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# TRIBAL WASTE Journal

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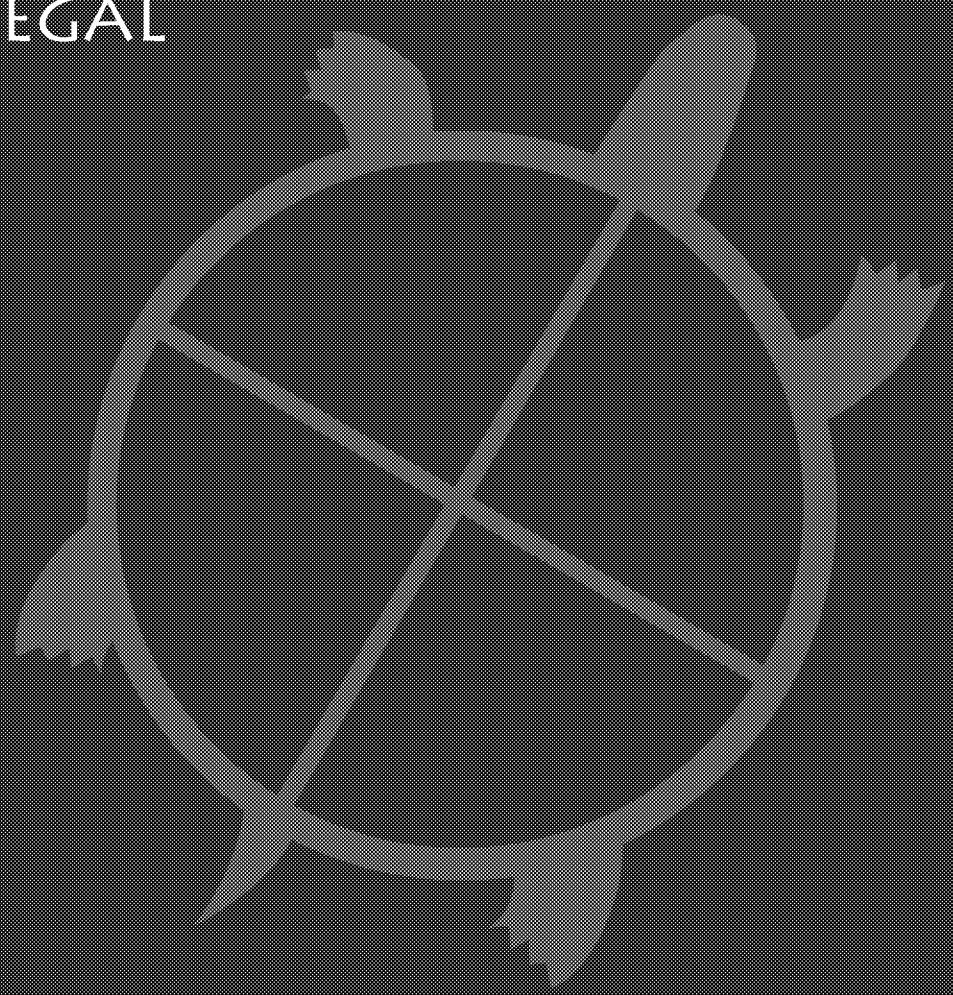
## RESPECT OUR RESOURCES: PREVENT ILLEGAL DUMPING



FANNING THE FLAMES OF CHANGE: BANNING BURN BARRELS

TAMING WILDCAT DUMPING

DON'T KID ABOUT TRASH

Welcome to the premiere issue of the *Tribal Waste Journal* (TWJ). Each issue will feature a different topic and present related ideas, approaches, and activities successfully employed by tribes and villages. An opinions forum and an activity-packed kids page will also appear in each issue. The TWJ will be published annually to replace the *Native American Network* newsletter.

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# THE TRIBAL VOICE

## Backyard Burning on Redcliff Reservation: A Mother/Daughter Perspective

Like many tribes, Red Cliff Band of Lake Superior Chippewa has an open burning problem. Many tribal members, especially those in rural areas, still burn their household trash in burn barrels. Recently, however, the Tribe has made significant progress on this issue, thanks, in large part, to the work of Judy Pratt-Shelly, the Treaty/Natural Resources Division Chief and Executive Environmental Programs Director for the Tribe. Red Cliff's "Burn Barrel Incentive Program" has dramatically reduced the amount of open burning, particularly in public housing areas (see box on page 5 for program details). The *Tribal Waste Journal* (TWJ) wanted to know how Ms. Pratt-Shelly persuaded people to give up their burn barrels. With this and other questions in mind, we spoke with Ms. Pratt-Shelly and her mother, Grace Deragon, on October 12, 2001. The following are excerpts of the interviews:

### Grace Deragon, Tribal Elder

**TWJ:** How has household trash traditionally been handled on the reservation?

**Ms. Deragon:** I was born in 1933 and grew up in Bayfield, Minnesota, 3 miles south of the reservation. We had an open dump in Bayfield where we took our tin cans. We never burned, except for paper meat wrappers in the cookstove. There just wasn't a lot of trash, not like you see now. We lived on fresh food, like deer meat and vegetables from my grandmother's garden. We composted any leftover food, which wasn't much because my mother had six children to feed.

**TWJ:** When did you begin to observe changes in the way people on the reservation handled their trash?

**Ms. Deragon:** The burning started when packaging changed. Basic foods like bread and meat started coming wrapped in plastic. Traditionally, we never had anything to burn. Deer don't come in plastic wrap! (laughs). Then, about 10 years ago, the Bayfield dump closed, and we no longer had

anywhere to put our trash. It didn't take long before everyone on the reservation had a burn barrel.

**TWJ:** What environmental messages did you hear growing up?

**Ms. Deragon:** We never heard environmental messages growing up. We weren't aware of the dangers in our environment. I remember we sprayed our apple orchards with DDT and our cows with a substance to control flies. It wasn't until the creation of the various environmental agencies that we heard these things were dangerous.

**TWJ:** Have you noticed any changes in people's attitudes towards the environment?

**Ms. Deragon:** There have been lots of changes in how we care for the Earth. We were fortunate to have Walt Bresette, a great environmentalist, as a member of our Tribe. He told us that anything that we put in the ground ends up in Lake Superior. A lot of people laughed when he told them that. They had no inkling of what goes around, comes around. Tribal women take care of the water. It's something we can do to care for the Earth. I'm fearful that something will happen to Lake Superior. I realize that it's not just one lake, but a giant system that feeds other lakes and rivers.

**TWJ:** How did your daughter, Ms. Pratt-Shelly, get her environmental drive?

**Ms. Deragon:** She's always had an interest in biology and chemistry. She's a real go-getter. When she gets an idea in her mind, she's always on someone's neck about it. You know, up until a few years ago, her dad had a burn barrel.

**TWJ:** How did she persuade her dad to give up his burn barrel?

**Ms Deragon:** She was persistent. She said, "That's going to make you sick." It's better to quit doing things than listen to Judy (laughs).

## Judy Pratt-Shelly, Treaty/Natural Resources Division Chief and Executive Environmental Programs Director

**TWJ:** How has household trash traditionally been handled on the reservation?

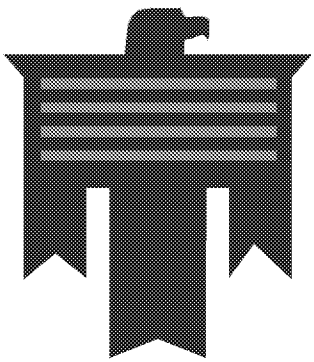
**Ms. Pratt-Shelly:** I know we had open dumps, but they didn't have a lot of junk in them. And I never saw them on fire. I was born in 1959, and we weren't a throw-away society then. The dumps were kind of like a shopping mall for us kids. We'd go there to find a toy or some old clothes. But there was minimal household garbage—potato peelings, bones from meat, and chicken guts—most everything else got composted or eaten.

**TWJ:** Have you observed any changes over the years in the way people on the reservation handle their trash?

**Ms. Pratt-Shelly:** In the 1970s, many changes occurred. Our lifestyle had changed from a focus on gathering our food to buying it. Corporate farms took over, so many of our people left the land and went to work outside of the reservation. Around this time, the Tribe started burning the dump. I'm not sure why, but I guess there was a lot more garbage and the Tribe needed to increase the life of the dump.

In 1991, another big change occurred. [Federal] regulations required all open dumps to be closed unless they met certain criteria for municipal solid waste landfills. Since we don't have the tax base [to fund the construction of municipal solid waste landfills], the Tribe closed our dump. Compounding the problem, the neighboring town didn't want tribes using their dump. Without legal options to dispose of trash, we experienced a big jump in illegal dumping and burning. Instead of having identified places to put trash, the closure of open dumps resulted in people dumping their garbage everywhere.

**TWJ:** Have you noticed any changes in people's attitudes or opinions concerning open dumping or backyard burning?



**Ms. Pratt-Shelly:** We're a poor Tribe, but the quality of our environment is much more important than money. I consider it my responsibility to protect the health of Lake Superior for my kids and future generations. The Lake is who I am—it's my spiritual center. Besides giving me food, it nourishes my mind and spirit. I tell people that when we burn, we're putting toxins into a living body that's keeping us here.

**TWJ:** What environmental messages did you hear growing up?

**Ms. Pratt-Shelly:** I grew up in the woods, close to the Earth. The outdoors was my school. I foraged for food outside everyday and gathered medicines from the plants. If you look real closely, you can see the

workings of nature. You recognize that the plants, animals, and fish are alive—and we're here to use these resources, not conquer them.

**TWJ:** Do you think burning trash on the reservation is harming your people and the environment?

**Ms. Pratt-Shelly:** Even before I went to work for Red Cliff's environmental program, I could smell the toxins from all the backyard burning. I learned more about the toxins such as dioxin. Until we started using burn barrels, there wasn't a lot that we, as individuals, could do to stop incinerators and others sources from spewing dioxins into the air. But with burn barrels, people can do something: we can stop using them.

