



Potomac Valley Audubon Society

www.PotomacAudubon.org | P.O. Box 578, Shepherdstown, WV 25443 | 681-252-1387

To: Jefferson County Planning Commission
RE: Sidewinder, LLC Proposed Water Bottling Facility at Middleway, West Virginia
Submitted: January 31, 2025

Dear Planning Commissioners and Staff,

The Potomac Valley Audubon Society (PVAS) is dedicated to preserving, restoring and enjoying the natural world through education and action. **We are writing to express our concerns regarding the impacts of groundwater withdrawals for the proposed water bottling facility at Middleway, near Lake Louise and the Turkey Run Spring wetland** (also known as Morgan Wetland).

After reviewing available information, we found several items of concern. The proposed bottled water factory proposal notes that they have a permitted withdraw of 1.4 million gallons per day (mgd) from the groundwater near Lake Louise and the Turkey Run Spring wetland. However, their revised proposal does not specify, as it should, if that is an initial, an interim, or the total planned withdrawal. **The 1.4 mgd withdrawal itself would significantly reduce the flow of Turkey Run and the groundwater levels around the town of Middleway, impacting the Morgan wetland** as well as many other streams, springs, and wetlands in the region, including the PVAS Cool Spring Preserve at Bullsken Run (See Attachment 1). Concerningly, in a preliminary test conducted by Triad Engineering, the short-term (8-hour) groundwater extraction at the proposed rate **lowered the well's water table by 7 feet. Continuous 24-hour withdrawals at that rate alone will likely produce major and widespread reductions in surrounding water tables.**

This spring and adjacent wetlands have been the focus of recent federal, state, non-profit, and private restoration and protection efforts. ***The West Virginia Department of Environmental Protection (WVDEP) alone has spent more than \$292,000 on its restoration since 2012*** (Attachment 2).

Our concerns are as follows:

- 1) Turkey Run Spring is West Virginia's third largest limestone spring and is a **globally rare ecosystem**, known as a marl wetland, that **supports many rare plant and animal species.**
- 2) A drop in the water table would significantly degrade Turkey Run Spring by **reducing its flow by approximately 25% and thus negatively impacting the spring and the rare ecosystem.**
- 3) The rare species found in the Turkey Run Spring ecosystem include:
 - the Spotted turtle, a **Species of Greatest Conservation Need** according to the West Virginia Division of Natural Resources (WVDNR)
 - Eastern Cricket Frog
 - at least ten species of rare plants. (Attachment 2)

Jefferson County is also home to the **Madison Cave isopod**, a federally protected species documented in karst caves near Charles Town. **This threatened species is likely to be present at the site in question which may require consultation with the US Fish and Wildlife Service** (pursuant to Section 7 of the ESA).

We also strongly recommend that the Jefferson County Commission **seek technical assistance** from the WVDNR Wildlife Diversity Unit about rare, threatened, and endangered species occurrences at the site, and ways to mitigate impacts on these species. **The WVDNR can provide consultation through direct presentation or field review so that land use decisions can be fully informed prior to moving forward.**

PVAS is also concerned about the effects of the water bottling facility on 1) Middleway area's wells, for both maintaining well levels and the potential for the polluted 3M plume to migrate towards Sidewinder's proposed source well, 2) Jefferson County's water supply, not only for private and municipal supplies, but 3) for agricultural production. Adequate water supplies are especially important during droughts and for fire suppression.

Based upon these factors, ***we strongly urge you to deny Sidewinder's proposal.*** Should the proposal be approved, we recommend it be with **significant restrictions so that our unique and irreplaceable species and wetlands can be protected, and the safety and well-being of our community ensured.**

Thank you for considering our comments.

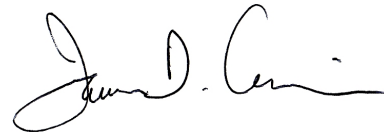
Sincerely,



Sandy Brown
President



Kristin Alexander
Executive Director



Jim Cummins
Board Member at large (Attachment 3)

For the PVAS Board of Directors

Attachment 1: "Recharge Impacts of Sidewinder's Subsurface Withdrawals from Well MW-B"

Attachment 2: Support documentation prepared by WV Rivers entitled "Groundwater extraction and wetlands: potential impacts of a proposed water bottling facility near Middleway, WV"

Attachment 3: Jim Cummins's short Biography. He is one of the principal authors of this letter and will be attending and plans to make a presentation on behalf of the PVAS Board at the February 11th public meeting.

