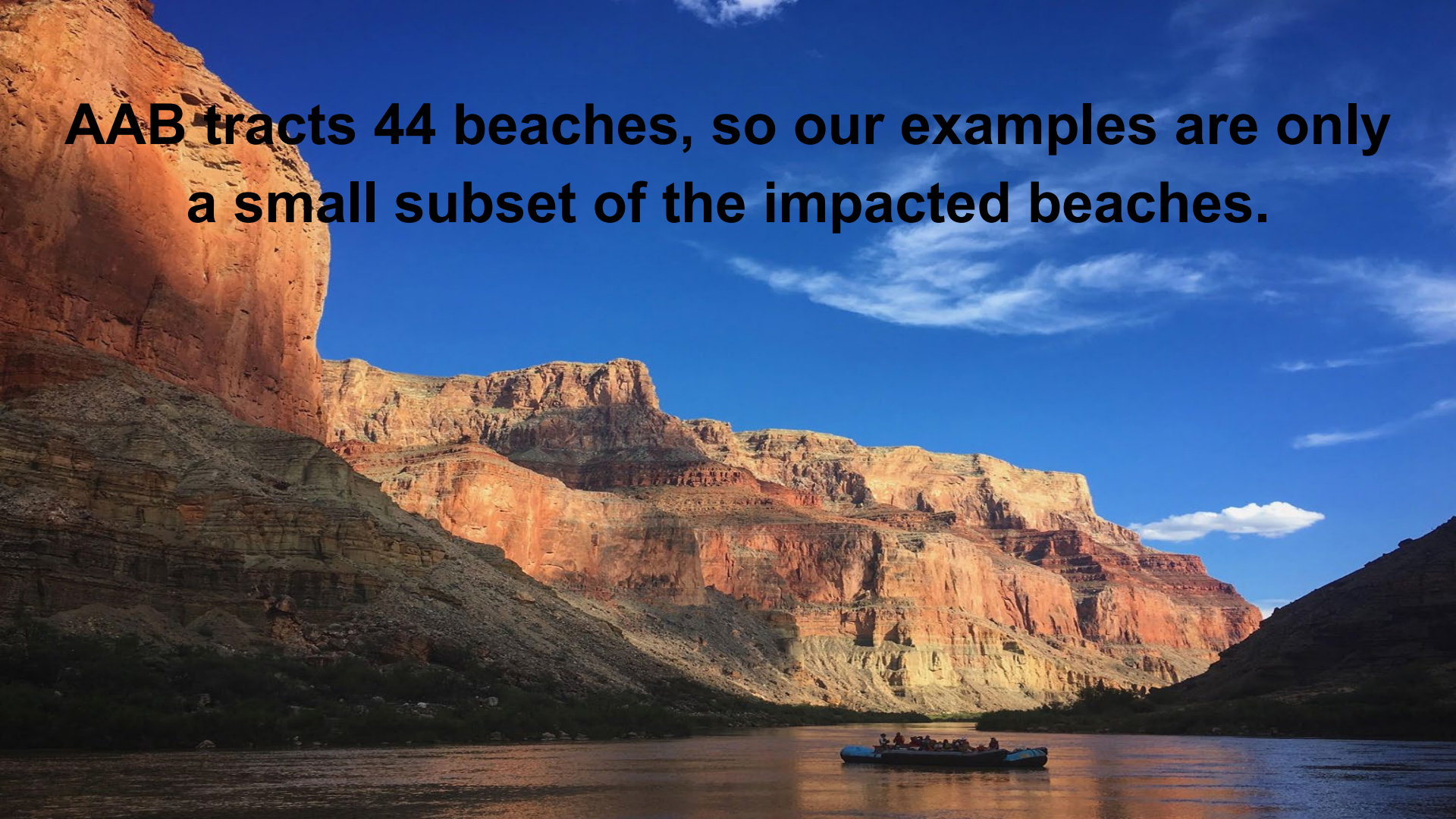
Adopt-A-Beach

State of the beaches, 2022


AAB tracts 44 beaches, so our examples are only a small subset of the impacted beaches.

Nautiloid Canyon, river mile 35 left: 2018-2021

2018

2021

Tatahatso RM
37.9 left
Early 2021
(top photos)

Post monsoon
photos, late 2021
Beach destruction
comparison
(above)

Martha's, RM 38.6 left 2021 before and after

Lower Garnet, 115.1 Left

Left photo shows the main camp in early 2021, right photo is a close-up of the post monsoon season, late 2021

Lower Tapeats, river mile 134.5- right

Left photo taken in 2000, right photo in 2021. Note general scouring of all sand, over time

Olo, river mile 148 left

Both photos show lower beach, left photo taken in 2018, right photo in 2021

Photos (top left) taken in 2018, (upper and lower right) taken in 2021. Notice the gully caused by monsoon storms. While this is still campable, Matkat has gotten pretty sporty..

Matkat Hotel, river mile 148.9 left

Last Chance, river mile 156.2 right

Left photo taken in 2014, right photo taken in 2021.

3 photos of Tuckup, 2021. Upper left shows spring conditions, middle and left photos from fall- demonstrating that monsoon storms affected beaches canyon wide.