**TWJ:** How do you recommend solving the illegal dumping problem on your reservation?

**Ms. Pratt-Shelly:** In 1992, I started a recycling program. I got a grant from the Wisconsin Department of Natural Resources, which allowed us to hire a person to pick up trash from roadsides. Grant funds also helped us pay for disposal of the recyclables. Recycling has been a big success in reducing the amount of garbage on the reservation. Then, in 1996, we used Indian Health Service construction funds to open up a transfer station where tribal members can dispose of garbage for a small per bag fee and bring their recyclables for free. I think people are starting to recognize that it costs money to dispose of waste.

**TWJ:** What about backyard burning? What are you doing about that?

**Ms. Pratt-Shelly:** The backyard burning issue is tough. People don't like to be told what to do, and they don't want to give up something they have. I have relatives that have sworn never to give up their burn barrels. I worked with EPA Region 5 on this issue, and we decided to offer a voluntary burn barrel incentive program. We held a community meeting to explain the harmful effects of backyard burning and worked closely with our Indian Housing Director to spread the word about the program. After attending our community meeting, the Junior Tribal Council drafted up a resolution to ban the use of burn barrels on the reservation, which they subsequently passed. It's really been the voice of youth that has championed the open burning issue.

## BURN BARREL INCENTIVE PROGRAM

The Red Cliff Tribe has significantly reduced the amount of backyard burning on its reservation through a voluntary incentive program that gives people a chance to turn in their burn barrel and receive $20 worth of trash bags that can be used at the Tribe's transfer station. Since its inception last year, the Tribe has picked up 45 burn barrels in the public housing areas. Ms. Pratt-Shelly estimates that these burn barrels accounted for about 90 percent of the burning occurring in the housing area. "No one is burning in the housing areas anymore," she said.

When residents turn in their burn barrels, they sign a pledge acknowledging that they understand that burning trash in barrels causes harmful pollution. Program participants receive a certificate, along with 10 free trash bags. Ms. Pratt-Shelly credits much of the success among the housing residents to the cooperation she received from Red Cliff's housing director, who notified residents that open burning was not allowed in the housing area.

Red Cliff's Junior Tribal Council, consisting of elected tribal members 16 to 23 years old, proved to be an equally important ally in the Environmental Department bid to rid the reservation of burn barrels. After learning about the potential harm the various pollutants could be causing from tribal members at a community meeting, the Junior Tribal Council swiftly drafted and passed a resolution banning the use of burn barrels on the reservation. "It's really been the voice of youth that has championed the open burning issue," declares Ms. Pratt-Shelly. "It's now up to the Senior Tribal Council to ensure that open burning is unlawful on the reservation." The Senior Council has passed a motion to implement a burn barrel ban. The ban is undergoing final review and will be put out for public comment before being finalized.

# FEATURE STORY

## Respect Our Resources: Prevent Illegal Dumping

### Develop a Solid Foundation: Offer Waste Disposal Alternatives and Address Past Habits

Illegal dump sites scar Indian lands and other rural communities across the nation. Tribal and non-tribal members from on and off reservations illegally dump household waste, white goods, scrap tires, old cars, construction debris, and other materials for two major reasons. First, community members dump illegally to avoid curbside pickup charges or transfer station tipping fees. Second, illegal dumping is habit for a number of individuals. In some cases, generations of families burned their trash or dumped it in the woods. These practices are linked to a time when tribal members produced less waste, before commercial items and packaging became popular. Tribes have discovered that it is useful to consider the forces driving illegal dumping as they develop solutions to the problem.

The Alabama-Coushatta Tribe of Texas decided to open a transfer station and cover all disposal costs for its members as an incentive for proper waste disposal. Tribal members continued to use burn pits and other illegal disposal methods, however. Consequently, the Tribe's Solid Waste Department conducted an aggressive door-to-door campaign explaining the dangers of illegal dumping and the benefits of using the transfer station. The transfer station became popular as awareness increased. This example shows that a successful illegal dumping prevention plan should include affordable waste disposal alternatives and break old habits.

> "Getting people involved in your project is huge. Reservation Business Committee (RBC) approval is the first step. Once you have the RBC resolution, you can take it to schools and other organizations and ask them to participate. Having community members involved in the process—schools, clinics, human resources—makes the project run smoother."
>
> —Deanna Himango, Fond du Lac Resource Management Division

### Build on the Foundation: Implement a Multifaceted Program

In 1999, the Lac Courte Oreilles Conservation Department drafted an "Honor the Earth" illegal dumping prevention plan. The plan represents a coordinated effort to clean up existing dump sites and encourage residents to use the new tribal transfer station instead of dumping illegally. It embodies a multifaceted approach, developed by EPA Region 5, that a number of tribes have found useful. This approach includes:

- Cleanup and site maintenance
- Community outreach and involvement
- Targeted enforcement
- Program measurement

While all of these components are important, tribes can shift emphasis between them as their illegal dumping programs mature and sources of funding change. At the beginning, it might be important to devote a lion's share of available time and resources to site cleanup to eliminate immediate health threats. Later, community outreach and targeted enforcement help keep sites clean. Measurement complements cleanup, outreach, and enforcement by helping tribes focus their efforts,

Contractors clean up an illegal dump site on White Earth Reservation.

justify spending, and track success. Working in concert with expanded solid waste management options, the program components go beyond treating the symptoms of illegal dumping—they get to the root of the problem.

## Mobilize the Community: Obtain Support from Tribal Leaders

Support from the Tribal Council, Reservation Business Committee, and elders increases the success of an illegal dumping program. When tribal leaders deliver messages about illegal dumping and respect for the land, they have a powerful influence. Leaders can ask tribal agencies to get involved, mobilize community support, and leverage funding and other resources.

## Partnering for Success: Your Community Offers Many Talents and Resources

The Gila River Indian Community held an illegal dumping workshop for tribal officials attended by a councilman, the Police Chief and police officers, tribal rangers, a prosecutor from the Law Office, the Chief Judge and Assistant Judge, a livestock officer, and representatives from the Department of Transportation, Emergency Management, and Public Works. Attendees learned about the illegal dumping provision of the Tribe's Solid Waste Ordinance, discussed how to enforce it, and delegated specific enforcement responsibilities. Partnerships between tribal agencies can significantly improve program success. Each partner must have a clear understanding of the problem and his or her responsibility.

It is also important for tribes to form partnerships with non-tribal groups. For example, a number of tribes find it useful to work with surrounding counties to resolve jurisdiction issues. Jurisdiction gets particularly complicated when a reservation is not contiguous. In Oklahoma, the Pawnee Nation Reservation consists of approximately 28,000 acres of allotted and tribal land interspersed with private, county, state, and federal land. The Pawnee Nation Department of Environmental Conservation and Safety worked closely with the Pawnee and Payne county sheriff departments to iron out jurisdictional issues for illegal dumping enforcement.

> "Be patient and do what you can. Don't be discouraged by the people who refuse to cooperate... Hammer your message home with the people who do want to help."
>
> —Brett McConnell, Lac Courte Oreilles Conservation Department

Some tribes also find it helpful to work with neighboring county and state agencies during illegal dumping program development. Partnering at this stage ensures that tribal, county, or state illegal dumping codes and programs are consistent. It can also lead to new funding opportunities and resource sharing.

## Patience and Publicity: Ingredients of Success

Behavioral change does not happen overnight. It takes constant outreach and sustained enforcement to stop people from dumping illegally. For generations, many illegal dumpers have been using burn barrels or throwing trash in the woods. Often, they are unaware of the environmental and health implications of their actions. They may need to hear why illegal dumping is harmful more than once before changing their ways. Patience and persistence may eventually lead people to reconsider their methods of waste disposal. Ken McBride of the Red Lake Department of Natural Resources believes that patience was critical in his Tribe's illegal dumping program. He encourages other tribes, "Don't give up! It is a long process. If you keep preaching the message it will be heard." It is also important to remember that some illegal dumpers might not be able to afford or access current waste disposal options. Affordable and accessible waste disposal alternatives should be part of any long-term strategy.

Publicity can be a valuable tool for maintaining an illegal dumping program. Keeping illegal dumping issues in the public eye:

- Sustains program momentum.
- Generates support and understanding.
- Helps justify continued funding.
- Helps enforcement efforts through press releases to increase awareness of enforcement actions.

# I. Building a Multifaceted Program: Cleanup

## Identifying Illegal Dump Sites

Designing a cleanup plan requires an honest assessment of the situation and careful planning. Tribes can prioritize cleanup efforts by drawing maps and ranking sites according to risk. The Lac Courte Oreilles Conservation Department initiated informal conversations with community members to locate major illegal dump sites on the reservation. Department staff then worked with the Lac Courte Oreilles Ojibwa Community College to develop a geographic information system (GIS) map of the sites. The San Carlos Apache EPA also used a GIS mapping system to pinpoint abandoned debris. The Tribe distributed copies of the map to cleanup workers to assist in locating hard to find dump sites. The Gila River Indian Community maps and categorizes its dump sites into three levels according to risk. The Community focuses cleanup efforts on level one sites, which pose a substantial health threat. Maps and ranking systems help tribes channel limited cleanup resources to areas where they are most needed.

