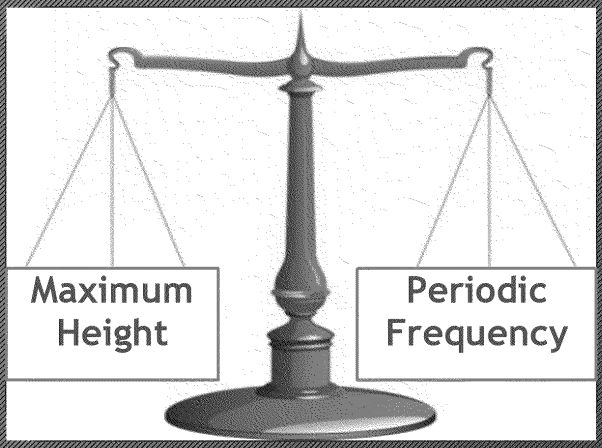
HTL = High Tide Line

- Landward Extent of Clean Water Act Jurisdiction in Tidally Influenced Waters of the United States
- Regulatory Definition:
  - **Maximum height** reached by a rising tide
  - Encompasses
    - **Spring high tides** &
    - Other high tides that occur with **periodic frequency**,
  - But ***not*** storm surges or other departures from the **predicted reach** of the tide
- Intent (from the Preamble):
  - Many types of aquatic areas along the coast are above the mean higher high mark (MHHW)
  - HTL includes those "inundated with sufficient frequency & regularity to be included as **part of the aquatic resource**"

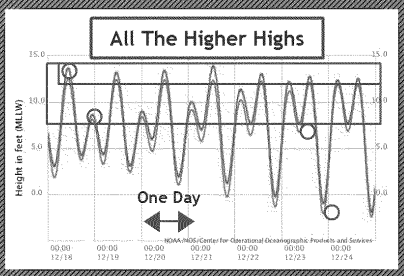
So, what's the problem?

- Defined only in the Corps' regs, not EPA's
  - Added in Clean Water Rule
- Not tied to a specific tidal datum
- And…



Periodic Frequency

Daily (Mixed Semi-diurnal)



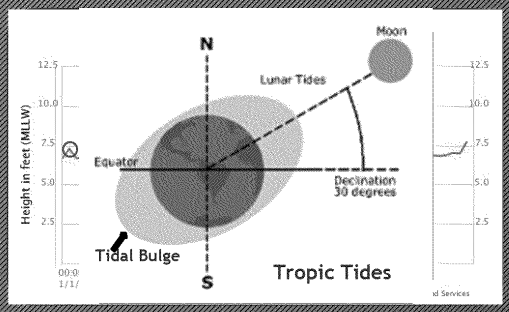
Two Daily Highs

Two Daily Lows

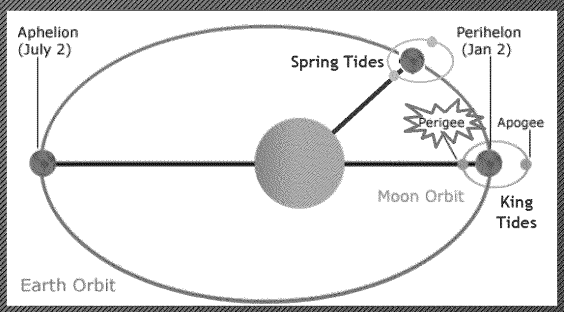
Mean High Water

Mean Higher High Water (MHHW)

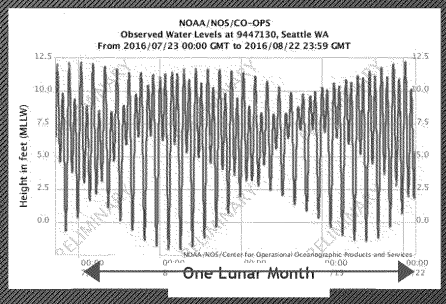
Annual



Epochal



Bi-monthly



Spring Tides & Tropic Tides (Twice per Lunar Month)

A veritable "tide" of…

FANTASTIC TIDAL DATUMS !!!

