U.S. ARMY CORPS OF ENGINEERS

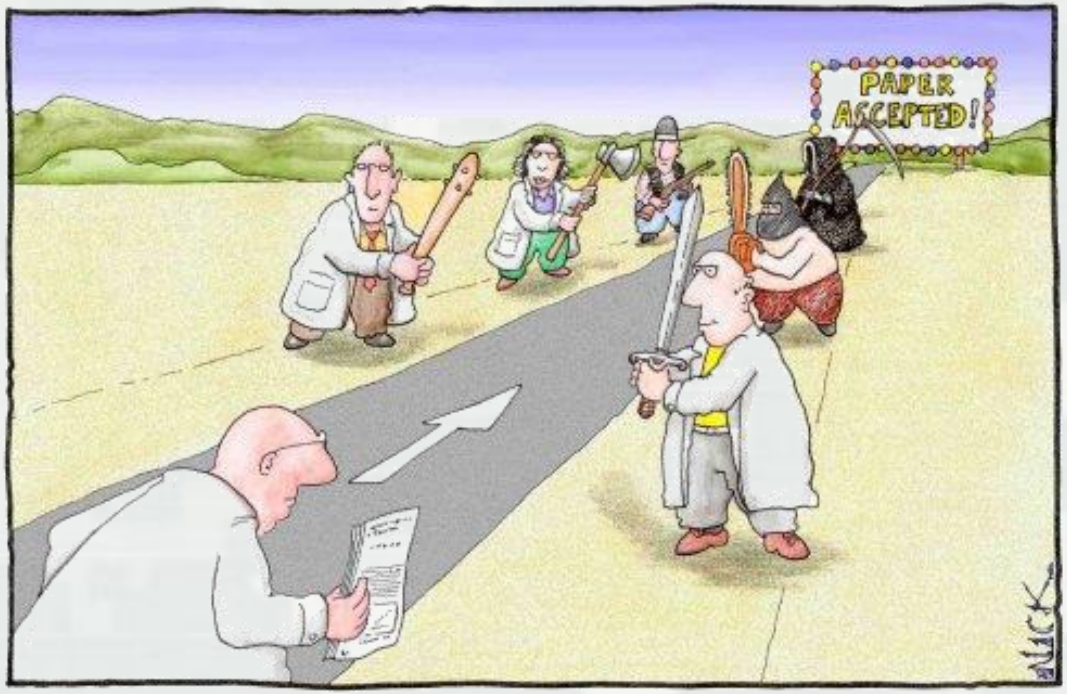
Galveston District
Interim Stream Tool

Lessons Learned a Year Later.

