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# Implementation Plan for One Total Maximum Daily Load for Polychlorinated Biphenyls (PCBs) in Fish Tissue in Lake Worth For Segment 0807

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Prepared by the:  
Office of Compliance and Enforcement, Field Operations Division, Region 4  
Chief Engineer's Office, Water Programs, TMDL Section

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# Implementation Plan for One Total Maximum Daily Load for PCBs in Fish Tissue in Lake Worth

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## EXECUTIVE SUMMARY

On August 10, 2005, the Texas Commission on Environmental Quality (TCEQ) adopted *One Total Maximum Daily Load for Polychlorinated Biphenyls (PCBs) in Fish Tissue in Lake Worth* to address elevated concentrations of PCBs in fish caught from the lake. The U.S. Environmental Protection Agency (USEPA) approved the TMDL on October 13, 2005.

This implementation plan, or I-Plan:

- describes the steps the TCEQ and its stakeholders will take to achieve the pollutant reductions identified in the total maximum daily load (TMDL), and
- outlines a schedule for implementation activities.

The ultimate goal of this I-Plan is to reduce concentrations of PCBs in fish tissue to a level that allows the Texas Department of State Health Services (DSHS) to lift its advisory on the capture and consumption of fish from Lake Worth.

Investigations determined that the primary sources of PCBs were located within the drainage area of Meandering Road Creek and Woods Inlet. Subsequent investigations traced the primary source to discharges from storm sewers at Air Force Plant 4 (AFP4), a military facility that manufactures aircraft. The U.S. Air Force (USAF) began investigating the facility and taking remedial action at AFP4 in late 1986. These activities will continue until contaminants, including PCBs, have been reduced to acceptable levels, and the final disposition of the site is approved by the USEPA and the TCEQ.

Sediment core samples indicate that loading of PCBs to Lake Worth has declined exponentially since its peak in the mid-1960s. Current concentrations in surface sediment are similar to, or less than, typical background concentrations in other urban water bodies, and considerably lower than levels measured in highly contaminated systems. Remediation and management activities at AFP4 should remove any significant remaining input of PCBs into Lake Worth. Natural attenuation is expected to further reduce both fish tissue and PCB concentrations in sediment.

Available data from testing of fish tissue also indicate that concentrations of PCBs are decreasing. Additional monitoring of fish tissue will provide data for tracking changes in PCB concentrations, and for the periodic reassessment of consumption risk by DSHS. Because the natural attenuation of PCBs occurs gradually, additional collection and

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analysis of fish tissue on a four- to six-year cycle, beginning in 2008 or 2009, should be adequate to assess progress. Sampling of fish tissue will be incorporated into long-term monitoring activities at AFP4, and will continue on a four- to six-year cycle until concentrations have declined to a level that allows DSHS to remove the consumption advisory.

The TCEQ has identified a number of measurable outcomes that will evaluate attainment of the implementation goal, as well as interim outcomes that indicate progress toward the goal. The TCEQ has also identified communication strategies for disseminating information to stakeholders and other interested parties.

## INTRODUCTION

In order to keep Texas' commitment to restore and maintain water quality in impaired rivers, lakes, and bays, the TCEQ recognizes that it must establish I-Plans for each TMDL. The TMDL is a technical analysis that:

- determines the amount of a particular pollutant that a water body can receive and still meet applicable water quality standards, and
- estimates how much the pollutant load must be reduced to comply with water quality standards.

This I-Plan, based on an adopted TMDL, is designed to reduce PCB concentrations in fish tissue in Lake Worth to a level that constitutes an acceptable risk to consumers, thereby restoring the fish consumption use for the lake. The I-Plan is a flexible tool that governmental and nongovernmental organizations involved in implementation will use to guide the management of their programs. The participating organizations will accomplish the activities described in this I-Plan through rule, order, guidance, or other appropriate formal or informal action.

