

CHAPTER 3: SOURCE CONTROL INVENTORY DEVELOPMENT, UPDATES, AND PRIORITIZATION

PART OF THE SOURCE CONTROL (BUSINESS/SITE) INSPECTION PROGRAM GUIDANCE MANUAL

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Note:

Some pages in this document have been purposely skipped or blank pages inserted so that this document will print correctly when duplexed.

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3. SOURCE CONTROL INVENTORY DEVELOPMENT, UPDATES, AND PRIORITIZATION

This chapter summarizes the permit requirements related to developing a source control inventory, provides a recommended process for developing and updating a source control inventory, and also provides information on prioritizing businesses/sites for inspection.

3.1. PERMIT REQUIREMENTS

Chapter 1: Background and Regulatory Requirements of this manual provided a high-level overview of the National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater permit requirements related to the source control inventory. This chapter provides additional detail and clarification regarding the NPDES Municipal Stormwater permit requirements and how they impact the development and maintenance of a source control inventory, with a focus on the Western Washington Phase II Permit requirements. The following are minimum requirements to include in the source control inventory (Western Washington Phase II Permit, S5.C.8.b.ii.):

Permittees shall establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the [municipal separate storm sewer system] MS4. The inventory shall include:

- (a) Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8).*
 - (b) Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.*
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Table 3.1 summarizes the North American Industry Classification System (NAICS) and corresponding Standard Industrial Classification (SIC) codes that are included in Appendix 8 of the NPDES Municipal Stormwater permits. This list of businesses is intended to be used as a starting point for the development of a source control inventory.

Table 3.1. Potential Sources of Pollutants and Crosswalk of SIC/NAICS Codes (from Appendix 8 of the NPDES Municipal Stormwater permits).

Group Description	SIC Major Group	SIC Industry Group No.	NAICS Major Group
Support Activities for Animal Production		074, 075	1152xx,
Construction of Buildings	15		236
Heavy and Civil Engineering Construction	16		237
Specialty Trade Contractors	17		238
Beverage, Food, and Tobacco Manufacturing	20		311, 312
Wood Product Manufacturing	24		321
Paper Manufacturing	26		3221xx, 3222xx
Printing and Related Support Activities	27		323
Chemical Manufacturing	28		325
Petroleum and Coal Products Manufacturing	29		3241xx
Plastics and Rubber Product Manufacturing	30		326
Leather and Allied Product Manufacturing	31		316
Nonmetallic Mineral Product Manufacturing	32		327
Primary Metal Manufacturing	33		331
Fabricated Metal Product Manufacturing	34		332
Machinery, Computer, and Electronic Product manufacturing	35		333, 334
Electrical Equipment, Appliance, and Component Manufacturing	36		335
Transportation Equipment Manufacturing	37		336
Rail Transportation	40		482
Transit and Ground Passenger Transportation	41		485
Truck Transportation and Warehousing	42		484, 493
Support Activities for Transportation		473, 474, 478	4881xx, 4882xx, 4884xx, 4889xx
Utilities	49		2211xx
Wholesale Trade – Durable Goods		501, 503, 505, 506, 507, 509	423140, 423930, 423110, 4233xx, 4237xx, 4238xx,
Wholesale Trade – Nondurable Goods		514, 515, 516, 517, 518, 519	424930, 4244xx, 4246xx, 4247xx, 4248xx,
Building Materials, Hardware, Garden Supplies Dealers		521, 523, 526	444
Food and Beverage Stores	54		445
Automotive Dealers and Gasoline Service Stations	55		441, 447
Food Services and Drinking Places	58		722
Rental and Leasing Services		735	5321xx, 5324xx
Repair and Maintenance	75		811192, 8111xx, 8112xx, 8113xx, 8114xx,
Ambulatory Health Care Services and Hospitals		806, 807	621, 910
Educational Services	82		6111xx, 6112xx, 6113xx, 6115xx
Museums, Historical Sites, and Similar Institutions		842	712

The number of businesses/sites included in a jurisdiction's source control inventory will drive the number of annual inspections that should be targeted (Western Washington Phase II Permit, S5.C.8.b.iii.(b)):

(b) The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory...

