

OHIO EPA

DIVISION OF ENVIRONMENTAL AND FINANCIAL ASSISTANCE

AND

DIVISION OF SURFACE WATER

INTEGRATED PRIORITY SYSTEM



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I. INTRODUCTION

Overview of the IPS

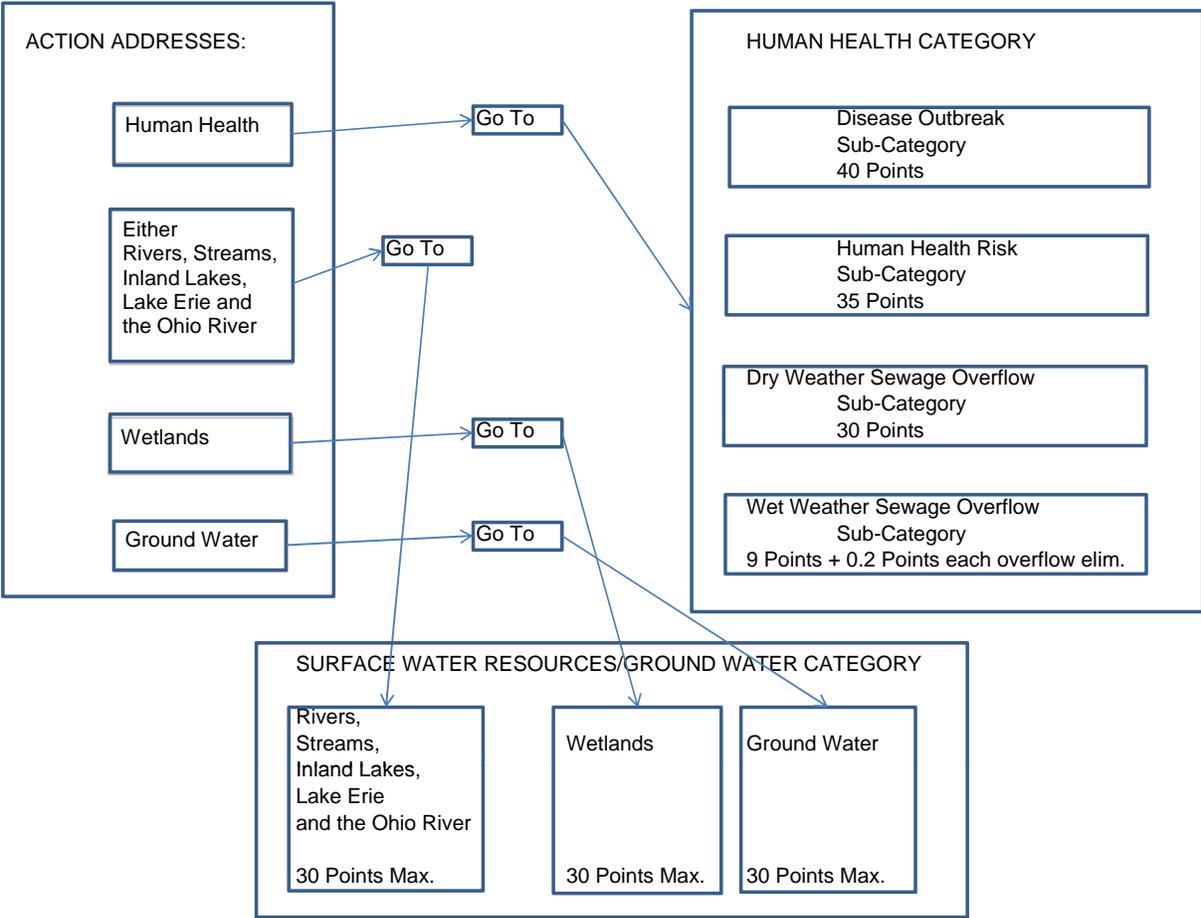
The IPS can be used to rank projects, activities, or actions. It does this by evaluating the effect of the project, activity, or action on the human or aquatic life uses of water resources. The system does this by considering: 1) the potential uses of water resources; 2) the restorability of water resources to their potential uses or the protection of existing uses; and 3) the effectiveness of projects, activities, or actions in addressing identified sources of impairment or threat.

The IPS places the highest level of priority on projects, activities, or actions that protect human health. The IPS places a second level of priority on projects, activities, or actions which: 1) protect or restore the aquatic life uses of surface water resources, 2) protect or restore the ecological integrity of wetlands, or 3) protect or restore the quality of ground water resources for human use.

Within the Human Health Category, there are four tiers of priority. The first tier consists of cases where a documented disease outbreak can be attributed to a water-borne source. The second tier consists of cases where a public health threat from a water-borne source has been identified. The third tier consists of cases where dry weather overflows are present but no in-stream bacteriological data is available, and the fourth tier consists of those cases where wet weather overflows are present, but no in-stream bacteriological data is available. Actions are grouped into one of the four sub-categories, with scores ranging from 40 points for a disease outbreak to 35 points for a public health threat, 30 points for a dry weather overflow, and 9 points for a wet weather overflow, with an extra 0.2 point for each wet weather overflow eliminated.

Within the Surface Water Resources/Ground Water Category, rivers and streams, inland lakes, Lake Erie, the Ohio River, wetlands, and ground water are evaluated, each with measures appropriate to the resource in question. Regardless of the type of water resource, final scores range between 0 and 30 points, so that similar priority actions for each water resource category can be compared. This allows actions affecting different types of water resources to be placed on a single priority list.

Shown below is a general schematic of the IPS. Specific information on the ranking system is contained in subsequent sections of this report.