This I-Plan contains the following components:

- 1) a description of control actions and management measures<sup>1</sup> that will be implemented to achieve the water quality target;
- 2) a schedule for implementing activities to achieve TMDL objectives;
- 3) the legal authority under which the participating agencies may require implementation of the control actions;
- 4) a follow-up monitoring plan to determine the effectiveness of the control actions and management measures undertaken;
- 5) the TCEQ's rationale for concluding that the implementation of mandatory control actions and voluntary management measures will achieve the load allocations for nonpoint sources;

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<sup>1</sup> Control actions refer to point source pollutant reduction strategies, generally TPDES permits. Management measures refer to strategies for reducing nonpoint source pollutants, generally through voluntary best management practices.

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- 6) identification of measurable outcomes the TCEQ will use to determine whether the I-Plan has been properly executed, water quality standards are being achieved, or the plan needs to be modified; and
- 7) identification of the communication strategies TCEQ will use to disseminate information to stakeholders and other interested parties.

This I-Plan also includes all of the nine key elements for watershed-based plans as prescribed in the *FY 2004 Guidelines for the Award of Section 319 Nonpoint Source Grants to States and Territories* (USEPA, 2004). Consequently, projects developed to implement nonpoint source elements of the control actions of this plan and which meet the grant program conditions are eligible for funding under the USEPA's Section 319(h) incremental grant program.

This I-Plan was prepared by personnel in:

- the TMDL Program in the Office in the Chief Engineer at the Texas Commission on Environmental Quality, and
- the Region 4 office of the Field Operations Division in the Office of Compliance and Enforcement at the Texas Commission on Environmental Quality.

The TCEQ approved this I-Plan on August 23, 2006. The I-Plan, combined with the TMDL, provides local, regional, and state organizations with a comprehensive strategy for restoring and maintaining the fish consumption use in Lake Worth. The TCEQ has primary responsibility for ensuring that water quality standards are restored in impaired water bodies and that these standards are subsequently maintained.

## SUMMARY OF THE TMDL

The document *One Total Maximum Daily Load for Polychlorinated Biphenyls (PCBs) in Fish Tissue in Lake Worth* (TCEQ 2005) addresses contamination from PCBs that have been bioaccumulated by fish in Lake Worth (Segment 0807), a reservoir located in northwest Tarrant County (Figure 1). This I-Plan includes numerous facts and conclusions described in the TMDL document; the reader may wish to review the TMDL document for a fuller understanding of conditions in Lake Worth and the analyses the TCEQ employed in developing the TMDL and I-Plan.

In 2002, the TCEQ determined that Lake Worth did not attain its fish consumption use, based on a fish consumption advisory issued by the Texas Department of Health (note: the TDH became part of the DSHS on September 1, 2004). Fish and Shellfish Consumption Advisory Number ADV-18 was issued on April 19, 2000. It advised people not to consume fish from Lake Worth until further notice, due to elevated levels of PCBs in fish tissue. The TCEQ identified Lake Worth as impaired in its *2002 Texas Water Quality Inventory and 303(d) List*, in compliance with Sections 305(b) and 303(d) of the federal Clean Water Act.

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PCBs are a group of synthetic organic chemicals containing 209 possible individual congeners which vary in chemical and physical properties, toxicity, environmental persistence, and degree of bioaccumulation. PCBs were formerly used in a wide variety of applications, most often as coolants and lubricants in transformers, capacitors, and other electrical equipment. In 1976, the Toxic Substances Control Act banned, with limited exceptions, the manufacture, processing, distribution in commerce, and use of PCBs.

