

Riparian Restoration and Beyond

Strategies for Effective Stewardship

John Richard Goetz III
Water Resources Project Manager

Outline

- **Introduction**
- **Site Specific Implementation Strategy**
 - **Vegetation Management**
 - **Long term on-call contracts**
- **Project Management**
 - **Where to Begin?**
 - **Springville Creek**
 - **Bronson Creek**

Clean Water Services

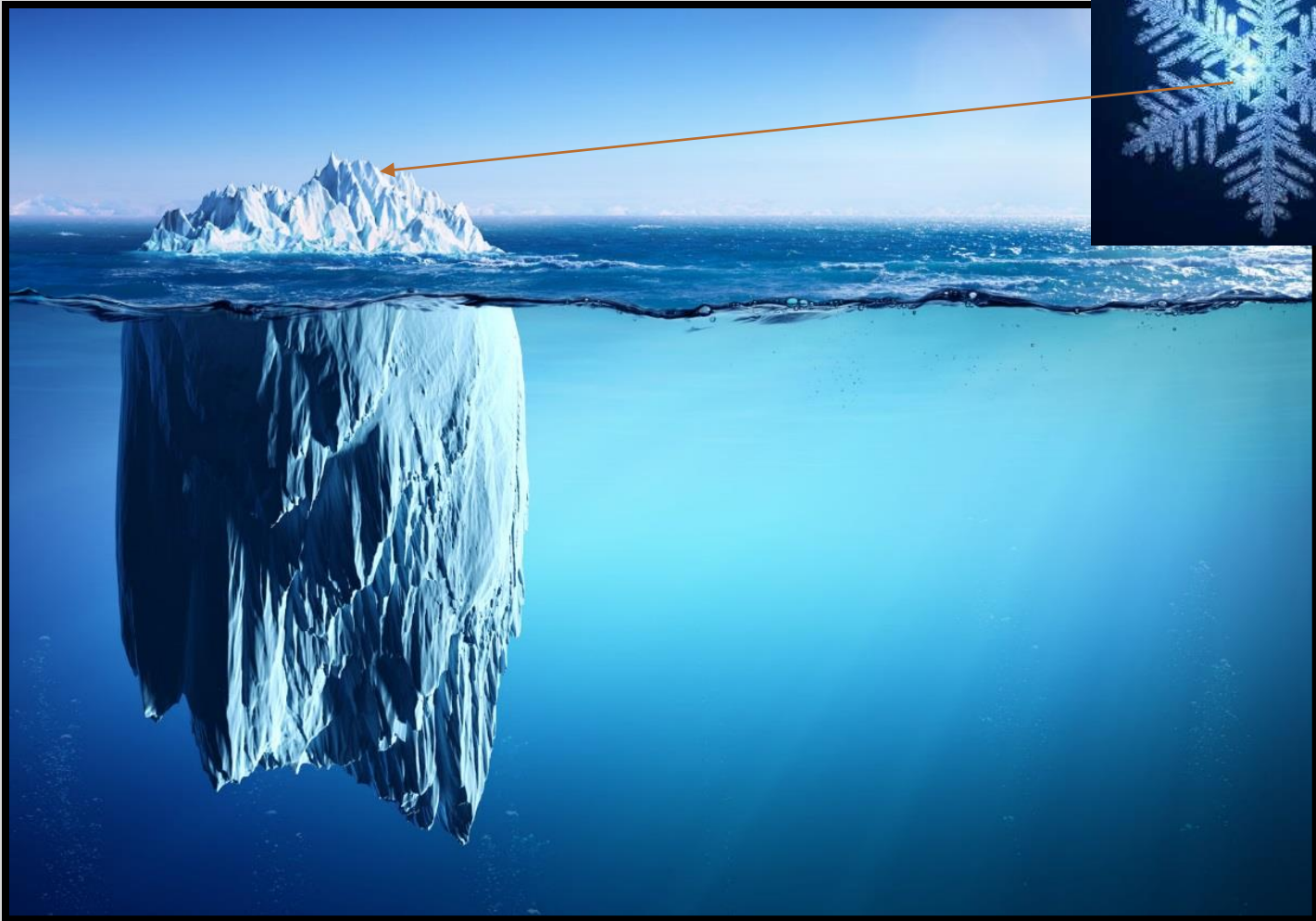


Meet John Richard Goetz III

- **Forestry and Plant Pathology**
- **Natural resources career**
 - **WSU – Research Assistant**
 - **USFS - Forestry Technician**
 - **ODF - Forester**
 - **Ash Creek - Forester**
 - **CWS – Project Manager**