US Army Corps of Engineers
BUILDING STRONG®

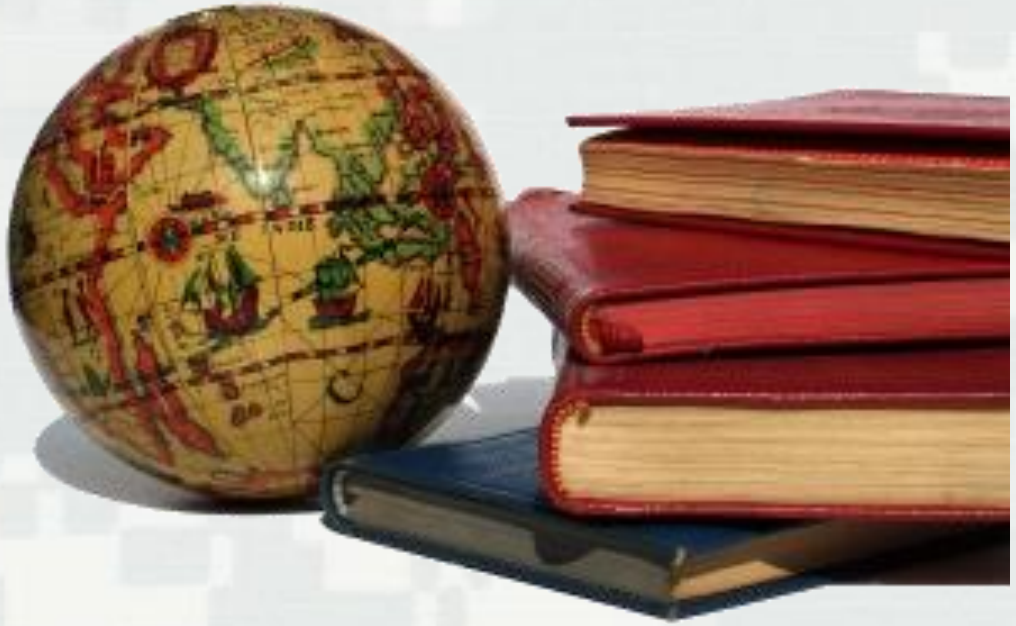
Paradigm Shift

— ***n*** a radical change in underlying beliefs or theory



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

A Quick History Lesson



Waters of the United States

33 CFR 328.3(a)(3)

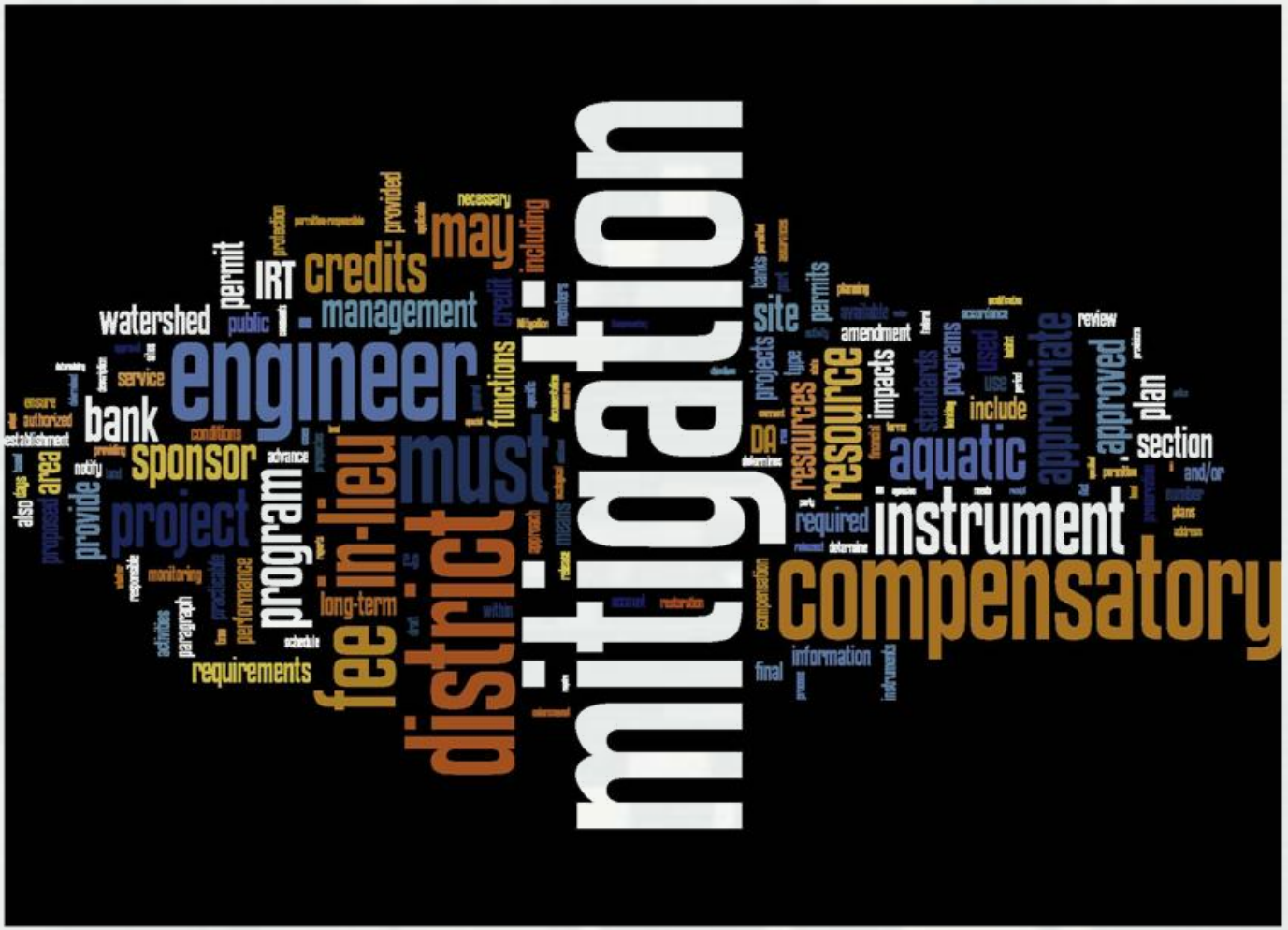
All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

Mitigation Factoids

- **The term "mitigation" shows up in the Corps' regulations many times:**
  - **33 CFR 320 – 19 times**
  - **33 CFR 325 – 8 times**
  - **33 CFR 326 – 1 time**
  - **33 CFR 330 – 4 times**
  - **33 CFR 332 – 473 times**

Mitigation is an important aspect of the review and balancing process on many Department of the Army permit applications. Consideration of mitigation will occur throughout the permit application review process and includes avoiding, minimizing rectifying, reducing, or compensating for resource losses.

