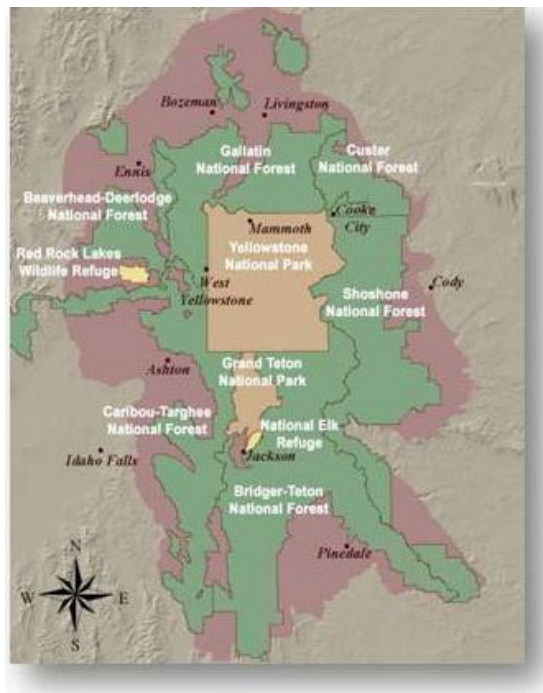


CLIMATE CHANGE, INVASIVE SPECIES, AND LAND USE CHANGE AS DRIVERS OF ECOLOGICAL CHANGE IN THE GREATER YELLOWSTONE AREA

A workshop to identify priority science and implementation strategies

EXIT SURVEY Results and Analysis



MSU Foundation and Alumni Center
Montana State University, Bozeman Montana
November 4th and 5th, 2009

Workshop Evaluation

Questions 1-4 were used to sort the survey ratings.

1. I served on the planning committee for the workshop (*check one only*):
 yes no

2. I attended the workshop as (*check one only*):
 a workshop panelist an observer other (indicate role)

3. I attended primarily the following breakout group (*check one only*):
 climate change invasive species land use change floated

4. My primary function as associated with GYA science is as a (*check one only*)
 scientist manager other (indicate)

Questions 5,6, and 7 involved ratings from workshop participants and asked in most cases for written feedback. These results were compiled and sorted based on the categories resulting from questions 1-4. Thus in the following reporting, survey ratings are shown for several different breakdowns of individuals for each question: breakout groups (climate change—CC, invasive species—IS, and land use change—LUC), managers and scientists, observers and workshop panelists, workshop planners, and the entirety of those (37) who submitted surveys.

The results follow, including the written feedback received for each question. Note that scoring for each sub-question under question 5 was on the same (i.e., on the 1-5 scale shown).

5. Please rate the following characteristics of the workshop on a scale of 1 to 5 using the scale shown. Circle the applicable number and please provide us any comments you have.

1	2	3	4	5
<i>not valuable at all</i>		<i>neutral</i>		<i>highly worthwhile</i>

Meeting rooms

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.5	4.1	4.4	4.3	4.0	4.1	4.5	3.8	4.2

Food

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.6	4.8	4.9	4.8	4.8	4.7	5.0	4.8	4.8

Workshop planning effort, including advance materials and website

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.0	4.6	4.8	4.6	4.3	4.4	4.5	4.5	4.5

Written comments (only one space given for all three items):