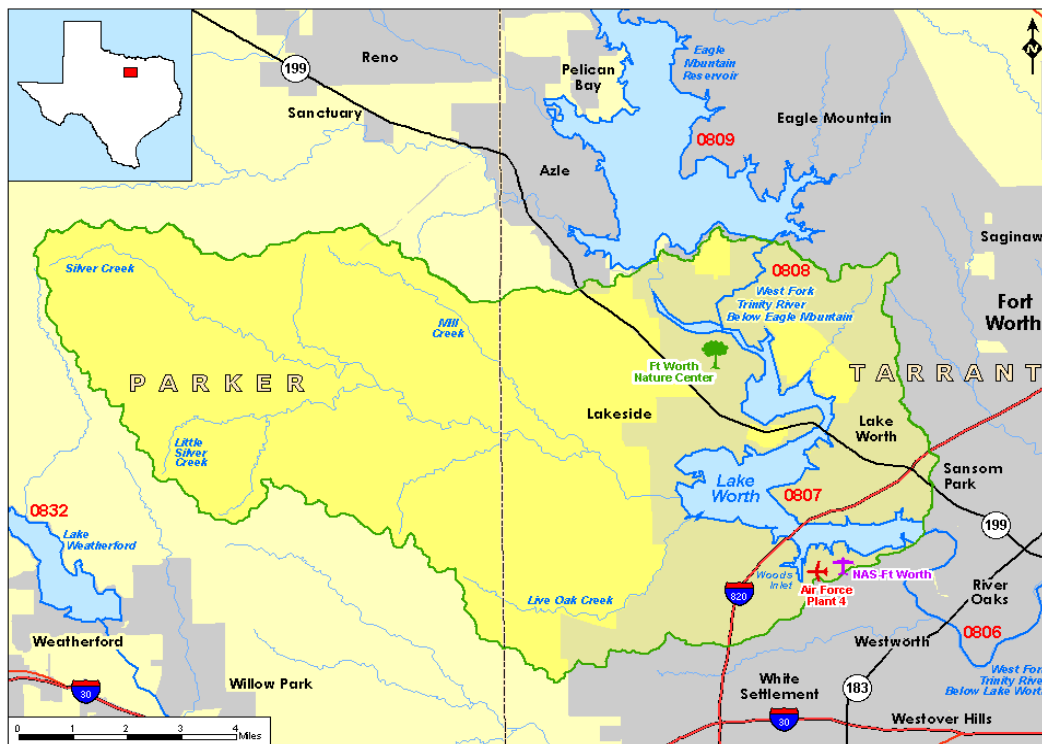


Figure 1. Location and Watershed of Lake Worth

Because of their past widespread use, strong affinities for sorption to sediment, organic matter and tissue, and slow rates of decomposition, PCBs frequently remain at elevated levels in the environment. PCBs are a frequent cause of fish consumption advisories in the United States. PCBs may be present in sediment and tissue at concentrations that are orders of magnitude higher than in the water column, where they are typically very low or undetectable. Consumption of contaminated fish can be a primary route of human exposure to PCBs, which can cause a variety of adverse health effects.

The USAF has conducted several investigations regarding contamination at AFP4 and the adjacent U.S. Naval Air Station Joint Reserve Base. AFP4 is a facility that manufactures military aircraft. It is owned by the government and operated by a private contractor. The facility is located near the southeast corner of Lake Worth, on the east side of Meandering Road Creek and Woods Inlet (see Figures 1 and 2). AFP4 was added to the USEPA's National Priorities List for its Superfund program in August 1990, and a Record of Deci-



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sion (ROD) was issued in August 1996 (USEPA 1996). Fish tissue analyses and assessments conducted as part of these and other investigations resulted in the issuance of the fish consumption advisory.



Figure 2. Aerial photo of Lake Worth

Sediment sampling was conducted as part of the USAF investigations into PCB sources to the lake. Sediment core samples have been collected in the main body of Lake Worth and in Woods Inlet in conjunction with the facility investigations at AFP4. Core sample analyses indicate that PCB concentrations in sediment are not detectable at any time in the upper lake. Prior to the late 1940s, PCB concentrations were not detectable in the middle and lower portions of the lake, including Woods Inlet. Peak concentrations of PCBs in Lake Worth occurred in the 1960s in the middle and lower portions of the lake (including Woods Inlet). Analysis of core samples show peak concentrations were followed by an exponential decrease from the peak to the top of the cores. This trend is typical of sediment cores collected in other urban water bodies, reflecting peak times of PCB use and its subsequent decline following USEPA restrictions.

