Regulatory Process for 401/404 Permits for Millsite Dam, Ferron, UT

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Permitting Process

- This discussion covers moving sediment downstream into the receiving river
- I'll talk about the
  - Process
  - Regulatory issues as I see them

Proposal at Ferron

- Bring in commercial dredger
  - Relatively small
  - No lease or purchase: purchase the service
- Dredge downstream from submerged road
  - Spoil to borrow pit in right floodplain or
  - Add to uncontrolled spillway discharge
- Costs is about $100K per month

Proposal, Continued

- Removal
  - 20 to 40 AF/month
  - Would require 3 months to pass incoming sediment on an annual basis
  - Maybe shortened with experience
- Financing
  - Secured $150K/yr for 5 years from Utah State legislature
  - Remaining funding unknown

Permitting

Borrow pit storage: permit filed

Downstream discharge

letter to be submitted

verbal preapproval

no permit from State water commission

no 404 from COE required

Bureau of Land Management welcomes sediment

downstream native fishes require turbidity

Funded Project at Ferron

- Veit Dredging company
- Cost: ~$120,000 per month
  - 10 hours/day, 6-7 days/week
  - Transporting dredge to site and setting up all piping
  - 2 personnel regular time and overtime
  - Service truck and dredge service boat
  - Fuel: funded from elsewhere; about $20K/mo

Present and Longer Term Plans

- Operation to begin in 2013
  - This year very low water
  - No spill over spillway
- After 2 years of operation, irrigation company buys the dredge
- ~500K
- They operate it in the future

Permitting for Downstream Discharge

- Request made and approved by Utah Dept. of Environmental Quality
  - No discharge permit required
- Four conditions to fulfill
  - Cannot discharge more sediment than comes in
  - Turbidity cannot be more than 15 NTUs of incoming sediment averaged over 24 hours (monitoring up and downstream required)
  - Downstream dissolved oxygen must be greater than 3.0 mg/l
  - Annual report to Division Director

Current Status

- No flow over spillway summer 2013!
- 700 ft of pipe purchased
- Recommendations for
  - Turbidity meters and locations
  - Contracting with USGS to run the turbidity stations

Life Changed

- Mike Suflita: “….you just might want to double check to see if a 404 is required….”

USACE Guiding Document

- Regulatory Guidance Letter No. 05-04
  - August 19, 2005 (recent)
  - 5 Sections numbered 1, 2, 3, 4, and 6
  - Quite visionary in some respects
- Not particularly well known with the Corps
- Your District contact will likely either not know about it or simply have it saved somewhere

Permitting Issues

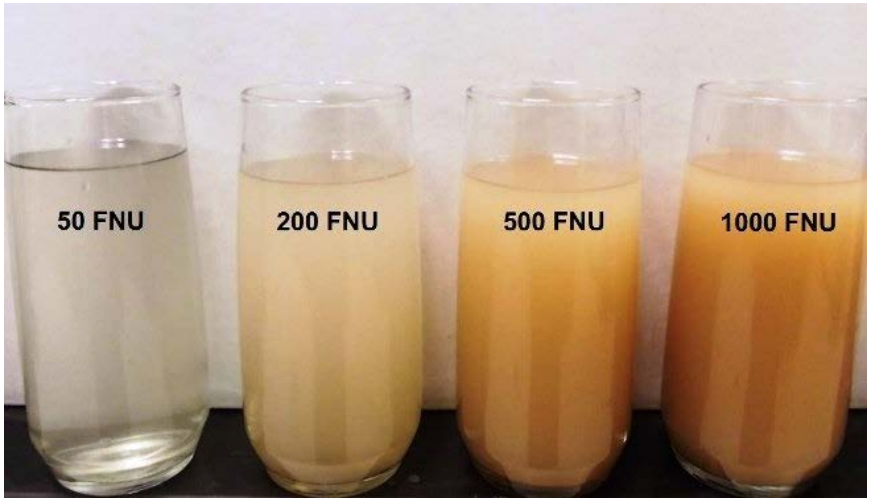
- Dredge and Spill will likely require
  - 404 permit from US Army Corps of Engineers
  - 401 permit from State as administered by USEPA
- Why?
  - Sediment management is a deviation from the norm
  - Everybody is nervous about moving sediment downstream