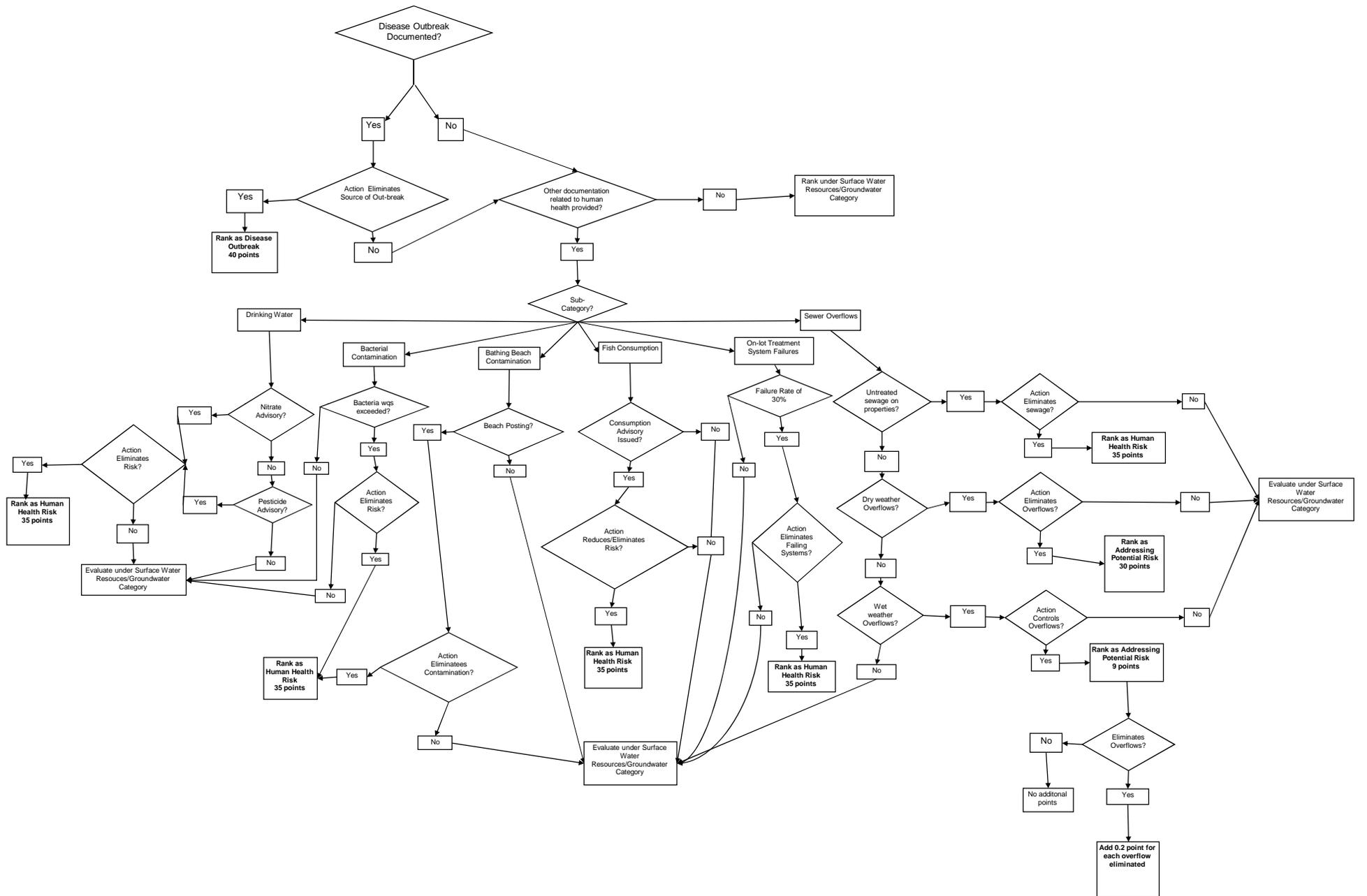


II. THE INTEGRATED PRIORITY SYSTEM (IPS)

1. HUMAN HEALTH CATEGORY

Actions addressing documented human health concerns arising from waterborne pathogens or pollutants form the first level of priority within the IPS, reflecting the importance of protecting public safety. Within the Human Health category, there are four levels of priority. The top level of priority are those cases where there is a confirmed disease outbreak. The second level of priority are those cases where a documented human health risk is present. The third level of priority is specific to the presence of dry weather overflows of sewage in the environment and the fourth level of priority is specific to the presence of wet weather overflows of sewage in the environment, both of which may pose a potential for human health risks.

All actions ranked through the IPS are evaluated to determine whether they qualify for ranking within the Human Health category, based on information provided with the project nomination. Actions are initially evaluated by determining whether either a disease outbreak has occurred, a risk to human health exists, dry weather overflows of sewage are present, or wet weather overflows of sewage are present. If any of these conditions are present, actions are then evaluated as to whether they address the source of the disease outbreak, human health risk, or overflow of sewage. If actions address the source of the problem, they are ranked based on the applicable sub-category, according to whether they address a disease outbreak, a human health threat, or an overflow of sewage. If actions will not address the source of the problem, then they are not ranked within the human health category, and are instead evaluated within the other IPS categories, as appropriate. If the information accompanying the project nomination shows that the action will also address other designated uses, then the project will be ranked under the Surface Water Resources/Groundwater Category and will be ranked using the score from either the Human Health Category or Surface Water Resources/Groundwater Category, whichever score is higher. Please refer to the figure below when reviewing the information on the Human Health ranking system.



1.1. DISEASE OUT-BREAK SUB-CATEGORY

In order to be placed within this sub-category, the proposed action must address a documented water-borne disease outbreak. Documentation must be provided by or through the local health department which demonstrates a correlation between the location of failing on-site systems, location of incidents of suspected water-borne disease, and the dates of occurrences of reported illnesses. The correlation must also be supported by surface water and/or drinking water well sampling showing elevated concentrations of fecal coliform bacteria. The information must show that the numbers of reported illnesses are greater in the area in question than in surrounding areas.

A clear demonstration must be provided that the proposed action will eliminate the water pollution sources suspected of being the sources of the reported water-borne diseases. If such a demonstration is provided, then the proposed action will receive **40 points**.

1.2. HUMAN HEALTH RISK SUB-CATEGORY

Six different types of human health risks are evaluated under this sub-category: 1) on-lot treatment system failures in unsewered areas, 2) surface water bacterial levels in excess of water quality standards, 3) drinking water supply contamination, 4) bathing beach contamination, 5) fish consumption advisories, and 6) discharge of untreated sewage into basements or onto streets or properties. Projects which meet the rating criteria under this sub-category and are determined to be effective at addressing the source of the problem will receive **35 points**.

1.2.1. On-lot Treatment System Failures in Unsewered Areas

If failure rate documentation is provided, the documentation must be from the local health department. The documentation can consist of the results of surveys of on-lot treatment systems in the area in question, or data obtained from unresolved nuisance complaints, unresolved failures identified during real estate transactions, unresolved failures found during inspections, unresolved private drinking water well contamination, or other comparable sources of information. If the documented failure rate is equal to or greater than 30% of the systems in the area in question, then it is assumed that there is a significant human health risk.

