

# Beautiful Buffalo River Action Committee

17 January 2017

ADEQ, Commission Room

1:30-3:00 p.m.

**Members Present:** Becky Keogh (Arkansas Department of Environmental Quality, Director), Bruce Holland (Arkansas Natural Resources Commission, Director), Kane Webb (Arkansas Parks and Tourism, Director), Nathan Smith (Arkansas Department of Health, Director), Wes Ward (Arkansas Agriculture Department, Director), Jeff Crow (Arkansas Game and Fish Commission, Director), and Shelby Johnson (Arkansas Geographic Information Office, GIS Officer)

**Invited Guests:** Kevin Cheri (Buffalo National River, Superintendent) and Shawn Hodges (Buffalo National River, Ecologist)

## WELCOME AND INTRODUCTIONS

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### Becky Keogh

- First opportunity to publically discuss the role of the committee and how we can connect the business that we were called to action for by Governor Asa Hutchinson in his [30 September 2016 Directive](#). In directive, agency directors were asked to work together collaboratively and begin to focus on the Buffalo River.
- The Buffalo River is a resource to our state and nation, and a prized treasure as a recreational and tourism destination. It's also a home to many local communities and a resource of water that is so precious sometimes to many of our states. With every gift and treasure there is also responsibility and accountability that goes along with protecting that as a treasure for us and future generations.
- In speaking to fellow committee members, all have a common goal of wanting to see the watershed thrive and continue to be the resource that it is for the state in many ways. As agencies have various goals, they want to make sure they can reach those goals through mutual cooperation.
- Since convening the committee, the Governor asked Becky Keogh to co-chair the group along with Bruce Holland and other agency directors (Wes Ward, Nathan Smith, and Kane Webb) were asked to participate. In addition, other agencies have requested to partner with BBRAC – Jeff Crow (AGFC) and Shelby Johnson (AGIO).
- Recognized Kevin Cheri (BNR) as invited guest, here to present later in agenda.
- Recap on where BBRAC is headed – (Presentation, **Attachment 1**)
  - Year 1 Priorities
    - Initiate the development of a Buffalo River Watershed Management Plan (WMP)
      - Funded through 2016 EPA Multipurpose Grant to generate information about the watershed and serve as a basis to leverage funding through federal and private partnerships.

- Identify and Implement Early Actions
- Identify research needs and opportunities in a cost effective and productive manner
- Create an open and effective forum for stakeholder engagement
- Creating a website - <https://www.adeg.state.ar.us/water/bbri/bbrac/>

## AGENCY REPORT OUTS

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**Becky Keogh** – Along with Bruce Holland, have indicated in formational discussions that a 3-5 minute report outs from each agency regarding any updates of agency priorities with the focus on Buffalo River and watershed area.

Bruce and I have indicated in our formational discussions to get a report out from each agency to focus on the buffalo and the watershed area.

### **Kane Webb – Arkansas Parks and Tourism**

- No new information regarding the Buffalo River watershed since committee last met.
- Estimate about 1 million visitors are drawn to Arkansas each year because of the Buffalo River.
- Last year the state had 28 million visitors to Arkansas – with studies showing two-thirds of those are out of state visitors, with vast majority visiting Arkansas due to its natural beauty.
- \$28.2 billion was spent in Arkansas by tourists last year.
- Exemplifying the close tie between the Buffalo and the Watershed, Ken Smith, author of *The Buffalo River Handbook*, is being inducted into the Arkansas Tourism Hall of Fame in March at the Governor’s conference on tourism.
- Noted that recently The Nature Conservancy acquired 1400 acres along Big Creek in Mt. Judea.
- Noted Mike Mills, who serves on Parks, Recreation, and Travel Commission, is a founding member of the Buffalo Foundation and said “this conservation acquisition is a great example of landowners in the Buffalo River watershed working in practical ways to preserve the natural resources and cultural heritage of Buffalo River watershed”.
- What happens in the Buffalo River watershed is very important to tourism in Arkansas.

### **Nathan Smith – Arkansas Department of Health**

- No updates at this time.
- Focus on health issues escalates as temperatures warm and risk of recreational water illness increases. Will be monitoring *E.coli* along Buffalo this summer and looking for any evidence of those impacts.