Environmental Legislation

Environmental Act	Year Enacted
Wild and Scenic Rivers Act	1968
Nat'l Env. Policy Act (NEPA)	1969
Endangered Species Act (ESA)	1973
Clean Water Act, Section 404	1977
Western Water Policy Review Act	1992
Watershed Prot. & Flood Policy Act	2000

Regulatory challenges

- Clean Water Act
  - CLEAN water
  - EPA authorizes states to enforce under section 401
- States' typical limits
  - Guard against uncontrolled erosion from construction site
  - Limits "FNUs" to something in the low 10s
  - That's clearer water than found in most natural streams
  - Formazin Nephelometric Unit



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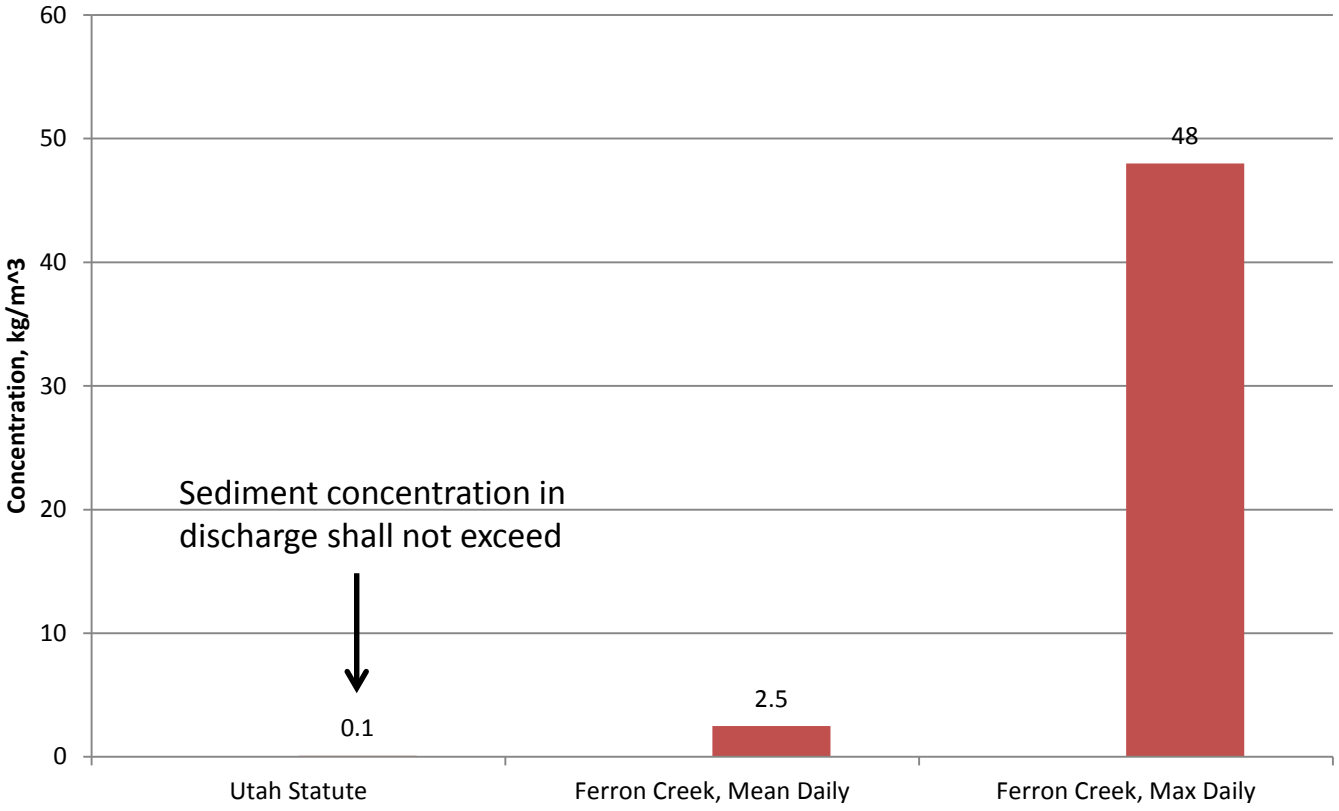
Found in Ferron Creek often

