

**DEPARTMENT OF THE INTERIOR****National Park Service****Notice of Recommendation From the Aircraft Noise Model Validation Study**

**AGENCY:** National Park Service, Department of Interior.

**ACTION:** Notice.

**SUMMARY:** Following the recommendation in the recently issued National Park Service Aircraft Noise Model Validation Study, released January 23, 2003, this announcement provides notice that the NOISEMAP Simulation Model is the model of choice for calculating aircraft audibility at Grand Canyon National Park and other National Park Service units.

**ADDRESSES:** Copies of the National Park Service Aircraft Noise Model Validation Study report are available on computer discs (CDs) and may be requested from Grand Canyon National Park, or viewed on the Grand Canyon National Park Webpage at <http://www.nps.gov/grca/overflights/index.htm>.

**FOR FURTHER INFORMATION CONTACT:** Ken McMullen, Overflights and Natural Soundscape Program Manager, National Park Service, Grand Canyon National Park, 823 N San Francisco Street, Flagstaff, Arizona 86001. Telephone 928-209-2095; or by e-mail at [ken\\_mcmullen@nps.gov](mailto:ken_mcmullen@nps.gov).

**SUPPLEMENTARY INFORMATION:****Background**

Public Law 100-91 (1987) tasked the National Park Service (NPS) and the Federal Aviation Administration (FAA) with developing a plan for aircraft use of Grand Canyon airspace that will succeed in "substantially restoring the natural quiet in the park". In its "Report on Effects of Aircraft Overflights on the National Park System" (1995), the NPS defined substantial restoration of natural quiet as occurring when "50% or more of the park achieve[s] 'natural quiet' (i.e., no aircraft audible) for 75-100 percent of the day". Computer modeling was determined to be the most practical method to assess whether or not natural quiet had been substantially restored at Grand Canyon National Park.

*Model Validation Study*

Although models that compute when aircraft are audible over large land areas have not been widely used, two models have been employed to calculate the percent of time aircraft are audible at Grand Canyon National Park. The National Park Service Overflight Decision Support System model (NODSS) was developed for the NPS to

calculate aircraft-produced noise in backcountry settings; NODSS was designed to account for park terrain features, its calculations are based on one-third octave band acoustic spectra information, and it calculates audibility directly. The results from NODSS have been used by the NPS to calculate the percent of substantial restoration of natural quiet achieved by various airspace and operations alternatives at Grand Canyon National Park. A second model, the Integrated Noise Model (INM), version 5.1, is the FAA-developed, aircraft noise computation model used internationally to calculate aircraft-produced noise in airport environments. INM bases its computations on A-weighted aircraft sound levels and accounts for differences in site elevation but does not account for shielding due to terrain. Results from INM have been presented in environmental assessments associated with FAA draft and final rules on Grand Canyon National Park airspace regulations. The two models, using Grand Canyon operations data but based on different metrics, produced somewhat different results. To comply with the National Environmental Protection Act's requirement to use "the best available science", a model validation study was designed to compare computer model results with measurements made on-site at the Grand Canyon. A third model, NOISEMAP Simulation Model (NMSIM) developed by Wyle Laboratories, the U.S. Air Force, and the National Aeronautics and Space Administration, was included in this study as a second version of INM (Research Version). NMSIM, like NODSS, uses spectral information, accounts for park terrain, and computes aircraft audibility. In addition to these capabilities, NMSIM also simulates aircraft flying in the time sequence in which they occurred and includes the directivity of each aircraft type. The Research Version of INM uses spectral, rather than A-weighted, information but is in other major ways similar to INM.

The goal of the study was to: "Determine the degrees of accuracy and precision that existing computer models provide, in comparison with field measurement, in the calculation of the percent of time tour aircraft are audible in the Canyon. \* \* \*" In this study, determining "accuracy and precision" is termed "validation".

The NPS Aircraft Noise Model Validation Study was designed through a cooperative process involving the NPS, the FAA, the Volpe National Transportation Systems Center, Wyle Laboratories, and Harris Miller Miller &

Hansen Inc. After a draft research approach had been developed, a Technical Review Committee (TRC) consisting of internationally recognized experts reviewed and commented on the plan. Suggestions made by TRC members were incorporated into the study design. As results were produced the full team, including TRC members, were involved in review and comment. The full team has reviewed and commented on drafts of the study report. Their comments were incorporated extensively.

Acoustic data for the NPS Aircraft Noise Model Validation Study were collected from some 39 sites at Grand Canyon over a four-day period in September 1999. The collected data were reduced to provide hourly information for modeling tour aircraft audibility and sound levels for each hour of operations, and for then analyzing the results. Each of the four models (NODSS, INM in two versions, and NMSIM) were exercised with the same set of input data. The models were run to produce for each site the hourly values of both the percent of time tour aircraft were audible and the tour aircraft hourly equivalent sound level,  $L_{eq}$ . These values were then compared directly with measured values, site-by-site, hour-by-hour.

In August, 2002, as the NPS Aircraft Noise Model Validation Study report was nearing completion, the United States Court of Appeals, District of Columbia Circuit ((in *United States Air Tour Association v. Federal Aviation Administration* (Grand Canyon Trust, Intervenor)) declared that the FAA's practice of including only air tour aircraft-produced noise in the calculation of substantial restoration of natural quiet at GCNP should be remanded back to that agency for reconsideration. The Court indicated that noise from all aircraft overflying the park should be included in the noise calculations. Although the NPS Aircraft Noise Model Validation Study was based on data from tour aircraft conducting operations over Grand Canyon National Park, the inclusion of noise from other aircraft sources will not invalidate the results of this study. Similarly, as the models respond to the principles of acoustics and physics, the results of the NPS Aircraft Noise Model Validation Study are applicable to other National Park units.