**Becky Keogh** – Asked if ADH has any kind of historical data they can use to compare as they move forward.

**Nate Smith** – Replied ADH does not have a long history, but some available from last year, from which comparisons could be made to data collected this year.

**Becky Keogh** – Replied that would be excellent if those could be made available to the group, as they could be helpful in making those reports available to the Governor – who is very interested in creating measures and being able to report factual measurements of where we are seeing improvements or challenges or new issues that arise. [*Note: Action required.*]

### **Bruce Holland – Arkansas Natural Resources Department**

- Job at ANRC is to protect and preserve our states natural resources, currently and for generations to come, because it affects tourism, cities and municipalities, agriculture, wildlife, and public health.
- Arkansas is blessed with our abundant water availability and recreational potential on so many streams and rivers. Some states, like Oklahoma, only have two or three waterbodies with high recreational potential.
- ANRC’s main role in this committee is focused on the development of the Buffalo River Watershed Management Plan.

### **Wes Ward – Arkansas Agriculture Department**

- Agriculture in the state depends on our natural resources, wildlife, and sustainability.
- Over 42,500 family farms in Arkansas – significant impact on our economy, especially in rural areas.
- BBRAC is not intended and will not lead to additional regulations – which is very important to keeping agriculture successful in Arkansas, as our farmers are already over regulated. Additional regulation makes their job even harder.
- WMP provides a voluntary method and way for people to be able to adopt best management practices, but is certainly not mandatory. This will be something we hope will draw additional funding through USDA and other sources to make those available to the public.

**Becky Keogh** – BMPs and ideas from the agricultural community may be able to be shared with the group moving forward because it is such a critical part of the land use within the watershed. We want to make sure the Ag community is able to give us the lessons learned and best practices – because it is much easier for a farmer to listen to a farmer about how they were able to implement that measure on their farm in a cost effective and productive manner.

### **Jeff Crow – Arkansas Game and Fish Commission**

- Appreciative of opportunity and invitation from the Governor to participate in this committee’s work.
- Stewardship of our natural resources is something very near and dear to our staff and commission. Any opportunity we have to collaborate with groups like this, we welcome and look forward to doing our part to be successful.

**Becky Keogh** – Thanked Director Crow for his partnership, as AGFC is an important partner of ADEQ’s working on environmental efforts.

### **Shelby Johnson – Arkansas Geographic Information Office**

- Role: provide support to the lead agencies.
- AGIO office was created to reduce duplication of effort in GIS data in Arkansas.
- Updates on key datasets that may be beneficial to BBRAC:
  - LIDAR - produces high resolution terrain data to show slope aspect, calculate quickness of runoff. Partnered with USGS, ANRC, and FEMA this winter to produce LIDAR for the northern part of state.

- National Hydro Dataset – stewarded by ADEQ
- 911 Road Data (particularly Searcy and Newton counties)
- Ownership data (although limited). Would like to coordinate with counties in that area to have that data completed.
- Beginning this winter, will be updating aerial survey (one foot image resolution survey) of entire state of Arkansas.
- All of those data are or will be available at [gis.arkansas.gov](http://gis.arkansas.gov).
- Very willing to participate with agencies to generate and analyze any data they may need.

### **Becky Keogh – Arkansas Department of Environmental Quality**

- This past summer, ADEQ’s Water Quality Planning Branch evaluated sources and concentrations of *E. coli* in Mill Creek watershed.
  - 12 sites, none of which indicated an exceedance.
  - One site, at Harp Creek was the only one we saw a slight increase during summer 2016.
  - 91 samples collected during 9 sampling runs.
  - All samples completed by ADEQ staff and processed in ADEQ lab.
- ADEQ has partnered with USGS to develop an AM around continuous data
  - USGS been collecting continuous DO data, which generates much larger volumes of data than Arkansas is used to collecting and assessing. Working through the process of how to effectively assess continuous data.
- ADEQ working with Buffalo NPS to develop a rapid response protocol to respond to concerns and complaints. This will bring our agencies in better alignment with what sort of resources are available to investigate, but to also provide a more effective and timely response.
- For 25 years ADEQ and NPS have partnered to monitor 23 sites (10 mainstem, 10 tributaries, 3 tributaries) within Buffalo National Park. ADEQ continues to support NSP to process those data. Highlights include:
  - Meet once a year to discuss ongoing needs
  - NPS offers equipment and facilities to ADEQ to expedite any response efforts
  - Will allow ADEQ to address any future water quality concerns
- C&H Drilling Study – conducted to further assess the operation, as a follow up to Electrical Resistivity Imaging (ERI) assessment that had been conducted by Big Creek Research and Extension Team (BCRET). Use of sonic drilling to drill down 128 feet through hard rock. Attempt to execute this in a single effort in order to be sensitive to vibration to anything that could potentially present a risk to facility and environment. Report made available in December, provided by the consultants immediately to the public and ADEQ at the same time.
  - ADEQ currently working through questions and responses from drilling report. Question period has been formally closed, although people can continue to ask questions – on track to complete that study this week. Hope to post responses to inquiries later this week.

