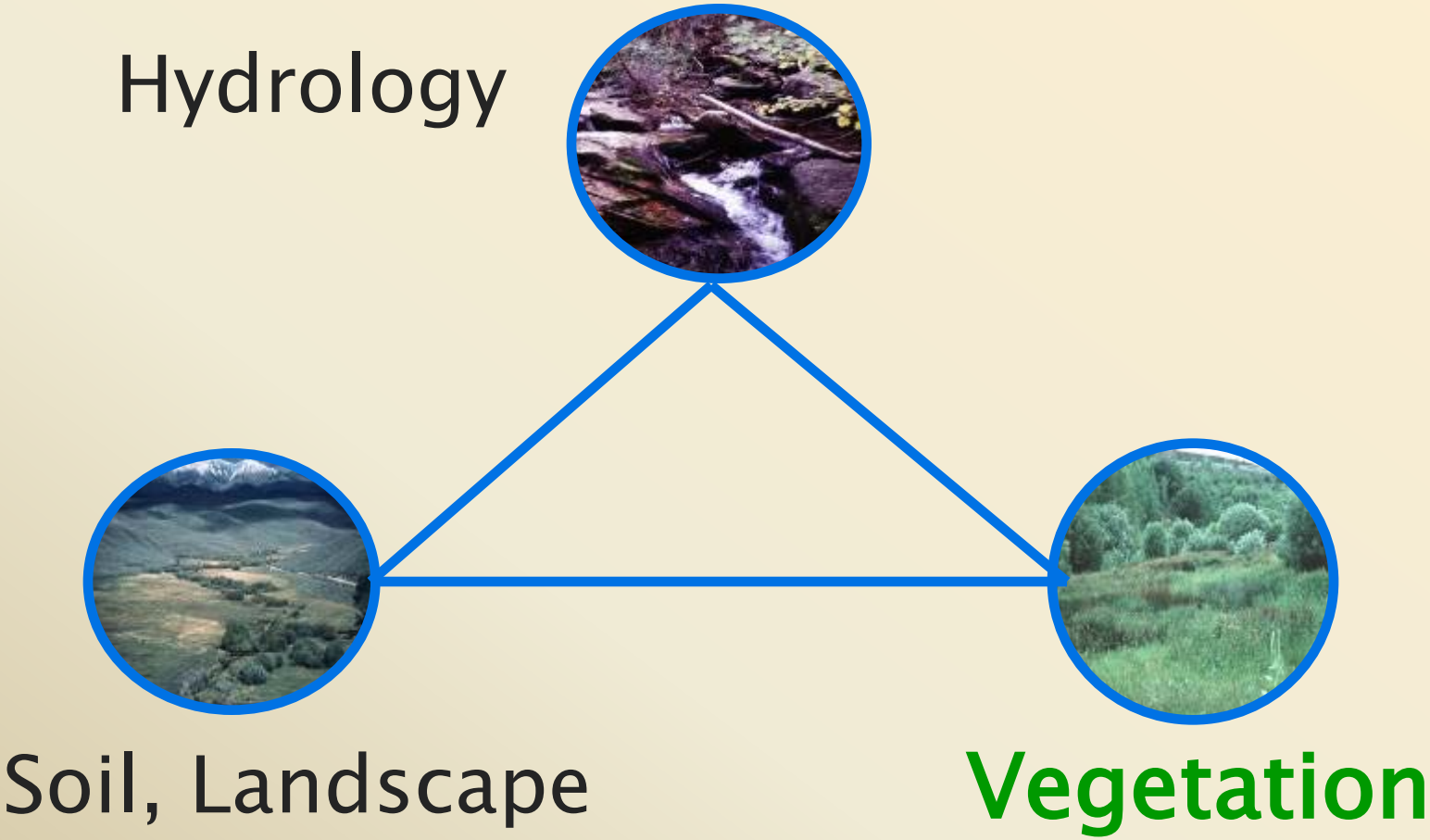
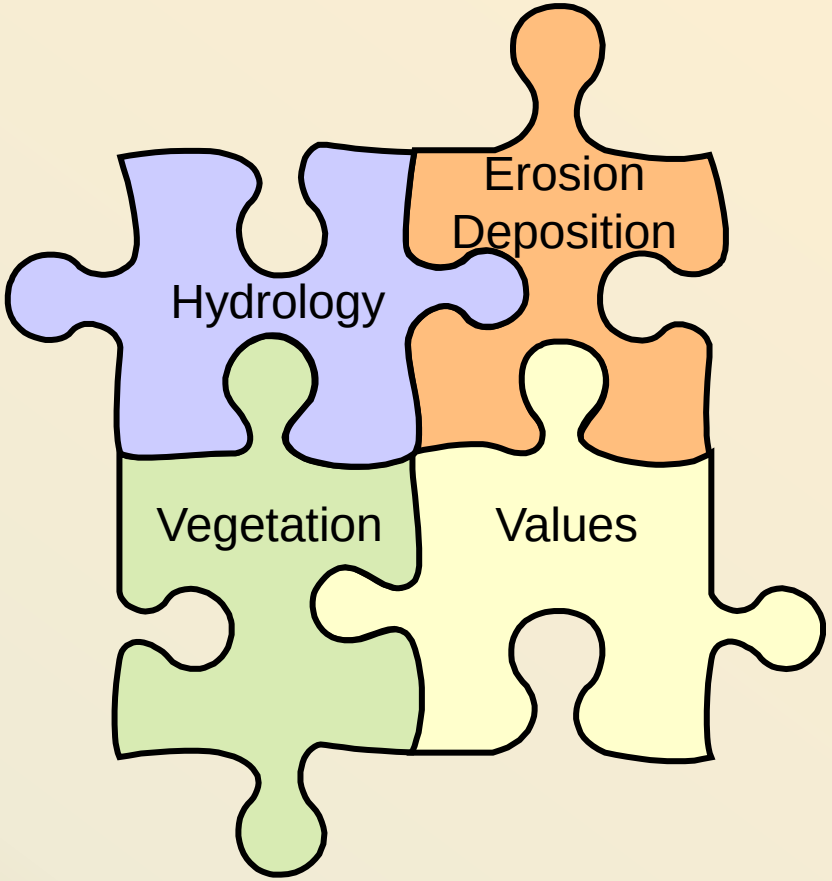
Process for Assessing Proper Functioning Condition Vegetation Items



