

# Lower Stillaguamish Pollution Identification and Correction Phase 2 Pollution Source Investigation and Compliance Flowchart



Photo: Stillaguamish River Estuary (Washington Department of Ecology 2000)

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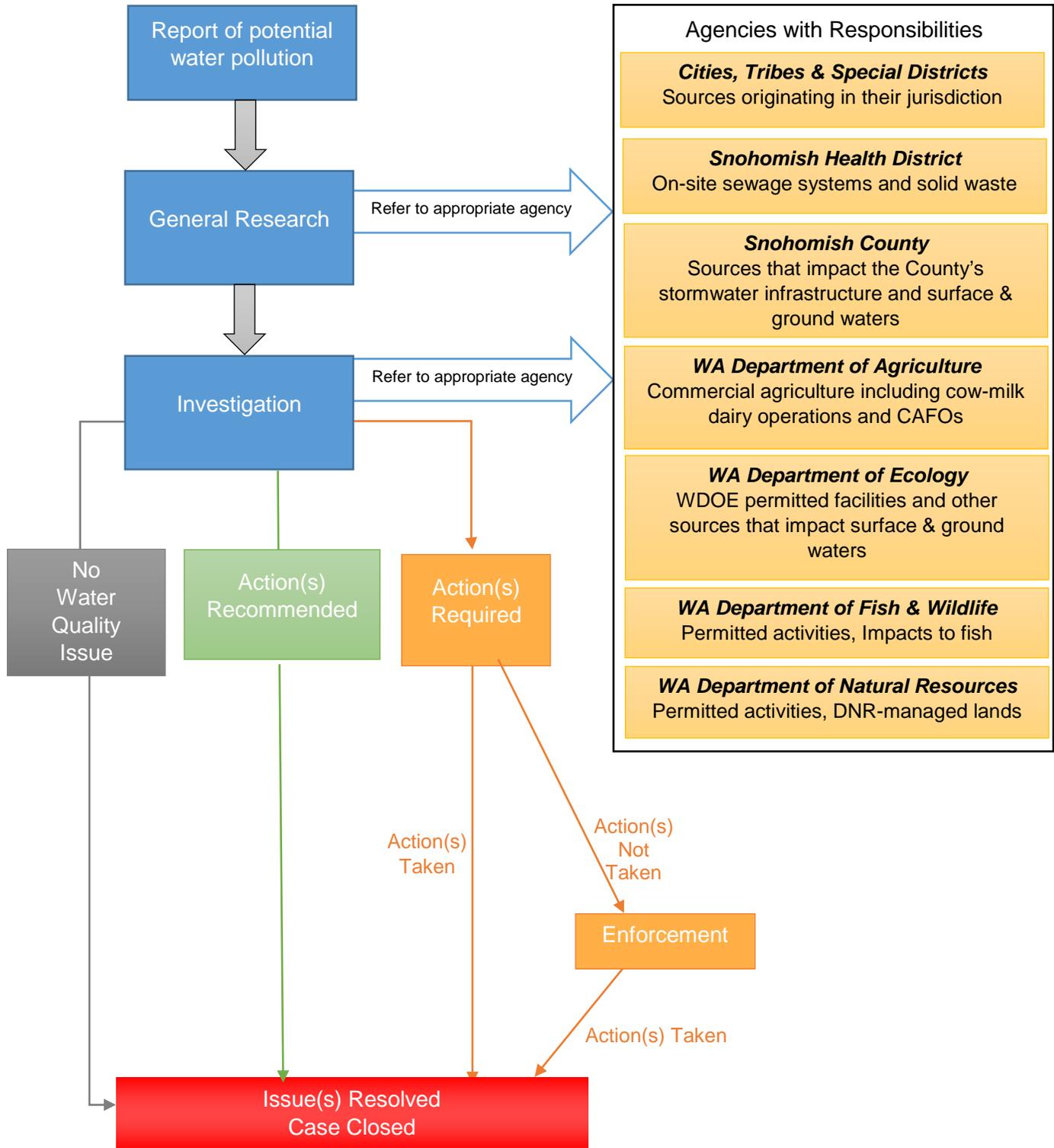


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# Investigation Flow Chart



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**Description of Investigation Flow Chart for PIC Phase II**

- 1. Report of water pollution:** Reports of potential water pollution are received from the public, agency staff, WA Department of Ecology, and other jurisdictions/agencies (cities, Tribes).

For conducting water quality investigations relating Snohomish County’s Phase I Municipal NPDES Stormwater Permit, the County has adopted screening and source tracing methodologies outlined in *“Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual, 2013”* prepared for Washington State Department of Ecology by King County, Washington Stormwater Center, and Herrera Environmental Consultants, Inc. This is a regionally accepted guidance manual that is used by many municipalities.