COMIC BOOK

FANTASTIC TIDAL DATUMS

An obscure physical oceanographer entombed

in the

Ocean (Tides) and Lake Levels Division

of the

Office of Ocean and Earth Sciences

of the

National Ocean Service

of the

National Oceanic and Atmospheric Administration

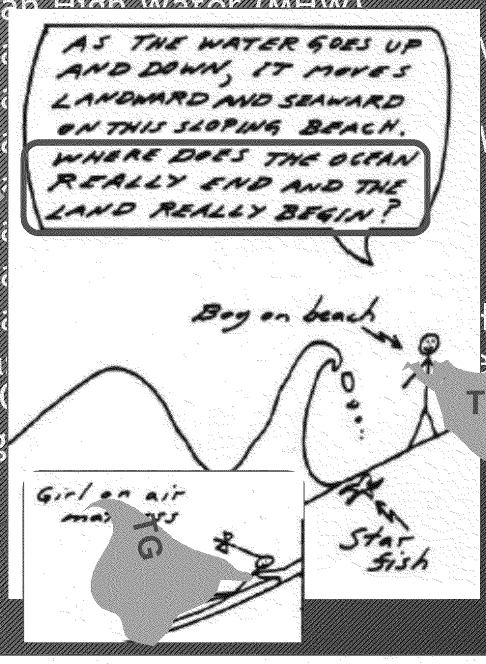
of the

U.S. Department of Commerce

"Department of Commerce?" "Yes, Commerce!"

