

# GIS Applications for Groundwater Risk Assessment

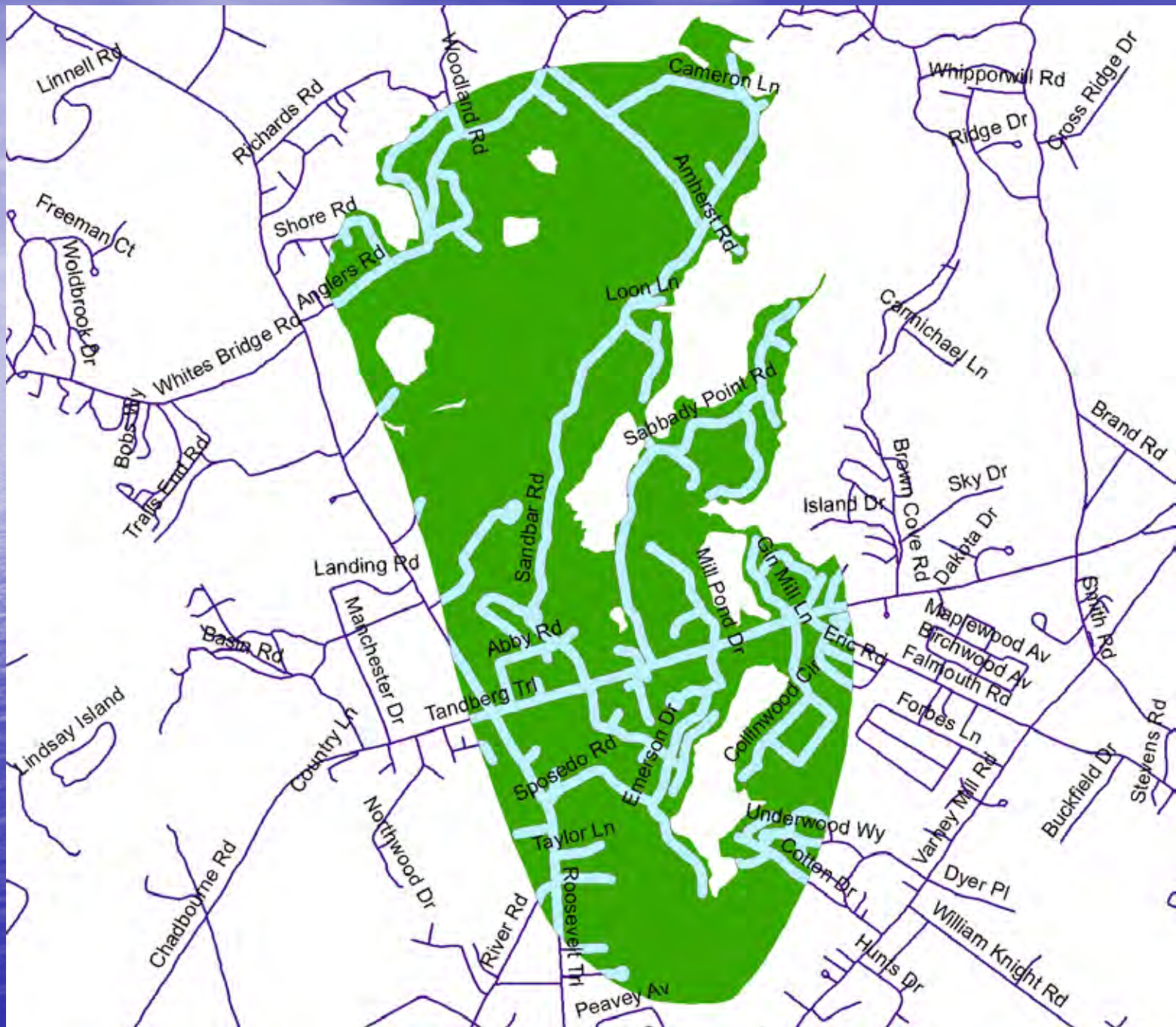
John Hopeck

[johh.t.hopeck@maine.gov](mailto:johh.t.hopeck@maine.gov)

