

FINAL SUMMARY, MEETING # 6, AS CORRECTED AND APPROVED BY GRAND CANYON WORKING GROUP AT ITS MEETING SEPTEMBER 27 – 28, 2006

**Grand Canyon Working Group
Sixth Meeting
July 25-27, 2006
Four Points Sheraton
Phoenix, Arizona**

Final Summary of Discussion and Agreements Reached

Facilitators/recorders: Lucy Moore, Tahnee Robertson

Members Present:

Lynne Pickard, FAA, Working Group Co-chair
Karen Trevino, NPS, Working Group Co-chair
Bill Austin, US Fish and Wildlife Service
Marklyn Chee, Navajo Nation
Roger Clark, Grand Canyon Trust
Mark Grisham, Grand Canyon River Outfitters Association
Elling Halvorson, Papillon Airways
Stacy Howard, alternate for Heidi Williams, Aircraft Owners and Pilots Association
Cliff Langness, King Airlines, Inc. and Westwind Aviation
Edmund Tilousi, Havasupai Tribe
Doug Nering, Grand Canyon Hikers & Backpackers Assoc.
Jim McCarthy, Sierra Club
Alan Stephen, Scenic and Grand Canyon Airlines, Inc.
John Sullivan, Sundance Helicopters, Inc.
David Yeamans, Grand Canyon Private Boaters Association
Charlie Vaughn, Hualapai Tribe

Superintendent's Chair:

Joe Alston, Grand Canyon National Park

Members Absent, without alternate:

Katherine Andrus, Air Transport Association
Dick Hingson, National Parks Conservation Association (alternate)
Leigh Kuwaniswima, Hopi Tribe
Alan Zusman, Department of the Army

Summary of Agreements:

Consensus: Meeting Summary # 5 was approved as corrected.

DAY ONE:

Welcome: Lucy Moore welcomed members, alternates and observers to the sixth meeting of the Grand Canyon Working Group. She asked those at the table and in the audience to introduce themselves. Lucy reviewed the agenda, pointing out that much of the meeting would be spent in the two subgroups (East End and the West End) formed at the last meeting. These groups would continue to discuss proposed changes to the air tour operations at the Canyon, and begin to prioritize those with potential for consideration by the full working group. She emphasized that the

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subgroups are for the purpose of exploring changes, and that they have no decision-making authority. They may bring proposals to the Working Group for consideration, either at this meeting or the following meeting. The goals for the meeting are to learn more about high altitude flights and to try to receive recommendations from the East and West End groups that the Working Group can act on, either now or at the September meeting.

The MITRE study of the impacts of changing high altitude routes will be available at the September meeting, rather than this meeting. MITRE staff will give the Working Group a progress report and answer questions at this meeting. Lucy distributed a letter from Katherine Andrus, Air Transport Association, which stated that neither she nor her alternative would attend this meeting since the MITRE results were not available.

Lucy reviewed the Task List from the last meeting. All tasks had been, or were close to being, completed.

Approval of Meeting Summary: Because many had not had a chance to read the summary carefully, its approval was postponed to Day Three.

Updates: High Altitude Flights:

Lynne and Karen distributed copies of a letter from Congressman Young, Chairman of the House Transportation and Infrastructure Committee, and Congressman Mica, Chairman of the House Aviation Subcommittee. [on the website overflights.faa.gov] Congressional staff had requested a briefing from FAA on the progress of the GCWG. FAA asked if NPS could join, and both agencies attended the briefing. Lynne introduced Holly Woodruff, Senior Counsel to the Aviation Subcommittee, who is attending this Working Group meeting. In addition, Senator Ensign of Nevada recently asked NPS for a briefing. In the spirit of collaboration, Karen asked Lynne to attend the meeting in DC, and Lucy to join her and other NPS staff by conference call. Both the congressmen and the senator were concerned with the involvement of the Working Group in issues relating to high altitude flights. Senator Ensign's staff explored the potential for legislation to remove this class of aircraft from the charge of the GCWG. Karen wanted to assure the group that neither she nor Lynne requested these briefings. She assumed that concerned stakeholders and/or lobbyists had approached the congressmen and senator. She and Lynne followed the protocol of the Working Group for such conversations.

In addition, a representative of Airports Council International-North America inquired about the impact of GCWG decisions on airport operations, particularly in Phoenix and Las Vegas. Another aviation association, the National Business Aviation Association, has also expressed interest in the deliberations of the GCWG that might affect high altitude business aircraft, and has sent Paul Smith to attend this meeting as an observer. Finally, the Clark County Aviation Department that operates Las Vegas McCarran International Airport has expressed concerns about effects on its airport system over the past several months, and sent Mike Loghides and Dan Reimer as observers to this meeting. Lynne had been contacted by a representative on behalf of Phoenix Sky-Harbor International Airport and invited them to send a representative as well.

MITRE Progress Report: Lee Brown and Thor Abrahamsen [presenters]

Presenters reviewed their process in analyzing impacts of route changes to some high altitude flights within the polygon designated by Working Group members over the east end of Grand

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Canyon. Step 1 involves data collection (establishing study days, characterizing affected flights for the total affected airspace and for certain routings such as Las Vegas, Phoenix, S. California). Step 2 involves how to reroute flights around the proposed sterile airspace and analyzes the first order effects, including safety implication, of restricting flights through the airspace or moving them further north or south. Step 2 will also include an evaluation of the costs of such changes. Step 3 will look at the second order effects of rerouting to avoid the study area, including safety implications and impacts to traffic management like demands on controllers. Proposed rerouting inevitably adds more aircraft to compete for airspace, runways, approach paths, etc. The more complex the situation, the greater the need for management flow. FAA must take traffic management initiatives, like delaying aircraft on the ground or in the air, if they detect an imbalance between demand and capacity. Moving aircraft from the Heart of the Park will inevitably create excess elsewhere. Step 3 will analyze the impacts of addressing this excess. Step 4 will explore the kind of airspace redesign that could be done to mitigate delays from Step 3.

