

PACE 20 ENVIRONMENTAL ISSUES

Indicators, Data, and Data Sources

Environmental Issue			
<p><u>Outdoor Air Quality(Autos, Factory Emissions, Sewage Plants, Farms)</u> Odors-Bowtown Rd., Smells-London Road industry, Factory air pollution and solid waste, Air Quality--not tested at night, quarry industry, electrical smell, Air quality-factory emissions, ODORS-air pollution, burning, insulation-General Castings, odors, Cow Manure/odors, Pig and hog manure disposal--odors at sewage treatment plants, Smells-city sewage plant, Air pollution. Transportation from too many cars, Gas/diesel exhaust fumes, air quality, Powell traffic, Auto exhaust causing pollution due to growth, Traffic--causing pollution, Too many cars--creating pollution.</p>			
Indicators/data for Outdoor Air Quality			
Area	Indicators	Data	Data Sources
Factories	Number (or %) of regulated(permitted) sources meeting air quality standards (or have high emission levels of airborne chemical pollutants)		Ohio EPA
	Number of asthma hospitalizations of doctor office visits		Doctor=s office
	Number of tons/year of toxic releases into the air		Ohio EPA
	Prevalence of asthma cases; clusters		Doctor=s office
Farms	Number of burn permits issued by local fire officials		Local Fire Authorities Health Department inspection data
	Odor emissions at farms		
Cars	Number of roadways miles with condition D-F rating		ODOT (Barton Ashton consultant)
	Emission levels at intersections through county of CO		Standards for emissions (Ohio EPA)

Environmental Issue

Indoor Air Quality

Indoor air quality-JVS, Schools indoor air quality-molds, Lack of housing codes to address indoor air, Asbestos in older homes, Air quality in older buildings: schools, Radon above safe levels-contractors need to build homes with radon resistant techniques, relators not disclosing problem to buyers, Radon gas; indoor air quality, Radon levels-public buildings/home, Radon in schools

Indicators/data for indoor air quality

Area	Indicators	Data				Data Sources	
Home	Number of homes with high radon levels vs. Number of homes tested per year	Year	# homes tested	# ≥4.0 pCi/L		Health department radon testing data US EPA standard- ≥4.0pCi/L	
		1993	14	7			
		1994	70	38			
		1995	111	61			
		1996	98	53			
		1997	290	120			
		1998	138	74			
	Number of educational programs for homes on the causes of indoor air-dust, pets, insects, etc.,(track number of news releases in newspaper) per year						
	Number of complaints concerning indoor air and type per year						
	Number of new homes being built using radon resistant new home construction vs. Total homes built in County per year	9 RRNC homes built in 1998					
Schools	% of classrooms tested with high radon levels per year	Year	# of rooms tested	# ≥4.0 pCi/L	% ≥4.0pCi/L	Health Department radon testing data Health Department inspection data Public Health Nursing Physicians= Offices	
		1993	158	23	15%		
		1994	115	19	17%		
		1995	561	25	4%		
		1998	30	0	0		
		Annual % of schools in each school district using EPA, Tools for Schools					
		%of classrooms in school showing evidence of leaky roofs and stained ceiling tile(mold growth) per year					

	Annual asthma/Upper Respiratory Infections incidence in schools per total student body per year		
	Number of indoor air quality complaints in schools and type per year		Health Department radon testing data Health Department inspection data Public Health Nursing Physicians= Offices
	Number of dampers operational in schools		
	Number of annual cases of non-compliance of air filters in cooling/heating units per school vs. # of heating units		
Other Public/ Private Buildings	Annual % of buildings that are smoke free		Local Health Department
	Number of IAQ educational programs in place per year		Health Department/ OSU extension
	Number and type of indoor air quality complaints received		Health Department OSHA