Mitigation Rule as a Word Cloud



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What does the Rule Say about Streams?

Mitigation Type
33 CFR 332.3(e)(3)

For **difficult-to-replace resources** (e.g., bogs, fens, springs, **streams**, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through **in-kind rehabilitation, enhancement, or preservation** since there is greater certainty that these methods of compensation will successfully offset permitted impacts.

Hot Wash Agenda

1. **Level 1 overview**
2. **Stream Assessment Reach**
3. **Visual Channel Condition**
4. **Riparian Buffer**
5. **Visual In-Stream Habitat**
6. **Visual Channel Alteration**
7. **Determining Impact Factor**
8. **Calculating Debits**
9. **Assessing Mitigation Plans**
10. **Calculating Credits**

Level 1 Stream Condition Assessment

- Rapid Qualitative Assessment
- Released July 2011
- 1-year interim period
- Comments accepted during entire interim period
- Comments due August 1st, 2012

Stream Assessment Reach

- Designed to be a sampling methodology to assess the condition of a reach of stream.
- How to establish and sample SARs is the most frequently asked question.
- Learning curve actually has a low slope, but needs a better explanation.

Visual Channel Condition

- Designed to assess stream connection to active floodplain.
- Everybody has a Severe Channel Condition!?
- Most difficult to “teach”.
- Required the Corps to help investigators understand similarities/difference between Ordinary High Water Mark and Bankfull.

Riparian Buffer

- Designed to assess water quality qualitatively.
- Originally concerns about “right-of-entry” were prevalent.
- Most frequently done with GIS.
- Most variable metric.
- Usually a keystone parameter.

Visual In-Stream Habitat

- Designed to assess potential biological usage.
- Most investigators are familiar with the habitats identified. Riffle pools can be confusing.
- Some interpretation by investigator can be disputed.
- Recommend investigators photo document each habitat.

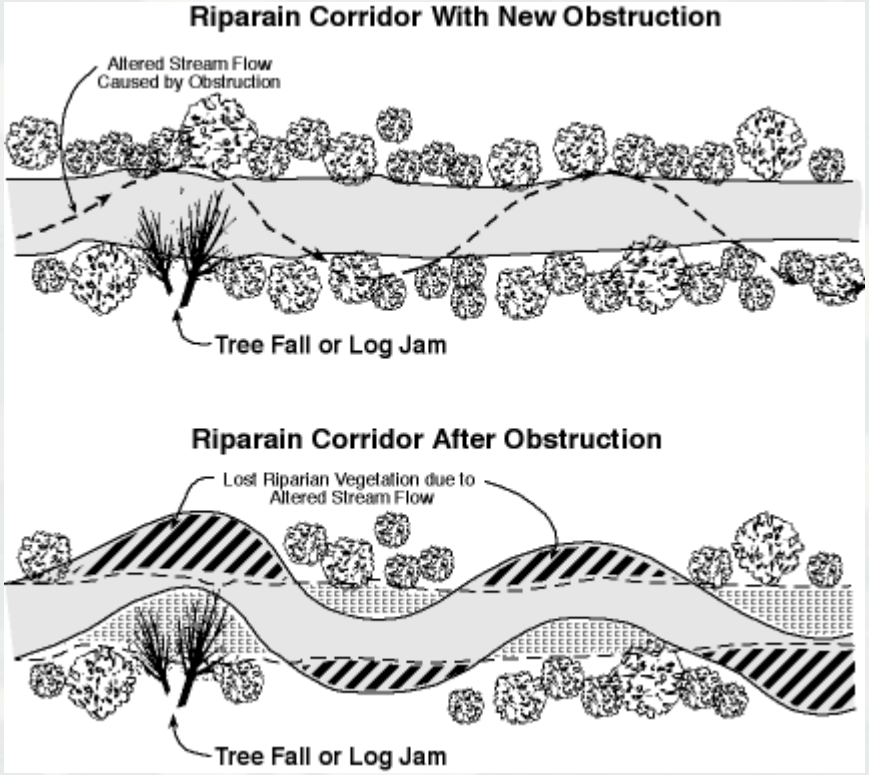
Visual Channel Alteration

(Section 1.4)

- Designed to account for anthropogenic modification to the stream system.
- Easiest parameter to sample, requires least explanation.
- Generally accurate results.

