SUBJECT: **Proposed Action Plan, Fish Tissue PCB Contamination Source Investigation, New River between Radford, Virginia and the Virginia-West Virginia state line**

TO: Larry Lawson, WPC

THROUGH: Richard F. Weeks, Jr., Regional Director

FROM: Dr. Michael J. Scanlan

DATE: January 15, 2002

COPIES: R. Weeks, N. Auldridge, CO: J. Cunningham, A. Pollock, F. Campbell

A. Objective:

The intent of this project is to identify, to the extent possible, the potential or actual source(s) of the PCB problem in the lower portion of the New River in Virginia. The study area includes the New River between the Route 114 bridge (Peppers Ferry Blvd.) just north of Radford, VA and downstream to the Virginia-West Virginia state line near the town of Glen Lyn in Giles County, VA. The area was delineated by the Virginia Department of Health (VDH) in an August 6, 2001 press release based on DEQ fish tissue data from 2000. The press release recommended not eating carp taken from the problem area. The river stretch is approximately 50 miles. Thus the focus is on protecting human health by identifying and eliminating the sources from which the fish tissue PCBs originated.

B. Justification:

This project is consistent with the DEQ Toxic Contamination Source Assessment Policy (TCSAP, Jan. 5, 2000) which describes when and how to conduct source assessments for toxic contaminants. The circumstances indicating the possible need for assessment include the first two triggers listed in that document.

First, carp tissues collected in 2000 exceeded the VDH level of concern of 600 ppb or higher for PCBs, a specific toxic contaminant. Carp samples from the New River at Whitethorne had PCB levels of 686 ppb and carp samples at Glen Lyn had 3,259 ppb. Also, the VDH has requested a

follow up study to determine the magnitude and extent of fish contamination, and potential sources (e-mail August 9, 2001 from J. Gregory-DEQ).

Second, year 2000 carp tissues analyzed using EPA risk assessment techniques for PCBs as carcinogens exceeded the Screening Value (SV) of 54 ppb. Although PCBs are only suspected carcinogens, the carp tissues also exceeded the SV for non-carcinogens of 220 ppb. The SV threshold is from Table 6a of the Water Quality Assessment Guidance Manual for Y2002 305(b) Water Quality Report and 303(d) Impaired Waters List (DEQ, draft September 5, 2001).

Finally, the VDH has recommended no eating of carp in the defined area. This suggests a potential threat to human health upon which the Director may determine the need for a source assessment.

C. Project Structure:

It is critical to first establish a base of information about current operations and practices relevant to the problem. Although it is reasonable that PCBs are not currently discharged through activities in the study area, it is important to validate this belief to clear the path for the investigation of historical sources. The next focus will be activities in the recent past that could have contributed to the PCB problem. The final focus will be on the distant past for relevant or contributory activities. The validation and historical investigations will include primarily files and databases in DEQ regional and central offices. Information will also be sought from Federal and other State agencies and from public and private archives and personnel.

The project's success is partly contingent upon the detail provided by future PCB fish and sediment studies to be conducted by the DEQ Water Quality Standards Program (WQSBMP), as well as their earlier studies. These studies have been incorporated into the budget. The fish data are mainly used to establish the extent and degree of potential human health risk. The sediment data document that the PCB concentrations are low in the river bottom. In addition, results of the follow-up fish tissue study might result in an expansion of the study area.

This proposal is to detail activities that may yield data on PCB releases in the study area, and to substantiate current and historical PCB sources. During the project, the investigation priorities may be modified on the basis of discovery. However, as with the in-stream work, the overall goal will be a methodical, thorough investigation at each stage. The approach will be coordinated and thorough so potential sources are not overlooked.

Environmental media to be investigated include air, water, and waste media. Information bases exist mainly for regulated activities but information for unregulated activities will also be sought. The overriding goal will be to collect dependable, applicable information to understand and detail the origins of the PCB problem before assessing alternative actions.

