

RECYCLED MATERIAL WEB MAP CONNECTING CONSUMERS & PRODUCERS

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FROM WASTE TO WANT

- **Hundreds of millions of tons** of by-products are produced each year
- Material generated from manufacturing, industry, utilities, consumers, etc.
- How to increase use? Increase knowledge regarding:
 - Availability
 - Regulations/Specifications
 - Past case studies



RECYCLED MATERIAL WEB MAP OVERVIEW

Objective: Connecting Consumers and Producers

- Develop an interactive on-line Recycled Material Network and supporting web site
- Producers/suppliers have a tool to **promote material** by entering, updating, and maintaining material source information.
- Consumers have a tool to **search for local** recycled materials and **specifications**.

WEB MAP STRUCTURE

- **4 core layers**
 - **Producers** – contact info for stockpiles
 - **Stockpiles** – material/quantities
 - **Regulations/specifications** – search by state, material, and application
 - **Case studies** – projects that successfully used recycled materials located on map

USE CASES

	General Consumer	Producer/Supplier	Advanced User (Researcher/ Agency)
Producer/ Owner	View contact information	Add/Edit/Locate contact information	View contact information
Material/ Stockpile	View quantities, cost, location	Add/Edit/Locate materials, quantities, cost	View quantities, cost, location
Specifications & Regulations	View Federal/State	View Federal/State	Add/Edit/Locate
Case Studies	View materials used, apps., hyperlink to project documents	View materials used, apps., hyperlink Add examples of case studies	Add/Edit/Locate

RECYCLED MATERIAL WEB MAP



CONSUMER SEARCH

- 3 ways to filter:
 1. State
 2. Material
 3. Radius search
- Result grid at bottom of page displays selected producers and stockpiles
- Producer/Stockpile information displayed on click

MapView and Consumer Search

The screenshot shows the 'Recycled Material Web Map' interface. On the left, there are search options: '1. Select your search options', 'State: North Carolina', and 'Material Types' (listing various materials like Plastic Waste, Scrap Metal, etc.). A map of North Carolina is shown with a search radius around a point. Below the map is a table of 'Producers and Stockpiles'.

Producer Name	Material Type	Quantity	Units
Weyerhaeuser	Plastic Waste	2000	Container (Units)
SELEE Corporation	Scrap Metal	3000	Pounds
SELEE Corporation	Stone Material	3000	Pounds
Envirosion Technologies	Plastic Waste	3000	Pounds

Clicking on a facility displays producer information

The screenshot shows a map with a pop-up window for 'Uppstate Materials'. The window contains the following information:

Producer: Uppstate Materials
Facility Type: RecyclingCenters
Address1: 323 Spindale Street
Address2:
City, State Zip: Spindale , NC 28160
Contact: Patrick Hayes
Contact Phone: 2527556865
Contact Email: hayespa00@gmail.com
Links: <http://upstatematerialsandmuch.com/>

Clicking on a stockpile provides stockpile information

The screenshot shows a map with a pop-up window for 'Silicon Material' stockpile information:

Producer: SELEE Corporation
Material Type: Silicon Material
Quantity: 3000 Pounds

Below the pop-up is a table of 'Selected Stockpiles':

Producer Name	Material Type	Quantity	Units
Weyerhaeuser	Plastic Waste	2000	Container (Units)
SELEE Corporation	Scrap Metal	3000	Pounds
SELEE Corporation	Silicon Material	3000	Pounds
Envirosion Technologies	Plastic Waste	3000	Pounds

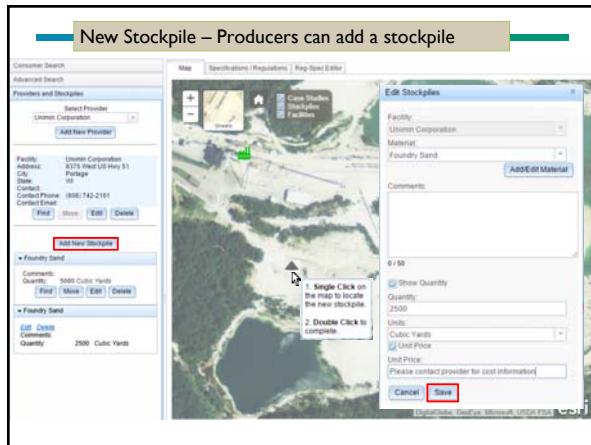
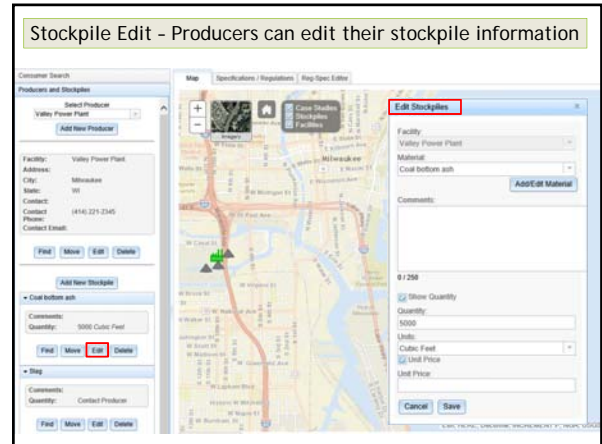
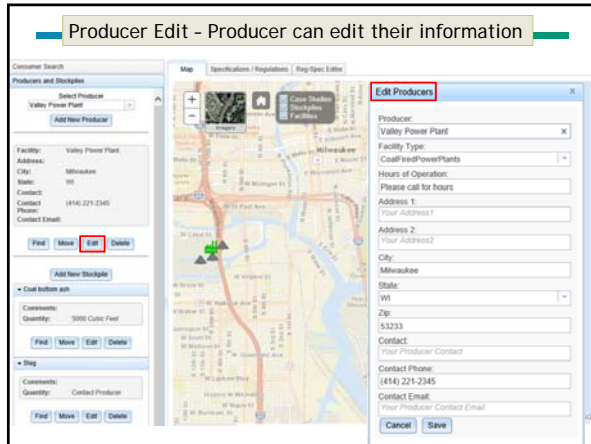
Radius Search: 30 miles from Charlotte, NC