*Model Validation Study Recommendation*

The study concluded, "We consider NMSIM to be the model most suited for immediate use in computing percent of

the time four aircraft are audible" (p. 131).

#### Conclusion

Audibility is a fundamental component in the definition and measurement of natural quiet and natural sounds at Grand Canyon National Park and other NPS units. The NPS Aircraft Noise Model Validation study found NMSIM to be the model best suited for computing audibility. Further, the National Environmental Protection Act's requirement for the use of the "best available science" is met with the selection of NMSIM. Therefore, the NPS announces that the NOISEMAP Simulation Model (NMSIM) is the model of choice for calculating aircraft audibility at Grand Canyon National Park and other NPS units.

Dated: June 3, 2003.

**Michael D. Sunder,**

*Acting Regional Director, Intermountain Region.*

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## DEPARTMENT OF LABOR

### Employment Standards Administration

#### Wage and Hour Division

#### Minimum Wages for Federal and Federally Assisted Construction; General Wage Determination Decisions

General wage determination decisions of the Secretary of Labor are issued in accordance with applicable law and are based on the information obtained by the Department of Labor from its study of local wage conditions and data made available from other sources. They specify the basic hourly wage rates and fringe benefits which are determined to be prevailing for the described classes of laborers and mechanics employed on construction projects of a similar character and in the localities specified therein.

The determinations in these decisions of prevailing rates and fringe benefits have been made in accordance with 29 CFR part 1, by authority of the Secretary of Labor pursuant to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Stat. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in 29 CFR part 1, appendix, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act. The prevailing rates and fringe benefits

determined in these decisions shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wage payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

Good cause is hereby found for not utilizing notice and public comment procedure thereon prior to the issuance of these determinations as prescribed in 5 U.S.C. 553 and not providing for delay in the effective date as prescribed in that section, because the necessity to issue current construction industry wage determinations frequently and in large volume causes procedures to be impractical and contrary to the public interest.

General wage determination decisions, and modifications and supersedeas decisions thereto, contain no expiration dates and are effective from their date of notice in the **Federal Register**, or on the date written notice is received by the agency, whichever is earlier. These decisions are to be used in accordance with the provisions of 29 CFR parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits, notice of which is published herein, and which are contained in the Government Printing Office (GPO) document entitled "General Wage Determinations Issued Under the Davis-Bacon And Related Acts," shall be the minimum paid by contractors and subcontractors to laborers and mechanics.

Any person, organization, or governmental agency having an interest in the rates determined as prevailing is encouraged to submit wage rate and fringe benefit information for consideration by the Department.

Further information and self-explanatory forms for the purpose of submitting this data may be obtained by writing to the U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division, Division of Wage Determinations, 200 Constitution Avenue, NW., Room S-3014, Washington, DC 20210.

#### Modification to General Wage Determination Decisions

The number of the decisions listed to the Government Printing Office document entitled "General Wage Determinations Issued Under the Davis-

Bacon and related Acts" being modified are listed by Volume and State. Dates of publication in the **Federal Register** are in parentheses following the decisions being modified.

#### Volume I

##### Maine

ME0300001 (Jun. 13, 2003)  
ME0300002 (Jun. 13, 2003)  
ME0300008 (Jun. 13, 2003)

#### Volume II

##### West Virginia

WV0300002 (Jun. 13, 2003)  
WV0300003 (Jun. 13, 2003)  
WV0300006 (Jun. 13, 2003)  
WV0300009 (Jun. 13, 2003)  
WV0300010 (Jun. 13, 2003)

#### Volume III

##### Kentucky

KY0300003 (Jun. 13, 2003)  
KY0300025 (Jun. 13, 2003)  
KY0300027 (Jun. 13, 2003)  
KY0300028 (Jun. 13, 2003)  
KY0300029 (Jun. 13, 2003)

##### South Carolina

SC0300036 (Jun. 13, 2003)

#### Volume IV

None

#### Volume V

None

#### Volume VI

##### Montana

MT0300001 (Jun. 13, 2003)  
MT0300002 (Jun. 13, 2003)  
MT0300003 (Jun. 13, 2003)  
MT0300004 (Jun. 13, 2003)  
MT0300005 (Jun. 13, 2003)  
MT0300006 (Jun. 13, 2003)  
MT0300007 (Jun. 13, 2003)  
MT0300008 (Jun. 13, 2003)

##### North Dakota

ND030004 (Jun. 13, 2003)  
ND030007 (Jun. 13, 2003)  
ND030018 (Jun. 13, 2003)

##### South Dakota

SD030009 (Jun. 13, 2003)  
WY030008 (Jun. 13, 2003)  
WY030009 (Jun. 13, 2003)

#### Volume VII

None

#### General Wage Determination Publication

General Wage determinations issued under the Davis-Bacon and related Acts, including those noted above, may be found in the Government Printing Office (GPO) document entitled "General Wage Determinations Issued Under the Davis-Bacon And Related Acts". This publication is available at each of the 50 Regional Government Depository Libraries and many of the 1,400 Government Depository Libraries across the country.

General wage determinations issued under the Davis-Bacon and related Acts are available electronically at no cost on