*Note: Response to comments can be found here:*

<https://www.adeg.state.ar.us/water/bbri/c-and-h/pdfs/drilling-study-executive-summary-and-responses.pdf>

## EXECUTIVE DISCUSSION

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### Discussion of Charter Adoption – Becky Keogh

- Charter (**Attachment 2**) developed largely by ADEQ staff -not intended to limit efforts of committee but to give a common language and platform from which we can operate and function.
- Document was intended to be as flexible as possible. Committees will be formed on an ad hoc basis.
- Asked if there were any specific questions or discussion.
- **Kane Webb** motioned to adopt the charter. **Nathan Smith** seconded the motion. Charter was passed unanimously with no discussion or questions.

### Approval of 2017 BBRAC Meeting Dates – Becky Keogh

- Directive charged committees with meeting quarterly, Charter identifies specific meeting dates will fall on the third Tuesday of the Month.
- **Bruce Holland** stated as long as Committee meets at some point within that quarter, should be sufficient for scheduling, as leaving dates open will better serve the committee.
- Proposed list of dates provided to the Committee was an attempt to propose tentative dates in advance. Committee was asked to look check on dates and notify Angela Kelley ([Kelley@adeq.state.ar.us](mailto:Kelley@adeq.state.ar.us)) if they will not work.
  - **Nate Smith** noted that the May and July dates are Mondays. **Becky Keogh** responded those would be adjusted to 16 May 2017 and 18 July 2017.
- BBRAC meetings will generally be scheduled in Little Rock, due to ease for committee members. However, Watershed Management Plan (WMP) meetings will occur in watershed in order to get input from the local public.
- Potential interest in doing float trip by committee on the Buffalo sometime during spring or summer 2017. **Kane Webb** suggested spring instead of summer. **Kevin Cheri** commented that May should be a good time for floating.
  - All of the committee members agreed there was interest in a float trip.
  - Potentially invite Governor Asa Hutchinson along on float trip.

### Public Engagement – Becky Keogh

- Public engagement (e.g. public listening session) not addressed in today's meeting – given that we are in the process of the WMP stakeholder process, asked if there was any interest in taking thoughts from the public during future meetings in Central Arkansas. Asked for thoughts from committee on whether anyone had thoughts as to whether additional public involvement was needed, if it would be helpful, or whether the WMP process would be sufficient.

- **Bruce Holland** replied that a lot of that work is being done in the watershed, during WMP meetings, with people concerned and have the biggest issues with what we are doing. Anyone with interest in the WMP should show up to WMP meetings to voice concerns and work with contractor.
- At BBRAC meetings, Directors and staff will be available for public to talk with us informally before or after meetings.
- ADEQ’s website (<https://www.adeg.state.ar.us/complaints/>) will also be an avenue where anyone can submit concerns or questions. Specific suggestions or complaints about the Buffalo River will be forwarded directly to Director Keogh.
- Asked Committee if there were any additional thoughts or whether that seemed to satisfy issues of engaging the public. *Everyone nodded heads.*

## NATIONAL PARK SERVICE, BUFFALO NATIONAL RIVER

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### Kevin Cheri

- Recognized Governor’s commitment and attention to Buffalo River watershed, bringing everyone together is a wonderful step for state agencies to provide leadership in ways to approach watershed management and supporting sustainable uses and practices.
- Mentioned the importance of keeping communication lines open, to share concerns and do a better job protecting the river.
- Priorities BNR is focused on – presented by Ecologist, Shawn Hodges.