Mark Holden, and Christian Halstead

Maine Department of Environmental Protection







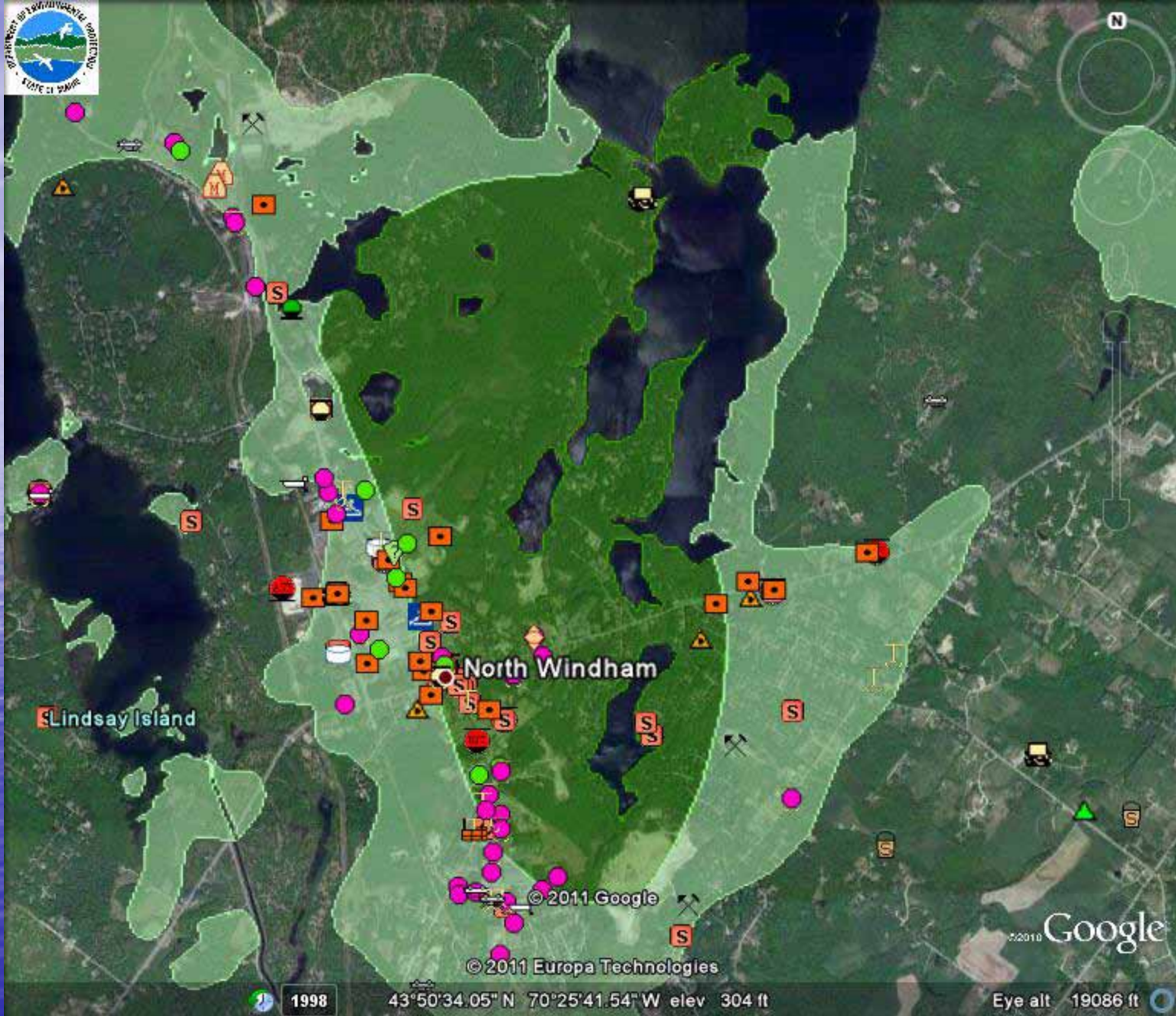
Anglers Rd

Woodland Rd

Chelsea Ln

75 ft buffer

150 ft total



Lindsay Island

North Windham

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1998

43°50'34.05" N 70°25'41.54" W elev 304 ft

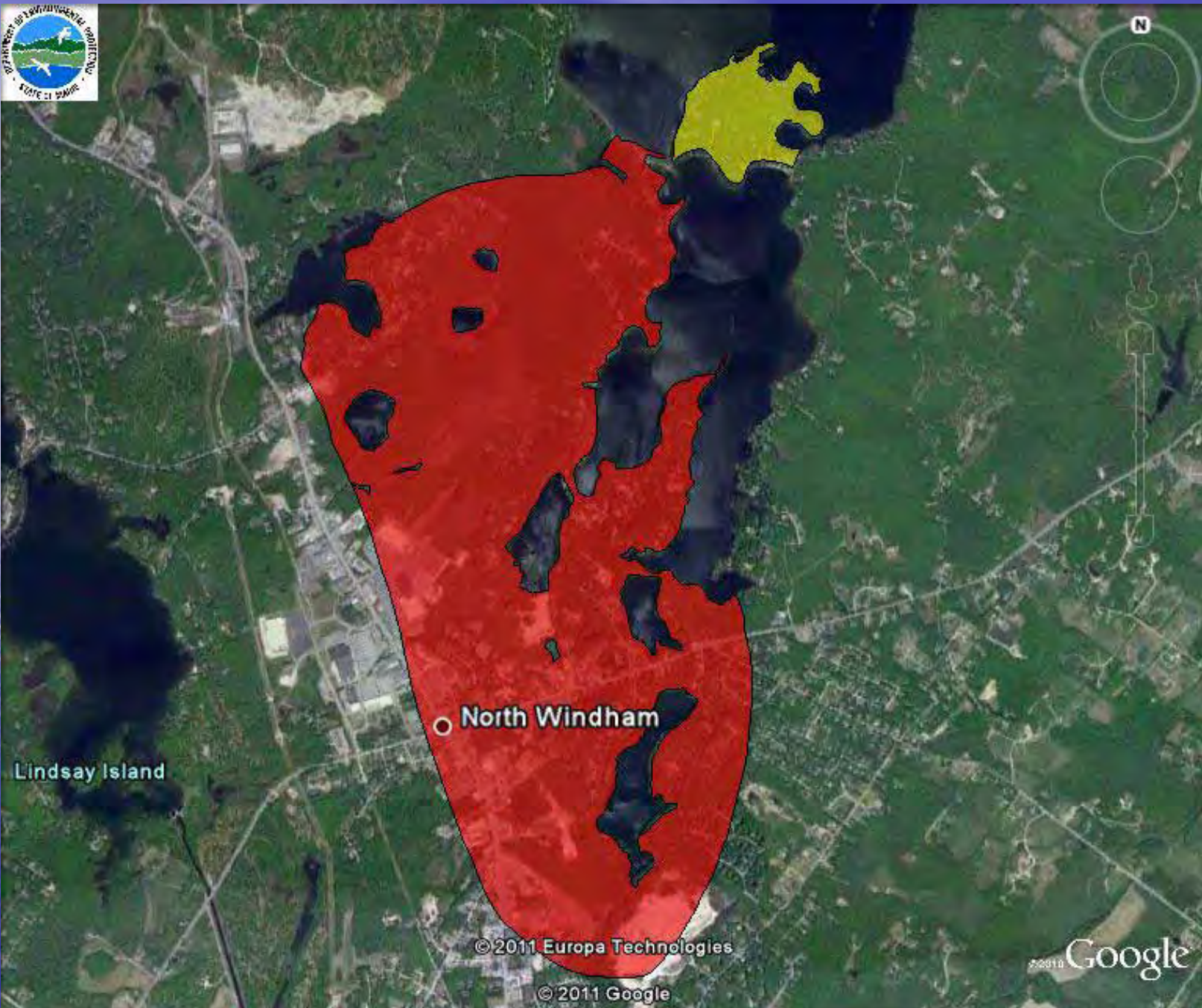
Google

Eye alt 19086 ft



RCRA SMALL QUANTITY GENERATORS ENGINEERED SWDS  
