

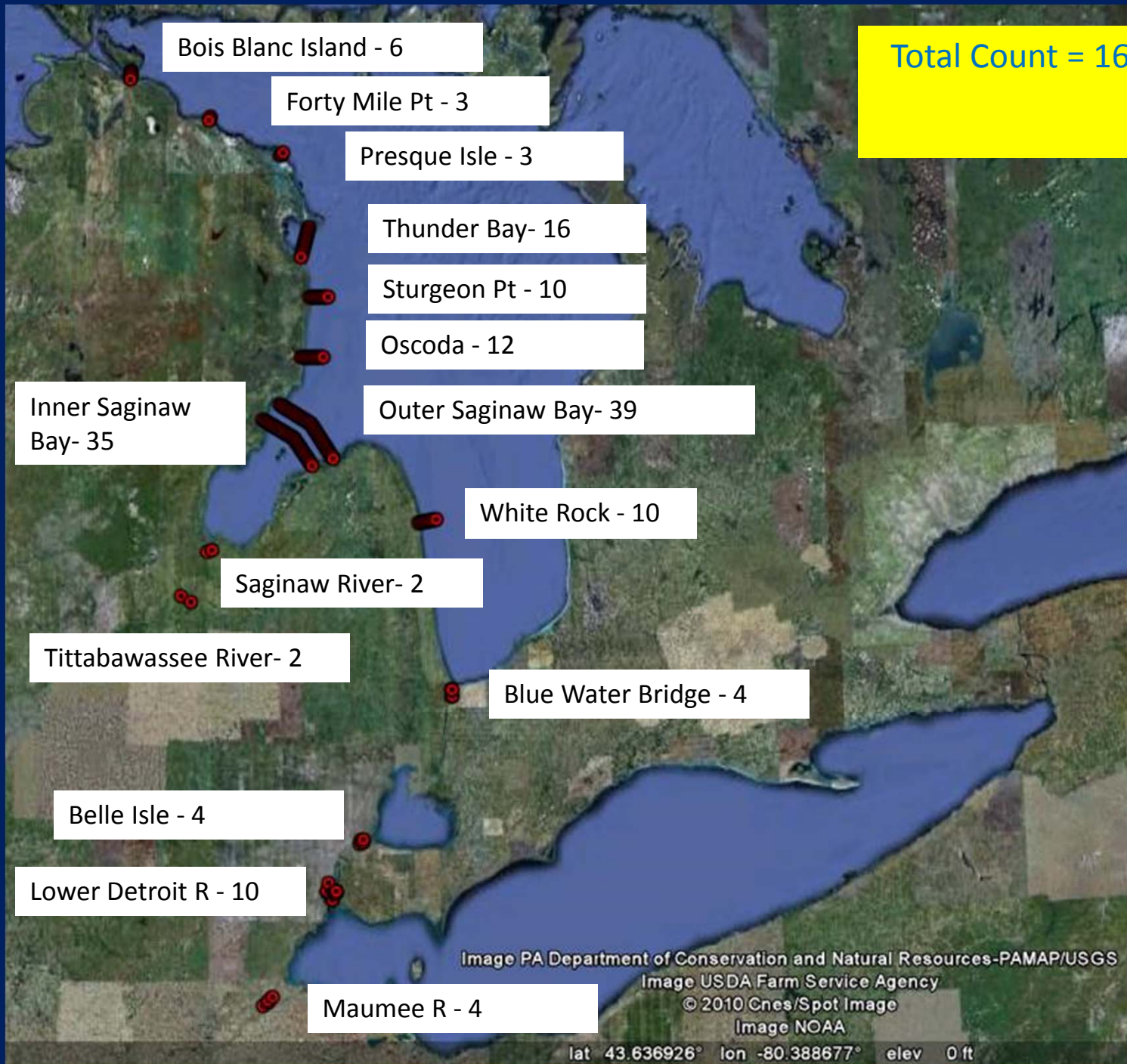
Spatial Ecology, Movement, and Mortality of Walleye



J. M. Dettmers, C. S. Vandergoot, B. Bowden,
C. Holbrook, D. Fielder, K. Murchie, and S. J. Cooke



Total Count = 160 VR2Ws



Spatial Ecology, Movement, and Mortality of Walleye

- **400 Walleye tagged March 28-April 6, 2011 with V-16 tags – 3+ year battery life**
 - 200 from the Tittabawassee River
 - 200 from the Maumee River
 - Male:female sex ratio = 50:50
 - Tagging occurred March 28-April 6
- **All fish captured with electrofishing**
 - By day at the Tittabawassee R
 - By night at the Maumee R