Environmental Issues

County Development, Zoning, Annexation, Planning

Master planning for appropriate land use, Annexation issues, Annexation to Delaware City, No future plans(for growth, or annexation), Development: cluster homes with open spaces, Developers, Better control on 5-acre lots-keep development out of flood plains, Sustainable development, Increasing development, Are we far away?(from Columbus that we could not use their services), Do we need more strip malls? Sustainability(of growth)--need to think long-term, Eminent domain, No capacity to control our future, Zoning of commercial areas, keep commercial away from residential (maintain green space between), Commercial land use--acres of asphalt, eyesore, runoff, Controlling over development, No usable master plan for growth. Need better plan that=s used and backed by the state, Ability to accommodate growth, Land use management, Schools overcrowding, Schools keeping (up with growth), Overcrowded school conditions, Better schools, Inadequate infrastructure, County infrastructure, maintain and in step with growth, Infrastructure-keeping up with development, Annexation issues that involve proper sewage treatment. Connection to city sewer vs. using new technology, irrigation systems, Residential land use--small lots, density, Over development of land, AHousing density≡, Annexation issues that involve proper sewage treatment. Increasing homes and traffic, Scioto River/flooding, and development of flood plain, Lack of downtown development, Public services for water and trash being outgrown--subcontracting trash. Too many signaled access on SR 23, Traffic too heavy and getting worse, Street conditions--Delaware City, Leonardsburg Road & SR 42--Traffic accidents. Potholes and standing water, freezing and sliding, Roadways beat up, construction traffic, Dangerous intersection--Section Line Road & SR36 West, Safe roads--proper planning for roads, Traffic--access to SR 71 from 23, East side, Roads to accommodate growth, Traffic and highway-What about SR 71,23, 42? Need East/West arteries, Road maintenance, Traffic light system needs to be upgraded, Traffic signals on US 23 are uncoordinated, Roads-expedient passage but not promoting growth, Traffic: accidents, air pollution, reduce number of trucks, Traffic pattern roads(thru traffic), Traffic congestion: too much, too noisy, pollution, SR 36-37 East congestion, Need for public transportation, Drainage in ditch, clean out water: too deep; mosquitoes, sediment-not being maintained, Drainage problems-over development, Lack of drainage, plugged culverts, stagnant water, Poor drainage-Delaware Meadows, Poor surface drainage(storm sewers), Railroad has drainage problems.

Indicators of County Development, Zoning, Annexation, Planning

Area	Indicators	Data Sources
Land use planning	Percentage of townships with an approved comprehensive land use plans with strategic defined elements	RPC
	Percentage of communities participating in a Delaware County comprehensive land use planning process	Delaware County Regional Planning(RPC)
Preservation of Natural Areas	# of communities with stream bank set back ordinances	Community Records
	Annual acres in forests, wetlands, flood plains per total acreage	Delaware County GIS
	% of flood plain filled/built upon	RPC
	The number of stream miles channelized or modified compared to the total stream miles	

	Acres of significant natural areas and woodlands protected by conservation programs or zoning districts per year	The Nature Conservancy and other conservation groups
Green space/open space	# of communities with tree preservation ordinances	Community Records
Green space	# of communities with park land dedication ordinances	Community Records
	Number of acres of land that is public recreation lands per capita.	Parks and recreation
	Annual publicly owned useable green space/open space/parks per capita in acres	RPC
Traffic	# of minutes for average commute	
	Traffic counts on key intersections per year	Delaware County Engineers office/ODOT
Subdivision	Number of lots subdivided vs. # of building permits issued	RPC
	Number of subdivisions lots in the pipeline vs. Number of actual recorded lot	RPC
	Number of subdivisions in the county	RPC
	Land owned by known developer(speculation factor)	RPC
	% of acres in subdivisions or lots per township section	RPC
Drainage	Acres of new impervious surfaces per year	RPC
	Number of development related drainage complaints per year	Soil & Water Conservation District(SWCD)
	% of commercial developments meeting acceptable standards of impervious cover (80%/20%)	RPC
	% of developments using advanced land use technology to minimize the effect of impervious cover on offsite drainage	RPC
Zoning	Acreage re-zoned to conservation districts per year	RPC
	Annual approval for zoning changes from rural to urban land use in acres	RPC
Cost of Development	% of cost of new infrastructure and public services for first twenty years contributed by new land use vs. % subsidized by other taxpayers	
	% increase in real estate taxes in last ten years/projected increase or decrease in next ten years	Auditor=s office