1. The table was difficult to use, not your fault, it was our thought process.
2. I found the four columns for breakouts to be ineffective and did not properly lead to desired outcomes.
3. Outstanding and productive meeting enhanced by extended audience with diverse experience and advice—may have been good to include other stakeholders in community not represented
4. Breakout rooms for IS and LUC not optimal due to noise issues.
5. Two groups in the same room was a little difficult (but not too bad)
6. Splitting the room made for distraction
7. Great overall. It would have been better to have different rooms for different breakout groups.
8. The main room was difficult to hear discussion w/in group due to background noise
9. Great way to bring together varying agencies and researchers. Would be good to bring in more local gov't/state agencies for panel discussion and summary.
10. It seems like a presentation on the manager needs (pg 9) should have been synthesized and given
11. Lots of good stuff. Questions to managers in advance could be better framed as time frame, “solvability” or “respond-ability”—and could have been sent much earlier to enhance variety of those answers
12. Managerial pre-work did not become a reference base for land change group. Maybe it wasn't needed. It wasn't used during discussions.
13. Provide more clearly highlighted questions and better encourage advance preparation.
14. Need to increase the number of managers on the breakout panels and decrease the # of researchers.
15. Slightly crowded
16. 80% of the time was with our breakout group—more cross fertilization is needed across groups
17. Excellent job organizing and facilitating. Parking was quite a hassle.
18. Website should have been clearer info about workshop location (for those of us not on the field trip)
19. The materials were easy to locate and helpful.
20. Nice work
21. Very well organized—Scott was fantastic!
22. Backlighting for speakers was tough. Needed better parking information. Food was great.
23. Wonderful dinner and talk. Thanks for the wine, too!

Field trip

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	na	4.0	5.0	4.6	4.0	4.8	4.5	0.0	4.6

Written comments:

1. Great day. Well planned and organized.
2. Would have very much liked to have participated
3. Missed it
4. Would have been good to have a Park Co. Commissioner or planner on board to discuss land planning and development in Paradise Valley. Also, John Sacklin from YNP as a “community” planner connecting gateway communities and counties.
5. Very knowledgeable speakers talking about different aspects of the Park.
6. Great field trip and topics—helped set the stage for me as I was not aware of YNP work on half the topics.
7. Great—very informative and set the stage well.

Here and in several other places we provide a couple of notes from the planning committee as they reviewed the results of this exit survey. These notes are presented in italics.

CW—Nice overview with the start in Bzn; discussions were great and should be encouraged

Wednesday morning plenary presentations

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.2	4.2	4.4	4.2	4.6	4.3	4.3	4.3	4.3

Written comments:

1. Good overviews; a little longer
2. Could have been somewhat condensed to be more GYE specific.
3. While they were all interesting, make sure next time to communicate topic expectations to speakers
4. Great speaker
5. Excellent—informative
6. Excellent—Suzanne Lewis’s kickoff was spot on. NEON talk took me from 0 to knowledgeable on this monitoring/forecasting/feedback effort
7. Very good for framing the questions/issues to focus on.
8. Rated 5 for initial remarks on issues facing *<could not decipher>*. Rated 3 for too much detail on one vehicle for facilitating information communication (NEON). Other presentations were 5.
9. These were well aimed and informative. They set an excellent tone.
10. Good kickoff to the workshop
11. Dave Schimel had some good stuff (perhaps too much/long). Kit Batten’s talk lacked dynamism about Administration goals/direction but info on Exec Order was relevant. And Hansen and Jack Williams had good examples & data on GYE (esp. Hansen).
12. Knowledgeable folks, excellent presentations
13. Although I enjoyed Kit’s presentation & the info re: what DOI is doing on CC, it didn’t really relate to the GYA. The NEON presentation was really long and I’m still unclear whether they are for-profit and what their role is.
14. Good to learn about NEON, and I really like Andy Hansen’s talk. I thought they set the stage well. Would like to have actually heard some new research results.
15. Great.
16. Would have been helpful to have YNP staff give further current status info—built off of resource briefs then could have worked towards more specific research needs.
17. Andy Hansen’s was highly relevant for me, and I hope to bring him to my community. Neon and TU were informative.
18. Suggestion: information on or discussion of CO2 sequestration/emissions reduction and effects of this on GYE. NEON seems redundant to a lot of existing agency efforts.
19. Too many/too much time spent in plenary before breakout. The first half of D. Schimel’s talk was great—& relevant—2nd half should’ve been condensed or eliminated—lost in NEON. All could have been shorter &/or fewer.
20. Would have been valuable to include a parallel discussion about management processes/decisions.
21. Talks were generally good, but not 100% clear how they set up the breakout discussions (at least not all talks were as targeted).
22. Good overviews; a little longer.