The study area used by MITRE is the polygon provided by Jim and Dick. The scenarios to be modeled are at or above 18,000 feet and are to exclude from the polygon 1) daytime traffic; 2) nighttime traffic; 3) McCarran departures and arrivals; 4) Phoenix departures and arrivals; 5) S. California Basin departures and arrivals. The 90th percentile study day presented at the meeting was July 11, 2005, a day with 666 flights above 18,000 feet crossing the study area -- 190 at night (7 pm – 7 am) and 476 during the day. In addition there were 5 military flights and 23 flights below 18,000 feet. The number of flights within the study area varies from about 400 to 700 a day. There were very few traffic management initiatives (delays in air and on ground) on the study date. The Basin area accounted for 46% of the flights on July 11, 2005. Phoenix accounted for 61 arrivals and 49 departures; Las Vegas for 52 arrivals and 48 departures; Basin for 228 arrivals and 87 departures. Most of the flights were at cruising altitude.

MITRE presented a draft set of reroutes, based on the philosophy of using the existing structure, navigation aides, arrival and departure procedures, and sector hand-offs. Each center has many sectors, and the job of controllers changes as flights enter and leave a sector. MITRE presenters showed preliminary reroutes of Phoenix arrivals to the west, departures to the east; Las Vegas arrivals to the south and departures to the north.

There were questions from Working Group members about the configuration of the reroutes, and why they appeared to be farther from the edges of the polygon than necessary. MITRE responded that the preliminary reroutes are based on using the existing structure of the national airspace and navigational aides. Although adding new navigational aides is possible, it is very expensive, requiring coordination with existing routes to airports, aircraft equipment, etc. Lynne added that FAA is in the early stages of a shift from ground-based to satellite-based navigation. This shift depends on a future aircraft fleet with advanced avionics. A GCWG member added that dispersion of flights from the track often happens, as controllers make choices to save time and money where possible. Overloading a sector might make this dispersion less feasible.

The study will use ADOC (aircraft direct operating costs) to determine costs. ADOC includes the cost per minute of flying time, and crew, fuel and maintenance costs. It uses a generic number that can be tailored for a specific fleet mix and certain airports. GA flights and commercial carrier flights are treated separately, using \$ 2 per gallon. Consultants admitted that ADOC is uncertain because of unknown fuel prices in the future; they will apply some sensitivity analyses.

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Thor summarized that the work completed to date includes: characterization of the study area and the flights, and identification of a 90th percentile date. The next task will be to assess the first order impacts of rerouting, the potential safety issues, the NAS sector functions, and users costs.

Q: Will the study account for the inevitable increase in flights in the future?

A: The study will first look at the current situation, before attempting to forecast impact into the next five years.

Q: How are boundaries determined for a sector?

A: Boundaries are drawn based on how flights move through an area. They are realigned if necessary to balance the workload.

Q: How will noise analysis be done for the high altitude flights?

A: Cyndy answered that the MITRE data was compatible with INM 6.2.

Q: Will the impact of delays include the impact to people of missing flights, gates overcrowded, and other inefficiencies?

A: The current impacts reflect additional flying time and the ripple effect through the National Airspace System. This study will not include the economic impacts to the area. MITRE will not go beyond ADOC, which will result in conservative numbers, without consideration of passenger time, lost revenue, etc.

Q: How will communities, especially on Hualapai lands, that might be impacted by reroutes be notified, and will they have a chance to influence decisions? Will there be a separate NEPA process to analyze rerouting?

A: Lynne answered that this analysis by MITRE is only for the purpose of giving the GCWG information on the impacts of moving high altitude routes. These are not agency or Working Group proposals – only information and analysis. If any rerouting were proposed, it would be part of the Grand Canyon NEPA process and involve substantial public participation.

Q: Is this putting the cart before the horse? Shouldn't we look at the noise benefit of moving the routes first?

A: Members of the Working Group have asked for quantified data on airspace effects.

Q: Can the studies give us the metrics of 5 mile separations?

A: MITRE staff replied that, although the separation standard is 5 nautical miles at high altitude and 3 miles as aircraft get closer to airports, the actual separation may need to be more than that for controllers to do their jobs. Seeing the route structures represented with black lines is misleading; each route has its own set of criteria. In September, MITRE hopes to be able to show a three-dimensional picture of the airspace. The hard part, they added, was showing the fourth dimension, or time component.

Q: What is the correlation between increase in flights and increase in noise? In the future, will there be more and more flights, and therefore inevitably more and more noise?

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A: Lynne said that FAA has forecasts for the next 20 years that anticipate air traffic increases. But she pointed out that while traffic has increased over last 20 years, noise has not increased commensurately because of a decrease in aircraft source noise. It is not a corollary that noise will increase as traffic increases. The goal by 2025 is to have absolute reduction of significant aircraft noise impact in the U.S., despite the increase in aviation.

A discussion followed about the usefulness of pursuing the MITRE study, given the cost and the concern the study raises with airport interests, commercial aircraft and business aircraft. Some group members felt that it was important, and in fact required by law, that the agencies explore every possible avenue for achieving substantial restoration of natural quiet. "Just looking at data does not mean that we are attempting to drive an airline out of business," said a recreation representative. The results of the study may show that changes are unsafe, costly and not feasible, but there is an obligation to look at the data, he added. "If we look at the data, at least I won't be sued by my constituents if we have done the analysis." An environmentalist said he would really appreciate a one-page explanation of the results of the MITRE re-routings.. He would also like to know if third party experts agree with the analysis. "If there's a rational reason why we cannot make changes to high altitude flights, I'll accept it."

An air tour operator asked how the NEPA process would be impacted by a decision not to deal with high altitude flights. Substantial restoration of natural quiet would not have been met. What would this mean for air tour operations? He questioned the fairness of defining the day as 12 hours. A 24 hour day would include night flights, which many feel have significant impact on the ground visitor's experience. A recreation representative agreed that he would like MITRE to focus on nighttime traffic, for the reasons already stated, and because with fewer flights at night it might be possible to do some rerouting.