Attachment 1: Recharge Impacts of Sidewinder's Subsurface Withdrawals from Well MW-B

Calculations and graphic depictions of recharge area for Turkey Run Spring at Lake Louise compared with the recharge losses at Sidewinder's proposed withdrawal levels.

The flow of the Turkey Run Spring at Lake Louise is given as 4,500 gallons/minute. (Source: "Springs of West Virginia" by Jane McColloch, 1986) That is the only flow that I have found on record for that spring. Given the source, it likely is representative of typical flow.

Converting Turkey Run Spring's 4,500 gallons/minute flow to gallons/day flow = roughly 6.5 million gallons/day (mgd).

[1,440 minutes/day x 4,500 gals/minute = 6.5 mgd] ["million gallons/day" is often abbreviated as "mgd"]

Triad's report¹ cited a watershed surface area of 3027 acres "upstream" from their wells next to Turkey Run Spring will recharge 2.25 mgd flow to those wells. However, Karst subsurface flows rarely follow surface drainage. Since Karst's predominantly subsurface flows are not nearly as well known as non-Karst surface flows, in the image below circles will be used to represent subsurface recharge areas. A circle with a diameter of 2.5 miles is roughly equal to 3027 acres in area.

¹Triad Report of Hydrogeological Assessment, Turkey Run Spring/MW-B, Triad Project No. 03-20-0377

As cited in the Triad report, pg 5, their subsurface water recharge rate of 10"/year for south Jefferson County will be used.

That 10"/year is 0.83"/month, and for a 30-day month, that would make a daily recharge average of 0.028"/day. Convert that to ft/day (0.028"/12), gives an average of approximately 0.0023 ft of water recharge/day.

1st BIG Question: Given that recharge parameter, how much land area is required to maintain the 6.5 mgd of flow at the Turkey Run Spring?

A: An area the size of a 4-mile diameter circle (= 8,040 acres) is needed to re-supply the Spring's 6.5 mgd flow.

2nd BIG Question: How much recharge area would be impacted by Sidewinder's withdrawal of 1.4 mgd, and perhaps greater withdrawals?

A: An area the size of a 2-mile diameter circle (= 1,883 acres) is equivalent to the lost recharge to the groundwater supplying Turkey Run and its Spring at Lake Louise. Continuous withdrawals at that level would drink the spring dry.

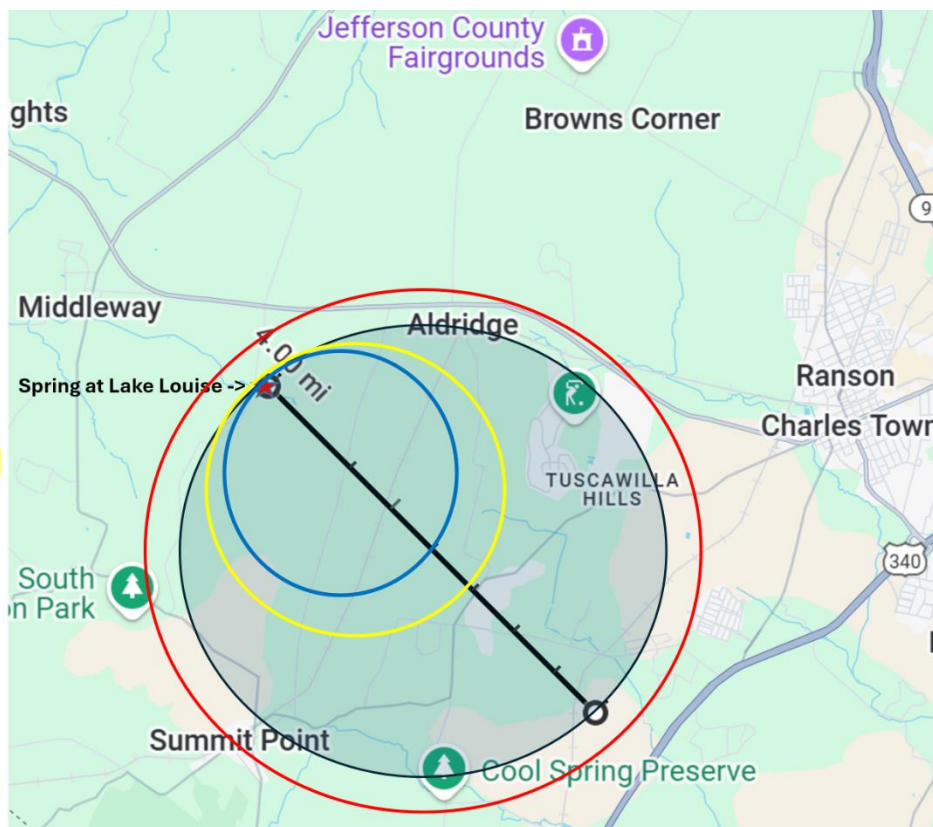
The shaded circle represents the 4-mile diameter area (8042 acres) needed to fully recharge the 6.5 million gallons/day (mgd) flow from the Lake Louise Spring (red star). The actual shapes and directions of recharge areas are uncertain in our Karst geology due to its inherent complexities and needed research. The north-west orientation is done to reflect evidence of subsurface flows in Jefferson County moving northwards, like the surface flows of the Shenandoah River and Opequon Creek.

