

WASTE CHARACTERIZATION WEBINAR



Wednesday, July 26th: 11am-Noon PST



Today's Presenters



Emily Luscombe, Coyote Valley, CA

Environmental Director



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Environmental Program Manager

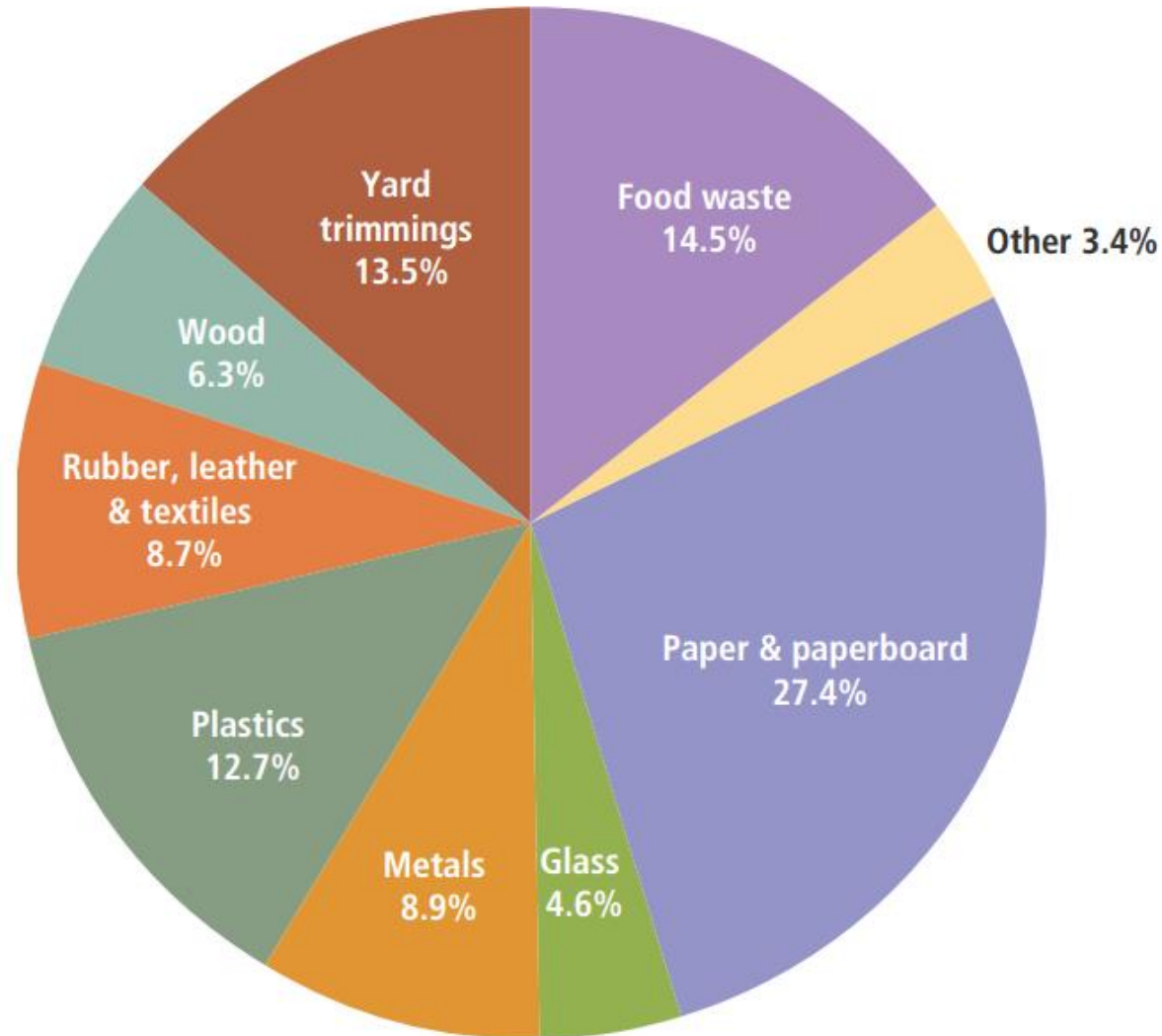


Sebastian Beshk, EPA, Region 9

