

WASHTENAW COUNTY RESOURCE ASSESSMENT

September, 2016



Managing Our Natural Resources

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Executive Summary

The Washtenaw County Conservation District is a local unit of state government organized by the people of Washtenaw County under provisions of The Soil Conservation District Law. The District's mission is to educate and assist the people of Washtenaw County with the conservation and management of their natural resources.

Washtenaw County has a mix of agricultural and urban land uses. Agriculture comprises 35.8% of county acreage, while urban and undeveloped land uses account for 64.2% of county acreage. The County's population forecast for 2015 as determined by SEMCOG was 353,327 which is a 2.4% increase over the 2010 U.S. Census figure of 344,791.

Glaciers created most of the varied terrain of the County and the numerous lakes which are actively used for recreation purposes. There are 83 distinct types of soils in Washtenaw County that can be grouped into 49 different soil series. Those soils vary from well drained to very poorly drained.

The majority of Washtenaw County drains to Lake Erie through five watersheds. These include the Huron River, Paint-Stony Creek, River Raisin/Saline River and Rouge River. A small portion of northwest Washtenaw County drains to Lake Michigan through the Grand River basin.

The climate of Washtenaw County is generally pleasant with adequate precipitation during the growing season and seldom are there prolonged periods of either hot, humid weather in summer or extreme cold during the winter.

All these factors make Washtenaw County an enjoyable place to live, work and play. However, expanding human and land use pressures impact the natural resources of the County. The result is that not all resources are in the best condition, or at least have areas needing action to maintain or improve their quality.

This resource assessment, conducted by the Washtenaw County Conservation District, is a continuous process of determining the County natural resource/environmental issues and concerns that need to be addressed. As a result of this resource assessment process, the prioritized major natural resource/environmental/ issues identified were: **Surface and Ground Water Quality, Land Use, Wildlife and Habitat, Forests and Trees, Energy Use, Solid Waste/Recycling, Wetlands, and Air Quality.**

The procedure used to identify these concerns included:

- Developing a list of stakeholders.
- Contacting stakeholders to gather input on issues and concerns.
- Preparing a resource assessment document, which summarizes the information obtained and identifies the priority issues the District will focus on over the next five years.

The first two steps (referred to as "linking and scanning"), and preparation of the resource assessment were completed from March - June, 2016.

The identification and priority of the above issues was determined by a survey which was distributed via e-mail with a link to an on-line survey and a direct link from the District's website. In addition, news releases were published in local media requesting public input using the on-line survey. Respondents to the survey were asked to rank their top three resource issues from prior lists generated through previous resource assessment surveys. Respondents were also provided options to add other resource issues. The overall priority for these issues was determined by the total number of responses received for each issue.

Survey respondents were also asked to rank their top three concerns for each of their top three issues. Again, the overall priority of the concerns was determined by the total number of responses received for each concern.

The District has tried to be comprehensive in developing this assessment, but certainly not all issues or concerns may have been identified. Such a task requires constant awareness and cooperation among the many public and private agencies, groups and organizations, the public, as well as education and assistance to the individuals and groups wanting to take action.

Since the District does not have the resources to impact all of the issues identified, it must assist many other public and private agencies and organizations within the County, and rely upon their strengths to get the job done. This role of collaboration and coordination is possibly the most important opportunity for the Conservation District to fill in the future, to address the identified resource issues.

This resource assessment will be used by the District to update its current long-range strategic plan. Annual implementation plans will then be prepared which identify actions the District will take to address the priority issues outlined in the resource assessment.

District Overview

The Washtenaw County Conservation District, whose boundaries are those of Washtenaw County, is a local unit of state government organized by the people within the District boundaries under provisions of The Soil Conservation District Law, Act 297 of Public Acts of 1937, as amended. In 1994, the Conservation District Law was made part of The Compiled Environmental Code. It is now Part 93 of Act 451 of 1994, as amended.

The Washtenaw County Conservation District was organized in 1948 through the process of petition, hearing and referendum under the leadership of local landowners who realized the importance of our soil and water resources. As such, the District is a locally controlled resource management agency, created by concerned landowners and administered by a publicly elected, five-member, board of directors. The board makes all decisions regarding the District's programs and activities. The directors hire qualified staff to conduct and carry out the programs and activities that have been approved.

The mission of the District is to educate and assist the people of Washtenaw County with the conservation and management of their natural resources.

County Resources

LAND USE

Washtenaw County has a mix of agricultural and urban land uses. Agriculture is predominant in the western and southern portions of the county. The major urbanized area is located in the east-central portions of the county and includes the cities of Ann Arbor and Ypsilanti and the townships of Ann Arbor, Pittsfield, Scio and Ypsilanti. There are also areas of urbanization around the smaller communities of Chelsea, Dexter, Manchester, Milan, Saline and Whitmore Lake.

Land Use Breakdown – Washtenaw County

Source: Southeast Michigan Council of Governments, 2008

Land Use	Acreage	% of Total
Agricultural	165,587	35.8%
Urban: Residential	192,410	41.6%
Urban: Airport, Commercial/Office, Industrial, Government/Institutional, Transportation, Communication and Utility	58,612	12.7%
Park, Recreation and Open Space	35,031	7.6%
Water	10,608	2.3%
TOTALS:	462,248	100.0%

The classification system used is as follows:

Agricultural: includes cropland, orchard, bush fruit, vineyards, ornamental horticulture, confined feeding operations, permanent pasture, other agricultural land and farmsteads.