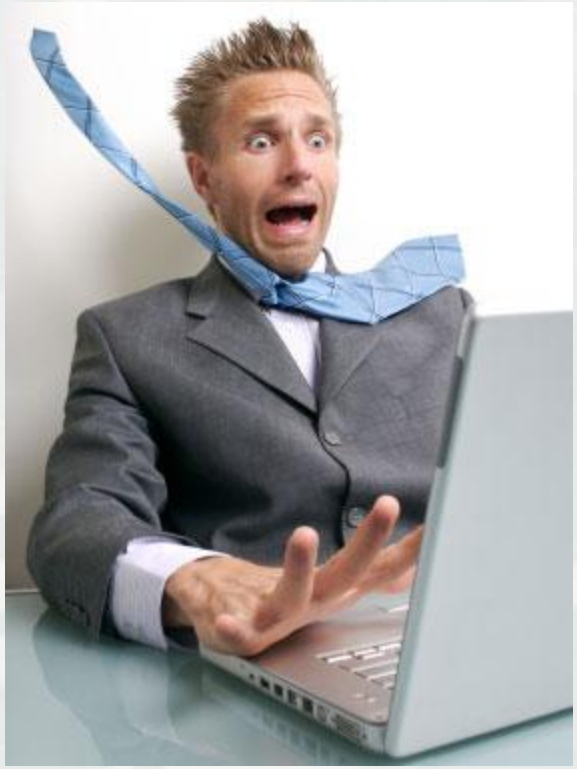
Determining Impact Factor

- Designed to assess the type, duration, and intensity of the proposed impact to determine the reduction in condition of stream function.
- Some impacts are clearly defined, others open to interpretation.
- Most commented on aspect of procedure during interim period.



Calculating Debits

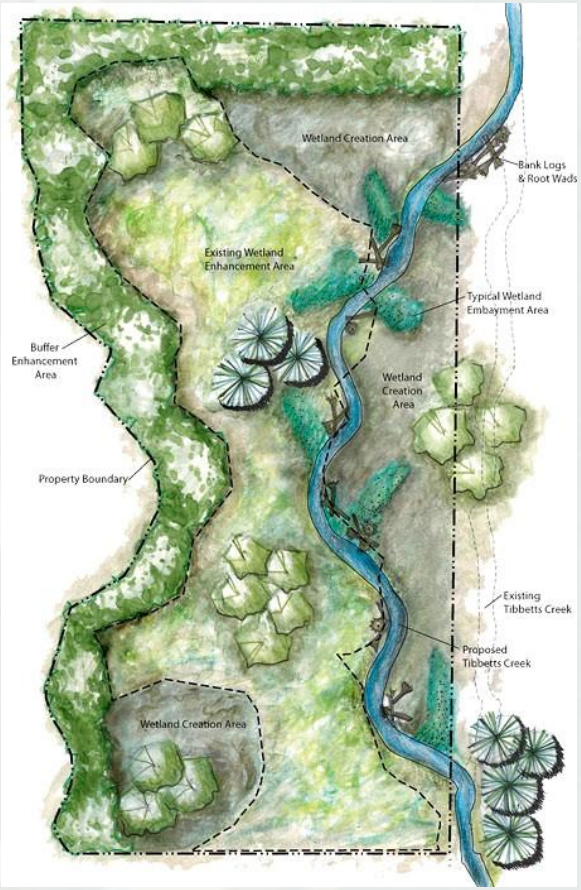
- Designed to quantify functional loss in an transactional currency.
- Sticker Shock!
- The tool uses whole numbers compared to HGMs decimal fractions.



Assessing Mitigation Plans

Calculating Credits

- **Designed to account for activities that improve the condition of stream functions in a transactional currency.**
- **While the tool does a good job of "scoring a plan," the Corps is still working on improving the stream KSAs of the staff.**
- **Complex mitigation plans are assessed by project managers using Rosgen's classification.**
- **Design/build specifications need to be about 70%**



Calculating Credits

- Designed to account for all types of compensatory mitigation plans.
- To date restoration and preservation have been used. Not aware of enhancement project.
- Biggest bang is in buffer work.

Summary

- While we have some room to improve, the tool has been consistent in its evaluation of the condition of a small stream's functions.
- The biggest paradigm shift has been more avoiding, minimizing rectifying, reducing, rather than compensating for resource losses.
- Some confusion on when to apply the SOP.

Questions?

What are your experiences?