Multiple types of inspections count toward meeting the annual target, including initial inspections, follow-up compliance visits, initial inspections attempted but where entry was denied, and business/site complaint response inspections. Each type of visit will count towards the target number.

The NPDES Municipal Stormwater permits provide clarity on how responses to complaints are addressed and whether a jurisdiction needs to complete inspections for all of the businesses/sites included in their inventory (Western Washington Phase II Permit, S5.C.8.b.iii.(b) and (c)):

(b) The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period.

(c) Each Permittee shall inspect 100% of sites identified through credible complaints.

(d) Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.

An inventory (i.e., the estimate of the number of businesses/sites) will be needed to determine the target number of inspections (20 percent) for that year.

Ecology allows the following for prioritizing site inspections (Western Washington Phase II Permit, S5.C.8.b.iii.(b)):

Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.

3.2. RECOMMENDED PROCESS

Recommended steps developing and updating a source control inventory can be found in Figure 3.1 (the native Visio file provided as SCORL Supplemental Resource 3A can be modified to match a jurisdiction-specific process) and are also described below. Development of these steps was informed by a resource developed by Phase I jurisdictions (see SCORL Supplemental Resource 3B) to document site list development and modification. Table 3.2 provides potential sources of data for completing the inventory along with advantages and disadvantages of each.

To develop the source control inventory, the following steps are recommended:

- **Step 1: Develop Initial Inventory**
 - Use primary data sources (see Table 3.2) including complaint sites and businesses listed by NAICS/SIC codes in Appendix 8 of the NPDES Municipal Stormwater permits to develop an initial inventory that meets the base requirements in the permit (*Tier 1: Permit-required Source Control Inventory*).
 - The first pass of data gathering for the inventory is “initial” because inventories will require ongoing refinement, addition, deletion, correction, and updates as new information is learned about each business during outreach and inspection efforts (see Step 3).
- **Step 2: Refine Initial Inventory**
 - Review supplemental data sources (see Table 3.2) and incorporate if applicable. Appendix 8 of the NPDES Municipal Stormwater permits does not necessarily address all potential pollutant-generating sites. For example, the permit only requires multi-family (or home business) sites to be inspected on a complaint-basis, but these sites can generate pollutants and may be beneficial to include in the inventory regardless of complaint status.
 - Additional businesses may also be added to the source control inventory (*Tier 2: Expanded Source Control Inventory*) to address other local environmental goals.
 - When developing and refining the inventory, permittees should document sites that are excluded from their inventory such as the following examples:

Examples of Inventory Exclusions

- Sites (or site categories) that are determined (via desktop review, windshield survey, or inspection) as non-pollutant generating.
- NPDES permitted sites within another permittee’s jurisdiction.
- Sites managed by Secondary Permittees.
- City/County-owned properties (already addressed under S5.C.7 Operations and Maintenance).

In some cases, rather than excluding a site from the inventory, permittees may consider coordinating a partnership for coverage of the site, where applicable.

See Partnering Opportunities to Consider for Prioritization in *Section 3.3*, covered in more detail in *Chapter 4: Developing a Business/Site Inspection Program*.

- **Step 3: Update Inventory Based on New Data Sources (ongoing)**

- Review and update the inventory (see Table 3.2) on an ongoing basis to refine accuracy of the initial inventory developed in *Steps 1 and 2*, based on inspection results.
- It may be beneficial to update the inventory once per permit term or more frequently (e.g., continually or on an annual basis) to address new, relocated, or closed businesses. *Note: The Phase I Permit requires an update once per permit term (every 5 years); the Western Washington Phase II Permit does not specify a frequency for updating a source control inventory.*
- See *Chapter 6: Post-inspection Data Management and Recordkeeping* for data management recommendations for ongoing inventory updates. Due to the spatial elements inherent in this step, a GIS-based approach is recommended.