For fecal coliform bacteria, the manual provides two recommended thresholds for further investigation, >500 colony forming units (CFU)/100mL during dry weather and >5000 CFU/100mL during wet weather. These thresholds are used in the Quality Assurance Project Plan (QAPP) developed for the Lower Stillaguamish Pollution Identification and Correction Phase 2 project. While these thresholds are used in conjunction with the QAPP, when doing an investigation, more information and professional judgment is used. Professional judgment helps to understand the context of the monitoring results or report of potential water pollution. For example, a fecal coliform result of 800 CFU/mL may trigger an investigation if that value is substantially higher than the “normal” range. In other cases, 800 CFU/mL may not be investigated because is the sample was taken from a stagnant pool. In addition, sometimes visual and/or olfactory clues provide all the evidence needed. For example, if visual and olfactory indicators suggest that seepage observed near an onsite septic system is due to a system failure, a water quality sample will not be collected as the problem and source are clear.

- 2. General Research:** Reports of potential water pollution are researched to determine if they are legitimate. To be considered legitimate, the incident must be:

- Within the geographic jurisdiction of the organization/agency and
- Within the regulatory authority of the organization/agency (Table 1).

When a report is considered not legitimate, the agency may pass it to a different regulatory agency who has site specific jurisdictional authority, or may simply close the case.

*Table 1: PIC partner agencies that investigate water pollution*

Organization/Agency	Geographic Area	Regulatory Drivers	Typical Water Pollution Type(s)
Surface Water Management (SWM)	Unincorporated Snohomish County	NPDES stormwater permit Snohomish County Code 7.53	<ul style="list-style-type: none"> <li>• Stormwater pollution</li> <li>• Non-point sources of pollution</li> <li>• Point sources of pollution</li> </ul>
Snohomish Health District (SHD)	Snohomish County	Snohomish Health District Code	<ul style="list-style-type: none"> <li>• On-site sewage (OSS)</li> <li>• Solid Waste</li> </ul>
WA Dept. of Agriculture (WSDA)	Washington State	RCW 90.48 RCW 90.64	<ul style="list-style-type: none"> <li>• Sources originating from cow-milk dairies and concentrated animal feed operations (CAFOs)</li> </ul>
WA Dept. of Ecology (WDOE)	Washington State	RCW 90.48	<ul style="list-style-type: none"> <li>• Ecology permitted point sources of pollution</li> <li>• Non-point sources of pollution</li> </ul>

- 3. Investigation:** Investigational procedures vary by agency and are dependent upon the unique circumstances of each case. Generally, an investigation may include the following actions:

- a. Desktop analysis: GIS, Google maps, and other information is used to understand the situation. Information gleaned includes proximity to nearest water body, terrain, surrounding land uses, etc.
- b. Discussion with reporter: Investigators may call the person who reported the issue to understand their concern and get more information.
- c. Site visit: Investigator will visit the site and surrounding area.
- d. Discussion with person(s) responsible: Investigators will discuss the report of water pollution with someone at the property/location if possible and appropriate.
- e. Sampling: Investigator may take in-situ data or water samples. If direct observations indicate an obvious source of pollution, then water quality samples may not be collected (e.g. surfacing septage effluent from an OSS).

An investigation will result in one of three outcomes: no water quality issue, action recommended, or action required.

4. **No Water Quality Issue:** There may be numerous reasons that no obvious sources of water pollution are found. This could be because it was a one-time source that stopped and no evidence of the pollution remains or it could be a solid waste issue that does not have a water quality nexus. When appropriate, the Investigator will educate the person about water quality and water pollution and may recommend available resources in an effort to prevent future pollution.

The issue is considered resolved and the case is closed without further action.

5. **Action Recommended:** In other cases, an Investigator may visit a site to find no water pollution exists but that there is some potential for water pollution to occur. For example, an Investigator may visit a private (non-commercial), hobby stable with poor pasture and stall waste/manure management practices. Situations like this provide excellent education and outreach opportunities, often through collaboration with PIC partners. In the case of the small hobby stable, the property owner may be referred to the Snohomish Conservation District for farm and livestock management concerns.

At this point, the issue is considered resolved and the case is closed without further action.

6. **Action Required:** An action is required when there is evidence of water pollution or a clear, overwhelming potential to pollute due to the lack of appropriate best management practices (BMPs). Action(s) required may be as simple as applying basic best management practices (BMPs) such as removing small amounts of waste or debris, relocating a storage site or changing a land use practice, to more complex, time intensive BMPs or actions that require engineering designs, permit applications, and construction, such as septic system replacements.