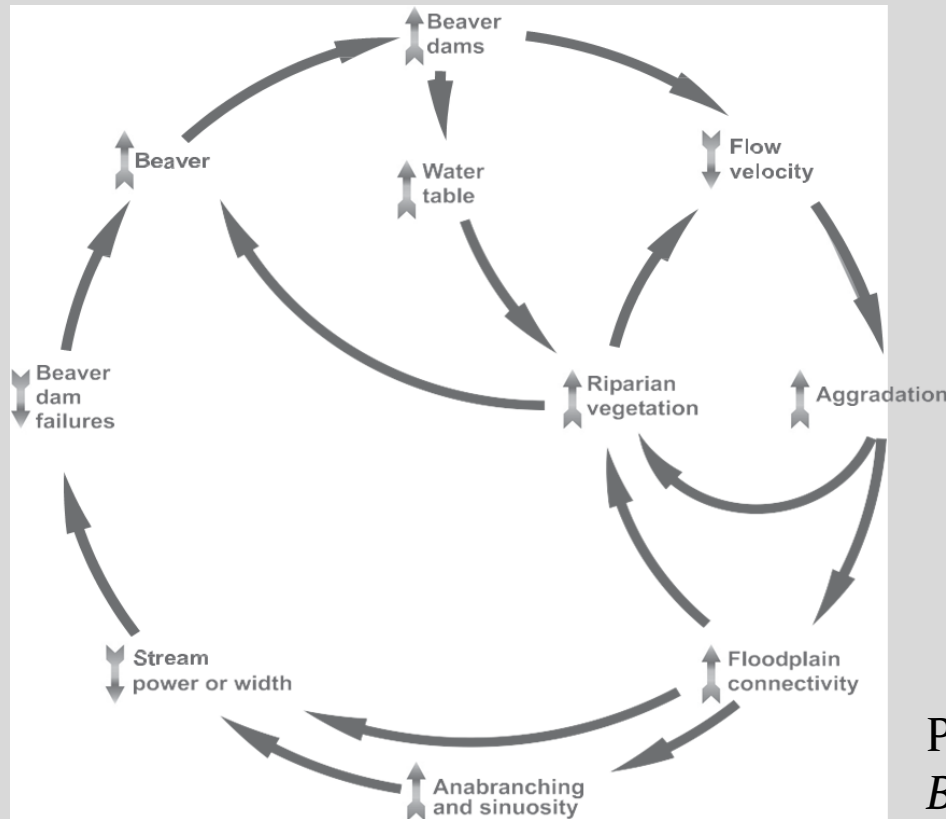


Introduction



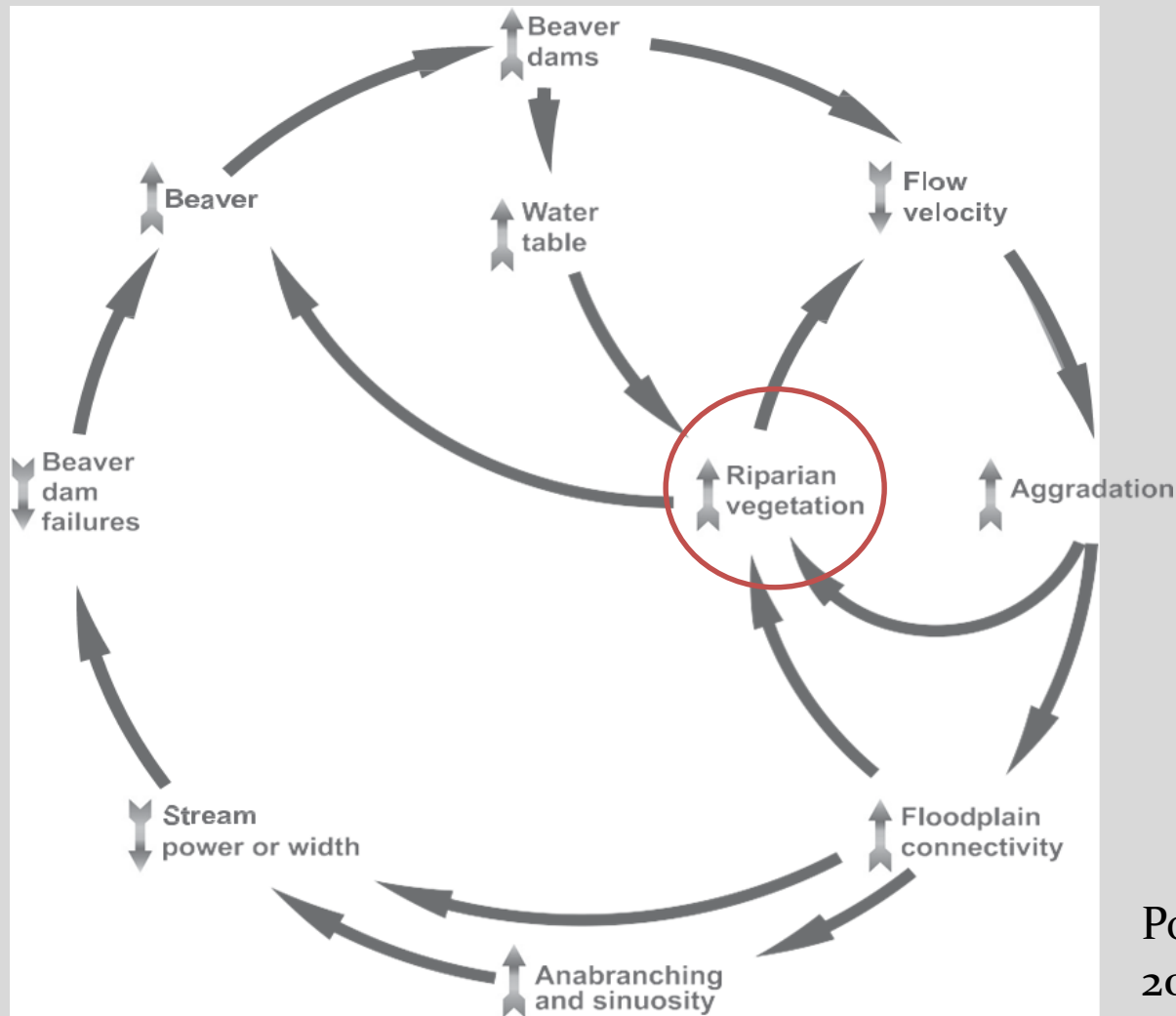
Current Approach

- Reestablish ecological processes to facilitate trajectory towards high functioning reference conditions



