

WATERSHED PLAN REVIEW CHECKLIST
(based on Appendix 8 Update)

Watershed Plan _____ Date of Review _____ Reviewer
Name _____ Agency _____

This checklist may provide more uniform reviews of watershed plans. If "No" or "?" is indicated below, appropriate comments must be provided to explain the nature of the problem. (Note, "A Guide to Developing Local Watershed Action Plans in Ohio" is referred to as the "Guide.")

I. Introduction, Defining the Watershed

A. Provide name, size, administrative boundaries, and general information regarding watershed

	Y	N	?	Comments
Counties				
Incorporated/Unincorporated areas				
Special districts (park, school, conservancy, sewer, soil & water, agricultural, regional planning agencies)				
Special designations (national, state wild & scenic rivers)				
Phase 2 stormwater communities				

B. Demographics

	Y	N	?	Comments
Population, ages, education levels, etc.				
Income levels, locations of growth				
Economic patterns				
Other factors				

C. Geographic locators

	Y	N	?	Comments
USGS HUC				
State 305(b) identification numbers				
Other (e.g., GIS, long-lat, etc.)				

D. General watershed information

	Y	N	?	Comments
Background/historic info on previous or current watershed protection & management activities, including previous planning documents				

II. Watershed Plan Development

A. Watershed partners (for additional potential stakeholders, see Guide, Page 8)

	Y	N	?	Comments
Watershed residents, landowners				
Local businesses/industries, regulated community				
Local & state government agencies				
Nongovernmental organizations				
Community organizations				
Educational institutions or educators				
Others				

B. Mission statement

	Y	N	?	Comments
Is one provided?				
Any problems/comments regarding mission statement?				

C. Structure, organization, administration (also see Guide, Page 8 and Appendix 1)

	Y	N	?	Comments
Legal status (e.g., non profit organization or board of directors)				
Partner roles & responsibilities defined				
Operational procedures & bylaws				
Group decision-making process				
Basic contact info (names of staff, address, telephone numbers, etc.)				

D. General plan contents

	Y	N	?	Comments
Outline of what is in the plan				
Endorsement of plan by key watershed partners				
Adoption of plan by local units of government				
Information/education component for public understanding & encourage early & continued participation in plan				

III. Watershed Inventory

A. Description of watershed

	Y	N	?	Comments
Geology:				
1. Topography (topo maps)				
2. Geological features (Division of Geo. Survey or USGS)				
3. Soils (DSWC/Tim Gerber)				
4. Glacial history (Geo. Surv.)				
Biological features (DNAP Heritage database, OEPA-EAU accessed through EPA field contact):				
1. Rare, threatened, endangered species (e.g., fish, mussels, invertebrates, mammals, birds, reptiles, amphibians, plants)				
2. Invasive nonnative species & potential impacts (DNAP)				
Water resources:				
1. Climate, precipitation (Ag stats)				
2. Surface water including:				
Wetlands (soils maps, NRCS database)				
Streams (include map/description of subwatersheds)				
Tributary names including length, watershed size, CFS, 10 yr. low flows, floodplain areas, sinuosity, entrenchment indices (<u>Gazetteer of Ohio Streams</u> , OEPA's website)				
Tributary use designation utilizing OH's water quality standards				
Lakes & reservoirs including size, uses, watersheds, detention time (Div. of Water)				
3. Ground water:				
Aquifers including location, recharge rates, uses				
Flow regime				
Source Water Assessment Plan (SWAP) information				
Sensitivity of groundwater to local sources of contamination per DRASTIC maps?				
Land use including land cover description (with percentages by subwatershed)				
1. Urban:				
Impervious surface				
Location of home sewage treatment systems				
2. Forest				

	Y	N	?	Comments
3. Agriculture:				
Crop type				
Tillage				
Rotations				
Livestock inventory				
Grazing				
Chemical use patterns				
Irrigation				
4. Water				
5. Non-forested wetland				
6. Barren				
7. Protected lands:				
City, county, district, state or national public forests or parks				
Land protected by private foundations or land trusts				
8. Status and trends (historical, current, and projected)				

