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Regulators Dredging up Trouble for Western Pennsylvania

Pennsylvania's Fish and Boat Commission is planning to expand the threatened and endangered species list to include five new freshwater mussels. By so doing they will effectively halt sand and gravel extraction on the Allegheny and Ohio rivers and create substantial negative impacts on the region's economic and environmental health.

These aggregates are mostly used in highway construction and repair. In fact, of the 2.3 million tons taken from the area's rivers annually, the vast majority (2.1 million tons) is used by PennDOT. It is important to bear in mind that the President's stimulus plan relies heavily on massive increases in road and bridge construction and rehabilitation. Thus, over the next several years, the demand for high quality sand and gravel will almost certainly rise sharply above current levels.

Aggregates removed from the river beds meet PennDOT's strict skid resistant requirements for asphalt pavement and concrete. This high quality aggregate material, if not supplied by river dredging operations, will have to be trucked in from either Lake Erie or land quarries in central Pennsylvania—each about 100 miles away. Substituting over-the-road truck hauls for waterway movement will have serious deleterious effects on the roadways and on the environment.

To haul the recent annual production of 2.3 million tons of aggregate would require 104,550 loads on 22-ton capacity trucks. At 200 miles per round trip, these hauls would result in an additional 20.9 million miles per year of truck highway travel in Western Pennsylvania. Assuming an average of five miles per gallon on these trips, the trucks would consume 4.2 million gallons of diesel fuel each year. According to the U.S. Environmental Protection Agency, each gallon of diesel fuel burned releases 22.2 pounds of carbon dioxide (CO_2) into the air. Thus, the 4.2 million gallons of diesel burned carrying the aggregates would release approximately 93 million pounds of CO_2 into the air annually—this at a time when many environmentalists and Administration officials are extremely concerned about carbon dioxide emissions. Additionally, large amounts of carbon monoxide and other pollutants (34 times more than automobiles traveling the same mileage) would also be pouring out of the trucks' exhaust pipes.

In addition to the exhaust emissions, these trucks will exact a heavy toll on the area's roadways. Haulers will likely rely on three-axle trucks to transport the aggregates. These trucks, carrying sand and gravel, are the most damaging vehicles to roadways because of the enormous weight they put on each axle and tire surface in contact with the road. The Virginia

Department of Transportation estimates that heavy trucks cause 20 cents per mile in damage to a roadway. Using the VDOT damage estimate for heavy trucks, the additional 20 million miles of heavy truck travel could cause upwards of $4 million in damage to area roads each year. Furthermore, additional truck traffic on the highways can lead to more accidents, injuries to person and property, and possibly fatalities. A recent report prepared by the Texas Transportation Institute showed the ratio of injuries per ton-mile for cargo traveling on the highway versus inland waterways to be nearly 2200 to 1.

Consider too that one barge can carry 1,750 tons of aggregates and a fifteen barge tow can move 26,250 tons. Therefore it would take only 88 barge tows to do the job of 104,550 trucks. Moreover, these barges would travel far fewer miles than the trucks and will use only a fraction of the fuel and emit a very small amount of air pollution compared to the trucks.

And, assuming the Federal stimulus plans move into high gear over the next three years and produces a greatly increased need for aggregates, our estimates of road damage and pollution would have to be raised proportionally.

Finally, besides the road damage and negative environmental impacts of transferring production off the rivers there are economic effects to be considered. There are 85 people directly employed in the area's river aggregates industry. If the Fish and Boat Commission carries out its plans to add new mussel species to the threatened and endangered list, it will shut down the industry and not only put industry personnel out of work, but will also threaten the jobs of those who work in industries that support or rely on river aggregate dredging operations. Even a small multiplier effect of two implies that total job losses stemming from this regulatory change could easily reach 200. Creating unemployment and lost income at this time makes no economic sense at all.

In addition to the losses of income and employment, hauling aggregates 100 hundred miles or so will add considerably to the cost incurred by PennDOT as it has to pay more for delivered product. PennDOT estimates as much as $10 per ton in additional cost. Nor does this estimate account for the likely increase in aggregates' cost resulting from the need for quarrying operations to massively increase their production in a short period.

All told, the Fish and Boat Commission needs to take a deep breath and reconsider their plans to designate new endangered species. At the very least, they should develop a compromise plan that will allow the vital dredging operations to continue. That would be a very good outcome for the environment, the economy, and the state's highways.

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