



Deploying Drone-Mounted Thermal Imaging Surveys to Accelerate Project Design and Implementation in New York

PROJECT VISION

EXPAND DATA COLLECTION EFFORTS

- INCREASE FIELD CREW EFFICIENCY
- NEW TECHNOLOGIES TO STREAMLINE RESTORATION
- PROMOTE SUSTAINABLE WILD TROUT MANAGEMENT THROUGH STRATEGIC HABITAT IMPROVEMENTS



**Every River
Needs A Champion**

1- UPPER DELAWARE

2- UPPER SUSQUEHANNA

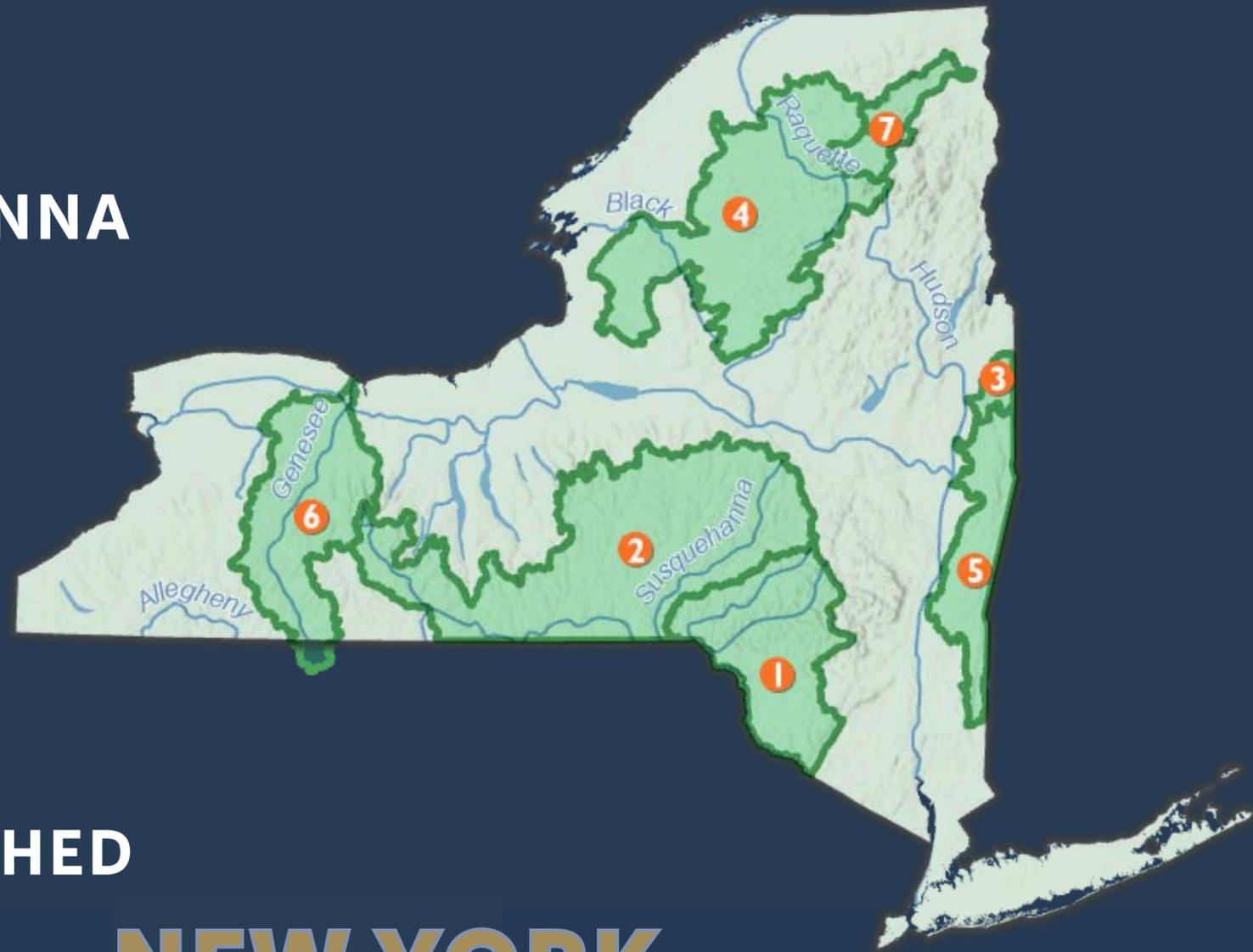
3- BATTENKILL

4- ADIRONDACKS

5- TACONIC RANGE