Vegetation Items

- ✓ Diverse Age-Class
- ✓ Diverse Composition
- ✓ Soil Moisture Characteristics
- ✓ Root masses
- ✓ Vigor
- ✓ Adequate Vegetative Cover
- ✓ Source of Large Woody Material



6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)

- ✓ Purpose – to determine whether the number of age classes that provide recruitment to maintain an area or allow an area to recover are present.

6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)

Visual indicators for woody species

✓Young (2-10 stems) and Mature (>10 stems) age classes present on riparian shrubs

Beaver Cr NV 1988

Yes	No	NA
	✓	

Beaver Cr NV 2000

Yes	No	NA
✓		

6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)

Visual indicators for woody species

✓Young (2-10 stems) and Mature (>10 stems) age classes present on riparian shrubs

Hess Canyon AZ 1986

Yes	No	NA
	✓	

Hess Canyon AZ 1987

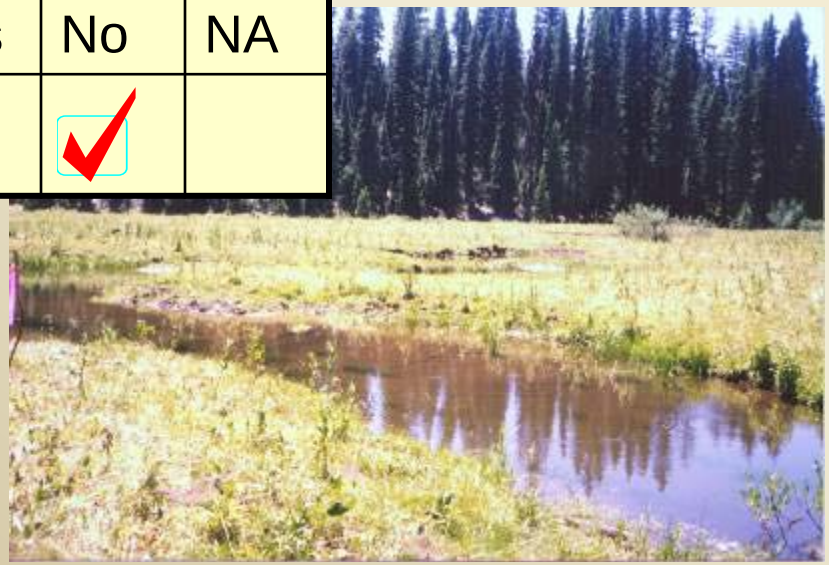
Yes	No	NA
✓		

6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)

Visual indicators for herbaceous species

- ✓ Ratio of vegetative to reproducing culms (for plants reproducing by seed)
- ✓ Amount and degree of lateral shoot development and/or tillering
- ✓ Types of vegetative shoots

Yes	No	NA
	✓	



Sheep Cr ID 1994

Yes	No	NA
✓		

Sheep Cr ID 2000

7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)

- ✓ Purpose – to document if the existing species composition is sufficient for maintenance or recovery.

7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)

Colonizers

✓ For maintenance & recovery

brookgrass

Watercress

7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)

Stabilizers

✓For maintenance & recovery

Sedge/rush/ bulrush

A few grasses

Woody species

Trees

7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)

Visual indicators

✓Arid & semi-arid – two or more functional equivalents present, depending on site potential

Dixie Cr NV 1989

Yes	No	NA
	✓	

Dixie Cr NV 1995

Yes	No	NA
✓		

8) Species present indicate maintenance of riparian-wetland soil moisture characteristics

- ✓ Purpose – to document evidence that the water table level is being maintained or is moving towards its potential extent as indicated by the presence of riparian-wetland vegetation

Item 8. Species present indicate maintenance of riparian soil moisture characteristics

Visual indicators

✓Obligate Wetland plants	99% on wet sites
✓Facultative Wetland plants	66% on wet sites
✓Facultative plants	50% occurrence
✓Facultative Upland plants	66% on dry sites
✓Obligate Upland plants	99% on dry sites

Item 8. Species present indicate maintenance of riparian soil moisture characteristics

Visual indicators

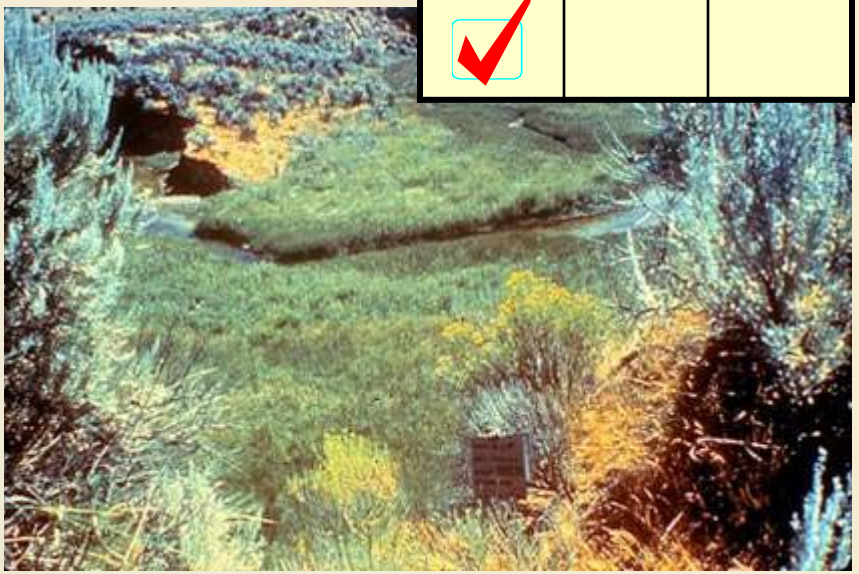
✓An increase in upland plants = “no”

