

Meeting Summary
Agriculture Preparation/Adaptation Working Group
(Ag PAWG)

June 26, 2007, 10:00 am – 12:00 pm

Attendance:

Kirk Cook , Washington State Dept. of Agriculture (Ag PAWG Lead)
Eric LaGasa, Washington State Dept. of Agriculture (non-member)
Angela Owen, Washington State Dept. of Agriculture (non-member)
John Brown, Washington State University
Chris Feise, Washington State University
Chad Kruger, Washington State University
Jeremy Littell, UW Climate Impacts Group
Tom Myrum, WA Water Resources Association
Lisa Pelly, Washington River Conservancy
Craig Smith, NW Food Processors Association
William E. Snyder, Washington State University
Claudio Stöckle, Washington State University
Jeanne Wallin, Wallin & Associates
Hedia Aldelsman, Washington State Dept. of Ecology (ECY)
Janice Adair, Washington State Dept. of Ecology (Administrative Lead for CC Initiative)

Background Documents:

1. Agenda
2. PowerPoint presentation for the meeting.

Discussion items and key issues:

1. Roll call conducted. (Key: APL is Kirk Cook)
2. Janice (ECY) provided a review of the purpose for the working groups (Washington State Climate Change order signed by the Governor earlier this year). Explained the due date for the report is early 2008, with the initial draft to the ECY in September 2007. Noted that UW is here to give the science around climate change and Kirk is responsible to guide the group in developing the adaptations and bring everything together. The expectation is that the group will provide 'reasonable and rational' decisions in the draft.
3. APL stated the expectations for today's meeting: (1) Set the stage for activity, and (2) make progress on what element of agriculture related to climate change we want to focus on. The draft report due to Ecology doesn't have to be perfectly polished, therefore PAWG members can focus on ideas and what the vulnerabilities and subsequent adaptation measures are rather than grammar.
4. Some of the PAWG members will be sitting on multiple groups which will be valuable to Ag PAWG.
5. It was suggested the Ag PAWG would review the climate impacts baseline and identify the issues/vulnerabilities for the agriculture sector, and then develop a set of

limited, but fundamental issues/vulnerabilities in the agriculture sector for further examination.

6. APL reviewed the set numbers (slides 7 & 8) for the baseline climate assumptions for temperature change and precipitation change (2020 and 2040). He stated we are not debating the science of climate change (this is accepted), but the vulnerabilities and adaptations.
 - APL raised the question whether or not the numbers were uniform for the state or should they be separated between Eastern and Western Washington. PAWG member stated they are an average for the state and don't show snowfall but they are working on including it.
 - PAWG member stated the difference between 2040 and 2050 is reasonably similar; therefore the numbers do not need to be carried out to 2050. In the future, it will benchmark to a specific value rather than decade.
7. APL stated there has been interest from the private sector regarding information from Comparison Heat Units (slide 10); figures shown were based on NWS temperature data.
8. PAWG members reviewed the CIG map (slide 11) showing predicated changes in temperature for Pacific NW, specifically the vulnerability for fresh-water fish. The APL said the same map layout could be used for vulnerability; he also gave a summary for climate predictions (slide 12). It was noted that Tom Myrun sits on the Fresh Water PAWG.
9. PAWG members reviewed the crop and irrigation acreage maps (slides 14 & 15) showing crop locations and current distribution of WA state commodities. It was noted that 90% of the state's commodities are grown east of the mountains. The irrigated acreage shows water resources and Ag inter-relationship.
10. The implications to the state were noted in the review of the four major crops (slide 16); APL noted they have not verified the dry lands, but as they do verify them, the 'confidence' will increase. PAWG member noted that forestry was not included; there is a separate PAWG for forestry (Jeremie from WSU sits on the Forestry PAWG). PAWG member asked about rangeland. APL noted it was more difficult to get those numbers but it could be done.
11. APL reviewed the market value of WA Ag products (slide 17). PAWG member asked about horticultural plants. They are included in nursery and greenhouse.
12. Hedia asked about soil moisture and vineyards. APL stated the trend over several years has been that more orchards and tree fruit are giving way to vineyards. PAWG member said there was interest because of demand for organic. Member also asked if there is anything or product methods that could be impacted by climate change. APL stated that WSDA has an Organic program and that he could arrange to have someone from their program attend a meeting. PAWG member also noted that WSU keeps track of organic and puts out reports on trends. Organic method is one method, are there other methods related to climate change? APL will check into this before the next meeting.
13. Regarding irrigated agriculture, PAWG member noted the fresh water PAWG will be looking at where our water is now and what will our future need be in the state (Water set plans, current efforts for water storage, and conservation efforts). PAWG

member noted future stream and future storage are based on old climate scenarios. Members discussed lower Crab Creek and the plan on the books for diverting water from Coulee Dam; also surface water for Odessa. It was also discussed looking for alternatives, not making final decisions, just decisions for potential.