Example of Utah State Statute



Challenge #1

- CWA did not anticipate moving sediment downstream from dams
- USACOE document is pretty progressive
- But States implement EPA oversight and have very low ‘effluent’ standards
- ‘Point discharge’
- ‘Fill material’

Update After 6 Months

- Project is stalled over the 404 permit
  - Required because the activity is “a change in normal operation of the dam”
  - May not have needed it otherwise
- 6 months and $60,000 of work so far
- Irrigation company is very frustrated
- 1st application denied
- Waiting for okay to provide new information

Agencies Involved

- USACE – lead agency
- Bureau of Land Management
  - Consultation endangered species of cactus
  - Cultural resources impact analysis
  - Offsite storage permit
- US Fish and Wildlife Service – fish impacts
- USGS (for monitoring)
- Utah Division of Water Quality – habitat
- Utah Division of Wildlife Resources – fish and wildlife habitat

Additional Requirements

- Tell the Corps how much deposition, in ft, can be allowed without impacting flood risk
- Want condition of bed and banks, floodplain connectivity
- Will incoming and outgoing sediment SIZES be matched?
- “We would not be able to permit sluicing of silts only”
- Escrow account required

Update After 1.5 years

- Project is stalled over the 404 permit
  - Required because the activity is “a change in normal operation of the dam”
  - May not have needed it otherwise
- 18 months and $80,000 of work so far
- 1st application and two subsequent submissions denied