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Investigations have concluded that the most likely source of PCBs to Lake Worth was from the Woods Inlet drainage area. The source area for the PCBs in the sediments of Woods Inlet is believed to be within the watershed of Meandering Road Creek. Since data indicate that runoff from AFP4 was a major source of the PCBs in Meandering Road Creek, the TCEQ has concluded that the primary source of PCB contamination in Lake Worth is past releases from AFP4. Data further indicate that there is ongoing, low-level transport of PCBs into Meandering Road Creek from storm water outfalls at AFP4.

Because of the particular nature of the TMDL, the TCEQ modified the typical load allocation approach of more conventional TMDLs, which typically establish limits on the amount of a pollutant that can be added to an impaired water body. Because PCBs are already restricted, and no significant additional loading is expected, the TMDL did not specifically attempt to quantify an allowable load of PCBs that may be released to the lake. Calculation of such a traditional loading value is difficult and subject to considerable uncertainty due to the tendency of PCBs to partition into sediment and tissue, as well as differences in bioavailability to aquatic organisms of the various PCB congeners.

Within the context of the TMDL, PCBs are considered legacy background sources that reflect the site-specific release history and loss rates of the subject area. The numeric endpoint target of less than 0.04 milligrams per kilogram (mg/kg) for the TMDL is the PCB concentration in fish tissue that DSHS considers an acceptable risk to human health. This numeric target is a surrogate measure of the contaminant load that can be translated into an acceptable concentration in fish tissue. USEPA guidance and DSHS assumptions concerning risk levels, consumer body weight, and fish consumption rates were used to develop the numeric endpoint target. The ultimate goal of the TMDL is the reduction of contaminant concentrations in fish tissue in Lake Worth to a level that constitutes an acceptable risk to fish consumers, allowing DSHS to remove the consumption advisory.

## IMPLEMENTATION STRATEGY

The implementation strategy describes the actions that will be undertaken to achieve water quality standards. Actions are specified to meet the load allocations assigned to all point sources and nonpoint sources identified in the TMDL. Action strategies may be selected from a menu of possible measures based on an evaluation of feasibility, costs, support, timing, and other factors. Actions may be implemented in phases based on an assessment of progress.

Restrictions on the use of PCBs have generally resulted in a slow but steady decline in environmental residues through natural attenuation. PCB levels in sediment cores from Lake Worth have shown good agreement with the production and usage history of PCBs; higher concentrations appeared deeper in the cores, indicating that input and accumulation have decreased with time.

Natural attenuation of PCBs in fish tissue and lake sediments is expected to continue via processes such as degradation and metabolism of PCBs, mixing and dispersion of contaminated sediments, irreversible sorption of PCBs to sediment particles, and burial and

isolation of contaminated sediments due to continuing deposition of clean sediments. The time required for the reduction of PCB concentrations in fish tissue to the TMDL end-point target is a function of PCB persistence in the environment. PCBs degrade slowly and may be present in sediment and tissue for long periods of time.

To augment reductions due to natural attenuation, several actions are being implemented to support attainment of the fish consumption use in Lake Worth.

### **Control Action 1.0**

Site investigation and remediation activities at AFP4 began in late 1986, and continue at this time through the Air Force Installation Restoration Program, the Superfund Program, and the TCEQ's Defense and State Memorandum of Agreement Program. These activities are described in *Air Force Plant 4/Carswell AFB Restoration Advisory Board Fact Sheets and Executive Summaries* and *Air Force Plant 4 Administrative Record Index, Parts 1-8*, December 2005 Update. Oversight of these activities is carried out by personnel of USEPA Region 6, the TCEQ Region 4 Waste Section, and the TCEQ Remediation Division.

### **Control Action 1.1**

Sediment in Meandering Road Creek adjacent to AFP4 is monitored semi-annually for a number of contaminants of concern, including PCBs, under the Long-Term Monitoring Program for AFP4. No additional remediation is planned for sediment in Meandering Road Creek at this time. The creek substrate adjacent to and upstream from AFP4 is dominated by bedrock, with few areas of sediment accumulation. If an increase in the concentration of PCBs or another monitored contaminant is detected, a contingency plan will be developed as part of the activities of the Superfund and Installation Restoration Program.

