Drinking Water Source Assessment and Protection (DWSAP) Program Frequently Asked Questions

Last Update: February 19, 2002

The California DWSAP Program Document contains the information needed to perform drinking water source assessments. Nevertheless, questions have frequently arisen about the preparation of assessments, particularly by those who seek to perform assessments for their own drinking water sources. Here are the Department of Health Services' (DHS') responses (interim guidance) to FAQs, directed to staff of DHS and local primacy agencies (LPAs) (i.e., counties) who are performing assessments.

DWSAP Frequently Asked Questions

General Questions

More Specific Questions

GENERAL QUESTIONS

1. What is a source water assessment?

Answer: An assessment is an evaluation of a drinking water source to determine the “possible contaminating activities” (PCAs) to which the source is most vulnerable.

2. What are “possible contaminating activities”?

Answer: PCAs are current or historic human activities that are actual or potential origins of contamination for a drinking water source. PCAs include activities that use, store, produce or dispose of chemicals that have the potential to contaminate drinking water supplies.

3. What does a source water assessment include?

Answer: There are several elements to an assessment, but the primary ones are:

- A delineation of protection areas or zones around the source
- An inventory of the types of Possible Contaminating Activities (PCAs) within the source protection zones.
- An analysis to determine the PCAs to which the source is most vulnerable.

The information is compiled into a report that includes a map, calculations, checklists, and a summary of the findings.

4. How were the PCAs to which my source is most vulnerable determined?

Answer: The vulnerability analysis considers several factors:

- The presence of a PCA
- The proximity of the PCA to the source
- The risk associated with the PCA (based on the chemicals involved and the likelihood of a release)
- The construction and setting of the source

These factors are combined to develop a priority ranking of PCAs, and the source is considered most vulnerable to the PCAs at the top of the ranking.

5. Why is the assessment being done at this time?

Answer: Because it is required by federal and state regulations. Assessments are being done by the state, counties, water systems and other organizations.

6. What information was used for the assessments?

Answer: Due to limited resources, these first assessments are relatively brief reports without much detail. The information came primarily from the regulatory agency files, field reviews, and sometimes from water systems.

7. What should I do if I have questions about or corrections to the assessment?

Answer: Contact the agency or individual that prepared the assessment. Obvious errors can be addressed easily. Minor changes that do not affect the vulnerability summary can be addressed in a future update of the assessment. Changes requiring more detailed investigation may be done by the water system.

8. What should I do with this information?

Answer: The water system is required to provide the vulnerability summary information to consumers. The required language can be found in the cover letter with the assessment or in an attachment. For most water systems, the required language must be included in the system's next Consumer Confidence Report, and must be repeated in the report each year.
In addition, the water system or consumers may wish to find out more information or to proceed with a program to protect their drinking water sources. Water systems interested in source water protection may contact their regulating agency (state or county). The California Rural Water Association (CRWA) can also help with protection efforts. You can reach CRWA at (916) 553-4900.

MORE SPECIFIC QUESTIONS

9. Do I need a GPS unit to do a DWSAP assessment?

Answer: No. Source Location is only one component of a source water assessment, but it does not need to be the first, nor does it need to be done at the same time as the rest of the assessment.

How this can be? After all, Chapter 3 of the DWSAP document (Sections 3.1 and 3.2), lists one of the minimum components of an assessment as "Location of the Drinking Water Source". The document states that the location (latitude, longitude) of the intake or well should be determined by a global positioning system (GPS) with accuracy of 25 meters, or by another method with equivalent accuracy.

But the source location is only one component of a source water assessment, and not necessarily the first. In fact, it doesn't even need to be done at the same time as the rest of the assessment. The DWSAP forms and the proposed mapping tool can be used without knowing the latitude and longitude. There is only one DWSAP form that asks for source location, the Source Location Form.

How do I complete an assessment without the source location?

Fill out the DWSAP forms and prepare a map. On the Source Location Form you fill in the source location (latitude and longitude) if you know them and the method used to determine the location. If you don't have an accurate GPS reading, you can put in whatever data you have, OR YOU CAN LEAVE THE FORM BLANK! It is not particularly helpful for people to use inaccurate GPS units now to collect locations that will have to be redone. Only do this if you will not be able to get an accurate reading within the DWSAP timeframe (by May 2003, see below).

However, to do the PCA inventory, you need to be able to identify whether PCAs exist within a zone. In order to determine whether a PCA is in a zone, you need to know where the zones are. Therefore, you need to know the location of the source, and the size of the zones.

You can determine an interim location of the source by using a map**.** You determine the size of the zones by doing the delineation calculations. To determine if PCAs exist within the zones, you need to plot the source and the zones on a map of the area. None of this requires a GPS unit!