On-lot treatment system failures can also be established in an unsewered area through analysis of water samples for bacterial contamination. Multiple sampling points need to be chosen for the drainage ways serving the unsewered areas in question. If 50% or more of the samples show a violation of water quality standards for secondary human contact, then it is assumed that there is a significant human health risk.

A third way in which on-lot treatment system failures can be established is if the Ohio EPA, Division of Surface Water, district office staff have documented, based on field observation, that the on-lot treatment systems in the unsewered area in question are failing to a level where the district would recommend the issuance of Director's Findings and Orders if the noted problems are not corrected. With such documentation from a district office, it is assumed that there is a

significant human health risk.

If a human health risk is established through one of the three means above, then the effectiveness of the proposed action at addressing the source of the risk is evaluated. The proposed action is considered effective if it will eliminate the failing on-lot treatment systems.

1.2.2. Surface Water Bacteria Levels in Excess of Water Quality Standards

Bacteriological sampling data is used to determine the presence of a potential risk to human health. Projects are evaluated using in-stream bacteria sampling contained either in the Integrated Report database or provided by other reliable sources (i.e., local health departments or other sources if the Ohio EPA sampling protocol has been followed). Actions affecting ephemeral streams and drainage ditches are not considered.

Exceedance of water quality standards for in-stream bacterial levels is determined by comparing sampling results to the water quality standards established for the degree of contact designated for the water body (i.e., bathing water, primary contact, secondary contact or not rated). Reference is made to OAC 3745-1-07, Table 7-12, for the water quality standards applicable to the designated degree of contact. For water bodies that are not rated, the secondary contact standard is used. If the bacteria water quality standards are exceeded for the designated degree of human contact, then a potential human health risk exists.

A determination is then made as to whether the action addresses the sources of the bacterial inputs. Specific sampling data must be supplied that documents the sources of the inputs question. Based on this documentation, the applicant must describe the extent to which the proposed action will reduce or eliminate the sources of bacterial contamination. If the action will reduce bacterial inputs to a level that meets the designated human use for the water body in question, then the proposed action is considered to be effective.

1.2.3. Drinking Water Supply Contamination

The project nomination must provide information from the drinking water supplier documenting that nitrate or pesticide advisories have been issued for the supply. If such advisories have been issued within the last two years, then a potential human health risk exists. The proposed action is considered effective if it controls the contaminant in question down to a level that permits the water treatment plant to meet its maximum contaminate levels (MCLs) for the pollutant(s) in question.

1.2.4. Bathing Beach Contamination

In Ohio, bathing beaches are monitored either by county health departments, the Ohio Department of Health, or the Ohio Department of Natural Resources.

The Ohio Department of Health also sponsors the “Bathing Beach Monitoring Program”, which is a cooperative effort between the Ohio Department of Health, the Ohio Department of Natural

Resources, local health departments with public beaches within their jurisdictions and private and public organizations along the Lake Erie border and throughout Ohio. The goal of the program is to assure a safe and healthy aquatic recreational environment by protecting the bathing public from risks of contracting waterborne diseases from exposure to contaminated waters. These monitoring programs result in beach postings whenever monitoring indicates that water quality standards are being exceeded for E. coli bacteria.

If a beach posting has been issued within the last two years, then a potential human health risk exists and the effectiveness of the project at reducing the risk is evaluated. The project is considered effective if, in the case of municipal wastewater treatment, it will eliminate the identified human sources of bacterial contamination or, in the case of projects proposed to address non-human sources, it will eliminate the non-human sources of bacterial contamination.

1.2.5. Fish Consumption Advisory

The Ohio EPA sport fish consumption advisory, located at: www.epa.state.oh.us/dsw/fishadvisory/counties/Cuyahoga.html identifies the locations of fish consumption advisories within Ohio. If there is a fish consumption advisory for the water body in question, the contaminant(s) for which the consumption advisory has been issued are noted.

Any identified fish consumption advisories indicate a potential risk to human health. Proposed projects which will reduce the contaminant or contaminants in question at the location of the advisory are considered to be effective.

1.2.6. Discharge of Untreated Sewage into Basements or onto Streets or Properties

Either combined or separate sewer systems carrying sanitary sewage that lack sufficient capacity may cause back-ups into residential basements or onto properties or streets. This may occur particularly during wet weather periods. If such back-ups are present, documentation must be provided which demonstrates the presence of back-ups into basements or overflows onto streets or properties. The number of such instances within the last two years must be indicated. Also, documentation must be provided which demonstrates that the source of the back-ups to basements or overflows to properties is insufficient sewer capacity or other structural problems, as opposed to needed maintenance, such as sewer cleaning to remove blockages. Such documented back-ups or overflows indicate a potential risk to human health and actions which reduce occurrences of this problem by 50% or more annually are considered effective.

1.3. DRY WEATHER OVERFLOW SUB-CATEGORY

This sub-category includes those situations where either separate or combined sewer systems experience overflows during periods of dry weather. Projects which meet the rating criteria under this sub-category and are determined to be effective at addressing the source of the problem will receive **30 points**. The cause of the overflows must be related to capacity deficiencies in the sewer system in question, as opposed to maintenance issues, such as sewer cleaning to remove blockages or overflow regulator maintenance.

Documentation must be provided which shows the number of overflow occurrences in the last two years prior to the submission of the nomination. The locations of the dry weather overflows must also be provided.

If the documentation establishes the presence of an overflow problem, then the effectiveness of the proposed action in addressing the identified problem is assessed. If the proposed action will result in the elimination of the overflows, then it is considered to be effective.

1.4. WET WEATHER OVERFLOW SUB-CATEGORY

This sub-category includes those situations where either separate or combined sewer systems experience overflows during periods of wet weather. The cause of the overflows must be related to capacity deficiencies in the sewer system in question, as opposed to maintenance issues, such as sewer cleaning to remove blockages or overflow regulator maintenance. Projects qualifying under this sub-category receive a score of **9 points**, plus an additional **0.2 point** for each overflow location eliminated. No points beyond the 9 points are given for projects which reduce, but do not eliminate, individual overflows.

Documentation must be provided which shows the number of overflow occurrences for the last two years prior to the submission of the nomination. The locations of the wet weather overflows must also be provided.

If the documentation establishes the presence of an overflow problem, then the effectiveness of the proposed action in addressing the identified problem is assessed. If the proposed action will result in a reduction or elimination of the overflows, then it is considered to be effective.

2. SURFACE WATER RESOURCES/GROUND WATER CATEGORY

Actions addressing Surface Water Resources/Ground Water constitute the second major category of the ranking system. Within this category actions are ranked relating to: 1) Streams and Rivers, Inland Lakes, the Ohio River and Lake Erie; 2) Wetlands; and 3) Ground Water.