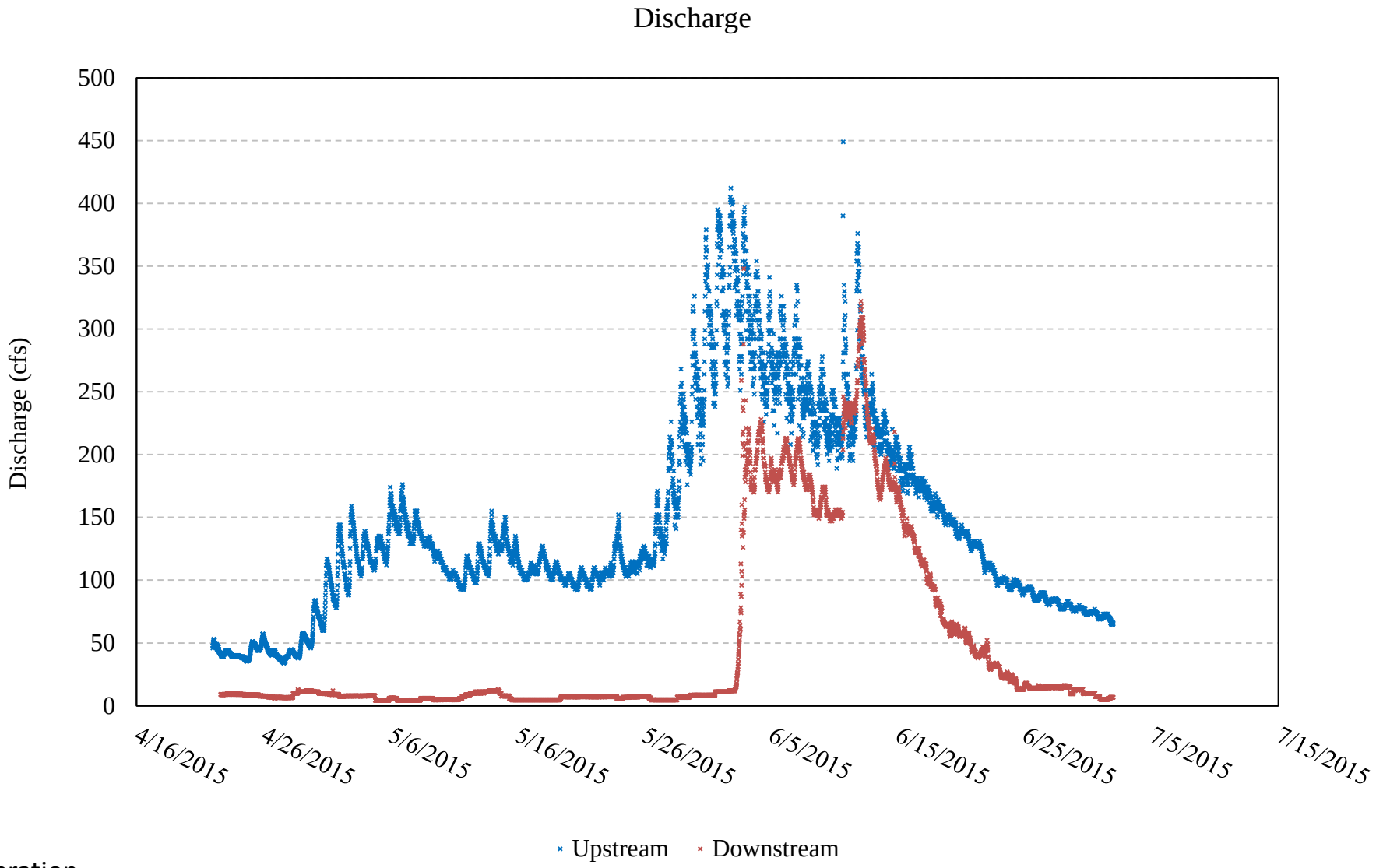
Update, Continued

- Two years to obtain the 404 and 401 permits
  - 404: three iterations on the permit application
  - NO public objections
  - The Corps office had never seen a permit on this scale
  - I did NOT resort to anything more than the Manning equation
  - 401: State had recently been embarrassed over casual approvals
  - Utah Division of Natural Resources helped field sample for macroinvertebrates and fish