D. OSHA Safety Requirements:

Activities covered under this study plan include 1) in-house investigations, 2) site and facility surveys, 3) general sampling, and 4) target site sampling. These activities are listed in increasing degree of health and safety planning. 1) In-house investigations require the base-line health and safety actions applicable in the DEQ work place. 2) Site and facility surveys will generally require steel-toed boots, hard hat, and eye and hearing protection. This protective gear is the same as for VPDES or Pretreatment compliance inspections of industries and municipal STPs. Reduced protection is allowed in facility offices during interviews where the individual is not exposed to mechanical or physical hazards. 3) General sampling is defined as sample collection on sites without a history of PCB use or contamination, where there is a low probability of encountering PCBs. General sampling protection will include double gloves, disposable boots, and eye protection. 4) Target site sampling is sample

collection on sites with a history of PCB use or contamination, and where there is a high probability of encountering PCBs (concentrations above 1 ppm). On these sites, Level D personal protection will be employed. An example of Level D protection is in the Health and Safety Plan for the Site Visit and Sampling at the Town of Altavista Sewage Treatment Plant and the East Town Dump (H&S Plan; not attached). Waste generated during sampling will be appropriately disposed of and sampling equipment cleaned prior to any reuse as described in the H&S Plan.

Prior to any field sampling, a global Health and Safety Plan will be developed for all category 3 sampling events. Specific Health and Safety Plans will be developed for each category 4 sampling event.

E. QA/QC for Field Sampling and Laboratory Analyses:

DEQ will perform all field sampling covered by this plan. All samples collected under this plan will be analyzed by VIMS (DCLS alternate by MOU between the Virginia Division of Consolidated Laboratory Services and DEQ) using ASTM Method 8082 for congeners. All samples will be collected following Chain of Custody Procedures.

F. Project Scope:

The project consists of three phases, focusing first (Phase 1) on discharges and pollution incidents in the area of concern including sampling effluents. Phase 2 consists of an evaluation of all monitoring data. Phases 1 and 2 will be conducted simultaneously to ensure results will be generated and communicated as effectively as possible. Additional monitoring is contingent upon the discoveries in Phases 1 and 2. The data collection will be performed by DEQ staff of the regional and central offices with expertise and programmatic knowledge in their respective media to include air, water, waste, UST/LUST, hazardous materials, and pollution investigation.

Phase 1. Discharge and Incident Identification

This phase will consist of effluent sampling, a file and database review and communication with federal, state, and local officials, as well as communication with local industry and business to establish the following.

a. Baseline, in-house information

- all currently permitted, and to the extent possible, historical piped discharges to the New River Basin
- all currently permitted, and to the extent possible, historical smoke-stack sources in the New River Basin
- all currently permitted waste facilities and landfills, and document to the extent possible the location of historical and abandoned dump sites
- the location of all leaking underground and above-ground storage tanks and the status of remediation
- DEQ Pollution Incident Reports (PReP) for pollution incidents in the watershed
- DEQ pretreatment programs for potential or actual pollutant sources

b. Baseline, outside information.

- EPA files and literature for potential pollutant sources in the watershed, including Superfund sites and the TSCA database
- US Geological Survey insight and characterization of hydrology and sediment related transport in the study area
- Department of Emergency Services incident files
- Department of Game and Inland Fisheries and DCR files
- Railroad company files

- Electric generator files
- Virginia Department of Health and Virginia Department of Agriculture files
- local fire, emergency response, and planning commission files
- local industries and businesses for potential or actual current and historical pollutant sources

c. Review and analysis of Discharge and Incident Identification for potential or actual sources.

d. Sampling of Permit Designated Discharges

- All permitted discharges downstream of and including Radford, VA through the advisory area are potential targets of effluent sampling for PCBs.
- Other discharges in this area will be identified for potential sampling.

e. Survey of Potential Sources

Phase 2. Retrieval and Analysis of Existing Monitoring Data

This phase will consist of a review and analysis of existing monitoring data from DEQ, dischargers, and others. The information will be consolidated, and pollutant concentration gradients will be established, to provide the foundation for continued action plans.

Additional Monitoring

Additional monitoring is dependent upon the results of Phases I and 2, and the specific monitoring activities may include on-site sampling as well as stream sampling.

