

AND I QUOTE

From this best available PEER REVIEWED factual? Scientific study?

"However, response to the partial restoration of Elwha nearshore sediment supply due to dam removal is **UNKNOWN**" but important in defining additional restoration actions needed to achieve full ecosystem restoration (Shaffer et al., 2008, 2009, 2012).

I add the following definition for emphasis.

UNKNOWN

NOT IDENTIFIED undetermined or undiscovered

NOT KNOWN not forming part of somebody's knowledge or of knowledge in general.

AND I QUOTE From this best available PEER REVIEWED scientific report.

"APPLYING OUR RESULTS TO **FUTURE RESTORATION** ACTIONS, WE **THEORIZE** that when nearshore sediment processes are partially restored via the restoration of fluvial sediment sources.....

I add the following definition for emphasis.

THEORIZE - THEORY the body of rules, ideas, principles, and techniques that applies to a subject, especially when seen as distinct from actual practice

USING THE PRE 2012 **UNKNOWN?** AMOUNT OF SILT RELEASED FROM AND CAUSED BY THE REMOVAL OF ELWHA RIVER DAMS?

2013 UPDATES FROM PORT ANGELES DAILY NEWS **UNKNOWN SILT ?**

[Testing the waters of the new Big Muddy: How scientists are ...](#)

[Dead salmon found along *silt*-choked *Elwha River* after hatchery ...](#)

[Government expects legal action in wake of *Elwha River* sediment ...](#)

[Elwha River water plant upgrade to put dam removal on hold -- Port ...](#)

THE ELWHA DAM REMOVAL IS THE LARGEST DAM REMOVAL IN THE HISTORY OF OUR COUNTRY

THE UNKNOWN AMOUNT OF SILT?

The nearly 19 million m³ of sediment residing in the deltas and reservoirs will be eroded by the river **IN ONE OF THE LARGEST RELEASES OF SEDIMENT INTO A RIVER AND MARINE WATERS IN RECORDED HISTORY.**

THE UNKNOWN AMOUNT OF SILT ?

The controlled release of sediment and the halting of dam notching and reservoir draw down during “fish windows” is largely determining a deconstruction schedule expected to last between 2 -3 years. **high suspended sediment concentrations could last for up to 3-5 years following dam removal depending on weather conditions and river discharge.**

----- Original Message -----

From: zSMPC

To: zSMPC

Sent: Wednesday, May 08, 2013 9:27 AM

Subject: Nearshore Drift-Cell Study

Please find the attached Nearshore Drift-Cell Sediment Processes and Ecological Function for Forage Fish: Implications for Ecological Restoration of Impaired Pacific Northwest Marine Ecosystems study - **that has been approved for 2013 publication in the Journal of Coastal Research.**

<<parksetaljcr.pdf>>

Parks, D.; Shaffer, A., and Barry, D., 0000. Nearshore drift-cell sediment processes and ecological function for forage fish: implications for ecological restoration of impaired Pacific Northwest marine ecosystems.

Journal of Coastal Research, 00(0), 000–000.

Coconut Creek (Florida), ISSN 0749-0208.

I have taken snippets out of this report.

ADDITIONAL INDEX WORDS: Elwha River dam removal, feeder bluff.

However, response to the partial restoration of Elwha nearshore sediment supply due to dam removal is unknown, but important in defining additional restoration actions needed to achieve full ecosystem restoration (Shaffer et al., 2008, 2009, 2012).

Following the Elwha nearshore restoration strategy developed in 2005 (Shaffer et al., 2008), priority nearshore habitats within the Elwha (impaired) and Dungeness and Crescent (intact) drift cells Nearshore Drift-Cell Sediment Processes and Ecological Function for Forage Fish for 79 samples using linear regression (Zar, 1984) for size classes between 0.125 mm and 38.1 mm (Figure 3). The calculated R² statistic of 0.9429 and

standard error of 1.15475 using the least-squares method (Zar, **1984**)
Mean beach sediment grain size is not statistically different
between geomorphic habitat types of impaired (Elwha) and
intact (Crescent and Dungeness) drift cells In **2008**, of a total of 91 samples,
Sediment delivery from feeder bluffs likely occurs at
sufficient rates and with seasonal pulses in spring and fall
between 2007 and 2008

LOWER RIVER FEEDER BLUFF SEDIMENT SOURCES WILL PLAY IN ELWHA NEARSHORE FUNCTION WITH RESTORATION AFTER DAM REMOVAL.

The high variability of surf smelt egg density observed
between **2007 and 2008** is consistent with other surf smelt
spawn **studies for the Strait of Juan de Fuca (Moriarty, Shaffer,
and Penttila, 2002)**

Applying our results to future restoration actions, we
THEORIZE that when nearshore sediment processes are partially
restored via the restoration of fluvial sediment sources, there...

CONCLUSIONS

We conclude **that disruption of sediment processes** plays an
important and direct role in both sediment size and nearshore
habitat function at both local and drift-cell scales. When
sediment processes are disrupted and **SEDIMENT DELIVERY IS
REDUCED**, beach substrate sizes are more variable and coarse,
and less habitable for forage fish spawning across the drift cell
than in unimpaired drift cells not associated with reduced
sediment supply. Further, the role feeder bluffs play in
nearshore habitat is complex, **with the sediment composition,
volume, and seasonal rate of sediment delivery** important for
nearshore ecological function and restoration.

THE CURRENT DAM REMOVALS IN THE ELWHA RIVER WILL AT BEST PROVIDE A PARTIAL RESTORATION OF NEARSHORE SEDIMENT PROCESSES.

Additional restoration actions of acquisition, shoreline modification
to remove armoring, and **FURTHER STUDY are warranted for
complete RESTORATION of the nearshore.** The creation of preser-

Figure 8. Fish species richness and diversity by drift cell. Data published in Shaffer et al. (2012) and
provided here with permission of authors.

Journal of

The **full text** of this study can be found on line under SMP Public comment?