bringing together experts. They had very  
42 productive discussions with a diverse audience. With regard to air quality, Chair Ehrlinger stated  
43 that to focus on the number of days when there is poor air quality would be a very limited approach.  
44 The better option would be to focus on air quality and present that information without making a  
45 quantitative statement. Climate may not be as interesting to people but a changing climate would

1 be of interest in addition to what that means in terms of precipitation to snow patterns, drought and  
2 fire implications, and water supply.

3  
4 The concept of water was next addressed. People are very interested in water supply, which  
5 requires supply, demand, and storage issues to be addressed. Water quality addresses the biology  
6 and physical issues. Joan Degiorgio commented that all of the elements presented address  
7 watershed health. The data can be used to determine how the watershed is doing given based on  
8 each of the elements. Chair Ehrlinger remarked that one of the most critical elements is  
9 crosscutting and items being multi-dimensional. One of the challenges is that that they have  
10 varying amounts of available information.

11  
12 Ms. Degiorgio reported that with the proposed approach, data is in the background initially. They  
13 are trying to present everything as in an ideal world and what the elements will be. The data will  
14 be addressed in Phase 2. There are several data gaps, which will be highlighted and identified as  
15 important. Chair Ehrlinger explained that public support will be needed since they will look to it  
16 for information.

17  
18 Phoebe McNeally stated that one advantage to the proposed process is that they will have narrowed  
19 down the items they are going to study. It was not suggested that the Environmental Dashboard  
20 be driven by what data sets are currently available. The proposed approach allows them to specify  
21 what is needed.

22  
23 With regard to vegetation, Chair Ehrlinger commented that one of the concerns expressed by the  
24 experts was that the description of the vegetation types is up to date. It was based on a data-based  
25 approach called Land Fire, which has advantages and significant disadvantages. If they take the  
26 description of who is present, Land Fire is appropriate, however, Land Fire is based on how  
27 frequently areas burn. The link between the time of the last fire and today is a direct measure of  
28 health. The belief is that if it has not burned, it is not healthy. People felt very uncomfortable with  
29 that application and the fact that it cannot be used for making the kinds of predictions it was being  
30 used for. In effect, an Aspen forest that is 75 years old is considered unhealthy. The intent was to  
31 continue using Land Fire to describe the elements and their distributions but to stop the application.

32  
33 Chair Ehrlinger believed this opens up an opportunity that may be of interest to the CWC and the  
34 ski industry, which was if they have high resolution spectral imaging and lidar they would know  
35 a lot about of the terrain that they currently do not. That data exists for the valley and some of the  
36 canyons such as Red Butte Canyon because of the flyover that was funded by the State one or two  
37 years ago. Chair Ehrlinger was unsure of the cost but state that this element will focus on  
38 vegetation change, fragmentation, and loss.

39  
40 With regard to Plants and Animals, Chair Ehrlinger commented that Animal Behavior,  
41 Biodiversity, and Habitat Change largely involve changes in animal systems that people thought  
42 would be of significant interest. One of the data sets that was useful is a new data set that did not  
43 exist the last time they had a Steering Committee Meeting involving motion cameras.

44  
45 Mary Pendergast commented that across the Wasatch Front and into some of the wildland interface  
46 there are community scientists taking stewardship over cameras. They are gathering information

1 on occupancy and are able to create heat maps. From a relative comparison standpoint, they have  
2 a better understanding of where core areas of habitat are located, the location of important pinch  
3 points, and areas to facilitate movement.

4  
5 Chair Ehrlinger reported that when considering the Urban wildland interface, this is becoming  
6 increasing important. He sensed that this was an area where engagement with the public might be  
7 robust.

8  
9 Ms. Pendergast stated that there was a lot of thought put into what species should be displayed.  
10 Rather than being driven by the data that is available now, the experts came up with a framework  
11 for what would be ideal. They can now flesh it out based on the available data. It can be adaptable  
12 and flexible to new data coming in. The previous framework was dissatisfying to many because  
13 it was based on a very limited species list. Chair Ehrlinger agreed and stated that the experts felt  
14 that knowing the distribution of a certain owl or deer population was probably not as integrative  
15 or concept based as this approach. What is proposed provides a more usable framework and will  
16 likely engage the agencies more than in the past.

17  
18 Geology and Soil was next addressed. Chair Ehrlinger reported that a significant change took  
19 place in this area. The areas of Soil Type and Characteristics and Soil Disturbance became relevant  
20 to when changes might take place. He stressed that there are many natural hazards.

21  
22 Chair Ehrlinger reported that if they have expert approval, they are prepared to go the CWC as a  
23 framework structure with the understanding that there are four sets of users from experts to  
24 technical users, stakeholders, and land managers who would be interested. They are most  
25 interested in developing a dashboard that will be well received. They can refine it if is a living  
26 document and make it more relevant to different interests as they get more data and have more  
27 information. As the number of users increases, the dashboard will be increasingly useful. In terms  
28 of design, the dashboard should work on a tablet or phone as well as on a laptop. It should be  
29 living and ultimately allow access to the data sets that support the trend or interpretation. The  
30 intent was to make it technically available in terms of numbers and images.

