Senators ethics proposal advances, but they’re missing two front teeth

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**Sensing water pollution from two miles high**

The water quality of rivers can be monitored with an airplane equipped with a camera-like device called a hyperspectral sensor.

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**Report on Minnesota’s rivers now comes by air**

From 11,000 feet, scientists can use a powerful new sensor to detect subtle changes in water quality along the length of a river. (via Star Tribune)

In the past two years, the re-

-sources from the Minnesota University and elsewhere have flown a specially equipped airplane and plane along the Minnesota River and other waterways, measuring water quality with a camera-like sensor. The scientists used the sensor to produce brightly colored maps that show how tributaries can change from clean up— and from toxic algae blooms and heavy metal contamination. The maps show the complex story of the Minnesota River in the pollution-prone area, birth of Alaska that has fair water quality, but it picks up sediment from the Crow, Rum and Minnesota rivers. Then the St. Croix, Mississippi and other rivers supply water, leaving the Minnesota’s Alaskan

-So far, officials are not solving the problem of tributaries with water quality maps, but that could change soon. “The science and the technology of it work,” said lead researcher Mar-

-As the airplane flies, it captures the terrain of high, low, and mid-standard areas. The airline also wanted to measure river water quality from the side of the airplane. Images from high

-This is “a home run,” said "We have technology that allows us to do things that were really impossible 10 years ago."

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**Efforts to ban privately financed trips and create an independent watchdog office have stalled, signaling a retreat by lawmakers.**

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**By DAVID SABERER,dsaberer@startribune.com**

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**Detect the DATA**

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**COLLECTING THE DATA**

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**New systems:**

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**Sensing sunlight scattered in a wide spectrum of frequencies or light from space:**

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**The filter removes the wide variation in water clarity:**

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**CLARITY:**

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**Boeing researchers:**

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**Two years ago, Boeing’s team traveled south to Madison to determine the climate of 1,500 Minnesota rivers and streams:**

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**Lake Pepin:**

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**Surrounded by trees:**

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**Bird’s eye view of water quality:**

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**Minnesota:**

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**Wisconsin:**

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**Hartings:**

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**North of Red Wing:**

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**Rid Wing**

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**Source:** University of Minnesota Remote Sensing and Geospatial Analysis Laboratory and Snyder Systems Center, University of North Dakota at Grand Forks and Land Management Information Technologies.

**Stars and Stripes Staff / 2003 Staff**