The Hualapai representative questioned how the polygon to protect the heart of the park was drawn, and feared that moving flights away from that area would increase flights over Hualapai, during the day or at night. The response was that the high altitude subgroup used a polygon created by Jim and Dick as part of the process of developing the request for a high altitude airspace analysis. The high altitude subgroup was created at the May-June meeting and includes representatives from the air tour industry, environmentalists, the Hualapai Tribe, ATA, McCarran Airport, and the two agencies. The Hualapai representative said that she wanted the group to know that the tribe could not support moving flights over Hualapai lands. Working Group members said that Chairman Vaughn had made these points at the last meeting, and that they understood the position of the tribe.

A member noted that there is a difference between moving aircraft and moving noise because you have to move aircraft farther away to reduce their audibility. Lynne responded that she had specifically asked the group if they wanted to move aircraft or aircraft noise out of the polygon, and the answer was aircraft.

Observers' Comments:

Paul Smith, National Business Aviation Association, Inc.(NBAA): Mr. Smith introduced himself and his association. NBAA has more than 7,000 member companies. They operate more than 9,500 aircraft. Mr. Smith urged the Working Group to focus on safety concerns, and secondarily the impact on the national aviation system. He cautioned that there is enormous potential for the results

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of this effort "to spill out into other areas." He asked that the group give this a lot of thought, and said that he would be available to help out in any way he could.

Dan Reimer, attorney representing Clark County Department of Aviation: Attorney Reimer expressed frustration that his client's letter was not distributed as requested to the Working Group. In his opinion, the Overflights Act of 1987 does not confer authority on NPS but rather on FAA to impose restrictions. The Clark County Department of Aviation is concerned that Working Group members will never be satisfied with the analysis of MITRE, and the question about regulating high altitude flights will remain on the table indefinitely. "When do you decide to stop, folks?" It is in the interest of the airport and its planning staff that this inquiry end now. He also asked that the high altitude subgroup meet during this period in order to be more directive in the MITRE work.

[Karen said that NPS does not now, nor ever has, maintained that they have jurisdiction of any high altitude airspace. In answer to Mr. Reimer's question about the role of NPS, the FAA attorney explained that the Act requires NPS to make recommendations to FAA regarding a plan to meet substantial restoration of quiet. Unless there is a safety concern, FAA is required to implement those recommendations. Mr. Reimer protested this opinion.]

Mike Loghides, Clark County Department of Aviation: Mr. Loghides expressed great frustration that the interests of McCarran Airport were not included in the deliberations of the Working Group, particularly when the discussion includes the fate of Las Vegas arrivals and departures. McCarran is experiencing 3-4% growth a year, with no end in sight, he said. They are one of the busiest airports in the country, and it is very important that this group not ignore their concerns. They asked the group to consider the airport's point of view.

Roxane George, Sierra Club: Ms. George wanted the group to know that she has spent a great deal of time thinking about this process. The process generates a lot of information and explanations about what can and cannot be done. Understanding the situation in this way contributes towards building trust, and helps citizens be more informed and able to participate. She asked everyone to remember, in spite of impatience and frustration, that it is critical that decisions be made with full information and understanding about the issues and the possibilities.

High Altitude Subgroup: John Sullivan clarified that he had asked Mike Loghides to represent him on the high altitude subgroup, and hoped that he would play an active role because of his expertise. Subgroup coordinator Lynne Pickard reiterated that Mr. Loghides has always been a member of the group, and is notified of all conference calls and receives all emails. His participation is welcome and much needed.

Lucy added that the High Altitude Subgroup had been created in the same spirit and on the same model as the Volpe Screening Group – a group of those interested in reviewing and refining the requests for modeling. The High Altitude Subgroup could behave in that way with MITRE, or it could be like the East End and West End groups – a group constituted to further think about the high altitude issues and make recommendations to the Working Group.

Lynne explained that MITRE has tremendous expertise on this subject, and that FAA frequently asks them for an independent review. FAA has deliberately kept themselves at arm's length from the MITRE work – and the Volpe work -- to mitigate the perception of bias. The High Altitude

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Subgroup is operating with respect to MITRE just as the Noise Screening Subgroup operates with respect to Volpe. Both subgroups define requested analysis. They do not tell MITRE or Volpe how to do the analysis, but rather rely on the consultants' technical skill and professionalism. It is not appropriate for FAA or any interest to influence their work, she said. "While I envision the High Altitude Group looking at the MITRE results, I hadn't envisioned them as hands on directing the analysis." She suggested the group meet at lunch and discuss their role. [Lynne reported there was a brief pre-lunch caucus. No one who caucused, including Mike Loghides, wanted to provide hands-on directions to MITRE.]

An NPS spokesperson agreed that the airport has a great impact on the economy of Las Vegas, but pointed out that the Grand Canyon National Park draws an enormous number of tourists each year, many of whom travel through, or stay in, Las Vegas. Mr. Loghides acknowledged this and added there are other destinations for tourists to spend discretionary dollars, if the airport experience is unpleasant.

A recreation GCWG member reminded the group that they are "still making a menu." At some point, choices will be made from the menu, but at this point we are still building the menu. He was concerned that the High Altitude Subgroup or the Noise Screening Subgroup not be allowed to block the flow of information or make decisions on behalf of the GCWG.

Mike Eng, from the US Institute for Environmental Conflict Resolution, contracting agent for facilitation for this project, gave some background on the creation of the Working Group. The original expectation, he said, was that the group would focus on air tour overflights; high altitude flights were not expected to be a significant part of the discussion. It is always possible, he said, that if the focus changes, membership can be expanded or relevant subgroups can be formed to adequately represent new interests.

INM Noise Modeling and High Altitude Flights:

Dick Hingson, who was unable to attend this meeting, asked Jim McCarthy to read a letter concerning inaccuracies in the measurement of the time audible for high altitude flights. The letter stated that the reported time audible may be overstated by 300%. If more realistic numbers were used, Hingson suggested, it might be feasible to make a difference with little adjustment to the routes. The INM model, he said, is a good tool for evaluating low flyers, i.e., air tours. The group should strive to do all that is practical with respect to the high altitude flights, since their impact covers the entire Park.