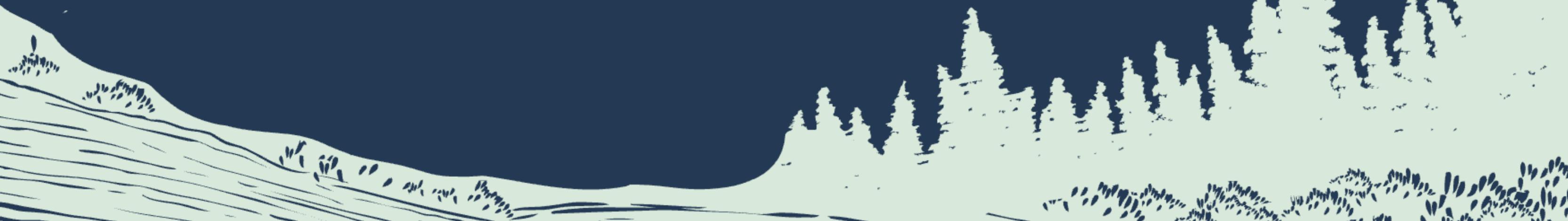
6- UPPER GENESEE

7- SARANAC WATERSHED



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NEW YORK PRIORITY WATERS





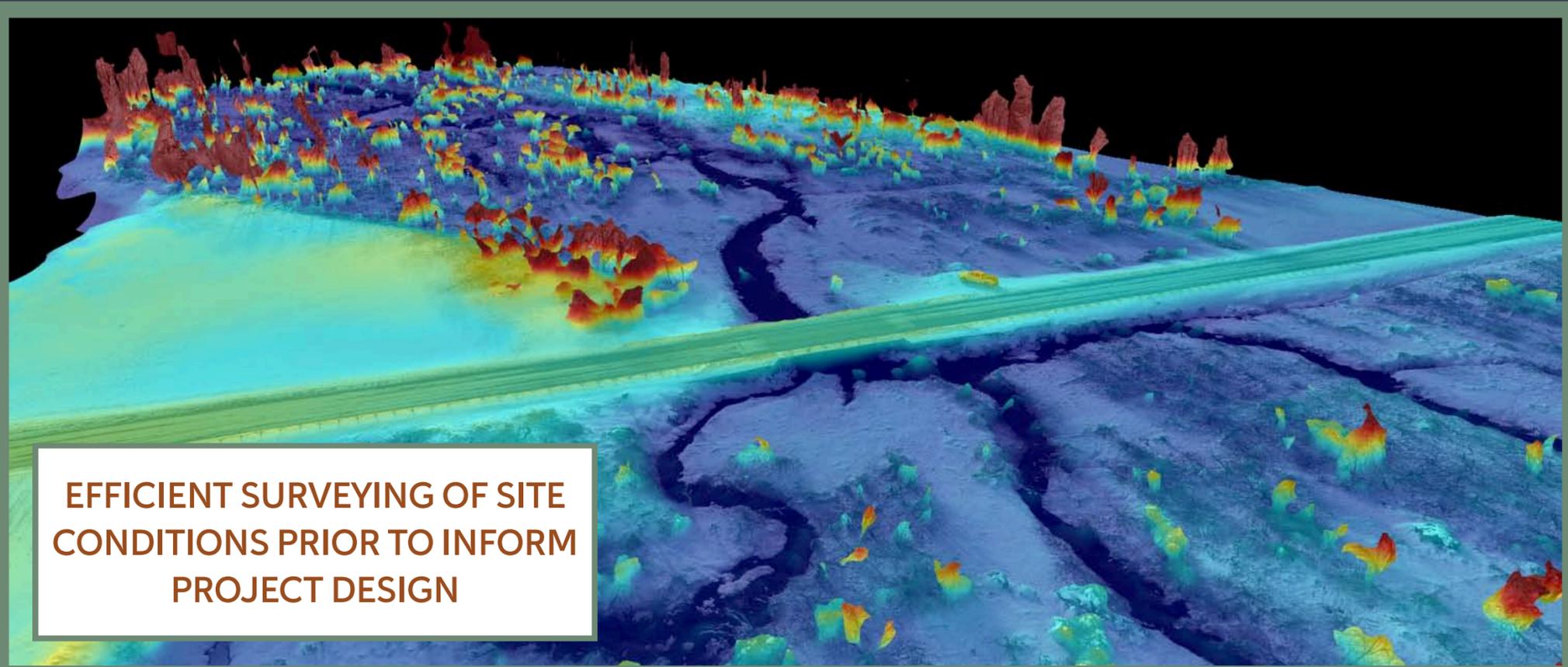
UPPER SUSQUEHANNA FOCAL WATERSHEDS

EASTERN BROOK TROUT CONSERVATION IN THE SUSQUEHANNA

THE EASTERN BROOK TROUT HAS EXPERIENCED SEVERE HABITAT
DEGREDDATION IN THE SUSQUEHANNA WATERSHED



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**EFFICIENT SURVEYING OF SITE
CONDITIONS PRIOR TO INFORM
PROJECT DESIGN**