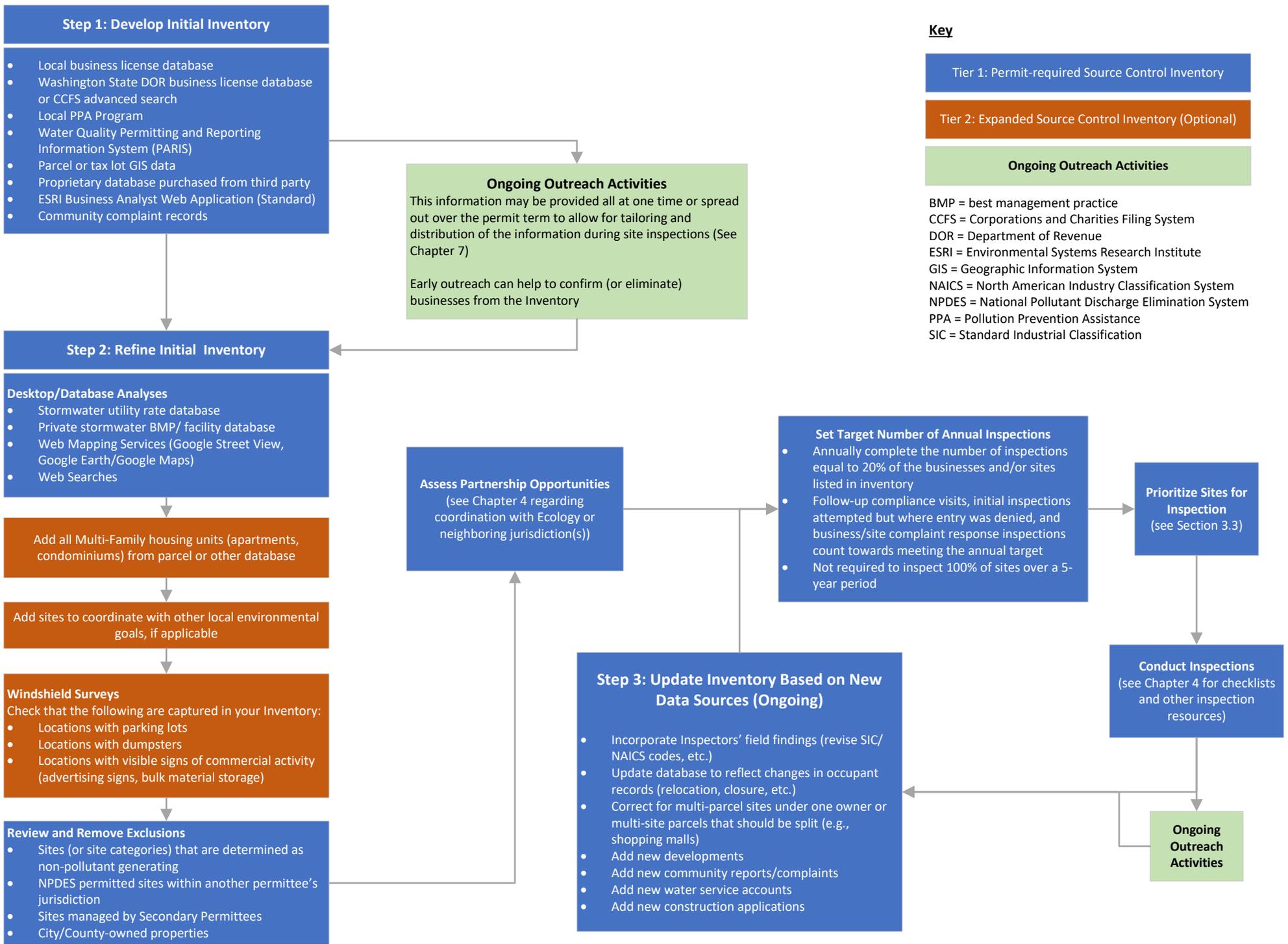


Figure 3.1. Recommended Steps for Developing and Updating a Source Control Inventory.

Table 3.2 lists data sources that may be useful during each step of developing and updating a source control inventory.