Cyndy Lee from Volpe said that Dick's letter raised a valid point in that INM adds together all audible aircraft noise, but does not capture simultaneity of flights. Volpe calculated for Grand Canyon that in the absence of an algorithm to address the overlap there is an over-prediction, perhaps in the range of 125% - certainly not 300%. Kurt Fristrup, NPS, said that he and Cyndy were working together to create a compression algorithm to account for audibility overlap. He said that even if they cannot get the absolute values precise, he believes they can make valid comparisons among alternatives. They recommended that the Working Group continue working with MITRE to discuss the feasibility of moving high-altitude aircraft routes while Volpe and NPS continue development of this algorithm. In response to some members' comments that there was not as much audible high altitude noise in the Canyon as predicted by INM, Lynne responded that one reason is probably that we are computing more audibility than people would report hearing.

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Kurt agreed because INM does not account for the fact that some sources may be masked by others, e.g., some aircraft audibility may be masked by wind sounds when the wind is high.

The Hualapai representative said that she was concerned that the process of gaining information and making decisions could be slowed down if members raise questions about the science already agreed to. Members could quarrel with results that do not support their positions. An environmental member agreed that the model had unanimous support from the Working Group, but he said that the results are "dramatically off base," and that as an engineer he cannot ignore what he believes is a significant flaw in the model. It is not to his advantage, but rather to his disadvantage as an environmentalist, to have that flaw corrected, he added.

There was a request to put the 2002 Court decision on the web site.

Jim McCarthy said that after all is done to reduce high altitude noise that can be done, if we are still not substantially restored, that he would propose that natural quiet from low flying aircraft noise be restored in 50 percent of the park for *100 percent* of the time, rather than the current standard that could be interpreted as *75 percent* of the time.

Updates:

Timeline:

Lynne and Karen explained that the original schedule will need to be adjusted to reflect the reality of the situation. The slippage is not great at this point, and they said they would revise the timeline if necessary following this meeting. Karen commented that we may not know enough about how much longer the Working Group is likely to take until the September meeting.

NEPA:

Barry and Grace reported that both agencies have reviewed all the scoping comments, and addressed the concerns raised at the last meeting in the Scoping Summary. Some comments had been missed; some needed to be seen together; specific names have been removed. They hope to have the summary available at the next meeting.

A member expressed confusion about the role of the Working Group in the development of NEPA alternatives. He noted that the Working Group may be falling behind in the development of its recommendations, and yet the NEPA process is moving forward. He hoped that the Working Group would see the NEPA document "before it goes public." Lynne gave the group assurance that the NEPA process would not get ahead of the GCWG process. Barry added that the NEPA team is creating a matrix showing the range of alternatives for use by the East End and West End subgroups at the next meeting. This range of alternatives includes proposals from all sources: GCWG, public, tribes, and agencies. The Working Group will be able to comment on that range at the next meeting. Barry reported that FAA legal counsel at the recent NPOAG meeting said it was FAA policy not to share draft NEPA documents with an Aviation Rulemaking Committee (such as NPOAG). Lynne took an IOU to look into this. She said it is FAA's intent for the Working Group to participate in NEPA, including review of draft documents, in accordance with the Scope of Work. Karen encouraged members to work on consensus for a proposal or proposals that can become the preferred alternative for NEPA. Contractors will analyze the alternatives in the fall and winter, with a Draft Environmental Impact Statement due in the spring.

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Barry said that the agency is almost ready to put out the solicitation for the NEPA contractor. The solicitation will come out of his office in L.A.

Q: How will the EIS deal with scoping comments that are not accurate?

A: Barry answered that the Draft EIS will summarize the scoping comments, but not respond to them in the draft. Contractors for the Final EIS will respond to specific comments on the Draft EIS. Lynne added that contractors do some level of evaluation of scoping data, but not a true analysis. There will be another round of public meetings for presentation and comment on the Draft EIS. Concerns about inaccurate scoping comments will be discussed further, if necessary, at the next Working Group meeting when there will be more attention given to the NEPA process.

Q: How will the high altitude issue, including any re-routing, be included in the EIS and the next round of public meetings?

A: NEPA team members responded that the issue of high altitude is currently in the range of alternatives. Lynne added that if this group can develop a recommendation for high altitude, that recommendation "could help sort out how we treat the issue under NEPA, combined with our legal reading of our NEPA responsibilities." Grace added that any modification to the high altitude routes could be looked at cumulatively, or as an alternative.

Q: How does NEPA deal with the definition of "all aircraft"?

A: Karen reminded the group not to confuse compliance with NEPA and the court decisions on the Overflights Act.

Q: What if the GCWG agrees by consensus to an alternative that is not based on science, and might have negative impacts to tribal interests?

A: Any alternative coming from the GCWG would be analyzed as another alternative, not just for sound, but for impacts to tribes, and a host of other factors. And, of course, any potential impact to a tribe will be the subject of the separate tribal consultation process. It is very unlikely that an alternative opposed by any one GCWG member would have consensus support of the group, since any one member opposing the proposal results in a failure to reach consensus.

Tribal Consultation: Barry reported on recent activities. The FAA/NPS EIS team met with the Navajo Nation in Window Rock a few weeks ago, and agreed to continue with additional talks. The agencies met with Hualapai representatives before the last GCWG meeting, and since then they received a letter from the Hualapai Tribe, saying that they are still analyzing the interests of the Tribe. The agencies hope to meet with tribal leadership again soon to discuss issues raised in the letter. The agencies are also in contact with the Kaibab Paiute Tribe, and have met with Havasupai leadership as well.

ESA Issues:

Bill Austin reported that good progress has been made toward implementation of the Biological Opinion, and that the agency is up to date on the current flight rules. FAA and NPS met with the BIA and Bill to begin the Secretarial Order 3206 consultation process. Bill offered to clarify the two matrices – one with specific species, the other related to specific routes -- that he prepared for this

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meeting. He emphasized this is draft information that is intended to facilitate caucus discussions. It is not final and not meant to suppress ideas.

Q: What is “predicted canyon habitat”?

A: Bill answered that this refers to the FWS "best guess at what might be canyon habitat for a specific species," as determined by a model, also used by Grand Canyon National Park.