- Hedia noted at this point that what the Ag PAWG needs to do is identify for immediate steps vulnerabilities and what can apply now, then identify for further analysis in the future. It was suggested using input/output model.

14. Reduction in available water for irrigation and new and/or increase pest pressures; issues are what happens to the water if no storage and the issue of soil moisture. PAWG member stated the Health PAWG has met to identify vulnerabilities and identify adaptation measures. They came up with the follow criteria:

- What is the likelihood of event (commodities, drastically)?
- What is severity of event to Ag?
- What is magnitude of the event (or effect)?
- What is ability of adaptation that could be applied?

PAWG members stated this was a great criterion to start with; another member noted it was the classic risk assessment (they presume you know the full suit of events that occur that would be vulnerable to).

15. PAWG member suggested Allan's analysis work would be helpful; use the current out-of-date data and ask him to come in and scope that and modify it. Jeremie will work with Allan to get the information to the PAWG.

16. APL asked members is they could tell what Ag would look like in 2020 and what products/crops will change because of climate change. PAWG member stated we don't know. There are many variables to consider including greenhouse, atmospheric gases. Also, Ag is affected by what happens on global effect. Another member noted you have to look through an economic lens (input/output model).

17. APL noted that regarding the affects of climate change to Ag values in Washington State, some component in draft paper must have economic value as related to Ag output due to climate change. Members agreed need for multiple perspectives but couch it in respect to need in future.

18. PAWG member noted concern with movement of new pests into the region from California and Oregon; there is no integrated plan in place and there is a need to have one. Members stated it would be beneficial to have a list of crops we have in common with neighboring states so we can be prepared. The ineffectiveness of the current integrated plan and application makes Ag vulnerable to new pests.

19. PAWG member noted other states have good models and it would be beneficial to the Ag PAWG if we had the models for our information. If our crops are stressed from lack of water, the pest is very important. You also have the issue of weeds and climate change (weed pressure). APL can have someone on the group for this.

20. It was noted that animal and animal products are big in WSDA. Dr. Eldridge from WSDA sits on the Human Health PAWG. PAWG noted that veterinarian work is directly related to climate change and has been worked on at WSU. It was also

noted that shifting crops can threaten infra-structure of food processing industry. You have local regional food and transportation.

21. The transportation issues were discussed especially along the Columbia River; regional food miles and barge issues. Member stated there is also the increased cost of delivering commodity to the end user. When the question was asked whether there is an analysis that the water will get too low, the response was no. There was also the issue of management of water in the river system. PAWG member stated the transportation issue was beyond the scope of where he wanted to go. Another member stated there was also the issue of cost of electricity in the future. APL notes this has a relationship to Ag but it is not in our charge, our plate is too full now.
 - APL asked the group to watch where this would shake out in the grand scheme of things, where this should fall, and take a look at it later if applicable.
 - Hedia stated the group could note it but not detail it.
22. APL noted one of the adaptation strategies we will be looking at is management changes. Regarding shifting crop patterns, member noted you won't see a lot of changes in crops, but in the management level and adapting Ag to climate change. This becomes localized issues for crop choices. APL stated it would be good to add a new point to the presentation for 'New Management Practices'.

Recap by APL:

1. The goal of the group is two-fold: (1) What are the vulnerabilities for Ag (the ins and outs), and (2) what are the adaptation measures to those vulnerabilities.
2. Main focus has three main issues:
 - Water issue
 - Pest
 - Animal Disease
3. Secondary focus includes transportation, shift crop patterns, economics (including trade competition), management practices, bio-diesel, and fossil fuel.
4. Kirk and Chris will work together to ferret out the issues more and get back to the group.
5. Members recommended including food processing industry in the focus (how vulnerable is it based on climate change?)
6. Claudio recommended including the length of the growing season.

Next Steps and Agreements:

1. APL stated future meetings would be scheduled approximately every 3 week initially. He requested the group send him dates they would be available during the week of July 16. Hedia (ECY) will let APL know what day the PAWG leads will meet so he does not schedule the meeting during their meeting. Requested group start ferreting out issues to begin with.
2. APL will mail a copy of the "Scientific Consensus Statement on the Likely Impacts of Climate Change on the Pacific Northwest" to the group before the next meeting.
3. Jeremie Littell (UW): Will provide data related to water and water availability.
4. William Snyder(WSU): Will provide pest models from other states regarding pest impacts and pressures.

5. Chad Kruger(WSU): Will send name to Kirk regarding animal disease.
6. Chris Feise(WSU): Will send economic information to Kirk William (WSU): John Brown said Bill will email names to Kirk and Hedia regarding plant pathologist information (possibly Gary Groove from Prosser and Tobin Eber from WSU).

Final note: There was discussion regarding at least two face to face meeting of the group. Kirk suggested one in Eastern Washington, and one in Western Washington to be determined at the next meeting.