Actions affecting Streams and Rivers, Inland Lakes, the Ohio River and Lake Erie are ranked using the same system of factors, which is based on the aquatic life use of these resources. Actions affecting Wetlands are ranked using a system which considers wetland quality and function. Actions affecting Ground Water resources are ranked using a system which considers factors influencing ground water quality for human use. While each of these 3 major water resource types has its own system for assigning points, all of the systems provide final scores which range from **0 to 30 points**. The three ranking systems within this category are presented below by water resource type.

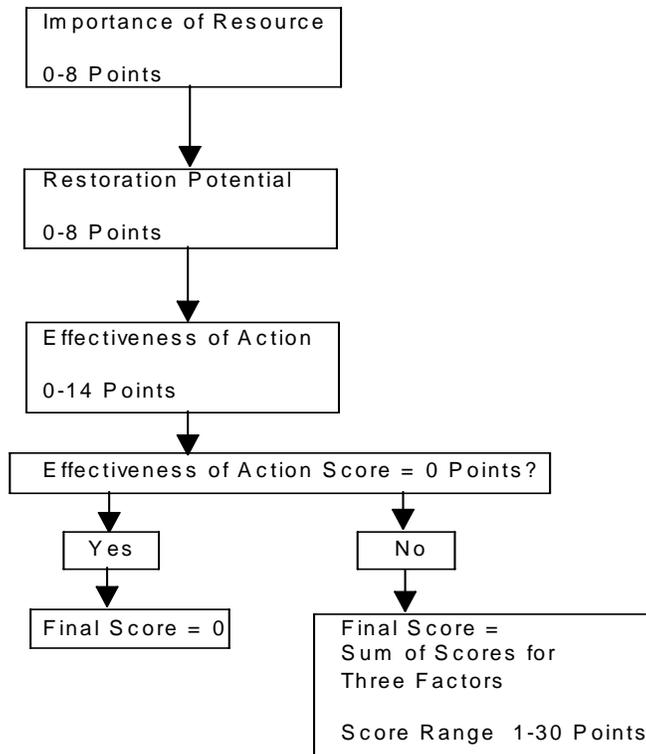
2.1. RIVERS, STREAMS, INLAND LAKES, LAKE ERIE AND THE OHIO RIVER

- **Focus on Aquatic Life**

This portion of the IPS focuses on aquatic life and how actions can protect or restore water resources so that full attainment of the potential aquatic life use designation can be realized. Ohio EPA is fortunate in that it has an excellent biological monitoring history and a rich body of data on the major surface water resources in the state. These data are contained in Ohio EPA's *Integrated Water Quality Monitoring and Assessment Report* database (implementing Section 305(b) of the Federal Clean Water Act and referred to hereinafter as the Integrated Report), and are the basis for this ranking system. The database is extensive enough to allow ranking of actions affecting unmonitored stream segments, using watershed level information for such stream segments. The following information describes how actions that affect streams, rivers, inland lakes, the Ohio River and Lake Erie will be evaluated and ranked.

- **System Overview**

Please refer to the figure below, which contains an overview of this system when reviewing this information.



An aquatic life use-based priority ranking system was developed consisting of three factors: 1) Importance of Resource, 2) Restoration Potential and 3) Effectiveness of Action. In this system, the three factors are summed to yield scores for the actions being ranked. The Importance of Resource and Restoration Potential factors collectively have a slightly greater weight than Effectiveness of Action, reflecting an emphasis on protecting and restoring the water resources with the highest potential aquatic life uses and the greatest potential for being restored. Effectiveness of Action, however, is still an important factor in determining an action's priority, with a maximum score of 14, as compared to a maximum score of 16 for the other two factors combined. The Effectiveness of Action factor is specific to the action being ranked, rather than the aquatic resource being benefitted.

Each of the three factors have components which are specific to the surface water resource types being evaluated: a) rivers and streams, b) inland lakes, and c) Lake Erie and the Ohio River. The three factors are described in more detail in the following sections.

2.1.1. Importance of Resource Factor

The Importance of Resource factor refers to the potential for a water body to support a healthy biological community. In general, those resources that have the potential to support a high diversity of aquatic organisms will rate higher than those resources that can only support pollution-tolerant organisms. This is determined by using the aquatic life habitat use designations in Ohio's Water Quality Standards (WQS). For example, a stream that is Exceptional Warm Water Habitat will receive a higher rating than a Modified Warm Water Habitat stream. This factor incorporates the antidegradation classifications being assigned to the rivers and streams of the state, as these classifications reflect the presence of declining, threatened, rare and endangered species, or unique aquatic resources. For stream segments which are undesignated in the WQS, the designated use of the next downstream segment will be used to determine the Importance of Resource Factor.

For watershed projects, all of the water body segments in the watershed will be rated. The sum of these scores will be divided by the total number of segments in the watershed to get an average watershed score for Importance of Resource. Table 1 below shows the scoring system for this factor.

Table 1 - Importance of Resource Ratings

Resource	Rating
*Outstanding National Resource Water (ONRW)	8
*Outstanding State Water based upon Ecological Values (OSWE)	7
*Superior High Quality Water (SHQW)	6
Cold Water Habitat (CWH)	5
**Exceptional Warm Water Habitat (EWH)	4
Warm Water Habitat (WWH)	3
Modified Warm Water Habitat (MWH)	2
Limited Resource Water (LRW)	1

*These are antidegradation categories.

**Lakes and reservoirs, including Lake Erie, are considered EWH.

2.1.2. Restoration Potential Factor

The Restoration Potential Factor uses different sets of criteria for: 1) rivers, streams and watersheds; 2) inland lakes; and 3) Lake Erie. These criteria are described separately below. However, the point scale used for scoring this factor (0-8 points) is the same for all water bodies addressed.

2.1.2.1. Rivers, Streams and Watersheds

For rivers, streams, and watersheds, a methodology is presented in the Appendix F of the year 2000 305(b) Report for rating stream segments based on the likelihood of restoring aquatic life use to a condition comparable to minimally impacted regional reference streams. In the year 2000 305(b) Report, this factor is termed the “ultimate aquatic life use restorability factor” and is available for monitored stream segments. This system will be used to rate the restorability of these resources.

