Scenario 3

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303(d) listings:	DDT
TMDL status:	Completed and loads allocated, The water is no longer on the 303(d) list
Discharges:	POTW 1 Industry

Waterbody: This is a mid-sized perennial stream in eastern Washington with reproducing native fish populations. The area supports a popular recreational fishery composed of resident fish and anadromous salmonids. The climate is generally dry with typical east-side snowmelt-driven high flows in spring and lower flows through the remainder of the year.

Human Development and Discharges: There is one town (4,000 population) located on the waterbody. The land uses along the stream are primarily agricultural uses, and several small businesses are located in the town, including a NPDES-permitted fruit-packing facility. The town is served by a secondary treatment plant (POTW) and a few storm drains are located along the shoreline. The sanitary and stormwater collection systems are combined. This is an older community, and has historically had an agriculture-based economy. The POTW and fruit-packing plant are the only permitted discharges to the waterbody. It would be possible to remove the discharges from the waterbody and discharge to ground, but the cost to the town and the industry would be high and the effluents are currently providing flows to the stream that help maintain the stream's perennial flows and reproducing fish populations.

303(d) listing information:
DDT: Tissues from resident sport-fish were used to determine that the fishable use of the waterbody was impaired for DDT (based on use of NTR tissue equivalent level: see 303(d) listing Policy 1-11 at http://www.ecy.wa.gov/programs/wq/303d/2008/index.html). This impairment is for the waterbody's fishable use.

TMDL-based information:
DDT: Tissues from resident sport-fish were used to determine that the fishable use of the waterbody was impaired for DDT.

- Fish showed high levels of the contaminant, and water column data indicate that significant reductions in DDT to the system will need to be made in order for WQS to be met.
- The Department of Health is evaluating fish tissue information to see is a fish advisory is needed.
- DDT is present in sediments, tissues, and also in sources as diverse as storm drains, treated municipal and industrial effluent streams, and agricultural drains.
- Modeling indicates that after the measured sources are accounted for (and are significantly reduced) it will likely take approximately 5-10 additional years for natural attenuation to remove most of the DDT from the aquatic system or otherwise make it unavailable to the food web (e.g., burial).
- Allocations for DDT have been made in the TMDL. Because there is no assimilative capacity and only reductions are required, allocations are set to meet the DDT criteria at the end of the pipe.

The local city government, the fruit-packing plant, the agricultural community, and residents in the area have been very involved with the TMDL development. The possibility of a DDT fish advisory is a potential that some residents see as having a possible impact on the local economy. The major concerns with regard to required DDT reductions have been (1) the fear that requirements for DDT reductions will impact agricultural uses, and (2) that the POTW and fruit-packing plant have no economically feasible ways to meet end-of-the pipe limits for DDT set at the criterion level. During the TMDL the local stakeholders, working with Ecology staff, developed a plan to focus on three DDT control strategies:

- Reduce DDT by reducing sediment in run-off waters entering the stream: Plant trees and other vegetation along the riparian corridor to filter out sediment. Because agriculture in this area is mostly crops the riparian corridor will need little fencing to exclude livestock. Local land owners agree to this approach and funds for purchase of plants and labor is provided by the town, Ecology grants, and local conservation district assistance. Local school and youth groups also provide volunteer labor to assist Ecology field crews in planting vegetation.
- Reduce DDT by removing sediment from agricultural drains. Different irrigation techniques will be investigated by the local community to determine effective approaches. Less erosive tillage and planting techniques will be investigated. Funding to help implement changes will be sought from state and federal sources.
- The POTW and municipality will work to reduce DDT entering the POTW collection system and also to reduce erosion into storm drains which drain to the stream. This will include BMPs for stormwater.
- The fruit-packing plant, which receives DDT into its system the fruit it processes, will work with its suppliers to reduce DDT on produce received at the plant, and will also investigate the possibility of discharge to land or to ground.

Municipal POTW – permitting under the current regulations:

The NPDES permit was being administratively extended by Ecology anticipating completion of the implementation plan for the TMDL. The old permit does not have a DDT limit. After TMDL completion Ecology proceeds with permit reissuance, with a focus on meeting the TMDL allocations and working with the community to make the permit requirements and DDT control solutions developed by the local community and Ecology implementable.

Can a Compliance Schedule for DDT be used for this discharge?

"In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the compliance schedule "will lead {} to compliance with an effluent limitation …" "to meet water quality standards" by the end of the compliance schedule as required by sections 301(b)(C) and 502(17) of the CWA. See also 40 CFR Section 122.2, 122.44(d)(1)(vii)(A) (see EPA May 10, 2007 memo from Hanlon to A. Strauss, Region 9 EPA at http://water.epa.gov/lawsregs/guidance/wetlands/upload/signed-hanlon-memo.pdf). Thus, if there is some reasonable assurance that effluent limits will be met at the end of a 5 or 10 year compliance schedule, Ecology could issue a compliance schedule for the discharge. If this was the case for this discharge, the permit limits with a 10-year compliance schedule would likely look like this:

The interim limits in the first 5-year NPDES permit are based on taking actions to reduce DDT. The final limits, based on the DDT criteria, are in the Fact Sheet that accompanies the first NPDES permit. In the second NPDES cycle of the 10-year compliance schedule both the interim and final limits will be placed in the NPDES permit. During the TMDL period the discharger evaluated effluent treatment options, and feasible methods to remove DDT from final effluent are not readily available. There is a possibility that some reductions could be made by cleaning out old parts of the collection system. As part of the compliance schedule the discharger will need to formally investigate available methods to reduce DDT. Under a compliance schedule the discharger would be expected to investigate and implement DDT control activities on a schedule that would meet water quality-based effluent limits at the end of the 10-year compliance period.

Can a Variance for DDT be used for this discharge?

A variance is probably a more appropriate regulatory tool for this type of discharge, but a state does not have authority to waive a federal regulation. Washington's human health-based criteria (which contain the DDT criterion at issue) are contained in federal regulation - the National Toxics Rule (NTR). Submitting a variance to EPA for an NTR criterion would likely have a very low probability of resulting in federal rule-making to approve the variance via modification of the NTR. See text box below for more complete information.

Fruit-packing facility – permitting under the current regulations:

This industry does not generate DDT in its processes, but DDT is measured in washwater and effluent from the facility. The facility has expressed willingness to investigate some source control, but is interested in discharge to land or to ground as a possible option.

As with the POTW above, the post-TMDL permit for this discharge would likely contain a compliance schedule as discussed for the POTW discussed above. Ecology would work with the industry to determine whether a 5 or 10-year compliance schedule would be chosen. The industry will investigate discharge to ground or land as it implements source control efforts for DDT entering the plant. Under a compliance schedule the discharger would be expected to investigate and implement DDT control activities on a schedule that would meet water quality-based effluent limits at the end of the 10-year compliance period.

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