

Vital Numbers: Stream Version

Points Per Land Use	Starting Points Total	Watershed Goal	Budget Per Land Use
<ul style="list-style-type: none"> • 50 • 5 from Undeveloped 	<ul style="list-style-type: none"> • 205 	<ul style="list-style-type: none"> • 75 = Sediment • 90 = Phosphorus 	<ul style="list-style-type: none"> • 5

Vital Numbers: Lake Version

Points Per Land Use	Starting Points Total	Watershed Goal	Budget Per Land Use
<ul style="list-style-type: none"> • 50 • 50 Upstream* • 5 from Undeveloped <p><i>•Upstream pollutant load is 205 if using with Stream version</i></p>	<ul style="list-style-type: none"> • 255 <p><i>• 410 if using with Stream version as upstream load.</i></p>	<ul style="list-style-type: none"> • 115 = Sediment • 115 = Phosphorus <p><i>•Goals become 270 if using Stream version as upstream load.</i></p>	<ul style="list-style-type: none"> • 5

Vital Numbers: River Version

Points Per Land Use	Starting Points Total	Watershed Goal	Budget Per Land Use
<ul style="list-style-type: none"> • 50 • 110 Upstream* • 5 from Undeveloped <p><i>• Upstream pollutant load is 205 if using with Stream version</i></p>	<ul style="list-style-type: none"> • 365 <p><i>• 460 if using with Stream version as upstream load.</i></p>	<ul style="list-style-type: none"> • 200 = Sediment • 190 = Phosphorus 	<ul style="list-style-type: none"> • 5

Goals of Game

- **Understand that all land uses within a watershed contribute pollutants and impact water quality.**
- **Identify specific sources of pollutants from each land use.**
- **Apply plans, practices, and policies to prevent or reduce impacts.**
- **Choose solutions based on available funds, benefits, and feasibility.**

Set the Stage

- Orient to game board and game pieces
- Identify potential pollution sources
- Describe goal & point system
- Game rules
 - ✓ No swapping
 - ✓ Only 1 per round
- Facilitator and banker role

Order of Play

1. Background, Goal
2. Assign teams
3. Explore pollution sources
4. Describe goal of game
5. Distribute BMPs & money
6. Sell & buy plan
7. Round I
8. Unanticipated Event
9. Round II
10. Unanticipated Event
11. Round III
12. Conclusion
13. Land sold & developed

Conclusion

- ✓ **We all have to help with the solution**
- ✓ **Prevention is more effective and cheaper than restoration**
- ✓ **Planning pays off**
- ✓ **Partnership pays off**
- ✓ **Most solutions try to mimic what nature does naturally**

Key Sediment Concepts

- Reduces water clarity
- Interferes with visual predators
- Clogs gills
- Smothers aquatic invertebrates, fish eggs, reduces habitat quality
- Absorbs heat, warms water
- Impacts aesthetics and uses
- Brings other compounds with it, including phosphorus

Key Nutrient Concepts

- Runoff from developed land carries pollutants
- Phosphorus sticks to sediment particles
- Phosphorus is one of two (along with nitrogen) key nutrients that in excess amounts can lead to excess plant and algae growth in water
- Excess plant or algae growth can lead to green, scummy water, low oxygen, and even harmful algal blooms.
- 1 pound of phosphorus can yield 500 pounds of algae