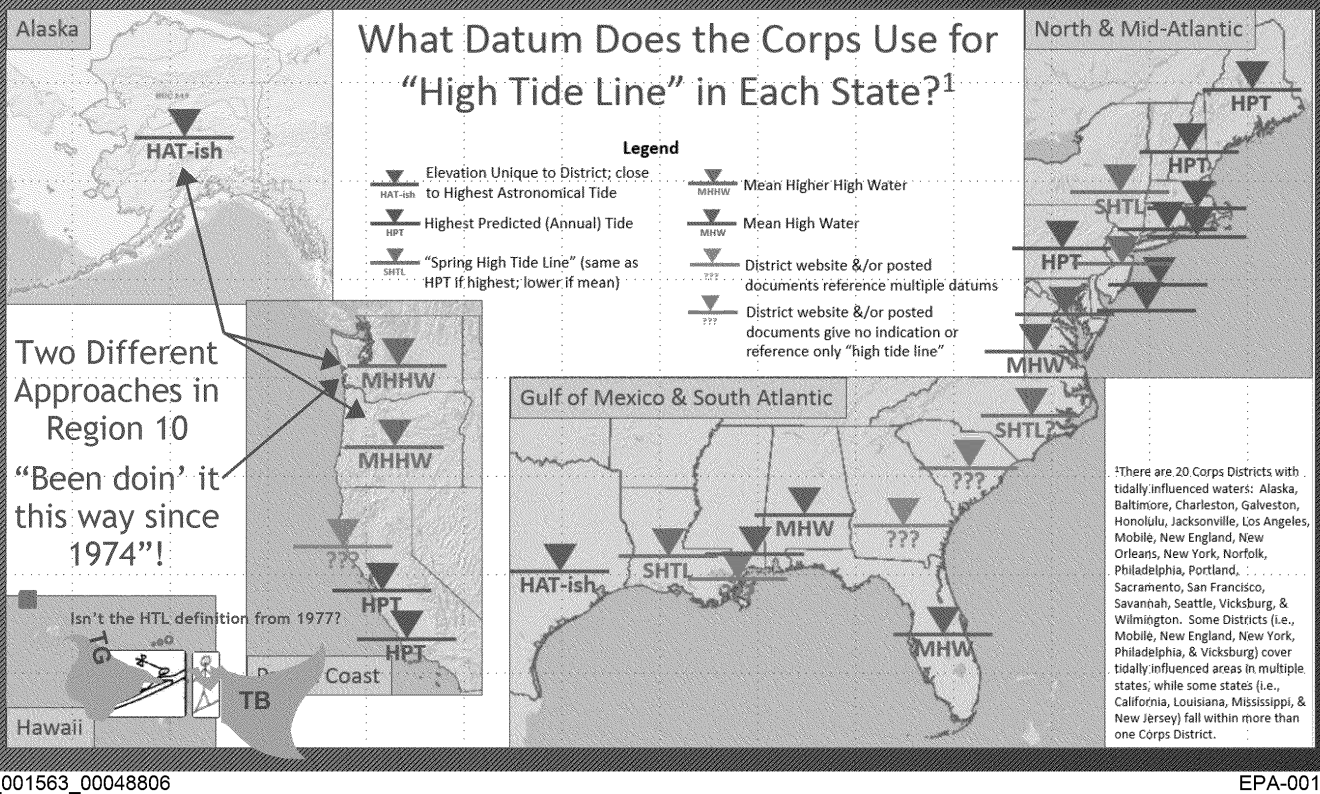
1988

- Mean High Water (MHW)
- Mea V)
- Mea
- Mea HT)
- Mea
- Mea
- Mea
- Mea HT)
- Wa er Mark (WC
- Hig



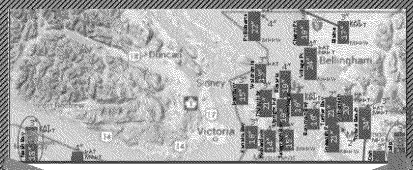
Send these kids with their smarty pants questions back to summer school in Kansas.

Six or More Different Answers!



MHHW is pretty high & *really* frequent!

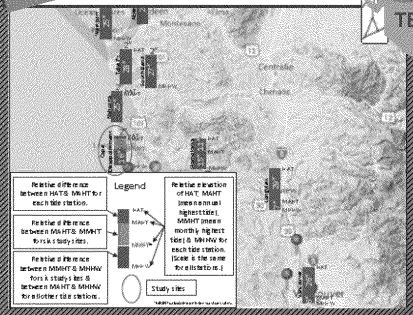
Yes, but…

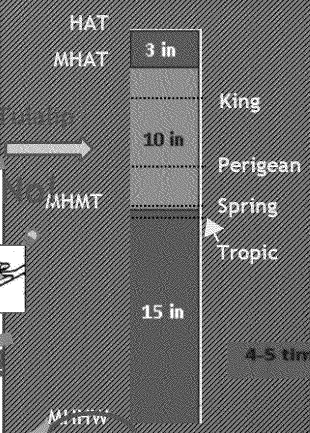


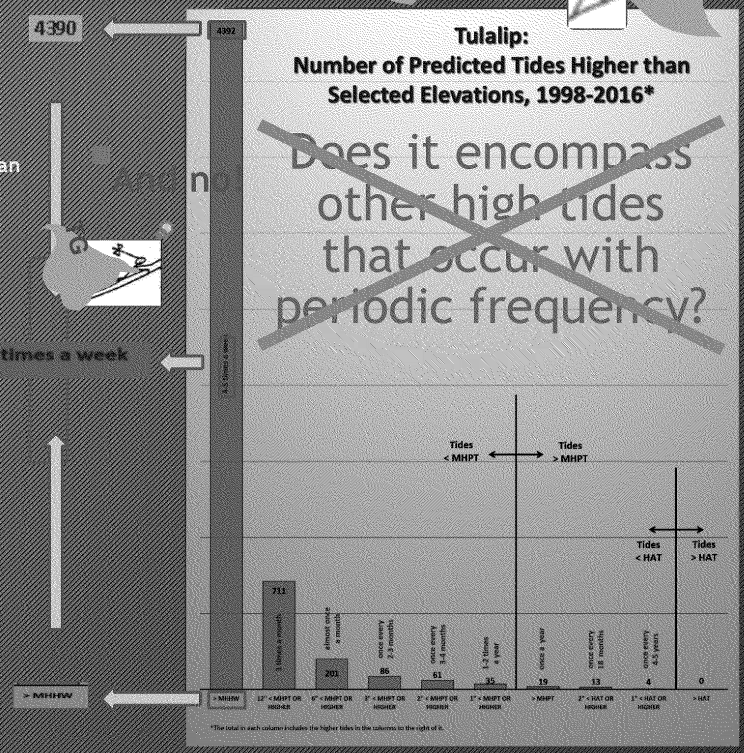
Is it the maximum height reached by a rising tide?