Restorability ratings have also been developed for Ohio watersheds (SCRF6). Watershed restorability ratings are useful in a variety of ways. First, they give an indication of how typical any particular stream segment is in a watershed with respect to restorability. A stream that is present in a watershed with a high restorability rating is likely to be restored more quickly and with less effort than one in a watershed with low restorability. This is because the rating connotes either the presence or absence of sensitive species in the watershed that are needed to

re-populate degraded areas, and the corresponding habitat and physical nature of streams in the watershed which are needed to support healthy aquatic biological communities.

For actions affecting impaired streams, the Restoration Potential Factor is calculated for stream segments by taking an average of the restoration potential for the stream segment and the restoration potential for the watershed in which the stream segment is located. This helps account for watershed influences upon stream segment restorability, as well as instances where stream segments may have a lower restorability than the watershed which they affect. When a restoration potential rating is not available for a stream segment due to a lack of monitoring data, the watershed restoration potential rating is used.

For actions affecting watersheds, the watershed restoration potential will be used for the Restoration Potential Factor. When a watershed restoration potential is unknown then either the next downstream watershed value will be used, or if this is not possible, then a comparable watershed, in terms of land use, in the same geographic area as the watershed in question, will be used.

There are eight levels for the Restoration Potential Factor, shown in Table 2 below. In segments that are achieving full attainment of their Warm Water Habitat (or better) designated aquatic life habitat use, a comparative restoration rating is not needed. Since protection rather than restoration is needed for these high quality segments, they will be given the same score as “extremely high” restoration potential water bodies.

In summary, the Restoration Potential Factor is designed to give first priority to unaffected or highly restorable water resources and lowest priority to the least restorable water resources.

Table 2 - Restoration Potential Rating For Rivers and Streams

Restoration Potential	Rating
Most Restorable: Extremely High or a Fully Attaining Segment	8
Very High	7
High-Very High	6.5
High	6
Moderate - High	5
Moderate	4
Low-Moderate	3
Low	2

Restoration Potential	Rating
Very Low	1
Essentially None	0

2.1.2.2. Inland Lakes

For inland lakes, there are relative measures of impairment contained in the Ohio Lake Condition Index (LCI) that are used to provide a restoration potential rating. The Ohio Lake Condition Index is used to assess the overall ecosystem health of Ohio's public lakes. This index uses information gathered on 14 different parameters to allow assessment of the overall condition of lake ecosystems. Table 3 below relates LCI values to lake condition and shows the restoration ratings that have been assigned to the LCI values.

Table 3 - Restoration Potential Ratings for Inland Lakes

Condition	LCI Value	Restoration Rating
excellent	0-21	8
good	21-25	7
good-fair	25-30	6
fair	30-35	5
fair-poor	35-40	4
poor	40-45	3
poor-very poor	45-50	2
very poor	>50	1

2.1.3. Effectiveness of Action Factor

The Effectiveness of Action factor reflects whether the action being rated will improve the quality of its associated water resource. This is determined based on: 1) what the sources of impairment or threats to attainment are for the water body, 2) which of the identified impairments or threats the action will address, and 3) the degree to which the action will address the sources of impairment or threats. The causes and sources of impairments or threats are contained in the Integrated Report database for all monitored streams, rivers and lakes of the

state. For those segments that have not been monitored, watershed information will be used to identify sources of impairment or threats. In rating actions using this factor, both the primary and secondary environmental effects of the action are taken into consideration in determining a score.

This factor also rates actions as to whether they will protect water resources from declines in current quality.

2.1.3.1. River and Stream Segments

The Effectiveness of Action rating for river and stream segments is calculated as follows.

- From the Integrated Report database, the condition of the water body that will be influenced by the project is determined by noting all the sources of impairment or threat. The Integrated Report database indicates the sources of impairment for each stream segment, and rates each as being either a high, moderate, or slight source of impairment, or a threat. The Effectiveness of Action factor converts these ratings into points by assigning:
 - 4 points for high sources,
 - 3 points for moderate sources,
 - 2 points for threats, and
 - 1 point for slight sources.
- An Effectiveness Percentage for the action is then calculated by first obtaining the sum of points for all sources in a stream segment. Next, the sources addressed by the action are summed. For those actions which do not completely address a source, a fractional point value is assigned. A percentage is then calculated by taking the sum of the points for the sources addressed and dividing by the total points for the sources present in the stream segment.
- The Effectiveness Percentage is then converted into an Effectiveness of Action score. This is done by matching an action's Effectiveness Percentage to one of seven groups of Effectiveness Percentages, with scores ranging from 0 to 14.

NOTE: *When an action scores 0 points for this factor, it receives 0 points for rank in the Rivers, Streams, Inland Lakes and Lake Erie portion of the IPS regardless of scores it receives in the other two factors.*

Ranges of Effectiveness Percentages are used to assign Effectiveness of Action scores because this matches this factor's level of resolution (i.e., actions close to each other in effectiveness percentages are similar in effectiveness). At the same time, the distribution of percentages among the groups is not uniform. That is, high scoring groups encompass larger Effectiveness Percentage ranges than the lower scoring groups.

The non-uniform distribution of percentages was done for two reasons. First, in pilot testing

the system, only a few projects had high Effectiveness Percentages; consequently, using uniform percentage distributions resulted in a large spread of scores between a few projects with high Effectiveness Percentages and a clumping of many projects at the middle and bottom percentage ranges into several scores. Second, it was observed that actions with high Effectiveness Percentages were similar to each other in terms of their anticipated effectiveness.

The non-uniform distribution of percentages in this factor allows actions of equivalent effectiveness to receive the same scores, while at the same time permitting more differentiation between actions with lower Effectiveness Percentages, where cut-offs in priority are more likely to be located for programs.

Table 5 below shows the Effectiveness scores and the Effectiveness Percentages associated with them.

Table 5 - Effectiveness of Action Scores

Percentage Range	Score
71-100	14
51-70	12
41-50	10
31-40	8
21-30	6
11-20	4
1-10	2
0	0

2.1.3.2. Watersheds

Actions affecting watersheds will be rated using the same process developed for stream segments, but at a larger scale. The Effectiveness Percentage will be calculated as the sum of impairment sources addressed in the watershed, divided by the total of the points for all sources of impairment within the watershed. An Effectiveness of Action score will be assigned to watershed actions using the conversions shown in Table 5 .

2.1.3.3. Inland Lakes

For inland lakes, information on the causes and sources of impairment is available from the Integrated Report. This data is in the same format as the stream and river information. Effectiveness of Action scores will be assigned using the same scoring system as used for river and stream segments.

