

Modeling Working Group Presentation

Overview of Grand Canyon Noise Analysis Results

Presented to: Fifth Meeting of the Grand Canyon Working Group
Of the National Parks Overflights Advisory Group

By: FAA/NPS Technical Working Group

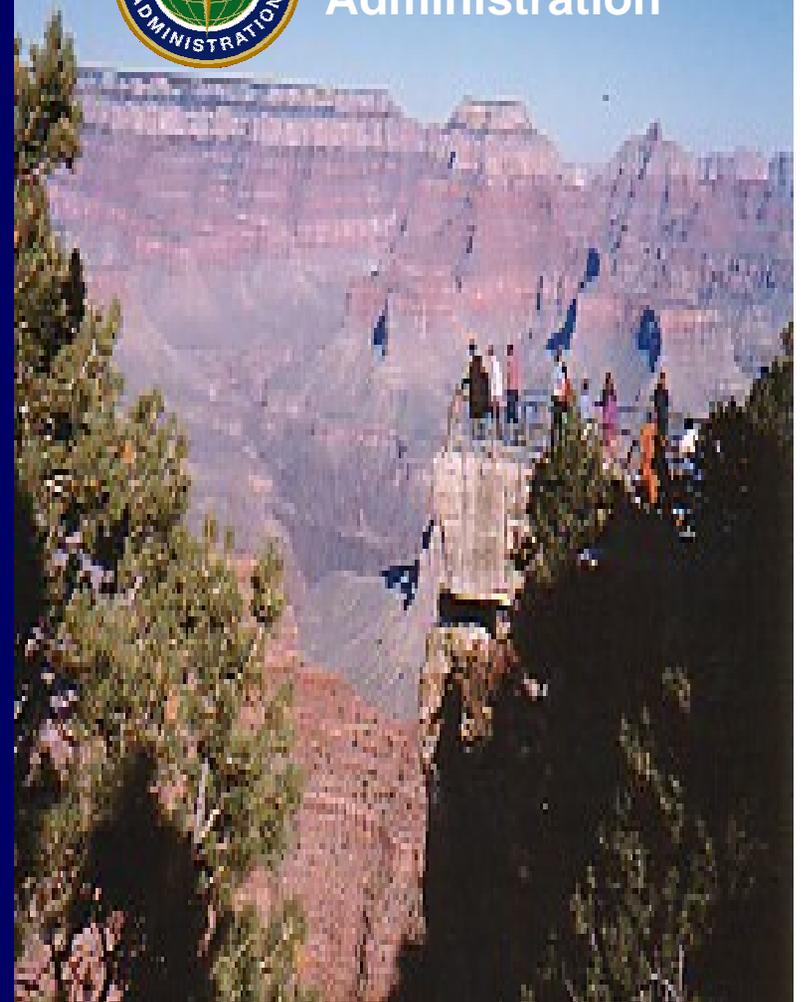
Date: May 31 – June 2, 2006



Department
of the Interior



Federal Aviation
Administration



GCWG Proposals for Noise Analysis

- “Air Tour and Air Tour Related” aircraft scenario using noticeability for entire park
- “Air Tour and Air Tour Related” Scenario With Operations on Dragon Corridor Lowered by 1000 ft
- “Air Tour and Air Tour Related” Scenario With Operations on Dragon Corridor Lowered by 2000 ft