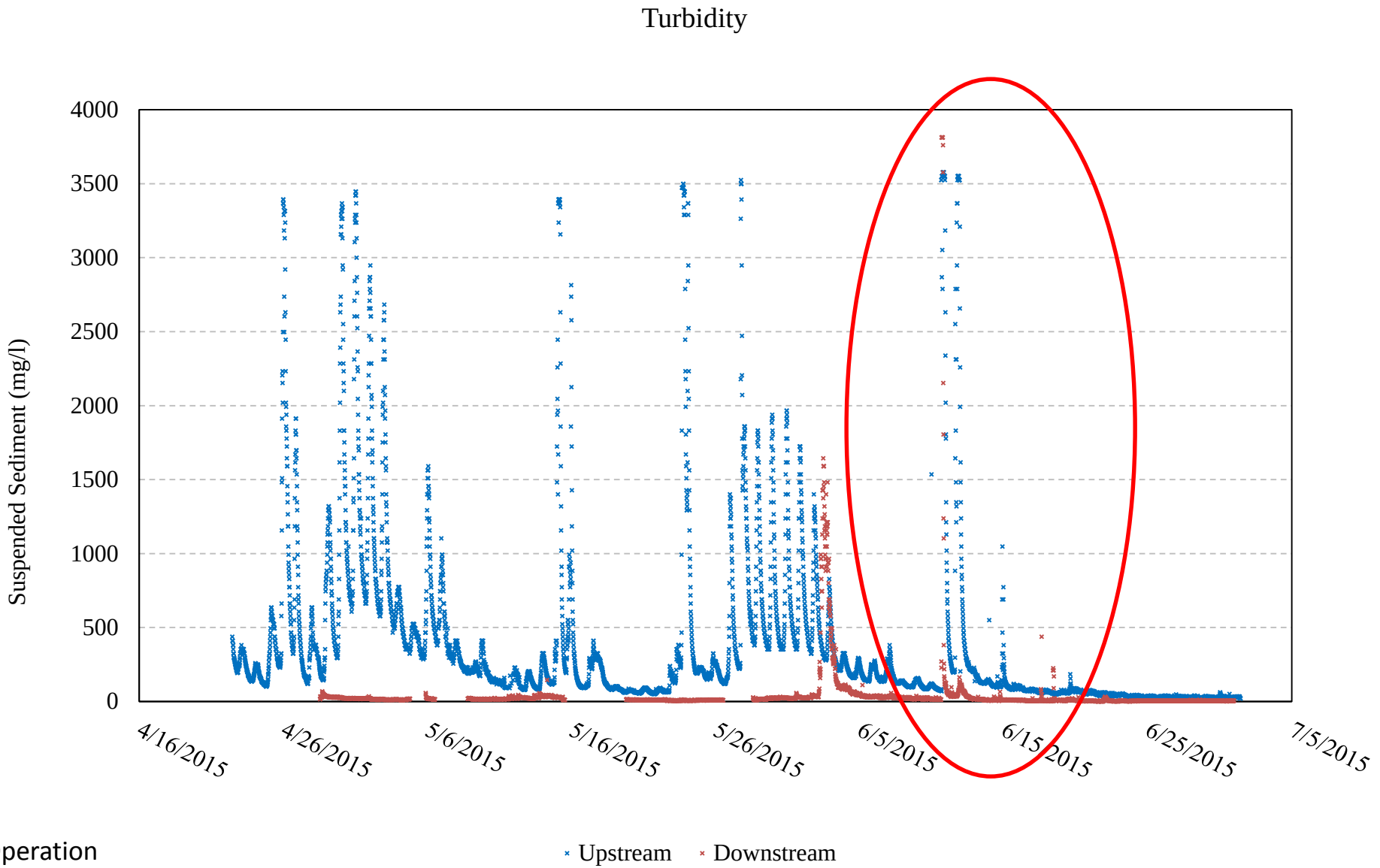
2015 Update

- 404 and 401 permit granted
  - 401 permit had 24 conditions, two of which were quite restrictive
  - I ignored the two restrictive ones because
- Permission came after spill had been going on for weeks
- We mobilized within two days
- We dredged and spilled for two days

