

- To target the implementation of integrated suites of restoration activities in priority sub-watersheds.
- To foster integrated ecosystem-based watershed assessments.
- To target projects and activities in priority watersheds.
- To improve reporting and monitoring of program accomplishments.

What is its Condition?

A condition assessment is a technical review of an assets condition. In general, the assessment uses an organized method to assist in decision-making regarding maintenance, restoration or rehabilitation through capital renewal and Operations and Maintenance (O&M) programs. Condition assessments provide the most up-to-date and accurate look at an asset’s current status.

The District and cities have implemented numerous condition assessment programs for various hard asset classes, notably conveyance systems such as ditches and pipes, outfalls, and pump stations. The condition assessment methodologies range from field inspections (e.g. survey and measured variable to closed circuit television inspections) to conducting workshops with key members of the O&M staff. Workshops use the process of iterative, independent questioning of a panel of experts to assess the timing, probability, significance and implications of factors, trends and events in the relation to the problem being considered.

A condition assessment is time- and resource-intensive process. As such, it is expensive. A significant financial investment in time and material is required to conduct condition assessments. However, in some cases, it may not be necessary.

In watershed management there is a trend towards watershed health. Those assessments, in a multiple use setting must be integrated and consider: Landscape Condition, Habitat Condition, Hydrology, Geomorphology, Water Quality, Biological Condition, and Vulnerability.

Multimetric indices or other methods are used to integrate multiple indicators representing different healthy watersheds attributes. Integrated watershed assessments can range from screening-level assessments using GIS data layers to statistical and geospatial modeling of ecological attributes.

In 2013, the District recognized that a growing trend in state agency policy and preference was watershed restoration and landscape health. We also recognized that effective management and restoration would require strategically focused investments of money, material and know-how.

Purpose

The purpose of condition assessment is to determine the relative state of the physical and biological characteristics and processes within the Coon Creek and associated watersheds of the District that affect the hydrologic and soil functions supporting aquatic ecosystems. Watershed condition reflects the variability from natural pristine to degraded (severely altered or impaired).

Methodology

The District conducted and continues to conduct reviews of integrated assessments. In all, the District has review over 20 technical documents that present the results of comparative measurement of a series of watershed health and vulnerability indices across large areas or watersheds. Several are statewide-scale efforts undertaken in partnership with state agencies and non-governmental organizations; others are targeted studies of specific ecological regions or river basins. Statewide assessments have included California, Minnesota, Wisconsin, Alabama and Tennessee. Targeted assessments have included the Taunton River Basin, the Clinch River Basin, the Mobile Bay Watershed, and the Montana Prairie Potholes Region.

In 2014 the District adopted and has continued to refine the Forest Service Watershed Condition Classification System (WCCS) because of its ability to:

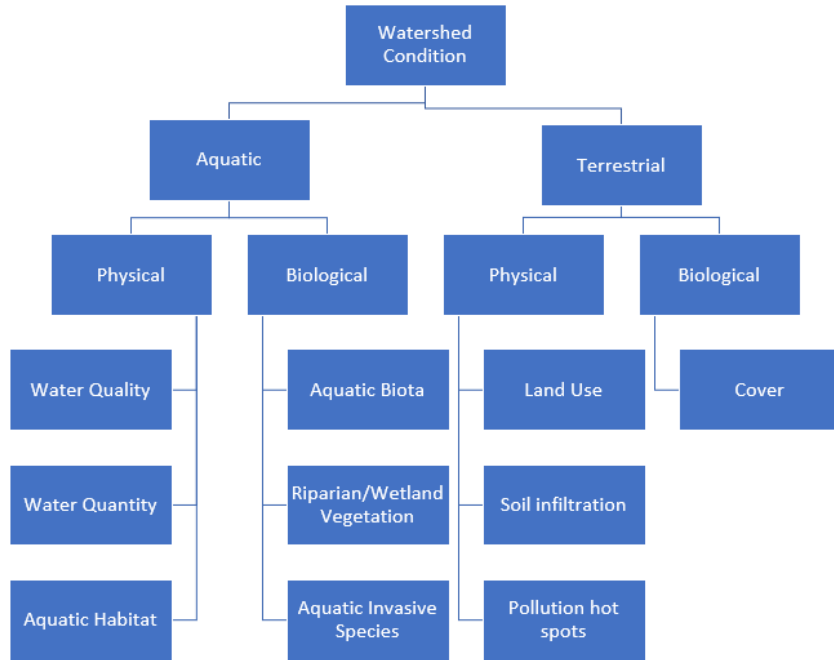
- Be developed and updated in the same time frame as annual planning, programming, budgeting, and execution.
- Handle the complexity of urban and urbanizing natural resource management.
- Be scaled and applied at both the site level, catchment, minor subwatershed, and watershed levels.
- Be accomplished within existing budgets and staffing.
- Aggregate the results of existing District and municipal monitoring and inspections efforts.