Office of Zero Waste & Tribal Solid Waste Contact for Arizona Tribes



2012 Total MSW Generation (by material) 251 million tons





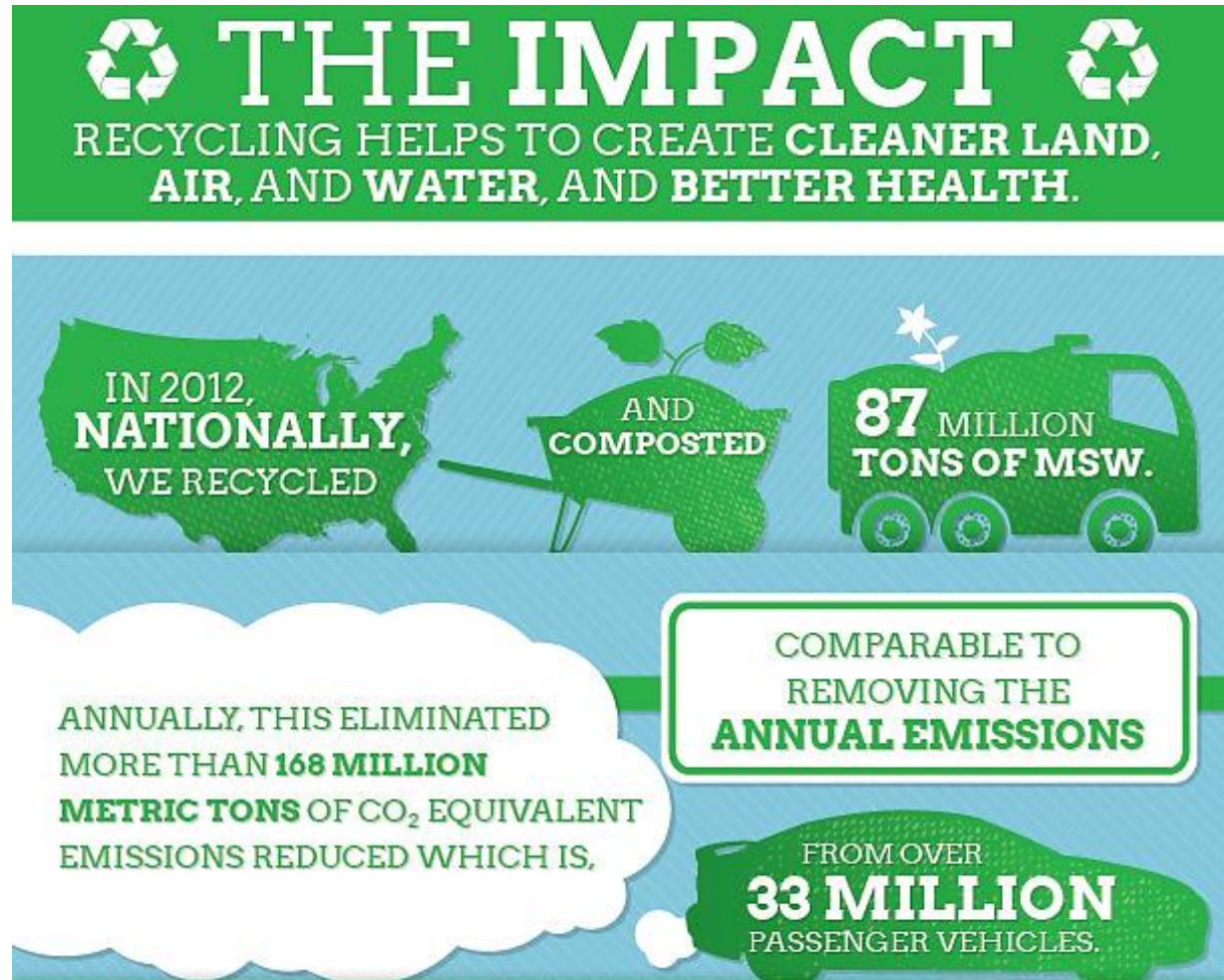
The Energy & Climate Connection to MSW

*Products that enter the waste stream have energy impacts and associated GHG emissions at each stage of their life cycle.