Break-out groups

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	3.9	4.0	4.2	4.1	4.0	3.8	4.2	4.0	4.0

Written comments:

1. It would have been good to have a little time for comments from observers at the end of each breakout (while still in small groups)
2. It was good to get these folks in the same room, but taming the beast remains a major challenge
3. More social science participants in all the groups. More concentrated pre-work on what managers' questions/problems are to better feed into the discussion.
4. The muddling through was stressful. Big topic to get handle but we eventually got to a product.
5. Good rambling discussion without much specificity—maybe didn't need specificity though...
6. I was surprised how well they worked. I thought they wouldn't.
7. Seemed that participants all had different expectations initially which slowed progression toward the workshop goals
8. Need more time—at least another day + a means for more levels of mgmt participation
9. Ours started slowly but I think we actually got pretty far. Sounds like at least one other group wanted to provide overarching framework/process to frame priorities. More time would have helped.
10. Great diverse group. We muddled through 1st hour or so—perhaps re-statement of our initial focus (col. 1) would have helped (gentle intervention by facilitator).
11. I thought the intermittent summaries from the groups was not as useful (or that there wasn't much cross-fertilization among groups)
12. I was surprised the invasive spp. group had so much emphasis on control, when I fell like many control efforts are relatively ineffective.
13. A lot of great info! The observer role was tricky. Thing there should be some way to gain input from observers. Perhaps 5 min at the end of each breakout group.
14. These were great. Better balance between managers and scientists might be good. Wonderful discussion in the groups!
15. Very fun group
16. Perhaps have more structure around a specific objective—e.g., what are key management questions short term/long term given climate change—rather than science specific questions.
17. Well facilitated.
18. When got back together in large group use microphone for questions and comment for audience.
19. Excellent make-up. Must have been hard to facilitate! Was likely a good idea to limit observer participation.
20. I think the planning committee had the expertise to partially develop the first stage questions to move the process faster.
21. Great way to build relationships and begin conversations on tough topics.
22. Observers should be allowed to make minimal comments during the break-out groups. I think observers would add more value commenting in the break out groups than the larger group (i.e., comments that might be relevant and timely in the break out group might not be timely/relevant in the larger group).
23. Climate change session would have been better focused if participants had better idea of who decision makers were, what guided their management decisions, and their constraints.
24. Climate change facilitator didn't seem clear on outcome of break out group activity.
25. Very challenging group exercise—generally productive. Should've started earlier in the day.
26. Big highlight; good format. A little hard getting started but process seemed to work.

27. Good discussion among the group members. We needed more time. Needed more time to report results—too short!
28. Our discussion were a bit rambling. It was a very hard topic to cover concisely, though, so it's not too surprising.
29. Good discussions, but reporting out was weak.

Panel discussion (Thur. PM)

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	3.9	3.6	4.1	3.9	3.6	3.9	3.9	3.8	3.8

Written comments:

1. The purpose/conclusions to come of this group were not well pursued.
2. Good discussion; good job by moderator & panel trying to engage the audience
3. Last discussion was excellent
4. Appreciated other managers' comments & Suzanne Lewis's comments. On keeping relationships focused on the mgrs goals.
5. I don't know where it went
6. Too tired.
7. Some concerns/ideas I had were brought forward and that made me more comfortable with the whole conference process and outcomes.
8. Report out was most useful.
9. Good free-flowing debate. Tough to get any main conclusion out of discussion.
10. Lively and helped cross some gaps
11. Most "new" input came from managers. Perhaps prior discussion would have been useful, also.
12. Little energy or interaction between panelists or with audience. Needed a better objective for having panel.
13. Good discussions
14. Good counter point between science/management. Really liked Schimel's wrap-up. Good to have and outsider to comment.