B. Cultural resources

	Y	N	?	Comments
Sites of historical, cultural, or recreational significance				

C. Previous and complementary efforts

	Y	N	?	Comments
History of previous water quality efforts in the watershed				
Listing of current efforts that will help to meet water quality standards that are occurring in the watershed				

D. Physical attributes of streams and floodplain areas that support habitat, recreation, water quality, etc. (a.k.a. habitat modification inventory on subwatershed or stream segment basis)

	Y	N	?	Comments
Early settlement conditions				
Channel & floodplain condition (does channel have access to its floodplain?)				
Forested riparian corridor assessment				
# of miles with forested natural riparian buffer (describe as well)				
# of miles with permanent protection				
# of miles of natural channel (never modified or fully recovered)				
# of miles & location of modified channels				
Dams				
Channelization				

	Y	N	?	Comments
Streams with unrestricted livestock access				
Eroding banks (# of eroding banks & severity of sediment produced)				
Floodplain connectivity				
Riparian levees				
Entrenched miles				
Status & trends				
1. Expected residential/commercial development				
2. Expected road, highway, bridge, construction				

E. Water resource quality (to meet requirements of Clean Water Act, lakes, streams, and wetlands must be included in this assessment)

	Y	N	?	Comments
Locationally-referenced use designations/ use attainment:				
1. # of waterbodies/miles in full attainment				
2. # of threatened miles				
3. # of waterbodies/miles in partial attain.				
4. # of segments/miles in non-attainment				
5. # streams designated but not monitored				
6. Lakes/quality				
7. Wetlands/quality				
8. Groundwater/quality				
Causes & sources of impairment or threats presented in 305(b)-303(d) integrated water quality report for above listed waterbodies/miles. (See Attachment A for listing of causes and sources.) Note, sources as presented in OEPA's documents do not represent level of definition/detail needed to identify & target technical solutions. Consult with AAT for more details on source identification.				
Point sources (by subwatershed or stream segment):				
1. Permitted discharges (NPDES)				
2. Spills & illicit discharges				
Nonpoint sources (by subwatershed or stream segment):				
1. Inventory of home treatment sewage systems & projected # of failing systems				
2. # of new homes being built				
3. # & size of animal feeding operations				
4. Acres of Highly Erodible Land & potential soil loss				
5. Is stream culverted?				
6. Is stream channelized?				

	Y	N	?	Comments
7. Is stream levied?				
8. Does stream exhibit little human impact?				
9. What's the effluent volume?				
10. Is stream dammed? How many stream miles impounded?				
11. Officially classified &/or unofficially maintained as petition ditch(es)?				
Status & trends (areas where water quality is in attainment, but local information indicates the current situation, if unchanged, will likely result in water quality degradation)				

IV. Watershed Impairments (see Guide, Chapter 3, Defining Problems)

To complete this section, make sure that the inventory provides enough information to identify and quantify the sources of pollution impairing or threatening water resource quality in the watershed. These sources will need to be controlled to achieve the load reduction needed to significantly improve water quality. Section III, E., Water Resource Quality (above), shows where the streams are not attaining. This section also shows the causes and sources in general that are causing the water quality problem. The problem statement(s) is to link each cause with its source(s), the load estimate or relative pollutant contribution from each source or habitat limitation with the water resource quality by stream segment or 11 digit HUC subwatershed. The problem statement should contain actual projected loading numbers and units (e.g., tons of soil delivered, gallons of untreated waste, miles of channelized stream, etc.).

	Y	N	?	Comments
Pollutant loading (OEPA &/or ODNR can help develop this if either one of the following is not available: TMDL, Sediment Delivery Model, or Agricultural nonpoint source pollution model.)				
Habitat conditions (dams, corridor, & riparian cover) Review & assess habitat modification inventory				
Problem statement to link cause & source of impairments and estimates load. (See Attachment B of Appendix 8 for sample problem statements, restoration goals, & implementation plans.)				

V. Watershed Restoration and Protection Goals

Once problem statements relating to impaired/threatened waterbodies have been formulated, impairment reduction goals for each stressor need to be created on individual stream segments or 11 digit watersheds to move the segment/watershed towards water quality attainment. A combination of objectives (e.g., BMPs, policies, and actions) needs to be chosen that can obtain those results. If there are existing TMDL recommendations, see Attachment C.

