



Watershed Assessment Matrix

May 20, 2013

WATERSHED/WATERWAY ASSESSMENT METHODS

What areas of watershed management are we assessing?

Watershed
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Matrix

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What areas of watershed management are we assessing?

What are the uses (and *best* uses) for each assessment?

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WATERSHED/WATERWAY ASSESSMENT METHODS

**TABLE A: What areas of watershed management are
Methods we assessing?**

What are the uses (and *best* uses) for each assessment?

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TABLE A: What areas of watershed management are Methods we assessing?

Stream Morphology

Landscape and Stream Channel Equilibrium and Evolution

Floodplain and Floodway Designation

Stormwater Runoff

Hydrology and Hydraulics

Sediment Supplies and Dynamics

Water Quality

Indicators of Watershed Health

Stream Corridor

Riparian Systems

Instream Habitat

Bird Habitat

Fish Habitat

Amphibian and Reptile Habitat

MATRIX v.1: Watershed / Waterway Assessment Methods

Table A: Assessment Methods -
What area(s) of watershed management are we assessing?

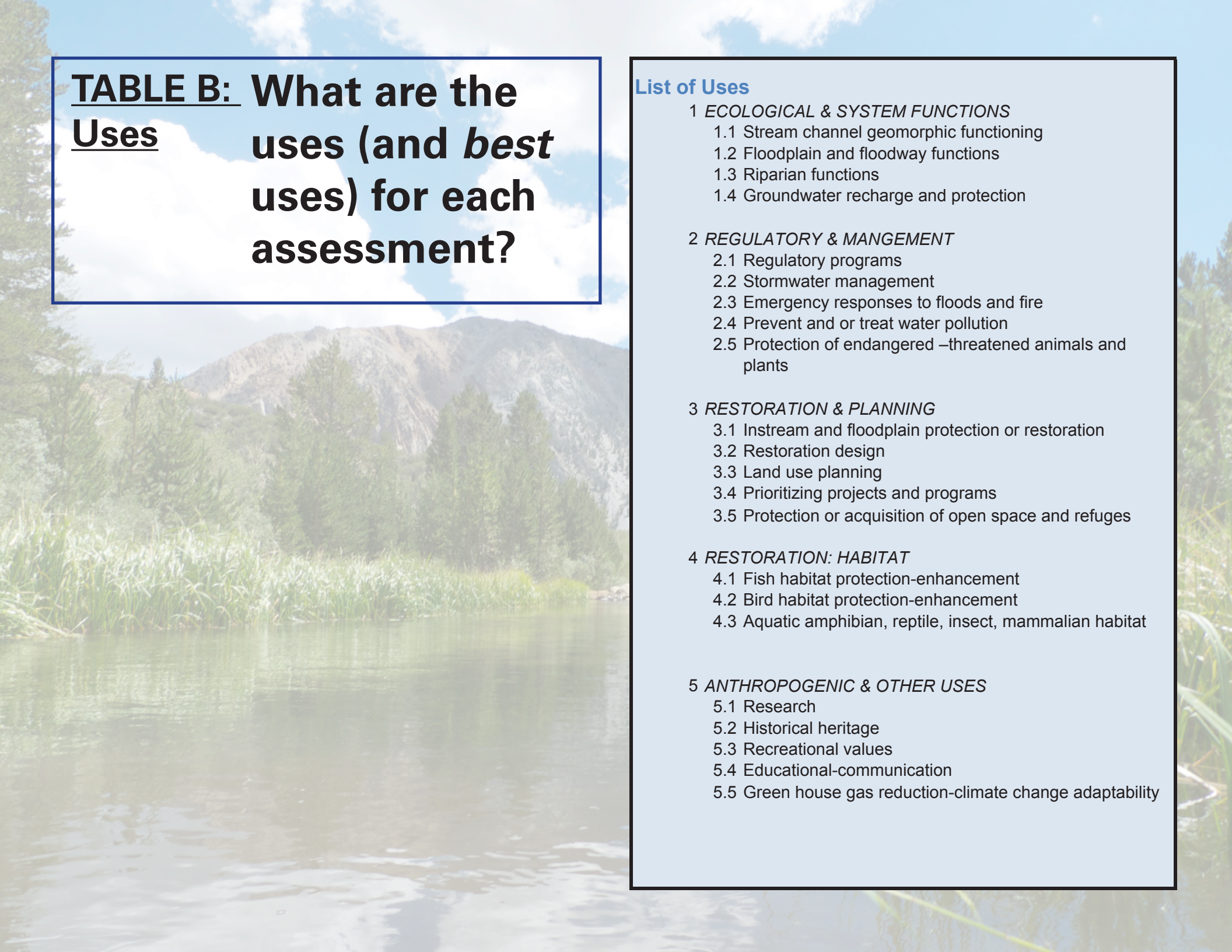
No.	Assessment Methods	Acronym	Description (Developer)	Areas (aka categories)											
				Stream Morphology	Floodplain and Floodway Designation	Storm water Runoff	Hydrology and Hydraulics	Sediment Supplies and Dynamics	Water Quality	Indicators of Watershed Health	Riparian Systems	Instream Habitat	Bird Habitat	Fish Habitat	Amphibian and Reptile Habitat
1	Stream Visual Assessment Protocol	SVAP	Qualitative evaluation of the condition of aquatic ecosystems of wadeable streams. (USDA NRCS)	x	x					x	x	x	x	x	x
	Guy Ziv														
2	InVEST Annual Water Yield model	InVEST-Water Yield	Estimates annual amount of water available for multiple users within				x								
3	InVEST Sediment Retention Model	InVEST-Sediment	Estimate the amount of sediments exported and retained on the landscape	x				x			x				
4	InVEST Nutrient Retention model	InVEST-Nutrient	Estimate the amount of N and P exported and retained on the landscape	x					x		x				
5	InVEST Habitat Quality model	InVEST-Habitat Quality	Estimate the quality of terrestrial habitat based on intrinsic quality and spatial threats										x		x
6	InVEST Habitat Risk Assessment model	InVEST-HRA	Estimate risk to habitat or species, based on aggregated stressors with different exposure and consequence levels										x		x
	Christina Sloop														
7	Bird - Area Search		http://data.prbo.org/cadc2/index.php?page=songbird-area-searches	x	x					x	x		x		
8	Birds - Point Counts		http://data.prbo.org/cadc2/index.php?page=songbird-point-counts	x	x					x	x		x		
9	IBI - macro invertebrates		http://water.epa.gov/type/wetlands/assessment/fact5.cfm				x			x		x		x	
	Eric Stein														
10	California Rapid Assessment Method	CRAM	stream and wetland condition assessment (SCCWRP, SFEI, MLML)	x	x						x	x			
11	California Stream Condition Index	CSCI	benthic invertebrate assessment - replaces old IBI (SWRCB, DFG, USGS, SCCWRP)							x		x			
12	Periphyton IBI	PIBI	stream algae bioassessment (SCCWRP, SWRCB)							x		x			
13	Physical Habitat Assessment	PHAB	stream physical habitat assessment (EPA, DFG, SWRCB)	x									x		x