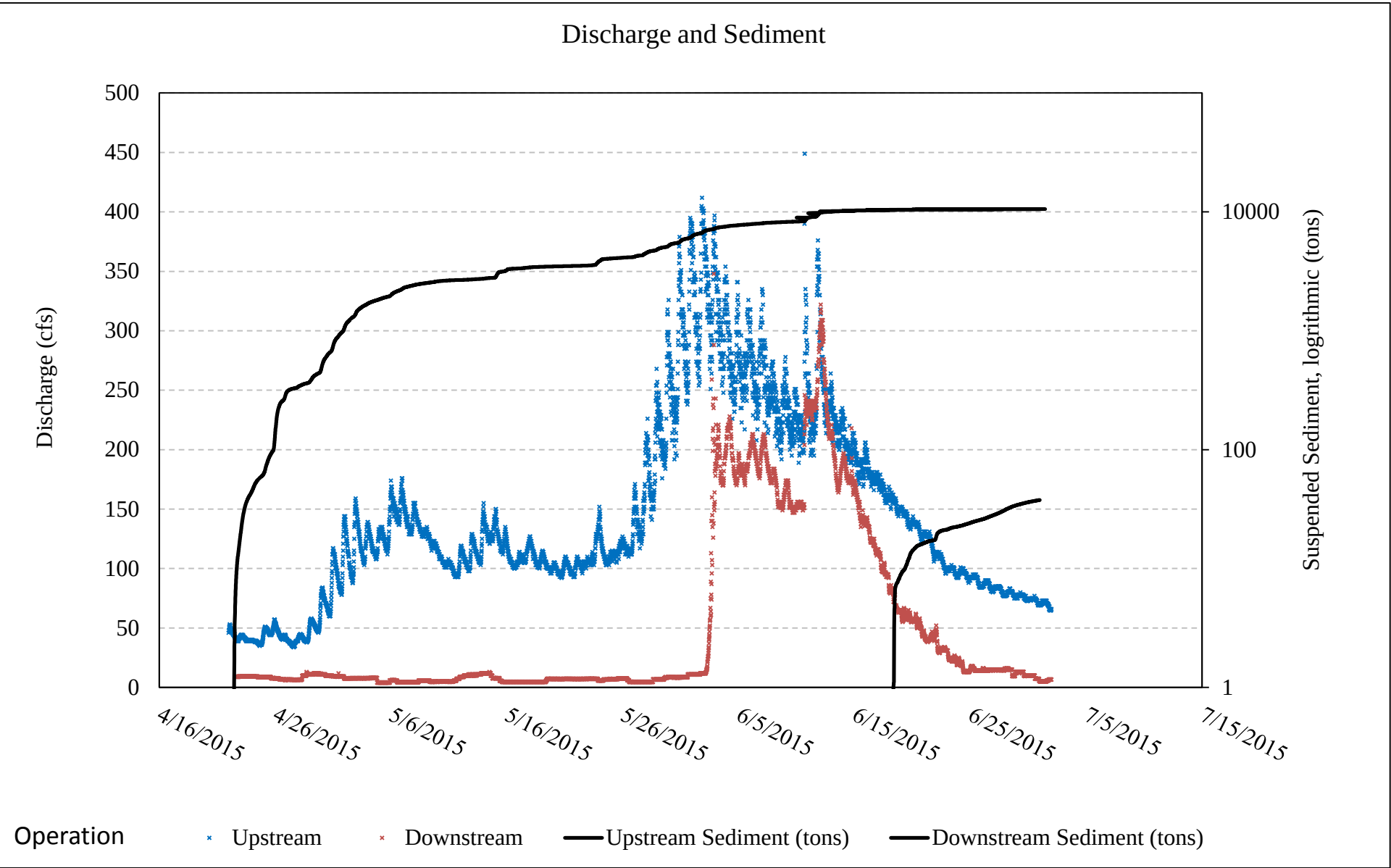
Discharge (blue is in; red is spill)



Suspended Load



The Whole Story



Request to Amend Operations

- We need to get more sediment out during spill
- Disconnect direct real time suspended load comparison
- Use the AVERAGE incoming sediment concentration from 50 cfs to time up to spill
- Discharge up to the AVERAGE during spill
- Stop when spillway discharges < 50 cfs

Approval Process

- 401
  - Abbreviated public comment
  - No Comments
- 404
  - No change

- Both approved in time for this year

Why So Difficult?

- All agencies believe this is a good idea
- BUT –
  - First big-time application
  - People are watching
  - State agencies recently embarrassed in lawsuits over not being prepared
- And I'm a beginner
  - USACE is parsing out information on requirements

401 and 404 Permits

- 401 administered by States
- 404 administered by U.S. Army Corps of Engineers
  - Guidelines exist but not well known
  - Moving sediment downstream is new and unknown
- Err on the side of being conservative

Challenge #2

- What are ‘baseline’ conditions?
- Channel may incise after dam construction
- 2-yr flood WELL within banks
- If deposition > 1.5 ft must excavate

Challenge #2, Continued

- Reaches downstream from dams adjust
  - Channel elevation, slope, width, bed material
  - Macroinvertebrates change within channel
  - Riparian vegetation changes
- So what conditions must be maintained?
- Remember: eventually sediment goes downstream at hundreds of dam locations

Regulatory Solutions

- Education throughout Federal agencies
- High-level discussions
  - EPA
  - US Army Corps of Engineers
  - US Fish & Wildlife Serve
  - Natural Resources Conservation Service
  - US Forest Service
  - National Oceanic and Atmospheric Administration
- Subcommittee on Sedimentation
- National Reservoir Sedimentation and Sustainability Team