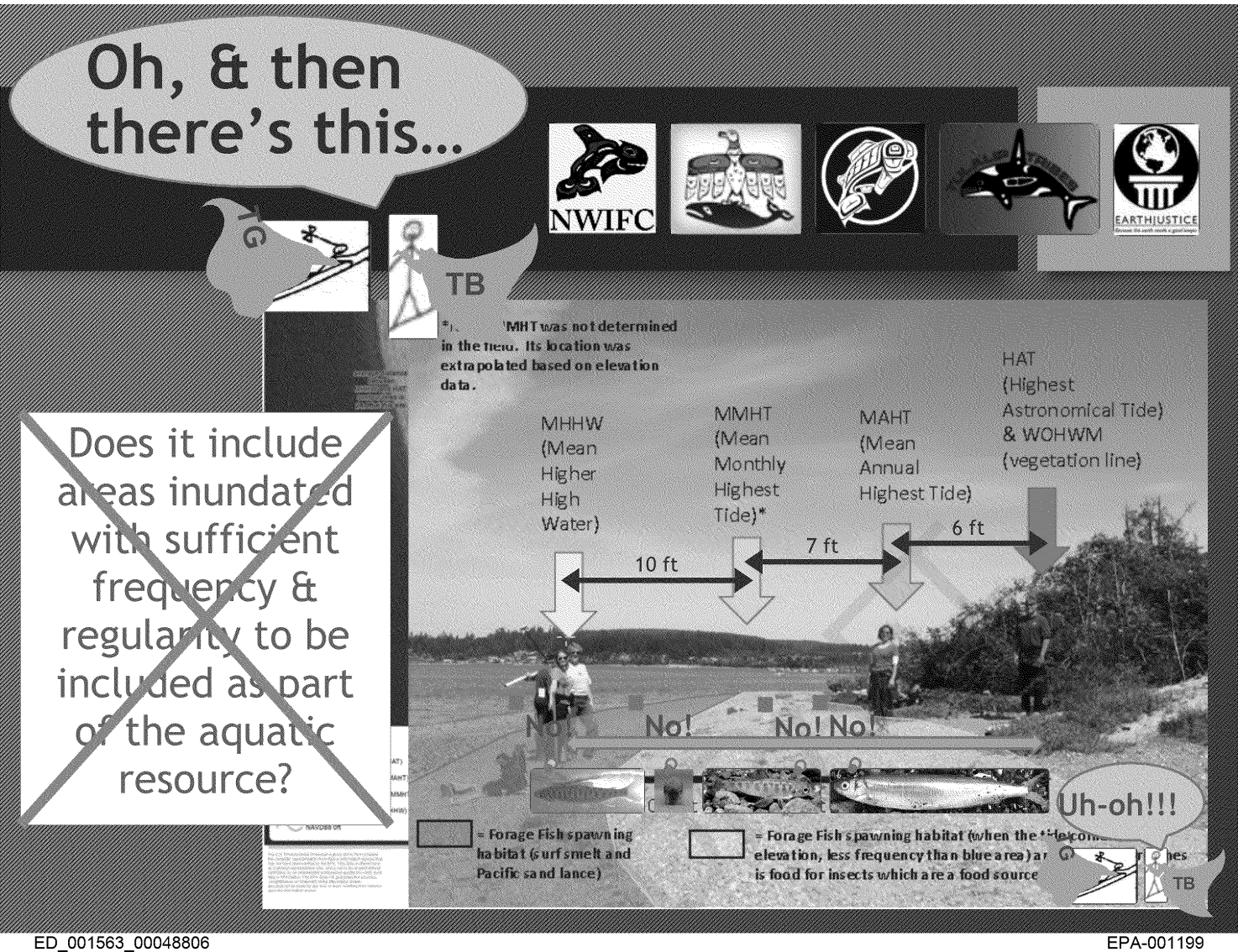
Does it encompass spring high tides?