**DRONE ADVANTAGES FOR
COLDWATER CONSERVATION**

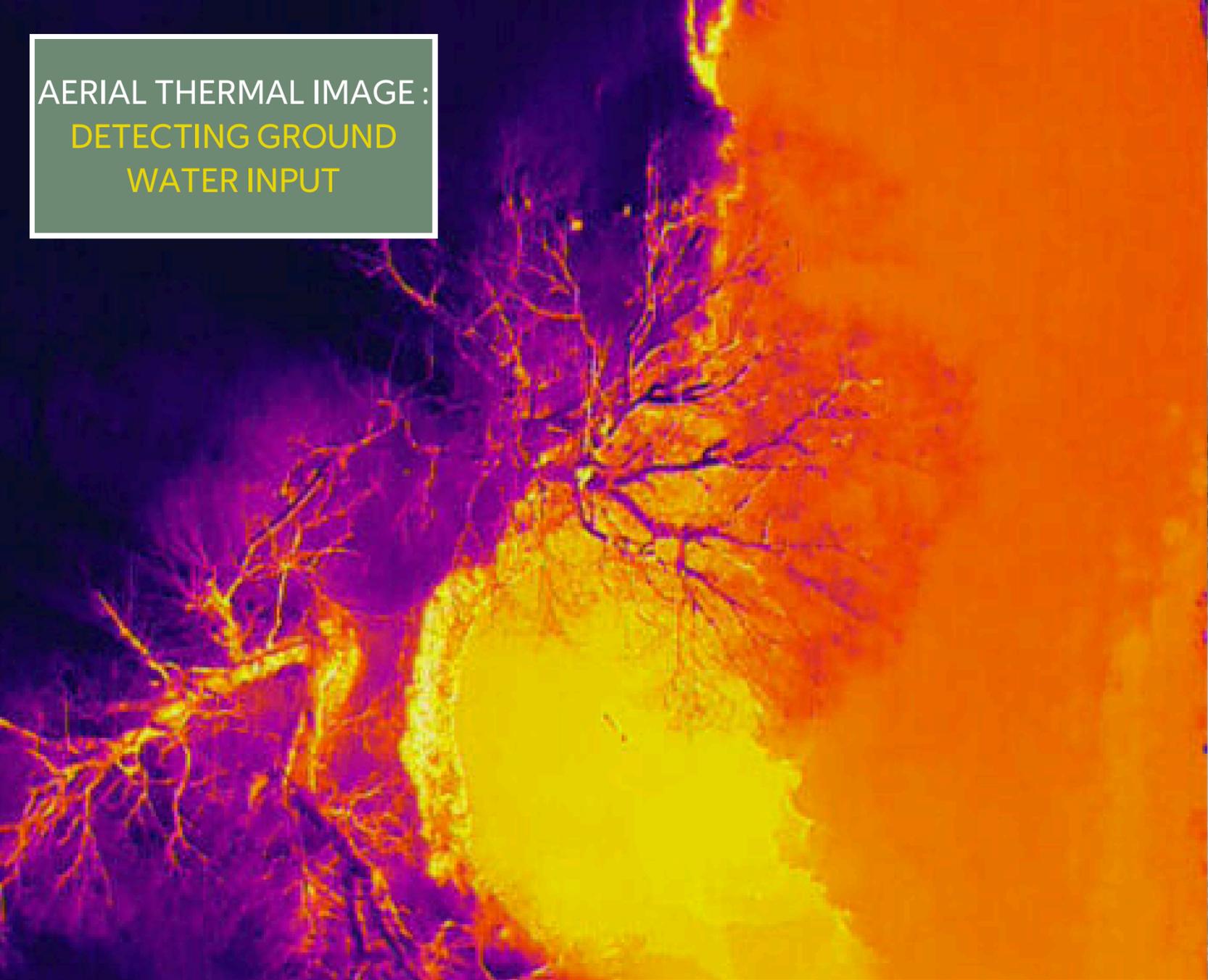


**CAPTURING IMPACTFUL BEFORE
& AFTER IMAGES THAT TELL AN
IMPORTANT STORY**

