

Sustainable Visitorship at the Angeles National Forest

Strategies for Solid Waste Management



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1 Information Gathering

How do visitor demographics influence litter and trash accumulation?



Who visits the East Fork and in what activities do they participate? (Sources below)

- Compilation of demographic research from Forest Service Pacific Southwest Research Station
- Forest Service National Visitor Use Monitoring Program: Angeles National Forest (2006)
- Interviews with Angeles National Forest Service employees (November 2011)



How many people visit the East Fork and what are the peak days?

- California Department of Transportation (CalTrans) car count data (Summer 2010)



What do visitors leave behind as litter?

- Total Maximum Daily Load (TMDL) survey of litter amount & composition in the East Fork (2004-2008)

What do visitors throw away in trash cans or dumpsters?

Landfill receipts for the San Gabriel River Ranger District in the Angeles National Forest (2010)

2 Characterize the litter found in TMDL survey for East Fork

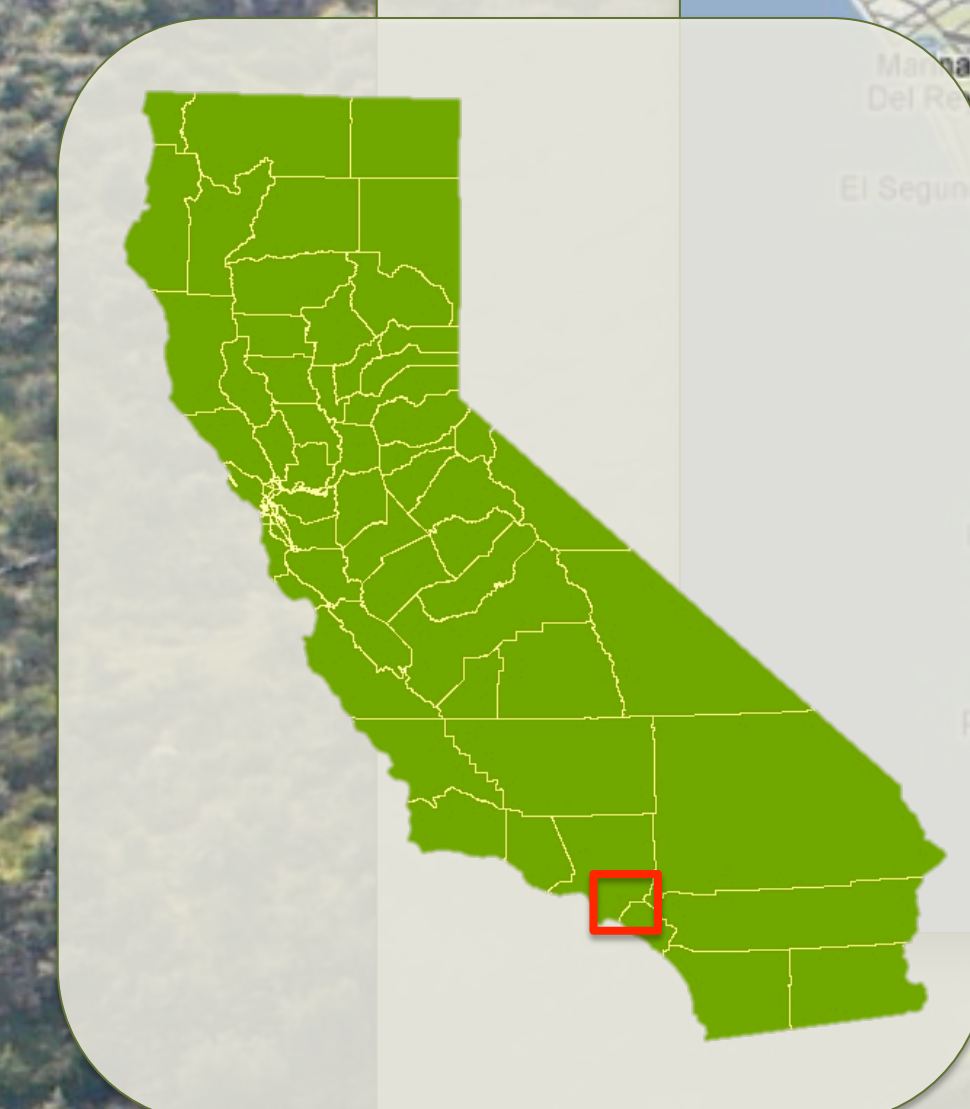
Assign weights to each item in the TMDL survey



