

HFE Effects to Hualapai Resources

HFE Workshop

February 26, 2014





Pumpkin Spring (RM213L) Before 2014 HFE (November 8, 2014)



Pumpkin Spring (RM213L) After 2014 HFE (November 18, 2014)



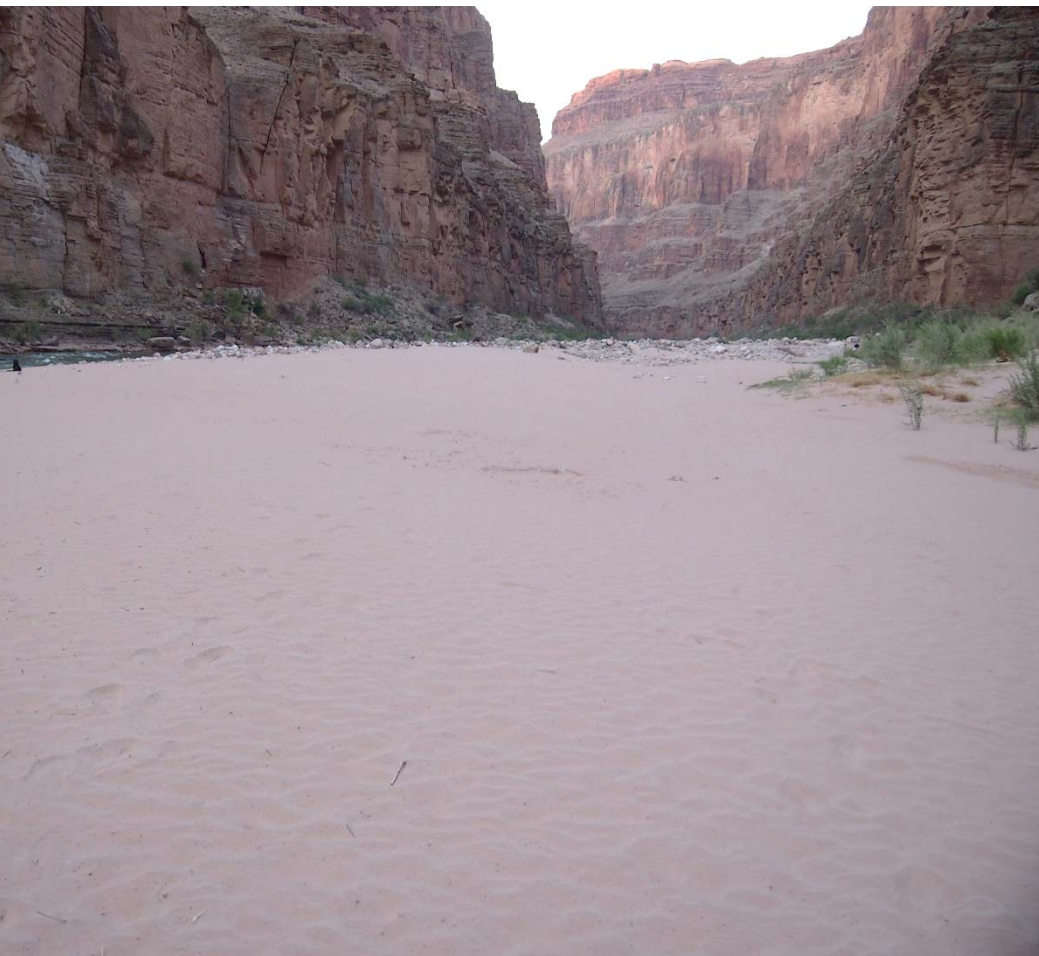
Dropseed (*Sporobolus* sp.) at Pumpkin Spring dunes



Lower National (RM167L) Before 2014 HFE (November 8, 2014)



Lower National (RM167L) After 2014 HFE (November 17, 2014)