Environmental Issue		
<i>Education-Environmental/Ecosystem</i> Education--Ecosystem, interrelation of people, Lack of shared image of ecosystem, and our role, Environmental consistent education, Environmental health starts at home(i.e., proper use of chemicals)		
Area	Indicators	Data Sources
Environmental Education	% of schools in district teaching a course or a program in environmental education. Number of graded courses of study with environment concepts and grades taught, etc. vs total curriculum per grade level (Add evaluation components; how effective is program)	School superintendents Home schools
	Number of school buildings that have formal recycling practices such as recycling bins in cafeteria for aluminum cans, plastic, glass, etc.	School records
	Number of educational presentations Keep Delaware County Beautiful(KDCB) made in the schools, and community per year	KDCB
	Number of environmental education programs for the community per year	Health Department SWCD Preservation Parks
	Number of boy scout and girl scout troops teaching environmental education per year	Columbus Office
	Number of 4-H and FFA groups per total population	OSU Extension
	Number of places that celebrate earth day per year	Community media sources (Zoo, Schools)
	Number of environmental educational institutions available in the community	School records
	Number of teachers attending environmental education in comparison the total number of teachers in the county	School records

Environmental Issue		
<p><u>Unsafe/Abandoned Properties</u> Abandoned/neglected houses and properties, unsafe dwellings, barns, kids: unsafe, falling down, Abandoned homes on river--Columbus owns, not maintained, Shabby/dilapidated homes and property and child safety, Vacant buildings--crime, rodents, Housing and environmental problems?</p>		
Area	Indicators	Data Sources
Abandoned/unsafe/un sanitary homes/properties	Number of complaints received concerning abandoned/unsafe properties per year per political subdivision	Police, fire, Health Department, building departments, Human Services(HS), EMS records
	Number of crime reports involving abandoned/unsafe housing received per year per political subdivision	A
	Number of rodent, trash or other nuisance complaints received from abandoned/unsafe homes per year	A
	Number of abandoned/unsafe homes in Delaware County, by township if possible, by examining Ashut-off records, per year	Electric and other utility companies
	Number of police runs to abandoned properties per year	Sheriff=s and police=s records
	Number of fires involving abandoned properties per year	Fire Depts. and EMS records
Unsafe properties causing injury	Number of injuries to children reported due to unsafe dwellings per year	Fire Dept. and EMS records Health Dept. Building Department
	Number of injuries occurring at abandoned properties	Human Services
Abandoned industrial properties	Number of abandoned properties per year; % of unsanitary, unsafe properties	Fire Dept. Health Dept. Building Dept. Human Services Ohio EPA; Division of Remedial Response

Environmental Issue		
<p><u>Environmental Enforcement(State, Federal, Local)</u> Lack of enforcement: environment-burning--to EPA, sheriff no enforcement. Property cleanup: vacant homes, more enforcement, Enforcement of environmental laws: no teeth, Lack of countywide law: enforcement, Open burning: can=t enforce, Fall leaf burning-smoke, Enough EPA mandates, Role of FED over legislation, Agri-districts--legal protection for farmers and nuisance suits</p>		
Area	Indicator	Data Sources
Lack of enforcement	Listing of environmental regulations on opening burning, and vacant property cleanup	Ohio EPA
	Number of complaints received for litter, solid waste, open burning, farming/residential interface complaints, sewage per year, Number of responses, % abated, penalties/citations/court citations	Local fire authorities Health Department Soil & Water District, OEPA Floodplain dumping-ODNR OSU-farm chemicals All litter law enforcement agencies

Environmental Issue		
<p><u>Noise Control</u> Life style change: need naturization of lawns, weed whackers, lawn movers, leaf blowers, boom boxes, car stereos, traffic, Polaris, Zoo, Wyandot Lake, fire sirens, power boats on Alum Creek, Traffic noise(by pass around the city), Noise--trash vehicles, pickups, trucks, trimmers, barking dogs, quarry blasting=noise pollution, Need sense of serenity and quiet, Noise levels/pollution: highway, freeway, industry, airplanes, construction, Development near industrial parkway may create more noise and traffic</p>		
Area	Indicator	Data Sources
Noise Control	Number of noise complaints received in: OSHA standards workplaces; Fence line regulated by Ohio EPA; Public standards adopted by government per year; number of complaints abated per year	OSHA, Health Department, local communities
	Number of unacceptable noise levels in schools and other public assembly areas surveyed per year	Health Department Townships, Villages, Community Records
	% of communities with noise abatement standards adopted	Community Records
	Number of existing of written protocol to address noise issues	Health Department Sheriff Police Departments Columbus Health Dept., Community Records
Noise Prevention	Number of community educational programs in place	Community Records
	Number of communities with noise abatement development strategies, i.e., soft landscaping	Community Records-Powell