Q: What is the altitude limit for the habitat?

A: The way the habitat areas are drawn does not show an altitude component. Most of the criteria are associated with the canyon walls.

Volpe Model Runs: Cyndy Lee presented results of the requested model runs for air tour and air tour-related flights since the last meeting. The baseline, she explained, includes the existing Dragon and Zuni corridors, at current altitudes, and with the current fleet mix.

The first proposal was to change the entire Dragon and Zuni fleets to quiet technology. The 25% time audible contour area results showed 47% for the East End, and 24.3% for the Park, which equates to a 7% improvement for the park, and a 14% improvement for the East End.

The second proposal was to lower Dragon by 1,000 feet, with current fleet mix and with all quiet technology. The drop in altitude did not make a significant difference; the smaller footprint of noise was overcome by the up and down performance of the aircraft. Adding the dogleg, west of Dragon and lowering the altitude 1,000 feet did not improve the 25% time audible area in some areas because the route is longer, and the sound is heard longer.

The third proposal lowered Zuni, with current fleet and quiet technology, as well as changing the route to avoid Nankoweap Mesa. The sound levels were reduced with both changes.

If all the changes are implemented, including the doglegs, the lower altitude, and all quiet technology, the result is 141 square mile improvement in the area encompassed by the 25% time audible contour, representing 7.5% of the Park, and 14.5% of the East End.

The grid point analysis showed how much relief the proposed changes to Dragon and Zuni offer Nankoweap and Hermit's Basin, which were two locations specifically targeted for improvement.

There was discussion about the noise and visibility of aircraft as they approach, or even go below, the rim (6,500 feet). An air tour operator suggested using actual field observations, and also felt that terrain shielding could be beneficial. Carla Mattix, NPS attorney, said that flying below the Canyon rim would require a legislative change.

Spectrograph Presentation:

Kurt Fristrup, NPS, explained that a spectrograph is a machine that turns noise into a graphic representation, or pictures. The pictures, or spectrograms, show decibels (dB) in terms of a listening area, in this case Pasture Wash. For this presentation, he took Volpe's time audible presentation and showed how spectrograph technology can illustrate how noise is spread over a 24-hour period, midnight to midnight, at Pasture Wash. The graph showed frequencies of birds singing in the morning, overlapping jets during the day. Each jet increases the decibel level by about 20 dB.

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Every 10 dB increase in the INM model noise means the listening area is dropped by 10. Every 3 dB increase halves the listening area. In answer to a question about the monitoring site, Kurt answered that it is 11 km from Dragon grcA007, and shows 7 am –7 pm air tours. A 20 dB increase from air tours over the background will show 5 – 7 minutes on the spectrograph.

Q: Can the spectrograph make same kind of picture without jet noise?

A: Kurt answered that the technology could "decompose the picture into different 'voices in the chorus'" and he hopes to accomplish that in the next two years.

Q: Does wind noise mask aircraft noise?

A: Every 6 dB increase halves the distance at which a person could hear aircraft noise. Higher wind noise will mask some aircraft noise.

Q: How long can you hear high altitude flights, as represented on the spectrograph?

A: Kurt said that the very low frequency seen on the graph may be barely audible. High altitude jet noise shows very gradual increases and decreases in noise level for each event, so any measure of time audible depends heavily on the threshold at which the sound is judged audible. A small change in this criterion can cause a large change in the time audible measurement.

Kurt added that he is working with Cyndy to create the most realistic picture possible. Several Working Group members commented that Kurt's presentation persuaded them that high altitude aircraft noise was audible a lot of the time.

Safety analysis for proposed changes to Zuni and Dragon corridors:

Although the Working Group agreed at the last meeting to ask FAA for a safety analysis on the proposed seasonal changes to Zuni and Dragon corridors, the analysis was not done. There were delays in drawing up the specifics of the request, and air tour operators felt that there was no need for the analysis because of the unacceptability of seasonal closures of the corridors under any circumstances. By the time specifics were available, FAA did not have time to comply with the request because the task was more complicated than the original conversation had indicated. The East End Subgroup may choose to continue the discussion.

Subgroups: East End and West End:

Structure: In response to requests at the last meeting, Lucy, Ed and Tahnee prepared a proposed structure and groundrules for the East End and West End subgroups. The Working Group reviewed the guidelines, highlighting the following points:

- Subgroups will be facilitated by one of the facilitators.
- Agency members and representatives will not attend the meetings unless invited.
- USFWS member may participate.
- Subgroup members may invite in resource people as needed.
- There will be no observers at the subgroup meetings.
- Subgroups are for the purpose of furthering development of proposals for the Working Group to consider, and are not decision-making bodies.

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Composition: The membership of the two subgroups was clarified.
East End membership:

Alan Stephen
Elling Halvorson
John Becker
Craig Sanderson
Heidi Williams
Jim McCarthy
Dick Hingson
Doug Nering
Mark Grisham
David Yeamans
Edmond Tilousi
Leigh Kuwanwisiwma
Marklyn Chee
Roger Clark

West End membership:

John Dillon
John Sullivan
Cliff Langness
Brenda Halvorson
Stacy Howard
Roxane George
Charlie Vaughn
Sheri Yellowhawk

Observers' comments:

Dan Reimer: Mr. Reimer expressed concern about how the public is noticed for these meetings, and what mechanisms there are for public involvement in this process. He asked what the role of the GCWG is and what public participation requirements it has to follow. The NPS attorney answered that the NPOAG charter does not govern its working groups, including the GCWG. The public participation efforts of the GCWG are voluntary, she added. FAA staff added that NPOAG meetings are not public meetings, and are not noticed as such. They are, however, open to anyone that wishes to observe.

Mike Loghides: Mr. Loghides asked the group to extend "just plain courtesy" to those with an interest in the process and make accurate announcements of the time, date and place of the meetings well in advance, and on the website. Facilitators admitted a mistake in the date of the meeting in an earlier announcement and apologized for any inconvenience it might have caused.

