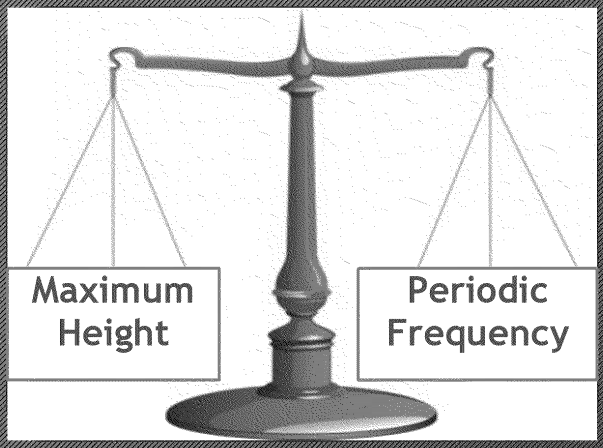
ED_001563_00016170 EPA-001479

HTL = High Tide Line

- Landward Extent of Clean Water Act Jurisdiction in Tidally Influenced WOTUS*
- Regulatory Definition:
  - Maximum height reached by a rising tide
  - Encompasses
    - Spring high tides &
    - Other high tides that occur with [illegible],
  - 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 [illegible] mean higher high water (MHHW)
  - HTL includes those "inundated with sufficient frequency & regularity to be included as [illegible]"

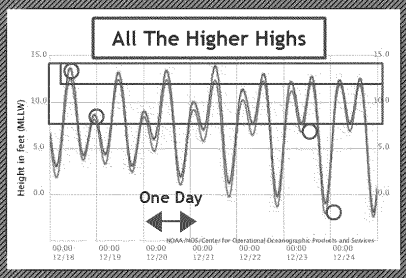
So, what's the problem?

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



Periodic Frequency

Daily (Mixed Semi-diurnal)



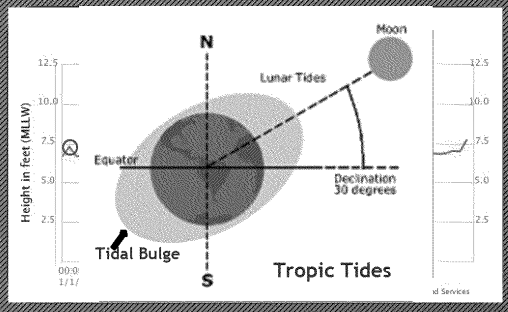
Two Daily Highs

Two Daily Lows

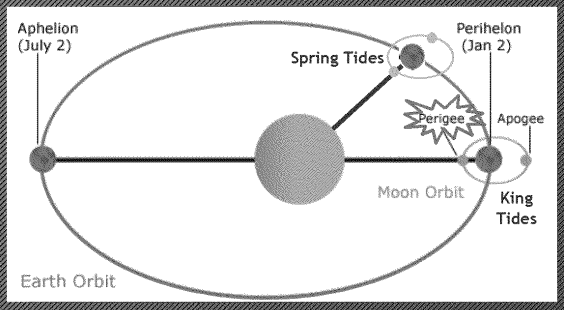
Mean High Water

Mean Higher High Water (MHHW)

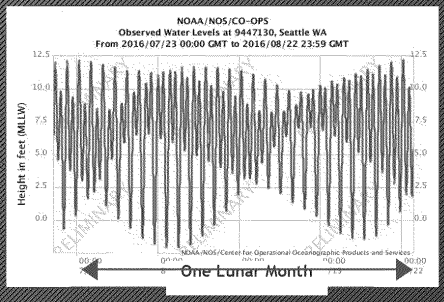
Annual



Epochal



Bi-monthly



Spring Tides & Tropic Tides (Twice per Lunar Month)

A veritable "tide" of…

FANTASTIC TIDAL DATUMS !!!