Table 3.2. Data Sources for Source Control Inventory Development and Updates.			
Data Source	Description/Notes	Advantages	Disadvantages
Step 1: Develop Initial Inventory			
Local business license database	Option for cities that require local business licenses.	<ul style="list-style-type: none"> • Sortable by NAICS codes. • Potential for proactive program to contact businesses early (notification, education). 	<ul style="list-style-type: none"> • Not effective for unincorporated areas. • Not available to all jurisdictions (not all cities require city business licenses). • NAICS codes are self-reported and may require confirmation of onsite activities.
Washington State Department of Revenue (DOR) business license database "Business Lookup" or Corporations and Charities Filing System (CCFS) Advanced Search	State-wide business license database.	<ul style="list-style-type: none"> • Can search for active business licenses, tax accounts, and reseller permits issued by the DOR. • Sortable by endorsement type (e.g., vehicle and vessel dealers). • Database is updated daily. 	<ul style="list-style-type: none"> • Difficult to use. Search produces a large list requiring extensive sorting. • Limited query options; does not include NAICS codes as a database search field. • Does not include businesses that did not apply to DOR for a business license, tax account, or reseller permit. • Data is not readily available for mapping.
Local PPA Program (see Chapter 1: Background and Regulatory Requirements for more information about the PPA Program)	Business list may be provided by health district or other local PPA Program member.	<ul style="list-style-type: none"> • Uses an existing business list that is updated every 2 to 3 years. • Coordinating with PPA can help avoid inspection fatigue for businesses that may be inspected by multiple different programs. 	<ul style="list-style-type: none"> • PPA focuses on SQGs. • Additional NAICS codes are required by the permit. • Not available to all jurisdictions.

Table 3.2 (continued). Data Sources for Source Control Inventory Development and Updates.			
Data Source	Description/Notes	Advantages	Disadvantages
Step 1: Develop Initial Inventory (continued)			
Water Quality Permitting and Reporting Information System (PARIS)	<ul style="list-style-type: none"> Industrial permittee database. 	<ul style="list-style-type: none"> Can search by City or County (also by Permit Number, Permit Type, Address, Zip Code, or Region). 	<p>Only includes a subset of businesses/ sites that have a general permit or individual permit including, but not limited to:</p> <ul style="list-style-type: none"> Boatyard General Permit. Industrial Stormwater General Permit. Industrial Stormwater Individual Permit. Sand & Gravel General Permit. Winery General Permit.
Parcel or tax lot GIS data	<ul style="list-style-type: none"> Request database from GIS office or assessor’s office. Sort by present land use, if provided in database (for example, “Vacant” designation). 	<ul style="list-style-type: none"> Filterable by zoning (institutional, commercial, industrial). Can include multi-family units if preferred*. Combine with aerial map review or spatial analyses. 	<ul style="list-style-type: none"> Level of detail varies by jurisdiction. Data often does not include NAICS codes. Substantial data review required.
Proprietary database purchased from third party (e.g., marketing companies)	Locate private entities that have developed their own business inventories for marketing or other purposes.	<ul style="list-style-type: none"> Sortable by NAICS codes. Third party data verification can improve the quality of the initial inventory. 	<ul style="list-style-type: none"> Unclear process for obtaining annual updates as businesses open, relocate, and close. NAICS codes are self-reported and may require confirmation.
ESRI Business Analyst Web Application (Standard)	<ul style="list-style-type: none"> ESRI web application with business locations database. Comprehensive list of businesses licensed from Data Axle. 	<ul style="list-style-type: none"> Sortable by location, NAICS codes, number of employees, etc. Available as stand-alone web application (lower cost for existing ArcGIS Online users); desktop GIS license is not required. Updated quarterly. Free trial available. 	Requires ArcGIS Online account and knowledgeable staff.
Community complaint records	Ecology requires permittees to inspect 100% of sites identified through credible complaints.	Potential to integrate with web-based, GIS-compatible community reporting mobile applications.	Records are limited to complaints and will not include all businesses/sites that should be included in an inventory.