Urban, Residential: single-family residential, multi-family residential, manufactured home parks.

Urban: Airport, Commercial/Office, Industrial, etc.: primary/central business district, shopping center/mall/retail center, secondary/mixed business area, industrial, government/institutional establishment, office/research center or park, air, rail and road transportation, communication, electrical, gas and oil pipeline, solid waste disposal site, sewage and water treatment and transmission.

Park, Recreation and Open Space: public assembly/cultural or sport facilities, outdoor recreation, public open space.

Water: includes rivers, streams, ponds and lakes.

POPULATION

The population of Washtenaw County as reported by the 2010 U.S. Census Bureau and SEMCOG 2035 Regional Development Forecast for 2015 is:

Year	Population	Percent Change
1980	264,748	+13%
1990	282,937	+6.9%
2000	322,770	+14%
2010	344,791	+6.8%
2015	353,327	+2.4%

GEOLOGY & TOPOGRAPHY

Glaciers covered Washtenaw County in ancient times, and the action of these glaciers created most of the varied physical terrain of the county. Rolling hills in the north and center, steeper hills in the west and gently rolling areas in the southern

portions of the county. An ancient inland lake, extending northeast from present Lake Erie formed the flat areas in southeastern Washtenaw County.

SOILS

There are 83 distinct types of soils in Washtenaw County that can be grouped into 49 different soil series. These soils range widely in texture, natural drainage, slope and other characteristics. Well drained to moderately well drained soils make up 35% of the county soils; somewhat poorly drained soils, 24%; poorly drained to very poorly drained soils, 37%; with fill and made land comprising the remaining 4% of soils.

HYDROLOGY

The majority of Washtenaw County drains to Lake Erie through four watersheds. These include the Huron River, Paint-Stony Creek, River Raisin/Saline River and Rouge River. A small portion of northwest Washtenaw County drains to Lake Michigan through the Grand River basin.

There are more than 80 glacier created lakes more than a mile in diameter within the county. Some of the larger lakes include: Ford Lake on the Huron River, Independence Lake, Pleasant Lake, Portage Lake, Silver Lake and Whitmore Lake.

CLIMATE

The inland location of Washtenaw County in southeast Michigan minimizes the influence of the Great Lakes on the county climate, most noticeably in increased cloudiness. Cloudy days are most common in late fall and early winter and least common in late spring and summer. Because the day-to-day weather is controlled chiefly by the movement of pressure systems across the nation, there are seldom prolonged periods of either hot, humid weather in summer or extreme cold weather during the winter. The annual average percent of possible sunshine is 53%.

The average daily maximum temperature in summer is 82° and in winter 34°. The average annual total precipitation is 30.48 inches. Fifty-six percent of that, or over 17 inches, is received during the growing season from May through October. The growing season averages 172 days. Average seasonal snowfall is 29.5 inches.

Purpose of Assessment

In order to accomplish the District's mission of educating and assisting the people of the County with the conservation and management of their natural resources, the issues and concerns related to those natural resources need to be identified. Every five years, the District conducts an assessment for this purpose. Previous assessments were completed in 2011, 2006 and 2001.

The procedure used includes:

- Develop a list of stakeholders.
- Contact stakeholders to gather input on resource issues and concerns.
- Prepare a resource assessment document, which summarizes the information obtained and identifies the District's priority issues for the next five year period.

The completed resource assessment will then be used by the District to update its long-range strategic plan. Annual implementation plans will be prepared which identify actions the District will take to address the priority issues outlined in the resource assessment.

Linking and Scanning of Stakeholders

The process of identifying and contacting stakeholders about natural resource/environmental concerns is referred to as "linking and scanning." Contacts or "links" are made with the stakeholders and they are surveyed or "scanned" for their resource issues and concerns.

Stakeholders

Five stakeholder groups were identified and contacted with a request to complete the resource assessment survey:

- Conservation District "E-Conservation Update" e-mail newsletter recipients, Conservation District tree and product customers, residents and landowners.
- Township supervisors and clerks, County commissioners, State legislators.
- Municipal staff, County, State and Federal department/agency staff.
- Conservation/Environmental Organizations and Sportsman's clubs.
- Agri-businesses and environmental consultants.

Appendix A lists the number of each group contacted through the linking and scanning process and number of responses.

Survey

A resource assessment survey was developed which listed general natural resource/environmental issues and specific concerns related to the general issues generated from previous resource assessment surveys. See Appendix A for a copy of the survey.

Survey respondents were asked to rank their top three resource issues, using a 1, 2, 3 rank, with 1 being the most important issue. Respondents were also asked to rank their top three concerns for each of their top three general issues, using the same 1, 2, 3 ranking system. The overall priority of the general issues and specific concerns was determined by the total number of responses received for each issue or concern. Respondents also had the opportunity to add other issues and concerns not listed.

In addition to ranking resource issues and concerns, the survey also included questions on:

- How well respondents thought local conservation/environmental groups, County government agencies, and State level government agencies were addressing their top three resource issues.
- What the Conservation District can do to address the issues identified.

There were also stakeholder-specific questions included, based on the target group being contacted, as follows:

Residents, landowners, etc.