Environmental Issue			
<p><u>Animal Control</u> Uncontrolled animal population and safety concerns--ground hogs, deer, raccoons, skunks, bats, A lot of bats in environment--Galena, Large number of raccoons: gets in dog and cat food, rabies, disease, Potential increase in rabies, Large number of animals on individual properties, Pigeon/geese and disease, Cats--unlicenced/strays, Dogs--unlicenced/strays</p>			
Area	Indicator	Data	Data Sources
Rabies	Number of persons bitten by species per year	See chart	Hospitals, doctors offices, Health Department
	Number of positive rabies by species per year vs. # tested	See chart	Health Dept., ODH
	Number stray or pet cats or dogs caught/month and year; number that have tags(only dogs tags issued)	See chart	Police dept., Dog Warden
	Number of pets vaccinated per year at time of bite	See chart	Veterinarian offices, Health Department bite records, ODH
	Number of nuisance raccoons, skunks, coyotes, opossums trapped from state parks(permits must be OK=D by the Chief of Division of Wildlife) (Also get a cat count)(camping sites) per year		ODNR, pest control companies, nuisance animal control companies
Animal Overpopulation	Number of white-tailed deer involved in collisions on roads/year for the last decade or longer(...by township per mile of roadway), % involving human injury		State Highway Patrol, Sheriff
	Number of destroyed animals per year vs # of total animals	See chart	Humane Society, Dog Warden
	Number of adopted animals per year	See chart	Humane Society, Dog Warden
	Deer harvest, by township(if possible)/year(...by bow, by gun)		Humane Society, Dog Warden, Health Department, OSU extension ODNR
	Number of wild animal attacks to farm animals per year		County Commissioners
	Number of nuisance wild animal complaints by species per year	See chart	ODNR, Health Department, Dog Wardens

	Number of educational programs in place per year emphasizing usefulness of certain wild animal species--coyotes eating ground hogs.		ODNR, Division of Wildlife
unlicensed cats/dogs	Number of dog tags issued vs. number of dogs in the county	See chart	County auditors office National statistic
Disease	Number of individuals diagnosed with Histoplasmosis		Hospital, doctors= offices

Good Reference for this category is:

Franklin County Coalition for Responsible Urban Pet and Wildlife Management

Contact: Bob Bills, Ohio Wildlife Center

Publication: *A Comprehensive Report About Urban Pet & Wildlife Issues In Columbus and Franklin Counties*

Environmental Issue				
<p><u>Chemicals-Hazardous Materials Transport</u> Tracks: what is being carried on the cars, Trucks passing through Delaware: chemicals(way station north of 36), Hazardous materials transfer(transporting?), Hazardous chemical transportation on roads, Hazardous materials spills, Environmental Enforcement for chemical spills</p>				
Area	Indicator	Data		Data Sources
Hazardous materials transported	Number of chemical spills, and type per year	Year	# of Spills	EMA Local Fire Authorities, Health Department
		1996	7	
		1997	10	
		1998	>10	
		1999	3	
	Inventories of chemicals from local industries per year *	Section 312 of the Emergency Planning and Community Right to Know Act of 1986 requires the owner or operator of a covered facility (covered under Section 311 requirements) to submit an emergency and hazardous chemical inventory form to the LEPC and LFD. The public may also request this information on specific facilities from the LEPC or SERC. However, the regulation does include exemptions to providing this information to the public, the EMA Supervisor, Dave Hall is currently reviewing the regulations for this purpose.		EMA Fire Authorities
	Monitor/survey the railroad cars, pipelines through county, trucks at certain points and record placard information and types(amounts) of hazardous cargo traveling through county/location per year	The EMA office and local fire departments are currently considering and deciding how to monitor/survey the above mentioned transporter=s of hazardous chemicals within Delaware County.		PUCO USDOT, Health Department, LEPC surveys