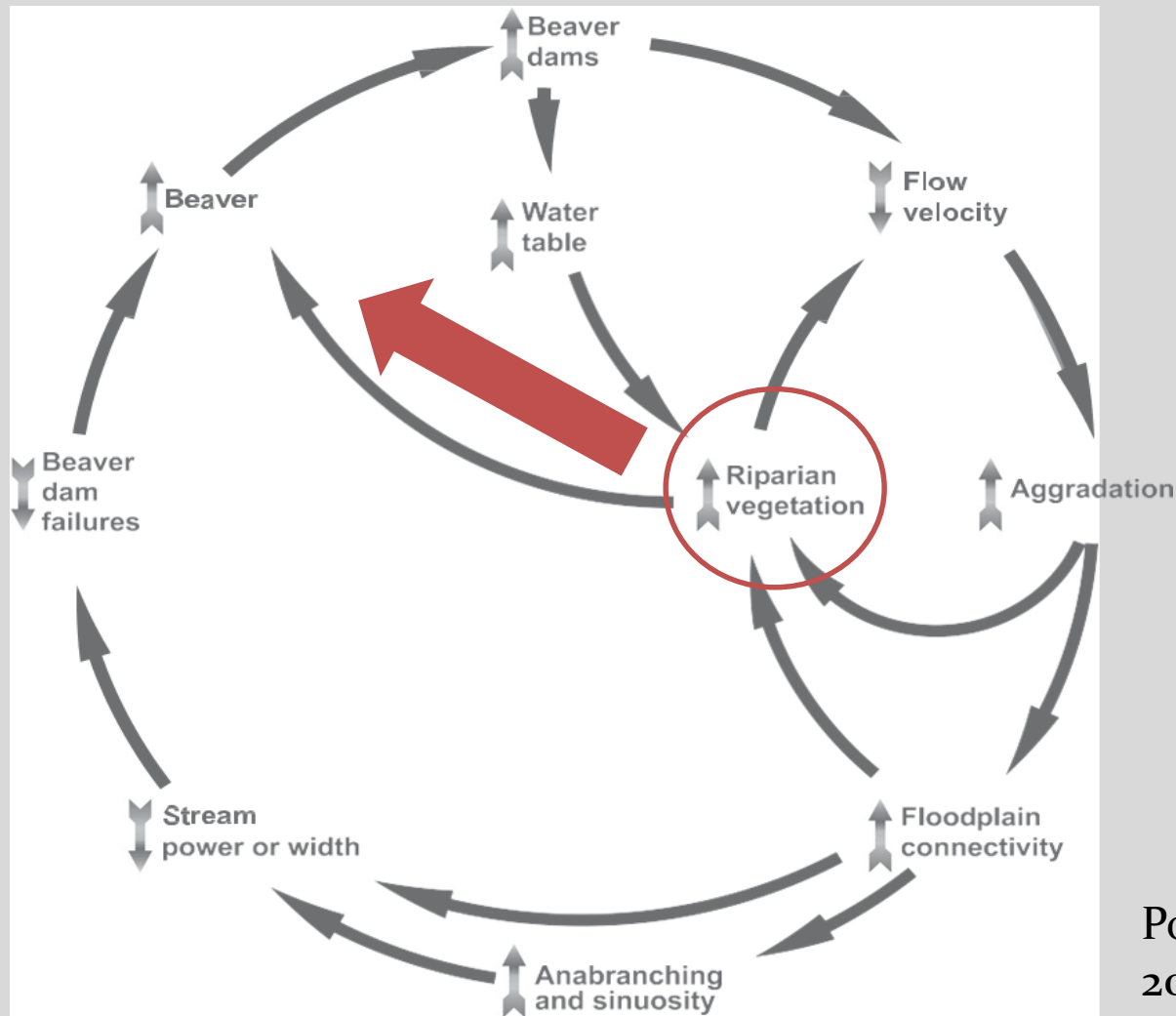
Pollock, *et al.* 2014
Bioscience

Current Approach



Pollock, *et al.*
2014 *Bioscience*

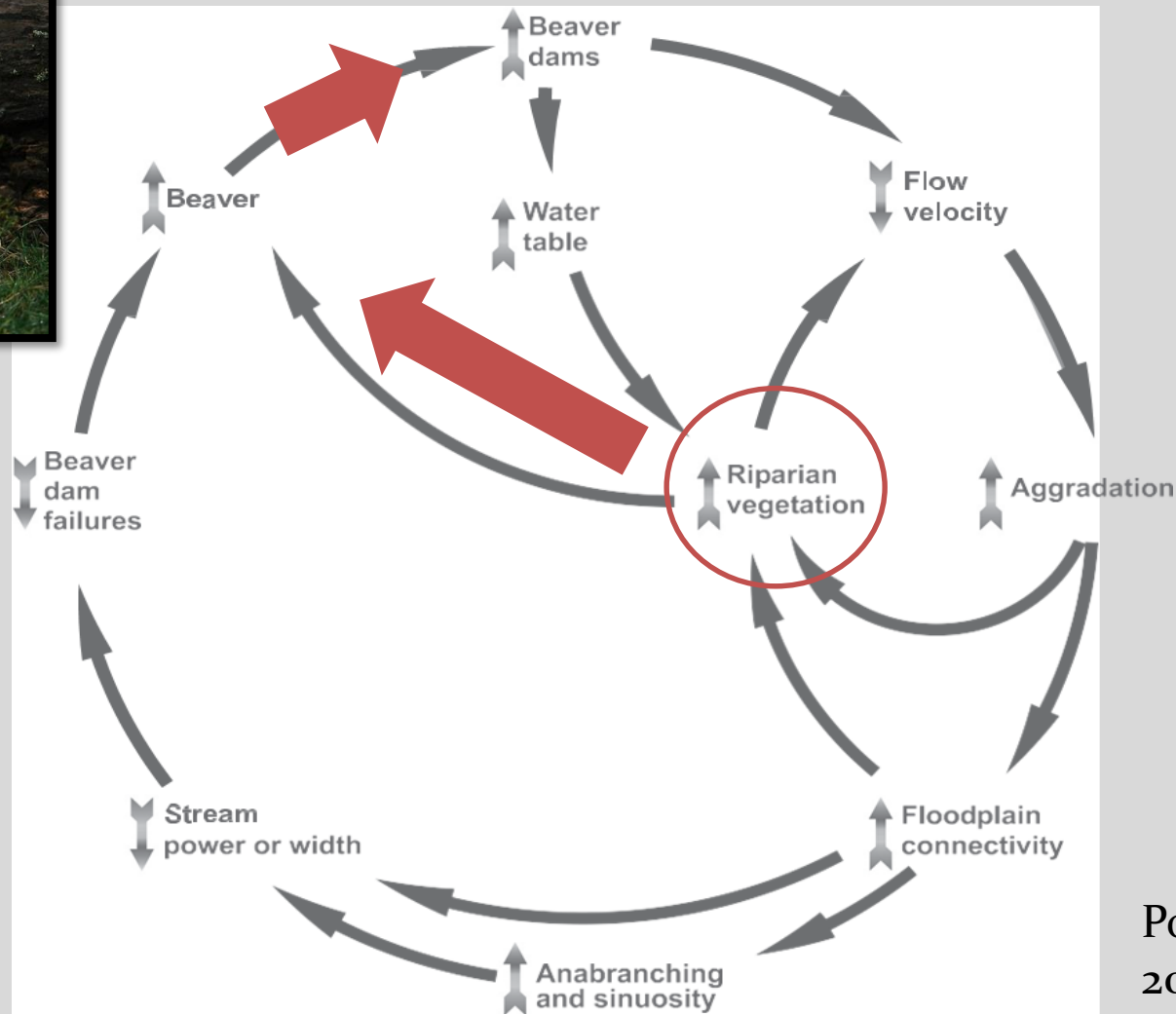
Current Approach



Pollock, *et al.*
2014 *Bioscience*



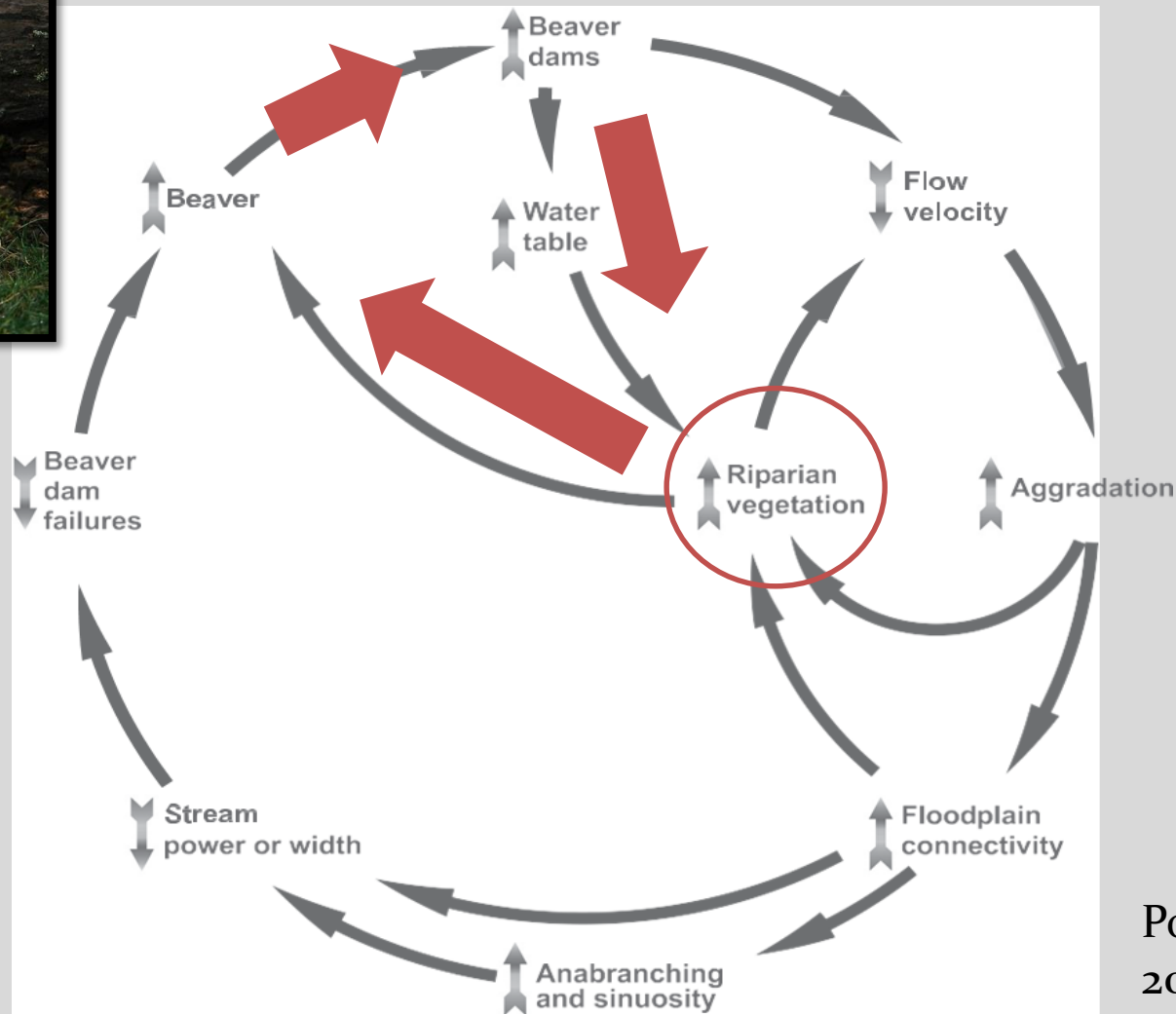
Current Approach



Pollock, *et al.*
2014 *Bioscience*



Current Approach



Pollock, *et al.*
2014 *Bioscience*

Vegetation Management

- **Things we strive to do**
 - Visit, study and review
 - Front load treatments
 - Bareroot Plants
 - Collaborate
 - Anticipate
 - Innovate
 - Partner
 - Access