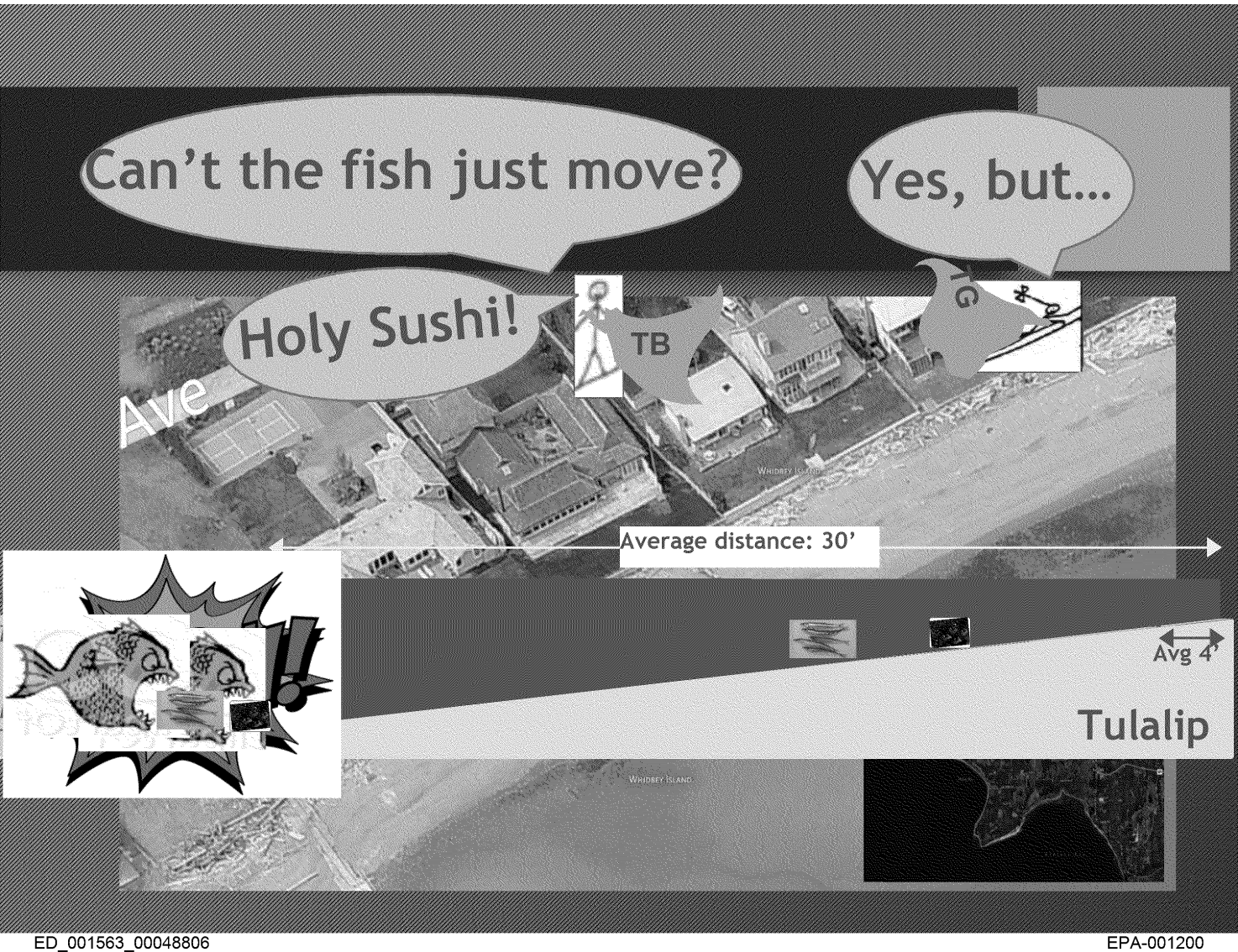
No!








Oh, & then there's this...
TG
TB
NWIFC
EARTHJUSTICE
MHT was not determined in the field. Its location was extrapolated based on elevation data.
MHHW (Mean Higher High Water)
MMHT (Mean Monthly Highest Tide)*
MAHT (Mean Annual Highest Tide)
HAT (Highest Astronomical Tide) & WOHWM (vegetation line)
10 ft
7 ft
6 ft
No!
No! No!
Uh-oh!!!
= Forage Fish spawning habitat (surf smelt and Pacific sand lance)
= Forage Fish spawning habitat (when the tide com elevation, less frequency than blue area) ar is food for insects which are a food source
TB
Does it include areas inundated with sufficient frequency & regularity to be included as part of the aquatic resource?


Can't the fish just move?
Yes, but…
Holy Sushi!
TB
TG
Ave
Average distance: 30'
Avg 4'
Tulalip

So, MHHW doesn't meet the definition & intent of HTL?