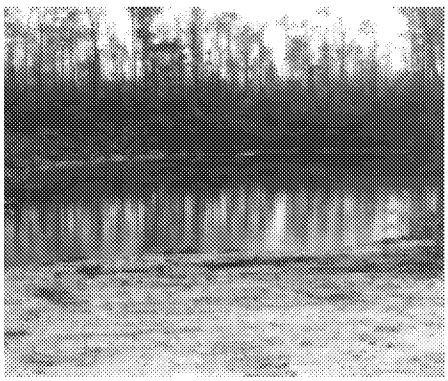
## Performing Cleanup

Cleanup efforts can proceed after illegal dump sites are identified and prioritized. The White Earth Band of the Minnesota Chippewa Tribe found a way to keep cleanup costs down. The Tribe leveraged competition by allowing contractors to bid on its Cherry Lake Road cleanup project. A contractor came up with a bid that was significantly lower than the Tribe had anticipated. The contractor used heavy equipment to clean up the large items, and the Tribe hired local residents to pick up the remaining items by hand. Tribes can also keep cleanup costs down by asking waste disposal companies to donate equipment or waive tipping fees.

## Securing the Sites

Tribes have discovered that many illegal dumping areas continue to experience problems after being cleaned up. Cleanup plans are more successful when they include a visionary strategy to deal with future illegal dumping incidents. In addition to outreach, education, enforcement, and expanded waste management, this strategy involves site controls and a long-term maintenance plan.

Signs, lighting, barriers, and landscaping are examples of site controls. Signs inform potential dumpers that their actions are illegal and can carry a stiff penalty. The other controls make illegal dumping more visible, limit access to illegal dumping hot spots, and keep former dump sites from reverting back to their previous condition. Red Lake Band of Chippewa strategically posted more than 25 "No Dumping" signs at accesses to off-road areas and other high risk locations. The signs state that dumping is prohibited and punishable by fine. They also include the pertinent tribal resolution number. The Tribe keeps litter away from the "No Dumping" signs to give the message credence. The Wyandotte Environmental Department worked with Ottawa County to clean up a 4-acre area on the reservation, adjacent to a county road. The county provided equipment and manpower to dig a ditch along the shoulder of the road to prevent more people from driving off the road to dump. The Wyandotte Environmental Department also cleaned up a smaller dump site near a local school. The Tribe used a fence to limit access to the area. The White Earth Natural Resources Department supplemented its Cherry Lake Road cleanup project with a beautification effort. One of the consequences of using heavy equipment to clean the site was that most of the onsite vegetation was destroyed. The Minnesota Department of Natural Resources donated 1,000 trees to



Before and after shots spell success for a White Earth cleanup project.

stabilize the soil and make the area attractive.

Long-term site maintenance is also a critical component of any visionary cleanup strategy. Site maintenance is often built into enforcement by making cleanup part of the penalty for illegal dumping. But, what happens if the illegal dumpers are not caught? Who cleans up? Tribes have developed systematic site maintenance plans. When the Seminole Nation of Oklahoma discovers new illegal dump sites, it hires Seminole County to clean them up. Fond du Lac conducts an annual spring cleanup event. During the event, community members have an extra opportunity to report dump sites that sprang up over the year. The Tribe hires crews of three to five people to clean them up.

Fond du Lac Environmental Program

## Leaders Leverage Cleanup Funding and Community Support

Tribal leaders can appropriate funds for cleanup and increase community participation in the project. For example, the Fond du Lac spring cleanup event is sponsored by the Reservation Business Committee (RBC) and funded by the Tribe. Tribal funding can augment federal cleanup funding from EPA, the Bureau of Indian Affairs (BIA), and the Indian Health Service (IHS). Gila River combined IHS and tribal funding to initiate a "Beautification 2001" project to clean up sites that pose a substantial health risk. Even if tribes do not have money to spare for cleanup projects, tribal leaders can still increase community participation. The Fond du Lac Natural Resources Division obtained a resolution from the RBC in support of the illegal dumping prevention program. The division brought the resolution to Fond du Lac Elementary School and Ojibwe High School and asked them to participate in an Earth Day cleanup. Administrators and teachers worked with students to clean up and adopt the road in front of the school.

## Diversify Cleanup Resources: Build Partnerships

The Pawnee Nation Department of Environmental Conservation & Safety staff knew that many of the reservation's illegal dump sites posed a severe health threat. The Tribe, however, did not have the equipment or finances for cleanup. The department turned to BIA for help. BIA responded by providing funding, personnel, and equipment for the project. By partnering with BIA,

## SPOTLIGHT ON THE SAN CARLOS APACHE EPA

In 2000, the San Carlos Apache EPA worked with BIA and IHS to collect unwanted and abandoned cars and white goods and haul them to a landfill or scrap metal yard. San Carlos Apache EPA staff pinpointed abandoned debris on a GIS generated map of illegal dump sites on the reservation. A tribal EPA technician also ventured out into the field with spray paint and marked some of the abandoned cars to make them easier to spot. Guided by the map and spray paint, BIA and IHS used heavy equipment to pick up the items. BIA and IHS recycled as much as possible and hauled items that did not have recycling potential to a landfill. BIA focused on abandoned items while IHS collected unwanted items from residents' homes.

A local scrap metal vendor agreed to buy cars and scrap metal with reuse or recycling potential from the Tribe. Many of the automobiles, refrigerators, and other goods collected contained hazardous materials such as batteries, oil, and freon. The Tribe used money from the sales of the scrap metal to cover the costs of removing these hazardous materials.

In their unwanted car removal efforts, the agencies were concerned about trespassing on private property. To alleviate this concern, the San Carlos Apache EPA developed a waiver for residents to sign. The waiver gave BIA and IHS permission to pick up old cars and released the agencies from liability. The waiver also required residents to enter the vehicle identification number and other basic information about the car. The scrap metal hauler could not take the vehicles without this information. IHS, BIA, and the tribal attorney reviewed and approved the form.

By working together, the agencies collected more than 900 unwanted and abandoned cars!

Pawnee Nation expanded its resource base and cleaned up all but 3 or 4 of its 40 known dump sites.

Partnerships between tribal, county, and state agencies can also supplement cleanup resources. As mentioned earlier, the Wyandotte Nation used BIA funds to hire a contractor for site cleanup and partnered with Ottawa County to dig a ditch to prevent future dumping incidents. The county provided equipment and manpower for the project. This example highlights an important cleanup resource: labor. In several cases, partnerships helped tribes avoid using precious cleanup funds to pay for expensive labor. All volunteers and non-professionals should attend safety briefings before participating in cleanup. During the summers of 2000 and 2001, the Red Lake Tribe's welfare-to-work program provided workers for an annual tire collection effort. Workers removed tires from streams, rivers, lakes, and other illegal dump sites across the reservation. The Red Lake Courts' C.R.A.F.T. (Creating Restitution and Follow Tradition) Program has also provided laborers for site cleanups. BIA and IHS provided labor for a San Carlos Apache EPA project that involved collecting unwanted and abandoned cars and white goods.

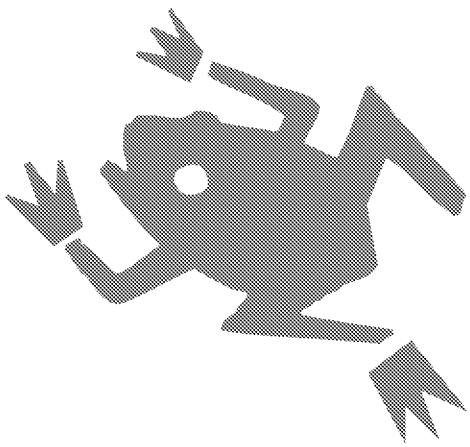
## Publicity Helps Preserve Clean Sites

Publicizing cleanup events sends a clear message to illegal dumpers and concerned community members. Illegal dumpers learn that their actions are unacceptable and come at a cost to the community. Publicized events increase community awareness and show that the Tribe is serious about addressing the problem. Community members might also feel empowered to report other illegal dumping incidents and assist with future cleanup efforts. The White Mountain Apache Environmental Planning Office used the "Adopt a Highway" program to catalyze community interest in its illegal dumping prevention program. The Solid Waste Department contacted residents and tribal businesses to locate volunteers and the tribal Environmental Planning Office provided trash bags. In a one-day event, community members cleaned up along many of the reservation's highways. The White Earth Natural Resources Department took a different approach. It worked with tribal and local papers to make the Cherry Lake Road cleanup project famous.

Publicizing cooperative cleanup efforts demonstrates the power of partnerships. High publicity, cooperative cleanups can reinforce alliances between tribal, county, state, and federal agencies. For example, the Gila River Indian Community worked with the City of Phoenix on a number of joint cleanups. These projects generated awareness both on and off the reservation and fostered a positive working relationship between the two communities. The White Earth Natural Resources Department worked with the Minnesota Department of Natural Resources, the surrounding counties, and private groups to develop three demonstration cleanup projects. The partners selected high profile sites, such as a location next to a church, and worked together to clean them up. The projects demonstrated that tribal and non-tribal agencies are serious about working together to solve the reservation's illegal dumping problem.

## CLEANUP TIPS FROM TRIBES

- Identify and map dump sites.
- Rank dump sites according to risk.
- Where possible, use competitive bidding to lower cleanup costs.
- Use site controls such as signs, lighting, barriers, and landscaping to secure cleaned sites.
- Develop a long-term site maintenance plan.
- Secure tribal leadership involvement and support.
- Partner with tribal, county, state, and federal agencies.
- Conduct and publicize high profile cleanups.



# II. Community Outreach and Involvement: Building Support for Your Program

## Identify Your Target Audience

Effective community outreach begins with identifying your target audience, allowing you to customize outreach campaigns to meet situation-specific needs. Identifying your audience is actually a multi-step process. The first step is to determine who is dumping illegally. It might be useful to investigate existing illegal dump sites for clues. Most illegal dump sites within the Gila River Indian Community, for example, are located along the border of the reservation, indicating that most of the illegal dumpers are from outside of the community. Armed with this information, the Gila River Department of Environmental Quality designed an outreach campaign that extends beyond the borders of the reservation.