The most impaired waterbodies or subwatersheds where it is felt that a difference in the impaired status can be made should be targeted first. Also to be included should be protection strategies for waters that are meeting their designed uses, but might be threatened by changing land use, etc.

	Y	N	?	Comments
Goals should be based on measurable indicators, with appropriate indicators of success (e.g., pollutant load reduction to meet WQ standard, habitat improvements, or any other appropriate administrative indicator) for each problem defined in Section III, E. above, Water Resource Quality. (Compiled by 11 digit watershed or waterbodies.)				
Objectives to accomplish each goal should contain technical solutions (e.g., BMPs, policies, or actions) & amount of each to achieve each individual goal.				

VI. Implementation

The most impaired waterbodies or subwatersheds where it is felt that a difference in the impaired status can be made should be targeted first. Also consideration should be given to targeting waterbodies where there is likely to be the strongest support or participation. Identify, using source information gathered in the inventory, the critical areas in which implementation measures will be needed.

	Y	N	?	Comments
Prioritize objectives (utilize timeline to include task, solutions, resources, methods, timeframe, & performance indicators for each solution). See Attachment D.				
Education/information/marketing strategy				
Funding strategy				

Note, watershed plans within the Ohio Lake Erie Basin must describe how the following Management Measures of the Ohio Coastal Nonpoint Pollution Control Program will be implemented within the specific watershed, if the watershed inventory or sources and causes of impairment indicate applicability:

Agriculture

- (3.3.6) Grazing Management
- (3.3.7) Irrigation Water Management

Urban

- (5.3.3) Site Development
- (5.6.1) New On-Site Disposal Systems (Part 3)

Urban (cont.)

- (5.6.2) Operating On-Site Disposal Systems
- (5.8.1) Planning, Siting, and Developing Roads and Highways
(Local Roads & Highways Only)
- (5.8.2) Bridges (Local Roads & Highways Only)

Hydromodification

- (7.4.1) Channelization and Channel Modification - Physical and Chemical Characteristics of Surface Waters
- (7.4.2) Channelization and Channel Modification - Instream and Riparian Habitat Restoration
- (7.5.1) Dams - Erosion and Sediment Control
- (7.5.2) Dams - Chemical and Pollutant Control
- (7.5.3) Dams - Protection of Surface Water Quality and Instream and Riparian Habitat
- (7.6.1) Eroding Streambanks and Shorelines

VII. Evaluation

Evaluation is easier if goals and objectives are specific. The ultimate evaluation will be if the non-attaining segments move into attainment as a result of implementation efforts. Items to be included in evaluations:

	Y	N	?	Comments
Set of criteria that can be used to determine if loading reductions are being achieved over time & substantial progress is being made towards attaining water quality standards, and, if not, the criteria for determining if this watershed-based plan (or incorporated TMDL recommendations) needs to be revised.				
Easy tracking of plan's progress. Who will monitor plan progress? How? How will plan progress be publicized to officials & public? Are there adequate resources to monitor progress? What time frame will likely occur before progress is discernable? What surrogates of water quality progress will be tracked & reported? By whom to whom? At what point will the success or lack of progress on certain objectives call for a revision of implementation strategy?				
Highlighting of successful activities as well as showing which activities not to repeat in same manner.				
Substantive &/or methodological knowledge of processes & programs.				
Monitoring component to evaluate effectiveness of implementation efforts over time, measured against the set of criteria used to determine if loading reductions are being achieved (i.e., first box above).				

VIII. Plan Update/Revision

Strategy needs to be created that keeps the plan in front of the general public and responsible officials, starting with a distribution list for the plan and an ongoing information/education component to keep the stakeholders involved. An agency needs to be designated to assess how conditions have changed over time that will call attention to the need to update the plan.

Practical information to include in the plan:

	Y	N	?	Comments
Title page that includes name(s) of contact person(s) with contact information.				
Creation of distribution list for plan along with an ongoing information & education component to involve public.				
Brief calendar of past & planned events & table defining acronyms used in plan.				
Listed organization to keep all records & documents involved in plan for future reference.				