RCRA MEDIUM QUANTITY GENERATORS  
ENGINEERED SWDS  
DRY CLEANER  
RCRA REMEDIATION UNSEWERED SUBDIVISIONS  
UNDERGROUND INJECTION SITES UNDERGROUND INJECTION SITES  
UNDERGROUND INJECTION SITES RCRA SMALL QUANTITY GENERATORS  
ENGINEERED SWDS  
RCRA MEDIUM QUANTITY GENERATORS RCRA SMALL QUANTITY GENERATORS  
RCRA SMALL QUANTITY GENERATORS UNDERGROUND INJECTION SITES  
RCRA SMALL QUANTITY GENERATORS UNDERGROUND INJECTION SITES  
RCRA SMALL QUANTITY GENERATORS  
RCRA SMALL QUANTITY GENERATORS





○ North Windham

Lindsay Island

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Imagery Date: 5/16/2010



1998

43°50'36.94" N 70°25'41.55" W elev 295 ft

Eye alt 17913 ft





Sanford

York

Sanford

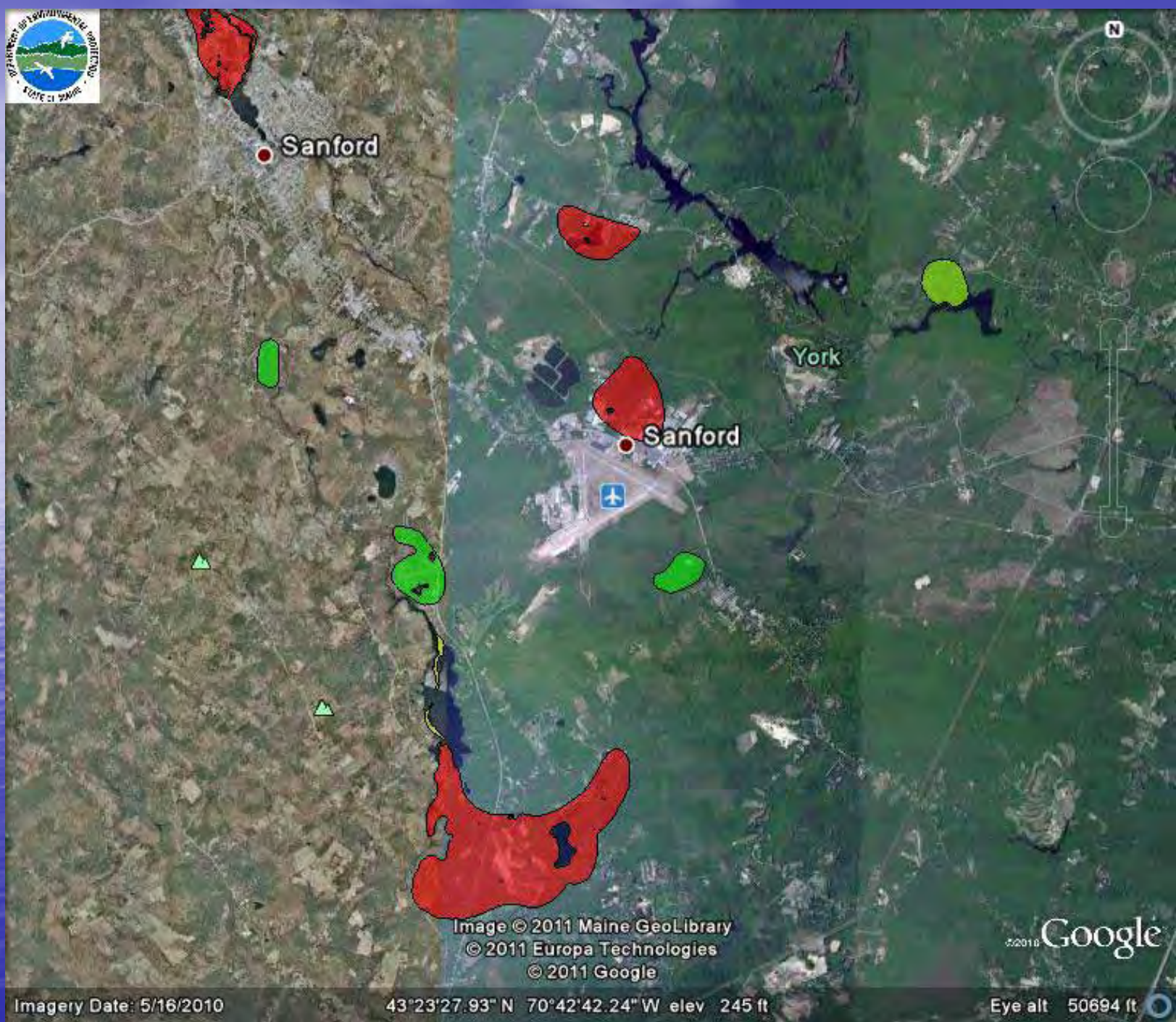
Image © 2011 Maine GeoLibrary  
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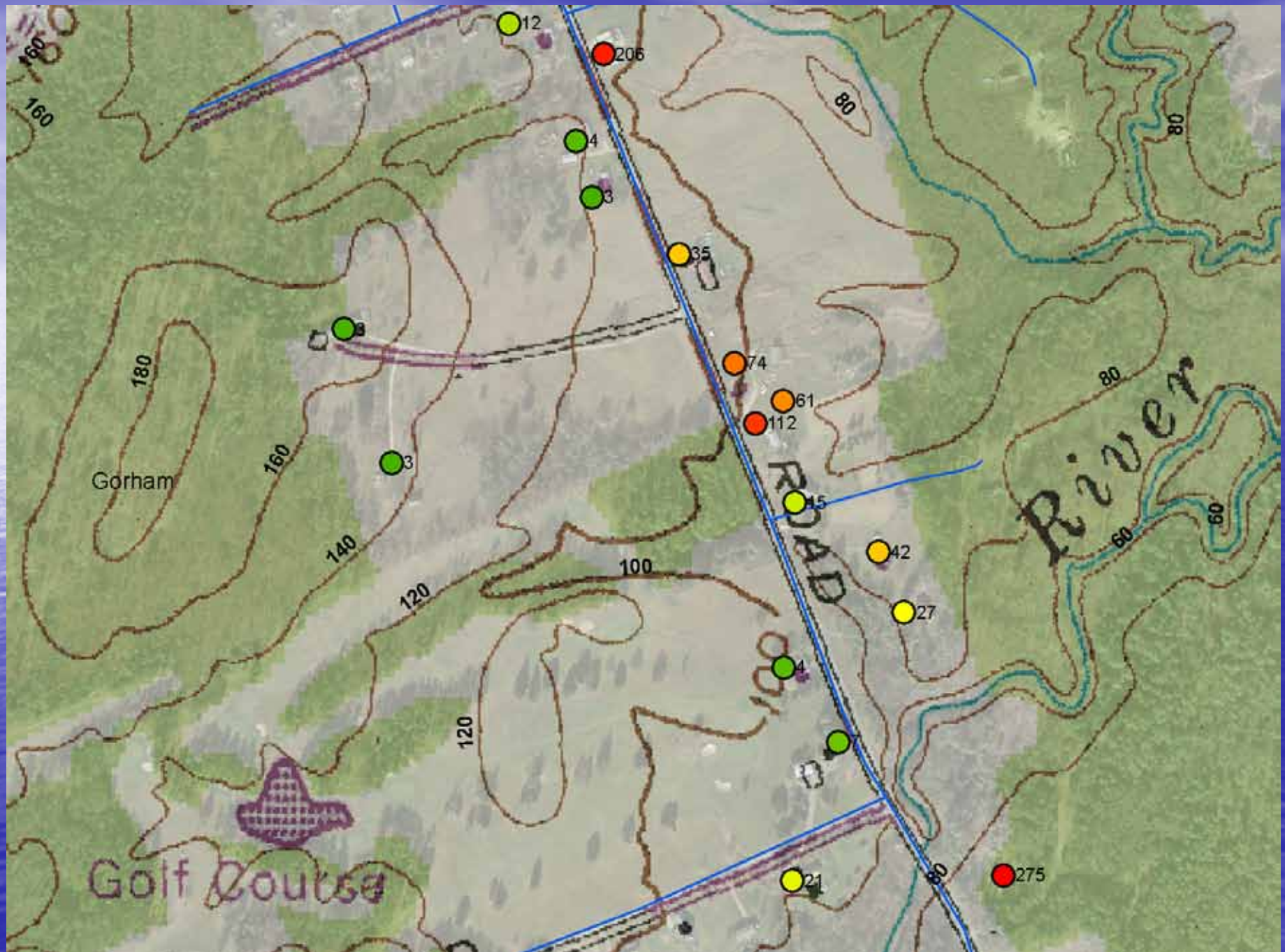
©2010 Google