Source: Gila River Indian Community

The next step is to identify the unique characteristics of your illegal dumpers and tailor outreach efforts accordingly. For example, because the counties surrounding the Gila River Indian Community have a large population of Spanish speakers, the Gila River Department of Environmental Quality recognized the need for new "No Illegal Dumping" signs with an international symbol for "no dumping."

Knowing why individuals are dumping illegally will help make your outreach campaign more effective. Again, illegal dump sites may contain clues. Dump sites that consist of primarily household trash might indicate that current waste disposal options are too costly or inconvenient. Dump sites located next to closed dumps or burn pits might indicate that traditional habit is driving the problem. Informal conversations with community members can also expose the reasons behind illegal dumping.

> It is important to educate the citizens of this county on illegal trash dumping. They need to be aware of the problems created by dumping on the sides of the road, in creeks, etc.
>
> —Olen Carr, Seminole Nation Environmental Officer

After identifying who is responsible for illegal dumping, expand the audience to include people who can influence the behavior of the illegal dumpers. Educate people who can pass the information on and maximize message impact. For example, if traditional habit is driving illegal dumping, educate children and tribal leaders about the problem. When these groups explain the dangers of illegal dumping, the community tends to listen. Refer to the Kids Page to learn creative ways to educate children about illegal dumping.

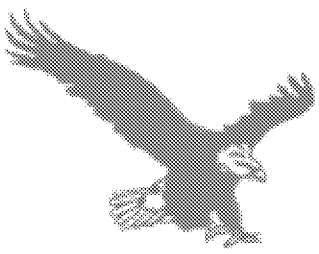
As you think about the target audience, do not forget about enforcement. Conservation officers, rangers, police officers, and other law enforcement officials need to understand the illegal dumping problem, Solid Waste Ordinances, illegal dumping codes, and enforcement procedures. The Fond du Lac Band of Lake Superior Chippewa developed language in its Solid Waste Ordinance to clarify penalties and enforcement for illegal dumping and educated tribal conservation officers about their new responsibilities. Finally, it is important to remember that other community members can play a role in enforcement by reporting suspicious dumping activities and new illegal dump sites. Building broad community support through outreach and education can also sustain program funding and momentum. For these reasons, the target audience might include the entire community.

## Create a Powerful Message: Keep it Simple and Incorporate Culture

Tribes have found it is useful to develop a clear, simple message to which the target audience can relate. The message can be as simple as "No Dumping" or "Keep it Clean." The message can then be supported with information persuading the audience to comply, including:

- Listing fines and penalties.
- Indicating that areas are under surveillance.
- Showing photographs of dump sites.
- Quantifying the costs of cleaning up sites.
- Listing proper disposal sites and practices.

The Keweenaw Bay Indian Community posts "No Dumping" signs and produces a pamphlet detailing the environmental problems associated with illegal dumping. The pamphlet also instructs community members to report illegal dumping and educates them about proper waste disposal methods. The Community distributes the pamphlet at public events and includes it with hunting and fishing license applications.



KEWEENAW BAY INDIAN COMMUNITY NATURAL RESOURCES DEPARTMENT

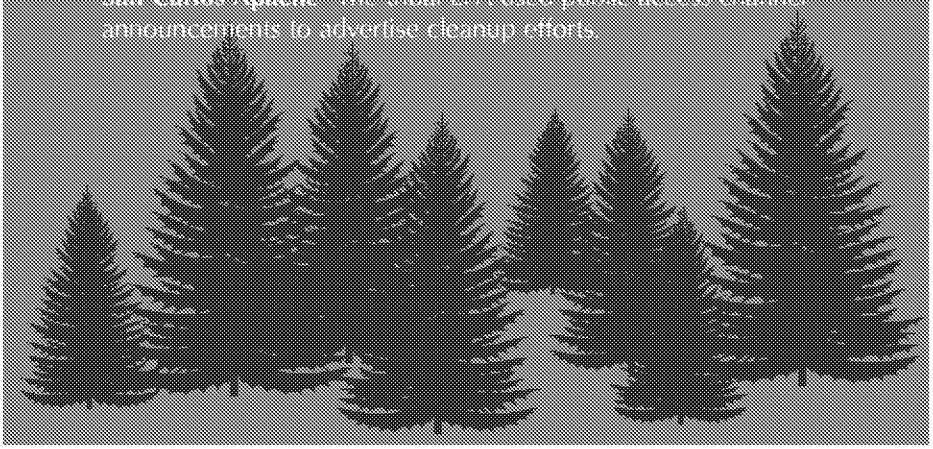
Several tribes have also incorporated culture into illegal dumping outreach efforts. Cultural messages personalize an education campaign and catch the eyes of community members. For example, the Red Lake high school students produced an educational video with the main message, "Put Garbage in its Place." The secondary message built upon the Red Lake Tribe's historical and cultural philosophy, "Treat Mother Earth with respect." The students further incorporated tribal culture and tradition into the video by including a spirit narrator. The spirit explains where waste goes, describes the impact of illegal dumping on the community, and informs polluters that they are abusing Mother Earth.

The White Earth Natural Resources Department discovered a creative way to combine culture with sustained education and outreach. The department coordinated production

## EXPLORE THE WEALTH OF MEDIA OUTLETS AND OUTREACH OPTIONS

Tribes are constantly finding new ways to educate community members about illegal dumping. Examples of successful projects include:

- **Gila River Indian Community**—Gila River Indian News publishes articles on the Tribe's illegal dumping prevention program regularly. The program also receives coverage in a number of other community newspapers and on TV news programs.
- **Pawnee Nation**—The Department of Environmental Conservation and Safety publishes information from the Solid Waste Disposal Act in local papers.
- **White Mountain Apache**—The Solid Waste Department produced a brochure that includes excerpts from the solid waste code, the curbside pickup schedule, a hotline number for reporting illegal dumping, a picture of an illegal dump site, and a reminder list for proper waste disposal. The department distributed a copy to each resident through the reservation's post offices.
- **Alabama-Coushatta**—The Solid Waste Department sent out memos about the new transfer station to each tribal member and conducted door-to-door visits to approximately 60 percent of the residences.
- **White Earth**—The Natural Resources Department distributes magnets, posters, and notepads that educate residents about proper waste disposal.
- **Seminole Nation**—The Tribe uses a tribal radio program to encourage community members to report illegal dump sites and distributes stickers with slogans such as, "You Pollute It, You Drink It!"
- **Fond du Lac**—The Resource Management Division produced a 10-minute video titled, "Environmental Stewardship: Protecting Our Mother Earth," which incorporates testimonials from respected elders and community members as well as footage of the reservation and illegal dump sites. The video included strong cultural overtones through the narration and music. The Resource Management Division also developed four commercials that air on local TV stations. One commercial juxtaposes a pristine site with a shot of garbage on the side of the road. In this commercial, a hunter teaches a young boy about protecting the land.
- **San Carlos Apache**—The tribal EPA used public access channel announcements to advertise cleanup efforts.



of a calendar to increase environmental awareness among community members. For the cover, artists from the White Earth Land Recovery Project created an illustration of a turtle, which incorporates traditional Ojibwa patterns and colors symbolic to the Ojibwa people. The body of the calender includes scenic photography from a White Earth tribal member and environmental quotations from chiefs of various tribes. Portions of the calendar were printed in Ojibwa and the back page contains information about the Tribe's Solid Waste Ordinance and illegal dumping. It also requests that residents report illegal dumping incidents to the Natural Resources Department.

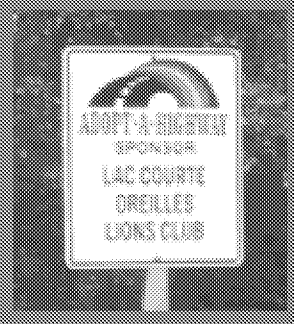
## Increase Message Potency: Get Support from Tribal Leaders

Fond du Lac discovered that tribal leaders deliver powerful outreach messages. The Tribe's Resource Management Division obtained a resolution from the Reservation Business Council (RBC), which is well-respected by community members. The resolution states the goal of preventing illegal dumping, lists applicable laws, and supports relevant outreach and education. The RBC chairman also wrote a personal letter of support. The Resource Management Division employed the same strategy in its illegal dumping prevention video by including testimonials from respected elders. Similarly, the White Earth Natural Resources Department decided to include quotations from tribal chiefs in its calendar.

## Partnerships and Outreach Campaigns Go Hand in Hand

Partnerships and outreach activities complement one another. Outreach is required to generate support and create partnerships. In turn, partnerships are crucial to conducting further outreach and sustaining your illegal dumping program. For example, if you want tribal leaders to promote your program, it is important to convince them that it is worth promoting. Start by educating the potential partners. The Fond du Lac Resource Management Division began its outreach campaign by educating the RBC, which then educated other community members through a resolution. A Lac Courte Oreilles Band of Lake Superior Chippewa warden was educated on illegal dumping issues before he visited Community Circle meetings to talk about illegal dumping. The Gila River Indian Community held a workshop to educate tribal rangers, police officers, prosecutors, judges, and other individuals about the problem. The White Earth Natural Resources Department formed an illegal dumping task force consisting of all the major agencies involved with, and affected by, the illegal dumping. Solid partnerships

## SPOTLIGHT ON THE LAC COURTE OREILLES




The Lac Courte Oreilles have discovered the secret to successful community outreach. The Tribe's outreach campaign leverages support from children, tribal leaders, and enforcement officials and focuses on changing the behavior of illegal dumpers. The Lac Courte Oreilles Conservation Department works with faculty at the Lac Courte Oreilles Ojibwa Community College to implement a weeklong education program in the reservation schools. Students learn about proper waste disposal, recycling, and illegal dumping. The week culminates in a coloring contest with a recycling theme. All of the students take home magnets that list the tribal transfer station hours.