The screenshot shows a map with a 30-mile radius search circle centered on Charlotte, NC. Below the map is a table of 'Selected Producers':

Producer	Contact	Phone	Email	Address	City	State	Zip	Hours	Links
Weyerhaeuser	Marty Branch	3365266453	marty.branch@esa.gannett.com	154 Gannett Road	Elkin	NC	28621		http://www.weyerhaeuser.com
Envirosion	Shari Dutton	8102350100	shari@enviroinc.com	230 N Barnes Street	Pinehurst	NC	28374		http://www.enviroinc.com

ADD/EDIT PRODUCER & STOCKPILE

- Each producer can have multiple stockpiles
- Producer specifies material type, quantity, and cost
- Important to keep stockpile information up to date
- Ideas that could be implemented include:
 - Automatic monthly email to stockpile owners
 - Timeout inactive stockpiles and producers
 - Tap web services to update quantity information on a weekly basis



REGULATIONS & SPECIFICATIONS

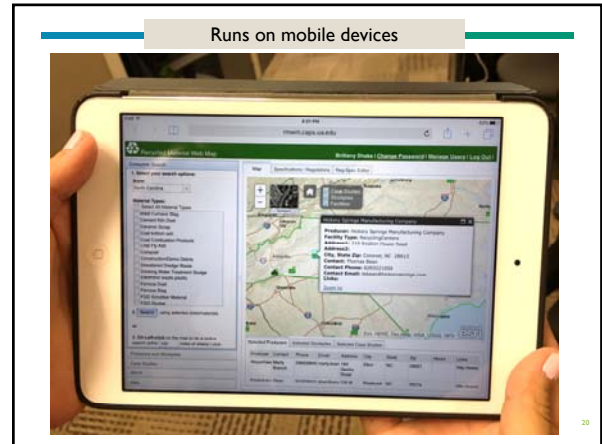
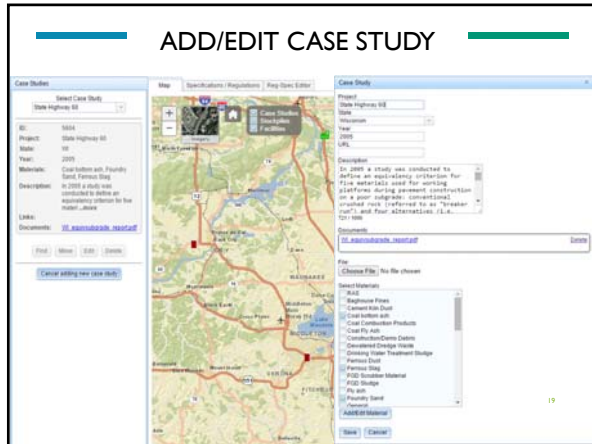
- Collected environmental regulations and DOT specifications for recycled material
 - Reg/specs added for: WI, VA, MN, PA, IL, GA, NC, AL
 - EPA, FHWA, AASHTO
- Users can search by state, material, and/or application
- Short descriptions appear on-hover
- Material-Application matrix varies by state

REGULATION/SPECIFICATION TAB

Agency	Specifications / Regulations	Application	Material
North Carolina Department of Transportation (NCDOT)	Standard Specifications for Roads and Structures		
	Section 545 - Incidentals Stone Base	Granular base	Reclaimed concrete material
	Section 610 - Asphalt Concrete Plant Mix Pavements	Asphalt concrete aggregate	Reclaimed asphalt material
	Section 420 Concrete Structures	Asphalt concrete (cold recycling)	Recycled Asphalt Shingles (RAS)
	Section 1012 - Aggregate For Asphalt Pavements and Surface Treatments	Asphalt concrete	Recycled Asphalt Shingles (RAS)
US Department of Transportation (DOT)	Standard specifications for construction of roads and bridges on federal highway projects	Asphalt concrete	Waste glass
	National Highway Specifications	Asphalt concrete	
	User Guidelines for Waste and Derivoduct	Asphalt concrete	

ADD/EDIT CASE STUDY

- Researchers/DOTs can add/edit case studies
- Case study attributes include:
 - Location
 - Material(s) and application(s)
 - Synopsis of project
 - Pictures
 - Project documentation
 - Reports, videos, spreadsheets, etc.



NEXT STEPS

- Input additional data to website
 - Stockpiles, case studies, regs/specs
- Add road network routing
- Add a layer of DOT approved recycled products
- Material tracking layer for DOT projects

THANK YOU

DEMO

Q&A SESSION

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