Watershed Condition Model

The basic model used in this classification system provides a watershed-wide, reconnaissance-level evaluation of watershed condition. It offers a systematic, adaptable means for classifying and comparing watersheds based on a core set of watershed indicators. These indicators are grouped into four process categories:

1. Aquatic Physical Processes
2. Aquatic Biological Processes
3. Terrestrial Physical Processes
4. Terrestrial Biological Processes

These categories represent terrestrial, riparian and aquatic ecosystem processes and mechanisms by which management actions can affect the condition of watersheds and associated resources. The WCCS relies on professional judgement exercised by a watershed interdisciplinary team, GIS data and local state and federal databases and written rule sets and criteria for indicators that describe proper function, function-at-risk, and impaired conditions.



2022 Assessment

This assessment is the fourth integrated assessment performed for and by the District. District staff continued to apply and refine the model and assessed the condition of the watershed in 2018 and again in 2022-23. During the winter of 2022-23 the District formed a Watershed Assessment Team comprised of District Program Coordinators and select staff, District Engineer and GIS staff to conduct a fact and data driven assessment of the watershed using the following basic construct.

Between December 2021 and March 2022, the Watershed Assessment Team met 14 times (at least once on each factor) to review and discuss data, studies, expert perspectives from outside the agency and review, refine and decide on criteria that validly and reliably expressed the current condition of the factor and could be mapped. The team relied on consensus to remain focused and true to the science and the knowns of watershed processes in Coon Creek.

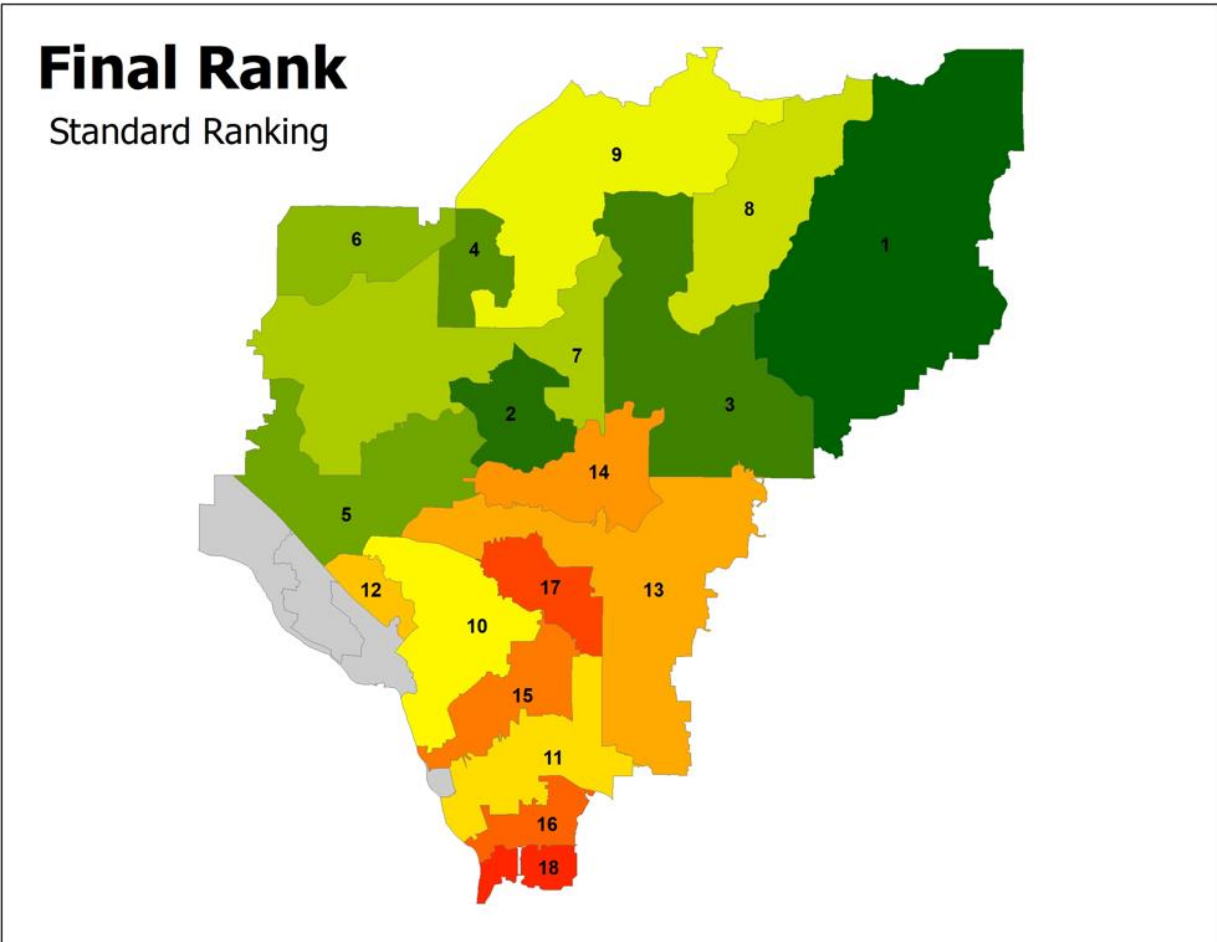
The goals of the integrated assessment were:

1. To assess relative watershed condition as influenced by integrated land use practices.
2. To assess the changes in watershed capability to produce resource outputs that result from changes in watershed condition.
3. To use a consistent and scientific approach to land management and to assess, protect, and restore watershed condition.