Examples of Actions Required include:

- Deficient OSS: inspection, maintenance and/or replacement
- Animal Manure/Handling: removing and throwing small quantities of pet waste in the garbage, ensuring there is vegetative cover (no bare soil) in areas with animals, ensuring proper waste storage such as a covering, and/or preventing animal access to streams, etc.

Agencies first employ education and/or technical assistance to resolve the problem (Figure 1). This comes in the form of an Investigator providing verbal outreach and/or handing out printed materials. It should be noted that while in many cases the agency/organization who is investigating a report provides the technical assistance, in some cases, the case may be referred to another agency with jurisdiction (Table 1). For example, if SWM investigates and finds a failing septic, it is referred to the Snohomish Health District for resolution.

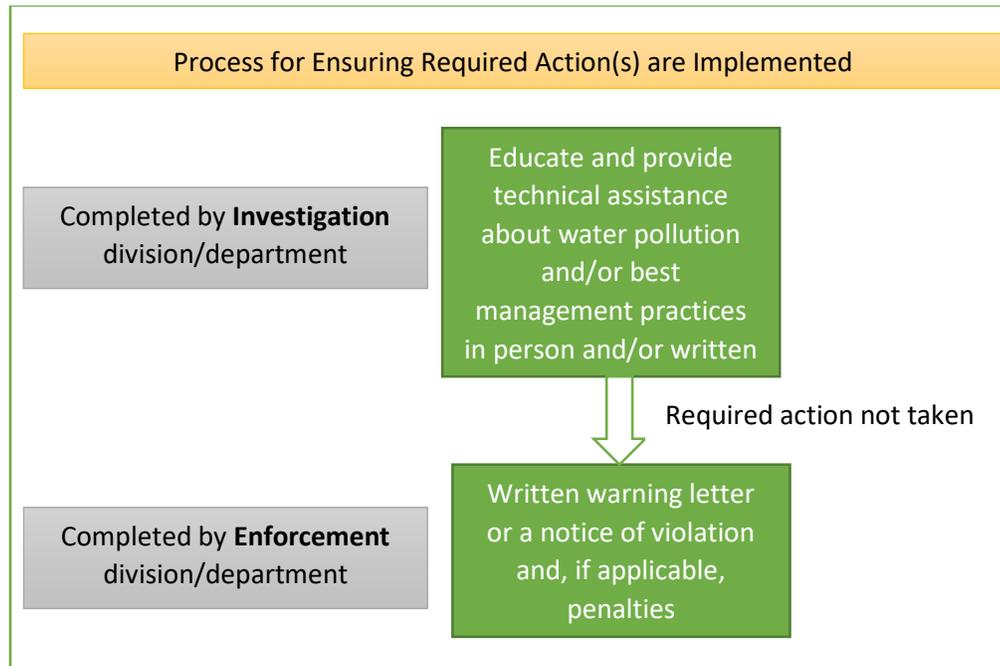


Figure 1: Process for resolving water pollution issues.

Agencies consider an issue resolved when:

- a. WSDA: The issue of non-compliance is considered resolved for cow-milk dairy operations when the required action(s) have been implemented, are operating and maintained, and are verified as effective at a follow-up site inspection. WSDA may use water quality monitoring tools to help verify the effectiveness of BMP(s).
- b. WDOE: Industrial/Commercial facilities (e.g. composting operation or slaughterhouse) with WDOE permits may have discharge monitoring reporting requirements including analytical (quantitative) monitoring, or observational record-keeping requirements. When WDOE permitted facilities implement the required action(s) or BMP(s) and the routine monitoring does not detect further illicit discharges, the issue of non-compliance is considered resolved.
- c. SWM, SHD: Water pollution issues are considered resolved when there is no ongoing pollution, pollution has been cleaned up, and/or the corrective action(s) and/or BMP(s) have been implemented.
- d. In the event an identified water pollution source has not been mitigated during the PIC 2 project life cycle, applicable jurisdictional enforcement timelines will be maintained by the agency team partners.

If the actions required are implemented, the issue is considered resolved and the case is closed without further action. If the actions required were not implemented, the issue will move to the enforcement stage.

7. **Enforcement:** In the few circumstances where the person responsible for the pollution does not voluntarily implement the required action(s), agencies will continue with progressive enforcement by referring to the formal enforcement group within the respective agency (Figure 1). Enforcement groups can issue written/verbal warnings, notice and orders, stop work orders, and/or penalties.
8. **Issue resolved/Case closed:** See above for description of when cases are closed for each of the outcomes (no water quality issue, action(s) recommended, action(s) required).

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