- The setting in which they live—urban (city or village), suburban, rural/farm.
- What category best describes them—farmer, homeowner/property owner, rental resident, or other.

All other groups

- How will their level of government, department/agency, organization/group or business plan to address the top resource concerns they identified.
- What trends in government policy/regulation at the federal, state and local levels do they think will impact the top resource concerns they identified.

The survey was distributed using the following methods:

- Internet-based survey launched via e-mail message or District “E-Conservation Update” e-mail newsletter.
- News release announcement via County newspapers with on-line survey link.
- Direct link to survey from the District website home page.

Results of Linking and Scanning

After tabulation of responses, the prioritized general resource issues and specific concerns for each are summarized in the table on the next page. Beginning below are brief descriptions of each resource issue in priority order.

Surface and Ground Water Quality

The quality of our surface and ground water is affected by many factors, including point and non-point sources of contamination. Soil erosion and sedimentation, fertilizer and pesticide use, road runoff, septic systems and other sources all impact water quality. Surface and groundwater in Washtenaw County is used for drinking, recreational and aesthetic purposes. Maintaining good water quality is vital to the health and quality of life in the County.

Land Use

Land is a basic resource. Wise land use planning, whether for agriculture, urban/residential, commercial/industrial, recreation or other uses, is critical. Unplanned development creates urban sprawl and fragmentation that is not conducive to the best use of the land resource. The loss of agricultural land to urban use is a concern, as is the need for wiser planning of development for the optimum use of the land resource.

Wildlife and Habitat

The presence of wildlife in Washtenaw County is an asset that is enjoyed by many residents, but also poses negative impacts when that wildlife damages agricultural crops and livestock, causes traffic accidents, or is displaced from natural habitat by man’s activities and developments. Destruction of habitat for wildlife by land fragmentation and development increases the conflicts between man and wildlife that are becoming more commonplace. There are limited wildlife management efforts on private lands and public properties in the County, making only minimal impact in these conflicts.

Forests and Trees

The rural forests and woodlands of Washtenaw County contain a range of high to low quality hardwood species, with many woodlands having had limited forest management. Also, because of a high percentage of urbanized land, the County has a large urban forest resource that also has not had consistent management. Both of these forest resources have been impacted by a number of invasive insect and plant species, and diseases that kill or stress trees severely.

GENERAL RESOURCE ISSUES (listed in order of priority)	SPECIFIC CONCERNS
Surface & Groundwater Quality	1. Groundwater supply management and protection.
	2. Surface water supply management and protection.
	3. Storm water management.
Land Use	1. Natural areas and open space preservation. (tie)
	2. Better development growth management and zoning. (tie)
	3. Loss of farmland from urban sprawl.
Wildlife & Habitat	1. Restoration and improvement of habitat.
	2. Invasive species control.
	3. Destruction of wildlife habitat by construction.
Forests & Trees	1. Tree diseases, insects, species decline.
	2. Invasive plant species control.
	3. Woodlots needing management.
Energy Use	1. Energy conservation.
	2. More economically viable alternative energy sources.
	3. More exploration & production of current energy sources.
Solid Waste/Recycling	1. Expand recycling options and locations.
	2. Landfill space and management.
	3. Encourage/educate public on product reuse.
Wetlands	1. Preservation of connected natural systems.
	2. Invasive plant species control.
	3. Loss of wetlands by construction or filling.
Air Quality	1. Health related concerns.
	2. Vehicular emissions/pollution.
	3. Industrial emissions/pollution.

Energy Use

Energy in various forms is used to heat, cool and light our homes and businesses, and fuel our vehicles. The impacts on the environment from the exploration, processing and distribution of current energy sources such as coal and oil, as well as alternative sources such as wind or solar, must be balanced with the associated costs of those sources, and the cost to the consumer.

Solid Waste/Recycling

Waste created by human activity in large part ends up in landfills. That solid waste and how it is managed can have serious impacts on ground and surface waters in addition to finding the space to store this waste. Recycling is a primary method to reduce the waste stream and has been embraced by Washtenaw County and its residents for many years, helping to extend the life of current landfill facilities. However, concerns about recycling services and opportunities has increased in recent years.

Wetlands

Wetlands are important for wildlife habitat, storage of storm water, cleansing of water, and groundwater recharge. The destruction and filling of wetlands for development, sedimentation of wetlands from agricultural and urban land uses, and invasion of invasive plant species seriously impact the ability of wetlands to provide these benefits.

Air Quality

The quality of our air can impact our health, participation in outdoor activities, and the growth and development of trees, plants, and crops. Factors such as emissions from vehicles and industry, smoke and particulate matter from fires, weather conditions, and others can affect air quality.

While each of these resource concerns can be viewed independent of the others, they are all interconnected when looking at natural systems. So in many cases, concerns related to one issue will also impact others.

Other Issues or Concerns Identified

Listed below are other general resource issues or specific concerns identified by survey respondents. These may be considered by the Conservation District in updating its strategic plan and annual plans of work. They have been listed according to major resource issues and are listed, where possible, in order of the number of responses received for that issue or concern. The views expressed are not necessarily shared by the District.

Surface & Groundwater Quality

Storm Water & Management

- County drains are not maintained.

Surface Water Quality

- Aquatic invasive species.
- Saline River needs to be cleared of logs and fallen trees.