Opportunities To Reduce Greenhouse Gas Emissions



For more fun recycling benefits, visit www.epa.gov/iwarm



Waste Assessment

- Having waste characterization data is a key component of an IWMP
- An IWMP is the blueprint of a comprehensive waste management program
- A successful IWMP can:
 - Effectively lower total operating costs
 - Increase efficiency
 - Reduce the use of open dumps
 - Improve protection of human health and the environment



Conducting a Waste Assessment

Where is waste being created?





Conducting a Waste Assessment

Conducting a comprehensive assessment

- Records Evaluation
- Visual Assessment
- Waste Sort





Waste Sort

Will enable you to:

- Quantitatively identify specific types of waste
- Target specific generation areas of the waste stream (e.g. casino, housing development, commercial facility)





Waste Sort Steps

Step 1: Develop Goals and Target Waste Stream

Step 2: Complete Pre-Assessment Questionnaire

Step 3: Plan Assessment Process

Step 4: Coordinate Logistics

Step 5: Conduct Waste Sort

Step 6: Collect and Review Data



Coyote Valley
Emily Luscombe



Community Map: Coyote Valley



Map produced by the Mendocino County Assessors Office, April, 2015. Contour Interval = 80 feet where shown.
Aerial photography NAIP 2010. Parcel data from October 2014. Road data from March 2008.
THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND.
Reasonable effort has been made to ensure the accuracy of the map and data provided, however errors and omissions may still exist.
Do not make a business decision based on this data. Data does not represent surveyed information and is approximate.
DO NOT USE THIS MAP TO DETERMINE PROPERTY BOUNDARIES.





Coyote Valley Band of Pomo Indians

- 78 Acres
- 339 Tribal Members, approximately 121 residents (90 are tribal members and the remainder are relatives)
- There is a gym/ education center, small casino, police station, administrative offices and 35 homes. Development is currently expanding.



Main Intentions for doing our Waste Characterization

- Our first priority was to understand exactly what becomes solid waste at the reservation
- We wanted to have better informed and targeted outreach
- To gain more information to inform the planning put in place in the ISWMP
- The ultimate goal is overall waste reduction



How it was planned & organized:

- We worked with EPA, our waste hauler, and the casino to organize the characterization training. Logistics of this where to have the waste dumped, how much, how the trucks could get in and out, what categories to separate it in to, weather contingencies and so forth were all considered.
- We had the waste hauler pick up the residential waste and dump it in one section of the sorting area then the casino waste and dump it in another section so that we could see the differences and what improvements could be made in each place. Having them separate provided us with some very helpful information.



