



# Contractor Concerns

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- **Protocol 3 calculations**
  - Significant level of effort
  - Low load reductions
  - Could lead to disincentives for good projects that reconnect a stream with its floodplain
- **BEHI standardization**
  - Subjective analysis
  - Variable assessment based on specific length of reach
- **Use of monitored load reductions vs. default credit rates**
- **Width of hyporheic box in panel report**
  - Could be much larger than 5 foot box described in the report
- **Use of default bulk densities for Protocol 1 calculations**
  - Report indicates that densities should be measured
- **No credit mechanism for legacy sediment removal**



# MDE Concerns

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- What constitutes bank armoring?
- Work should only be done in “degraded” channels
  - Report says projects done on reaches with an IBI > 3 are not eligible for credit
- Comparison of individual project load reductions to segment loads in model, or urban loads
  - Local TMDLs of particular concern here
- Project designs to enhance near-field benthic and fish habitat
  - Is this a goal of project design?



# Local TMDL Endpoints

Parameter Group	Stressor	Total number of sampling sites in watershed with stressor and biological data	Cases (number of sites in watershed with poor to very poor Fish or Benthic IBI)	Controls (Average number of reference sites with fair to good Fish and Benthic IBI)	% of case sites with stressor present	% of control sites with stressor present	Possible stressor (Odds of stressor in cases significantly higher than odds of stressor in controls using $p < 0.1$ )	Percent of stream miles in watershed with poor to very poor Fish or Benthic IBI impacted by Stressor
Sediment	extensive bar formation present	5	4	89	0%	13%	No	----
	moderate bar formation present	5	4	89	50%	42%	No	----
	bar formation present	5	4	89	100%	90%	No	----
	channel alteration marginal to poor	5	4	89	50%	41%	No	----
	channel alteration poor	5	4	89	0%	12%	No	----
	high embeddedness	5	4	89	25%	8%	No	----
	epifaunal substrate marginal to poor	5	4	89	50%	13%	Yes	37%
	epifaunal substrate poor	5	4	89	0%	3%	No	----
	moderate to severe erosion present	5	4	89	50%	62%	No	----
	severe erosion present	5	4	89	0%	12%	No	----
	poor bank stability index	5	4	89	0%	5%	No	----
	silt clay present	5	4	89	100%	100%	No	----



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In-Stream Habitat	channelization present	5	4	90	50%	9%	Yes	41%
	instream habitat structure marginal to poor	5	4	89	25%	13%	No	----
	instream habitat structure poor	5	4	89	0%	1%	No	----
	pool/glide/eddy quality marginal to poor	5	4	89	25%	51%	No	----
	pool/glide/eddy quality poor	5	4	89	0%	1%	No	----
	riffle/run quality marginal to poor	5	4	89	75%	19%	Yes	57%
	riffle/run quality poor	5	4	89	25%	1%	Yes	24%
	velocity/depth diversity marginal to poor	5	4	89	25%	51%	No	----
	velocity/depth diversity poor	5	4	89	0%	0%	No	----
	concrete/gabion present	5	4	90	0%	1%	No	----
Riparian Habitat	beaver pond present	5	4	89	0%	4%	No	----
	no riparian buffer	5	4	90	25%	24%	No	----
	low shading	5	4	89	0%	8%	No	----