Groundwater Quality

- Dioxane contamination from Gelman.
- Fracking
- Well water contamination.
- Agricultural irrigation well impacts on nearby surface and ground water levels.
- Groundwater quantity as there are potential concerns about areas of stress in southeast Michigan within the next 20 years.
- Effects on aquifers and wells from the use of groundwater for geothermal heating and cooling.
- Impact of ground water from pharmaceutical disposal in sewer systems.

Other

Municipal supply management and protection.

Land Use

Development Planning & Zoning

- Housing shortage in the city which creates pressure to sprawl and construction over former farmland.
- Support for more and safer off-road bike (non-motorized vehicle) traffic resources and initiatives for more public transportation.
- Allen Creek Greenway plans for southeast Michigan light rail link.

Loss of Farmland from Urban Sprawl

- Farmland generational transfer.
- Loss of farmland to development and sprawl can only be stopped if farmland is more valuable than development.

Other

- Mining or other material extraction, e.g. gravel.

Wildlife & Habitat

- Deer population: control; loss of native species and other plants both in forests and neighborhoods; ecosystem damage; on roads.
- Mitigation of nuisance species: deer, geese, mute swans, cormorants.
- Habitat destruction of the threatened species Henslow's Sparrow in Sharonville State Game Area.
- Creation of more "edge habitat."

Forests & Trees

- Preservation of forests and trees.
- Need landlord incentives to control invasive plant species and install conservation measures on property they manage.

Energy Use

- Fracking
- Investment in and promotion of energy conservation.
- Oil drilling near cities, i.e., Dexter.
- Cost of energy.
- Need landlord incentives to install conservation measures to improve the energy efficiency of rental houses.

Solid Waste / Recycling

- Recycling costs and rejection of materials by waste companies are discouraging recycling.

Wetlands

- Draining wetlands can lead to environmental devastation.
- EPA regulations concerning wetlands and local enforcement. Private landowners will be facing unconstitutional mandates and fees to be able to maintain or improve their private property/resources.

Other

- Climate change education and funding for mitigation and adaptation.

Other Survey Responses

Survey respondents were also asked to rate how their natural resource/environmental issues were being addressed by local conservation/environmental groups, and County and State government agencies on a scale of Very Well, Adequately, Poorly, and No Opinion. The results are listed below with comparison data from the 2011 and 2006 surveys.

How well do you think your top three general issues are currently being addressed by the following groups?

YEAR	GROUP	Very Well	Adequately	Poorly	No opinion
2016	Local conservation or environmental groups? <i>(Ex.: watershed council, land conservancies, wildlife groups, etc.)</i>	18%	50%	12.5%	19.5%
2011	Local conservation or environmental groups? <i>(Ex.: watershed council, land conservancies, wildlife groups, etc.)</i>	39.3%	34%	13.3%	13%
2006	Local conservation or environmental groups? <i>(Ex.: watershed council, land conservancies, wildlife groups, etc.)</i>	27%	39%	25%	9%
2016	County level government agencies? <i>(Ex.: Environmental Health, Parks & Rec., Water Resources, etc.)</i>	5.5%	50.8%	38.9%	10.8%
2011	County level government agencies? <i>(Ex.: Environmental Health, Parks & Rec., Water Resources, etc.)</i>	23.1%	38%	27.5%	12%
2006	County level government agencies? <i>(Ex.: Environmental Health, Parks & Rec., Water Resources, etc.)</i>	15%	33%	41%	11%
2016	State level government agencies? <i>(Ex.: MI DNR, MI DEQ, MDARD, etc.)</i>	2.4%	25.8%	60.9%	10.9%
2011	State level government agencies? <i>(Ex.: MI DNR, MI DEQ, MDARD, etc.)</i>	8.1%	30%	49.3%	13%
2006	State level government agencies? <i>(Ex.: MI DNR, MI DEQ, MDARD, etc.)</i>	6%	23%	63%	8%

Local Conservation or Environmental Groups

The majority of respondents, 68%, ranked local conservation/environmental groups as Very Well to Adequately addressing the issues they identified. This is down from the 2011 rating of 73.3% but still slightly higher than the 2006 survey rating of 66%. And, the Poorly rating of 12.5% is a slight improvement from 2011 and half of the rating from the 2006 assessment survey. These rankings seem to indicate that a majority of respondents had positive impressions about what local groups are doing, even with the fluctuation over the three assessment surveys completed.

County Level Government Agencies

For County level government agencies, 56.3% of respondents rated County government agencies as Very Well to Adequately addressing the issues which is a drop from the 61.1% ranking identified in 2011, but still well above the 48% rating in 2006. Correspondingly, the Poor rating of 38.9% is over a forty-one percent increase in dissatisfaction from 2011, but a small drop from the 2006 rating. These figures indicate there is a mixed impression of County agency response to resource issues.

State Level Government Agencies

The majority of respondents ranked State level government agencies as Poorly addressing the issues they identified with a response of 60.9%, which is over an eleven and one-half percent increase from the 2011 assessment. The Very Well to Adequately response of 28.2% took about a ten percent plunge from the 2011 rating, putting it at about the same level as the 2006 survey rating of 29%. The negative response to State level agencies addressing the issues respondents identified is not surprising considering the City of Flint water problem and local concerns about the Dioxane groundwater plume, which have overshadowed positive efforts the State may have accomplished in other natural resource concerns.