2.1.3.4. Protection

There are actions, which while not directly addressing a cause or source of impairment, are nonetheless important because they address a problem that will result in an impairment or threat to water quality if not corrected. This can occur in water resources fully attaining their water quality standards or in water resources which currently have some impairment of function. Giving priority to protection actions is consistent with the Clean Water Act objective, “...to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”, as well as with the Ohio EPA goal of increasing the percentage of stream miles in Ohio fully attaining their designated uses.

Protection actions must have as their primary purpose one or more of the following:

- Protect or restore in-stream or riparian habitat or other important habitat areas.
- Prevent an increase in the loading of pollutants entering surface waters from nonpoint sources.
- Prevent adverse impacts from storm water influx.
- Repair or replacement of critical wastewater systems in order to prevent a surface water pollution problem at facilities currently in attainment with their NPDES permits. Such actions should address wastewater system problems, including those which indicate a need for the responsible entity to develop and submit a General Plan for improvements.

The following information, along with Table 6 below, shows how different types of protection actions will be scored.

Table 6 - Effectiveness Scores for Protection Actions

Action Type	Score
Habitat Protection for Unimpaired Water Bodies	13
Other Protection Actions for Unimpaired Water Bodies	7
Protection Actions for Impaired Water Bodies	1

2.1.3.4.1. Habitat Protection for Unimpaired Water Bodies

According to Ohio's 2004 Integrated Report, the primary threats to streams currently attaining their water quality standards are from habitat and physical modifications. Therefore, actions which remediate direct habitat or physical modifications constitute the highest protection category. These actions could include the following: riparian protection or restoration, stream bank stabilization, agricultural or urban erosion control, or headwater restoration. This category of protection action will be given an Effectiveness of Action score of 13, reflecting the importance of such projects to the maintenance of Ohio's water resources.

2.1.3.4.2. Other Protection Actions for Unimpaired Water Bodies

Other protection actions on fully attaining water body segments are given more priority than those on impaired segments. This reflects the fact that keeping a water body in attainment requires less effort than the restoration of an impaired water body and also has a much greater chance of success. The Effectiveness score for these projects will be 7, a mid-level of priority.

2.1.3.4.3. Protection Actions for Impaired Water Bodies

Protection projects on impaired segments will receive a score of 1 point. While sources of impairment exist, which are immediately apparent in such water bodies, it is recognized that protection actions can still prevent further impairment of these water resources. However, the resource will remain in its present state of impairment after implementation of the protection action.

2.1.3.4.4. Protection Actions for Lake Erie and the Ohio River

All projects which benefit either Lake Erie or the Ohio River and are ranked under "Rivers, Streams, Inland Lakes, Lake Erie and the Ohio River" will be given points under protection if they are actions which provide replacement or upgrades to critical infrastructure necessary to maintain NPDES permit compliance. Due to their sizes and the complexity of factors which influence them, Lake Erie and the Ohio River represent special cases. Individual projects will have negligible effects on these resources, due to the size and dynamics of the water bodies relative to the contribution of individual sources of pollution. However, actions which involve critical infrastructure replacement/upgrades will be ranked using the protection portion of the ranking system, because such projects will serve to maintain current water quality. All other projects benefitting Lake Erie or the Ohio River which are ranked under this category will receive 0 points.

The default scores for projects providing protection to Lake Erie and the Ohio River are calculated as follows:

2.1.3.4.4.1. Lake Erie

Actions which provide replacement or upgrades to critical infrastructure necessary to maintain NPDES permit compliance in Lake Erie will receive a total score of 12 points based on the following:

Table 7 - Protection Action Score for Lake Erie

Factor	Score
Importance of Resource	6 points
Reason: Lake Erie is classified as a Superior High Quality water resource.	
Restoration Potential	5 points
Reason: The Aquatic Habitat Indicator Metric in the Lake Erie Index, contained in the <u>State of the Lake Report - 2004</u> from the Ohio Lake Erie Commission, rates aquatic habitat as fair. This equates to 5 points in the Restoration Potential Factor in Table 3 above.	
Effectiveness of Action	1 point
Reason: Protection of an impaired water resource, as Lake Erie does not currently meet its exceptional warmwater habitat aquatic life use water quality standards.	

2.1.3.4.4.2. The Ohio River

Actions which provide replacement or upgrades to critical infrastructure necessary to maintain NPDES permit compliance in the Ohio River will receive a total score of 18 points based on the following:

Table 8 - Protection Action Score for the Ohio River

Factor	Score
Importance of Resource	3 points
Reason: The Ohio River is attaining General Warmwater Habitat water quality standards	
Restoration Potential	8 points
Reason: The Ohio River is in full attainment of its designated aquatic life use.	
Effectiveness of Action	7 points
Reason: Protection of an unimpaired water resource, as the Ohio River is currently meeting its designated aquatic life use.	

2.1.4. Rating Actions Benefitting Water Bodies With Multiple Sources of Impairment

Where multiple sources of impairment are present, WPCLF-nominated loan projects will be rated under the Integrated Priority System in the following manner:

- If the action provides full restoration to the designated aquatic life use of the water resource, the action will be rated based upon full restoration of the water resource.
- If the action provides partial restoration to the designated aquatic life use of the water resource and funding has been secured¹ by the responsible parties to address the other sources of impairment, the action will be rated based on full restoration of the benefitted water resource.
- If the action provides partial restoration to the designated aquatic life use of the water resource and funding has not been secured by the responsible parties to address the other sources of impairment, the action will receive a score based on the degree of restoration of the water resource that is attributable to the WPCLF-nominated project and any other improvement actions for which funding has been secured.

2.1.5. Final Score

The final score for an action is the sum of the scores for the three factors: 1) Importance of Resource, 2) Restoration Potential, and 3) Effectiveness of Action. Higher scores will indicate a higher priority action. The maximum score achievable is 30 points.

• Actions Affecting Multiple Water Resources

Except as provided for in 2.1.3.2.(actions affecting watersheds), for actions affecting multiple water resources, such as actions affecting both streams and lakes, scores will be calculated for each of the affected resources. The highest score will be the one used to rank the action.

2.2. WETLANDS

The system used to rank wetlands projects is different from the other ranking systems for water resources in that it uses the same rating criteria to evaluate both actions to protect and actions to restore wetlands. Ohio EPA's Ohio Rapid Assessment Method for Wetlands (ORAM) Version 5.0 is the system used to evaluate both actions proposed to protect and actions proposed to restore wetlands.