Findings

The District staff found that:

1. The approach was extremely useful and the benchmarks for high functioning watersheds accurate and dependable.
2. Some of the initial criteria offered by the US Forest Service (USFS) were not useful or helpful in dealing with the particulars of urban or urbanizing watersheds.
3. In general, ecological condition was fair to good in headwater subwatersheds and fair to poor in the southern, urbanized portion of the District.



Condition of Natural Assets

1. Orange to Red subwatersheds

- Largely exhibit low geomorphic, hydrologic, and biotic integrity relative to neighboring subwatersheds and their natural potential condition.
- A majority of the drainage network may remain unstable but less than 2022 and more so should the break in the drought be characterized the high intensity damaging storms.

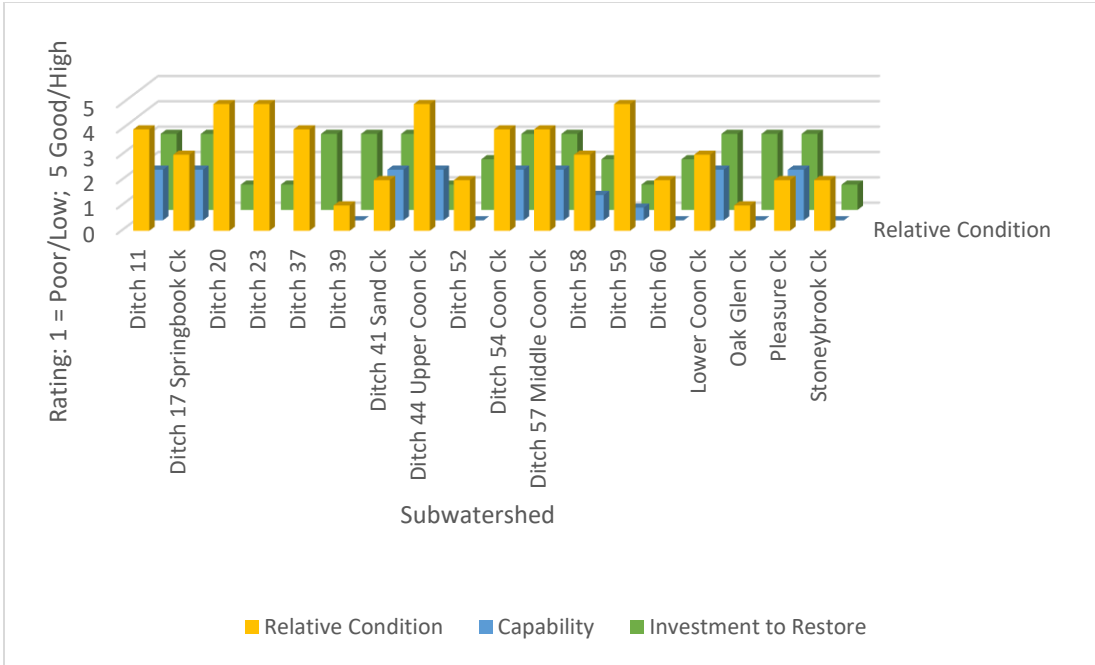
- Physical, chemical, and biologic conditions will likely show limited and select signs of supporting beneficial uses over the subwatershed, however, it could exhibit significant improvement if stressors are effectively dealt with.
- Regular investment is made to repair and restore portions of the resource, usually to prevent further damage or prevent other problems.

2. Yellow subwatersheds

- Exhibit moderate geomorphic, hydrologic, and biotic integrity relative to neighboring subwatershed and their natural potential condition. Although they remain at risk.
- The drainage network in these areas will likely exhibit unstable characteristics resulting from intensive land use and land disturbance activities such as urban development or agricultural drainage modifications.
- Physical, chemical, and biologic conditions do not support or are at risk of not being able to support beneficial uses. Restoration potential is high.
- Semi-regular investments of money, material and/or expertise will be required to maintain or improve these conditions and address pending and probable impairments.

3. Green subwatersheds

- Exhibit high geomorphic, hydrologic, and biotic integrity relative to neighboring subwatershed and their natural potential condition.
- The drainage network in these areas will likely exhibit stable characteristics.
- Physical, chemical, and biologic conditions are generally supportive of beneficial uses although some impairments exist in some reaches. Natural wetland and soil conditions also preclude attainment of select standards.
- Periodic investments of money, material and/or expertise will be required to maintain or protect these conditions.



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