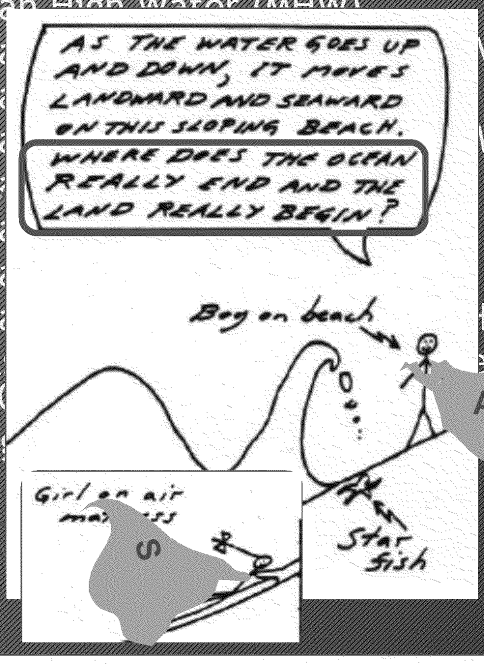
COMIC BOOK

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!"

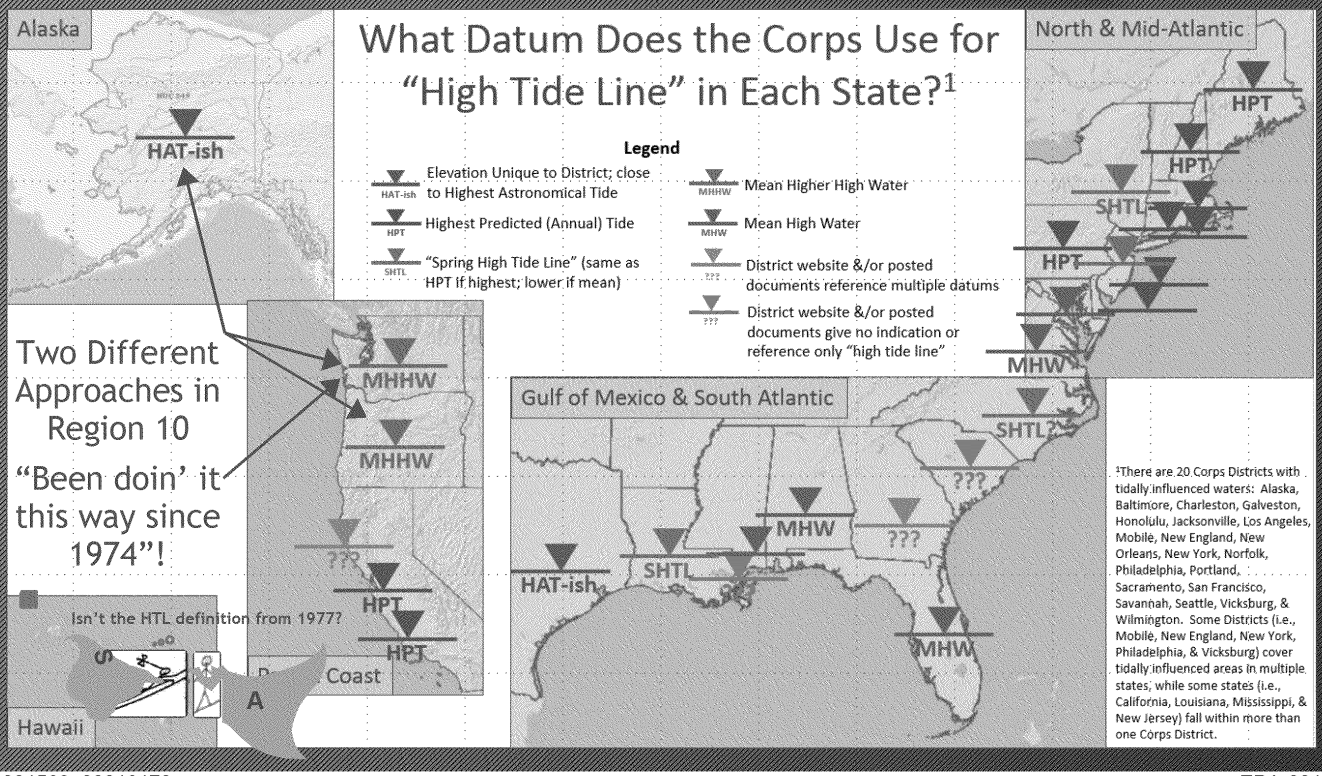
1988

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

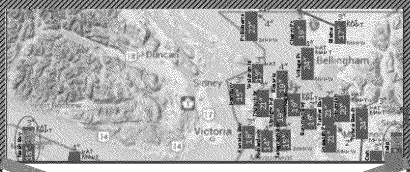


Send these kids with their smarty pants questions back to summer school in Kansas.

Six or More Different Answers!

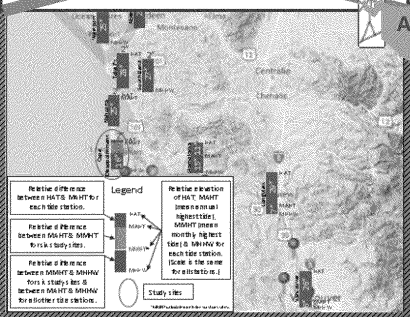


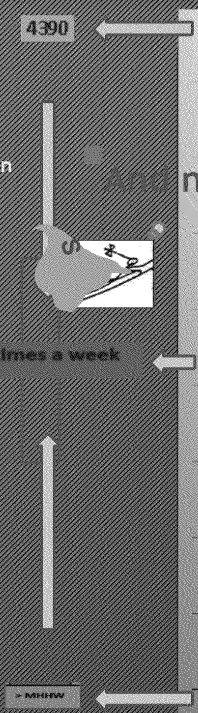
MHHW is pretty high & *really* frequent!



Is it the maximum height reached by a rising tide?

Does it encompass spring high tides?