The blue-lined circle represents the 1,885 acre area effectively lost by the proposed 1.4 mgd withdrawal. That alone is almost ¼ of the Spring's recharge area. The **yellow circle** represents 3027 acres and recharge of 2.25 mgd, as cited in the Triad Report. The **red circle** represents the 12,700-acre area needed to fully recharge a considered 7.9? mgd water withdrawal.

What these show is that **Sidewinder's proposed withdrawals of 1.4 (to 7.9?) mgd near that Spring would no doubt have broad and severe impacts on much of the county, its people, its economy, and its wildlife.**

Major streams and springs which will be, or very likely will be, affected by withdrawals at Turkey Run Spring include:

- 1) Turkey Run Mainstem (**Turkey Run Spring**)
- 2) An un-named tributary of Turkey Run (south of Turkey Run Spring and Lake Louise)
- 3) Hopewell Run headwaters
- 4) Evitts Run headwaters (Washington Spring)
- 5) Flowing Springs Run
- 6) N. Fork of Bullskin Run (Rich Wood Farm Spring)
- 7) Bullskin Run (White House Spring), and **its flows, other springs, and wetlands at PVAS's Cool Spring Preserve**)





Fact Sheet

Groundwater extraction and wetlands: potential impacts of a proposed water bottling facility near Middleway WV

Background

Jefferson County officials are considering approval of a factory that would extract large volumes of groundwater at Lake Louise near Middleway, WV (“Mountain Pure Bottling Facility”, Sidewinder LLC Concept Plan #24-6-SP). Here we summarize key issues involving Morgan Wetland¹, a 52-acre wetland complex located at Lake Louise.

Key issues

1. Wetlands provide vital services for people and nature.

Wetlands provide water purification, flood risk reduction, groundwater recharge, carbon sequestration, and essential habitat for aquatic and terrestrial species, including threatened and endangered species.²

2. Wetlands are in decline in WV.

Over 80% of the wetlands in West Virginia have been lost, according to the WV Department of Environmental Protection (DEP).³

3. Morgan Wetland supports a rare ecosystem of outstanding biodiversity significance.

The presence of limestone and karst terrain makes Morgan Wetland a “marl wetland”, a unique ecosystem type⁴ of immense ecological value. Biological surveys have documented several rare plant and animal species here (see attached list), and for this reason DEP considers the site to be of “Outstanding State Biodiversity Significance” (biodiversity rank B4)⁵. The site also ranks highly

¹ Also known as “Turkey Run wetland”, “Big Spring wetland”, and “Lake Louise wetland”

² <https://www.epa.gov/wetlands/why-are-wetlands-important>

³ <https://dep.wv.gov/WWE/watershed/wetland/Pages/default.aspx>

⁴ Bartgis, R.L. and G.E. Lang. 1984. Marl wetlands in eastern West Virginia: distribution, rare plant species, and recent history. *Castanea* 49:17-25. <http://www.jstor.org/stable/4033057>

⁵ Letter from DEP Senior Wetland Scientist (Elizabeth Byers) to DEP In-Lieu Fee Program Coordinator (Kristy Rodrigue) dated February 10, 2022.

among all wetlands statewide for benefits to water quality (within top 25%), flood protection (within top 30%), habitat quality (within top 10%), and overall condition (top 15% statewide)⁵ based on DEP analysis⁶. Additionally, the site may support the Madison Cave isopod (*Antrolana lira*), a threatened species under the U.S. Endangered Species Act⁷.