Stakeholder-Specific Questions

Several different versions of the resource assessment survey were distributed to the various stakeholder groups targeted. All the surveys had the same questions regarding resource issues and concerns. Following these questions were several stakeholder-specific questions. Below are those questions and the responses received.

How is your level of government planning to address the top 3 issues you identified over the next 5 years?

PLANNING ACTIONS

- Utilizing the site plan review process in order to work with developers to preserve and protect all available natural features.
- Members of CARD. Expanded PDR program to include habitat.
- Reassessing Master Plan; strategic plan.
- The Planning Commission is studying conservation issues.
- Improved storm water controls, continuing partnership with land conservancies, limit open burning to appropriate conditions.
- We will continue to work with local partners to accomplish goals.
- Through study, public participation and management, and improvement.
- Engaging stakeholders in discussion on how to control the problems these issues create.
- We are developing source water protection plans, expanded organics management programs, and climate mitigation and adaptation projects.

OTHER

- Expand recycling, encourage alternate energy and energy conservation, approach ground water issues carefully.
- Created the Saline River Preserve self-funded by 501(c)3.
- Recycle support and information; zoning regulations.

How is your club, group or organization planning to address the top three issues you identified over the next 5 years?

- Working toward deer cull--necessary that it be county-wide, not just parts of Ann Arbor.
- Continue conservancy efforts on current projects and easements.
- Coordination, on-the-ground work, education.
- Planting trees and educating the public.

How will your business plan to address the top three issues you identified over the next 5 years?

- Convert to geothermal, reduce impacts and waste stream, install rain gardens.
- GreenStone is committed to agriculture and will continue to support land conservancies to protect farmland.
- Continued growth and addressing habitat issues generally.
- Through environmentally landscape design.

What trends in government policy/regulation at the federal, state or local levels do you think will impact the general natural resource/environmental issues you identified in this survey over the next 5 years?

FUNDING, TAX RELATED

- Need federal help to deal with environmental issues such as Dioxane plume because State is ineffective. At same time, need more local government engagement on water, land-use, and habitat issues because State is ineffective.
- Funding; lack of state funding.
- Downsized State & Local governments will continue to limit resources and a negative impact on our environment.
- Unfunded mandates are a big problem.
- Government contracts to address habitat issues; increased focus on water quality and land use.
- Tax benefits or lack thereof to put land into conservation vs development.

REGULATION / LEGISLATION RELATED

- Carbon / emission controls, Clean Water Act and recycling education.
- Safe drinking water is being watched more closely; improved water and sewer regulations and resource protection.
- PA 295: “clean, renewable, and efficient energy act”.

OTHER

- The continued use of best management practices and natural treatment options.
- More encouragement to recycle, use alternate energy and protect the groundwater.
- State involvement with non-partisan approaches; non-partisan solution-seeking.
- More of the burden will be placed on locals with less revenue sharing and restrictions on local controls.
- Statewide organization of deer hunting permits; deer control.
- Preserve land.
- Depending on the next administration, alternative energy may or may not continue to gain traction.

What the Conservation District Can Do

Survey respondents were also asked several questions about the Conservation District and what it can do to address the natural resource/environmental issues they identified, over the next 5 years. An option to provide other responses was also provided. Results are listed on the next page.

How familiar are you with the Washtenaw County Conservation District and its programs and services?

Level of Familiarity	2011	2016
Very Familiar	15%	14%
Somewhat Familiar	69%	76.7%
Not Familiar At All	16%	9.3%

The Very Familiar rating is about the same as the 2011 assessment survey, however it is encouraging that the Somewhat Familiar rating increased, and the Not Familiar At All rating decreased, indicating that there has been a modest increase in awareness of the District since the 2011 survey.

What actions do you think the Washtenaw County CD could take over the next 5 years with respect to the general natural resource and environmental issues you have identified in this survey?

What	Rank	Percent
Look for ways to assist townships or other municipalities in taking action on identified resource issues.	1	20.6%
Create new, or expand existing partnerships with local conservation groups, county/state agencies to work on identified resource issues.	2	19.2%
Better publicize the District, who we are, what we do and what we offer.	3	15.7%
Offer educational meetings and workshops to help landowners take action on identified resource issues.	4	15.1%
Expand/update the District website to include information related to identified resource issues.	5	10.2%
Develop programs to enlist & involve volunteers in working on identified resource issues.	6	9.1%
Investigate ways to assist businesses in serving their customers related to identified resource issues.	7	8.8%
Other (see below)	8	1.4%

Other

District Programs and Services

- How about a program to sell native species through local nurseries, with a part of the proceeds going to support the WCCD? Maybe a special group of plants that the WCCD supplies or approves for the nurseries that would bear their stamp of approval and help raise money?
- WCCD could maybe help smaller preservation groups who have small woodlots and trails of their own, connect up to other preserved properties.
- Would be great if there was a resource board for the WCCD for members who have projects, like pulling garlic mustard, trail maintenance, etc. that Boy Scouts or other groups could find projects to help on.
- Investigate ways to encourage landlords to embrace conservation efforts. (see comments in Question #3, Other.)