G. Responsibility for Specific Study Plan Tasks:

Communication: Periodic presentations of data summaries and conclusions to DEQ management, and prompt posting of interim reports on the DEQ web site will occur. Contacts with EPA will be opened so information important for their regulatory programs are shared. A Citizen Advisory Committee will be formed composed of citizens who work or live in the affected area. The composition will represent public interests on the river. They will advise DEQ on the direction and substance of the investigation, the steps necessary to communicate information to the local public, and provide local information and perspectives critical to the project's success. They will be the main conduit through which DEQ and VDH communicate with the public. Periodic meetings with the Citizen Advisory Committee and the public in the affected area will be conducted to update the public and the press on investigation progress and discoveries. The Roanoke and Central Office contacts for the project will be advertised to provide ready access to information to the public and local officials. Contacts will be maintained with the Department of Game and Inland Fisheries and the Virginia Department of Health to obtain their inputs and attendance at meetings.

Project Team:

1. WCRO:

Richard Weeks, Jr. (Norman Auldridge, & Dave Paylor) – WCRO Regional Director. Oversees all project manpower, financial considerations and communications. Approves Citizen Advisory Committee composition for WCRO, and project plans and reports. Communicates progress and findings to Central Office upper management. Obtains plan approval from the Agency Director.

Dr. Michael Scanlan – WCRO Project Manager and origin of WCRO information. Responds to local community questions about WCRO information. Develops study plan, and health and safety

plans. Coordinates meetings with the Citizen Advisory Committee and public. Contacts other State agencies for meeting notices and appropriate input. Point of release of project information and publishes findings. Communicates with Central Office for consistency and cooperation.

Larry Willis - WCRO Monitoring. Conducts survey interviews of potential sources and coordinates field investigations. Needs 40 hour OSHA training and medical monitoring for PCBs.

Larry Willis or George Devlin – WCRO Monitoring. In charge of field sample team and develops site sampling plans. Provides Chain-of-Custody oversight for field samples. Tracks project sample data and results. Needs 40 hour OSHA training and medical monitoring for PCBs.

Grady Devilbiss – WCRO Safety Officer. Safety Officer during sample collection at target sites. Needs 40 hour OSHA training and medical monitoring for PCBs.

Kip Foster – WCRO Water Permits Manager. Reviews water permit records for relevant information.

Greg Anderson – WCRO Water Compliance Manager. Reviews water compliance records and pollution complaint records for relevant information.

Shawn Crist – WCRO PReP Inspector. Collects samples at sites identified as potential PCB sources; category 3 sites. Responds to PReP complaints about potential PCB sources and inspects these sources following PReP protocol. Needs 40 hour OSHA training and medical monitoring for PCBs.

Steve Dietrich – WCRO Air Permits Manager. Reviews air permit records for relevant information.

Robert Saunders – WCRO Air Compliance Manager. Reviews air compliance records for relevant information.

Bruce Davidson – WCRO UST/AST Manager. Reviews UST/AST records for relevant information.

Don Edge – WCRO UST Inspector. Participates in target sampling; category 4 sites. Needs 40 hour OSHA training and medical monitoring for PCBs.

Aziz Farahmand – WCRO Waste Manager. Reviews waste records for relevant information. Acts as regional facilitator for remediation plans with Central Office permit staff.

2. CENTRAL OFFICE:

Jean Gregory – Central Office recipient of project communication from WCRO. Helps facilitate corrdination among the Central Office staff if the need arises.

Bill Hayden – DEQ Information Officer. Central Office point of contact for web-targeted information. Central Office contact for reporters and press releases.

Gary Du – WQA QA/QC Officer and Central Office contact for QA/QC of sample data analyzed by DCLS. Field QA/QC officer at sample collection sites. Needs 40 hour OSHA training and medical monitoring for PCBs.

Alex Barron – WQSBMP manager of joint fish tissue and sediment collection field work. Coordinates with Mike Scanlan in WCRO.

Rick Browder and **Gabriel Darkwah** – WQSBMP; fish tissue and sediment collection field work. Coordinate with Alex Barron in WQSBMP.

Erica Dameron , Patricia McMurray, or designee – DEQ Toxicologist/Scientist providing review of risk assessments for identified PCB sources.

H. Costs of Implementation:

The Virginia Legislature has amended the Virginia Environmental Emergency Response Fund (VEERF) to stipulate that VEERF can be used for conducting the assessments described here in accordance with DEQ's TCSA Policy (VEERF Policy Statement 2-2001, effective 9/11/2000). Costs budgeted include sampling and analysis for samples of 1) **WQSBMP autumn 2001 New River fish tissue & sediments**, 2) **WCRO's autumn 2001 sediments**, and 3) **WQSBMP 2002 New River fish tissue & sediments**.