When do I get the location of a source if I don't do it as the first step in an assessment?

Source locations can be obtained any time within the timeframe of the source water assessment program. That is, DHS needs to get locations for all sources by May 2003. DHS is developing a reporting form for source locations that can be used independently of the assessment forms and can be submitted at any time.

LPA counties and DHS district offices should schedule to get source locations within the DWSAP timeframe. The best way to get source locations is during the next site visit when you have use of an accurate GPS unit. Some counties or districts may consider making special trips to all sources just to get locations. *CAUTION – this may not be cost effective!* DWSAP funds are limited to $325 per source, or roughly five hours per source. Travel time to a source could eat up much or all of your DWSAP funds.

Source locations can even be gathered before source water assessments are started. In some counties or districts, staff may get quite a number of accurate locations with the new GPS units during routine inspections. The county or district may not even start on an assessment until months or years after a source location is collected.

Do I need to revise an assessment if it was based on an inaccurate location?

No, you generally will not need to revise an assessment simply because the actual source location is different than the initial estimate. The DHS assessment procedures are an inexact means of defining the activities to which a source is vulnerable.

DHS knowledge of source locations, with or without an accurate GPS reading, are generally close enough to do the basic DWSAP assessment. As assessments are reviewed over time during water system inspections they can be revised as necessary.

So why is the location of the source with a GPS unit a component of an assessment?

Because new federal policies require DHS to get accurate (within 25 meters) locations of all public water system sources. Since most sources will be visited as part of the source water assessment program, it makes sense to get an accurate source location when you are at the site. In addition, DHS needs accurate source locations to use in GIS applications for DHS, the State Water Resources Control Board and other agencies. A portion of the funding for the DWSAP program is paying for GPS units and training in their use.

Conclusion:

You don't need to get a GPS location of a source in order to do an assessment, but you should plan on getting accurate locations for all sources during the timeframe of the DWSAP program.

10. What is the best way to get started on a DWSAP assessment?

Answer: The first three steps are:

1. Notify your regulating agency (if you are a water system)
2. Identify nearby water systems and sources
3. Collect data

Step 1: If you are a water system, contact your regulating entity (either DHS or your local county health department).

DHS or the county should be notified if a water system intends to conduct its own assessment. This allows the agencies to better schedule and track progress of assessments. In addition, DHS or the county can provide guidance, technical assistance and data.

Step 2: Identify nearby water systems and sources.

Look around for other water system sources near yours. If there are nearby sources, consider the benefits of an area-wide assessment. Is there a larger water system or umbrella organization that may already be doing assessment work? It may be cost effective to conduct concurrent assessments for multiple sources in an area. It also encourages regional participation in protection of water supplies.

Step 3: Collect data.

The data gathering part of a source water assessment is the most time consuming. You can start by reviewing the DWSAP forms, noting the information that you have ready access to, and those items that you need to do some more research to obtain.

For ground water sources, start with the Well Data Sheet (WDS). This form, which has been used by DHS for years, was revised for the DWSAP program. The WDS contains much of the data needed to do delineations and Physical Barrier Effectiveness evaluations, as well as other useful information.

DHS has previous well data sheets on file for many existing wells, which are useful for completing the new WDS. Other sources of information include the well drillers' log, DHS or county water system inspection or permit reports, and other reports prepared for the water system.

For surface water sources, start with the Watershed Sanitary Survey (WSS) if one has been done. The watershed boundaries and information needed for the Physical Barrier Effectiveness evaluation should be in the WSS. The WSS may also contain enough data to do the inventory of Possible Contaminating Activities (PCAs).

What other information should I collect?

Maps

Get a good map of the source and the area around it. The default map for DWSAP assessments is a US Geologic Survey (USGS) quadrangle, 7.5-minute series, 1:24,000 scale. Eventually, DHS will have a DWSAP Internet mapping tool using USGS quad maps. Until then you may want to obtain a paper copy or one of the commercially available software mapping programs.

You may want to supplement the USGS quad map with another local map, such as a parcel, land use or service area map that more clearly indicates the location of PCAs. Sometimes, water systems or a local agency may have a Geographic Information System (GIS) that can provide useful maps.

Other Data

For ground water sources, find out if information is available on the ground water flow direction in the area. Determine if any hydrogeologic investigations have been done in the area.
Also for ground water sources, find out if there are any nearby abandoned or improperly destroyed wells. This information may be difficult to obtain, but the DWSAP program allows a default answer of 'unknown'.

Conclusion:

Good planning and data collection efforts at the beginning of an assessment will save time. DHS (or the county) can provide useful instructions and data. Assessments can be conducted for multiple sources at one time.