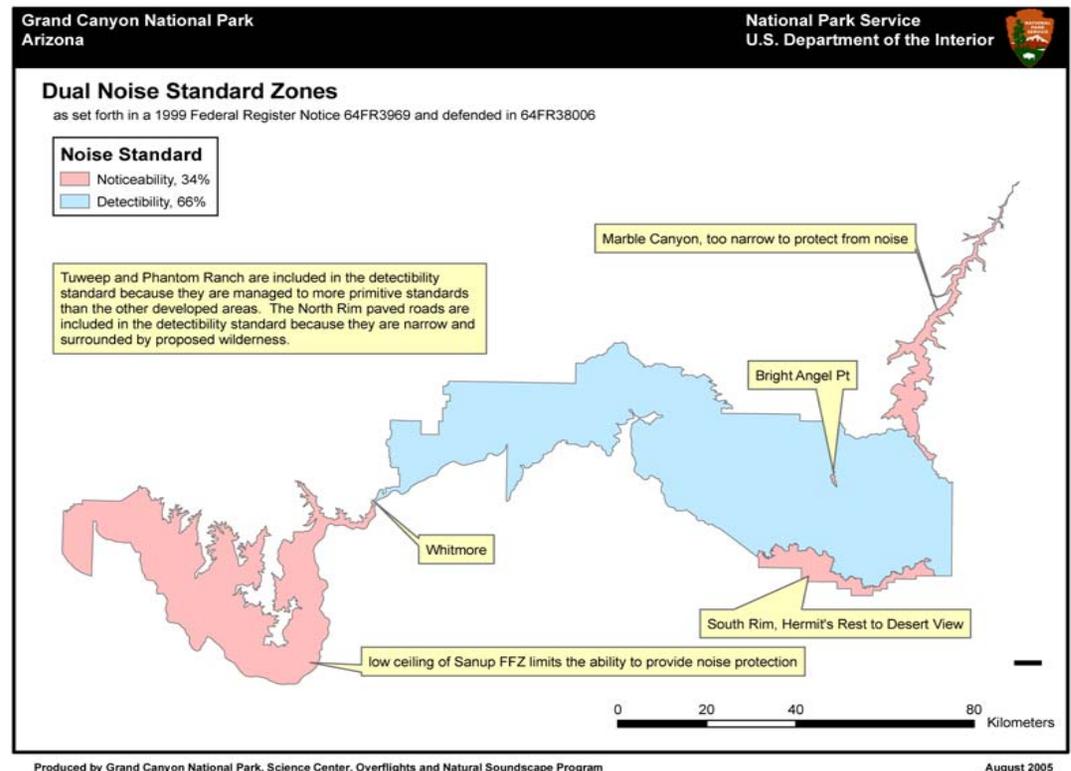


GCWG Proposal –

“Air Tour and Air Tour Related” Scenario Using Noticeability

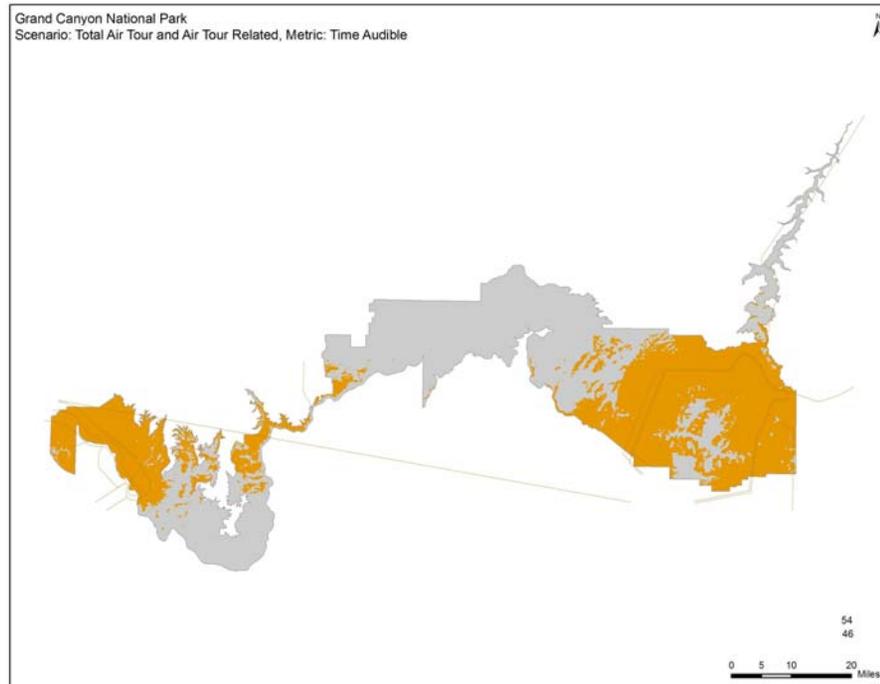
- “Air Tour and Air Tour Related” aircraft scenario using noticeability for entire