Martin Begaye, Navajo Nation Parks and Recreation: Mr. Begaye wanted the group to know that there are different points of view among those within the Navajo Nation concerning air tours. His department supports air tours, and he does not feel adequately represented at these meetings. He asked the Navajo Nation member on the Working Group to be aware of these different views.

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DAY 2

Day 2 was spent working in subgroups. There was a preliminary report from the West End Subgroup, which was further delineated on Day 3 (see details below). The East End Subgroup was not ready to report.

DAY 3

Approval of Meeting Summary: Members reviewed the draft meeting summary from the last meeting, May 31- June 2, 2006. Corrections were reviewed and accepted. The summary was approved. The final version can be found on the website.

East End Subgroup Report:

Lucy was asked to report for the East End Subgroup. Members had agreed to the following:

- Both seasonal shift of Dragon and Zuni and lowering Dragon to 6,500 feet were set aside at this time. [The Sierra Club representative wanted seasonality to remain on the table. If the air tour operators took it off the table, then he said he would take flying 2,000 feet lower in the Dragon Corridor off the table.]
- There was agreement that quiet technology only should be flown on all routes by 2016.
- The subgroup will continue to discuss incentives to make possible quiet technology conversion by 2016.
- A new Blue Direct route will be submitted to the Volpe screening committee for a model run, after test flying.
- Although changes in high altitude commercial flights are not appropriate for discussion at this time (until MITRE results are presented), the subgroup did make a suggestion for consideration by the GCWG:
 - To explore the potential for "advisory" designation for the Park for voluntary nighttime compliance
 - To explore the potential for more avoidance of the Park in planning for redesign of airspace in the future (i.e., for the new international NV airport). The GCWG will not involve itself in airspace redesign.

Discussion on High Altitude Options:

Members discussed the conundrum facing the Working Group with respect to high altitude.

Although a number of Working Group members believe that the intent of Congress was never to regulate high altitude flights, court decisions have demanded that all aircraft be included in the substantial restoration of natural quiet. The task of the GCWG to make recommendations for the implementation of the 1987 Act has been made very difficult by this requirement and by the results of the Volpe model, showing that the high altitude contribution of noise is much greater than expected. The Working Group is struggling to meet the requirements of both the Act and the court decisions, and is meeting strong opposition from the high altitude interests, including ATA and Clark County Aviation, who feel the group should not be addressing the issue at all, or that if it is on the table other interests should be included in the discussion. Members each commented on the dilemma, including how the GCWG can include those voices (like the airports) not at the table, and how to deal with the specter of legislation to clarify the meaning of the Act.

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Each member at the table reflected on the dilemma:

Lynne Pickard, FAA, said she believes that there was "an accident of drafting," and that the law was never intended to include all aircraft. A change in the law will be necessary, she said, to exclude both aircraft and the noise generated by excluded aircraft from substantial restoration. The question is how soon and how it unfolds. She respects the different views of Working Group members and understands that some need more quantitative data to reach the conclusion of adverse effects on the national aviation system. She hopes that the MITRE analysis will resolve the issue for the GCWG and that then all interests can take the next step together. She asked to go around the table and hear the views of all members on this subject.

Karen Trevino, NPS, agreed that the legislation has "boxed us in," and that, "time has unfolded a difficult situation." It has become a practical impossibility to work within the existing framework, and NPS would support finding a way to get out of the box. She warned that seeking legislation can be very tricky, and that it doesn't always end up the way it started out. She added that Senator McCain wants this group to remain relevant, and that Holly Woodruff from the House Subcommittee on Aviation mentioned the term "consensus legislation." She suggested having a meeting in Washington, DC, so that everyone on the GCWG can participate in discussions with congressional representatives. Karen hopes that everyone at the table will remain involved.

Joe Alston, Grand Canyon National Park, agreed that it is difficult to imagine achieving our goals of substantial restoration of natural quiet and maintaining a viable air tour industry without legislation. We're not getting to the goal with high altitude noise. It's also clear how Senator McCain thinks. Given that there will be legislation, he hopes that this group can have a say in that legislation. He thinks it is possible that there might ways to lessen the high altitude noise over the Park in future planning of the NAS, although this would not be a role for the GCWG.

Elling Halvorson, Papillon Airways, assured the group, as an eye witness, that the intention of the legislation was to regulate the air tour industry, not to include high altitude or even general aviation. "This has been a noose around our neck, slowing the process down," he added. He recommended setting the issue aside, and coming up with legislation that the GCWG could endorse.

Stacy Howard, Aircraft Operators and Pilots Association, stated that the Working Group should provide a response to the concerns expressed by our legislative members, whether by letter or personal meetings. A lack of response coupled with our moving forward with the MITRE study could be interpreted as ignoring their concerns. If legislation is proposed by the aviation subcommittee or others, the Working Group should participate in drafting the language of that legislation.

Bill Austin, US Fish and Wildlife Service, echoed that this is a very complicated issue, requiring the group to consider all aircraft, while not having a "draconian impact" on any sector. He feels it is important to consider all aircraft as the law requires, even if the analysis shows change impossible. Otherwise, the GCWG is vulnerable to criticism, and the agencies vulnerable to lawsuits.

David Yeamans, Grand Canyon Private Boaters Association, expressed profound disappointment. He has deep regard for the courts. The court has mandated the consideration of all aircraft, and we

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must use every resource at our disposal to do a credible evaluation of the subject. If our conclusion is that nothing can be done, so be it, but only with the justification of the MITRE analysis, the opinions of airport representatives, and other sources of information. Science should yield information that informs choice. He suggested that the "advisory" designation, requesting pilots to avoid certain areas when feasible, might be analyzed in the NEPA process. The impacts of such designation are not in the purview of the GCWG. What we've seen so far, David remarked, is that the GCWG can't change the national aviation system. David added that he believes high flying aircraft sound is a "feature of our society."

