



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jonathan Noguchi</b>	<b>Project Number</b> <b>J1322</b>
<b>Project Title</b> <b>North American Vectors of the West Nile Virus</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Problem Statement: Which birds are spreading the West Nile Virus? My objective is to find the main vector, or spreader of the West Nile Virus.  Hypothesis: I believe that the West Nile Virus is being spread by a select few species of birds traveling along a major bird migratory route near New York and not by all birds. <b>Methods/Materials</b> Materials: O Internet O Government Health Organizations  Procedure: A. Find list of dates and localities of the West Nile Virus B. Obtain a map of the spread of the virus across the United States C. Find a list of species of birds found positive of the West Nile Virus. D. Find list of birds that migrate to or go past the site of the first outbreak (New York) E. Find the common birds on the migration pattern list with the birds found positive of the West Nile Virus F. Compare new bird's migration pattern with the spread of the virus <b>Results</b> Result: I have found several birds that are spreaders of the West Nile Virus that travel both within the North American continent and from other places across the Atlantic Ocean. <b>Conclusions/Discussion</b> Conclusions: All the species found spreading the West Nile Virus are found primarily traveling along the Southeastern U.S. Route. They are the following: Double-crested Cormorant, Black-crowned Night Heron, Mallard, Sanderling, Laughing Gull, Ring-billed Gull, Herring Gull, Rock Dove, American Crow, Fish Crow, American Robin, European Starling, Red-winged Blackbird, and the Common Grackle.	
<b>Summary Statement</b> My project is about identifying the main vectors, or spreaders/carriers, of the West Nile Virus	
<b>Help Received</b> Received tips in methodology from my brother. Received information from the C.D.C, Pan American Health Organization, and from Dr. Dominick Travis of the Lincoln Park Zoo in Illinois	