– Added 10 dB (noticeability) to entire park

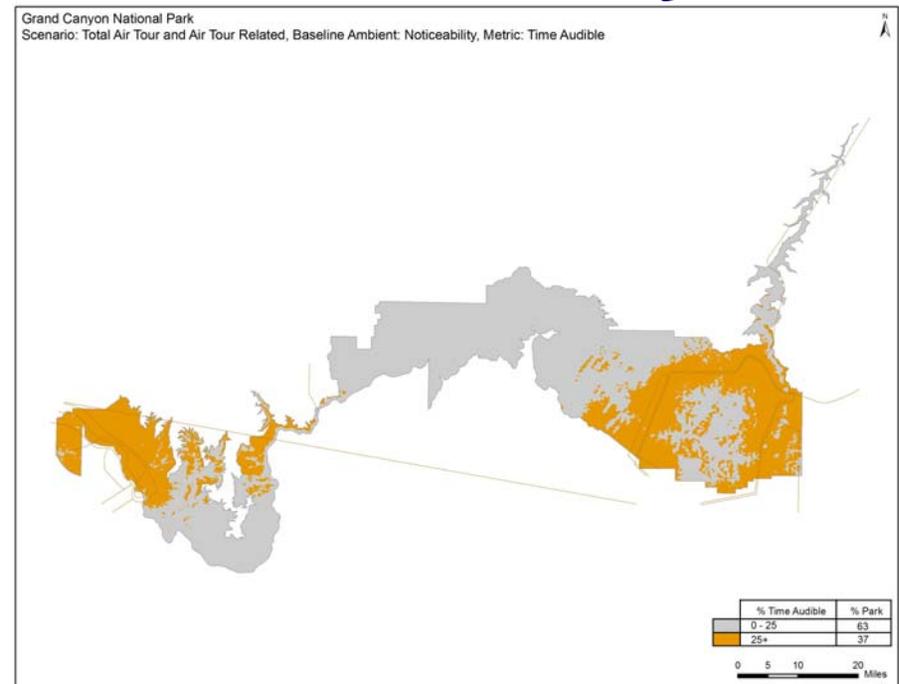


GCWG Proposal – “Air Tour and Air Tour Related” Scenario Using Noticeability

Dual-Zone



Noticeability



Note: Notwithstanding the various scenarios modeled, the 1987 Overflights Act and the subsequent relevant court holdings require that the noise model account for noise from **all aircraft** to determine whether substantial restoration of natural quiet has been achieved. Moreover, NEPA requires that the agencies analyze the impacts of all noise sources cumulatively. Substantial restoration of natural quiet is achieved when the total percentage restored from **all aircraft** operations is 50% or more.

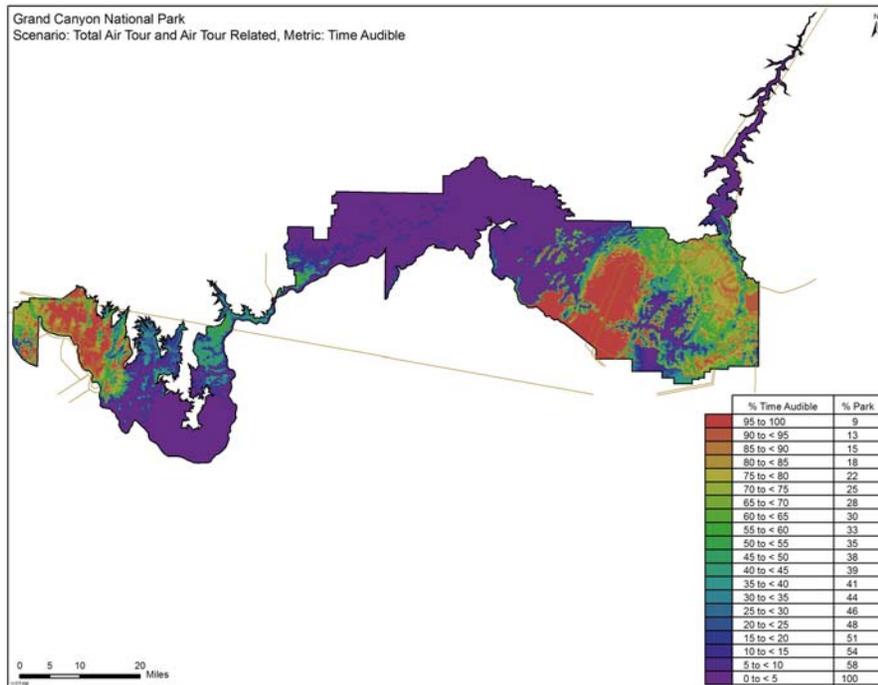
Air Tour and Air Tour Related
46.1% of the park (53.9% “Restored”) ←

Air Tour and Air Tour Related
36.9% of the park (63.1% “Restored”) ←

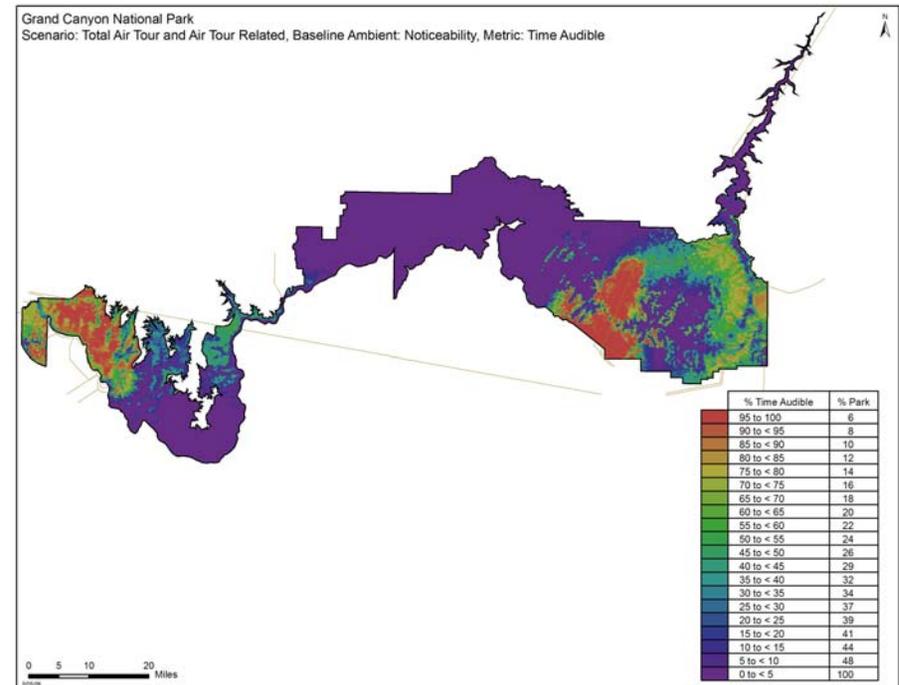
GCWG Proposal – “Air Tour and Air Tour Related” Scenario Using Noticeability