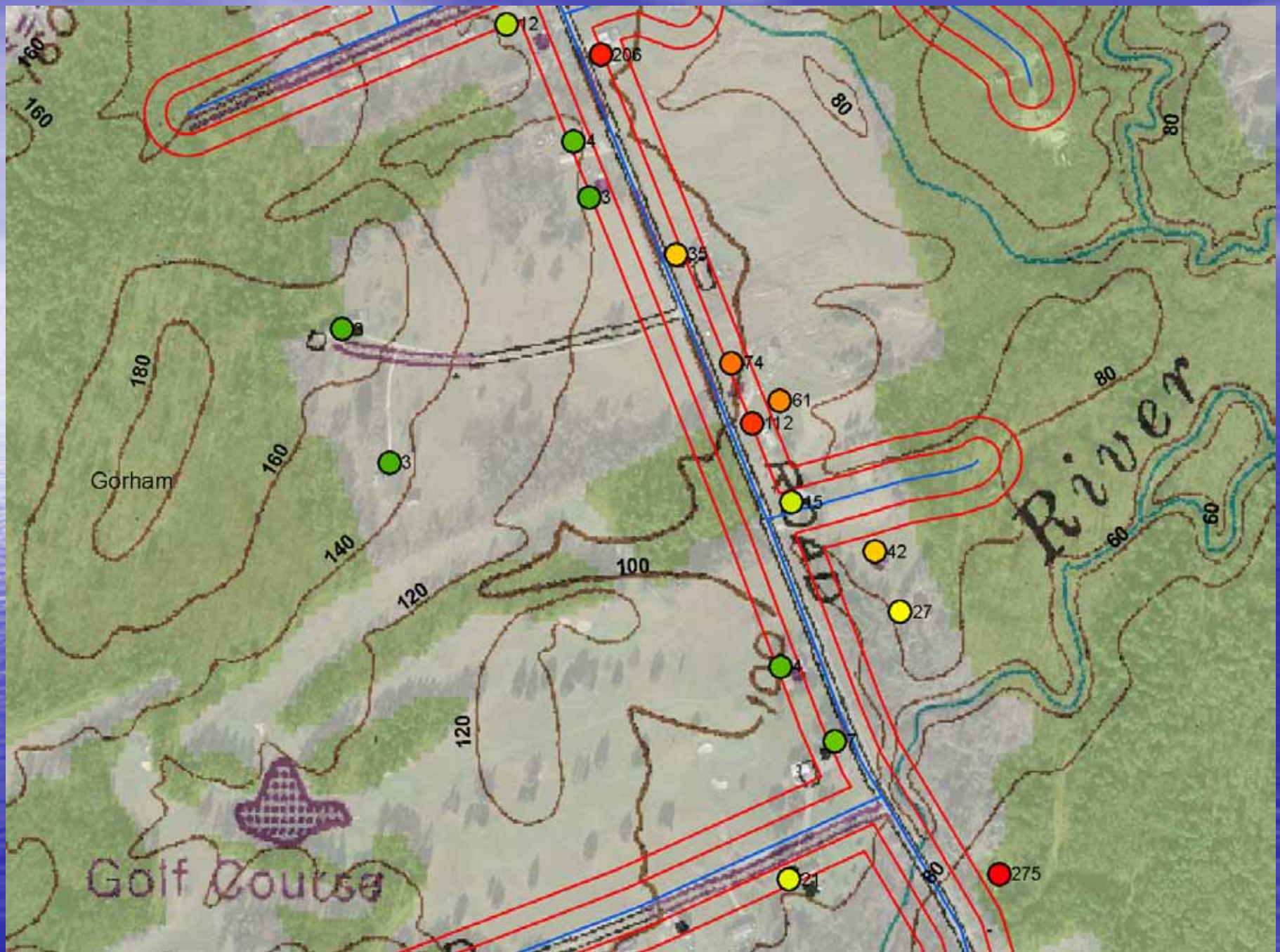
Imagery Date: 5/16/2010

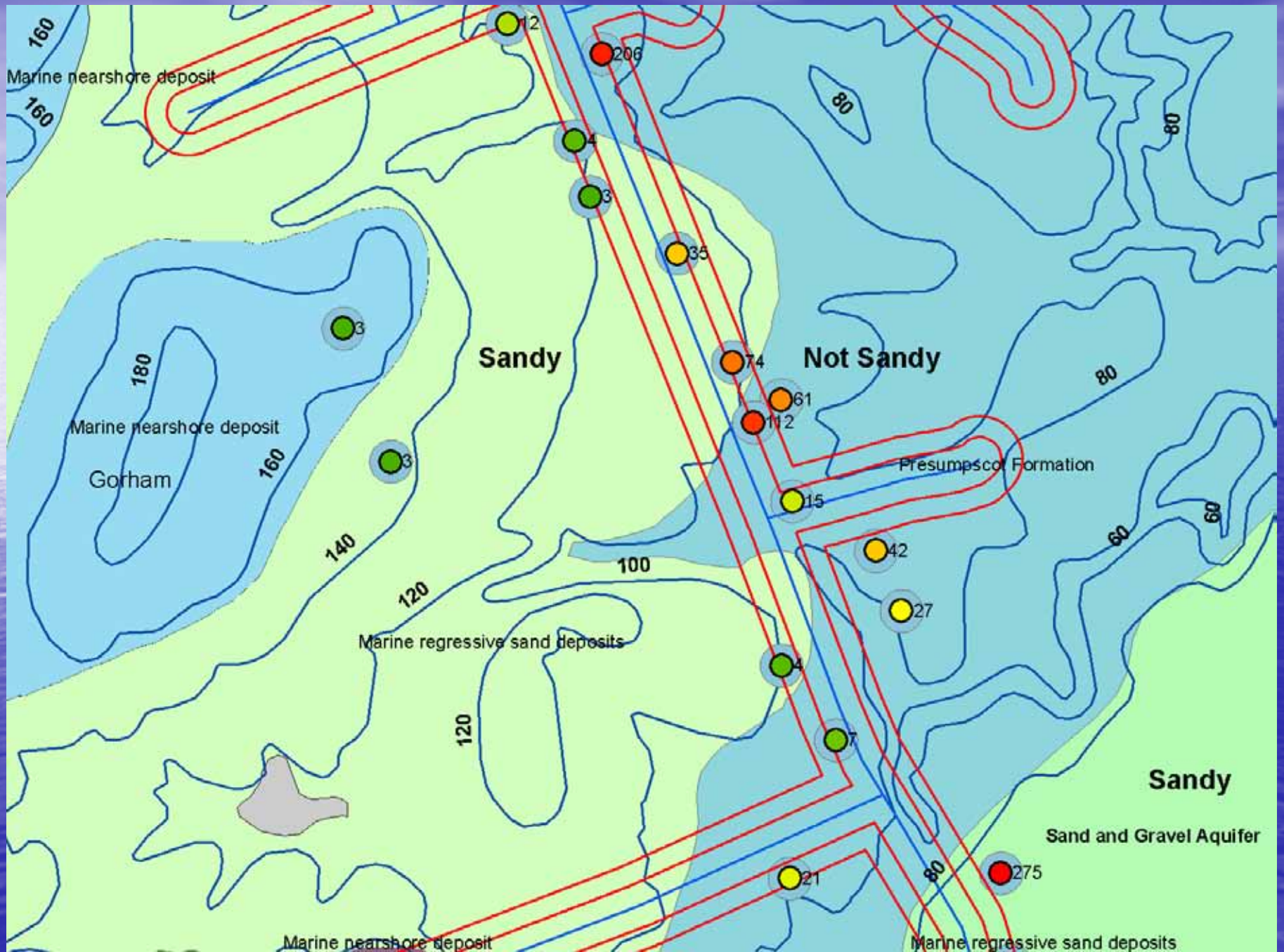
43°23'27.93" N 70°42'42.24" W elev 245 ft