Table 3.2 (continued). Data Sources for Source Control Inventory Development and Updates.			
Data Source	Description/Notes	Advantages	Disadvantages
Step 2: Refine Initial Inventory			
Business outreach and education	Early contact with businesses can help confirm activities on-site and whether the business should be included in the inventory.	Address permit outreach requirement while gathering data. <i>Ecology allows information to be provided all at one time to spread out over the permit term to allow for tailoring and distribution of the information during site inspections.</i>	<ul style="list-style-type: none"> Requires additional staff time compared to other methods. Dependent on business owner cooperation.
Stormwater utility rate database	List of businesses/sites that pay a stormwater utility rate to the city/county.	Updated frequently (quarterly or annually, varies by jurisdiction) based on active businesses/sites.	<ul style="list-style-type: none"> Multiple businesses/sites may be included in a single stormwater utility bill. Cities may need to request this information from the county if their billing is handled through the county.
Private stormwater BMP/facility database	List of businesses/sites that have flow control and/or runoff treatment BMPs/facilities.	Includes newer businesses/sites that may not appear in other data sources.	Many businesses/sites do not have flow control and/or runoff treatment BMPs/ facilities.
Multi-family housing units (parcel or other database)	Addresses for sites with multi-family housing units based on zoning or other property information.	<ul style="list-style-type: none"> Parcel data is readily available. Once mapped, multi-family sites are available for complaint response and source tracing. 	May require a site visit to confirm whether site should be included in inventory.
Web Mapping Services (Google Street View, Google Earth/ Google Maps)	<ul style="list-style-type: none"> Desktop analyses, aerial or street view can substitute for windshield survey to confirm inventory data or locate additional businesses. Quality, up-to-date information. 	<ul style="list-style-type: none"> Reduced drive-time for staff. Useful for rural or low-density areas for potential pollution-generating sites that may not be listed/ licensed or are registered to a different address. Mapped businesses can be imported into Google and compared to Google site names. 	Data is not readily available to export.
Web Searches	Search for particular business types or activities (e.g., restaurants).	Quick way to identify businesses that might otherwise be missed.	<ul style="list-style-type: none"> Not always reliable. Requires follow up to confirm existence. Data is not readily available to export.

Table 3.2 (continued). Data Sources for Source Control Inventory Development and Updates.			
Data Source	Description/Notes	Advantages	Disadvantages
Windshield surveys	Target areas with a high-density of pollution-generating businesses to confirm location and activities on-site.	<ul style="list-style-type: none"> ● Can identify sites that might otherwise be missed: <ul style="list-style-type: none"> ○ Locations with parking lots. ○ Locations with dumpsters. ○ Locations with visible signs of commercial activity (advertising signs, bulk material storage). ● Can use mobile applications (e.g., ESRI Collector, Field Maps, QuickCapture, etc.) for live inventory updates. 	<ul style="list-style-type: none"> ● Requires additional staff time compared to other methods. ● Mobile applications require staff training, IT support, and data management.
Step 3: Update Inventory Based on New Data Sources (ongoing)			
Inspections	Ongoing inventory updates during inspection activities.	Can use mobile applications (e.g., ESRI Collector, Field Maps, QuickCapture, etc.) for live inventory updates.	Mobile applications require staff training, IT support, and data management.
Business outreach and education	Ongoing contact with businesses can help confirm activities on-site on whether the business should be included in the inventory.	Address permit outreach requirement while gathering data. <i>Ecology allows information to be provided all at one time to spread out over the permit term to allow for tailoring and distribution of the information during site inspections.</i>	<ul style="list-style-type: none"> ● Requires additional staff time compared to other methods. ● Dependent on business owner cooperation.
Water service accounts	Identify new (or closed) businesses based on start/stop service requests.	Readily available.	<ul style="list-style-type: none"> ● Not all commercial water customers will be an applicable business. ● Businesses/sites may have an independent water supply. ● Substantial data review required.
Construction applications	Track new construction to add new businesses to database.	Readily available.	<ul style="list-style-type: none"> ● Not all construction will be an applicable business. ● Substantial data review required.

Table 3.2 (continued). Data Sources for Source Control Inventory Development and Updates.

Data Source	Description/Notes	Advantages	Disadvantages
GIS analysis	Supplemental updates to GIS-based primary data sources (e.g., parcel data, ESRI Business Analyst Web Application).	Utilize spatial tools to find duplicates and identify new or modified records.	Requires desktop GIS license or ArcGIS Online account and knowledgeable staff.