 - Share



Vegetation Management



- **Things we attempt to avoid**

- Ignoring contractor advice
- Containerized plants
- Survival as success
- Plant accessories
- Regular mowing
- Skip site prep
- Stagnation
- Irrigation



Vegetation Management



Vegetation Management - Reference Sites



Reference Site Analysis Page 2

Plant Data: Gresham Woods

Data Collected 6/5/01



Overall trees per acre (T.P.A): 260

<u>Species</u>	<u>T.P.A.</u>
<i>Alnus rubra</i>	190
<i>Psuedotsuga menziesii</i>	35
<i>Thuja plicata</i>	25
<i>Prunus emarginata</i>	5
<i>Abies grandis</i>	5

Total shrub stems per acre (S.P.A.): 4800

<u>Species</u>	<u>S.P.A.</u>
<i>Rubus spectabilis</i>	3250
<i>Corylus cornuta</i>	250
<i>Oemlaria cersiformis</i>	600
<i>Sambucus racemosa</i>	400
<i>Acer circinatum</i>	250
<i>Symphoricarpos albus</i>	50

Overall herbaceous cover: 70%

<u>Species</u>	<u>Avg. %cover</u>
<i>Tolmiea menziesii</i>	25
<i>Dicentra formosa</i>	11
<i>Impatiens campenstris</i>	9
<i>Oenanthe sarmentosa</i>	8
<i>Circaea alpina</i>	4
<i>Rubus ursinus</i>	3
<i>Polystichum munitum</i>	2.5
<i>Montia sibirica</i>	2
<i>Hydrophyllum tenuipes</i>	2
<i>Carex obnupta</i>	1