Eye alt 50694 ft

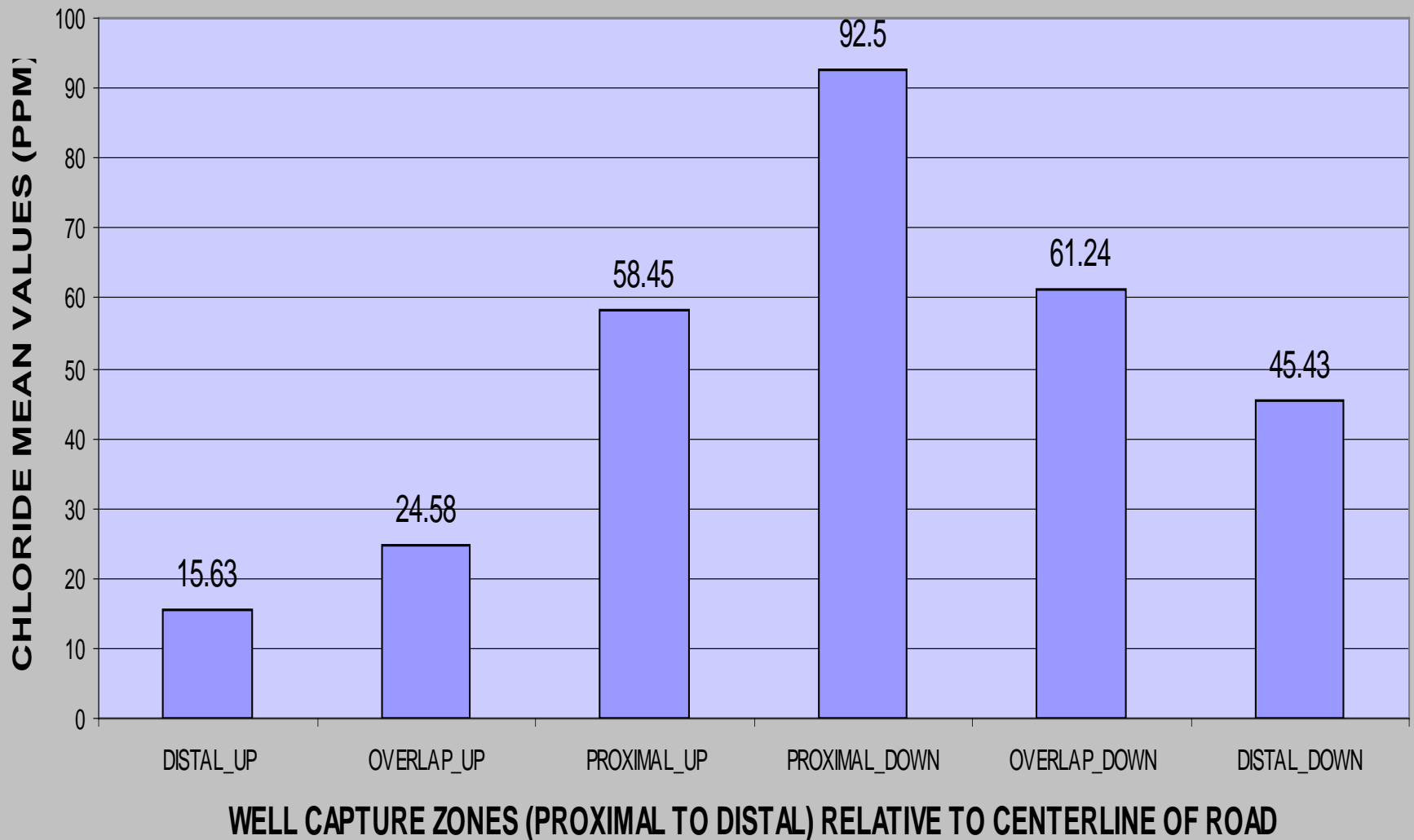








# ALL SPATIAL ZONES: > 3 DEGREES SLOPE (outliers removed)







Chamberly D

Horsom Rd

Bluebird Dr

Bluebird Dr

Sahagran Rd

Boat Walk Cr

Merino Dr

Center Dr

Mugger Rd

Horsom Rd

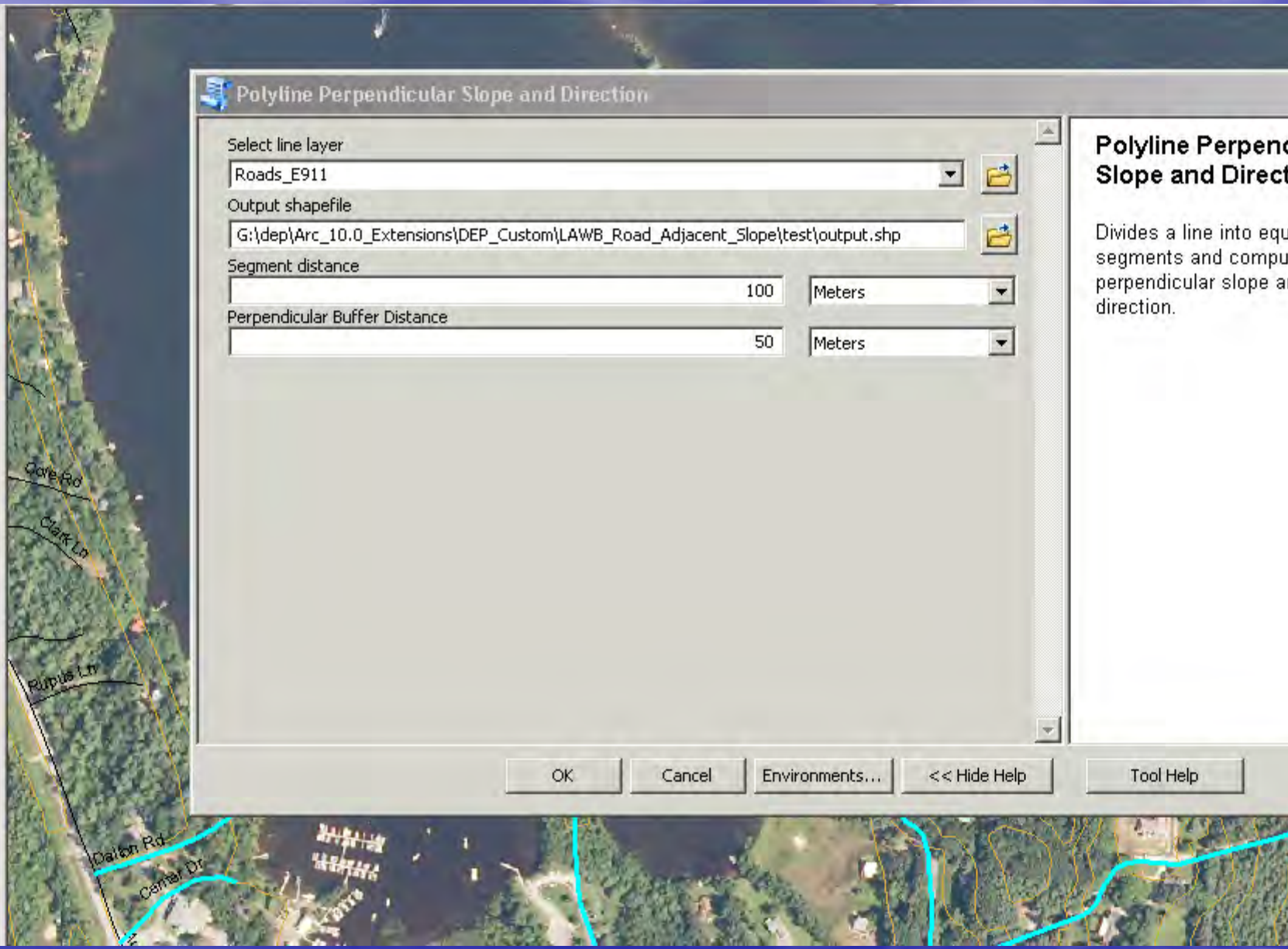
- Tools
- Tools
- x
- x\_Dev
- ion Density
- heds From Multiple Points
- essment
- ular Slope and Direction
- ata Source Domain
- ata Source Domain

pendicular to Polyline

t Tools

ls

ls



### Polyline Perpendicular Slope and Direction

Select line layer

Output shapefile

Segment distance