Support from tribal leaders is part of the Lac Courte Oreilles' recipe for success. The conservation department developed a letter on solid waste management, and the Tribal Council voted to send it to all of the reservation residents. The letter explains the benefits of using the tribal transfer station and highlights the penalty for illegal dumping and the associated health and environmental threats. The Tribal Council also supported efforts to publicize the illegal dumping program through the tribal paper. In one issue, the entire front page was dedicated to illegal dumping. The article included an eye-catching title and a large photograph of a dump site.

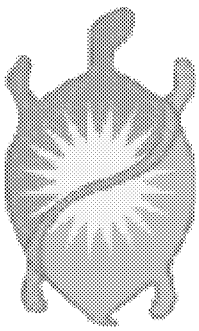
The conservation department also asked a tribal warden to spread the word about illegal dumping. The warden traveled to the Tribe's "Honor the Earth" powwow and Community Circle Meetings throughout the reservation to reach a large audience. He set up a huge geographic information system map and showed the community members exactly where the dump sites were and how big they were. He compared traditional methods of waste disposal with the new transfer station and described the environmental hazards associated with illegal dump sites. The presentation closed with a short video on illegal dumping.

often open the door to new funding and an expanded resource base.

Tribes have also found it useful to build partnerships and outline outreach strategies with other tribes at regional conferences and workshops. For example, the San Carlos Apache EPA delivers a PowerPoint presentation on its illegal dumping prevention program at regional conferences sponsored by the Arizona Department of Environmental Quality and U.S. Environmental Protection Agency.

## High-Profile Events Generate Community Support

High-profile events quickly and dramatically increase community awareness. They can also reinvigorate illegal dumping prevention programs. Several tribes have found it useful to hold regular community collections to focus attention on proper waste disposal. Fond du Lac works with the Western Lake Superior Sanitary District to hold household hazardous waste (HHW) collections twice a summer. Residents drop off their HHW for free and receive prizes for participating. Last summer, the Tribe also held an electronics waste collection event for VCRs, TVs, computers, and other electronics. Once a year, the White Mountain Apache Tribe subsidizes a "Clean Your House Day," in which tribal residents are encouraged to bring their white goods to large bins placed throughout the reservation. Delaware Nation conducts a HHW and white goods collection during the week of Earth Day. Pawnee Nation sponsors recycling days for pesticides. All of these collection events provide residents with safe alternatives to illegal dumping and remind them that proper solid waste disposal is important. The "Adopt a Highway" program and other high-profile cleanups are variations on these collection events.



DELAWARE NATION

Community gatherings provide outreach opportunities even if they are not related to your illegal dumping prevention program. Community circle meetings, festivals, and other events draw large crowds and can often accommodate a booth or presentation on illegal dumping. The White Earth Natural Resources Department distributes outreach materials at the annual health fair. Keweenaw Bay passes out a pamphlet on illegal dumping at the July Powwow. The Fond du Lac Resource Management Division plays its illegal dumping video at community events.

## Equip Enforcement Officials with Essential Resources

It is important to supply enforcement officials with the training, support, and equipment they need to be effective. EPA's Criminal Enforcement Division, the U.S. Forest Service Law Enforcement Office, and other federal agencies can sometimes assist with surveillance operations. Sometimes tribal officials are authorized only to enforce tribal civil laws, but illegal dumping generally constitutes a violation of tribal criminal law. Tribes must acknowledge such limitations and work around them. The Alabama-Coushatta addressed the problem by sending four tribal security officers to police officer training because certified police officers have the authority to enforce both tribal civil and criminal law. In 1998, Pawnee Nation upgraded its conservation officers to rangers. Like police officers, rangers can enforce tribal criminal laws and have access to special law enforcement training for which conservation officers do not qualify.

Enforcement officers also need equipment to carry out surveillance, investigation, and citation duties. At the minimum, they need vehicles to conduct routine patrols or stakeouts. For illegal dumping hot spots, some tribes provide video surveillance systems, which can produce cost savings over time because they reduce the staff time required for vigilant surveillance. The Fond du Lac invested in hidden cameras for several of its illegal dump sites. As a result, the Tribe's conservation officers issued more illegal dumping tickets than in the past. Equipment such as cameras are also important for investigating and documenting illegal dump sites.

## OUTREACH TIPS FROM TRIBES

- Identify your target audience.
- Create a clear and simple message.
- Incorporate culture when possible.
- Be creative and explore a variety of outreach options.
- Obtain tribal leader support.
- Perform outreach to build partnerships.
- Use partnerships to increase the success of outreach.
- Take advantage of high-profile events.

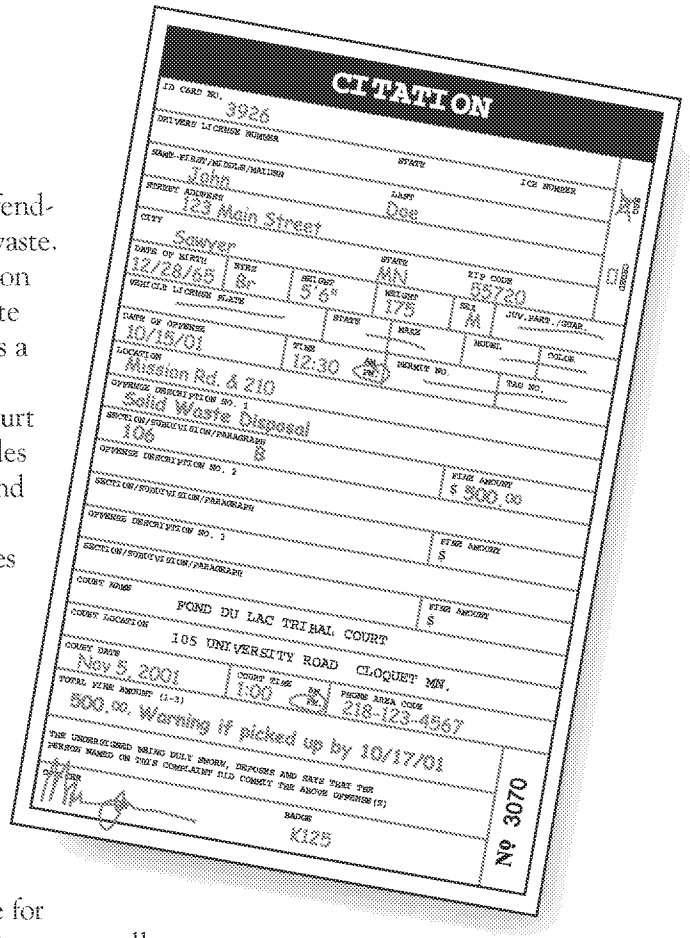
# III. Keep Sites Clean: Use Targeted Enforcement

## Develop a Strong Solid Waste Ordinance

Enforcement is ineffective without a solid waste ordinance to back it up. A strong solid waste ordinance outlines acceptable waste disposal methods and prohibits illegal dumping. This section focuses specifically on creating and enforcing the illegal dumping provisions of an ordinance. It is important, however, to coordinate enforcement actions with all components of your solid waste ordinance.

An illegal dumping provision should include clear definitions of key terms, outline investigative procedures, set penalties and fines for noncompliance, and delegate enforcement authority. Ordinance language must be precise to avoid gray areas. For example, the Seminole Nation Solid Waste Ordinance requires enforcement officers to investigate illegal dump sites. Prosecution can proceed only if the officers find at least three pieces of evidence linking a specific individual to the crime. Officers search through bags of abandoned trash for envelopes or documents with names and addresses. The ordinance gives responsible parties the opportunity to clean up their trash, but if they fail to comply, officers are directed to issue a citation that includes a fine.

Tribes use penalties and fines to support their illegal dumping prevention programs. Penalties can be as simple as requiring offenders to clean up their waste. In 1998, Pawnee Nation approved a Solid Waste Disposal Act that goes a step further, offering offenders an out-of-court settlement that includes cleaning up the site and paying an administrative fee. The Tribe uses these administrative fees to help fund the enforcement program. If offenders fail to comply, the Tribe's Environmental Regulatory Commission charges the administrative fee and a fine for cleanup. Illegal dumping cases roll over to a Pawnee or Payne County court if offenders still refuse to pay the fine.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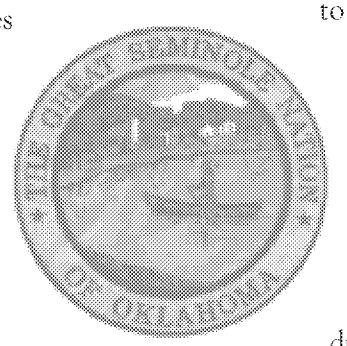


Jurisdiction is complicated for many tribes, particularly when reservations are not contiguous or when they border several counties. Designing illegal dumping regulations and penalties that are consistent with those of surrounding counties alleviates part of the problem. The Fond du Lac Reservation shares property with St. Louis and Carlton Counties. The tribal Resource Management Division invited both counties to participate in developing a solid waste ordinance for the Tribe. The illegal dumping provisions in the resulting ordinance mirrors those of the counties. Consequently, tribal conservation officers can issue illegal dumping citations on county property within the reservation.

It is critical to involve tribal leaders as you develop the ordinance because, ultimately, they must approve it. After the ordinance is finalized, they can also help by promoting it to community members. The Alabama-Coushatta, for example, received an environmental justice grant in 1999 to develop a solid waste management plan. The tribal Solid Waste Department drafted an ordinance and is now working with the Tribal Council to refine it. The final ordinance will codify illegal dumping regulations, specify fines, and give tribal police officers enforcement authority.