Spatial Ecology, Movement, and Mortality of Walleye

Objective 1

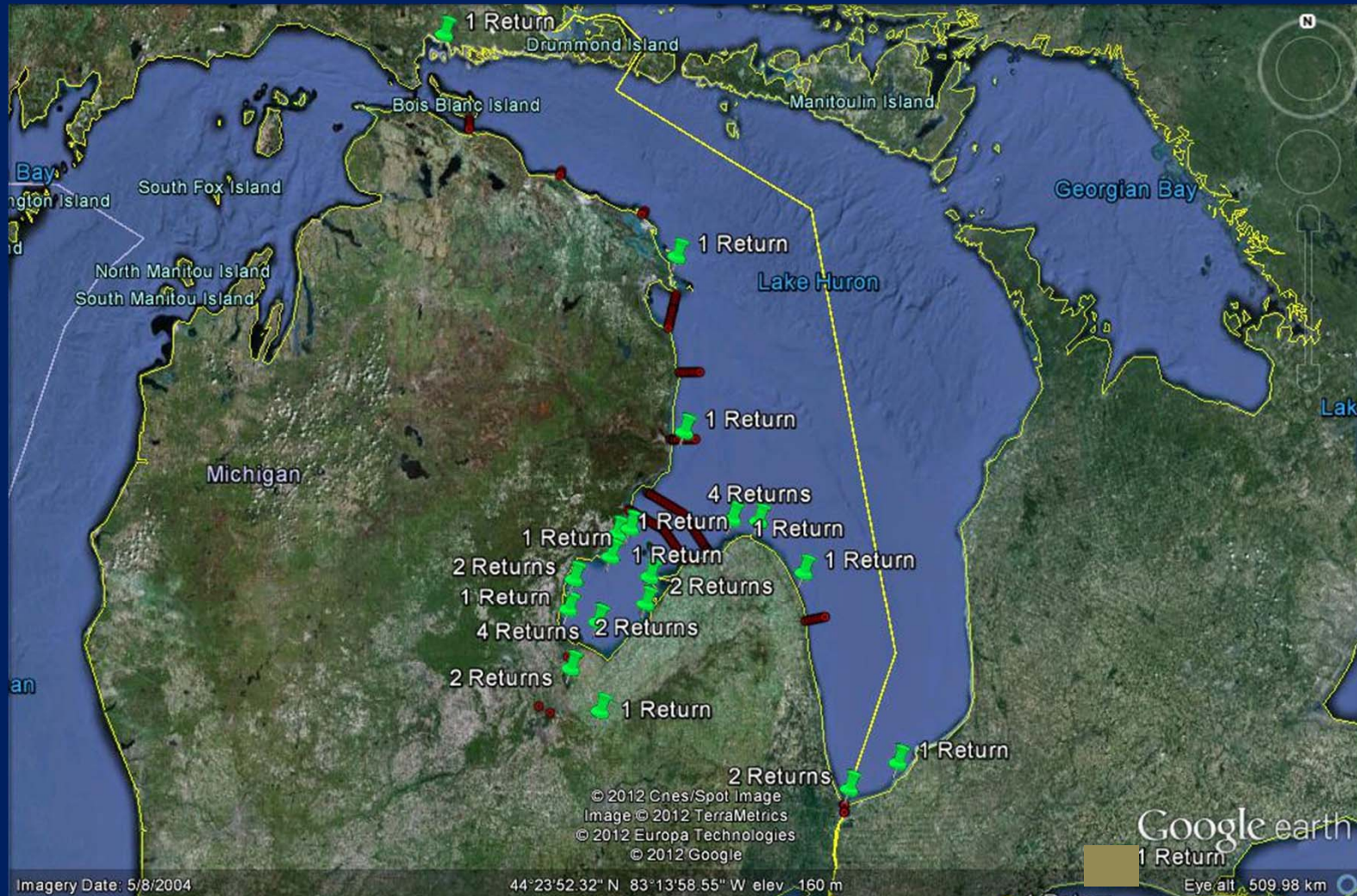
Determine the proportion of walleyes spawning in the Tittabawasse River and Maumee River that reside in the Lake Huron main basin population, in the Huron-Erie corridor, and in western Lake Erie.

Research Question

Do source-sink population dynamics occur?



Spatial Ecology, Movement, and Mortality of Walleye



30 Tittabawassee River tags returned

Spatial Ecology, Movement, and Mortality of Walleye



20 Maumee River tags returned

Spatial Ecology, Movement, and Mortality of Walleye

| Population | Mean days at liberty | Range of days at liberty | Male returns | Female returns | Total returns |
|---------------|----------------------|--------------------------|--------------|----------------|---------------|
| Tittabawassee | 92 | 26-202 | 11 | 19 | 30 |
| Maumee | 65 | 5-189 | 13 | 8 | 21 |

Spatial Ecology, Movement, and Mortality of Walleye

Objective 3

Determine stock- and sex-specific thermal experiences of walleye spawning in Saginaw Bay, Lake Huron and the Maumee River, Lake Erie.

Research Question

Do walleye move and segregate based on temperature?



Spatial Ecology, Movement, and Mortality of Walleye

Objective 4

Determine the proportion of walleyes spawning in the Tittabawasse and Maumee rivers that move through the Huron-Erie Corridor.

Research Question

Do stocks co-mingle with each other in space and time?