Perpendicular Buffer Distance

OK Cancel Environments... << Hide Help Tool Help

### Polyline Perpendicular Slope and Direction

Divides a line into equal segments and computes perpendicular slope and direction.

- layer
- PE\_DIR
- N
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- ysis\_areas\_join\_elim
- Gravel\_Aquifers
- photos
- tion\_10\_meters



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\_midpoints\_elev

ntours

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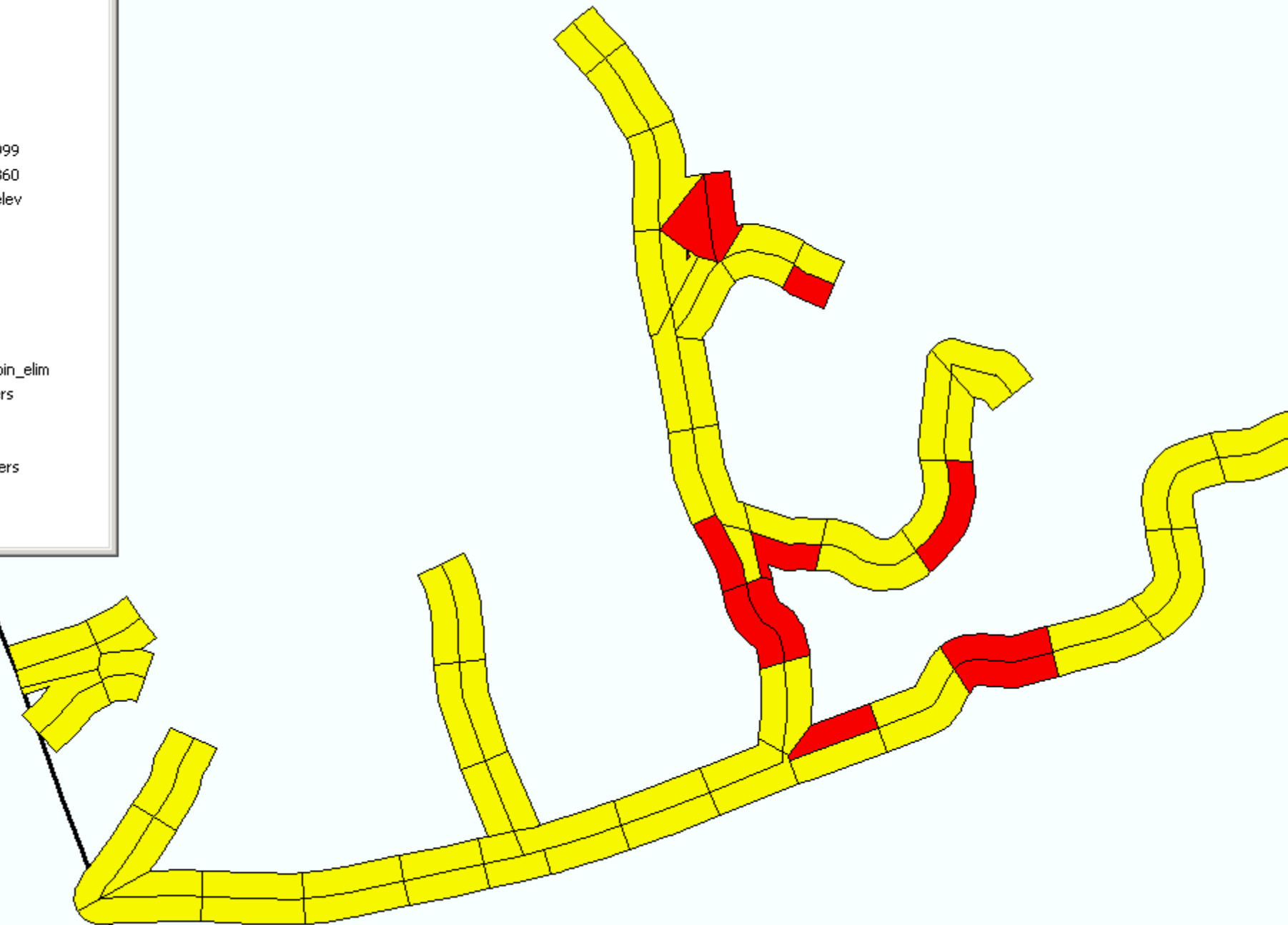
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ravel\_Aquifers