Dual-Zone

Noticeability

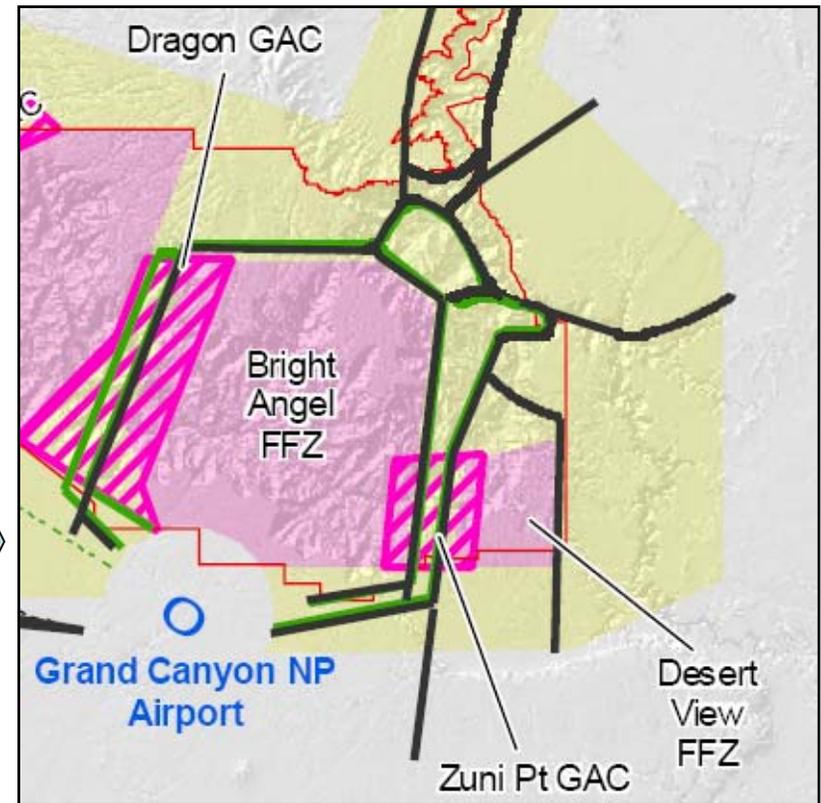
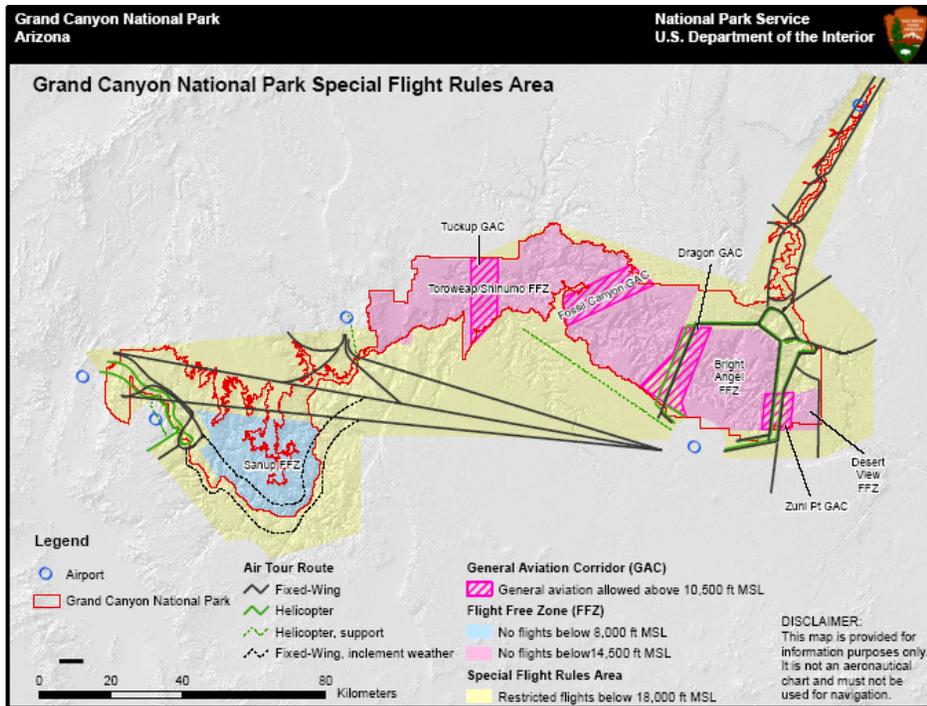


Air Tour and Air Tour Related
(25% Time Audible in 46.1% of the park)