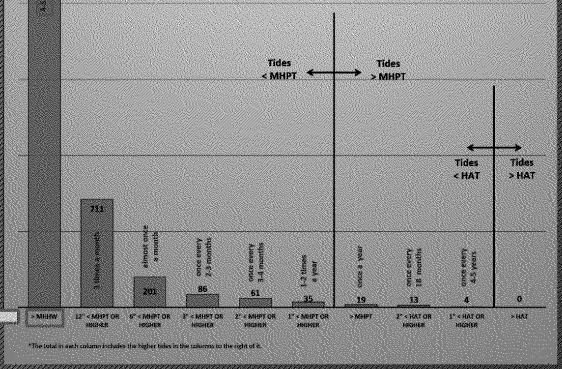


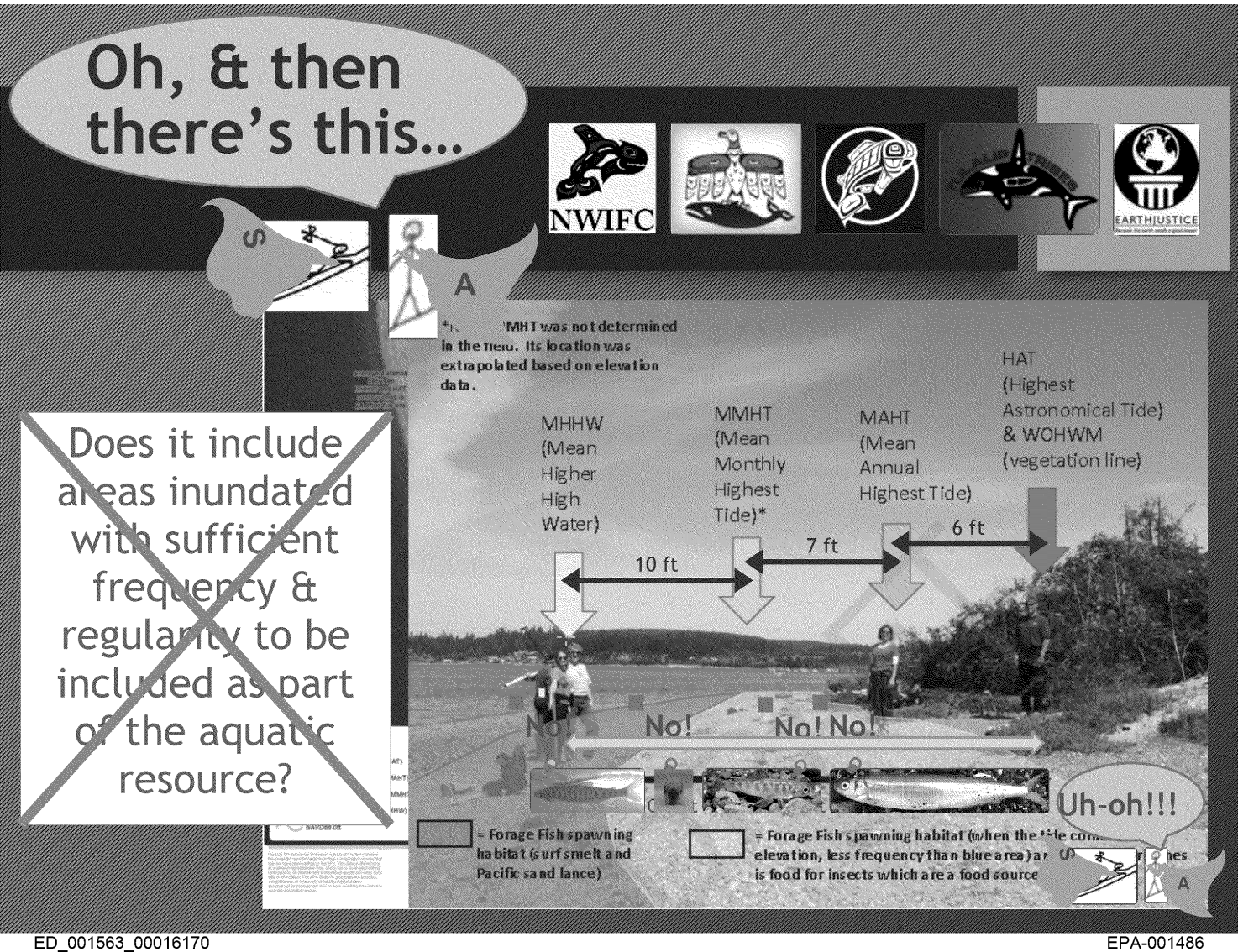


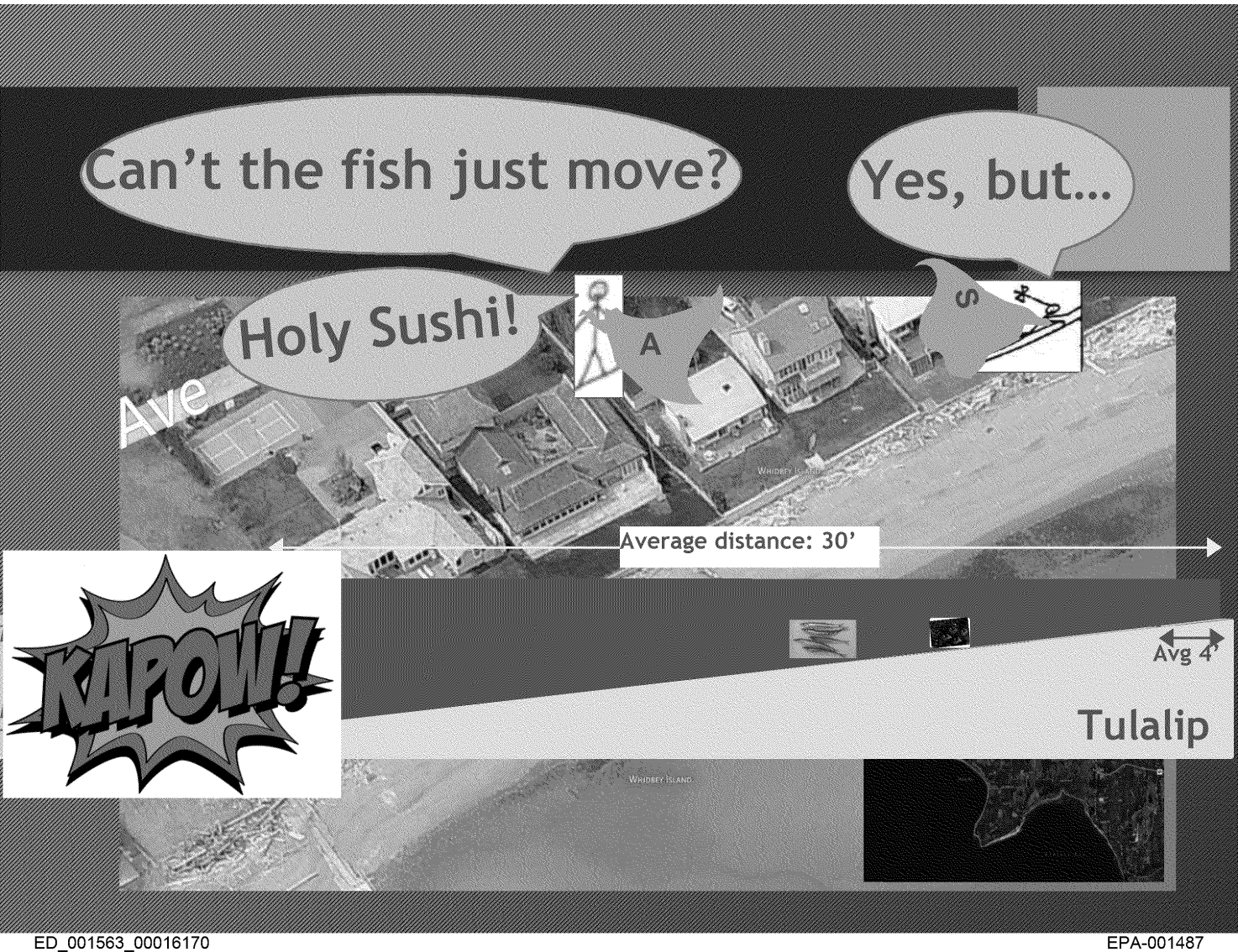
Yes, but…

Tulalip:
Number of Predicted Tides Higher than Selected Elevations, 1998-2016*

Does it encompass other high tides that occur with periodic frequency?




Oh, & then there's this…
NWIFC
EARTHJUSTICE
Does it include areas inundated with sufficient frequency & regularity to be included as part of the aquatic resource?
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! 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) a
is food for insects which are a food source

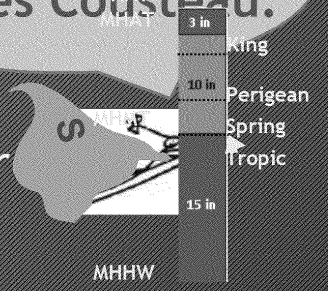

Can't the fish just move?
Yes, but…
Holy Sushi!
A
S
Ave
Average distance: 30'
KAPOW!
Avg 4'
Tulalip
Whidbey Island

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

Uh….