## Solidify Key Partnerships: Assemble an Illegal Dumping Task Force

After a solid waste ordinance is in place, the focus shifts to enforcement. Although the ordinance delegates enforcement authority, responsible parties might not be aware of their new duties. One solution is to invite key enforcement parties to participate in an illegal dumping task force to open up lines of communication. This way, parties can learn about their responsibilities and refine a plan to make the enforcement process run smoothly from start to finish.

The Wyandotte Environmental Department included the tribal Police Department and the Ottawa County Sheriff's Office on its illegal dumping task force. The department educated tribal and county enforcement officials about the Tribe's Solid Waste Ordinance. The three agencies developed a coordinated system for cleanup and enforcement that delegates responsibility for surveillance, site investigation, and prosecution. The tribal and county enforcement officials formalized procedures through a written agreement that allows for "cross deputization." The tribal police patrol roads that run through the reservation and notify the Environmental Department when an illegal dump site is discovered. If the dump site is small, the department cleans it up. If it is large, the department contacts the Ottawa

### SPOTLIGHT ON THE GILA RIVER INDIAN COMMUNITY

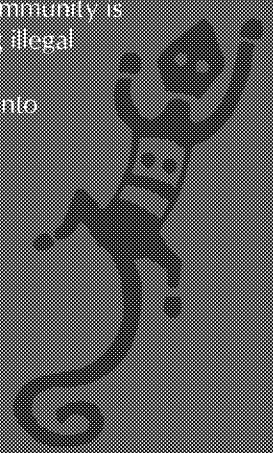
The Gila River Indian Community designed an illegal dumping enforcement program that combines partnerships with continual publicity to achieve results. In 2000, the Community's Department of Environmental Quality (DEQ) sponsored an illegal dumping workshop for tribal rangers, police officers, prosecutors, and judges. DEQ staff delivered a presentation on the Community's Solid Waste Ordinance to familiarize attendees with specific provisions on illegal dumping. Workshop participants collaborated to develop consistent enforcement protocols, and they created a single citation form for both trespassing and illegal dumping. The form makes it easy for police officers or rangers to tack an illegal dumping violation onto a trespassing violation.

The Community's Solid Waste Ordinance allows law enforcement officials to confiscate vehicles involved in illegal dumping incidents and assess a fine. Vehicle impoundment increases the chance that an illegal dumper that does not reside on the reservation will appear in court later. Police, prosecutors, and judges established a system to make the impoundment process run smoothly. The Community uses an outside company to impound the vehicles.

DEQ supplied rangers and police officers with a map of dump sites to target patrolling efforts. Workshop attendees agreed that law enforcement would contact DEQ about cases involving businesses dumping illegally. DEQ works with law enforcement officials and prosecutors to develop these cases. Workshop attendees also decided to coordinate with the Community's Public Information Office to issue press releases about enforcement actions to increase awareness and deter potential offenders.

DEQ met with Maricopa County and Pinal County to share joint strategies for enforcement. The counties helped DEQ develop guidelines for determining illegal dumping fines consistent with their own. Working with surrounding counties to establish illegal dumping protocol increases the likelihood that non-community members will accept the tribal process if they are caught. The DEQ and Maricopa and Penal Counties have a positive working relationship and frequently share information.

Gila River rangers do their best to patrol reservation borders and illegal dumping hot spots. They perform routine patrols, conduct stakeouts at night (a popular time for illegal dumping), and respond to illegal dumping reports from residents. As a result, the Community is having more success with catching and prosecuting illegal dumpers. In one high-profile case, a waste material pumper truck driver was caught discharging waste into an irrigation canal next to Gila River. The driver received a citation for trespassing on Community land, and the company received an illegal dumping citation. The company, DEQ, and the tribal prosecutor reached a settlement in tribal court under which the company had to clean the contaminated soil and pay an $8,302 penalty to the Community. DEQ developed a press release on the case for local newspapers.



## ENFORCEMENT TIPS FROM TRIBES

- Develop a strong solid waste ordinance.
- Assemble an illegal dumping task force.
- Partner with tribal leaders, enforcement officers, prosecutors, and judges.
- Partner with county, state, and federal agencies.
- Finalize a detailed enforcement plan.
- Develop common reporting procedures.
- Communicate consistently with your partners.
- Provide enforcement officials with appropriate training, support, and equipment.
- Start an illegal dumping hotline.
- Publicize enforcement actions.

County Sheriff's Office, which has an officer who specializes in illegal dumping incidents. The "trash cop" investigates the site for clues about the illegal dumper. If the offender is caught, he or she is prosecuted at the county court. If the offender can not be found, the Tribe and county work together to develop a cleanup plan.

Developing common reporting procedures can also alleviate jurisdictional tension. The White Earth Natural Resources Department is working with tribal, county, and state enforcement officers on developing common illegal dumping citation forms. The White Earth Reservation shares property with Mahnomen, Clearwater, and Becker Counties in a checkerboard pattern. Common citation forms will make it easier for the Tribe and counties to maintain consistent enforcement. Another way to achieve consistent enforcement is by modifying existing tickets to include a check-off box for illegal dumping.

The Gila River Indian Community found that it is also important to invite prosecutors and judges to participate in illegal dumping task forces. Gila River Department of Environmental Quality staff delivered a presentation on the Tribe's Solid Waste Ordinance to representatives from the tribal court system at an illegal dumping workshop. Attendees learned that the ordinance states that illegal dumpers can be fined up to $10,000 dollars. The workshop increased cooperation between the tribal court system and police department. Prosecutors and judges understand that illegal dumping is a big problem and support police officers by taking illegal dumping cases seriously. Partnerships with counties allow tribes to pursue offenders even if they do not have a tribal court system. If illegal dumping occurs on county land within reservations, tribes can potentially prosecute offenders in county courts.

After the illegal dumping task force develops a detailed enforcement plan, regular meetings maintain communication between partners and reinforce the importance of teamwork. Communication is critical to Pawnee Nation's illegal dumping enforcement plan. Under the plan described earlier, tribal rangers, the Environmental Regulatory Commission, and Pawnee and Payne County courts share enforcement and prosecution duties. The plan would fail without good communication and coordination between all three partners.

### Involve Community Members: Start an Illegal Dumping Hotline and Publicize Enforcement Actions

An illegal dumping hotline increases enforcement success and builds community support for your program. Tribes can empower reservation residents by providing them with a number to call when they witness illegal dumping activities. Because it is difficult for enforcement officials to patrol rural communities, community members who are on the lookout provide a greater chance of catching an offender in the act. The White Earth Natural Resources Department produced a calendar that includes a phone number for residents to call when they witness illegal dumping incidents. The San Carlos Apache Tribe encourages residents to call the tribal EPA to report illegal dumpers. The Seminole Nation offers a small reward for information leading to the conviction of an illegal dumper and advertises its reward program on the radio and in the local newspaper.

Publicizing enforcement actions deters potential offenders and informs community members that the Tribe is taking preventative action. The Seminole Nation publishes the names of illegal dumpers in the police report section of the newspaper, and the Gila River Indian Community follows enforcement actions with a press release. This publicity makes illegal dumpers look bad and takes advantage of positive community pressure.

# IV. Measurement: Gauging Your Program's Success

Measurement is an important component of any illegal dumping prevention program. Measurement can take many forms and serve multiple purposes. In the early stages of program development, you can use it to help set program goals and priorities. During program implementation you can gauge your program's effectiveness, progress, and successes by measuring program milestones. Publicizing program goals and achievements can help community members understand the program and increase support. The sections below describe in detail how measurement plays a role in each phase of your illegal dumping prevention program.

Before and after shots at Seminole Nation demonstrate cleanup project success.

## Cleanup

One of the first steps in the cleanup process is identifying and inventorying existing illegal dumps sites. This initial count serves as a baseline by which to measure cleanup progress. Establishing a baseline allows you to track increases or decreases in the occurrence of illegal dumping and identify new dump sites. Estimates of the amount of waste at each dump site can also be useful in helping plan and prioritize site cleanups.

The Pawnee Nation Department of Environmental Conservation and Safety, for example, performs a yearly site assessment of its reservation to identify new dump sites. In its initial assessment in 1996, about 40 sites were identified; each contained between 2 to 3 tons of waste. The Pawnee use this information to direct their cleanup efforts, and to ensure that previously cleaned sites are not being reused. The Pawnee Nation's cleanup efforts have been very successful, evidenced by the fact that the most recent assessment identified only four remaining illegal dump sites.

The Seminole Nation also identifies and inventories illegal dump sites on its land. When the Tribe identifies a new site, it shares this information with the neighboring county

### THE "IDEA" COST ESTIMATING MODEL

EPA Region 5 has created a useful tool for assessing and measuring the costs of illegal dumping activities. One function of the IDEA (Illegal Dumping Economic Assessment) Cost Estimating Model is the ability to model the costs of cleanup activities for a single illegal dump site, specific groups of sites, or all of the illegal dump sites on a reservation. The IDEA model's other functions include:

- Conduct cost analyses for different cleanup methods, equipment investments, and other illegal dumping-related activities.
- Assess indirect costs of surveillance and prevention activities.
- Compile actual cleanup and enforcement costs.

For more information on the IDEA Model visit <www.epa.gov/region5/illegaldumping>, or contact:

Paul Ruesch
U.S. EPA Region 5
77 West Jackson Boulevard (DW-8J)
Chicago, IL 60604
Telephone: 312 886-7598
E-mail: ruesch.paul@epa.gov

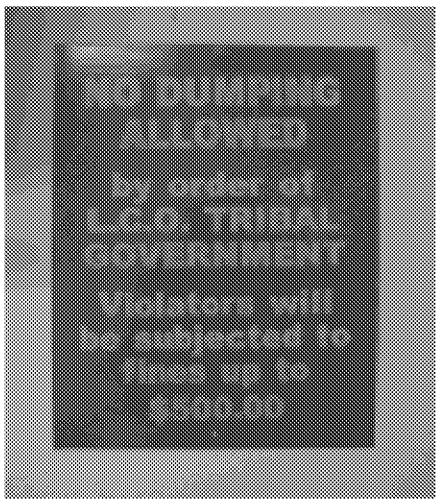
commissioners who clean up the site. To date, more than 100 illegal dump sites have been counted.