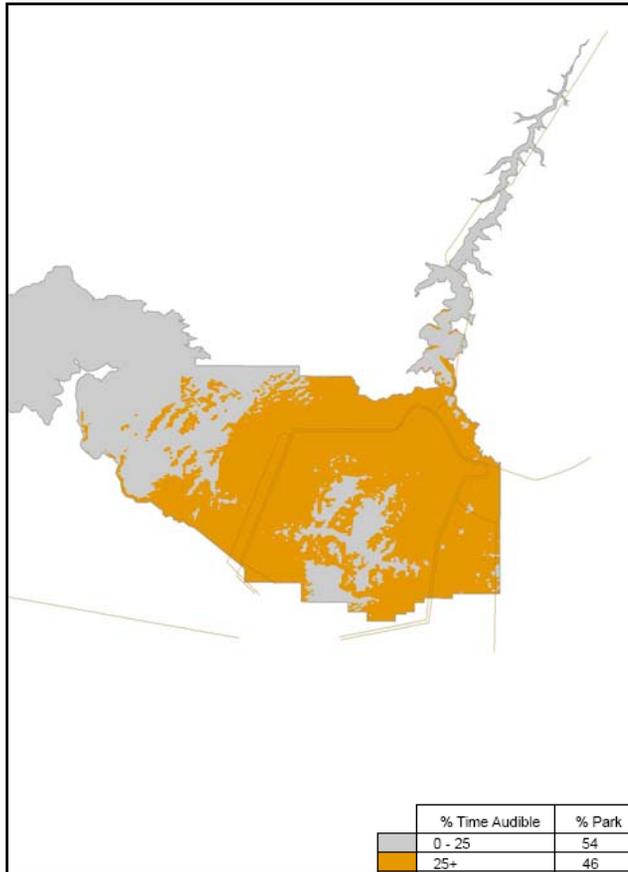
Air Tour and Air Tour Related
(25% Time Audible in 36.9% of the park)

GCWG Proposal – Dragon Corridor Lowered by 1000 ft and 2000 ft



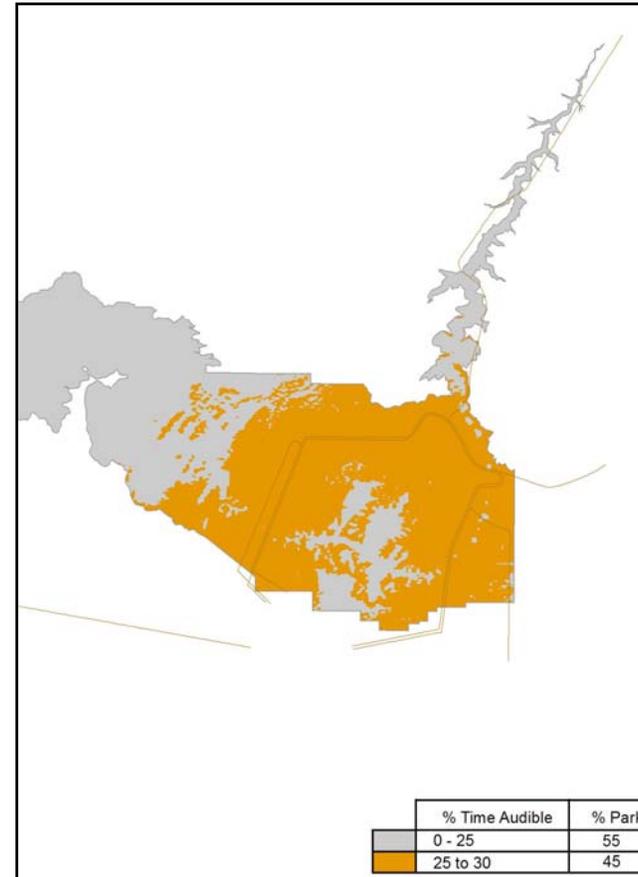
Dragon Corridor Operations Lowered 1000 ft

Dragon Baseline



Air Tour and Air Tour Related
46.1% of the park

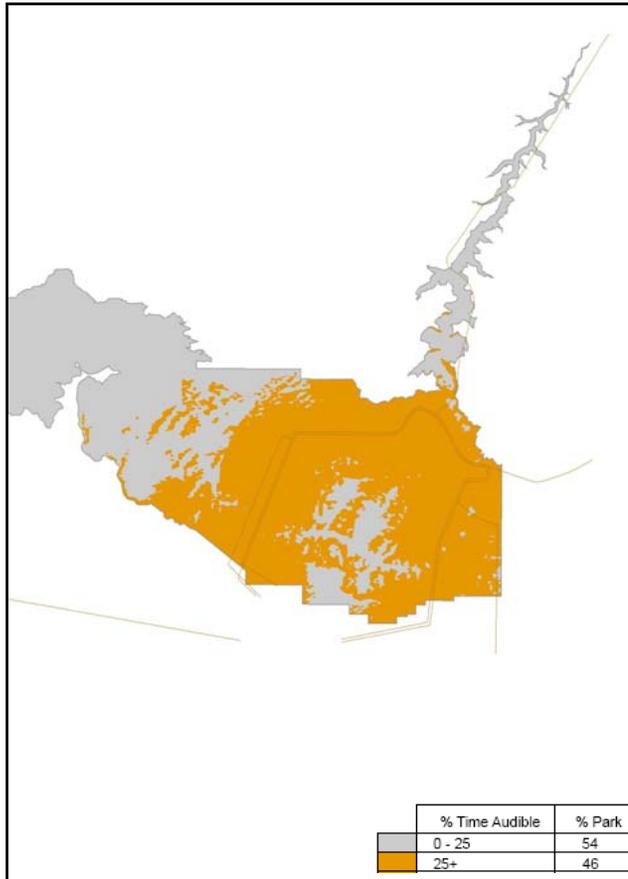
Dragon -1000 ft



Air Tour and Air Tour Related
45.6% of the park (Change = -11.9 sq-mile, -0.5%)