Dumping of the residential waste





Ak-Chin
Lorinda Antone

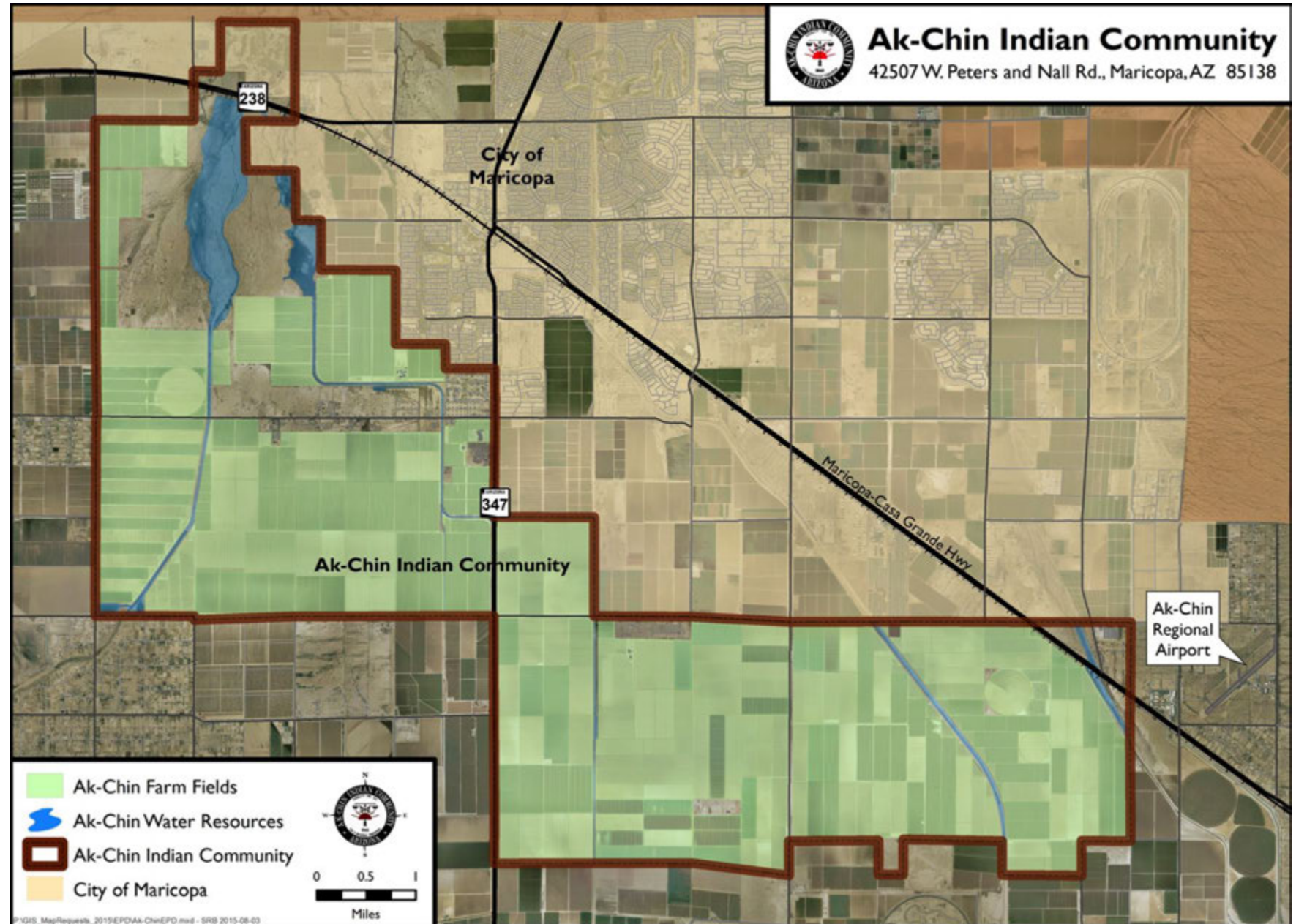


Ak-Chin Indian Community

- 22,000 acres
- 1,000+ Tribal Members
- 365 Multi-Family Units
- Enterprises: Harrah's Ak-Chin Casino, Ultra-Star Multi-containment Facility, Golf Course, Commerce Center/Business Park
- Pre-School, Clinic, Recreation Facility
- Airport



Community Map: Ak-Chin





Our Intentions

- Focus on Residential Waste
- Develop a general Waste Stream profile
- Determination of waste composition
- Use the data to support the ISWMP
- Quantify Residential Waste



Planning & Organizing The Waste Characterization Team

- US EPA
- ACIC Sanitation Department
- ACIC Environmental Protection Department
- Inter-Tribal Council of Arizona
- Harrah's Ak-Chin Casino
- Arizona Tribes (Hopi, Tohono O'odham, San Carlos Apache Tribe)



Waste Sort

Step 5: Conduct Waste Sort

Prepare sort area

- Lay out tarp
- Set up weigh station
- Label and arrange sorting bins





Waste Sort: Analysis

Step 5: Conduct Waste Sort

Sorting protocol

- Identify the targeted materials
- What is questionable waste?
 - Universal Waste
 - Bio/medical waste
 - Household hazardous waste













Waste Sort: Analysis

Step 6: Collect and Review Data



Assessment Location & Date: Site 1 - 4/25/13					Weather: Clear
Materials	Materials & Container Weight Combined (lbs)	Tare = Empty Bin Weight (lbs)	Calculated Material Weight	Comments	
GLASS					
exclude: plate glass, mirrors, ceramics, dishes & glassware, Pyrex, etc.					
GLASS BOTTLES & JARS					
Tote #1	37lbs 11oz	3lbs 13oz	33lbs 14oz		
Tote #2	26lbs 15oz	3lbs 13oz	23lbs 2oz		
Glass Subtotal	64lbs	7lbs 10oz	67lbs 7oz		



How Are the results being used?