✓Presence of “young” age-class (e.g. 2-10 stems) = “yes”

Yes	No	NA
	✓	

Camp Cr OR 1968

Yes	No	NA
✓		



Camp Cr OR 1984

Item 8. Species present indicate maintenance of riparian soil moisture characteristics

Visual indicators

✓An increase in upland plants = “no”

✓Dominance of FACW or FAC in some intermittent reaches = “yes”

Yes	No	NA
✓		

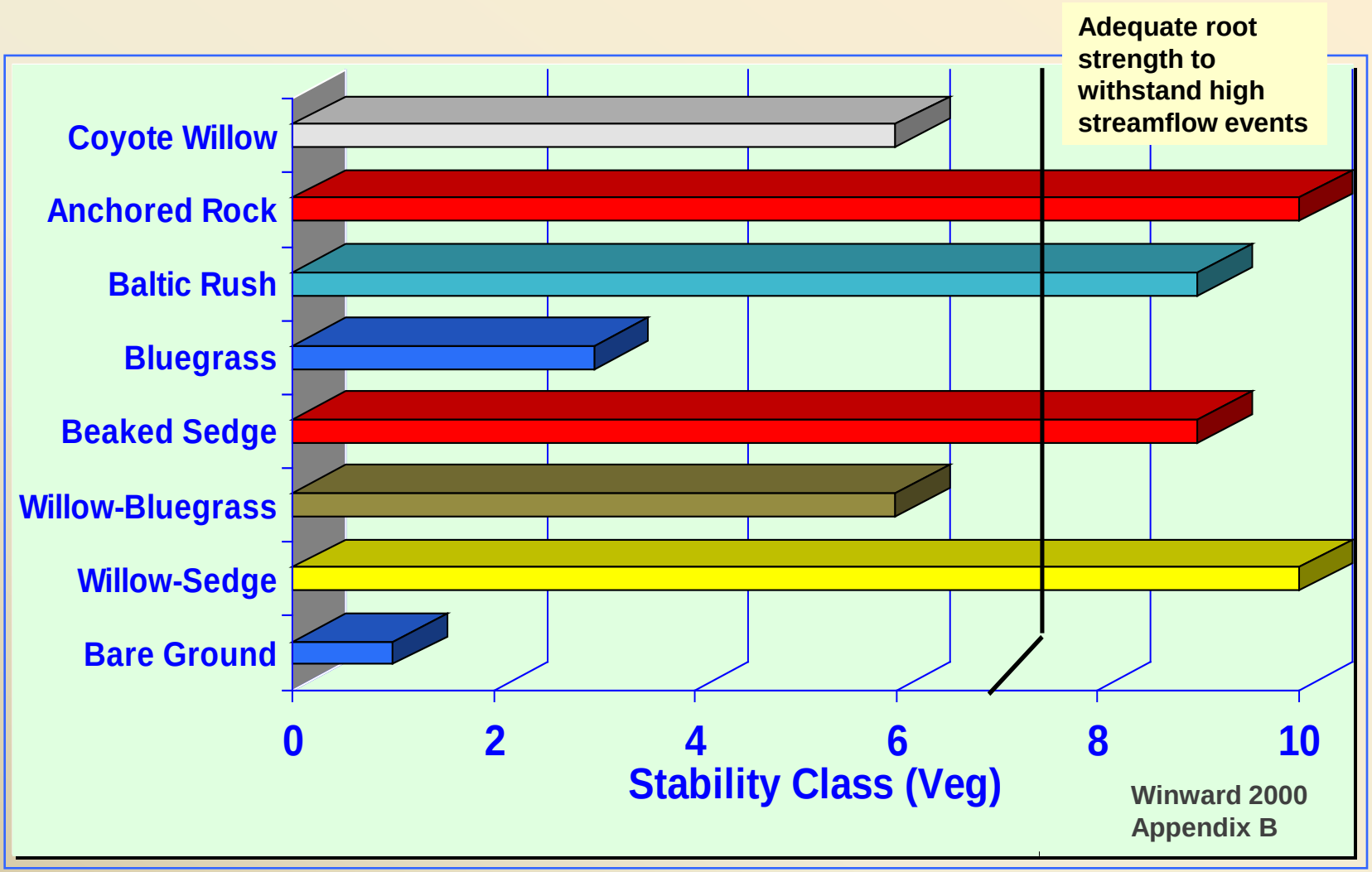
9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events