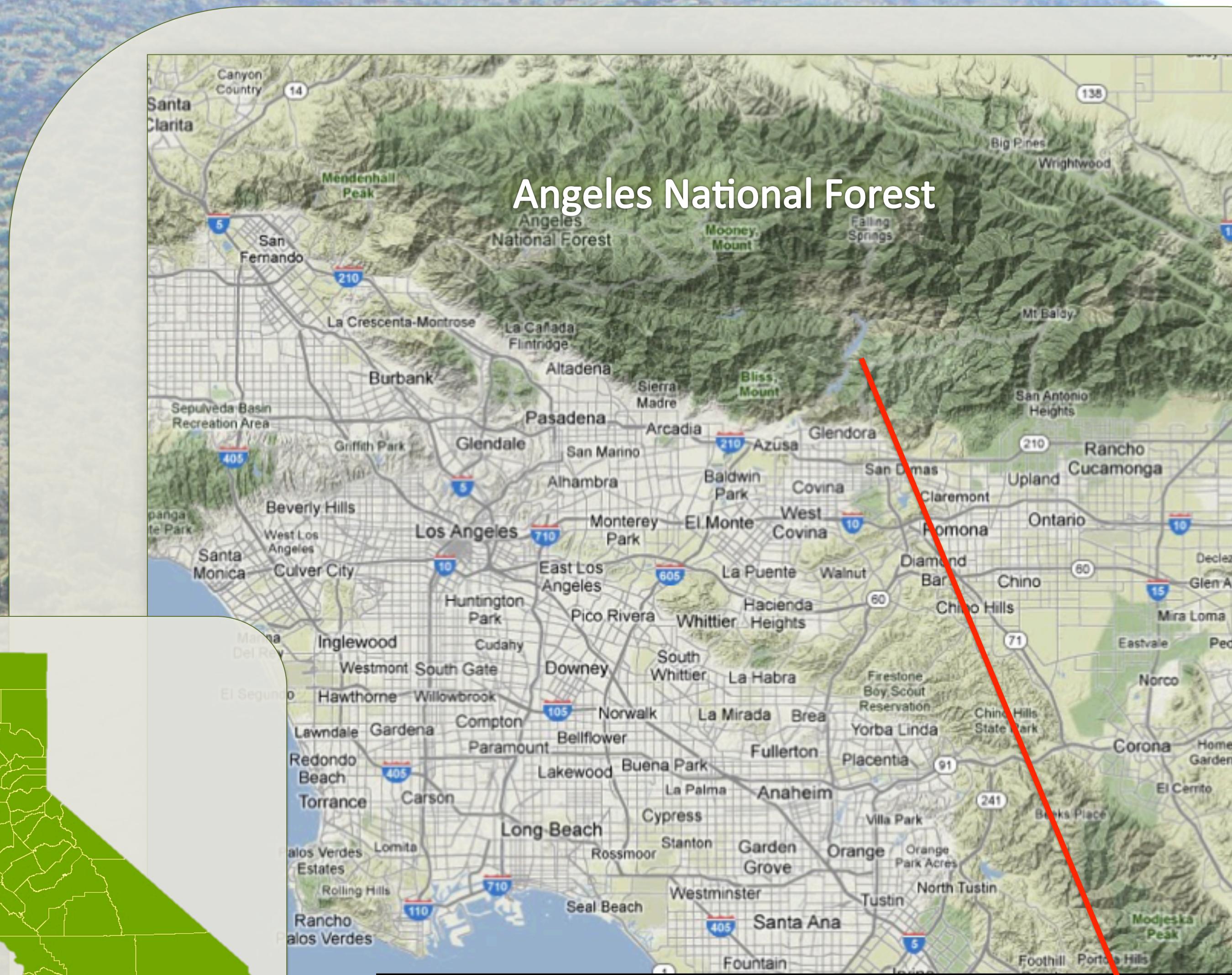
Multiply by the number of items in each category to get all items weight per day



$$\frac{0.02 \text{ lbs.} \times \text{bottles/day}}{\text{Total litter weight/day}} = \% \text{ plastic bottles in TMDL}$$