4. The wetland requires groundwater inputs from the surface of the water table.

The surface elevation of groundwater (i.e., the water table) affects wetlands by controlling the flow of water into soils and vegetation⁸, and this is particularly important during drought conditions as experienced in Jefferson County during recent summers⁹. Moreover, groundwater extraction that lowers the water table is known to cause degradation and loss of wetland and stream habitats¹⁰.

5. The applicants demonstrated that groundwater extraction will lower the water table near Morgan Wetland.

A groundwater pump test conducted near the Morgan Wetland by TRIAD Engineering in 2022 revealed a 7-foot drop in the water table¹¹. The applicants have asserted that groundwater extraction will have no effect on water levels in Turkey Run (the stream flowing from Lake Louise) but that conclusion is nonsensical because they discharged water from the pump test back into the outlet of the Lake that flows into Turkey Run. The applicants have provided no assurance that the observed drop in the water table will not affect Morgan Wetland.

6. DEP officials are concerned that the proposed groundwater extraction will damage the wetland.

Documentation with the U.S. Army Corps of Engineers (USCOE) states that “DEP had concerns regarding...well-drilling activities which they believed could impact the water table causing a threat to hydrology over the Morgan Wetland site.”¹² The USCOE further stated that “though the DEP still has concerns regarding the well-drilling activities, the Corps informed DEP that these concerns were outside our authorities and would need to be addressed within their own regulatory and legal means.”¹²

⁶ WV Department of Environmental Protection. User manual for the West Virginia Wetland Rapid Assessment Method (WVWRAM), version 1.24. Charleston WV.

<https://dep.wv.gov/WVE/watershed/wetland/Pages/WVWRAM.aspx>

⁷ <https://www.fws.gov/species/madison-cave-isopod-antrolana-lira>

⁸ Winter, T. 1999. Relation of streams, lakes, and wetlands to groundwater flow systems. *Hydrogeology Journal* 7:28-45. <https://doi.org/10.1007/s100400050178>

⁹ <https://www.drought.gov/states/west-virginia>

¹⁰ <https://www.usgs.gov/special-topics/water-science-school/science/groundwater-decline-and-depletion>

¹¹ Hydrogeological Assessment for Turkey Run Spring/MW-B, Triad Project No. 03-20-0377. April 28, 2022.

¹² U.S. Army Corps of Engineers. CELRP – RS-S (File Number, LRP – 2022-00083). Memorandum for Record.

7. The applicants have already damaged the wetland.

In April 2022, DEP and USCOE cited the applicants for unlawful discharge of pump flowback materials into Morgan Wetland and nearby sinkholes¹³. USCOE cited the damage to the Morgan Wetland as a violation of Sections 301 and 404 of the Clean Water Act (33 USC 1311, 1344).

8. WV taxpayers are invested in conservation of Morgan Wetland.

Given its importance, DEP has allocated over \$292,000 for restoration, monitoring, and maintenance of Morgan Wetland since 2012¹⁴. Substantial work to protect and restore this site also has been undertaken by The Nature Conservancy, the Jefferson County Farmland Protection Board, and local landowners. Monitoring data indicate that “this project each year has met monitoring success criteria and is currently meeting all established performance criteria.”¹⁵

Conclusion: the proposed groundwater extraction presents unacceptable risks to Morgan Wetland, a natural resource of extraordinary importance in WV.

Rare plant and animal species documented at Morgan Wetland⁵:

Spotted turtle (*Clemmys guttata*)
Eastern cricket frog (*Acris crepitans crepitans*)
Bearded sedge (*Carex comosa*)
Four-flowered loosestrife (*Lysimachia quadrifolia*)
Greater bladderwort (*Utricularia macrorhiza*)
Hard-stemmed bulrush (*Schoenoplectus acutus var. acutus*)
Hooded skullcap (*Scutellaria galericulata*)
Lake sedge (*Carex lacustris*)
Prairie straw sedge (*Carex suberecta*)
Water horsetail (*Equisetum fluviatile*)
Water smartweed (*Polygonum amphibium*)
Winged loosestrife (*Lythrum alatum var. alatum*)

For more information:

Contact Dr. Nathaniel Hitt, Senior Scientist, West Virginia Rivers Coalition,
nhitt@wvivers.org

¹³ Letter from Jon Coleman (USCOE) to Sidewinder Enterprises, Regulatory Division file number CELRP-RG-S 2022-00083, dated April 4, 2022.