- The casino moved to biodegradable containers from polystyrene
- We have targeted newsletters and outreach materials based upon the findings
- Textile recycling is now available in bins on the reservation
- We are making future planning based upon the data that we now have on what are biggest waste sources are. For example we are looking at different options for food waste from the casino café.



Textile Recycling Bins Now in Place





Casino Surprises

- We knew that Styrofoam was an issue but we were surprised by the sheer percentage of volume it took up in the casino waste.
- A wonderful surprise is the quick action by the casino to remove it once they became aware of the scale on which it was presenting in the waste stream. Also, that it inspired them to take other actions towards greening the casino.
- We were also surprised by the amount of liquids and food waste in the casino recycling and are looking at the best options now and in the future for addressing those wastes outside of the waste stream.
- Additionally, there were more CRV recycling items in the casino waste stream than we had anticipated. There has been education with employees and the proceeds are being used for a youth program.



Casino CRV Waste





Mixed paper and cardboard dominated the bins after the sort





The Styrofoam containers that were dominating Casino waste





Household Surprises

- There were more textiles than we expected which allowed us to know that we needed to bring in Textile Recycling so we partnered with the Green Education Foundation to get textile recycling bins.
- Less Recyclables and yard waste were mixed in than we had expected, which showed that people were paying attention to the outreach materials and were making an effort to dispose of waste properly.
- There was a much higher percentage of mixed papers than expected and we are using that for targeted outreach.



What would we do differently?

- The only changes we would make would be to have more longer BBQ tongs or anything with some kind of grip for reaching into bags with a lot of liquid and food waste which does not move aside as easily (not grabbers as they are too long) and to have thicker rubber gloves.
- For the most part there were no other changes we would make. However, we had a lot of help and support from our EPA team and our route manager from Waste Management Enterprises who all had more experience than us and were able guide the planning for a smooth characterization.



General Surprises

- Logistics and the amount of time and planning it takes to create a successful waste audit was a surprise. Shannon and her team were an amazing help to us in the preparations and we recommend reaching out to those with planning experience if you are going to do a first time characterization.
- The amount of items which were either difficult to classify, were mixed with other items or could have potentially been classed as more than one thing. It was very helpful to have the trainers available to us so we could learn how to make those calls and keep consistency.



How We Are Using The Results

- Working with Internal Tribal Departments on cost & alternative financing opportunities (grants)
- Outreach; currently only 25% of residents are recycling
- Researching for Textile Recycling Bins
- Incorporating information & data into the ISWMP



Short & Long Term Value of the Waste Characterization

- **Short Term:** Understanding the waste stream; It was a snap shot from one Housing Area; If we do another, we would do all three Housing Areas, Commercial and Institutions
- **Long Term:** How to minimize the waste stream by Recycling, composting, etc..



Surprises

- Little to no e-waste
- No yard waste
- A lot of food waste
- Amount of Textiles
- The amount of waste that came from one Housing Area over a one week period



Harrah's Ak-Chin Casino

- Facility is Recycling at 40%
- “Code Green” Team
- Glass, Plastic, Paper, Cardboard
- Used Cooking Oil for Bio Fuel
- Hotel Rooms – Each guest room has a recycle bin and guests are encouraged to recycle paper, aluminum, clear plastics and cardboard
- “Clean the World Campaign” – Hotel Room soaps & shampoos are recycled. Sent to a facility to be sanitized then to Third World Countries



What would we do differently?

- Involve more decision makers
- Publicize the event
- Day of the Event
 - Assigned Teams and designate tasks



Value of Waste Assessment

- GOAL DEPENDENT by community
- Understand the types and quantities of materials and wastes that need to be managed, which is the foundation for an Integrated Waste Management Plan (IWMP)
- Identify opportunities to reduce disposal costs and increase recycling and composting
- Assess progress towards recycling and waste diversion goals
- Identify areas for improvement

Questions?



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