11. What is the difference between a watershed sanitary survey and a DWSAP assessment?

Answer: A Watershed Sanitary Survey is more detailed.

A Watershed Sanitary Survey (WSS) is a much more detailed evaluation than a Source Water Assessment (SWA). A complete, comprehensive WSS should contain most of the information necessary for a minimum SWA. The time and effort needed to complete a comprehensive WSS is much greater than the time and effort needed to conduct a minimum SWA.

The purpose of a WSS is to identify what treatment facilities are needed to properly treat the source water. The purpose of a SWA is to determine the types of Possible Contaminating Activities (PCAs) on the watershed, and identify those that are most significant.

Summary of Differences between a Watershed Sanitary Survey and a Source Water Assessment

Purpose of Document	
Watershed Sanitary Survey	**Source Water Assessment**
• To describe control and management practices. • To describe PCAs • To determine if appropriate treatment is provided.	• To determine existence of PCAs • To determine the appropriate monitoring needed. • To inform public. • To assist in development of watershed protection programs.
Who Must Complete	
Systems using source must submit the completed WSS report and updates.	State must complete assessment if system does not choose to complete the work.
Intended User of Document	
• Water system managers. • Water treatment plant operators. • Land use planners.	• Water system customers. • Water quality monitoring personnel. • Land use planners.

Conclusion:

A Watershed Sanitary Survey contains more information than a Source Water Assessment. In addition to the information provided here, DHS has prepared additional information that describes the differences between the two.

12. How much time does it take to do an assessment?

Answer: It depends on a number of factors.

Factors to consider in determining the time to do an assessment include:

- The number of sources being assessed.

  Economies of scale: For example, assessing five wells in a well field doesn't take much longer than one well.

- The amount of information available about the source and possible contaminating activities.

If you have a well log and other construction and operation information that you have compiled before starting the assessment, the delineation and physical barrier effectiveness can be

accomplished quickly. Regional knowledge of land uses and contaminant activities can speed up the PCA inventory.

- Format of the information.

If local or regional information is contained in a GIS (Geographic Information System) program, the mapping, delineation and PCA inventory may be accomplished more quickly, especially on a regional basis.

- Experience of the personnel conducting the assessment.

The first time someone does an assessment it will take much longer than the fifth, tenth or hundredth assessment.

- Level of assessment desired.

A minimum assessment for DHS purposes is not very detailed. If a more detailed assessment is needed for establishing a water quality monitoring or protection program, then the completion time could be much greater.

- Tools available to do the assessment.

DHS is developing a computer program for the assessment forms that should significantly reduce the typing needed to fill in the information on the DWSAP forms. Also, DHS will soon have a mapping program available.

So, considering all of these factors, how much time does it take to do an assessment?

DHS staff conducted assessment field trials on ten water systems with a total of 22 sources. DHS experience in conducting field trials yielded the following results:

Training time (i.e., reading and studying the DWSAP program document) was generally 8 to 16 hours per person (not included in the assessment time below).

Average time for assessments was 8 hours per source. The number of sources per system ranged from one to six. The number of hours per source for assessments ranged from 3 hours to 25 hours, with the lower number for a well field of six wells. All assessments were done by staff doing these for the first time without benefit of electronic forms or mapping tools.

Note: DHS has funds for approximately 4 hours per source to complete assessments. Our experience with the field trials indicates that we need to become very efficient! Also, DHS assessment work will generally be conducted in conjunction with normal water system regulatory work, therefore there will be some efficiency in data reviews, site reviews, etc.

13. Is the assessment for DWSAP the same as the assessment for an extremely impaired source?

Answer: NO. The assessment required for DHS Policy 97-005, Guidance for Use of Extremely Impaired Sources, is more comprehensive, specific and detailed.

The basic DWSAP assessment is a general overview of the possible contaminating activities in a delineated source water capture zone, along with a vulnerability assessment of those activities in order to rank them in terms of risk to the source. It was designed as a feasible approach for meeting both federal and state statutory requirements.

In contrast, the assessment required under Policy 97-005 is intended to be an in-depth, comprehensive, detailed and specific investigation into all known and potential sources of contamination in the delineated area of an extremely impaired drinking water source. The intent of the 97-005 assessment is to provide as much information as possible to enable solid public health decisions to be made regarding the use of the source.

Procedures and information in the DWSAP program may be useful in preparing assessments for Policy 97-005, but the procedures do not include sufficient detail. Most assessments conducted for Policy 97-005 should fulfill the DWSAP assessment requirements.

In summary, the DWSAP assessment is basic and general in nature. The Policy 97-005 assessment is comprehensive, specific and highly detailed.

For more information, contact your drinking water system or the district office of the Department of Health Services Field Operations Branch.