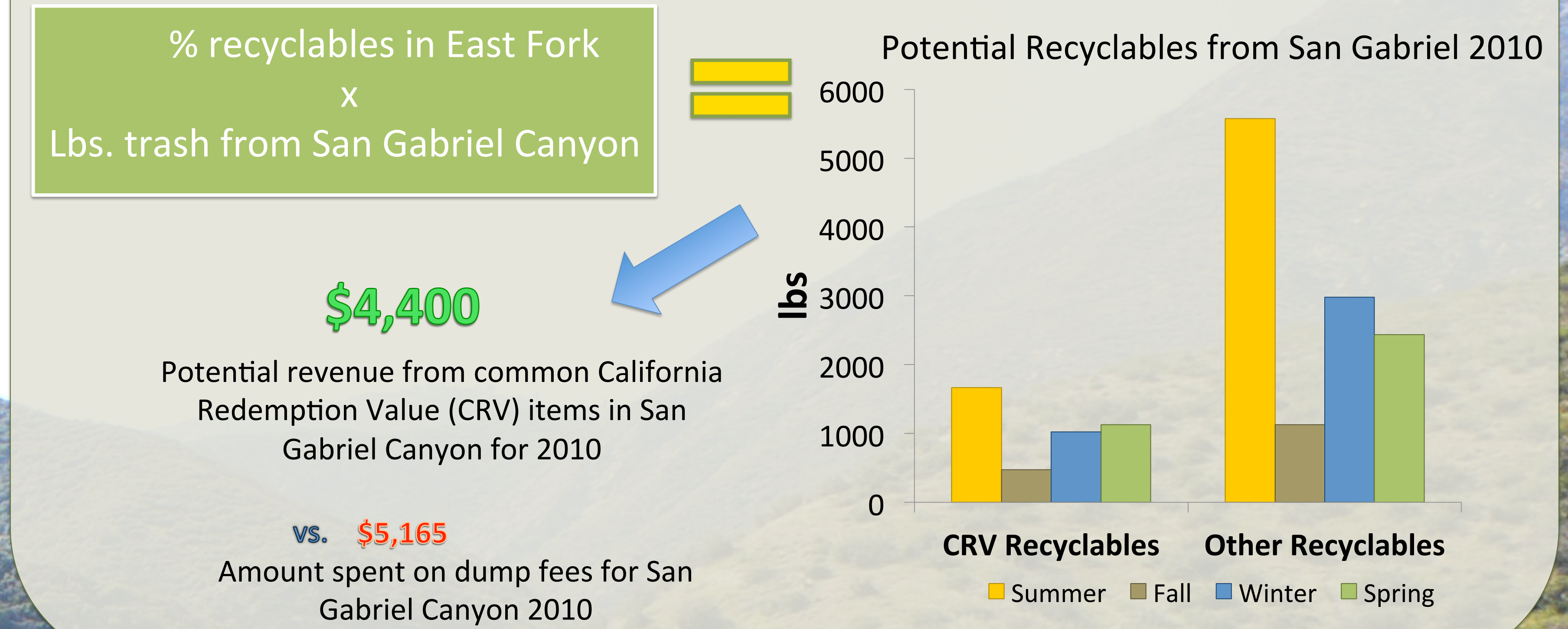
East Fork of the San Gabriel River in San Gabriel Canyon, Angeles National Forest, California



Acknowledgements:

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4 Determined potential recyclables in San Gabriel Canyon based on percent recyclables in East Fork litter stream



5 Recommendations for Forest Service Managers

Developed a series of potential management actions for the Angeles

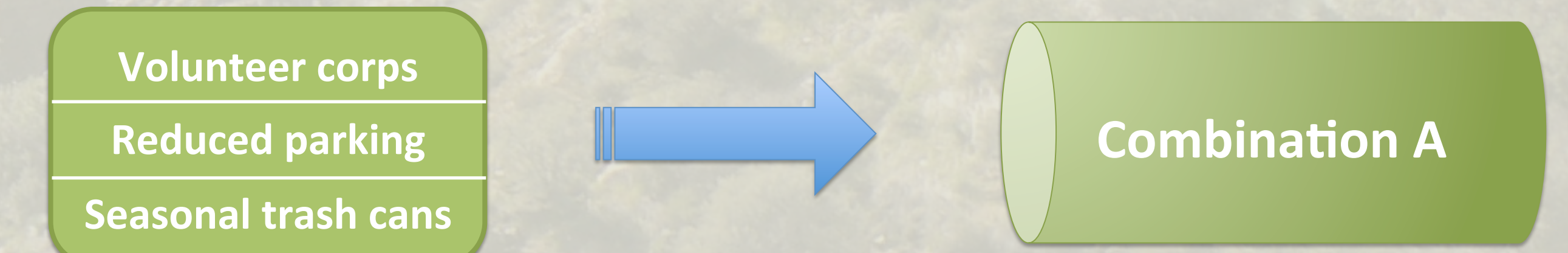
Examples:

- Visible volunteer corps
- Seasonal trash can installation in river
- Reduce available parking in East Fork

Identified 6 categories to evaluate the management actions → IMPACT AREAS

Example Actions	Areas to Address Solid Waste					
	1 Reduced volume of waste	2 On-site trigger for desired behavior	3 Education/outreach	4 Increased diversion potential	5 Improved visitor perception of Forest	6 Increased visibility of authority
Volunteer corps		✓	✓		✓	✓
Reduce parking	✓					
Seasonal trash cans		✓		✓		✓

Designed combinations of recommended actions to address all 6 impact areas



Developed a decision support tool for resource managers to compare different actions

How much money and labor will this action require and how will it address waste problems?



3 Used receipts from the landfill to determine amount of trash from San Gabriel Canyon and cost of disposal

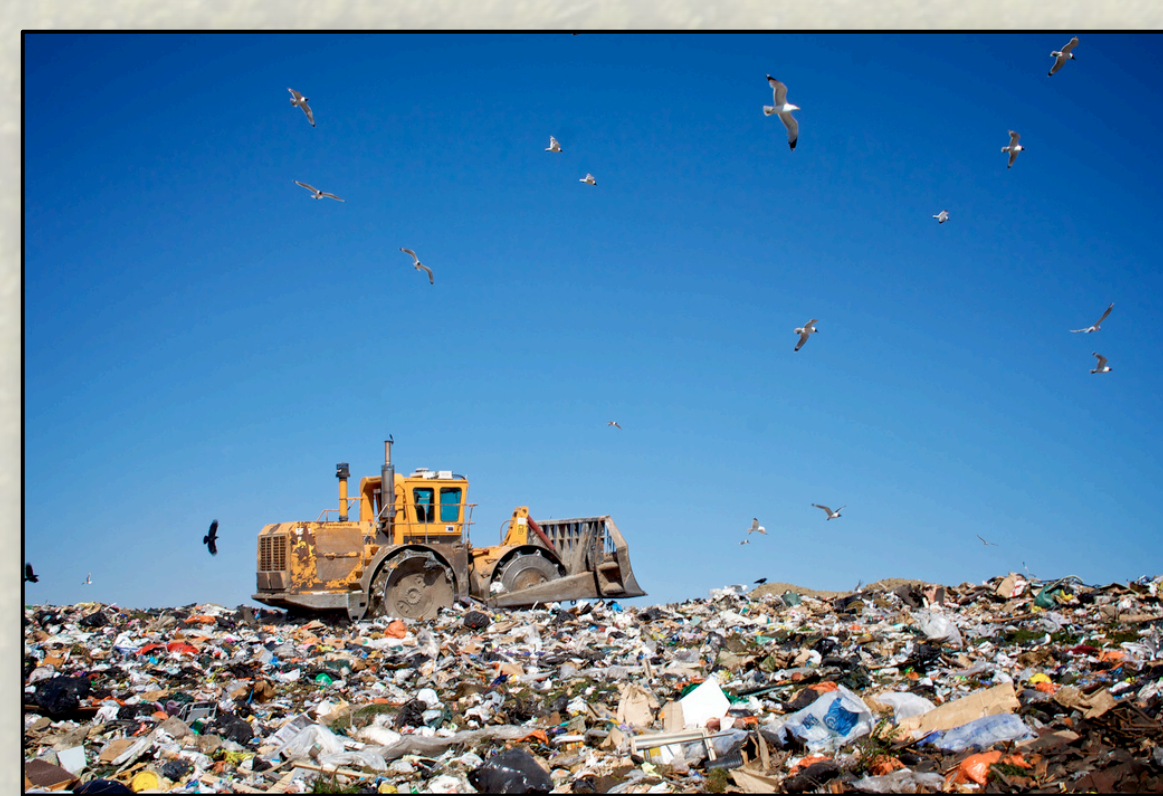
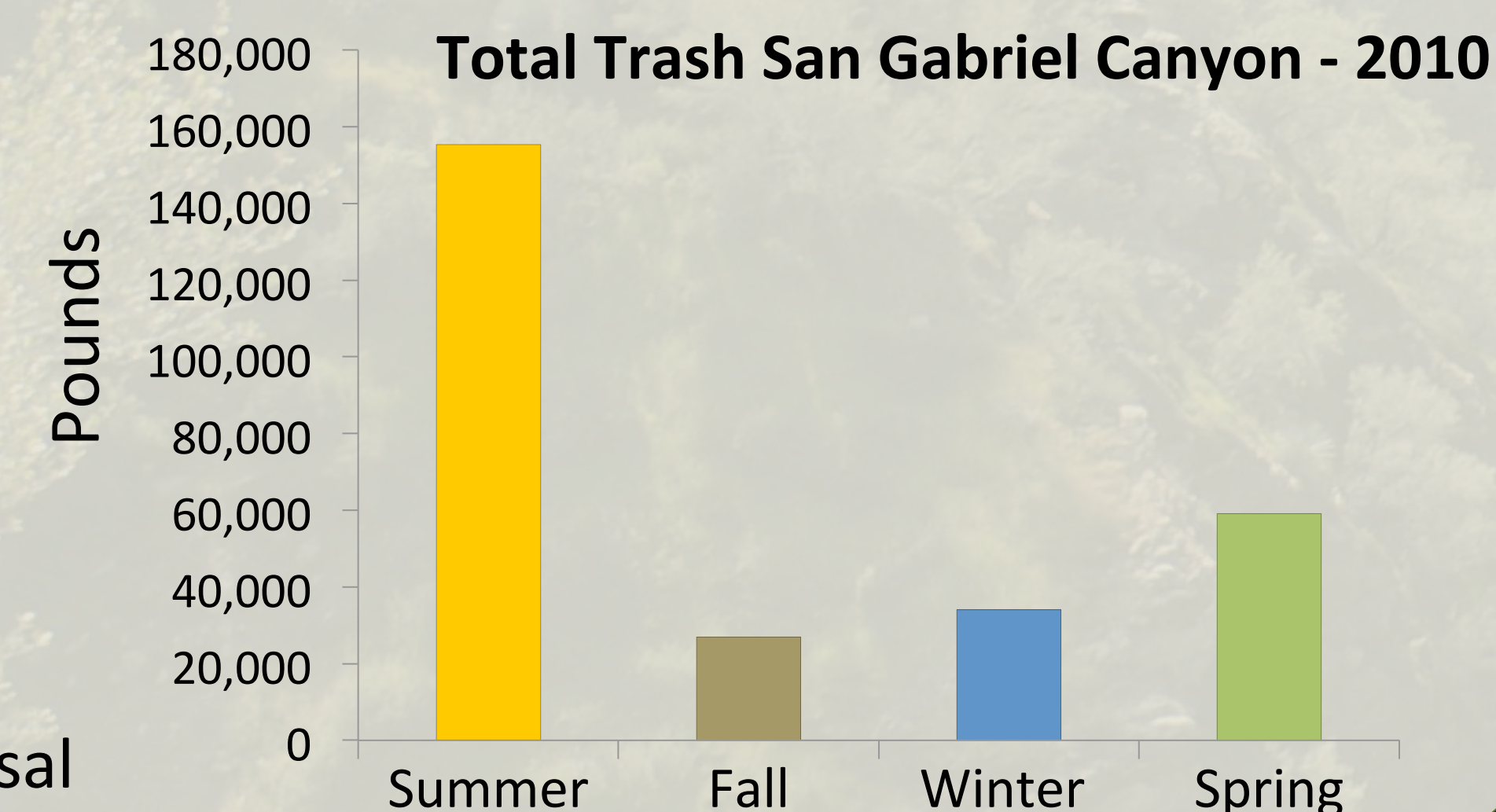


Photo by D'Arcy Norman



\$38/ton X tons disposed = cost of disposal