Advocacy

- WCCD could also politically help by contacting the USDA authorities responsible for the release of the Garlic Mustard biocontrol weevil, c. strob. I believe it's called. How about helping connect people with those able to enact or support biocontrol of invasive plants once controls become available?
- List all the environmental violations issued in the newsletter to validate government's concern about how poorly citizens take care of their property and how they want to pollute the air and the water.
- Update in each newsletter exactly how much global warming we have in Washtenaw County month to month, year to year.
- Could the county CD press for better parks management? Ann Arbor has moved to mostly volunteer care of parks, with minimal help from city staff who coordinate these volunteers. This cost-cutting strategy will lead to degradation of parks in the long run--trees not pruned or otherwise cared for, invasive species spreading, illegal dumping not curtailed, etc.

Demographic Questions

Finally, survey respondents were asked the following demographic or categorical questions:

Describe the setting in which you live?

Where	2011	2016
Urban (city or village)	21%	17.3%
Suburban	29%	26.9%
Rural/Farm	50%	55.8%

Based on survey results, there has been a steady migration of people from urban and suburban areas to rural areas of Washtenaw County.

Please check the one category which best applies to you.

Who	2011	2016
Homeowner/Property Owner	82%	73.8%
Township, Municipal or County Officials or Staff	5%	11.6%
Farmer	5%	4.6%
Conservation/Environmental/Wildlife Organizations or Sportsman's groups	3%	4.6%
Business, Environmental/Natural Resource-related service or consulting	4%	4.6%
Rental Resident	--	0.8%
State or Federal Government Officials or Agency Staff	1%	0%

Homeowner/Property Owner respondents made up the majority of those who completed the survey, but there was over an 8% reduction in responses from the 2011 survey. There was also a more than a doubling in the responses from township, municipal and County officials compared to 2011. All the other categories were about the same or slightly less in respondents than the 2011 assessment.

Summary

The major natural resource/environmental issues, **Surface and Ground Water Quality, Land Use, Wildlife and Habitat, Forests and Trees, Energy Use, Solid Waste/Recycling, Wetlands, and Air Quality**, and the associated key concerns will be the basis for updating the Conservation District's strategic plan. The plan will identify for each issue and concern, specific actions the District has the ability, expertise and resources available to take or consider implementing.

For the next five years, District annual plans of work will attempt to incorporate these action items, based on staffing and budgetary levels. The desired result will be the focusing of District efforts, so that positive actions and improvements can be taken toward addressing the resource issues and concerns for the welfare and benefit of the residents of Washtenaw County.

Additional information garnered from the resource assessment survey will also be helpful in development of the District strategic and annual plans. The results of questions asked about what the District can do, demographic information, and the many comments on other issues and concerns provided will be valuable in honing in on what actions the District should continue, expand, or start, in order to address the identified resource issues.

Sources Referenced

1. Washtenaw County Conservation District Resource Assessment, September 2011
2. Washtenaw County Conservation District Resource Assessment, December 2006
3. Southeast Michigan Council of Governments
4. U.S. Census Bureau
5. Washtenaw County web site
6. Washtenaw County Soil Survey

Appendix A

Stakeholder Groups

Listed below are the stakeholder groups, number contacted and number that responded through the linking and scanning process.

SURVEY #	STAKEHOLDER GROUP	# CONTACTED	# RESPONDING	PERCENT RESPONSE
1	E-Conservation Update e-mail lists, General Public	2,441	104	4.2%
2	Township Supervisors & Clerks, County Commissioners, State Legislators	53	9	17%
3	City, County, State & Federal Agency Staff	34	5	14.7%
4	Conservation/environmental Organizations, Sportsman's clubs	25	5	20%
5	Agri-businesses, Environmental Consultants	21	6	28.6%
TOTALS:		2,574	129	5%

On the next pages are copies of the resource assessment surveys that were prepared in Word format, then formatted into on-line versions through SurveyMonkey.com. Respondents completed the survey through SurveyMonkey, and results were tabulated by SurveyMonkey and used to prepare this resource assessment document.

Survey 1: E-Conservation Update E-mail Lists, General Public

2016 RESOURCE ASSESSMENT SURVEY

The purpose of this survey is to learn more about natural resource and environmental issues of concern in Washtenaw County. Your feedback is important. All answers will be kept strictly confidential. **PLEASE RETURN COMPLETED SURVEY BY: JUNE 30, 2016** via mail, e-mail or fax to the address, e-mail or fax number found on the back. Thank you for your participation.

1. How familiar are you with the Washtenaw County Conservation District and its programs and services?

- Very familiar
 Somewhat familiar
 Not Familiar At All

2. Below is a list of general natural resource and environmental issues that were identified in past surveys. Please rank the TOP THREE ISSUES that you think will be of concern over the next 5 years in Washtenaw County by marking the appropriate column. (1=first, 2=second, 3=third)

GENERAL NATURAL RESOURCE & ENVIRONMENTAL ISSUES	1	2	3
Air Quality			
Energy Use			
Forests & Trees			
Land Use			
Solid Waste/Recycling			
Surface and Groundwater Quality			
Wetlands			
Wildlife and Habitat			
Other, please specify:			

3. Below are lists of specific concerns for each general natural resource or environmental issue identified in past surveys. For each of the three general issues you selected in question #2, please rank your TOP THREE SPECIFIC CONCERNS for those general issues by marking the appropriate columns (1=first, 2=second, 3=third). ONLY RANK the issues you selected, not all issues.