WATERSHED/WATERWAY ASSESSMENT METHODS

What areas of watershed management are we assessing?

TABLE B: What are the uses (and *best* uses) for each Uses assessment?

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**TABLE B: What are the
Uses uses (and *best*
uses) for each
assessment?**

List of Uses

1 ECOLOGICAL & SYSTEM FUNCTIONS

- 1.1 Stream channel geomorphic functioning
- 1.2 Floodplain and floodway functions
- 1.3 Riparian functions
- 1.4 Groundwater recharge and protection

2 REGULATORY & MANGEMENT

- 2.1 Regulatory programs
- 2.2 Stormwater management
- 2.3 Emergency responses to floods and fire
- 2.4 Prevent and or treat water pollution
- 2.5 Protection of endangered –threatened animals and plants

3 RESTORATION & PLANNING

- 3.1 Instream and floodplain protection or restoration
- 3.2 Restoration design
- 3.3 Land use planning
- 3.4 Prioritizing projects and programs
- 3.5 Protection or acquisition of open space and refuges

4 RESTORATION: HABITAT

- 4.1 Fish habitat protection-enhancement
- 4.2 Bird habitat protection-enhancement
- 4.3 Aquatic amphibian, reptile, insect, mammalian habitat

5 ANTHROPOGENIC & OTHER USES

- 5.1 Research
- 5.2 Historical heritage
- 5.3 Recreational values
- 5.4 Educational-communication
- 5.5 Green house gas reduction-climate change adaptability

MATRIX v.1: Watershed / Waterway Assessment Methods

Table B: Use and Critique - What are the best use(s) for each assessment?