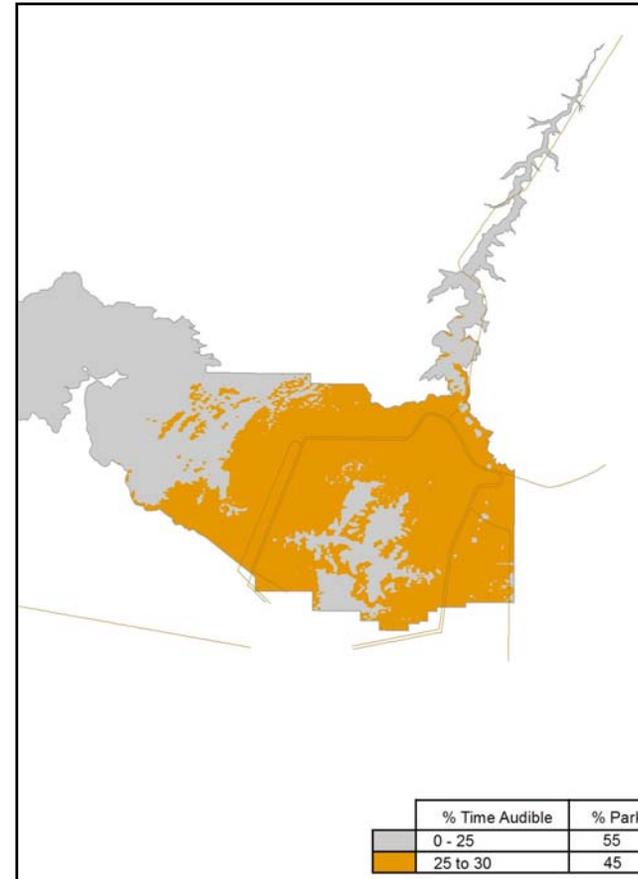
Dragon Corridor Operations Lowered 2000 ft

Dragon Baseline



Air Tour and Air Tour Related
46.1% of the park

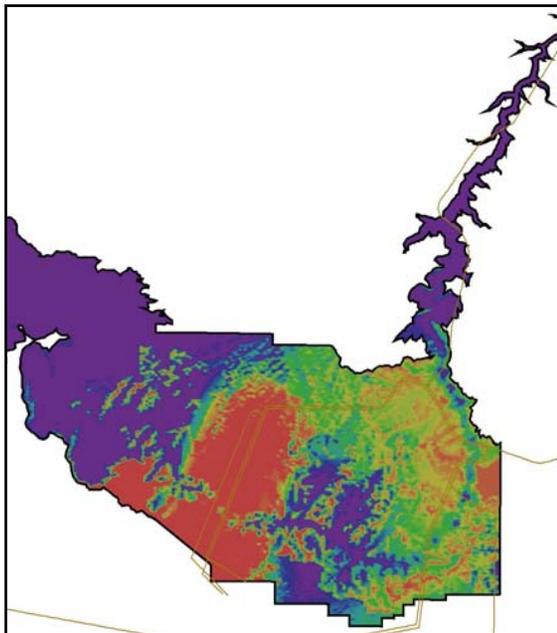
Dragon -2000 ft



Air Tour and Air Tour Related
45.4% of the park (Change = -17.1 sq-mile, -0.7%)

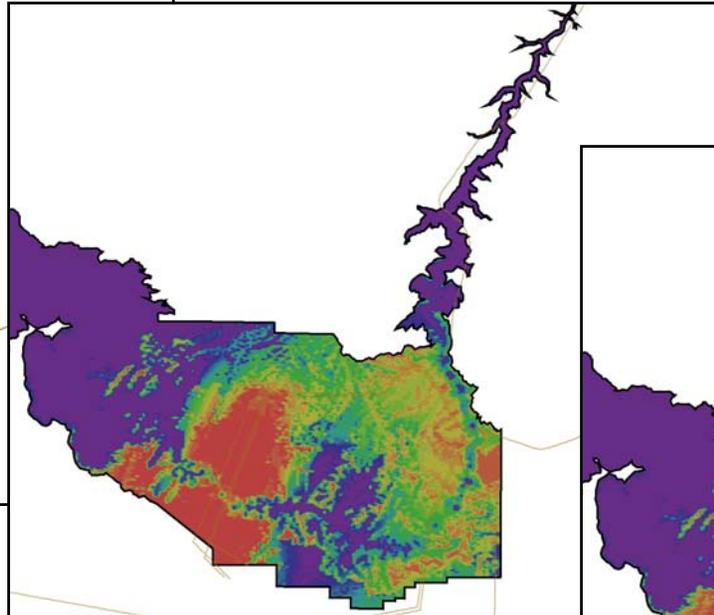
Dragon Corridor Operations Lowered 1000 ft and 2000 ft