### **Control Action 1.2**

The current AFP4 contractor is managing a project funded by the USAF to sample an assortment of materials and substrates at the site, such as construction and roof materials that might be sources of PCBs. Significant sources of PCBs identified from this sampling will be mitigated.

### **Control Action 1.3**

The current AFB contractor will map the drainage for storm water outfalls to determine source areas contributing pollutants through storm water. Additional sampling within the storm sewer system is also being planned to identify any PCB source areas within the system. The use of high-volume suspended sediment sampling as part of the long-term monitoring of storm sewer discharges is under consideration. The findings of these studies will be used to plan any additional studies, remediation efforts, or storm water management activities that are determined to be appropriate.

### Control Action 1.4

Remedial actions at AFP4 are guided by the USEPA's Superfund Record of Decision (ROD) for the site. The ROD for AFB4 does not directly address PCBs as a "chemical of concern" nor does it include the human health exposure pathway from the ingestion of contaminated fish. The formal mechanism for evaluating the effectiveness of the ROD in protecting human health and the environment is the five-year ROD review. The first review was conducted in late 2001 through May 2002. Formal incorporation of fish tissue sampling activities and other issues related to the fish consumption risk in Lake Worth into the ROD will be considered during the next review scheduled for 2007.

Responsibility for completion of investigation and remediation activities at AFP4 lies with the USAF. Because these activities are also addressing contaminants other than PCBs, and each phase of the various remediation processes may require monitoring or some other confirmation sampling with additional remediation activities as possible outcomes, it is difficult to estimate a final, overall project completion date.

Timetables for additional investigations and/or remediation activities will be further developed as results of implementation activities are known. Work will continue until acceptable levels of all contaminants (including PCBs) are achieved, and the final disposition of the site is approved by both the USEPA and the TCEQ (see Tables 1 and 2). Remediation activities at AFP4 should remove any major remaining input of PCBs to Lake Worth.

### Control Action 2.0

Fish tissue will be collected and analyzed to support the reassessment of tissue contaminant risk. The collection and analysis of fish tissue from Lake Worth will be performed jointly with the U.S. Air Force and the DSHS. The next sampling event is tentatively scheduled for 2008-2009, and then every four to six years until the consumption advisory is removed.

Available Lake Worth fish tissue data indicate that PCB concentrations are declining following the decrease in loading over time and associated natural attenuation processes. Periodic monitoring of fish tissue to track PCB concentration trends will continue until adequate PCB reduction occurs and DSHS lifts the consumption advisory.

The results of future monitoring efforts, and any subsequent need to implement additional remediation activities, may affect any estimate of the time necessary for restoration of the fish consumption use to Lake Worth. Given current knowledge of fish tissue PCB concentrations and potential existing environmental reservoirs of PCBs, restoration of the fish consumption use in Lake Worth and complete removal of the consumption advisory may require as long as ten to fifteen years; however, even this recovery period is much shorter than that expected in more heavily contaminated water bodies. Findings of the monitoring efforts and reassessments by DSHS of the tissue contaminant risk may require revision of this estimate.

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Table 1. Implementation schedule for Air Force Plant 4 (AFP4) investigation and remediation activities