Facilitation—Overall

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.5	4.4	4.7	4.5	4.4	4.4	4.6	4.0	4.5

Facilitation—Your breakout group

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	3.8	4.1	3.9	3.5	4.4	3.9	3.9	4.3	4.0

Written comments:

1. It was hard to focus the climate group—the smaller topics it connects are too far-reaching.
2. Great job Scott. Tom Olliff good. Dave Mcwethy good.
3. Great mix of managers, great discussions between ecological perspectives and need for understanding interactions between natural and human systems.
4. I think it was not consistent amount groups (I think LUC was more organized and consistent)
5. In retrospect, needed to give managers a chance to talk about their challenges and needs.
6. Very well organized and run.
7. Overall—you were flexible as needed, but kept things moving. Breakout—facilitation could have been stronger.
8. Todd was great
9. Felt like it could have been on-line assessment a bit better and facilitate such that they helped explain or interpret comments of group.
10. Good job—flexible but accomplished the work.
11. Honestly, I think the people annotating could have been better for land use and invasives.
12. Good job wrangling a diverse group and maintaining flexibility.
13. Scott had a tough task, and he did an outstanding job both days.
14. Group was very good & informative. However, it was federal heavy. I also think we need county involvement to make this work for all the land managers that need it.
15. Had to keep us on track because we had so much to discuss.
16. Good facilitation. I know the goal was not to constrain the breakouts too much, but more structure might have been nice.
17. Some of the facilitators did not really control the group. Ok overall.

How would you rate this workshop overall?

# Surveys	11	11	9	18	8	20	15	4	37
Category	<i>CC</i>	<i>IS</i>	<i>LUC</i>	<i>managers</i>	<i>scientists</i>	<i>observers</i>	<i>panelists</i>	<i>planners</i>	overall
Rating	4.4	3.9	4.6	4.1	4.3	4.3	4.2	4.1	4.2

Written comments:

1. Where is goes from here will really determine the worth of the meeting
2. Some role for NGOs, local govts, etc would have been good.
3. Paul Schullery was a wonderful, thoughtful way to close Day 1.

6. Based on this workshop, do you have any specific suggestions for the organization and improvement of the November 2010 Greater Yellowstone Ecosystem Biennial Scientific Conference, “Questioning Greater Yellowstone’s Future: Climate, Land Use, and Invasive Species”?

Written comments:

1. Larger space.
2. Think about how to include those beyond natural sciences/management—who is needed to create a regional plan?
3. Yes—have a managers’ panel
4. Have some presentations on state-of-the-art science delivery tools, processes
5. How about logistical & communicative effort to put managers in GYA in contact w/scientists across agency boundaries? If there is a question who can I ask in the GYA?
6. Invited observers need some small opportunity to participate during breakout sessions.
7. Much more involvement of the social sciences: geography, environmental history, sociology, philosophy/ethics, historical ecology, anthropology. These people are out there—find them!
8. No
9. Need to be clear that these things will influence management decisions or approaches; they do not need to lead to new decisions or approaches
10. Include some private landowners/landowner group reps, more counties, + BLM + State lands + WY/ID F&G + USGS.
11. Incorporating more social science and marketing science. More participation from WY state agencies.
12. The table headings for the breakout groups were confusing.
13. Focus that conference on taking the next steps on what we developed this week.
14. Discuss priorities/triage across issues.
15. Focus on shared science needs related to infrastructure (program, data sharing, etc) science collaboration, science delivery to managers, and science communication with the general public.
16. Synthesis of current knowledge as it would be used towards informing mgmt decisions related to adapting to the 3 drivers. Assisting with development of conservation strategies given projected changes.
17. Clarification—scientists and researcher are not synonyms; also many managers are researchers and scientists.
18. Present how GYA has used info and resulting actions.
19. Maximize integration. Missing BLM—with their role in including energy development & minerals mgmt on USFS lands—seems like a large gap. It was great having local and state govt.
20. Please reach beyond natural resource science and include human issues.
21. A) Risk assessment and planning based on uncertainty of magnitude and effects of climate change, land use, and invasive spp. What ecosystems of spp. are on the brink? B) How to predict regional/local climate change magnitude and timing. C) Invite more mid-level agency personnel—would lend a different view of management of agency lands.
22. Yes see my suggestion above—re: observers commenting in break out groups. I think this is critical.
23. Examples of climate change projects on private and *<could not decipher>* lands; i.e., fence projects to improve wildlife habitat and wildlife migration.
24. Invite people to present conceptual models on the impacts of climate change on some key species (i.e., grizzlies, wolverine, cutthroat trout, etc) and systems (i.e., alpine). Future Yellowstone in 100 years.
25. More participation by social scientists, tribal reps, and national park agency sponsors.