Definitions and Instructions

1. Assessment Method: Name or acronym from Table A: Assessment Methods
2. Environmental Condition Based: method assesses physical condition(s), e.g. characteristics of the channel and/or floodplain.
3. Ecological Function & Process Based: method assesses function(s) and process(es), e.g. fish and bird surveys; estimates of sediment transport.
4. Communication Based: method assesses overall 'how we're doing'; e.g. indicators of overall health; report card.
5. Uses, by Number: Reference the "List of Uses" to indicate the number of the use(s) associated with the assessment method.
6. Method and Use Applicability: Indicate the applicability of the assessment method to each associated use: (f)=fully; p)=partially; (na)=not applicable.

[1] Assessment Methods	[2] Environmental Condition based <i>Check if applicable</i>	[3] Ecological Function & Process based <i>Check if applicable</i>	[4] Communication based <i>Check if applicable</i>	[5] Uses, by number <i>Reference the list at right to indicate associated uses.</i>	[6] Applicability <i>Indicate the applicability of each use:</i>		
					<i>(f)</i>	<i>(p)</i>	<i>(na)</i>
InVEST-WaterYield		x		3.3	x		
				3.4	x		
InVEST-Sediment		x		1.1		x	
				1.3		x	
				2.1		x	
				3.4	x		

[1] Assessment Methods	[2] Environmental Condition based <i>Check if applicable</i>	[3] Ecological Function & Process based <i>Check if applicable</i>	[4] Communication based <i>Check if applicable</i>	[5] Uses, by number <i>Reference the list at right to indicate associated uses.</i>	[6] Applicability <i>Indicate the applicability of each use:</i>		
					(f)	(p)	(na)
InVEST-Nutrient		x		1.1		x	
				1.3		x	
				2.1		x	
				2.4		x	
				3.4	x		
InVEST-HabitatQuality	x			2.5		x	
				3.5	x		
				4.2	x		
InVEST-HRA			x	2.5		x	
				3.5	x		
				4.2		x	
IBI - Macroinvertebrates	x	x	x	1.3		x	
				2.2		x	
Riparian bird surveys	x	x	x	1.2		x	
				1.3		x	
				4.3		x	
				5.1		x	

[1] Assessment Methods	[2] Environmental Condition based <i>Check if applicable</i>	[3] Ecological Function & Process based <i>Check if applicable</i>	[4] Communication based <i>Check if applicable</i>	[5] Uses, by number <i>Reference the list at right to indicate associated uses.</i>	[6] Applicability <i>Indicate the applicability of each use:</i>		
					(f)	(p)	(na)
CRAM	x		x	5.4		x	
				1.1			
				1.3			
				2.1			
				3.4			
CSCI	x	x	x	3.1			
				2.1			
				2.4			
				3.4			
				3.1			
PIBI	x	x	x				
				2.1			
				2.4			
				3.4			
				3.1			
PHAB	x		x				
				1.1			
				2.1			
				2.4			
				3.4			
Hydromodification Risk Assessment				4.1			
				1.1			
				1.2			
				2.1			
				2.2			
				3.1			
				3.3			

[1] Assessment Methods	[2] Environmental Condition based <i>Check if applicable</i>	[3] Ecological Function & Process based <i>Check if applicable</i>	[4] Communication based <i>Check if applicable</i>	[5] Uses, by number <i>Reference the list at right to indicate associated uses.</i>	[6] Applicability <i>Indicate the applicability of each use:</i>		
					(f)	(p)	(na)
HWI	x	x	x	2.1			
				3.3			
				3.4			
				3.5			
				5.4			
Riparian Restoration Design							
Site Assessment for Horticultural Potential	x			3.2,	x		
Assessment of site-specific hydrology - Flooding, ground-water table		x		3.2	x		
Public Safety - Flooding Issues - Hydraulic Modeling			x	1.2	x		
				1.3		x	
				2.3	x		
				3.2	x		

[1] Assessment Methods	[2] Environmental Condition based <i>Check if applicable</i>	[3] Ecological Function & Process based <i>Check if applicable</i>	[4] Communication based <i>Check if applicable</i>	[5] Uses, by number <i>Reference the list at right to indicate associated uses.</i>	[6] Applicability <i>Indicate the applicability of each use:</i>		
					(f)	(p)	(na)
Assessment of wildlife use			x	4.2	x		
IP-KM	x	x		2.1		x	
				2.5		x	
						x	
				4.1		x	
				3.2		x	
EDT	x	x		2.1			
				2.5			
				4.1			
				3.2			
HAB 8				2.1		x	
				2.5		x	
						x	
				4.1		x	
				3.2		x	
EHM				2.1		x	
				2.5		x	
						x	
				4.1		x	
				3.2		x	

INPUT AND COMMENTS:

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