Dragon Baseline



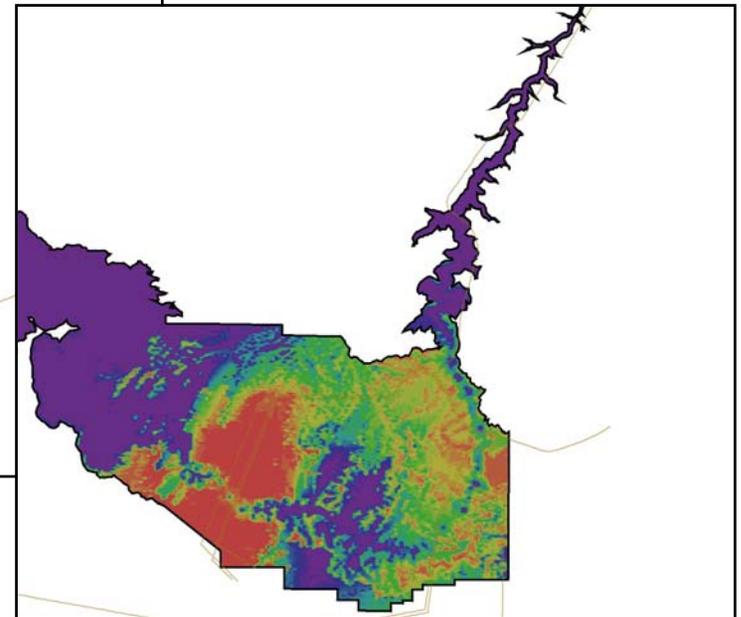
46.1% of the park

Dragon -1000 ft



45.6% of the park

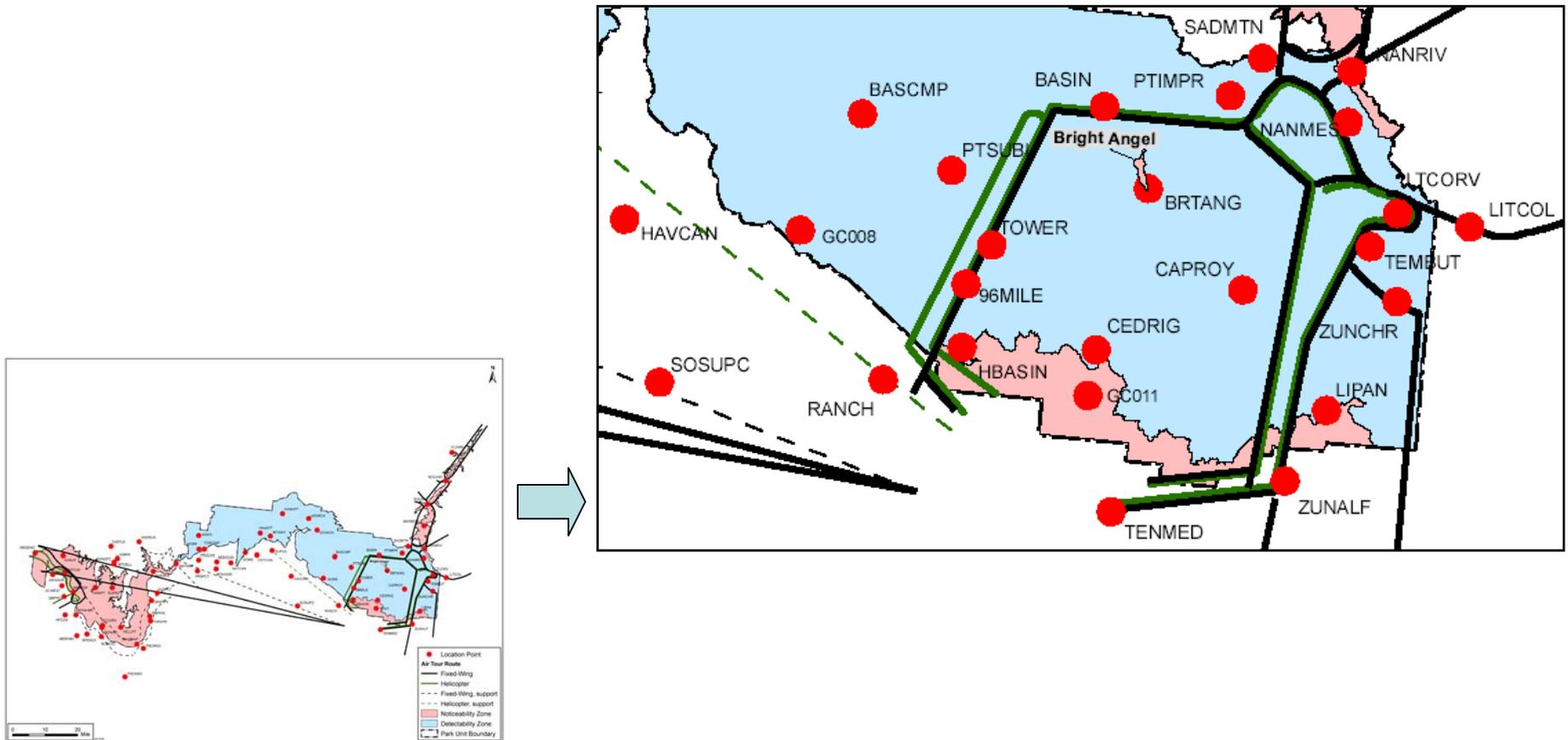
Dragon -2000 ft



45.4% of the park

(25% Time Audible for Air Tour and Air Tour Related)