Measurement is also valuable during and after site cleanup. Measuring the tons of garbage, number of tires, number of appliances, or the number of abandoned cars removed from a site are ways to quantify a cleanup's success. Two examples of extremely successful cleanups include a collaborative project involving the San Carlos Apache, the Bureau of Indian Affairs, and Indian Health Service that removed more than 900 abandoned cars from the reservation, and the Cherry Lake Road dump cleanup by the White Earth Band of Chippewa that removed 2,000 tons of household trash and other bulky items. Publicizing such measurements is an excellent way to show the community the extent of the illegal dumping problem and what progress is being made in addressing the problem. For example, the Gila River Indian Community tracks and publicizes the number of illegal dump sites it has cleaned to demonstrate to the community its commitment to rectifying the illegal dumping problem.

## Enforcement

Measuring the effectiveness of a targeted enforcement program can be as simple as counting the number of enforcement actions taken (e.g., citations, settlements, penalties collected, hours of community service, completed, arrests, vehicle impoundments). The Gila River Indian Community, for example, recently took steps to strengthen and better coordinate its enforcement program. Since taking these steps, rangers confiscated more than 30 vehicles involved in illegal dumping acts. By tracking these types of enforcement actions and the significant increase in the number of citations issued, the Gila River Indian Community knows that its efforts have been successful and should be continued.

The Lac Courte Oreilles also tracks the number of citations issued by its three newly trained wardens. In the short period of time that the wardens have been on the job, they have already issued more than 30 citations.



The Pawnee Nation likewise employs this practice. Specifically, they count the number of citations issued by rangers and the number of out-of-court settlements reached. In the first year of the enforcement program, 14 citations were issued and nearly all of the violators cleaned up their trash. The following year, rangers began assessing penalties through out-of-court settlements and leveling an administrative fee. All of these cases were settled to the Tribe's satisfaction.

## Outreach and Education

Measuring the success of outreach and education efforts, while at times difficult, can be an extremely useful assessment and planning tool. Most outreach and education programs have two primary goals: reaching as many people as possible, and effecting a change in their thinking or behavior.

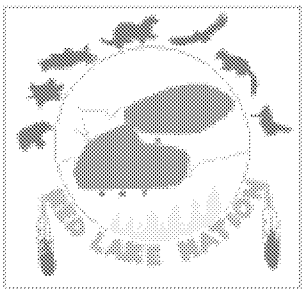
Measuring the number of people who received your materials or message is a fairly simple approach. This can be expressed as the number of attendees at meetings or workshops; the number of brochures, posters, calendars, flyers, magnets, and other educational materials distributed; the number of survey responses received; the number of people contacted via door-to-door campaigns; or the number of information requests received from the public.

Measurement can also be used to identify the most effective outreach and education methods and help in planning future initiatives. The Alabama-Coushatta Department of Solid Waste, for example, found that its door-to-door campaign reached a much larger percentage of the population than previous efforts. Prior efforts, consisting of presentations at tribal community meetings by department representatives, proved to be largely ineffective due to the low public turnout, whereas department representatives and volunteers spoke to 60 percent of the households on the reservation through the door-to-door campaign.

Measuring the size of potential audiences can also help direct your education and outreach efforts. The Pawnee Environmental Education Center, a collaborative project between the Tribe and the City of Pawnee, Pawnee Public Schools, the Pawnee County Conservation District, and the Pawnee Education Foundation, serves more than 50,000 students from area schools. By distributing environmental outreach materials, including illegal dumping information, through the center, the Pawnee Nation can reach a large number of children.

Many tribes like to work with the school system to deliver their environmental messages.

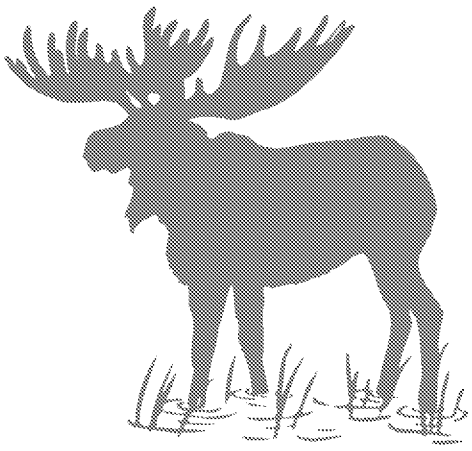
Measuring the success of your outreach and education program in changing tribal members' thinking or behavior can be more difficult, but several tribes have been successful. The Pawnee Department of Environmental Conservation and Safety (DEC&S), for example, measures its outreach success by tracking the number of phone calls received after the Pawnee Environmental Education Center opened. According to Monty Matlock of the DEC&S, the number of calls reporting illegal dumping incidents skyrocketed after the center opened in 1998. Mr. Matlock attributes this to an increased awareness created by the Tribe's outreach materials, not to an increase in actual incidents. Similarly, the Alabama-Coushatta measures the success of its outreach efforts by tracking the increase in the number of residents using the Tribe's transfer stations after its door-to-door outreach campaign.




## Measuring the Overall Impact of Programs and Policies

While measuring the success and effectiveness of your illegal dumping prevention program's individual components is important, the ultimate measurement will be the overall impact your integrated program is having. The Fond du Lac and several other tribes track changes in the number of illegal dumping incidents occurring each year to assess the overall impact of their integrated prevention programs. The White Earth Band of Chippewa, the White Mountain Apache, and the Wyandotte Tribe all track the number of residents using collection services or transfers stations, the number of new illegal dumping sites, and the number of cleaned sites that remain waste-free to judge the effectiveness of their cleanup, enforcement, and outreach initiatives. The Red Lake track the number of calls reporting illegal dumping incidents as a measure of its program's impact.

Measuring and comparing clean up costs and the other costs associated with dealing with illegal dumping to proper waste management costs is another useful exercise. Some tribes will observe an increase in their disposal costs as illegal dumping decreases. This is because more people are using the proper waste disposal services. Comparing these small cost increases to the overall cost of managing illegal dumping can be an effective way of justifying investments in the integrated illegal dumping program, such as enforcement officers' salaries, outreach and education initiatives, and other prevention efforts.



### MEASUREMENT TIPS FROM TRIBES

- Identify and inventory existing illegal dump sites to create a baseline and track progress.
- Measure and track cleanup achievements and milestones to evaluate program success.
- Measure the size of the audience outreach and education materials reach to determine the most effective methods.
- Track enforcement actions and their impact on behavior.
- Use these measurements to publicize and promote your program.

Measuring changes in the occurrence of illegal dumping can also be used to assess the impact of new solid waste management programs or policies. For example, in 1998, the San Carlos Apache EPA closed the three open dumps historically used by tribal members. Almost immediately, illegal dumping on the reservation increased. The dumping occurred at several existing sites and 14 newly identified sites. Recognizing the increase in illegal dumping as a manifestation of reservation residents' refusal to pay for waste collection services, the San Carlos Apache EPA began investigating alternative waste management options. In response, two transfer stations were built. The transfer stations are conveniently located and feature white good drop-off zones and reasonable user fees. The Tribe is still gauging community willingness to use these new facilities in lieu of illegally disposing of waste, but the initial response appears encouraging.

# RESOURCES

Copies of the following publications can be obtained at no charge by calling the EPA RCRA/UST, Superfund, and EPCRA Hotline at 800 424-9346 or 703 412-9810 in the Washington, DC, metropolitan area. You will need to provide the document number for the publication(s) you wish to order.

## Education and Outreach Materials

**Don't Trash It! Super Fun** (EPA530-K-95-005)

**Environmental Protection: Native American Lands: Second Edition.** The Center for Indian Community Development, Humboldt State University (Grades 1-12) (http://tismil.humboldt.edu/epa/index.html)

**Planet Protectors Club Kit** (EPA530-E-98-002)

**Planet Protectors Create Less Waste In the First Place!** (grades K-3 activity book) (EPA530-K-99-06)

**The Quest for Less** (a teacher's guide to reducing, reusing, and recycling) (EPA530-R-00-008)

## Hazardous Waste Management

**Collecting Used Oil for Recycling/Reuse: Tips for Consumers Who Change Their Own Motor Oil and Oil Filters** (Brochure) (EPA530-F-94-008)

**Household Hazardous Waste Management: A Manual for One-Day Community Collection Programs** (EPA530-R-92-026)

**How to Set Up a Local Program to Recycle Used Oil** (EPA530/SW-89-039a)

**Managing Hazardous Waste in Your Community** (EPA530-E-00-001)

## Solid Waste Management

**A Collection of Solid Waste Resources: Fall 2000 Edition** (CD-ROM) (EPA530-C-00-003)

**The Consumer's Handbook for Reducing Solid Waste** (EPA530-K-96-003)

**Grant Resources for Solid Waste Activities in Indian Country** (EPA530-R-98-014)

**IDEA Cost Estimating Models: User's Guide EPA Region 5** (EPA905-B-00-002)

**Illegal Dumping Prevention Guidebook EPA Region 5** (EPA905-B-97-001)

**Partnerships in Solid Waste Management** (EPA530-F-97-050)

**Preparing Successful Grant Proposals** (EPA530-F-97-051)

**Publications on Solid Waste Management in Indian Country** (EPA530-B-98-004)

**Recycling Guide for Native American Nations** (EPA530-K-95-006)

**Resources on Waste for Your Home and Community** (EPA530-B-98-002)

**Training and Technical Assistance Directory for Tribal Solid Waste Managers** (EPA530-B-99-07)

**Waste Reduction Tips for Hotels and Casinos in Indian Country** (EPA530-F-00-007)

**Waste Transfer Stations: Involved Citizens Make the Difference** (EPA530-K-01-003)

## EPA Web Sites

Office of Solid Waste Kids Page (www.epa.gov/osw/kids.htm)

Illegal Dumping Prevention Project (Region 5) (www.epa.gov/region5/illegaldumping/index.htm)

Waste Management in Indian Country (www.epa.gov/tribalmsw/)

The *Tribal Waste Journal* would like to thank everyone who shared illegal dumping prevention stories for this issue. Interviewee contact information is provided below for those who are interested in learning more about specific tribes' programs.