ACTIVITY	ENTITY	IMPLEMENTATION SCHEDULE
Continuing facility investigations and remediation activities associated with AFP4, including: <ul style="list-style-type: none"> <li>a) Sediment monitoring in Meandering Road Creek</li> <li>b) Materials sampling project managed by U.S. Air Force contractor</li> <li>c) Additional investigation within the storm sewer system</li> <li>d) ROD review to consider human health risk from consuming fish</li> </ul>	U.S. Air Force (through various contractors), USEPA, TCEQ, DSHS	In progress – overall activities began in late 1986. <ul style="list-style-type: none"> <li>a) Sediment monitoring is conducted semi-annually as part of AFP4 Long-Term Monitoring Program.</li> <li>b) Spring-Summer 2006</li> <li>c) Planning underway</li> <li>d) 2007</li> </ul>
Collection of fish for analysis and reassessment of contaminant risk	U.S. Air Force and DSHS	Next sampling event tentatively scheduled for 2008-2009; then every four to six years until consumption advisory is removed.  The City of Fort Worth collected fish in May 2006 for tissue analysis.
Evaluation of activities related to AFP4 remediation	USEPA Region 6 Superfund Program and TCEQ Remediation Division	Ongoing in conjunction with U.S. Air Force activities.

Table 2. Evaluation outline for investigation and remediation activities associated with Air Force Plant 4 (AFP4).

RESULTS	SUBSEQUENT ACTION
<ul style="list-style-type: none"> <li>a) Completion of investigation and all remediation activities, with final approval by both USEPA and TCEQ</li> <li>b) Ongoing investigations indicate additional contaminant sources associated with AFP4</li> </ul>	<ul style="list-style-type: none"> <li>a) No additional action necessary</li> <li>b) Additional remediation and management efforts by USAF will continue as required by, and until final approval by, the USEPA and TCEQ</li> </ul>

## LEGAL AUTHORITY

Under the Texas Water Code, the TCEQ has primary responsibility for managing the quality of surface waters within the state of Texas. These responsibilities include establishing the quality standards for waters of the state, the preparation of the state's management plan for water quality, and the implementation of its regulatory program to control discharges of pollutants to surface waters.

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The TCEQ regulates storm water and certain specified non-storm water discharges from municipalities and industrial facilities. Section B(7) of the “Multi-Sector Industrial General Permit for Storm Water–TXR05000” addresses limitations on discharges to receiving waters that are water quality-impaired. AFP4 retains coverage under the permit, since ongoing investigation and remediation activities at the site are consistent with the Superfund ROD and the approved TMDL. Storm water discharges to Lake Worth from municipalities in the watershed are regulated by municipal storm water permits issued by the TCEQ.

The TCEQ has the regulatory authority to oversee the cleanup of sites contaminated with industrial and municipal hazardous and solid wastes. In general, remediation and closures at solid and hazardous waste facilities must comply with the requirements of Title 30 of the Texas Administrative Code (30 TAC), Chapter 335, which include the Risk Reduction Standards and the state cleanup regulations.

Remediation and closures initially reported on or after May 1, 2000, must comply with the Texas Risk Reduction Program (TRRP) rules in 30 TAC Chapter 350. Legal authority for the Superfund program is contained within the Texas Health and Safety Code (§361.181 and §361.404) and 30 TAC Chapter 335, Subchapter K. Federal law requires the Department of Defense (DOD) to involve states in the cleanup of DOD hazardous waste sites such as AFP4. The “Defense and State Memorandum of Agreement” (DSMOA) exists to coordinate efforts between the DOD and state agencies. The TCEQ’s DSMOA program was established in 1992.

USEPA regulation of the activities at AFP4 is through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund. CERCLA provides federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

## IMPLEMENTATION TRACKING

The TMDL I-Plan includes provisions to track progress in both programmatic and water quality indicators resulting from the implementation of the Plan. These terms are further defined as:

- **Programmatic Indicator** – A measure of administrative actions undertaken to effect an improvement in water quality.
- **Water Quality Indicator** – A measure of water quality conditions for comparison to pre-existing conditions, constituent loadings, and water quality standards.

Implementation tracking provides information that can be used to determine if progress is being made toward meeting goals. Tracking also allows stakeholders to evaluate actions taken, identify those which may not be working, and make any changes that may be necessary to achieve the goals of the TMDL. For this specific impairment, personnel of TCEQ’s Region 4 office and the TMDL program will track the progress made toward achieving the goal of the I-Plan.