Planning committee discussion notes:

KT—comments useful but depends on what format of the meeting for biennial mtg likely to be far different; some suggestions peripheral to std

TO—comments are really helpful for; afternoon session worked least well. How do we make breakout session more useful.

KT—TB and JK will take these suggestions and use them for next year. Comments are mainly for needs of others doing similar conference around the country.

JK—These comments will be really useful for others organizing LCC.

TB—Would be helpful to get those folks who weren't involved and need their contact info

KT—Follow-up to group to ask who else they want.

CJ—Couple of NPS meetings this winter. Two workshops—high elev, arid lands. Because of importance that work is important to mgrs. Need early input better scoping to mgrs. Overall need to be able to see how all these workshops can complement each other. What partners need to attend.

CW—thought mgrs vs researchers seemed like lots of discussions focused

SG—ask scott to find if statements that we need more mgrs came from mgrs; perhaps we did not do as good a job as possible for framing the question in CC esp for mgrs

KT—seemed to be a portion of folks who did not know what meeting was for, what are the big ?s we need science for; was not about social sciences; a bit disappointed that some folks did not read prelim material

Sue CM—Scale wasn't clear; unsure what was intended to do with the product; but inevitable tendency to look at what could be done in the next 5 yrs; still need better clarity until right up front

TK—Outcome was really good; but some ? of specificity of the outcome; mgrs in IS wanted a peak in the crystal ball ahead—i.e., we are doing ok right now—this back and forth tension

CW—could do some handwringing but it was a community building effort; but do need more specificity for each group. I felt we got what we wanted—comm building and frank discussions

DT—some disconnects were strengths of workshop, disparities pointed to where we need to work—this is a positive

7. Do you have suggestions for follow up activities based on the results of the November 4-5, 2009 workshop?

Written comments:

1. Need to develop more detail and focus in identifying research priorities. Suggest mgrs develop a list of decision info needs to provide guidance and direction in establishing research priorities.
2. Keep momentum rolling.

3. Please email all participants & observers to let us know when the final document is done—we're interested in reading it! Thanks!
4. Think about new/different ways to organize more flexible/proactive groups (beyond committees) to move into the future
5. How to increase/encourage science that examines management options
6. This needs to continue as an on-going process. One workshop will not adequately address these important and complex issues. I recommend to use this as a starting point for annual meetings on these topics.
7. Team putting document together should include a manager, and some social science expertise (experts)
8. Keep the website active and useful for managers. Periodic email to alert us to postings.
9. Institutionalize information standards and communication among GYA agencies and partners. Include educators from pre-college levels—at least a few. We need to educate now.
10. Lots of publicity of the reports, and very wide distribution of the Yellowstone Science article—to congressional staffers, media, advocacy groups, professional journals.
11. Make this manager/researcher workshop occur regularly (every 2 years?)
12. Follow through with the LCC concept. Include all the players (i.e., tribes, locals, etc)
13. Have core participants renew (provide opportunity at least). Have follow up/progress report and discussion option for each of the 3 topics at 2010 conference.
14. Subcommittees that do risk assessments by taxa/issue making things more specific.
15. Make all docs/info/notes public.
16. Chris Serveen's landscape approach would work (LCC). GYCC could create a science/mgr subcommittee to move it forward (or maybe a few committees). **How about if we use recent retirees to do/frame up some of these things to keep workloads within reason for current employees? There's a tremendous resource out there.
17. Solicit feedback from non-attendees.
18. Bringing researchers, scientists, and managers together is critical but key players seemed to be missing for invasive species. For example: County weed district managers, state depts. of Ag weed mgmt coordinators (regulatory entities), existing invasive organizations like Center for Invasive Plant Management, Montana Weed Control Assoc, MT Statewide Noxious Weed Awareness & Education Campaign
19. Notes online.
20. Maintain the/a website—host a blog?
21. A symposium that you invite the public would be great. Presentations from each major topic and get input from the public.
22. Solicit opinions from economists and social scientists.
23. Have NGOs lobby for funding to address science agenda. Clearing house/website for GYE-specific climate change publications. Convey science agenda to local governments, groups, and residents. Keep the ball rolling!
24. Publication of presentations and notes on a website or link. Additional info on titles and background of participants. Links to members and organization on websites and research.
25. Take discussion from today and use it as a framework for climate change; encourage + *<could not decipher>* on the ground projects that can be used as models/examples for addressing climate change at the local level.
26. More info sharing. Perhaps set up "library" of info on the 3 topics accessible electronically.
27. Add'l focused workshops or facilitated discussion.
28. Don't lose the focus on social elements for these 3 issues.
29. Follow up in a year to see where we are on the ideas and processes recommended.
30. Need technical report out for review by panel members ASAP. Next steps will include specifics of discussions in the final report.