**Alabama-Coushatta Tribe of Texas** Livingston, TX • Darrell Battise, Solid Waste Department • 936 563-4391

**Delaware Tribe of Western Oklahoma** Anadarko, OK • Rebecca Ware • 405 247-2448 • aapanahkih@westerndelaware.nsn.us

**Fond du Lac Band of Lake Superior Chippewa** Cloquet, MN • Deanna Himango, Natural Resources Division • 218 878-8007 • deanna.himango@fdlrez.com

**Gila River Indian Community** Sacaton, AZ • Patricia Mariella, Ph.D., Executive Director, Department of Environmental Quality • 520 562-2234 • mariella@gilanet.net

**Keweenaw Bay Indian Community** Baraga, MI • Mike Sladewski, Keweenaw Bay Tribal Center • 906 353-6623

**Lac Courte Oreilles Chippewa Tribe** Hayward, WI • Brett McConnell, Environmental Specialist, Lac Courte Oreilles Conservation Department • 715 865-2329

**Pawnee Nation** Pawnee, OK • Monty Matlock, Director, Pawnee Nation Department of Environmental Conservation & Safety • 918 762-3655 • cri@cimtel.net

**Red Cliff Band of Lake Superior Chippewa Indians** Bayfield, WI • Judy Pratt-Shelly, Treaty/Natural Resources Division Chief and Executive Environmental Programs Director • 715 779-3700 • judyps@ncis.net

**Red Lake Band of Chippewa** Red Lake, MN • Ken McBride, Environmental Program Director, Red Lake Department of Natural Resources • 218 679-3959

**San Carlos Apache Tribe** San Carlos, AZ • Loretta Stone, Program Specialist, San Carlos Apache EPA • 520 475-2218 • scatepa@mail.theriver.com

**Seminole Nation of Oklahoma** Seminole, OK • Mickey Douglas, Coordinator, Seminole Nation of Oklahoma Environmental Protection Office • 405 382-5112 • mdouglas@mbo.net

**White Earth Band of the Minnesota Chippewa Tribe** Mahnomen, MN • Monica Hedstrom, General Assistance Program Coordinator, White Earth Natural Resources Department • 218 935-2488 • welakes@tvutel.com

**White Mountain Apache Tribe** Whiteriver, AZ • Becky Johnson, Solid Waste Department, Environmental Planning Office • 520 338-4346 ext 263

**Wyandotte Nation** Wyandotte, OK • Barbara Collier, Environmental Department • 918 678-2297 ext. 241 • bcollier@rectec.net

To be placed on our mailing list or submit a success story, send an e-mail to Janice Johnson at <johnson.janice@epa.gov>.

# Kid's Page

OF THE EPA TRIBAL WASTE JOURNAL

## ENSURE A CLEAN FUTURE: EDUCATE CHILDREN ABOUT ILLEGAL DUMPING

As the voices of the future, children inspire a community conscience and they can have a significant impact on illegal dumping prevention programs. Illegal dumping is a habit for many living on reservations, and today's children could be tomorrow's illegal dumpers. Tribes can break the cycle by teaching children about the dangers of illegal dumping and providing them with environmental values. Children tend to share their enthusiasm with parents and other adults, compelling them to think about the harmful effects of illegal dumping. Children may even motivate adults to change their behavior and ensure a bright future.

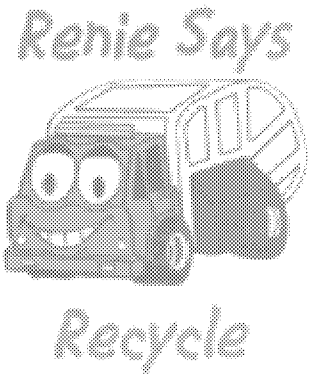
## Thermometer Exchange

Deanna Himango works for the Fond du Lac Resource Management Division and agrees that it is important to bring environmental messages close to home. She conducted a door-to-door mercury thermometer exchange with the reservation's ninth and tenth graders. Before venturing out into the community, students learned about the health threats associated with disposing of hazardous materials at dump sites. After Ms. Himango's lesson, they went to private residences with non-mercury thermometers and exchanged them for mercury thermometers.

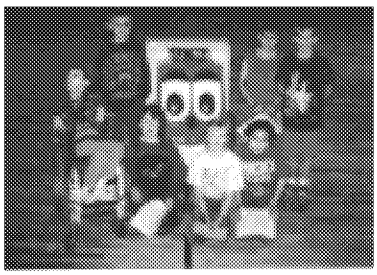
"Outreach activities with the schools assisted in getting the message of preventing illegal dumping into the hearts and minds of the young as well as into the families of the Fond du Lac Community."

—Deanna Himango, Fond du Lac Natural Resource Division

## RENIE the Recycling Robot




The Wyandotte Tribe created RENIE (Recyclable Environmental Needs in Education), a remote-control robot, to educate children about proper waste management and recycling. RENIE is a legend due to the dedication of Barbara Collier and the rest of the Wyandotte Environmental Department. Ms. Collier designed RENIE as an attractive trash truck with a smile for a grill. She secured grant funding to have a company produce the robot. Although the project was expensive, it paid off. RENIE truly captures the imagination of children and makes it fun for them to learn about environmental issues. The Environmental Department prepares PowerPoint presentations, and RENIE delivers them to a captivated audience. One of the most successful presentations involved placing waste reduction and reuse into a cultural context by reminding children that Native Americans used every part of the buffalo. They didn't waste anything and, consequently, did not produce trash. RENIE has visited approximately 100 schools, reaching children in numerous tribes and towns.





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# Pawnee Environmental Education Center

In 1997, the Pawnee Nation decided to take environmental education to the next level by building an environmental education center. The City of Pawnee provided land for the project, donating 25 ecologically diverse acres that include earthen ponds, upper- and bottom-land forest, an old aquaculture facility, and a series of rock buildings. The Pawnee Nation, City of Pawnee, Pawnee Public Schools, Pawnee County Conservation district, and Pawnee Education Foundation pooled their resources in a total community effort to get the center running. They decided to use the rock buildings as classrooms. Americorps and the U.S. Fish and Wildlife Service also contributed by supplying volunteers to build boardwalks and by providing earth-moving services to replace the plumbing.

The environmental education center serves more than 50,000 students in surrounding schools. Educators gather curriculums from sources such as Project Wild (a national environmental education program) and tailor programs to take advantage of the center's unique ecological setting. Classes visit on field trips and learn about everything from biodiversity and soil conservation to proper solid waste disposal. Programs frequently focus on watersheds and activities that threaten water quality, such as illegal dumping, and certain programs are designed to include parents.

The center has instilled a strong environmental conscience throughout the community. Since it opened, the Pawnee Department of Environmental Conservation & Safety has experienced a flood of phone calls from community members reporting illegal dumping incidents. The Tribe has discovered that the easiest way to reach parents is through their children and that the best way to deliver an environmental message is to bring it close to home.

## SHOP FOR WASTE

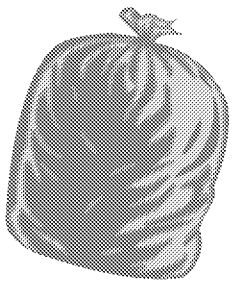
Sixth graders in the White Mountain Apache participate in a program called "Shop for Waste." Becky Johnson, who works in the Tribe's Environmental Planning Office, developed the program to teach children about the waste stream. Ms. Johnson encourages students to conduct a waste assessment in their own homes to find out what is being thrown away. She asks them to determine which products could be recycled and which resources are non-renewable. Students list waste prevention activities, discuss recycling, and identify environmentally preferable products. The program also touches on proper solid waste disposal and the dangers of illegal dumping.

## CREATIVE PROJECTS FOR YOUNG MINDS

- The Lac Courte Oreilles Conservation Department holds an annual poster contest, with a recycling theme, for elementary school students. Winners are published in the tribal paper.
- Red Lake High School students developed and produced an educational video around the theme, "Put Garbage in Its Place."
- The Delaware Nation prints illegal dumping activity sheets with "Tidy Turtle" and "Rude Rat," characters that are culturally significant to the Tribe.
- The White Earth Natural Resources Department distributes a video titled, "Respect the Earth: It's Home" to Head Start programs and elementary schools across the reservation.
- The Pennsylvania Resources Council sponsored a "Lens on Litter" photo contest. Contestants take photos that expose the scenic, health, and environmental impacts of illegal dumping.
- On Earth Day, Fond du Lac students cleaned up and adopted the road in front of their schools.

## Forestry Center Scavenger Hunt

Ms. Himango reaches younger students through a scavenger hunt at the Tribe's Forestry Center. School groups have to answer questions about recycling and illegal dumping to obtain clues that lead them to hidden items. The center's natural setting makes the message more powerful. Ms. Himango explains, "It hits home that we won't continue to have places like this if illegal dumping continues."

Ms. Himango asked students to answer the following pollution prevention questions before distributing scavenger hunt clues:

- What are some ways you could reduce your paper use?
- What are some ways you could reduce your food waste?
- What are some ways you could reduce the amount of waste at home?
- What are some ways you could help your community prevent pollution?
- What can you do to make your home more energy efficient?