### Programmatic Indicators

The TCEQ, USEPA, and USAF will track the completion of ongoing sampling and remediation activities associated with PCB sources at AFP4. These activities include

1) **Sediment Monitoring in Meandering Road Creek**

This monitoring will allow for the detection of any unexpected loading of PCBs or other contaminants of concern to the lake. This monitoring will also allow project staff to evaluate trends in PCB sediment concentrations over time.

2) **Materials Sampling at AFP4**

This sampling will help to identify any materials or structures at AFP4 which may be a continuing source of PCBs.

3) **Storm Sewer System Investigations at AFP4**

These investigations will help to identify any areas at AFP4 which may be a continuing source of PCBs.

The findings of the ongoing investigations listed above will be used to plan any additional studies, remediation efforts, or storm water management activities that are determined to be appropriate.

The TCEQ, USEPA, and USAF will track the ROD review scheduled for 2007 to determine if issues related to the fish consumption risk in Lake Worth should be incorporated into the ROD for AFP4.

### Water Quality Indicators

The TCEQ, DSHS, USEPA, and USAF will track the completion of fish tissue sampling and analysis and a reassessment of the fish consumption risk in Lake Worth. These activities include:

- 1) Receipt and evaluation of the May 2006 fish tissue data collected by the City of Fort Worth;
- 2) Completion of a subsequent round of fish tissue sampling and analyses (tentatively planned for 2008-2009);
- 3) Completion of reassessment of fish consumption risk by DSHS following the planned 2008-2009 sampling event;
- 4) Scheduling and completion of any additional fish tissue sampling and analyses at four- to six-year intervals, and subsequent reassessments of fish consumption risk by DSHS;
- 5) Removal of the fish consumption advisory by DSHS; and,
- 6) Incorporation of fish tissue sampling into ongoing long-term monitoring activities at AFP4.

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The numeric endpoint target for this TMDL is the fish tissue PCB concentration that is considered an acceptable risk to human health, and that will allow DSHS to remove the fish consumption advisory. Additional tissue monitoring will provide data for tracking changes in PCB concentrations and for the periodic reassessment of consumption risk by DSHS.

### REVIEW STRATEGY

This I-Plan is a flexible tool that permits stakeholders to adapt to changing circumstances and to apply the lessons learned from experience. Stakeholders in I-Plans periodically assess the results of the planned activities along with other sources of information to evaluate the adequacy of the I-Plan. Stakeholders evaluate several factors such as the pace of implementation, the effectiveness of best management practices, reductions in pollutant loads, and progress toward meeting water quality standards.

This I-Plan presents a general process and timetable that specifies how and when the I-Plan will be evaluated and may be revised. The TCEQ will document the results of these evaluations and present its rationale for maintaining or revising elements of the I-Plan as part of the state's normal reporting processes.

The ultimate goal of this I-Plan is the protection of all consumers and the complete removal of the fish consumption advisory for Lake Worth. The TCEQ will track the following interim outcomes to indicate progress toward achieving this goal:

- 1) Concentrations of PCBs in fish tissue continue to decline over time.
- 2) Concentrations of PCBs in fish tissue are reduced enough to allow the DSHS to modify the consumption advisory either by specifying that only certain fish species pose a risk, or by confining the advisory to certain consumer groups who are at greatest risk.
- 3) The DSHS determines that concentrations of PCBs in fish tissue are reduced to safe levels, but has not yet removed the consumption advisory.

The DSHS has the authority and jurisdiction to issue, modify, or remove fish consumption advisories. Subsequent risk assessments by the DSHS may result in no change to the advisory, removal of the advisory, or modification of the advisory to specify certain fish species and/or certain consumers at greater risk.

Because the natural attenuation of PCBs occurs gradually, additional collection and analysis of fish tissue will be done every four to six years to monitor the effect of implementation. The next round of sampling is tentatively planned for sometime in 2008 or 2009. This timing may be adjusted upon review of tissue data from the sampling event that took place on May 17, 2006.