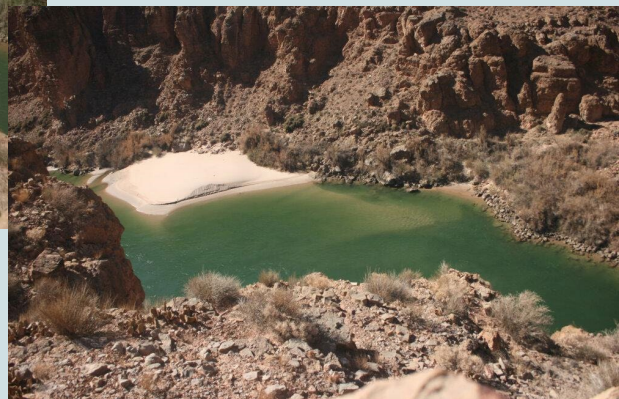
Tuckup Canyon, river mile 165.1 right

National Canyon, river mile 167 left

Upper photos taken early 2021, lower photos taken in late 2021. Note the missing sand in lower photos.

Repeat photography from GCMRC, river mile 44.5-

starting from after the spring 2021 pulse flow, then from September 2021, then from February 2022



ADOPT-A-BEACH PROGRAM
Long-Term Monitoring of Camping Beaches in Grand Canyon

A Comparative Examination of the Results for Eight High Flow Experiments in Grand Canyon, 1996 - 2018

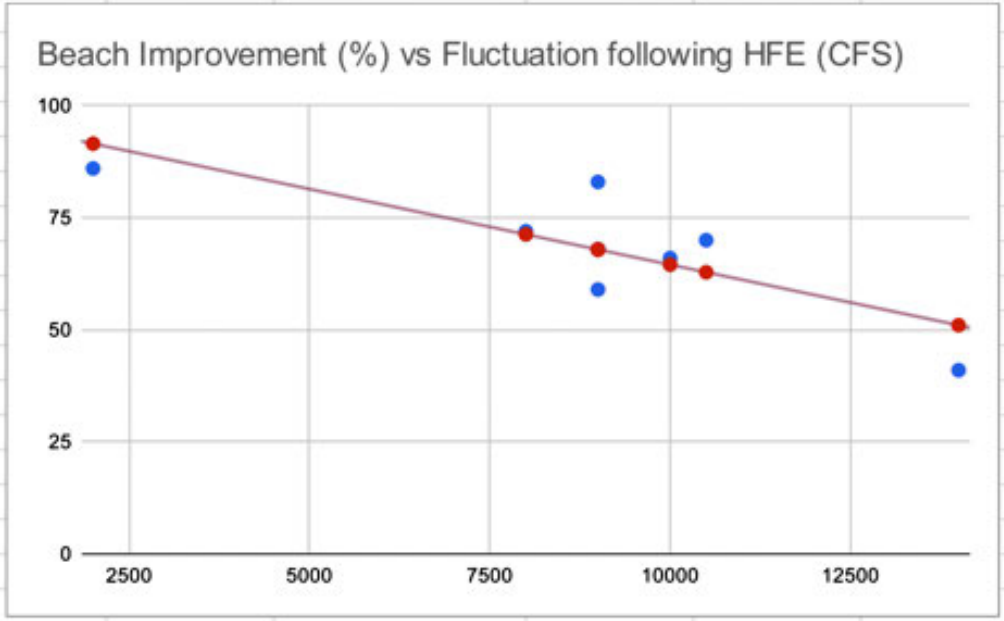
By
Paul Lauck[1]

March 4, 2022

Example of camp restoration resulting from the early November 2018 High Flow Experiment event.
Hot Na Na Camp, RM 16.6L
Photo on left taken July 19, 2018, on right April 1, 2019

[1]Grand Canyon River Guides, Inc.
PO Box 1934, Flagstaff, AZ 86002

		Flow following HFE (CFS)			
Year	Improved Beaches(%)	Low Flow	High Flow	Fluctuation	Line of Best Fit
1996	86	18000	20000	2000	91.532
2012	83	7000	16000	9000	67.914
2018	72	7500	15500	8000	71.288
2013	70	6000	16500	10500	62.853
2008	68	7500	16500	9000	67.914
2016	66	8000	18000	10000	64.54
2014	59	8000	17000	9000	67.914
2004	41	6000	20000	14000	51.044



Line of Best Fit

y = -0.003374 x + 98.28

Correlation Coefficient

r = -0.803

Coefficient of Determination

r^2 = 0.644

Preliminary data

State of the Beaches: 2022 Conclusion

- As we know, the monsoon season 2021 deposited the 2nd most sand through the Paria, since we started measuring this deposit.
- No HFE was conducted in 2021
- Camping beaches along the CRE support recreation, but also indicate the health of the ecosystem
- This mega-drought and the Basin Fund were stated reasons for not conducting the fall HFE of 2021
- LTEMP/ HFE protocols allow HFE's while sending the same amount of water downstream in a water year as *not* conducting an HFE
- Conducting HFE's supports science and the Grand Canyon Protection Act
- HFE's are one of our strongest tools available to mitigate negative impacts from the dam, especially when followed by lower fluctuations
- Climate change will require creative solutions to balance all resources