NR or ENVIRONMENTAL ISSUE	1	2	3	SPECIFIC CONCERNS
Air Quality				Vehicular emissions/pollution.
				Industrial emissions/pollution.
				Health related concerns (respiratory ailments, ozone actions days, etc.)
				Other, please specify:
Energy Use	1	2	3	SPECIFIC CONCERNS
				More energy conservation.
				More exploration for current energy sources.
				More economically viable alternative energy sources.
			Other, please specify:	
Forests & Trees	1	2	3	SPECIFIC CONCERNS
				Woodlots needing management.
				Invasive plant species control.
				Tree diseases, insects or species decline.
			Other, please specify:	
Land Use	1	2	3	SPECIFIC CONCERNS
				Loss of farmland from urban sprawl.
				Natural areas and open space preservation.
				Better development growth management and zoning.
			Other, please specify:	
Solid Waste/Recycling	1	2	3	SPECIFIC CONCERNS
				Landfill space & management.
				Expand recycling options and locations.
				Encourage/educate public on product reuse.
			Other, please specify:	
Surface and Groundwater Quality	1	2	3	SPECIFIC CONCERNS
				Storm water management.
				Groundwater supply management & protection.
				Surface water supply management & protection.
			Other, please specify:	

NR or ENVIRONMENTAL ISSUE	1	2	3	SPECIFIC CONCERNS
Wetlands				Loss of wetlands by construction or filling.
				Preservation of connected natural systems.
				Invasive plant species control.
				Other, please specify:
Wildlife and Habitat	1	2	3	SPECIFIC CONCERNS
				Destruction of wildlife habitat by construction.
				Restoration and improvement of habitats.
				Invasive plant species control.
			Other, please specify:	

4. How well do you think your top three general issues are currently being addressed by the following groups?

GROUP	Very Well	Adequately	Poorly	No opinion
Local conservation or environmental groups? <i>(Ex.: watershed councils, land conservancies, wildlife groups, etc.)</i>				
County level government agencies? <i>(Ex.: Environmental Health, Parks & Rec., Water Resources, etc.)</i>				
State level government agencies? <i>(Ex.: Dept. of Nat. Res., Dept. Env. Quality, Dept. of Ag & Rural Dev., etc.)</i>				

5. What actions do you think the Washtenaw County CD could take over the next 5 years with respect to the general natural resource and environmental issues you identified in this survey? (Please select up to 3 items.)

<input type="checkbox"/>	Create new, or expand existing partnerships with local conservation groups to work on resource issues identified.
<input type="checkbox"/>	Offer educational meetings and workshops to help landowners with the resource issues identified.
<input type="checkbox"/>	Expand/update the District website to include information on the resource issues identified.
<input type="checkbox"/>	Expand existing and/or create new programs to work on resource issues identified.
<input type="checkbox"/>	Publicize who we are, what we do and what we offer.
<input type="checkbox"/>	Develop programs to enlist and involve volunteers in working on resource issues identified.
<input type="checkbox"/>	Investigate ways to assist businesses in serving their customers with the resource issues identified.
<input type="checkbox"/>	Look for ways to assist townships and other municipalities in addressing identified resource issues in their communities.
<input type="checkbox"/>	Other, please specify:

6. Are there other natural resource or environmental issues that were not identified in this survey that you think will be of concern in Washtenaw County over the next 5 years? Please specify: _____

7. Do you have any additional comments you would like to share with us? _____

8. Describe the setting in which you live? Urban(city of village) Suburban Rural/Farm

9. Please check the one category which best applies to you:

Farmer Homeowner/Property Owner Rental Resident Other, specify: _____

Survey 2: Township, County & State Officials

2016 RESOURCE ASSESSMENT SURVEY

Included questions #1 – 4 and 7 – 9 of Survey 1, plus the following additional questions:

5. How is your level of government planning to address the top three issues you identified over the next 5 years?

6. What trends in government policy/regulation at the federal, state and local levels do you think will impact the general natural resource/environmental issues you identified in this survey over the next 5 years?

10. Please check the one category which best applies to you:

___ Township Official (_____) ___ County Commissioner of Official ___ State Legislator
Specify Township

Survey 3: Municipal, County, State or Federal Agencies/Departments

2016 RESOURCE ASSESSMENT SURVEY

Included questions #1 – 4 and 7 – 9 of Survey 1, plus the following additional questions:

5. How is your department or agency planning to address the top 3 general issues over the next 5 years that you identified?

6. What trends in government policy/regulation at the federal, state and local levels do you think will impact the general natural resource/environmental issues you identified in this survey over the next 5 years?

10. Please check the one category which best applies to you:

Municipal Gov't Dept. County Gov't Dept. State Gov't Agency Federal Gov't Agency

Survey 4: Conservation/Environmental Organizations & Sportsman's Clubs

2016 RESOURCE ASSESSMENT SURVEY

Included questions #1 – 4 and 7 – 9 of Survey 1, plus the following additional questions:

5. How is your club, group or organization or group planning to address the top three issues you identified over the next 5 years?

6. What trends in government policy/regulation at the federal, state and local levels do you think will impact the general natural resource/environmental issues you identified in this survey over the next 5 years?