17, 2014

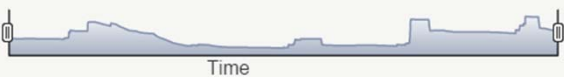
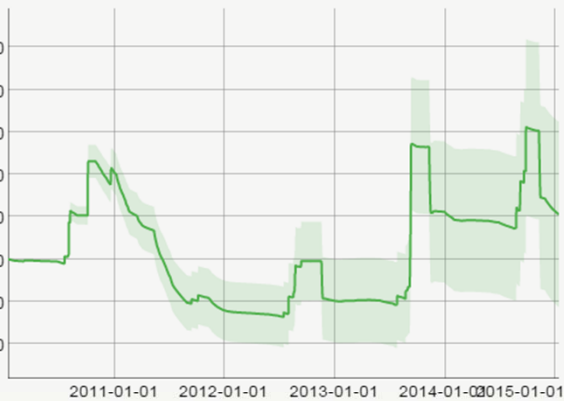
Lower National

September 4, 20



Change in Sand Mass

Zero Bias Value: 530,000 Metric Tons
Upper Uncertainty Bound: 1,600,000 Metric Tons
Lower Uncertainty Bound: -570,000 Metric Tons



5 Year Change in Sand Mass 2010-01-15 to 2015-01-15

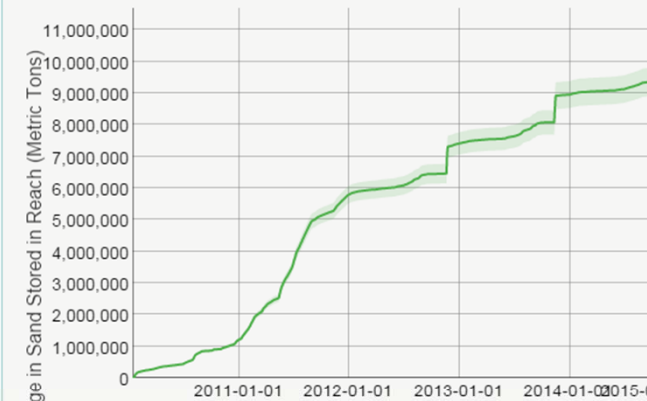
< < Upper Marble
Canyon Reach
(LF – ca. RM30)

Western Grand Canyon &
Lake Mead Delta Reach
(Ca. RM225 – 280) > >

Data

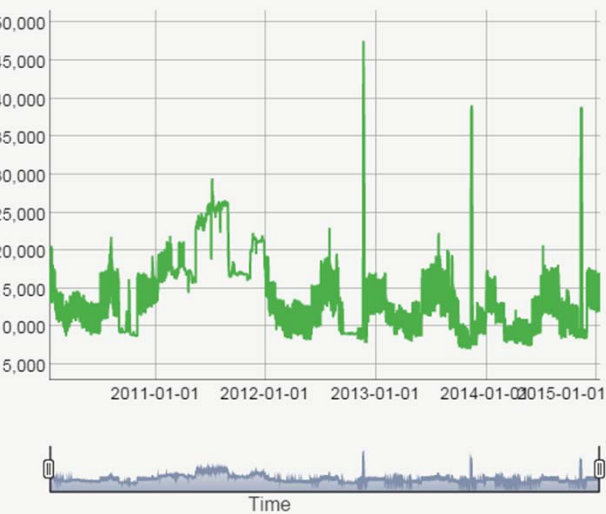
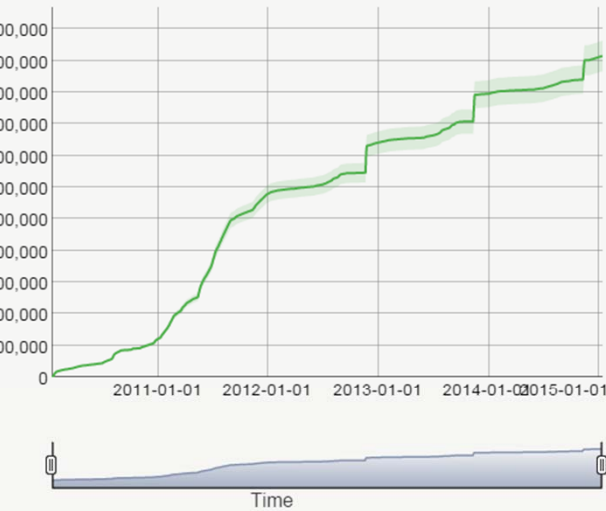
Change in Sand Mass