¹⁴ Email correspondence from Kristy Rodrigue (DEP In Lieu Fee Program Coordinator) to Nathaniel Hitt (WV Rivers Coalition) dated January 16, 2025. Additional financial documentation is available at <https://dep.wv.gov/wve/programs/pages/in-lieu-fee.aspx>

¹⁵ Downstream Strategies, 2020. Morgan Wetland In-Lieu Fee Mitigation Project: Year-5 Monitoring Report, USCOE Permit: 2013-512. December 10, 2020.

Biographical Summary

Jim Cummins Stream and River Ecologist. Retired since October, 2016.



Masters of Science (1985) in Biology from George Washington University.

Career: 1985-87: Started the first Fisheries Program for the District of Columbia.

1988-2016 retirement: Director of the Living Resources of the Interstate Commission on the Potomac River Basin (ICPRB). Projects at ICPRB included biological assessments of rivers and streams in VA, MD, PA, WV and DC, environmental flow studies, habitat restoration and fish passage, especially regarding the Little Falls Dam near Washington, D.C. and a linked American shad stocking program with integrated student and volunteer involvement. During the 1980s and early 1990s, conducted ecological and fisheries surveys of the Potomac's North Branch. Authored "Flowing to the Future," a 1995 plan for improving the Potomac's North Branch through mitigating long-standing acidic mine drainage problems in MD and WV which developed an exceptional trout fishery and helped improve the economy in that watershed (region). Chaired the North Branch Potomac River Advisory Committee, 2014-16. 1984-2006 was principal ecologist for Anacostia River restoration (urban/suburban impacts). 1993-95 - Managed and was the primary author for a multi-agency, multi-disciplinary planning project which produced "The Potomac River Watershed Visions Report." This report became the foundation for the designation of the Potomac River as one of the nation's Heritage Rivers. Principal author of 2011 multi-agency report "Potomac Basin Large River Environmental Flow Needs."

RECOGNITIONS INCLUDE: 1) 2018, "Shad Run," a documentary film about student involvement in the Potomac's shad restoration, 2) 2016, Lifetime Achievement Award, presented by Jamie Raskin, US House Member from Maryland, 3) 2006, "Hero of Conservation" Field and Stream Magazine, 4) 2006, "Future of Fishing" Award, from American Sportfishing Association, 5) 2004, Congressional Sportsmen's Foundation and American Fly Fishing Tackle Association's Annual Award for American Shad Restoration, presented by then Secretary of the Interior Gale Norton, and 6) 1998, "Conservationist of the Year," from The Potomac River Smallmouth Bass Club.

PROFESSIONAL MEMBERSHIPS:

Association of Mid-Atlantic Aquatic Biologist. Founding Board Member (2004)
President 2006, 2012.
Maryland Water Monitoring Council Board Member 2002-2007
Co-Chair, Monitoring and Assessment
Subcommittee, 2003- 2015

Jefferson County, WV, Public Service District. Board Member 2008-2013, Chair 2012+2013.

Jefferson County Water Advisory Committee – Member 2019 to 2022.

The Jefferson County Chapter of the Izaak Walton League of America, member, 2006 – present.

Potomac Valley Audubon Society, Board Member, Vice President (2019-2020) President (2020-2023)

Jefferson County Watersheds Association

Steering Committee - 1997-1998, Member 1997 - 2002

Crystal Lake Property Owners Association (HOA), Founding Member, Board, past President

Camp Hill United Methodist Church, Harpers Ferry,

currently: Liturgist, Church Council member, and Chair of Trustees

American Fisheries Society (AFS) member 1985 - 2000

AFS Potomac Chapter President 1993

Treasurer 1991-1992

Newsletter Editor 1989-1991

Potomac Greenways Coalition Founding Member

Chairman 1992-1993

Treasurer 1994-1997

Resident of West Virginia since 1974, Jefferson County (Bakerton area) since 1977.

Representative Recognitions and Awards



2019 Lifetime Achievement Award, Presented by MD Congressman Jamie Raskin, by the Potomac River



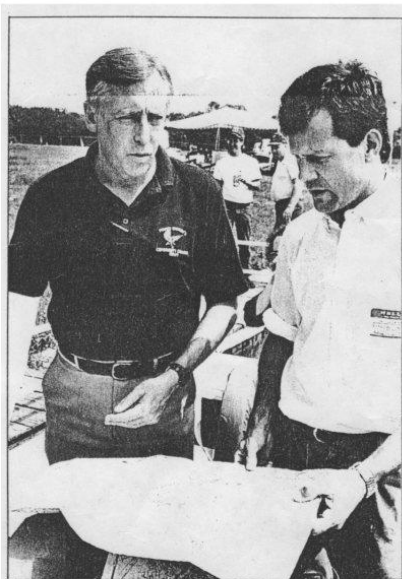
4/20/1987
Article on DC Fisheries Program and Anacostia River Restoration Planning.