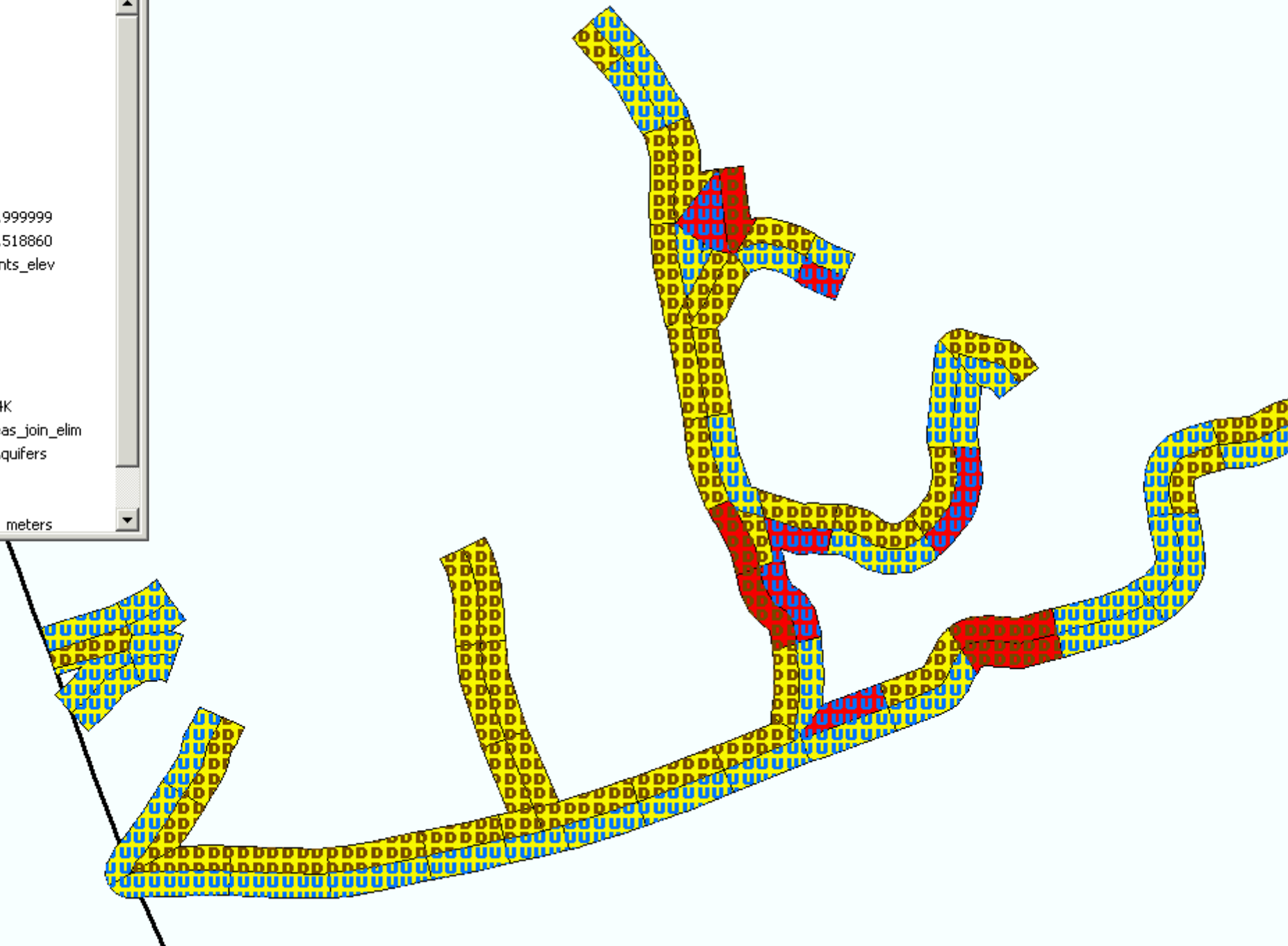
photos

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- photos

ion 10 meters



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midpoints\_elev

ours

Level\_Aquifers

s/min.

s/min.

er (water body)

SURGO\_point\_feature

SURGO\_line\_features

SURGO\_Units

gy\_24K

s\_areas\_join\_elim

otos

WATER BODIES