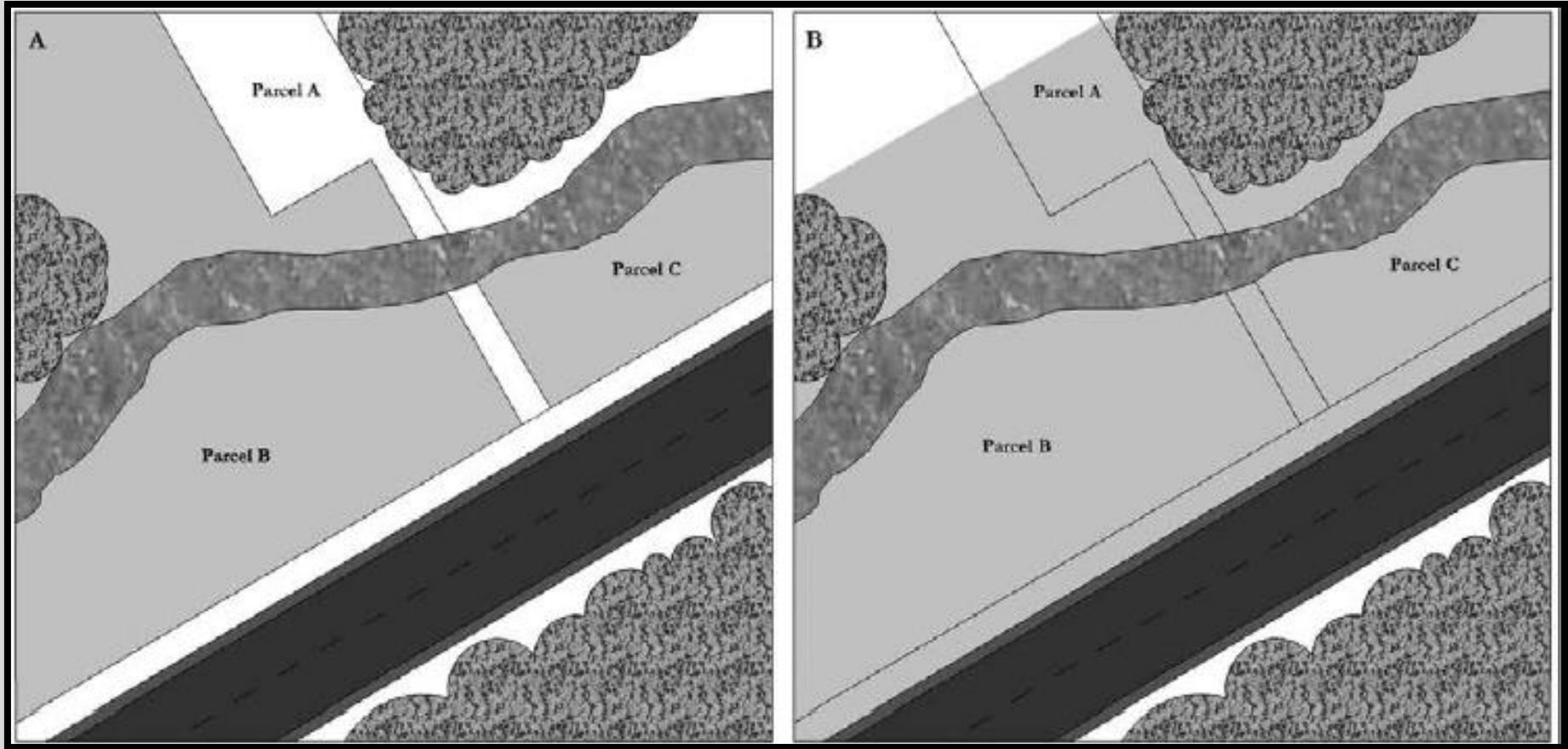
<u>Herb. traces found</u>
<i>Carex deweyana</i>
<i>Pteridium aquilinum</i>
<i>Athyrium filix-femina</i>
<i>Galium aparine</i>

Community type: Mixed hardwood/conifer riparian

NVCS alliance: *Alnus rubra* Temporarily Flooded Forest

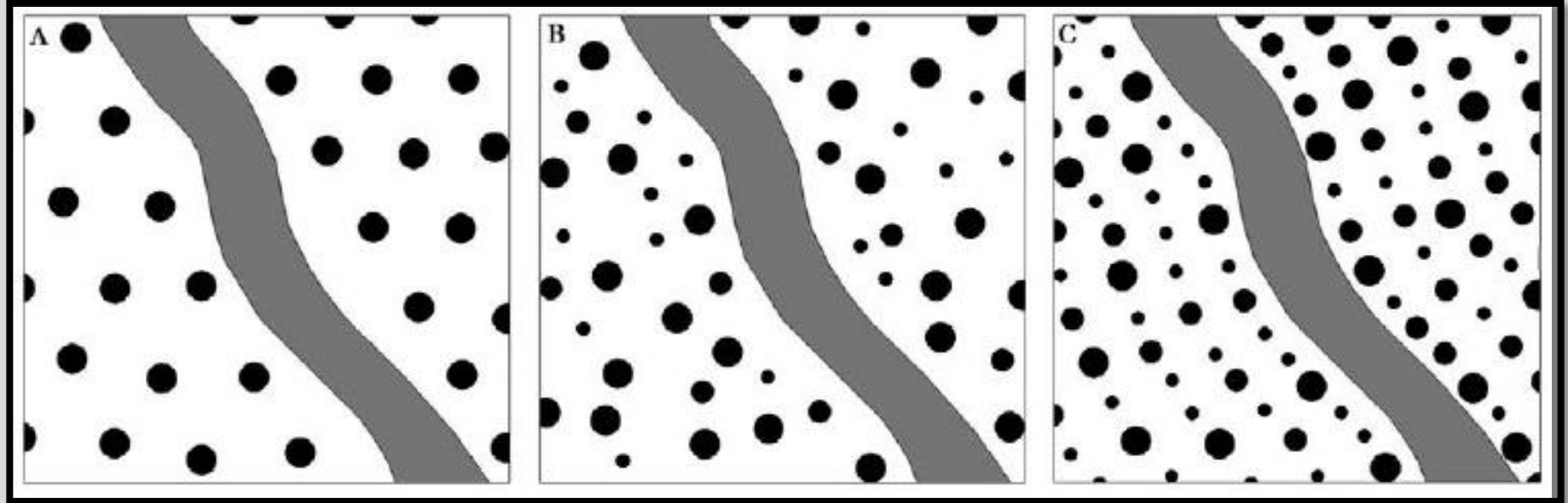
1851 Classification: FFHCBu: Mesic mixed conifer forest with mostly deciduous understory. Burned.