### Shawn Hodges – (Presentation, **Attachment 3**)

- Water Quality is #1 priority since BNR is a water park and recreation is a major use.
- Long relationship with ADEQ water quality partnership
  - 32 sites (routine and quarterly samples): 20 tributaries, 9 mainstem, 3 spring sites
  - NPS collects water for nutrient analysis, meets ADEQ staff to transfer samples, ADEQ staff delivers samples back to ADEQ laboratory for processing.
  - NPS collects physico chemical and samples to processes *E.coli* and turbidity in NPS lab. Data forwarded to ADEQ to be combined that with nutrient analysis and posted to ADEQ website ([https://www.adeg.state.ar.us/techsvs/env\\_multi\\_lab/water\\_quality\\_station.aspx](https://www.adeg.state.ar.us/techsvs/env_multi_lab/water_quality_station.aspx)).
  - BNR believes they have one of the largest and longest partnership and sampling datasets of any national park.
  - Special projects are developed when routine and quarterly samples indicate a water quality concern.
- BNR will be focusing on dye tracing to determine subsurface flow. In karst environments, subsurface flow is considered “the other watershed”. With the many losing streams in the Ozarks, issues arise when water is lost to the sun, nutrients become fixed in the water. Nutrients will not be utilized until the sun hits it again because there are very few processes that will utilize nutrients in the absence of light. In karst there are other concerns when it comes to. Other issues with managing nutrients in karst systems can arise from what is known as “pirating

systems”, when subsurface flow is transported to another surface drainage. An example of this in the Buffalo River watershed is that some of the water in the Buffalo River comes from interbasin transfer from the Crooked Creek drainage.

- Beginning in 2014, BNR began partnering with USGS to measure dissolved oxygen, because it is a really good measure of ecosystem stress and function. There are 18 tributaries of the Buffalo River that are monitored on a 3 year rotating basis, sampling 6 streams each year from May 1st to September 30th.
- Next major focus will be on sedimentation. Major considerations for addressing sedimentation will be with given to mussels, as the BNR has two threatened and endangered mussel species - the snuffbox and rabbitsfoot. Mussels are largely immobile and can be extremely impacted because once sedimentation occurs it can either change the channel or bury mussels under sediment. Largest cause of sediment in the Buffalo River is due to streambank erosion.
- Pictures were shown of streambank erosion on the Buffalo River and it was explained how this could be a major impediment to a tourist’s ability to enjoy the aesthetic beauty of the river. As managers it is our job to address those issues so it does not take away from someone’s visit to the river. These issues could eventually result in aggradation causing the river channel to become too shallow to be passable without dragging.
- Streambank restoration is only a “patch” solution, however. In order to solve the problem, issues upstream would need to be addressed.
- Focus will be placed on education and citizen science.
  - This year BNR will host a cave ecology and microbiology workshops that are focused toward high school and college students, as well as local teachers.
  - Another focus will be on hosting bioblitz events, with this year’s focus on dragonflies – to be led by Dr. Harp (ASU). Participants will be educated on how to collect, identify (both larval and adult), and educate about importance.
  - Research Learning Centers in park – Steel Creek and Harp Field Station (with ASU) -serve as field stations.

*Note: Wes Ward had to leave at 2:41 for conflicting meeting.*

- **Becky Keogh** mentioned that one of the comments commonly heard at the national level is the need to understand what citizen science is telling us and how to use it to make management decisions and how to communicate science to citizens. Encouraged BNR to work with ADEQ on figuring out what citizen science data is meaningful, how to interpret those data, and how to communicate science.

#### **BBRAC Question to BNR**

- **Becky Keogh** asked if there was anything the committee can do to support the priorities of BNR.
- **Kevin Cheri** replied that efforts we are already making will be important to establish better working relationships and share data and concerns. Opportunities to communicate and address concerns will be most important as we continue to move forwards. Stakeholders of the BNR want to be assured we are communicating. A lot of work BNR is doing to educate the public is part of

the NPS mandate to continue to create stewards of our nation's resources. It is important for BBRAC to allow information to be received from all stakeholders of their concerns, not just the NPS.