¹ "funding has been secured" means that the entity(ies) responsible for implementing improvements have either a commitment of funding from a funding agency or have local funds committed to finance completion of the improvements.

- **Protecting Existing Wetlands**

Actions to preserve existing wetlands are important to prevent further declines in wetland acreage. In general, wetland preservation efforts also have a higher probability of success than wetland restoration efforts.

- **Re-Establishing Wetlands**

Wetlands possess three essential characteristics: hydrology, hydric soils, and hydrophytic vegetation. Hydrology is the most essential component of wetlands, since it is the driving force which creates all wetlands. Wetland restoration relies initially on re-establishing or developing the hydrology, on a sustainable basis, necessary to create and/or maintain hydric soils and provide habitat where hydrophytic vegetation can grow and maintain itself. Since wetland creation is a difficult task, the best candidate for restoration is a location which previously contained a functioning wetland, but had its hydrology modified at some point in time (e.g., water table was lowered). These sites are usually in agricultural production. In many cases, a functioning wetland can be restored if the hydrology is re-established and hydrophytic vegetation is re-introduced.

- **Information Required to Rank Wetlands Actions**

For all actions, whether intended to protect or restore wetlands, the responsible parties will need to submit a plan identifying how the site will be protected or restored. In the plan, the responsible parties will need to indicate the wetland category type the site will maintain when the action is completed and, using the ORAM Version 5.0 scoring forms, identify the functions the wetland will maintain after implementation of the action.

The protection or restoration plan, along with supporting information and the ORAM Version 5.0 scoring forms, will be reviewed to establish a score for the action.

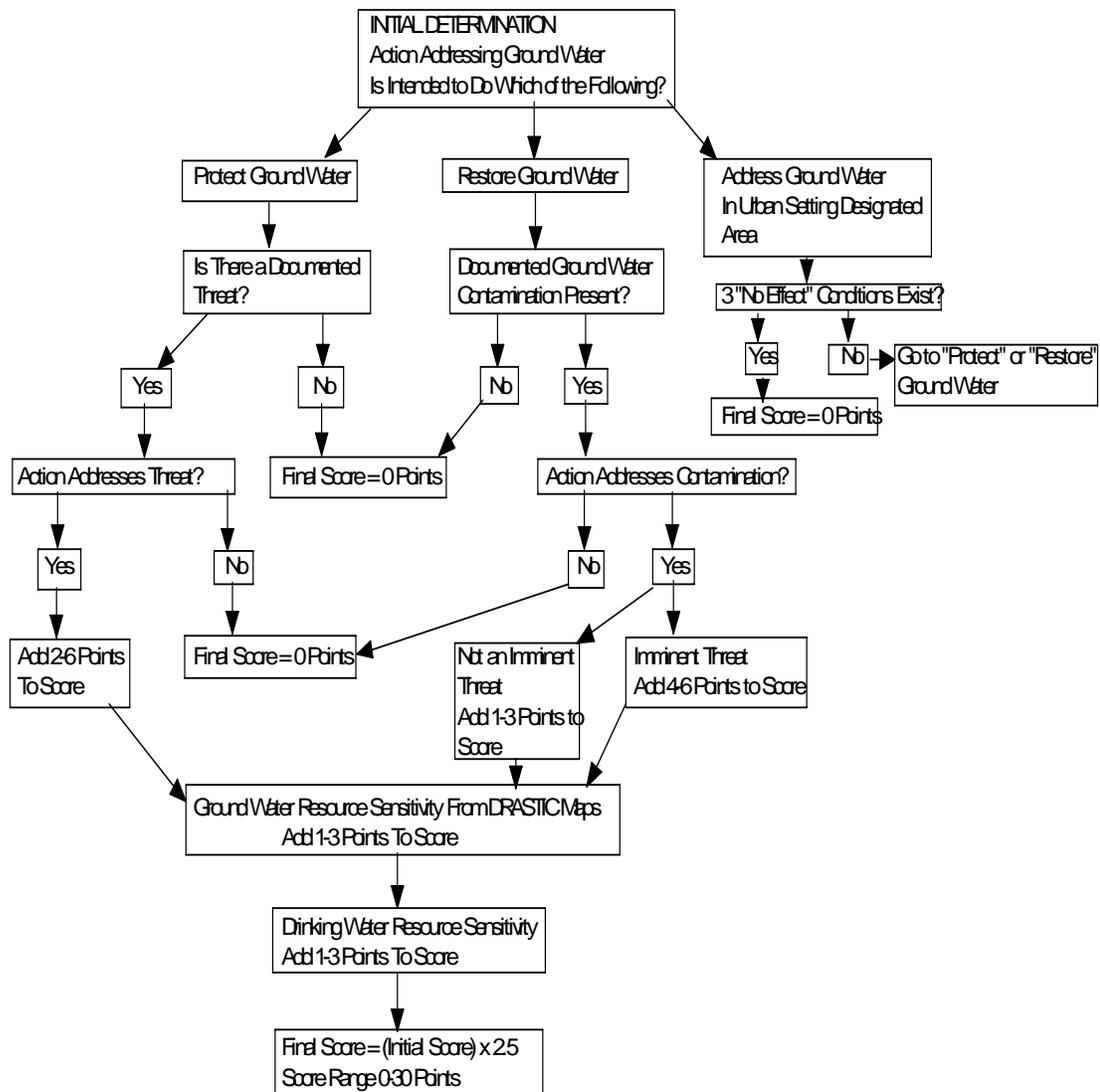
2.2.1. Final Score For Wetlands

A raw score is obtained for an action by first completing the ORAM Version 5.0 scoring sheets. If the action is designed to protect an existing wetland, 2 additional points are added to the ORAM score. If it can be determined with relative certainty that proposed restoration activities will be successful, then additional points will be added to the influenced metrics, reflecting the restored condition. Finally, if the ORAM score for the wetland is 65 points or above (a Category 3 wetland) an additional 23 points is added to the ORAM score to bring scores for high quality wetland projects into a range that is comparable to high quality streams with rare or declining aquatic species (26.4-30 IPS range) reflecting the importance of these high quality water resources. However, in no event can the final raw score, including the additional points indicated above, exceed 100 points. The final raw score is then multiplied by 0.3 to convert it to the 30 point IPS scale.

2.3. GROUND WATER

Ground water is evaluated by the IPS because it is a part of Ohio's water resources and because actions connected to surface water programs can also affect ground water resources. The ranking system developed for ground water was developed with advice from the Division of Drinking and Ground Waters (DDAGW).