Vegetation Management - Defensible Boundaries



Guillozet et al. 2014

Vegetation Management - Planting Layout



Guillozet et al. 2014

Long term contracts

- Up to 5 years
- Competitive bids
 - Professional consulting services
 - Community based organizations
 - Vegetation Management

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New Projects – Where to Begin?



New Projects – Where to Begin?



New Projects – Where to Begin?



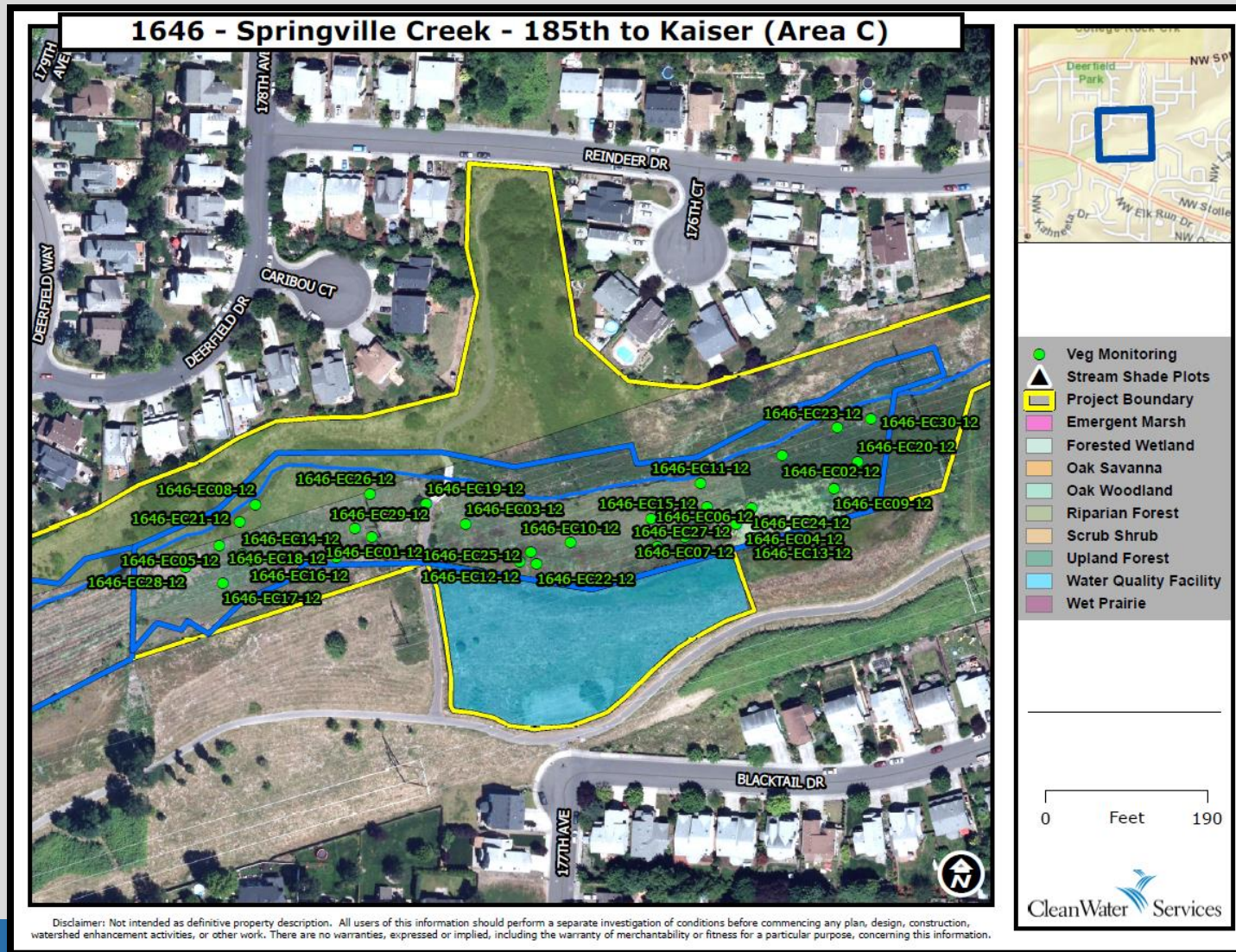
New Projects – Where to Begin?