* Inventories should be made public through LEPC

Environmental Issue		
<p><u>Chemicals, Residential and Agricultural-Health Effects</u> Yard chemicals, Chemicals on lawns-are they safe, Herb and pesticide treatment of residential and agricultural, Chemical abuse--pesticides and herbicides, residents and farm use, A cancer (Harlem township), Insecticides sprayed--getting airborne, Insect sprays causing cancer, Chemical fertilizer are permitted: licensed using current chemicals, Insect spraying--bothered by, Mosquito spraying: effects to the environment, Pest control on farms: pesticide, herbicides, smell</p>		
Area	Indicator	Data Sources
Chemicals	Number of complaints received from residential or agricultural pesticide usage per year	Soil and Water Conservation District OSU Extension Office Ohio Department of Agriculture Farm Bureau
	Number of residents requiring notification of neighboring chemical use per year	Chemical Companies
	Number of patients treated for pesticide poisoning per year	Hospital records: Mary Fleming, Agri. Nurse Physicians= records
	Number of dogs or cats treated for pesticide poisoning per year (yard exposures to chemicals)	Veterinarians
	Number of birth defects, morbidity, infant mortality rates, fetal death rates per year	CDC ODH, Health Department
	Number of certified applicators and companies per year	ODA
	Type, quantity, and location of chemicals applied residential and agricultural per year	ODA
	Number and type of wildlife poisonings per year	Don Barton, (Billingsly Rd., Ohio Wildlife Center)
Disease	Number, and age of individuals diagnosed with Parkinson disease	Hospital, Doctor=s offices

Environmental Issue				
<u>Chemicals-Household Hazardous Waste Disposal</u>				
Increase the number of household hazardous days: more convenient and more of them, Increase hazardous waste drop off places; more places, better monitoring; Toxic materials-no county-wide systematic recycling, once a year is not adequate				
Area	Indicator	Data		Data Sources
Household Hazardous Waste	Number of households participating in annual household hazardous waste drop off per total population	Year	Number	Health Department
		1998	868	
		1997	1,000	
	Number of businesses that collect recyclable waste products: oil, transmission oil, antifreeze per year	TSC Walmart Sprint Lube		(Delaware, Knox, Morrow, Marion) DKMM Solid Waste District
	Number of household hazardous waste drop-off sites per year vs. Population	One in Delaware(D), however, they can attend:KMM		DKMM
	Number of annual household hazardous waste days	4 in DKMM		DKMM
	Type and pounds of household hazardous waste collected per year	(See attached sheet)		DKMM
	Number of household hazardous waste educational programs per year			KDCB
Number of complaints/inquiries regarding household hazardous waste per year	52(statistics were started in the middle of 1998)		Health Department	

Environmental Issue

Preservation-Need for Green Spaces, Habitat, Parks, and Historical Preservation

Planting more trees and not cut down as many in development, Not enough trees; Loss of natural habitat; Lack of preservation of sacred lands, historical areas, woodlands, Protect plant life that needs protected, oxygen; Natural environment preservation; Wildlife habitats, Preserve wetlands, wood lots, Lack of preservation of park land, Need more parks, recreation areas and open space: exercise, fun, bikes, beauty, children and parks, Apartments are being build on river front--cutting tree down and not replacing, Increasing trees on rivers, natural beauty, Lack of bike/walking paths, Charm sense of community: Healthy environment for children(smoking education, bike paths)

Area	Indicators	Data Sources
Preservation of green space/open space(does not include farmland as Aopen space≡)	Number of shelter houses in County	Political subdivisions and Parks records
	Number of miles of paved hiking trails; Number of miles of unpaved hiking trails per year	A
	Number of street miles with designated bike routes per year	County Engineer, map room
	Number of gross acres of sacred lands, historical areas, open space/parks, green space per year	U.S. Corps of Engineers, RPC, zoning authorities, State Parks
	Number of indoor and outdoor athletic facilities per year(basketball courts, baseball fields, etc.) per year	Community Rec Departments
	Wildlife habitat restoration programs and acres per year	Conservation groups, ODNR
	Acreage of incorporated areas in open space/parks per total acreage per year	RPC
	Number of picnic tables in county	Community and Parks records
	County residential population per total County land area per year	RPC
	Unincorporated residential population per total unincorporated land area per year	RPC
	Distribution of land uses per capita per year	RPC
	Miles of publicly maintained roadways per year	Engineers Office
	Acres of public recreation land available per year per capita by type(preservation land, camping land, no wake zones, water ski zones, etc.)	State and Metro parks
	Number of cars/bike collisions per year and location	Police records