2006
Field and Stream Magazine
Hero of Conservation



2006 American Sportfishing Association's "Future of Fishing" Award Presented by AFS Pres. Mike Nussman, Dir, with U.S. Rep (MI) John Dingell



Rep. Steny Hoyer (left) and Jim Cummins of the Interstate Commission on the Potomac River Basin check a chart yesterday as they tour the Anacostia.

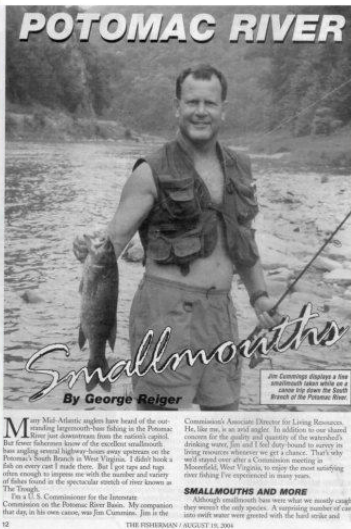
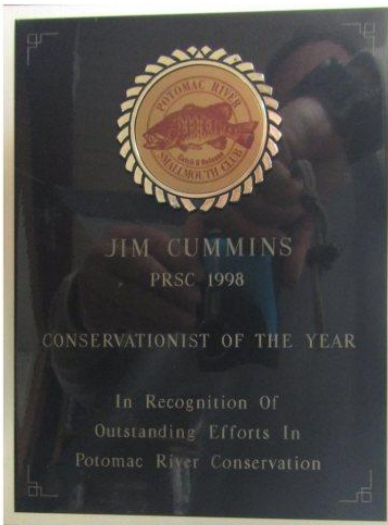
8/28/1990 Washington Times Article with MD Representative Steny Hoyer



2004, Gail Norton, US Secretary of the Interior, Presents "Congressional Sportsman's Foundation Award."



This 2018 documentary is about the American shad restoration program in the Potomac River run by Jim Cummins of the Interstate Commission on the Potomac River Basin and in partnership with the US Fish and Wildlife Service. It focuses on Washington DC area student involvement in the project. The film makers were Ben Dorger and Becky Harland. It is available at <https://www.shadruntimefilm.com/>



THE EGG MAN

A biologist's mating game helps restore shad to the Potomac

ON THIS MAY NIGHT in Virginia, with the dark Potomac River lapping at its sandy shore and lights from the Fort Belvoir Officers' Club twinkling across the treetops, romance is in the air. Actually, romance is in a metal bowl, swirling. Jim Cummins—Capitol in a hoodlamp and foul-weather clothing—has speared pale-orange fish eggs from several female shad into the bowl, followed by white, sperm-containing "milt" from male shad. Adding a splash of river water to activate the sperm, Cummins swirls the soup gently, being careful not to crush the eggs. Looking down at his concoction, he announces, "We're going to wait five minutes, just so the dating process is complete."

The same "dating process" is also under way in the river this spring night, as silvery American shad (*Alosa sapidissima*) swim upstream toward Washington, D.C. Spawning females, weighing four to six pounds and bearing a quarter-million eggs apiece, are being chased and circled by males, not only in the Potomac but in other rivers along the East Coast. When the females broadcast their eggs into what scientists call the water column, males immediately add milt to the mix. (Perhaps it was this scatter-shot approach to reproduction that prompted W.C. Fields to declare that he never drank water because fish fornicate in it.)

On shore, in his makeshift camp, Cummins leaves nothing to chance in his own version of the mating game. The tens of thousands of shad eggs he has fertilized in a mixing bowl will be in a hatchery before dawn. Hatching in a week, the fry (juvenile fishes) will then be trucked back to the Potomac in 200-gallon tanks and released into the river a few miles above a dam that for decades has blocked adult shad from prime spawning and nursery habitat, just north of Washington.

Cummins's work is part of a multi-agency effort to restore to the Potomac a healthy population of a fish species that once migrated up this river and other Chesapeake Bay tributaries in

By Michael Lipske

Resume Moment: Jim Cummins squeezes sperm-filled milt from a shad into a bowl of fish eggs. The fertilized eggs will be trucked to a hatchery. A week later, the fry will be ready for release into the Potomac to help restock the river's depleted shad population.

WAX/JUNE 1994