31  
32 Patrick Nelson asked what percentage of data sets will be needed in the proposed framework to  
33 have a dashboard that means something. He also asked about cost. Ms. Pendergast reported that  
34 they inherited a data set addressing what is and is not available. They did not want the framework  
35 to only be driven by what is available. Ms. McNeally explained that they have not yet studied all  
36 of the data sets other than those they have inherited, which are three years old. Since then, other  
37 data sources have come online. The next step will be to determine what data is available and  
38 identify the gaps. Once they have a good understanding of that they will be able to prepare the  
39 budget.

40  
41 Ms. Pendergast commented that in general over the past three years there is more data available,  
42 however, the analysis has not yet been conducted to create the derivatives. Chair Ehrlinger was of  
43 the opinion that no new data will be required to produce the document because the holes will be  
44 obvious.

1 Pat Shea observed that one of the advantages of the dashboard will be having it integrated into the  
2 public education systems in both the Wasatch Front and Wasatch Back. Chair Ehrlinger remarked  
3 that many teachers will be interested in fundamental information such as what type of animals are  
4 there and data on water quality.

5  
6 Ms. Degiorgio commented that one of the advantages of the old system is the idea of thresholds.  
7 She recognized that there is some risk but stated that at some point they need to decide how the  
8 canyons are doing. She hoped to see a framework put in place and determine what they consider  
9 to be health. Chair Ehrlinger did not disagree but questioned whether that is the top tier observation  
10 that is made and instead address it with threats. Ms. McNealy commented that they would not  
11 want to create more data silos.

12  
13 CWC Executive Director, Ralph Becker commented that there are trends and thresholds in the data  
14 and they know that some people will be looking for that kind of information. Chair Ehrlinger  
15 suggested the possibility of having a trend button, which might be useful over time. He pointed  
16 out that the IM concentration in one canyon might be different than the other. That cannot be  
17 translated into health without knowing the underlying geology. As a result, there will need to be  
18 caution taken in how values are interpreted in different areas. It was noted that the original thought  
19 was that they would have a public interface where people could get various information.

20  
21 Mr. Ehrlinger suggested that visitors be able to click on trends where there would be multiple data  
22 sets. Ms. Degiorgio commented that they are coming from a place of objectivity. It will be obvious  
23 where the gaps are that need to be filled. Mr. Ehrlinger added that if blips occur, those using the  
24 website will be impacted and observe that there is a hole to be filled.

25  
26 Kirk Nichols had a difficult time understanding the scale. He stated that disturbances start small  
27 and may not be picked up immediately. He stated that they need to be picked up within 10 feet of  
28 the trail and 50 feet of the lake. He asked how they will recognize small visitor caused  
29 disturbances. Ms. Pendergast stated that they have data on the distribution. She described a  
30 scenario where the historic data for noxious weed distribution could be accessed. That would be  
31 a type of fragmentation or habitat loss. Ms. McNealy commented that the State has high resolution  
32 imagery going back several years that is collected every six to 12 months. Chair Ehrlinger stated  
33 that ultimately the question is what does the CWC expect 10 years in the future such as recreation  
34 or transportation dashboard. Ms. McNealy remarked that the carrying capacity will be more on  
35 the human dashboard side.

36  
37 Chair Ehrlinger commented that after this meeting they will take additional feedback and draft a  
38 report to the CWC. The intent was to make a presentation to the CWC Board in December and  
39 shortly thereafter deliver a draft product. They will then consider Phase 2. Ms. McNealy  
40 described the elements that will be included in Phase 2. It will involve the collection and discovery  
41 of the different data sets as well as the analyses of those data sets to create any of the derivative  
42 products that support the framework. They will then take the products and the data and build out  
43 the environmental dashboard in the ESRI platform. Ultimately, the deliverable at the end of Phase  
44 2 will be an online environmental dashboard. There will also be public engagement to get  
45 feedback.

1 Chair Ehrlinger predicted that 10 years from now 95% of the information will be accessed from a  
2 phone. As a result, they need to be on platforms. Ms. McNeally stated that they also have citizen  
3 science component apps that at some point in the future will allow citizen science directly into the  
4 data base.

5  
6 Mr. Nichols commented that fiber optics are now available up to Solitude, which will allow them  
7 to gather air quality and other data. This was not possible previously because there was no reliable  
8 internet.

9  
10 With regard to air quality, Chair Ehrlinger stated that they can go the expensive route, which is  
11 what the State has, or go a more citizen science approach, which involves purple air. It is a network  
12 of sensors that can be purchased for about \$250. Currently, when air quality is shown in the valley,  
13 they do not show State data and instead show purple air data. The downside was that every wood  
14 burning stove will be taken into account.