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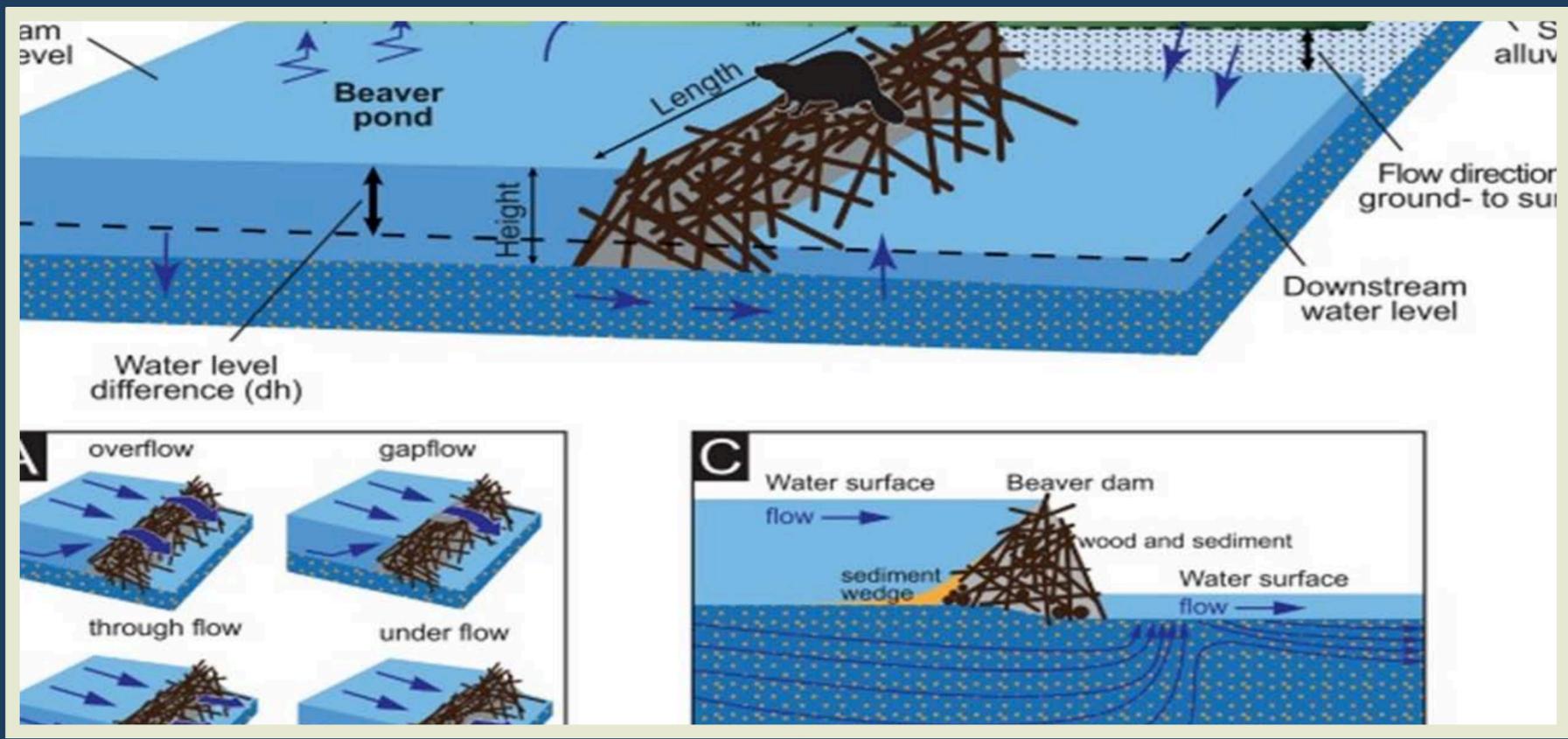
AERIAL THERMAL IMAGE :
DETECTING GROUND
WATER INPUT



HOW CAN WE LEVERAGE THE EFFICIENCY OF DRONE THERMAL IMAGING?