Uh….

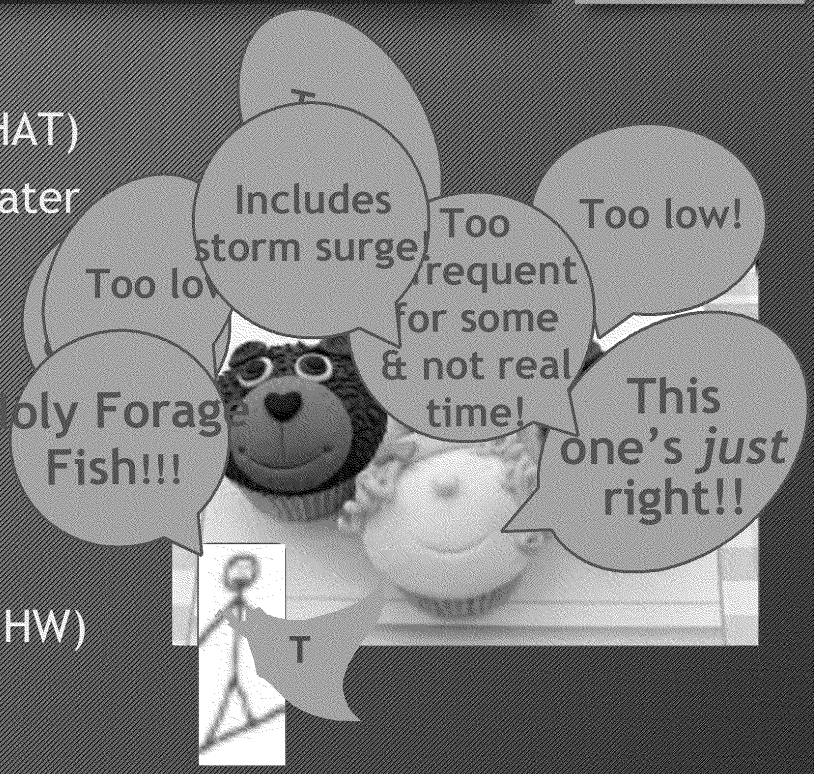
- Maximum height reached by a rising tide
- Encompasses spring high tides
- Encompasses other high tides that occur with periodic frequency
- Does *not* include storm surges
- Includes aquatic areas above MHHW
- Includes areas inundated with sufficient frequency & regularity to be included as part of the aquatic resource

Noooooooo!

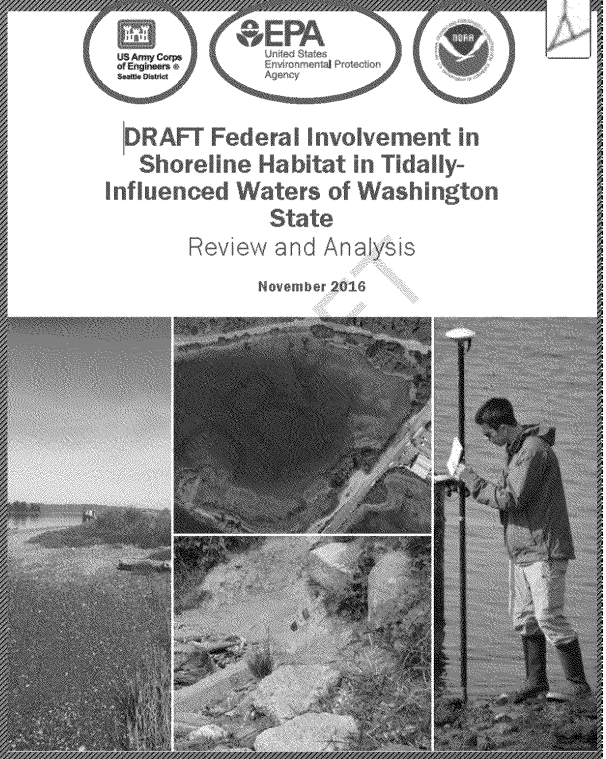
Interagency Workgroup

What are my choices, again?