Sampling activities will be incorporated into the ongoing, long-term monitoring activities at AFP4, and will continue until PCB concentrations have declined to levels that allow



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the DSHS to remove the consumption advisory (Table 3). After each event, sampling results will be submitted to the DSHS for their use in reassessing contaminant levels in fish tissue. After removal of the consumption advisory, the DSHS will conduct an assessment approximately five years later to verify that contaminants remain at acceptable levels.

Table 3. Evaluation outline for subsequent actions based on the results of fish tissue monitoring.

RESULTS	SUBSEQUENT ACTION
a) Removal of consumption advisory by DSHS due to reduction of tissue PCB concentrations	a) No action necessary other than follow-up fish tissue sampling five years after removal of the advisory
b) Consumption advisory is modified by DSHS, and/or the trend in reduction of tissue PCB concentrations is evident	b) Continue fish tissue monitoring every four to six years to verify continuing PCB reductions
c) No evidence of reduction in tissue PCB concentrations after two additional sampling events	c) (i) Continue addressing known PCB sources and monitoring fish tissue (ii) Reevaluate TMDL time frames and need for additional approaches

If fish tissue data collected in 2008 to 2009 indicate that the endpoint target has not yet been reached, it will be necessary to continue monitoring fish tissue. Additional sampling of fish may be the only step necessary if the tissue data indicate a clear trend in the reduction of PCB concentrations. If tissue samples collected during the next two sampling events do not indicate a continuing reduction of PCBs, it may be necessary to reconsider the approaches described in the TMDL and the I-Plan. The TCEQ will make interim evaluations as appropriate, making its final decisions following completion of all activities outlined in this I-Plan.

## COMMUNICATION STRATEGY

Communication is necessary to ensure that stakeholders understand the I-Plan and its progress in restoring water quality conditions. The TCEQ will disseminate the information derived from tracking I-Plan activities to interested parties, including watershed stakeholders, state leadership, government agencies, non-governmental organizations, and individuals.

The following communication strategies will be used to disseminate information to stakeholders and other interested parties:

- Summaries of all TMDL projects are available on the TCEQ web site. The Lake Worth PCB project summary is available at: [www.tceq.state.tx.us/implementation/water/tmdl/63-lakeworthpcbs.html](http://www.tceq.state.tx.us/implementation/water/tmdl/63-lakeworthpcbs.html).
- The TCEQ publishes an annual report that summarizes the status of the TMDL Program in general and of individual TMDL projects in the state. The report includes highlights of TMDL Program activities to restore impaired surface waters in Texas, including environmental results, program management, and summaries of restoration projects being implemented. The most recent version of the status

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report is available on the TCEQ web site at:

[www.tceq.state.tx.us/implementation/water/tmdl/tmdlprogram.html](http://www.tceq.state.tx.us/implementation/water/tmdl/tmdlprogram.html).

- Periodic communication of project implementation, tracking, and review information at the local and watershed level may be made through AFP4 Restoration Advisory Board (RAB) meetings, which are currently held twice a year. These are public meetings that include stakeholders and members of the local public, where USAF, USEPA, and TCEQ staff entertain questions and obtain public input into the overall restoration activities. The status of the fish consumption advisory and restoration of the fish consumption use to Lake Worth have been of interest to RAB meeting attendees.
- Communication of project implementation, tracking, and review information at the local and watershed level can be made through meetings of the Clean Rivers Program (CRP) Steering Committee for the Trinity River Authority. The Steering Committee meets annually to discuss CRP-related activities and solicit input for future activities.
- The City of Fort Worth Department of Environmental Management periodically publishes a newsletter (available at [www.fortworthgov.org/DEM/](http://www.fortworthgov.org/DEM/)) that may be used to publicize progress in the restoration of Lake Worth.
- Current information on consumption bans and advisories issued by DSHS is available through the DSHS's Seafood and Aquatic Life Group web site at [www.tdh.state.tx.us/bfds/ssd/](http://www.tdh.state.tx.us/bfds/ssd/). Any change in the status of the Lake Worth consumption advisory will appear on the DSHS's web site. DSHS also issues a news release when an advisory for a water body is issued, changed, or removed.

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