Charlie Vaughn, Chairman, Hualapai Tribe, wanted to emphasize that the Grand Canyon National Park is the responsibility of the Secretary of the Interior, who can examine the data and make a decision. The Hualapai are concerned that in the future there could be legislation very harmful to the tribe. Chairman Vaughn objected that, except for ATA, those involved with the high altitude issue are not at this table. Early modeling did not adequately account for the high altitude flights. He proposed that high altitude flights be taken off the table, in order to avoid hasty legislation spearheaded by groups' fear of being dictated to. He recommended a representative group from the GCWG go to the Hill to visit with the Secretary of the Interior and others and inform them that "we have made progress at reducing noise and that we will not address the high altitude issue." Chairman Vaughn said that he is fearful the new legislation may be harmful to the Hualapai tribe, and the Working Group's efforts. The tribe doesn't want more high altitude aircraft over Peach Springs.

John Sullivan, Sundance Helicopters, Inc., said that he looked at the dilemma as a matter of fairness. The legislation was unfair in its vagueness, and Congress is unfair in what they are expecting of this group. "It was congress' accident, yet congress has come to this group over and over again, threatening us to not talk about their accident." Furthermore, it is not fair to air tours to ignore the high altitude question, "but that is what they are bullying us to do." We all agree, he said, that congress needs to fix their own accident, and sooner the better. An additional unfairness, he said, is the fact that now that we are addressing the high altitude issue, key stakeholders are not included in the discussion.

Jim McCarthy, Sierra Club, agreed that "we've been painted into a catch 22 position," and that we need consensus legislation. He said that he had changed his position on the timing of the legislation, believing that it may be preferable to have the legislation now rather than when we are finished with our work. The legislation would establish the ground rules to enable us to continue our work. He urged the group to get involved now in the early stages of drafting to insure that all interests on the GCWG are represented. "We need to be part of that process so that we aren't marginalized." Jim favors having a meeting in DC, in order to help resolve the issue and facilitate the GCWG's work. In the meantime, he supports the idea of pursuing the MITRE analysis to determine whether or not it is feasible to move any high altitude aircraft. "If something can be done to reduce noise over the Canyon in a way that doesn't impact negatively the NAS, I think we would be remiss to not bring it before the Group." Personally, he thinks there is a good chance that no changes to high altitude flights will be possible, and if the analysis shows negative impacts he will not push the point. He does hope that the group can come up with constructive ideas that don't impact the industry.

Roger Clark, Grand Canyon Trust, commented that when getting up to speed to join the Working Group, he thought high altitude was out of the jurisdiction of the group. He believes that the only

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possible role for the GCWG in the high altitude issue might be to approach FAA with the idea of an advisory designation for the Canyon. That might make a difference, especially at night, when the high altitude flights are more noticeable. He sees the task of the Grand Canyon Trust to address aircraft noise, and do the best job we can on the Working Group.

Cliff Langness, King Airlines, and Westwind Aviation, agreed that the GCWG should become involved in the legislation, and that he personally wanted to be part of creating that legislation to insure that it isn't flawed again.

Marklyn Chee, Navajo Nation, said that he, too, "had a sleepless night over this." He does not feel comfortable in a discussion about high altitude flights without their representation. He also said he needs to discuss this with more knowledgeable Navajos in this area, to better understand any impacts that might occur to Navajo interests if high altitude flights were changed or not changed.

Edmond Tilousi, Havasupai Tribe, explained that the Havasupai are the guardians of the Grand Canyon, and as such would like to get rid of all the aircraft. They understand this is not possible. He will take this issue to his tribal council and his people for advice about how to proceed.

Doug Nering, Grand Canyon Hikers and Backpackers Association, agreed that the process is flawed and does not reflect the real world. But, he added, the Group has to do deal with it. He thought the MITRE presentation was excellent, and was interested in pursuing the idea of an advisory, which he believes is probably the only recommendation appropriate for the Group to make. He pointed out that it was a discussion of high altitude flights that gave rise to the advisory idea.

Alan Stephen, Scenic and Grand Canyon Airlines, said he agreed with everything he had heard around the table. "This high flyer issue makes me nuts," he added. It's clear that legislation is needed, and the question remains: Will it be done in a vacuum, or with our involvement so that it isn't flawed again.

Mark Grisham, Grand Canyon River Outfitters Association, agreed that the Group is in an untenable position. He strongly supported holding the next meeting in DC and beginning a dialogue with Congress. He also recommended reaching out to the missing parties in this discussion.

Discussion:

Clarification of ATA absence: Karen wanted to clarify that the high altitude interests are represented on the Working Group by Katherine Andrus of the Air Transport Association. Lynne explained that Katherine and her alternate were extremely busy, and that when it became clear that the MITRE results would not be presented and that her association would not be able to see the results in advance, she assumed high altitude would not be a major part of the discussion at this meeting. Lynne wanted the record to show that she encouraged her to come. Members had received a copy of Katherine's letter to the group at the beginning of the meeting.

Summary of Discussion: Lucy observed that several courses of action had been suggested in the remarks by each member:

- Legislation seems inevitable, and the GCWG may wish to be involved in consensus legislation.

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- The congressional letters to the agencies regarding the work of the GCWG need responses of some kind – letter? Visit to the Hill?
- There may be moments of opportunity in the future to reduce high altitude noise over the Canyon; advisory designations and future airspace redesign have been mentioned, for instance.
- Representation of the voices of those impacted by high altitude recommendations is necessary and fair.
- Pursuing the MITRE analysis to its conclusion and presentation in September will justify any decision the Group might make on high altitude.

Discussion on Legislation:

There was general support for consensus legislation with participation by the GCWG, or some representative group of the GCWG. Some members favored forming a small legislative action committee (composed of members and outside experts) to further the dialogue with congressional representatives and urge consensus legislation. Others felt that the issue was so important that it should remain in the focus of the whole group.

There was also general support for a meeting in DC, perhaps following the election in November. Holly encouraged everyone to come to DC, and recommended February when the new chairman of the House Aviation Subcommittee will be in place. She warned that once a legislative proposal is "out there" many other interests will come forward, including other members of congress, staff, private interests, etc. She added that she was happy to hear that members were supportive of hearing additional high altitude interests as part of their discussions, and encouraged outreach to the airports. She also said she was pleased to see a lot of encouraging work on the air tour side.