31. Need to develop more detail and focus in identifying research priorities. Suggest mgrs develop list of decision info needs to provide guidance and direction in establishing research priorities.

Planning committee discussion notes:

JK—Follow up and planning of next yrs workshop should be important to next yr's workshop. But much of this doesn't apply to mtg next year and really apply even more to the LCC. Getting public involved and county comm. Etc this is not what this meeting was about.

JK—desire to sustain and build upon this meeting not just a focus on next year's meeting.

VK—idea of science/mgr subcomm while GYCC mgrs are three agencies the sub comm. Work much broader

KT—used to be a mgr/science subcomm; did not really go well—tried 5 yrs and just got dropped; but maybe now

SCM—interesting to see if that would be a means to take back recommendations from this workshop

TK—Is there a difference to this being bottom up rather than top down

JK—Yes, this is the intent of workshops being designed from bottom so that people have a stake in the outcome

CW—have been organizing for a year, so some structure was there so some concepts; what do we want to get out of the whole exercise; Need to have a clear goal: to have groups meet is one goal, to develop a sci agenda

KT—Disappointed in the comments as people seemed to think this was about open discussion across all open groups; could have a separate community meeting type meeting

DT—filter review comments; two camps: walk ins vs focused—carefully assess the input the comes back; don't give extra credibility to those folks

*** KT—for LCCs consider two sets of meetings with different objectives—science agenda vs community aspect*

TK—consider mixing up groups to get better integration

SCM—Think that we might be parsing out too much; appreciate comments but many were observers that's ok for mgmt implementation that's ok; my read is still that these comments are basically positive

DT—yes keep to one meeting, primary

FINAL REPORT

CJ—who will work on the report in the near future?

KT—Doodle note for one day sit down;

TK—keeping transparent

DT—strategically there is a credibility issue, can disenfranchisement if you don't follow through

TK—Need for some synthesis on

*** VK—yes GYCC would like some knowledge on synthesis on CC—Todd and Virginia to work on this; would like to have this with the draft sci agenda*

CJ—is there a size limit? Like S gray table

VK—2 pg exec summary but could be longer

TK—like Frontiers In Ecology

TB—Happy to post anything; would be helpful to put up raw notes to

CJ—make sure

TK—get videos, Paul's talk

CW—Good capacity building, hard work still ahead

TK—yes just the beginning—came out better than expected

Thank facilitators on the web, in rpt, etc. Scott to send out thx to them.

Email follow-up from LUC breakout facilitator Dave Mcwethy:

I had some very brief feedback regarding the conference:

- *The conference was well planned and organized*
- *It was very effective at community building*
- *The biggest challenge for our group was transitioning between very specific mgt. goals to broader priorities—we constantly went from the microscopic view to the macroscopic which some found frustrating*
- *The suggestion someone in the audience made to have scientists and managers both come with their top 5 science and mgt. priorities might have been a good pre-homework idea although it seems like your pre-conference requests already tried to do this—*
- *Overall I think our group left feeling like they got a lot out of the conference and understood this was one of the first of several steps in developing a science agenda*

Congratulations on a well-organized conference.