- **Nate Smith** asked how BNR was using social media to get information to public on the condition of the Buffalo River.
- **Kevin Cheri** responded "Facebook and website".
  
- **Kane Webb** asked if bank erosion happening more rapidly or frequently now and whether it is something that is more of a concern today that it was a few years ago.
- **Kevin Cheri** responded that it has been an issue for a long time. Those that are most familiar with the river and float it often will often come to BNR about sediment islands that are building up - a lot of which is a result of streambank erosion. More research is needed to figure out the cause of this. BNR has been looking at its practices, such as road maintenance, as well as development outside the park. However, – local landowners are very sensitive to government telling them what to do. Once landowners understand impacts then they can choose to address. Committee can help come up with best practices that could be addressed, from which landowners can choose to adopt and maybe these things will improve upon themselves. The majority of landowners will hopefully learn from what we provide them and become better stewards. Most of the time the things people do is because they don't understand it could affect the river.
- **Becky Keogh** commented that when meeting with farm bureau, it has been apparent that bank erosion is important conversation with farmers, because it results in the loss of valuable acreage to them. Programs like TNC and others have looked at stream bank erosion other streams and hopefully have examples of programs that can work and are affordable, or can be made affordable by extra incentives. Goal of this group is to fund win wins.
  
- **Nate Smith** mentioned a complaint that was received summer 2016 about visitors becoming ill after drinking water from the Buffalo River. Asked NPS what kind of guidelines they give to tourist on the river regarding drinking water on the river.
- **Kevin Cheri** replied that they discourage people from drinking from the river unless you have proper filters. Acknowledged there were a couple of individuals that had gotten ill, possibly from drinking water from the Buffalo River. BNR did very extensive research into that, involving the Denver NPS office, and it was determined the illness did not appear to have been caused by the Buffalo River. There was a high probability the illnesses were caused by some other source. BNR can't guarantee what could be in the water, so it is not advised to drink from the river without proper systems.
- **Nate Smith** noted that many of the portable water filters do not actually filter out viruses which can also cause illness.



- **Bruce Holland** followed up to Kane Webb’s question on stream bank erosion by stating the WMP will help landowners to address this. Told story of how growing up, Natural Resource Conservation Service would come out to do engineering and teach best management practices to address erosion issues – and now a lot of those programs have gone away. This is an avenue where we can bring back some of those monies to those within the watershed once a WMP is in place.

## **BUFFALO RIVER WATERSHED MANAGEMENT PLAN UPDATE**

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### **Tony Ramick, ANRC, Nonpoint Source Program Manager**

- Tasked with oversight of WMPs in the state, for which they have overseen seven (7) others.
- Time table for developing WMP is 16 to 18 months. Plan *could* be completed in 12 months, but EPA wants to review it since they are paying for it. While EPA doesn’t approve or disapprove WMPs, they can just choose to accept it or not. EPA requires a [Nine Element Plan](#) for WMPs, which must include a monitoring and feedback component. In addition, requirements to go back and assess the plan and see if it needs to be updated.
- WMPs are living documents, and it is up to watershed stakeholders to keep the plan active and updated.
- First meeting for Buffalo River WMP was 8 December 2016 in Marshall, AR. Approximately 13 attended. The groups represented agriculture, conservation, recreation, other interested groups, state and federal agencies, and local elected representatives.
  - FTN and Associates, contractors hired to develop WMP, in charge of conducting and facilitating meetings.
  - Attendees broke into two large groups: Agriculture, Commerce, Governance and Tourism, Recreation, Environmental Interests. Breakouts lasted for about an hour and participants discussed what the concerns and issues were within the watershed.
  - WMP addresses nonpoint source issues – some of which are erosion and nutrient enrichment concerns. When it comes to point source, there are policies, procedures, and regulations in place to deal with those concerns. WMPs do not deal with regulatory action.
    - Concerns that were listed are attached (**Attachment 4**). Both groups had similar concerns.
- **Next meeting will be held 30 March 2017 at Carroll Electric (511 E Court St.) in Jasper, AR.**
  - Update and overview of previous meeting will be given.
  - Current status and trends in water quality will be presented.
  - Input from stakeholders will be solicited.
  - Will describe next steps for management process.
- In referenced to BNR’s goal for increased stewardship, ANRC and University of Arkansas Extension Service developed a Watershed Stewardship Manual that may benefit them. *Note: copies were shared with interested persons.*