A member observed that legislation can happen very quickly and efficiently, citing the Cerro Grande Reimbursement Act to address the massive destruction following the fire in New Mexico several years ago. Passed within days, the bill guaranteed losses would be reimbursed by FEMA. He suggested this legislation need not be complicated.

Discussion of Including High Altitude Interests:

Members discussed how to include all high altitude interests (beyond group member ATA) in high altitude deliberations of the GCWG. As a facilitator, Lucy offered options for including additional voices once a process is under way. Members can be added to the group, or an expert advisory group could be formed. These advisors could have access to all materials, make presentations and take part in all discussions. She said there are disadvantages to increasing the membership of a group that has been selected for balance, and has been meeting for many months. There can be problems with setting a precedent and facing demands from others to be included as members. In addition, it is often hard for a group to incorporate a new member once it has worked out its protocols and relationships. On the other hand, she acknowledged that the focus of the GCWG has changed significantly since its inception, and that airport interests, for instance, now may have much more of a stake in the process than previously thought. She concluded that in her opinion it was critical to hear those interests and take them seriously, whether or not they are actual group

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members. She suggested that the co-chairs consider the problem and make a recommendation to the Group.

Karen remarked that adding a new seat might necessitate looking at the composition of the group and adding others as well. Lynne noted that McCarran Airport has an interest in the air tour operations as well as the high altitude flights. Other interests might have a single interest in high altitude, and if that interest is off the table, they would probably not participate. Lynne and Karen agreed as co-chairs to give the problem some thought and make a recommendation to the Group as quickly as possible.

The Group discussed the utility in continuing the MITRE analysis. Several members favored continuation to the results in September in order to justify whatever action the GCWG might take. "Taking high altitude off the table needs to be a decision based on solid data, like MITRE can provide," said one member. FAA added that the MITRE analysis will be useful to the NEPA process, as well.

Observers

Mike Logihides, Clark County Department of Aviation: Mr. Loghides spoke on behalf of himself and the Department. He said that it would be "totally unacceptable to sit in the room as an observer in a discussion that would affect us." Mr. Loghides felt strongly that the Department should have a seat at the table. He explained that the Department has several issues they are following in this process, including air tour operations, which is a significant part of the airport's business. He asked the Group how they could pretend to do a good job without hearing other interests. He offered to help the Group resolve the high altitude dilemma. "We will work feverishly to help you get out of this box," he said indicating that he would help with legislation. He also suggested that representatives from Phoenix Sky Harbor Airport would want to be involved.

Paul Smith, National Business Aircraft Association: Mr. Smith offered to help the GCWG in whatever way he could. He pointed out that many in the room were NBAA members and use business aviation as a tool. His members buy \$ 12 billion in airline tickets each year, and his business operators generate half of the gross national product. He also suggested that the American Association of Airport Executives might be interested.

Roxane George, Sierra Club: Roxane asked the GCWG to return to its mission – restoration of natural quiet at Grand Canyon, so that generations to come can experience wilderness and quiet. It is not acceptable, she said, to pretend that high altitude noise doesn't exist. It does exist, and the Group is mandated to restore natural quiet in a very important national park.

West End Subgroup Summary:

The West End Group had discussed a route extension at Hualapai that would involve an SFRA boundary change. At Whitmore/Bar 10 Hualapai recommends a curfew extension from 7:00 am until noon, instead of 7:00 am to 10:00 am. Bad weather, medical emergencies, and other unexpected events require a longer window for flights out of the Canyon. Further discussion is needed with the Park Service to make this change.

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The West End Group recommends changing the term "Hualapai Support Flights" to "Native American Support Flights." The Park Service member asked that NPS and FAA be consulted on any term change. Her understanding was that the regulatory exemption for the Hualapai Tribe was based on extensive analysis, which would have to be repeated for other tribes. An air tour operator responded that this was only changing a word, not changing what is in each category or changing the operations of the model in any way. The Hualapai representative noted that both Navajo and Havasupai may want to be included in that definition. Cyndy clarified that the model categorizes exempt flights as: 1) Grand Canyon West, 2) Bar 10, and 3) elevator or descent routes. The Hualapai member stated that only the Grand Canyon West flights are regulated by, and reportable to, the Tribe. Information on the other types of flights comes through the cooperation of Sundance and other operators.

An air tour operator in the East End Subgroup said that their discussions of an incentive route for fixed wing flights was on hold pending further discussion and a test flight of the proposed route. Any modeling request will follow that flight.

Next Meeting:

September 27 – 28, 2006, in Phoenix (location to be announced)
East End and West End Subgroups meet September 26, Phoenix

Summary prepared by Lucy Moore. Please contact her with any comments or questions. 505-820-2166, or lucymoore@nets.com

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Tasks/Data Requests

Generated at the July 2006 meeting

- Fly proposed routes and then decide on model requests (at least 3 weeks before next meeting) – John Sullivan
 - Green 4 modification/reroute (will distribute map)
 - Blue 2
- Produce a written explanation for moving the high altitude routes from polygon to the new locations – MITRE (posted on website)
- Post the full 2002 court decision on the website – Tahnee, Lynne, Steve May (will do)
- Prepare NEPA alternatives matrix prior to September meeting – NEPA team (done)
- Make decision on how to represent additional high altitude interests in GCWG process -- Co-chairs Lynne and Karen (done)
- Preparation for next meetings – Tahnee
 - September Phoenix meeting logistics (done)
 - February DC meeting logistics (pending decision)
- Preparation of working document/matrix for Subgroups – facilitators and subgroup members (no)
- Discussion about Bar10 curfew issue – Joe Alston and West End Group (will do)
- Advise river representatives prior to test flights – John Sullivan, NPS (Sundance called Paul who called Ken. Need to work out details of notification process)
- Complete High Altitude analysis prior to September; distribute to members – MITRE (done)
- Prepare draft summary of July 2006 meeting; distribute to GCWG – Lucy (done)
- Prepare draft agenda September 27–28, 2006 meeting; distribute to all interested parties – Lucy (done)
- Improve notifications of meetings to the public, including improvements to the web site announcements -- Tahnee (e-mail distribution list for notifications)