10. Please check the one category which best applies to you:

Conservation/Environmental Organization or Group Sportsman's Club Wildlife organization

Please specify organization/group: _____

Survey 5: Agricultural, Environmental/Natural Resources Consulting, Service or Other Businesses

2016 RESOURCE ASSESSMENT SURVEY

Included questions #1 – 4 and 7 – 9 of Survey 1, plus the following additional questions:

5. How will your business plan to address the top three issues you identified over the next 5 years?

6. What trends in government policy/regulation at the federal, state and local levels do you think will impact the general natural resource/environmental issues you identified in this survey over the next 5 years?

10. Please check the one category which best applies to you:

Agri-business Environmental/Natural resources Service or consulting Business Other business

2016 RESOURCE ASSESSMENT SURVEY #1

E-Conservation Update Subscribers

The purpose of this survey is to find out more about natural resource and environmental issues of concern in Washtenaw County. Your feedback is important. All answers will be kept strictly confidential. Questions marked with an asterisk (*) require a response in order to complete the survey. **PLEASE COMPLETE THE SURVEY BY: JUNE 30, 2016.** Thank you for your participation.

1. How familiar are you with the Washtenaw County Conservation District and its programs and services?

- Very familiar
- Somewhat familiar
- Not familiar at all

*** 2. Below is a list of general natural resource and environmental issues that were identified in past surveys. Please rank the **TOP THREE ISSUES** that you think will be of concern over the next 5 years in Washtenaw County by marking the appropriate column. (1=first, 2=second, 3=third)**

	1	2	3
Air Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energy Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forests & Trees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solid Waste/Recycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surface and Groundwater Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wetlands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildlife and Habitat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other Issue (please specify)

* 3. Below are lists of specific concerns for each general natural resource or environmental issue identified in past surveys. For each of the three general issues you selected in question #2, please rank your **TOP THREE SPECIFIC CONCERNS** for those general issues by marking the appropriate columns (1=first, 2=second, 3=third). **ONLY RANK** the issues you selected, not all issues.

	1	2	3
AIR QUALITY: Vehicular emissions/pollution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AIR QUALITY: Industrial emissions/pollution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AIR QUALITY: Health related concerns (respiratory ailments, ozone action days, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AIR QUALITY: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ENERGY USE: Energy conservation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ENERGY USE: More exploration and production of current energy sources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ENERGY USE: More economically viable alternative energy sources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ENERGY USE: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORESTS & TREES: Woodlots needing management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORESTS & TREES: Invasive species control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORESTS & TREES: Tree diseases, insects or species decline.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FORESTS & TREES: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LAND USE: Loss of farmland from urban sprawl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LAND USE: Natural areas and open space preservation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LAND USE: Better development growth management and zoning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
LAND USE: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SOLID WASTE/RECYCLING: Landfill space and management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SOLID WASTE/RECYCLING: Expand recycling options and locations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SOLID WASTE/RECYCLING: Encourage/educate public on product reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SOLID WASTE/RECYCLING: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SURFACE & GROUNDWATER QUALITY: Storm water management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SURFACE & GROUNDWATER QUALITY: Groundwater supply management and protection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SURFACE & GROUNDWATER QUALITY: Surface water supply management and protection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SURFACE & GROUNDWATER QUALITY: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WETLANDS: Loss of wetlands by construction or filling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WETLANDS: Preservation of connected natural systems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WETLANDS: Invasive species control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WETLANDS: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLIFE & HABITAT: Destruction of wildlife habitat by construction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLIFE & HABITAT: Restoration and improvement of habitat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLIFE & HABITAT: Invasive species control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WILDLIFE & HABITAT: Other, please specify below.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other: Please specify issue & concern(s)

*** 4. How well do you think your top three general issues are currently being addressed by the following groups?**

	Very Well	Adequately	Poorly	No opinion
LOCAL conservation or environmental groups? (Examples: land conservancies, watershed councils, wildlife groups)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COUNTY level government agencies? (Examples: Environmental Health, Parks & Recreation, Water Resources, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
STATE level government agencies? (Examples: Dept. of Env. Quality, Dept. of Nat. Res., Dept. of Ag & Rural Dev.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*** 5. What actions do you think the Washtenaw County CD could take over the next 5 years with respect to the general natural resource and environmental issues you identified in this survey? (Please select up to three items.)**

- Create new, or expand existing partnerships with local conservation groups or County gov't agencies to work on identified resource issues.
- Offer educational meetings and workshops to help landowners take action on identified resource issues.
- Expand/update the District website to include information related to identified resource issues.
- Better publicize the District, who we are, what we do and what we offer.
- Develop programs to enlist and involve volunteers in working on identified resource issues.
- Investigate ways to assist businesses in serving their customers related to identified resource issues.
- Look for ways to assist townships or other municipalities in taking action on identified resource issues.
- Other, please specify below.

Other actions District could take. (please specify)

6. Are there other natural resource or environmental issues that were not identified in this survey that you think will be of concern in Washtenaw County over the next 5 years?

Yes (please enter below)

No

Other Issue(s)

7. Do you have any additional comments you would like to share with us?

Yes (please enter below)

No

Other Comments

*** 8. Describe the setting in which you live?**

Urban (city or village)

Suburban

Rural/Farm

*** 9. Please check the one category which best applies to you.**

Farmer

Homeowner/Property Owner

Rental Resident

Other, please specify below.

Other