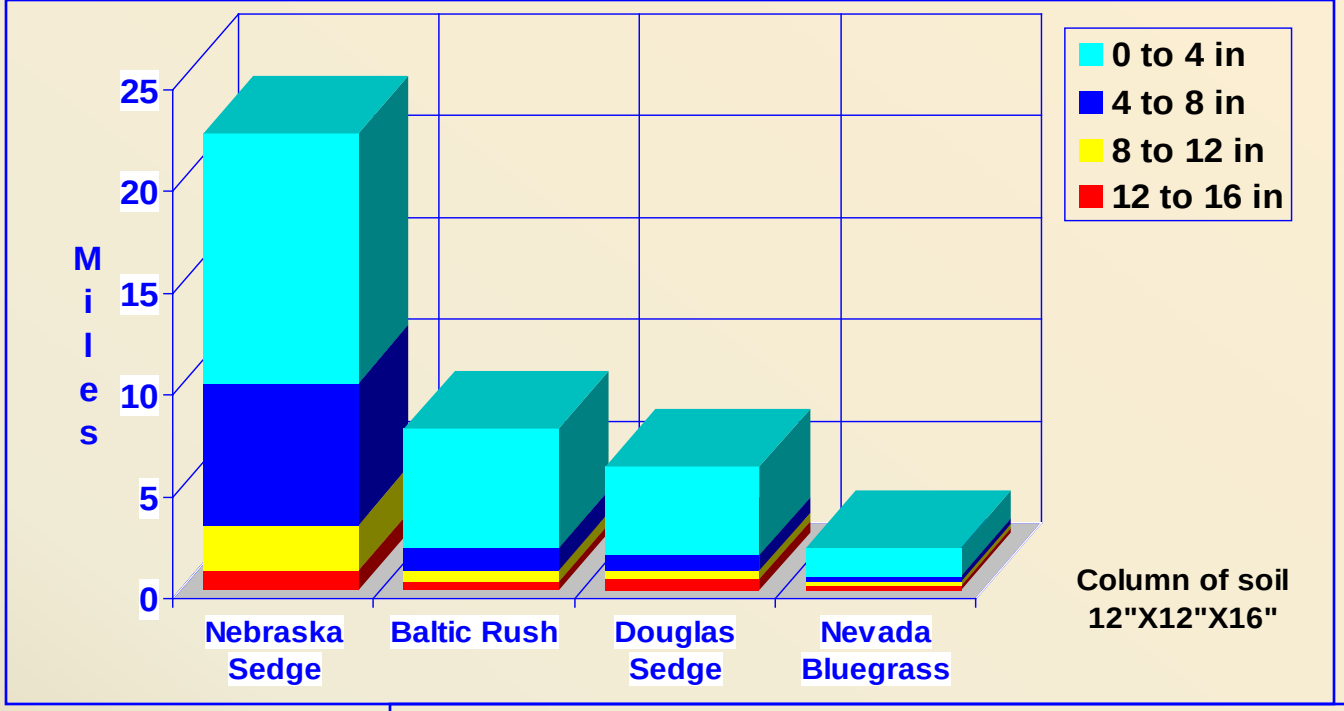
- ✓ Purpose – to document that the streambanks have the right plants or community types for recovery and maintenance of the riparian-wetland area

9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events

Root Masses = Stabilizers with strong rhizomes and deep fibrous root masses

Greenline Stability Class Ranking (by community type)