Springville Creek



Springville Creek

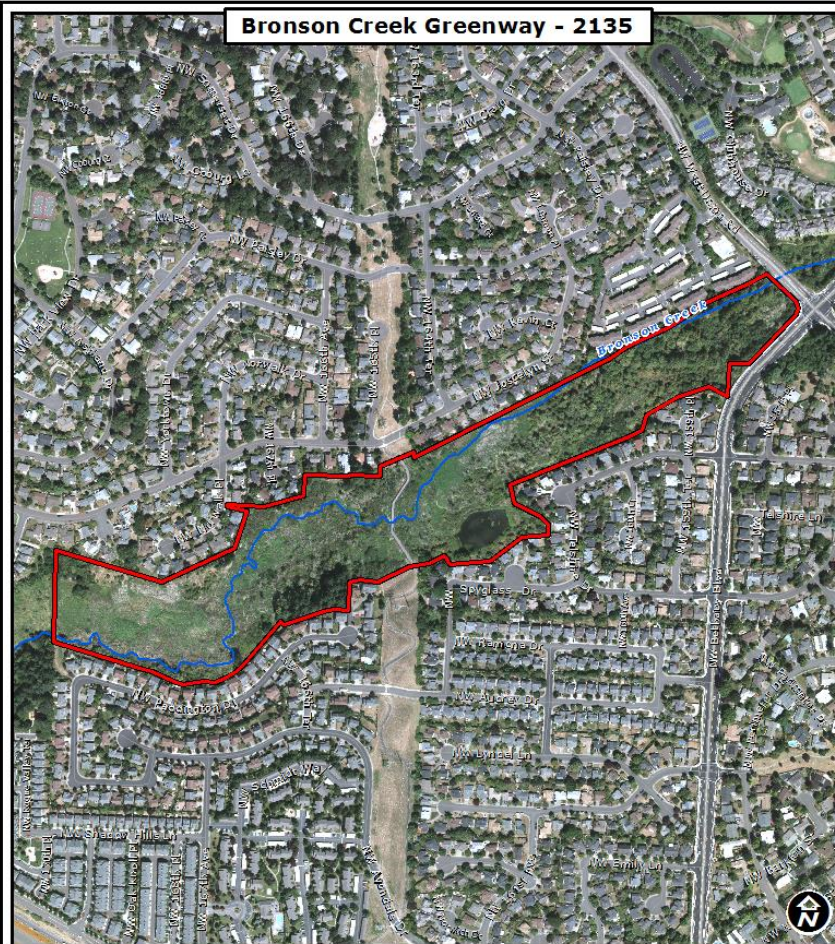


Springville Data

Springville - 185th to Kaiser	Traditional site preparation (planted 2011)		Trends	1.5 years of site preparation + native seed (planted 2011)		Trends	2.5 years of site preparation + native seed (planted 2012)		Trends
	2012	2014		2012	2014		2012	2014	
Stems per acre	1730	1030	↓	1220	976	↓	1076	1386	↑
Native woody cover	14.0%	14.6%	↔	14.3%	12.9%	↓	4.1%	15.8%	↑
Native herbaceous cover	43.0%	8.7%	↓	69.9%	48.7%	↓	75.7%	81.0%	↑
Invasive species cover	48.8%	84.5%	↑	23.3%	28.8%	↑	19.6%	2.3%	↓
Vegetative shade	2.2%	2.7%	↔	6.1%	11.4%	↑	3.5%	23.3%	↑
Native species diversity	2	1	↓	4	3	↓	5	6	↑

n=30, 1/100th acre plots

Bronson Creek



CleanWater Services

Disclaimer: This map and the data represented are not authoritative and are subject to change. This was created for reference and is not intended as a definitive property description. All users of this information should perform a separate investigation of conditions before commencing any plan, design, construction, or other activities. Further, there are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, concerning this information.

Site Map

0 500 1,000
Feet



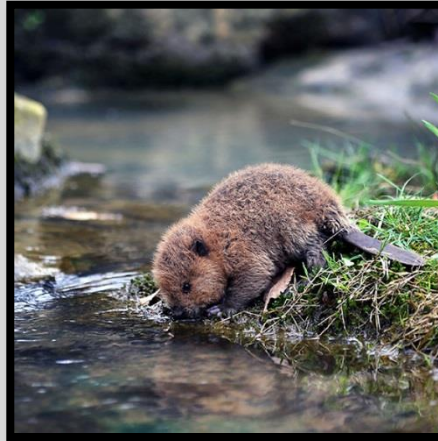
Summary

- **Process initiation**
- **Study and review**
- **Front load treatments**
- **Push your boundaries**
- **Maximize treatment effectiveness**



Summary

- Anticipate disturbance
- Efficient contractor utilization
- High density and diversity
- Lessons learned
- Partners
- Scalable



Questions?

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