	Number car/pedestrian collisions per year	A
	% of rivers/stream/tributary miles protected by set back ordinance, wetland reserve, conservation reserve or other measures which maintain a naturally vegetated cover for 3 times the stream width	
	# acres of permanently protected public open space per 1,000 population	
	% of acres of special natural concern identified in county GIS documents which have been preserved or destroyed	
	# of miles of walking/bike paths per 1,000 population	

Environmental Issue		
<p><u>Preservation-Farmland</u> Loss of farmland--slow growth of housing, Agricultural/residential interface, Farmland disappearing to development, Urban sprawl--growth, pay more for food, larger farms taking over smaller farms, Loss of rural atmosphere, Farmland preservation and land planning, Landowners should get tax break for keeping farms</p>		
Area	Indicator	Data Sources
Farmland Preservation	Percentage of development(# of dwellings units) occurring within sewer services areas	RPC
	Farms and acres of farmland per year	SWCD, Farm Bureau
	Number of acres in priority watershed programs per year	EPA
	Acreage in top three crops per year	SWCD
	Acres in conservation tillage per year	SWCD
	Soil losses per year per acre of crop land	SWCD
	Farm land lost to development in acres per year	Delaware County Regional Planning
	Number of acres in CAUV	Farm Bureau
	% of landscape fragmentation per township section: # of acres in subdivisions or lots per section	RPC
	Number of farm acres dropped from farm service programs	Farm Service
	Number of agriculture easements that are enrolled	America Farmland Trust
	Number of acres not owned by farmers, but are controlled by contractors(speculation)	

Environmental Issue			
<p><u>Need for Recycling</u> Need more recycling, Delaware recyclers, from Powell its a long drive; need places to be picked up, drop off areas; Recycling programs need improved, Recycling programs canceled, Having recycling available for all communities (Radnor, Ostrander, etc.), Recycling not enough, waste oil, antifreeze cans; facilities in strategic locations. More recycling bins. Water, highway and land. EPA-how polluted is Alum Creek, Trash-bottles, cans, plastic, 20 oz. bottles. Research what other counties are doing</p>			
Area	Indicators	Data	Data Sources
Recycling	% of communities; number with recycling programs	Population served: 68,291 Total Population: 98,136 Percent served: 69.5%	Health Department
	Number of cubic yards of recycling drop-offs per population	50 Cubic yards/every 5,000 population(standard) Population served Total population	DKMM
	Number of recycling reprocessing centers	No reprocessing centers, only collection center.	DKMM
	Percent of active recycling programs in schools per district for seven amended materials as by state solid waste plan	No schools actively have recycling programs for the 7 of 11 materials. BVN wants to start one. BW has paper bins. The following schools have recycling bins: BVN, BVE, Olentangy	Health Department
	% of industries(businesses) with recycling programs	23/31 industries with recycling programs, 74.2%	DKMM
	Number of institutional, commercial occupied buildings; % that recycle	9/22 commercial or institutions who returned surveys have recycling programs, 40.9%	DKMM
	Number of political subdivisions that sponsor community events with a recycling clause in the contract	Data not available.	Community records
	% of population served with curb-side recycling program vs. total population	(see number 1)	DKMM
	# of households with publicly provided garbage and bulk pickup	The following villages have publicly provided curbside garbage: Ashley, Delaware, Powell, Galena, and Shawnee Hills	Community Records DKMM Estimates

Source: Price Farms composting site

Environmental Issue

Home Sewage Treatment and Disposal

Need for sanitary sewers because of shallow well contamination: leach bed inadequate, Septic system failures, runoff; Sewage backing up in buildings, Bad septic tanks; Septic systems not working properly, County sewer system needed, Review septic system regulations, complete now!; Septic systems in North part of the county, sewage disposal--septic tanks and city system, Development on septic systems-lot size, density zoning issues; One-acre lot development need to be increased to protect sewage systems, Proper disclosure of existing sewage treatment systems by Realtors; Sewage systems connected to storm sewer, Area homes to be built-density(no ground suitable)