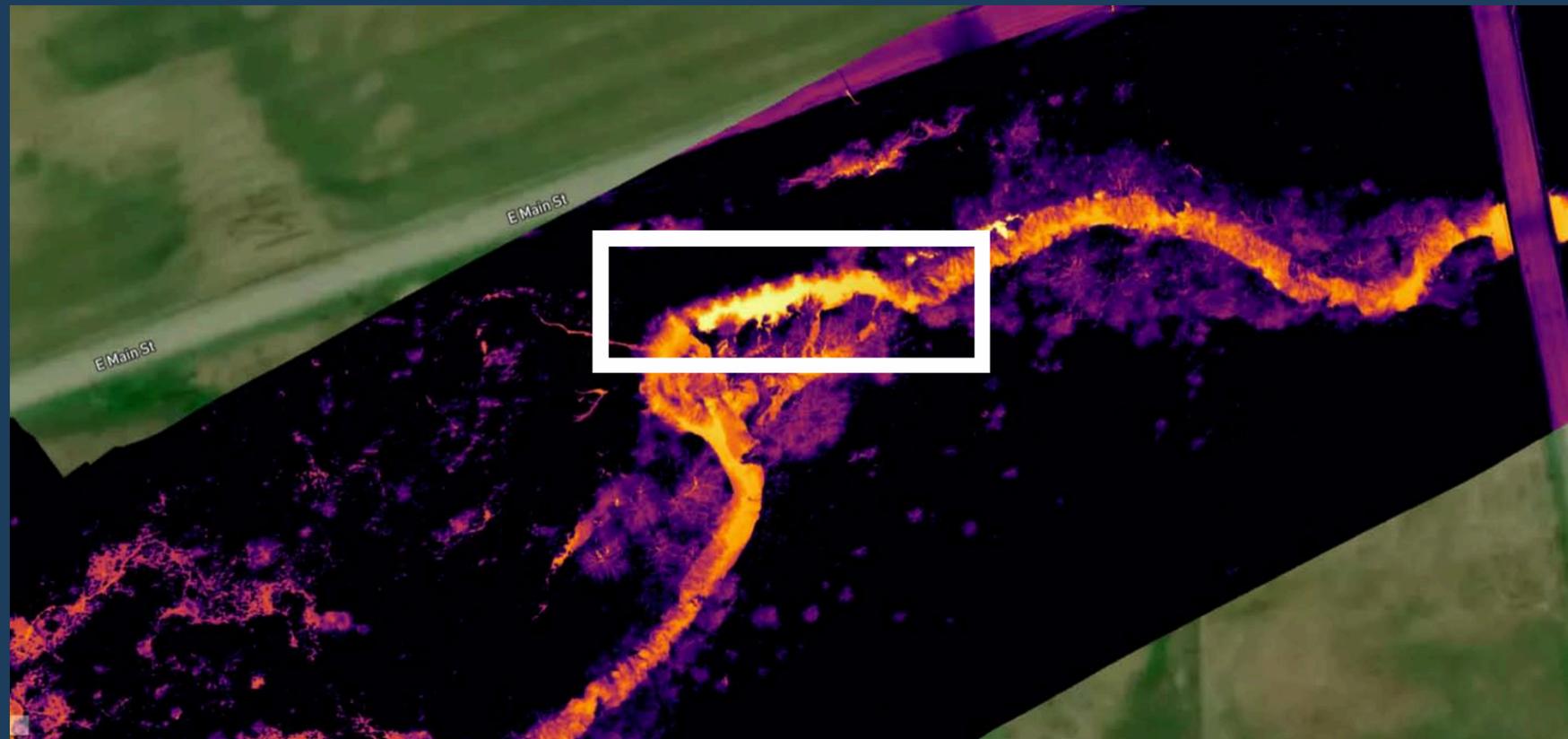
- **SURVEY HARD-TO-ACCESS LOCATIONS THAT WOULD OTHERWISE BE IMPOSSIBLE TO COMPLETE**
- **PINPOINT HIGH QUALITY HABITAT WITH OPTIMAL TEMPERATURES FOR WILD AND NATIVE TROUT**