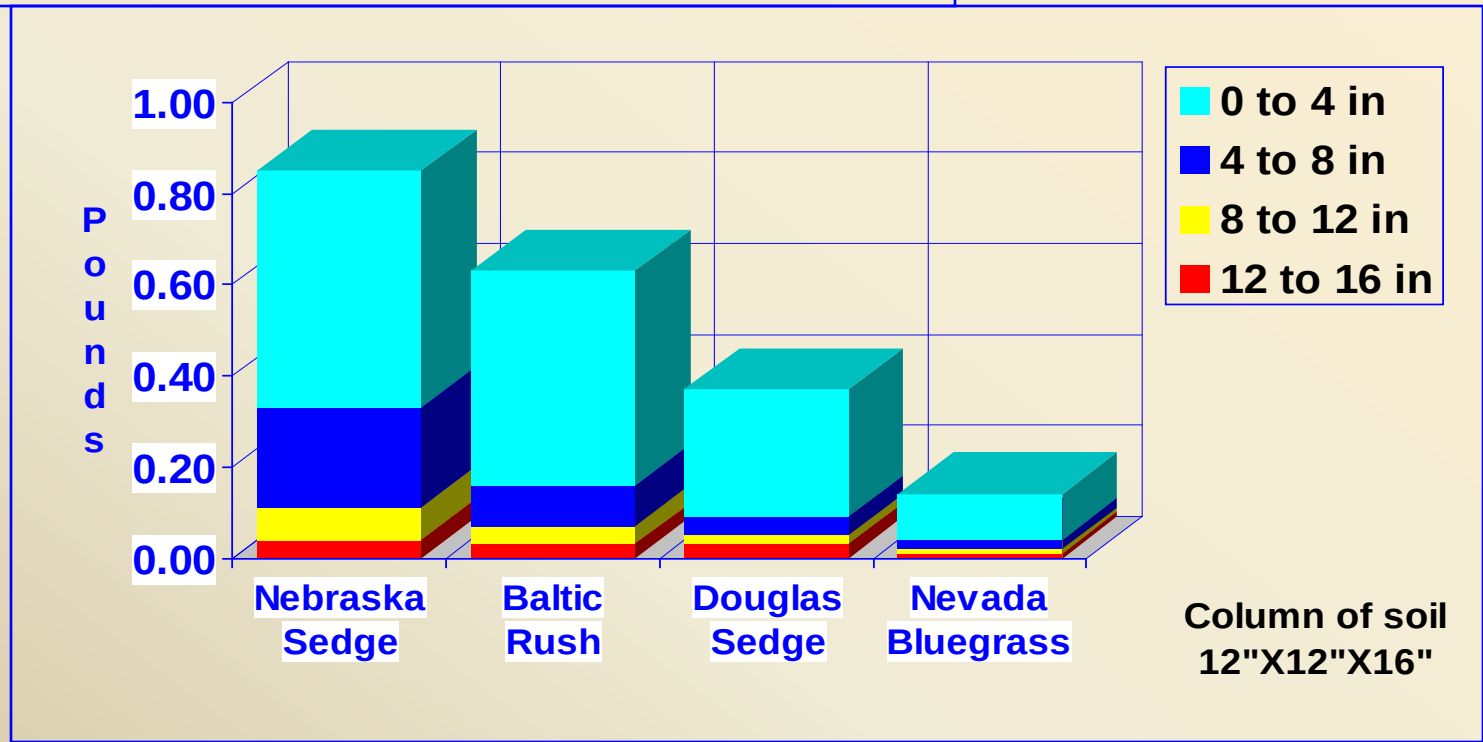




Root Length

Manning, M.E., et al, 1989

Root Mass
(Weight)



9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events

Visual indicator

- ✓ Presence of patches that contain the right kind of plants/plant communities (not all reaches require a dominance of riparian community types to answer "yes" on item 9.