Area	Indicator	Data Sources
Household sewage	Number of complaints of home sewage system failures per year	Local Health Department(HD)
	Percent of residents on household sewage treatment systems; total number of households	HD
	Percent of failed household sewage treatment systems by type per year	HD
	Number of lots approved with onsite sewage system vs. Total number of lots approved per year	HD, RPC
	Number of households with HSDS informed of proper operational and maintenance procedures	HD
	Number of registered sewage tank haulers	HD
	# of water well contaminated	HD
	Number of properly maintained vs. Failing sewer systems and package treatment plants, and over capacity public and private systems	HD Ohio EPA
	# of yearly inspections of septic and sewage treatment systems and % passing	HD
	# of septic and non-sewered connections per section or township	HD
	# septic/health complaints per year per township	HD
	% of stream miles with greater than 2≅ accumulation of sediment	Ohio EPA ODNR

	% of stream meeting national water quality standards of fishability and swimability	Ohio EPA
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Environmental Issue

Solid Waste-Trash and Litter in Public and Natural Areas

Trash in the village in the swampy area of the Big Walnut/Little Walnut River, Beach: trash, litter. Alum Creek polluting water, Plastic containers for wax worms, Dumping of waste into the river, Litter-appliances, sofas, deliveries on mailboxes, Dumping: stoves, refrigerators, mattresses; along roadside and in rivers, abandoned appliances, Trash, litter along roadside, RT.3, Litter, Trash on roadways, Trash cleanup, River Road: tires, dumping along river, no signs that say A No dumping≡, Bottles in farming fields-need Bottle bill legislation, Roadside trash: indicating drinking and driving, Old tires along roadside and in railroad track ditch-need pick up service, bottles and trash: Polaris, Home football games: bleachers, Township roads(lack of education), Trash all over the county

Area	Indicator	Data			Data Sources
Solid waste in rivers	Amount of cubic yards of trash collected along river from river sweeps per year	Year	River	Amount	Health Department
		1998	Big Walnut	1,333 lb.= 2.0 Cu. Yd.	
		1997	Olentangy	20 cubic yards or 7 tons	
Solid waste in roadway	Number of bags collected per year	1998- 2,545 Bags collected includes roadways, schools, village, state and city parks			Health Department
	Miles of adopted highway, per year with active programs	76 total miles of adopted highway			ODNR; ODOT
	Photometric index of litter per year	Year	Percentage		Health Department
		1995	.52		
		1996	1.11, an increase in litter in Delaware County of 113%		
		1997	2.77, an increase in litter in Delaware County of 433% Percentages are a comparison with the baseline year		
	Number of trash/solid waste complaints received per year and abatement percentage	Year	Number of complaints	% abated	Health Department
Number of pounds of glad trash bags collected during Glad-bag-a-thon event per year	Number of pounds: Wendy=s gave away car litter bags as a statewide motorize day, 2 locations at 500 bags each.			Company records	
Number of litter/open dump citations and convictions per year	45 citations, no information on convictions.			Police, Sheriff, Wildlife Officers, Park Rangers	

Number of litter education programs in School Districts and Community at large	Total	Program in 1998	Community and School records, HD
	2	Radio Shows	
	63	School presentations	
	8	Community presentations	
	2	I*Care newsletters	
	12	Monthly columns	
	18	Displays	
	23	printed media	
	12	TV PSA=s	
	6	Flyers	
	1	Program brochure	
	500	Stickers for curbside recycling	

Environmental Issue		
<u>Water-Drinking Water Quality/Quantity</u> Drinking water: use of land, pollution other areas, Drinking water quality: city availability, no fluoride, water in general, Pesticides are affecting drinking water, Future potable water supplies(in the SW), Water pollution-streams, Olentangy River, drinking water		
Area	Indicator	Data Sources
Drinking water quality-Public	Number of days violating Ohio EPA standards per plant per year	Ohio EPA
Surface water supplies	Number of water plants that use charcoal filters, protozoan filters(Giardia, Cryptosporidium)	A
	Number of days of boil order per plant per year	A
	Percentage of total population that is not served by water plants	HD, RPC, Company records