Dragon Corridor Operations Lowered 1000 ft and 2000 ft (Grid Point Analysis)



Dragon Corridor Operations Lowered 1000 ft and 2000 ft (Grid Point Analysis - Time Audible Results)

INM ID	Location Pt	Dragon Baseline	Dragon -1000 ft	Dragon -2000 ft	Delta Dragon -1000 ft		Delta Dragon -2000 ft	
					% TA	TA (min)	% TA	TA (min)
96MILE	96 Mile Camp	90.6%	80.8%	82.7%	-9.8%	-71	-7.9%	-57
BASIN	The Basin	89.8%	85.7%	86.1%	-4.1%	-30	-3.7%	-27
BRNTSP	Burnt Springs Canyon	100.0%	85.2%	85.2%	-14.8%	-107	-14.8%	-107
BRTANG	Bright Angel Point	53.7%	51.2%	51.7%	-2.5%	-18	-2.0%	-14
CAPROY	Cape Royal	76.8%	75.6%	76.0%	-1.2%	-9	-0.8%	-6
CEDRIG	Cedar Ridge	88.9%	77.9%	62.8%	-11.0%	-79	-26.1%	-188
GC008	Pasture Wash (pinyon-juniper)	100.0%	94.9%	92.3%	-5.1%	-37	-7.7%	-55
GC011	South Rim (ponderosa pine)	3.0%	3.7%	3.7%	0.7%	5	0.7%	5
HBASIN	Hermit Basin	99.9%	99.9%	99.8%	0.0%	0	-0.1%	-1
LIPAN	Lipan Point	85.5%	85.0%	85.3%	-0.5%	-4	-0.2%	-1
NANMES	Nankoweap Mesa	93.8%	93.2%	93.5%	-0.6%	-4	-0.3%	-2
PTIMPR	Point Imperial	76.3%	75.2%	75.8%	-1.1%	-8	-0.5%	-4
RANCH	The Ranch	100.0%	96.9%	95.9%	-3.1%	-22	-4.1%	-30
SADMTN	Saddle Mountain	62.7%	61.6%	62.1%	-1.1%	-8	-0.6%	-4
SOSUPC	South Supai Canyon	5.4%	5.3%	5.3%	-0.1%	-1	-0.1%	-1
TOWER	Tower of Ra	99.5%	99.3%	99.1%	-0.2%	-1	-0.4%	-3
ZUNCHR	Zuni Charlie	69.6%	68.4%	68.7%	-1.2%	-9	-0.9%	-6



Dragon Corridor Operations Lowered 1000 ft and 2000 ft (Grid Point Analysis – L_{max} Results)

INM ID	Location Pt	Dragon Baseline	Dragon -1000 ft	Dragon -2000 ft	Delta Dragon -1000 ft	Delta Dragon -2000 ft
					Lmax (dBA)	Lmax (dBA)
96MILE	96 Mile Camp	53.8	55.7	58.2	1.9	4.4
BASIN	The Basin	65.0	64.9	64.9	-0.1	-0.1
BRNTSP	Burnt Springs Canyon	61.6	61.6	61.6	0.0	0.0
BRTANG	Bright Angel Point	38.6	38.3	38.3	-0.3	-0.3
CAPROY	Cape Royal	36.9	36.9	36.9	0.0	0.0
CEDRIG	Cedar Ridge	28.5	28.3	28.3	-0.2	-0.2
GC008	Pasture Wash (pinyon-juniper)	26.6	23.6	23.6	-3.0	-3.0
GC011	South Rim (ponderosa pine)	27.9	27.9	27.9	0.0	0.0
HBASIN	Hermit Basin	51.5	52.1	52.1	0.6	0.6
LIPAN	Lipan Point	48.3	48.3	48.3	0.0	0.0
NANMES	Nankowep Mesa	62.2	62.2	62.2	0.0	0.0
PTIMPR	Point Imperial	52.1	52.1	52.1	0.0	0.0
RANCH	The Ranch	46.0	44.2	44.2	-1.8	-1.8
SADMTN	Saddle Mountain	51.8	51.8	51.8	0.0	0.0
SOSUPC	South Supai Canyon	48.4	48.4	48.4	0.0	0.0
TOWER	Tower of Ra	61.7	65.7	65.7	4.0	4.0
ZUNCHR	Zuni Charlie	53.1	53.1	53.1	0.0	0.0