BMP = best management practice

CCFS = Corporations and Charities Filing System

DOR = Department of Revenue

ESRI = Environmental Systems Research Institute

GIS = Geographic Information System

NAICS = North American Industry Classification System

PPA = Pollution Prevention Assistance

SQG = Small Quantity Generator

3.3. PRIORITIZATION

Prioritization can help to focus inspections on the businesses/sites with the highest potential to generate and transport pollutants. One example is a point-based evaluation based on an inspection prioritization example in the original [BIG Report](#) (see SCORL Supplemental Resource 3C), which was a compilation of input from multiple Phase I jurisdictions.

The point-based evaluation is a prioritization system based on assigning a score for both Compliance History and Land Use. The results are then summed to develop a total score that is used to assign an inspection frequency. This approach is demonstrated in the Example Scoring and Example Priority tables in this section.

Example Scoring by Land Use (see SCORL Supplemental Resource 3D for full list)		Example Scoring by Compliance History	
Land Use	Points	Compliance History	Points
Mobile Home Park	1	No problems found or minor problems were identified and immediately corrected	0
Mortuary/Cemetery/Crematory	1	Compliance achieved after corrective action letter or follow-up contact	1
Nursing Home	1	Trouble achieving and/or maintaining compliance	3
Office Building	2		
Outdoor Storage	2		
Park Private (Amuse Center, Pool)	2		
Park Public (Zoo/Arbor)	1		
Parking Lot (Associated or Commercial)	2		
Restaurant (Fast Food)	1		
Restaurant/Lounge	3		

Example Priority based on Combined Scoring		
Total Score	Inspection Frequency	Category
1-2	Every 5 years	Low
3-4	Every 3 years	Medium
5-6	Annual	High

Other prioritization approaches may focus on a specific pollutant or business sector of interest (e.g., auto repair shops). For example, in Sacramento County, California, [stormwater compliance inspections](#) (conducted once every 3 years) are focused on the following target business sectors:

Business Sectors to Consider for Prioritization
<ul style="list-style-type: none"> ● Auto repair shops ● Auto body shops ● Auto sales, lease, and rental dealerships ● Gas stations ● Restaurants ● Nurseries ● Kennels ● Equipment rental businesses ● Facilities that have coverage under the Industrial Stormwater General Permit

Another example of prioritization is to focus on pollutants and public health impacts, which also can be incorporated into assessing penalties (see *Chapter 2: Developing Source Control Code/Ordinances and Enforcement Policies*). The following example enforcement penalty matrix was included in the [BIG Report](#) resources (see SCORL Supplemental Resource 2E) and classifies pollution types to determine severity of environmental and public health impact:

Example Environmental and Public Health Impacts		
Minor	Moderate	Major
<ul style="list-style-type: none"> ● Aquarium or hatchery wastewater ● Domestic animal wastes (e.g., pet waste) ● Floor wash water ● Heated water ● Trash or debris ● Untreated pool or spa water ● Yard waste 	<ul style="list-style-type: none"> ● Antifreeze or other automotive products ● Batteries ● Degreasers or solvents ● Dyes or other chemicals ● Food wastes ● Livestock waste or wash water ● Paints, stains, resins, lacquers, or varnishes ● Petroleum products ● Silt, sediment, or gravel ● Soaps, detergents, ammonia, or soapy wastewater ● Steam or carpet cleaning wastes ● Swimming pool backwash ● Vehicle or equipment wash water 	<ul style="list-style-type: none"> ● Acidic or alkaline materials ● Animal carcasses ● Any hazardous material or dangerous waste ● Chlorine, bromine, or other disinfectants ● Drain cleaners, root killers ● Flammable or explosive materials ● Metals (particulate or dissolved) ● Pesticides, herbicides, or fertilizers ● Radioactive material ● Recreational vehicle or portable toilet waste ● Sewage

Partnering opportunities offer another prioritization strategy to coordinate and prioritize inspections that may be addressed by other agencies or programs. This type of coordination is discussed in more detail in *Chapter 4: Developing a Business/Site Inspection Program*.

Partnering Opportunities to Consider for Prioritization

- PPA
- Ecology (inspections for the ISGP and other permits)
- Neighboring jurisdictions
- FOG inspection program
- Industrial wastewater inspections

FOG = fats, oils, and grease

ISGP = Industrial Stormwater General Permit

PPA = Pollution Prevention Assistance