* Bill McCarthy to provide more insight

Environmental Issue		
<p><u>Ground Water Pollution</u> City water wells(depleting water from other wells), Ground water pollution, Ground water safety: golf courses chemicals, Underground water--well safety</p>		
Area	Indicator	Data Sources
Ground water pollution	Number of private wells and location that did not pass bacteriologic, chemical test	Health Department SWCD Heidelberg water quality lab
	Number of existing homes that converted from private to public water supply, vs. Number of properly abandoned wells	County records Health Department
	Number of public water supply wells with raw water unsafe samples per year	Ohio EPA
	Number of public water supply wells with chemical parameters above the primary MCL(maximum contaminant level) per year	Ohio EPA
	Ambient ground water quality	Ohio EPA
Ground water Quantity	Ground water levels	ODNR
	Volume of ground water pumped	ODNR
Well safety/groundwater pollution	Number of public water supply wells with a final source designation of groundwater	Ohio EPA
	Number of existing wells converted to new wells vs. Number of abandonment records on file	Drilling Company records, Health Department
	Number of homes that have installed a filter on the water supply; Total percent on central water supply vs. well	Water filter companies
	% of population using a bottled water supply	Water softener companies Grocery stores
	Number of homes that tested their water quality; number of homes tested that had unsafe water results	Private water labs

Environmental Issue		
<p><i>Surface Water Pollution-Factories and Agricultural Sources</i> Quality of surface water affected by runoff from fertilizers and chemicals from residential and farm industry to stream, Factories farms of egg/chicken/hog, Pollution from other areas: egg farms, River pollution: factories, land erosion, agricultural chemicals; Water pollution from agriculture & industry: Water pollution sources-manure and fertilizers, oil and gas, Rain/nitrogen run-off</p>		
Area	Indicators	Data Sources
Surface water	Number of stream miles not meeting water quality standards and impaired by agricultural or industry non-point sources	Ohio EPA
	Number of fish species and invertebrate census from 305B report	Division of Natural Resources Ohio EPA
	Number of complaints of polluted water per year	Ohio EPA, HD
	Number of permit violations(industrial and agricultural) per year	Ohio EPA
	Number of industrial spills per year	Ohio EPA
	Number of fish kills per year	Ohio EPA
	Number of watershed action plans for water residential chemicals(non-point source)	Ohio EPA

Environmental Issue

Surface Water Pollution-Sewage System

Waterways-dumping sewage, runoff from septic systems, Water-bugs, Blues Creek-pollution(soap suds in creek); Something floating in the Olentangy River(today), Water pollution: Scioto River, raw pollution, Increase usage of aeration systems, Aeration system-smells, need yearly inspection; Enforcement of violators who are not maintaining aerators-Health Department too soft with getting aerators fixed, Dead fish in river from sewage, bacterial algae growth, Rain/nitrogen run-off, Delaware County to sponsor a monitoring of the river, Creek sampling: based on package plant as it leaves Galena; Determine water quality as it enters and before it leaves Delaware County, Water quality as it enters Galena; Sunbury water treatment plant, Quality of water, Run-off from septic systems: leach beds to surface water, Golf Courses irrigating with treated sewage: Will this work? Irrigation systems: EPA: golf course: Dornoch

Area	Indicator	Data Sources
Public and Semi-public sewage	Public and semi-public discharging sewage systems incidents of permit non-compliance in days per year per permit	Health Department, OEPA
	Number of point-source permitted per County	Ohio EPA
Non-functioning aerators	% of aerators functioning per year	Health Department
Stream Water Quality	Proportion of assessed streams that do not meet designated use for water quality	OEPA
	Records of growths on fish, 305B census data on number of fish species and invertebrates per stream segment per year	Ohio EPA ODNR; Natural Areas Preserve
Storm Water Management	Notice of Intent permits(for storm water management at construction sites) vs. NOT permits per site per year	OEPA
	Number of inspections for active construction sites with NOT(Notice of Termination) permits(storm management plans)	OEPA