**BEAVER DAM
CONSTRUCTION DIAGRAM**







**THERMAL REFUGE
CLASSIFICATION
REQUIRES USE.**



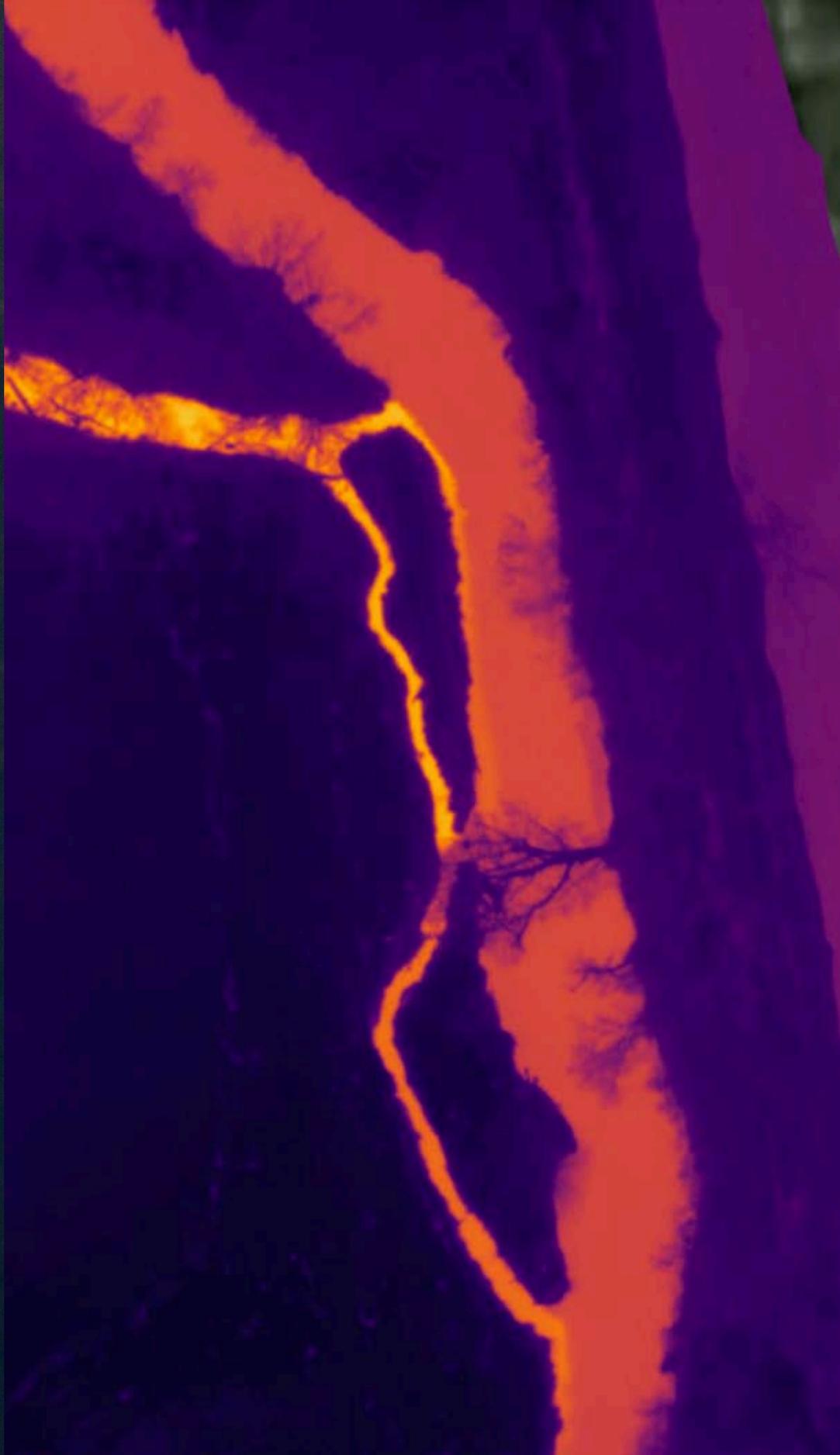
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