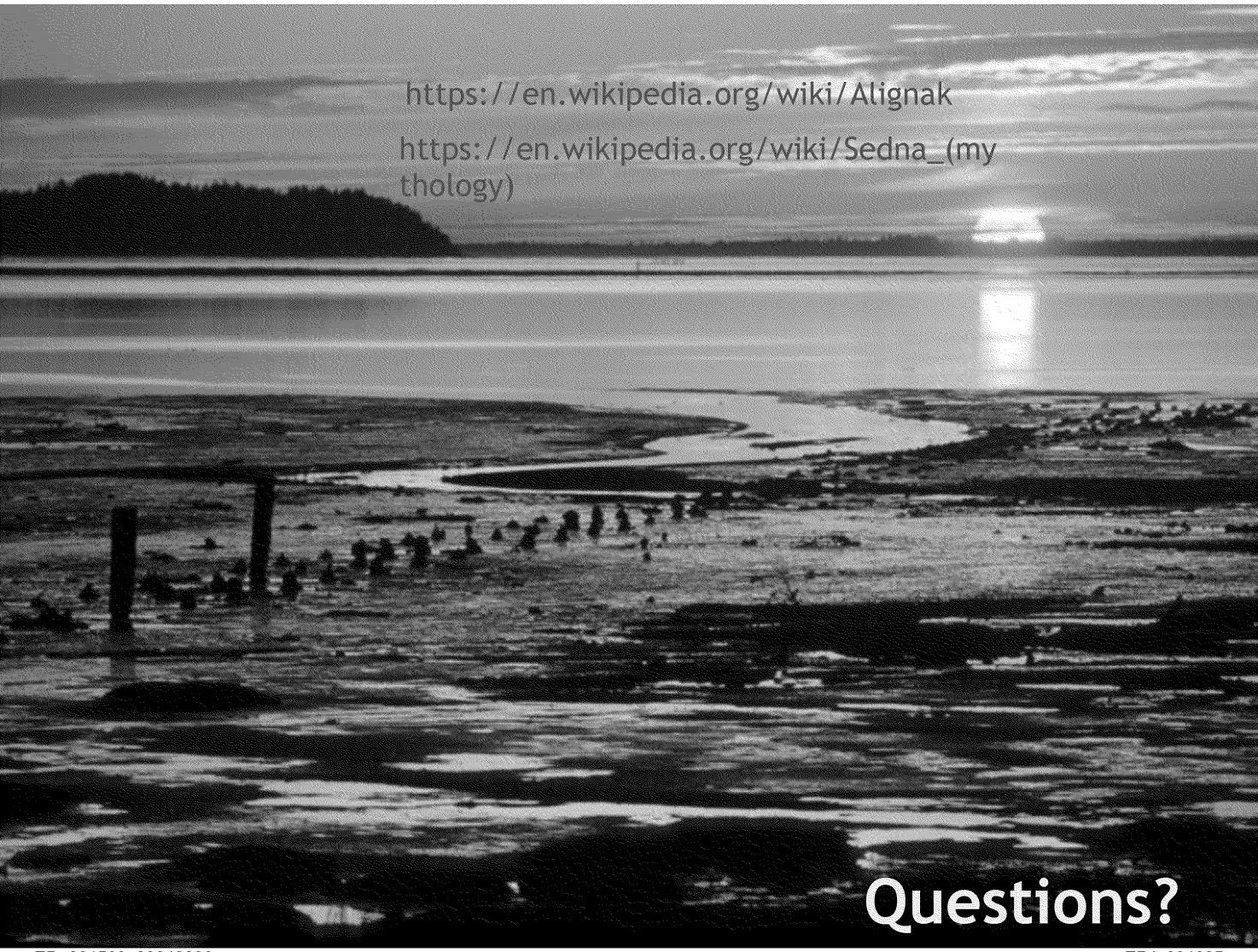
- Highest Astronomical Tide (HAT)
- Washington Ordinary High Water Mark (WOHWM)
- Mean Highest Predicted Tide (MHPT)
- Tropic Higher High Water
- Mean King Tide
- Mean Spring High Tide
- Mean Higher High Water (MHHW)
- Mean High Water (MHW)



Okay, so what now?



Ex. 5 - Deliberative Process


https://en.wikipedia.org/wiki/Alignak
https://en.wikipedia.org/wiki/Sedna_(mythology)
Questions?