## Questions

- **Shelby Johnson** asked if there were a lot of successes and BMPs that were learned from the Illinois River watershed, and if so, if those could be described.
- **Tony Ramick** replied that it depends on which constituent one is concerned with. With erosion, each site is unique. ANRC and ADEQ have had successes of getting waters off 303(d) list. AGFC Stream Teams give small mini grants to identify places to work on and prevent erosion from occurring. You can address erosion in some places with very little work and in others it is extremely difficult. Erosion occurs because every action has a reaction whether upstream or downstream.
  
- **Kevin Cheri** asked if meetings were going to be considered in Marion County.
- **Tony Ramick** replied that at this time they do not know of facilities large enough.
- **Kevin Cheri** replied that Harrison may also be a location to be considered, as it is centrally located within the watershed.
- **Bruce Holland** comment that there are certainly challenges with finding a location that is beneficial to everyone since there are no direct routes anywhere up there.
  
- **Becky Keogh** asked if WMP was progressing as Tony would hope and whether there was anything agencies can do.
- **Tony Ramick** replied that this WMP is progressing faster than others since we have learned from previous ones. Communication among agencies and sharing of information and data is the best way for agencies can assist the contractors in developing the WMP.
  
- **Kane Webb** asked if it was typical for there to be so much overlap between interest groups and their concerns.
- **Tony Ramick** responded that it's neither unusual nor routine. In many of the previous WMPs, agricultural settings were more common, and concerns could greatly vary due to crop type and practices. With the Buffalo WMP, an environment where a lot of the watershed is dominated by public lands and similarity in citizenry – concerns are not as diverse.
  
- **Becky Keogh** commented that it's important that the citizens within watershed have some ownership of the plan and understanding of the value the WMP adds to their lives. Asked if **Tony** felt like they had done a good job of reaching people and whether there was some way to make WMP something that is meaningful and affordable as opposed to some theoretical scientific analysis.
- **Tony Ramick** responded they have done a good job of reaching out for the amount of funds they have to work with. Even if someone can't make it, they have contact information so that people can reach out to provide input. It is the watershed citizen's plan.
- **Becky Keogh** added that often we can't solve problems until we understand if there is a problem. Communication is key. Hopefully this process will lead us to a roadmap to solutions. We already have pristine water quality in the Buffalo River and what we want to do is preserve

that. While it has challenges, we aren't dealing with a significantly impaired watershed. It's a resource we are looking to maintain as well as solve problems.

- **Tony Ramick** added that the WMP is a critical benefit of a WMP, from the perspective of agencies, is to provide a way to solicit funds.

## WRAP UP AND CONCLUSIONS

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- **Bruce Holland** stated that one of the issues that has been noted is the feral hog population. Asked **Jeff Crow** if AGFC has any understanding of the feral hog population and whether it's a possible action this committee could take to address some of that.
- **Jeff Crow** replied that state wide, feral hogs continue to be a problem. Although AGFC does not have information on the number and impact of them, we know there is a very vibrant heard of them up here. And when you start talking about water quality, it's a very important topic.
- **Kevin Cheri** added that although we don't have specific data on the populations, they are definitely a significant cause of erosion. Working on ways to get best handle on it.
- **Bruce Holland** commented that while on the Livestock and Poultry Commission, one of the livestock inspector supervisors from that area said they are doing a tremendous amount of damage near the Buffalo, but it is hard to understand where they are and how to get rid of them.
- **Becky Keogh** noted there was a list of ideas and concerns identified in the WMP that actions can be developed to address. Stated it would be helpful to invite guests to the next meeting to present on issues related to roads – either county officials or Senator Missy Irvin to talk about the Unpaved Roads program. Other presenters include The Nature Conservancy to discuss property they purchased near Mt. Judea.
- **Becky Keogh** commented that it should be a positive sign for tourists to know that we are watching *E. coli* for their safety.
- **Kane Webb** mentioned to the Committee how important it is to continue to be proactive. In tourism, perceptions of issues are often a reality of how tourism is affected.