Actions affecting ground water will be ranked based on whether they protect or restore the quality of ground water resources. The ranking systems used for actions that protect and actions that restore ground water resources are described separately below. The figure below provides an overview of the Ground Water ranking system.



- **Initial Determination**

First, a determination is made as to whether the proposed action is intended to protect or restore ground water quality. Actions are then scored using either the protection or restoration portion of the ranking system, as appropriate. This determination is made by reviewing plans for proposed actions and determining whether the action is intended to address threats or existing impacts to ground water resources. The initial determination includes identifying if the ground water resource is in an “Urban Setting Designation” under Ohio EPA’s Voluntary Action Program rules. If the action is intended to address problems in such an area, the action will receive 0 points and no priority if the following three conditions exist: a) the problem being addressed does not extend beyond the area covered by the “urban setting designation,” b) the problem does not involve contamination with volatile compounds or human exposure that can be traced back to a contaminated water source, and c) the problem does not affect ground water outside of the Urban Setting Designated area. Conversely, where one or more of these conditions exist, the action will be reviewed and scored in accordance with the following system.

2.3.1. Ground Water Protection

Protection of existing high quality ground water resources is important to maintaining the quality of those resources for human use. Where the proposed action is intended to protect ground water resources, an IPS score is assigned by evaluating four factors described below. Scores will range from 0, indicating a low priority action, to 12, indicating a high priority action.

2.3.1.1. Documented Ground Water Contamination Threat

Before an action can be evaluated, documentation should be obtained concerning the ground water contamination threat. The source of this information can be from Ohio EPA or another responsible party, as long as Ohio EPA data collection standards have been satisfied (e.g., data from approved wellhead protection plans). If there is a documented contamination threat, the next step is to determine whether the action addresses the threat. If there is no documented threat, no points are assigned to the action and the evaluation is concluded.

2.3.1.2. Determine if the Action Addresses the Threat

Where a documented threat to ground water exists, the proposed action should be reviewed to determine if it will address the source(s) of the threat. If the action does address the source of the threat, 6 points are assigned to the action and the sensitivity of the ground water resource is then evaluated. If the action does not address a documented threat, no points are assigned to the action and the evaluation is concluded.

2.3.1.3. Ground Water Resource Sensitivity

Where the proposed action will address a source that threatens ground water, county-level DRASTIC mapping, completed by the Ohio Department of Natural Resources (ODNR) will be

used. For counties where the ODNR maps are not available, DRASTIC maps done by the Ohio Department of Agriculture for the Ohio Pesticide Management Plan will be used to determine if ground water sensitivity is high, medium, or low. DRASTIC mapping identifies sensitivity of areas to contamination from surface sources of pollution, based on soil permeabilities. Actions which address a documented threat in areas of high sensitivity receive 3 additional points. Two (2) points are assigned in areas of medium sensitivity and 1 point is assigned in low sensitivity areas. The ground water resource is then evaluated to determine its sensitivity as drinking water source.

2.3.1.4. Drinking Water Resource Sensitivity

One of the most important human uses for ground water is as a source of drinking water. Points are assigned based on the degree of importance of the ground water resource for this use. If the proposed action addresses a problem which threatens ground water in a wellhead protection area, 3 additional points are added to the score. If the proposed action addresses a problem that is not within a wellhead protection area, but threatens any public or private water system, 2 additional points are added to the score. If none of the previous conditions exist, but the problem threatens a sole source aquifer, 1 additional point is added to the score. If none of these situations apply, then the threat receives 0 points for this factor.

2.3.2. Ground Water Restoration

Where the proposed action is intended to restore ground water resource quality, an IPS score is assigned by evaluating four factors described below. Scores will range from 0, indicating a low priority action, to 12, indicating a high priority action.

2.3.2.1. Documented Ground Water Contamination Problem

Before an action can be evaluated, documentation should be obtained concerning the ground water contamination problem. The source of this information could be Ohio EPA or another responsible party, as long as Ohio EPA data collection standards have been satisfied. Such information could include ground water monitoring data, leachate samples, or land use information. If there is a documented contamination problem, the next step is to determine whether the action will address the problem. If there is no documented contamination problem, no points are assigned to the action and the evaluation is concluded.

2.3.2.2. Determine if the Action Addresses the Contamination Problem

Where ground water contamination has been documented, the proposed action should be reviewed to determine if it will address the source of contamination, the plume of contamination, or both. A determination is also made as to whether the contamination is or is not imminently threatening public or private drinking water sources.

In cases where the contamination is not an imminent threat to public or private drinking water wells, if the plume of contamination is addressed the action receives 1 point, if the source of contamination is addressed the action receives 2 points, and if both the source and plume of contamination are addressed, the action receives 3 points.

In cases where the contamination is an imminent threat to public or private drinking water wells, if the plume of contamination is addressed, the action receives 4 points, if the source of contamination is addressed the action receives 5 points, if both the source and plume of contamination are addressed, the action receives 6 points.

If the action does not address the contamination problem, no points are assigned to the action and the evaluation is concluded. When an action does address a ground water contamination problem, the sensitivity of the ground water resource is to be evaluated as a part of ranking the proposed action.

2.3.2.3. Ground Water Resource Sensitivity

For actions which address a source of ground water contamination, county-level DRASTIC mapping, completed for the Ohio Pesticide Management Plan, is reviewed to determine if ground water sensitivity is high, medium, or low. Actions which address documented contamination in areas of high sensitivity receive 3 additional points. Two (2) points are assigned in areas of medium sensitivity and 1 point is assigned in low sensitivity areas. The ground water resource is then evaluated to determine its sensitivity as a drinking water supply.

2.3.2.4. Drinking Water Resource Sensitivity

If the proposed action addresses ground water contamination affecting a wellhead protection area, 3 additional points are added to the score. If the ground water contamination being addressed does not affect a wellhead protection area, but affects public or private water systems, 2 additional points are added to the score. If none of the previous conditions exist, but the problem affects a sole source aquifer, 1 additional point is added to the score. If none of these conditions apply to the problem, then it receives 0 points for this factor.

2.3.3. Final Score for Ground Water Resources

The raw score for actions addressing ground water is the sum of the points obtained either in the protection or restoration category for the action being ranked. The final score for an action is obtained by multiplying the raw score by 2.5, to make the range of points for actions affecting ground water comparable with actions affecting other types of water resources. Scores can range from 0 to 30 points.