- Zero Bias Value: 10,000,000 Metric Tons
- Upper Uncertainty Bound: 11,000,000 Metric Tons
- Lower Uncertainty Bound: 9,700,000 Metric Tons



Change in Sand Mass

Zero Bias Value: 10,000,000 Metric Tons
Upper Uncertainty Bound: 11,000,000 Metric Tons
Lower Uncertainty Bound: 9,700,000 Metric Tons



Western Grand Canyon and the Lake Mead Delta

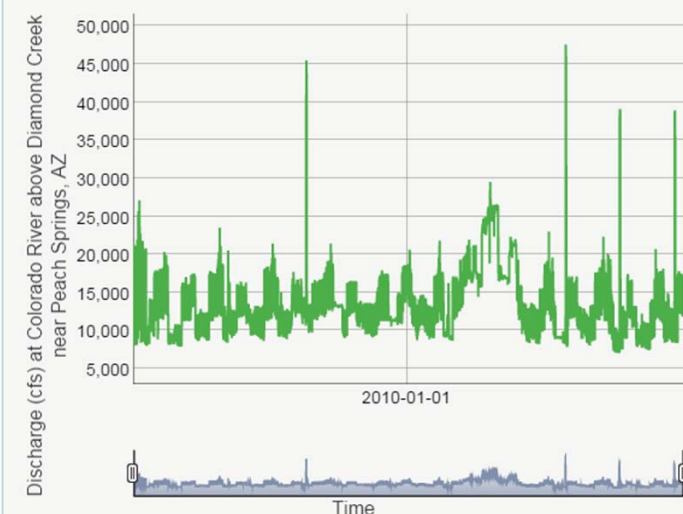
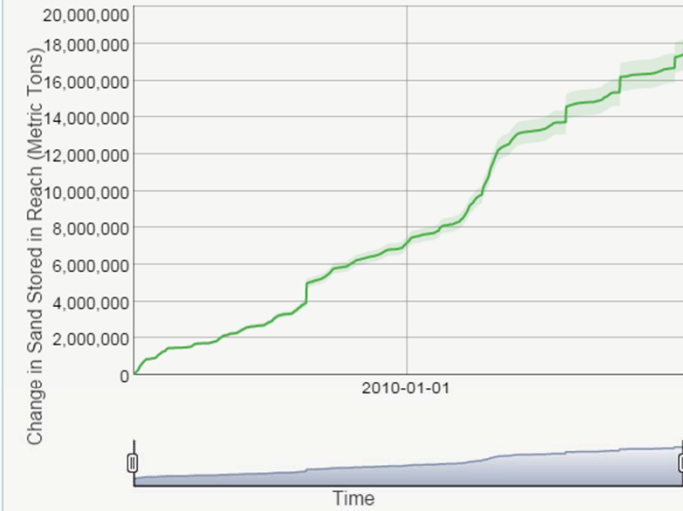
< 5 Years
(2010-01-15 to 2015-01-15)

10 Years >>
(2005-01-15 to 2015-01-15)

Data

Change in Sand Mass

- Zero Bias Value: 17,000,000 Metric Tons
- Upper Uncertainty Bound: 18,000,000 Metric Tons
- Lower Uncertainty Bound: 17,000,000 Metric Tons





deposition & bank slumpage
western Grand Canyon & Lake Mead Delta Reach