Yes	No	NA
	✓	

Little Bear Cr OR 1977

Yes	No	NA
✓		

Little Bear Cr OR 1987

10) Riparian-wetland plants exhibit high vigor

- ✓ Purpose – Ascertain if riparian-wetland plants are weakened/stressed and leaving the area or are healthy and robust

10) Riparian-wetland plants exhibit high vigor

Visual indicators

- ✓ Plant size, shape, and leaf color during the growing season
- ✓ Growth form, leader length, amount of dead or dying limbs (shrubs)

Yes	No	NA
	✓	

T Cr NV 1979

Yes	No	NA
✓		

T Cr NV 1987

10) Riparian-wetland plants exhibit high vigor

Visual indicators

- ✓Plant size, shape, and leaf color during the growing season
- ✓Herbaceous abundance (dense mats)

Yes	No	NA
	✓	

Yes	No	NA
✓		

11) Adequate riparian-wetland vegetative cover is present to protect banks and dissipate energy during high flows

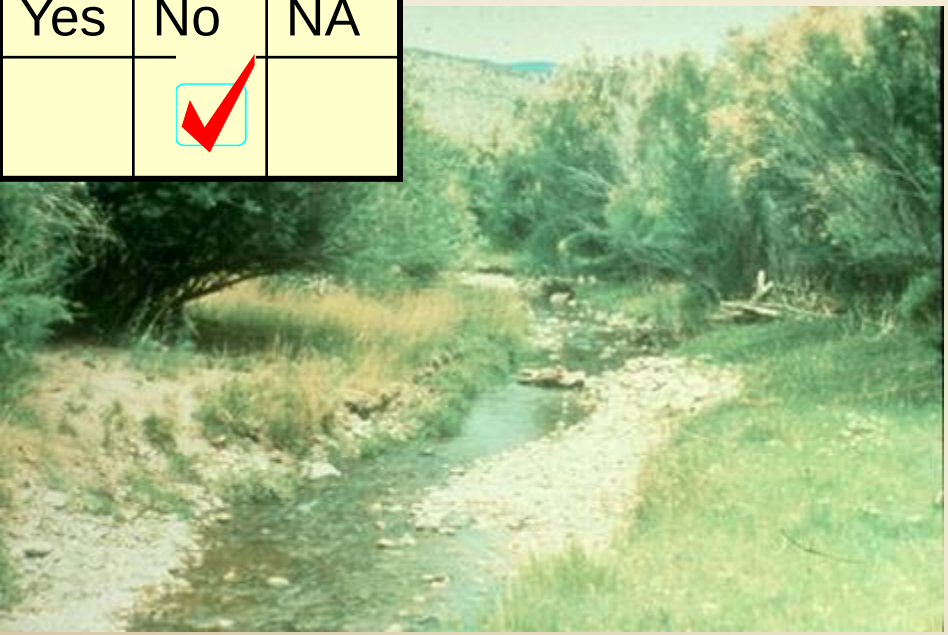
- ✓ Purpose – to determine if there is an adequate *amount* of vegetation present to dissipate stream energies from high-flow events

11) Adequate riparian-wetland vegetative cover is present to protect banks and dissipate energy during high flows

Visual indicator

✓Visual estimate of % cover using Greenline Riparian Capability Groups (Winward 2000)

Yes	No	NA
	✓	



Government Springs NM 1983

Yes	No	NA
✓		

Government Springs NM 1990

11) Adequate riparian-wetland vegetative cover is present to protect banks and dissipate energy during high flows

Visual indicator

✓% cover in side channels

Yes	No	NA
✓		

side channel to Santa Maria River AZ

12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

- ✓ Purpose – to determine if large wood is necessary for a given area to function properly depending on stream size and ecological setting, and if source trees are present

12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

Visual indicators

✓Adequate number of mature trees that are large enough to serve as hydrologic modifiers once they fall over

Yes	No	NA
	✓	

White River OR

Yes	No	NA
✓		

Location?