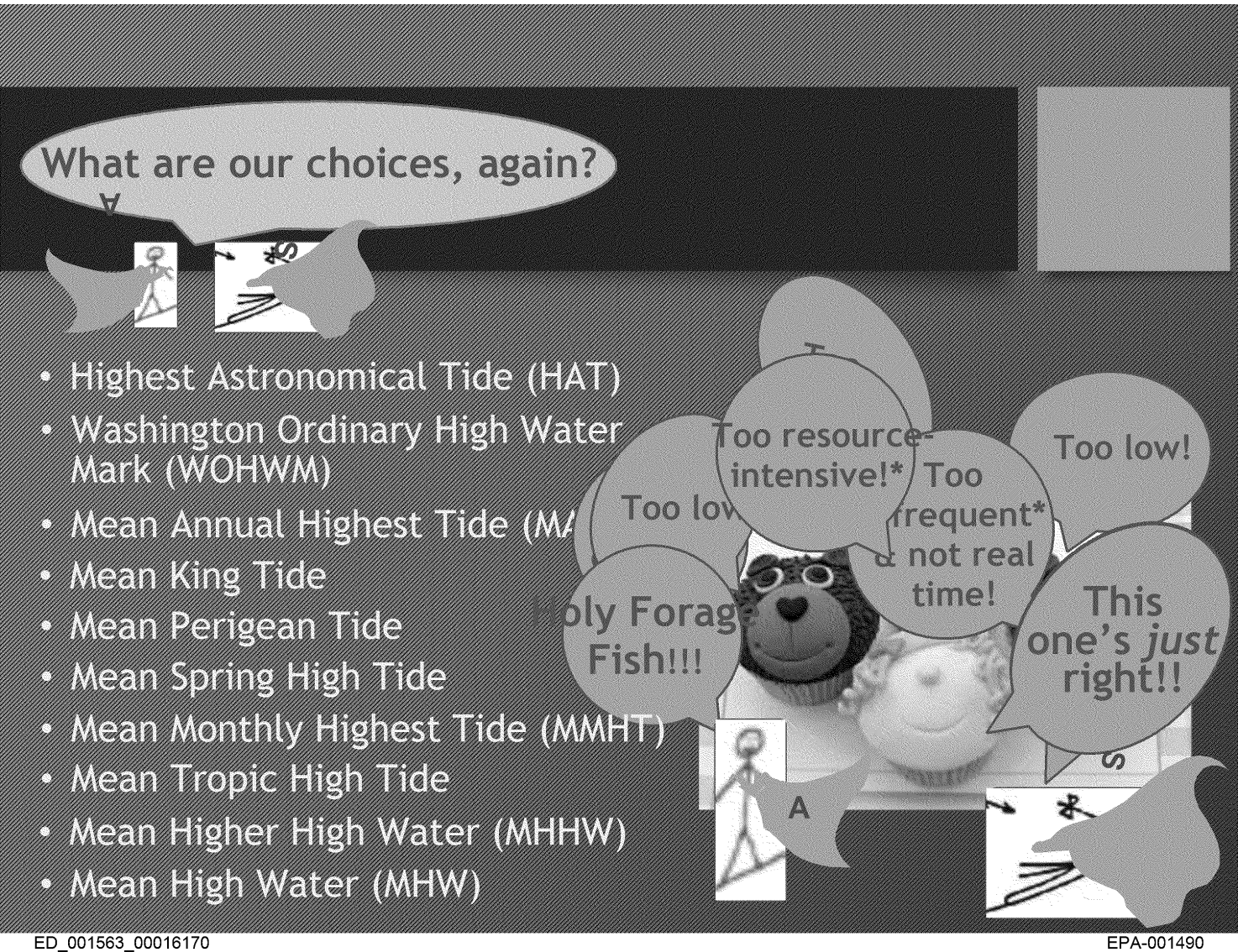
- Maximum height reached by a rising
- Encompasses spring high tides
- Encompasses other high tides that occur with periodic frequency
- Does *not* include storm surges
- Includes aquatic areas above Mi
- Includes areas inundated with s… frequency & regularity to be includ… as part of the aquatic resource

That would be no, Jacques Cousteau.



Okay, let's chang… it!

Interagency Workgroup



- Highest Astronomical Tide (HAT)
- Washington Ordinary High Water Mark (WOHWM)
- Mean Annual Highest Tide (MA
- Mean King Tide
- Mean Perigean Tide
- Mean Spring High Tide
- Mean Monthly Highest Tide (MMHT)
- Mean Tropic High Tide
- Mean Higher High Water (MHHW)
- Mean High Water (MHW)

Ex. 5 - Deliberative Process

Questions?