Total Cost: $ 94,983

Meals & Lodging ($ 1,395)**:** Meals and lodging are provided for the Central Office monitoring staff during the collection of fish tissue samples in the advisory area. MD&E will generally not be necessary for the WCRO staff.

Mileage ($ 1,288)**:** Includes round trip mileage for Central Office WQSBMP field team travel to Radford, VA area (446 mi), and mileage for WCRO field team travel to a mid point on the advisory area (136.8 mi).

Chemical Analysis ($ 64,460): This covers laboratory analysis, monitoring equipment, and expendable supplies. Most of the funds are for laboratory analysis work. Fish tissue analysis will be contracted to VIMS because that lab is used for current tissue samples and to provide consistent analytical procedures with past fish tissue analysis. Sediment analysis will be through DCLS or VIMS. ASTM Method 8082 for congeners will be used. The analytical costs for tissue, sediment, and discharge average $515 each constituting the largest fraction of the budget. We project that 54 sediment and 76 fish tissue samples will be collected and analyzed. The sediment collection equipment is partially expendable and partially reusable after proper cleaning with special solutions. The expendable category includes personal protective equipment and supplies (PPE) used at the target sites. For effluent monitoring, existing Hydrolab automatic samplers from Water Quality Assessments will be used to minimize sampling costs.

Salary ($23,040):

a) **Site inspections & sediment sample collection** ($0): Personnel in the DEQ - Water Quality Standards Program (WQSBMP), will perform the collection of paired fish tissue and sediment samples. The DEQ regional staff will perform the collection of soils, individual sediments and tributary sediments. The manpower for paired fish tissue and sediment sampling is estimated at 15 FTE days for 2002. Manpower for target site sampling is estimated at 4 FTE days per target site. Autumn 2001 and spring 2002 sediment sampling by WCRO will include 4 FTE days each.

b) **PCB Inspector** ($23,040)**:** To accomplish the scope of work a WE-14 PCB Inspector position is necessary. The majority of records investigation, accumulation, and assessment will occur within the boundaries of the West Central Regional Office (WCRO). While personnel in WCRO and CO are expected to generate certain in-house information, extensive effort is needed to assemble, process, and track the information for DEQ management and the Committee. Off-site searches for and copying of information at other agencies, organizations, and industries will be necessary. An on-site WE-14 that can assist in interviews

and surveys, conduct record searches, assemble applicable information, and do the leg work for all units over nine months is an essential component that will move this project forward.

Incidentals ($ 4,800): A commitment of $3,000 for map development, report production, and copying will be needed. Costs include publication of meeting notices in local newspapers, and reference materials. A court reporter will take and prepare Advisory Committee meeting notes.

Any change in the scope of work to include special contracted services or expanded sampling will require additional resources. For example, effluent monitoring may enlarge or may require additional supplies specific to sampling for PCBs and may also require special analyses. The Level 2 monitoring costs are uncertain and dependent on the number of target sites discovered.

Itemized Budget:

CATEGORY	COST
MD&E:	
meals (Roanoke est. $34 X 3 persons X 5 days)	$510
lodging (Roanoke est. $59 X 3 persons X 5 days)	$885
subtotal:	$1,395
Mileage ($0.19/mi)**:**	
WQSP roundtrip to Radford area (6 trips X 446mi)	$508
WCRO roundtrip to river mid pt.(30 trips X 136.8mi)	$780
subtotal:	$1,288
Sample Analysis:	
a. fish tissue ($510 ea):	
WQSP October 2001 (n=44)	$22,440
WQSP 2002 New R. (n=10)	$5,100
subtotal: (n=54)	$27,540
b. sediment ($520 ea):	
WQSP October 2001 (n=6)	$3,120
WCRO November 2001 (n=12)	$6,240
WQSP 2002 New R. (n=3)	$1,560
WCRO 2002 (n=30)	$15,600
subtotal: (n=51)	$26,520
c. dischargers ($520 ea):	
WCRO 2002, 20 dischargers	$10,400
Salary:	
WE-14 salary (9mo X 20d X 8 hr X $16/hr) includes FICA?	$23,040
Incidentals:	
report publication, reference materials, safety gear	$3,000
expendables for PCB sample collection	$1,200
shipping	$600
subtotal:	$4,800
Total	$94,983

file: New River Costs2.xls

I. Products:

The Project will generate the following products:

1. Work maps with the following information
   - jurisdictional boundaries, hydrology (streams), and roads
   - land use
   - point source (piped) discharge location, current and historical
   - pollution incident locations, as identified
   - monitoring locations (Level 1) for fish tissue, sediments, and soils
   - proposed Level 2 Targeted monitoring station locations
   - potential or actual sources of PCBs

2. Tables
   - permitted and historical piped discharges
   - permitted and historical air emissions
   - current and historical waste dumps and landfills
   - pollution incidents on file with date and type of incident
   - industrial activity, current and historical, based on available information

3. Monitoring and inventory data references
   - water monitoring station locations, dates sampled, and results
   - CEDS, PTS, DMRs, and water permit files
   - AIRS, TRI Report, and air permit files
   - existing toxics databases and files
   - annual water monitoring reports, historical 305(b)s, historical 303(d)s,
   - STORET, CEDS-WQM, PReP files, and special studies

4. Reports
   - Periodic (annual?) summary of tasks accomplished and information gained
   - Conclusions that can be made based on the results of investigations
   - Plans and recommendations for further investigation or action
   - Final report at the close of investigations

J. Citizen Advisory Committee:

Citizen Advisory Committee in the Search for PCB Sources on the Lower New River

Mr. David Bernard, owner Aquarius Plumbing. Coastal Canoeists, Virginia's Paddling Club. Blacksburg, VA. Alternate*

Ms. S. Darliet Colley, RN, C, nurse living in Radford, VA. Primary interest psychiatric nursing; secondary interest environmental health. [Also nurse at St. Albans Psychiatric Hospital, Radford, VA, but not representing that organization]. Alternate*

Mr. Sean Hash, local fishing guide of Dublin, VA. [Tangent Outfitters & New River Guides, Montgomery Co.]. Alternate*

Mr. Phil Lockard, dedicated fisherman. Has worked in water water pollution issues for 11 years. [Also employee of Celanese Acetate, in Narrows, VA]. Alternate: Doug Feuerbach

Mr. Charles Maus, Pepper's Ferry Regional Wastewater Treatment Authority. Radford, VA. Alternate*

Mr. Thomas Miller, strong supporter of the New River. Owner/Realtor/Developer. Pearisburg, VA. Alternate*

Mr. Ron Powers, Chairman of Friends of Claytor Lake (FOCL) in Pulaski, VA. Alternate: Charles D. Stafford, FOCL, Martha Wirt, FOCL

Dr. Rick Roth, Board Member of Friends Of the Rivers of Virginia (FORVA). Also Associate Professor in Geography Department, Radford University. Alternate: Bob Whisonant (FORVA).

Ms. Llyn Sharp, Avid river person of Blacksburg, VA. [also Assistant Director, VPI&SU Natural History Museum but not representing that organization]. Alternate*

note: * .. alternate to be determined at a later date.

K. Project Support Government Contacts:

Virginia House of Delegates:
6th District (Giles Co., SW half of advisory):
Del. Benny Keister (D)

7th District (Radford to about middle of Giles Co.)
Del. David A. Nutter (R)

Senate of Virginia:
22nd District (western 2/3rds of advisory)
The Honorable Malfourd W. Trumbo (R)

39th District (eastern 1/3rd and Claytor L.)
The Honorable Madison E. Marye (D)

DCR:
Charlotte Burnett; Dublin Office DCR, New River Watershed Manager.
P.O. Box 1506, Dublin, VA 24084; (540) 674-2937; vcb@dcr.state.va.us
DGIF:
Bud Kittrell, DGIF Region 3, Marion, VA (Giles, Pulaski, Montgomery) (540) 783-4860
Arthur L. 'Bud' LaRoche, III, Regional Fisheries Supervisor, VDGIF
209 E. Cleveland Ave., Vinton, VA 24179; (540) 857-7704
VDH:
John Schofield, PE; Western Area VDH contact, Lexington, VA (Montgomery Co.)
Dan Scott, PE; Southwestern Area VDH contact, Abingdon, VA (Giles & Pulaski Co.)
Dr. Kizar Wasti, VDH, Bureau of Toxic Substances, Richmond Office