12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

Visual indicators

✓Adequate number of mature trees that are large enough to serve as hydrologic modifiers once they fall over

Yes	No	NA
	✓	

Lawless Cr, BC

Yes	No	NA
✓		

W Kettle R, BC

12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

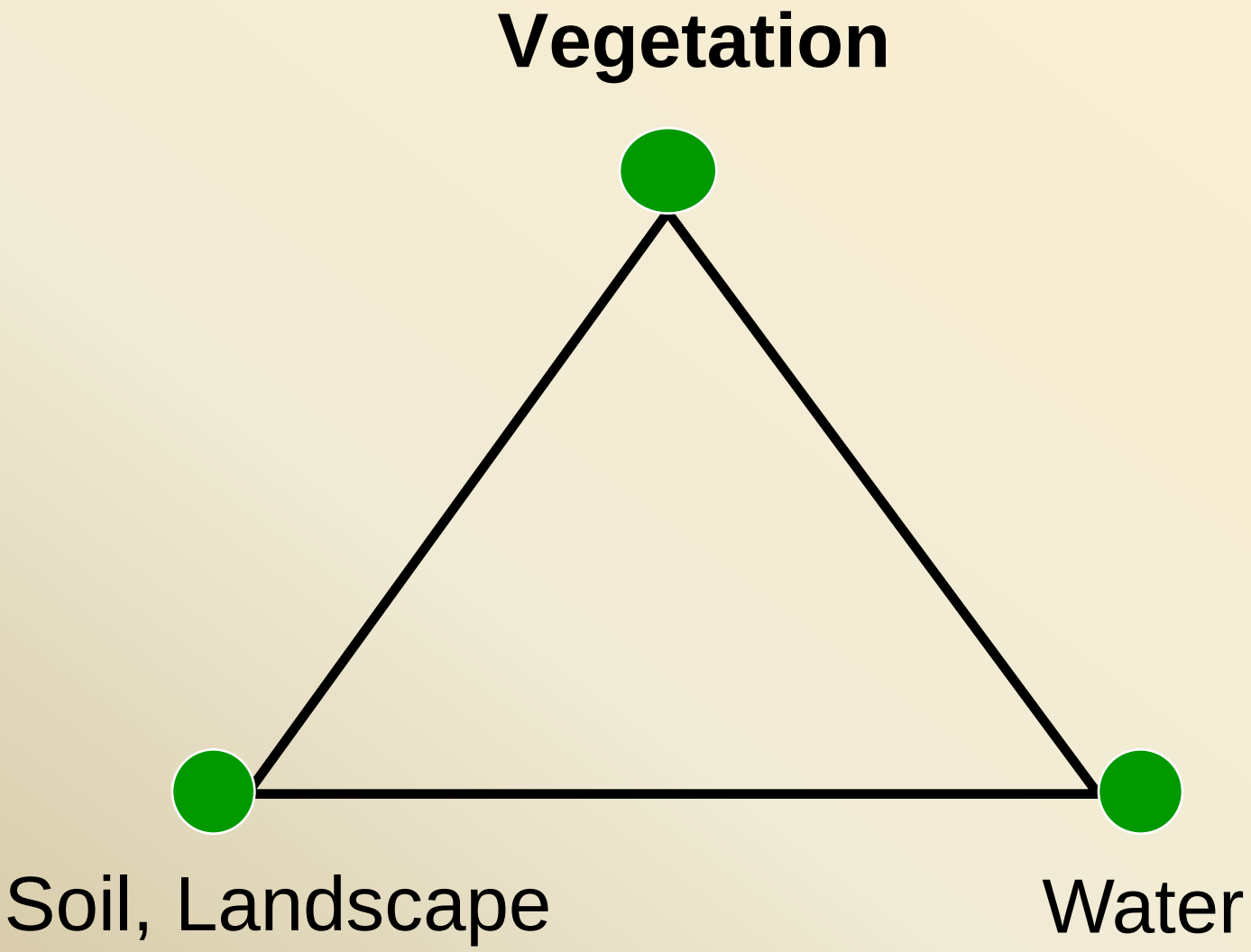
Visual indicators

✓Adequate number of mature trees that are large enough to serve as hydrologic modifiers once they fall over

Yes	No	NA
	✓	

Big Sand Creek, ID

Yes	No	NA
✓		

Fish Creek, ID

Riparian-Wetland Attributes & Processes