15  
16 Ms. Nielsen reported on ESRI's involvement in the next phase and stated that CWC staff met with  
17 ESRI leadership. ESRI is back up to speed on the project and are ready to engage. They agreed  
18 to a storyboarding session to help determine what the dashboard will look like. They discussed  
19 March 2020 for that to occur. That gives them time to engage the public in open houses where  
20 they are able to understand the project and give input.

21  
22 Ms. Yetter clarified that they intend to identify the data gaps but they will not collect new data or  
23 prioritize the collection list of potential new data. Ms. Nielsen indicated that ESRI has agreed to  
24 highlight the environmental dashboard in the partnership between the CWC and those present in a  
25 collaboration project out of its Denver office. It was noted that ESRI is not charging for their time.  
26 Mr. Becker explained that their intention is to make it user-friendly for the public to access.

27  
28 Chair Ehrlinger commented that another focus could be weather, which might have value in  
29 bringing someone in.

30  
31 Patrick Nelson commented that the goal is for the end product to be used by all of the different  
32 partners. He shared his observations and stated that there is a great deal that can be done with the  
33 end product. He suggested they pay attention to the original mission and what it is going to be  
34 used for in the context of Mountain Accord and the CWC Board looking forward to the future.

35  
36 Mr. Becker explained that different agencies will need and want it for different reasons. He  
37 remarked that many people are excited about it and can see its potential usefulness. There is a  
38 broader group as well as ongoing development and making it useful over the next 10 years as  
39 technology improves. The CWC has been playing the lead role of coordination and providing a  
40 base level of funding. For all of the entities that are involved, part of the challenge will be to  
41 continue to feed the work. Something for the group to think about was to how provide the  
42 resources to continue to develop it and provide additions going forward to make it as useful as  
43 possible. He felt there was a lot of excitement and commitment from the CWC and the  
44 jurisdictions that are part of the CWC.

1 **D. WRAP-UP AND ACTION ITEMS**

2  
3 **i. Incorporation and Input from Steering Committee.**

4  
5 Chair Ehrlinger invited feedback from the committee members.

6  
7 Ms. Degiorgio recommended they complete Phase 1 and not move forward too quickly. She stated  
8 that they need something that is immediately robust and that does not only highlight where the  
9 gaps are. She hoped that the initial product will be useful and strong enough to encourage people  
10 to do more.

11  
12 Chair Ehrlinger was confident that the product will be completely self contained. His belief was  
13 that the gaps will be implicit and not explicit. H felt they had captured most of the data sets that  
14 exist. Ms. Pendergast stressed that it needs to be reciprocal from the outset. It was recognized  
15 that the CWC does not have an unlimited budget. As a result, what they propose has to include a  
16 dialog so that they have a totally self-contained product.

17  
18 Ms. McNeally suggested they keep the updatable component in mind as they move forward so that  
19 they do not just get a snapshot in time that goes stale.

20  
21 Mr. Shea thought there was an opportunity with the dashboard to establish a political basis that  
22 will support the education aspect.

23  
24 Ms. Degiorgio stated that they need to remind people where this began. She explained that they  
25 do not have enough information to know how this supports what they are doing. They have to also  
26 remember that they are starting from scratch on this comprehensive view. She stated that this is  
27 the heritage project of all of Mountain Accord and what everyone agreed to. She recognized,  
28 however, that it will take time.

29  
30 Mr. Becker commented on the data available for the Wasatch mountains compared to others, which  
31 puts things in perspective. Decisions will be made going forward including UDOT making a  
32 decision in 2021 about transportation. They need to consider how this information can be used to  
33 tap into that. In addition, the Forest Service will be making decisions over the next several years.

34  
35 Chair Ehrlinger encouraged those with concerns to contact him. He was very sensitive to the fact  
36 that they were moving forward with a consensus document.

37  
38 **ii. Report and Presentation to the CWC Board.**

39 **iii. Next Steps.**

- 40  
41 **• Phase II**  
42 **• Public Engagement**  
43 **• Meeting Schedule**  
44

1 **E. MEETING OBJECTIVES**

2

- 3 • **Review Indicator Summary Approaches.**
- 4 • **Provide Recommendations for Phase 2.**
- 5 • **Set Meeting Schedule for Phase 2.**

6

7 The next CWC meeting was scheduled for December 2, 2019 at Millcreek City Hall from 4:00 p.m.  
8 to 6:00 p.m.

9

10 **F. ADJOURNMENT**

11

12 The Meeting adjourned at 10:30 a.m.



1 *I hereby certify that the foregoing represents a true, accurate and complete record of the Central*  
2 *Wasatch Commission Environmental Dashboard Steering Committee Meeting held Friday,*  
3 *November 22, 2019.*

4

5 Teri Forbes

6 Teri Forbes

7 T Forbes Group

8 Minutes Secretary

9

10 Minutes Approved: \_\_\_\_\_