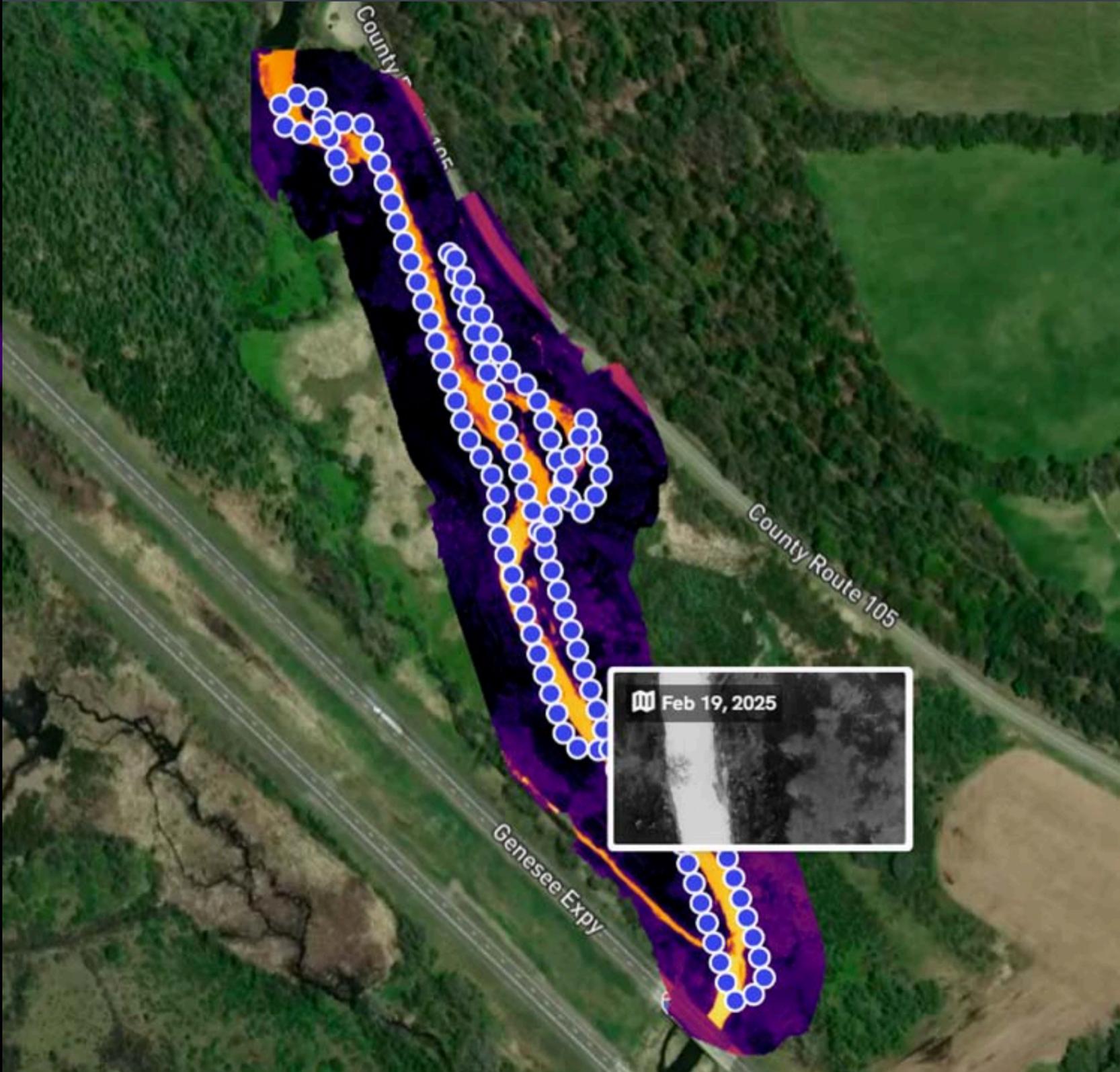
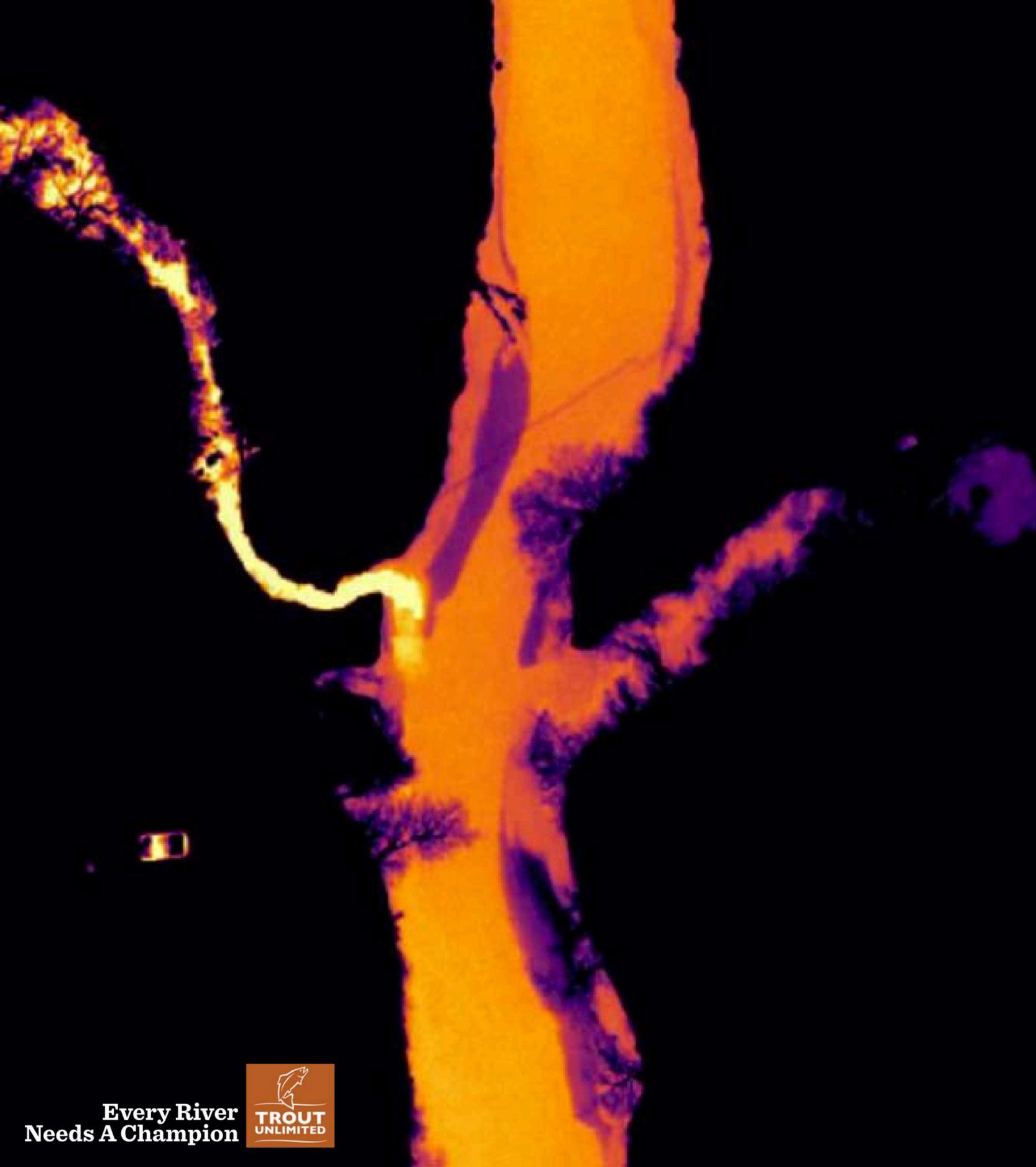
DRONES USE TWO CAMERAS:
- **COLOR (ORTHO IMAGES)**
- **THERMAL (TEMPERATURE)**



TO VISUALIZE REQUIRES POST
PROCESSING SOFTWARE
- **WINTER (BRIGHT YELLOW & WHITE)**
- **SUMMER (DARK BLUE & PURPLE)**



Drone Survey Thermal Workflow

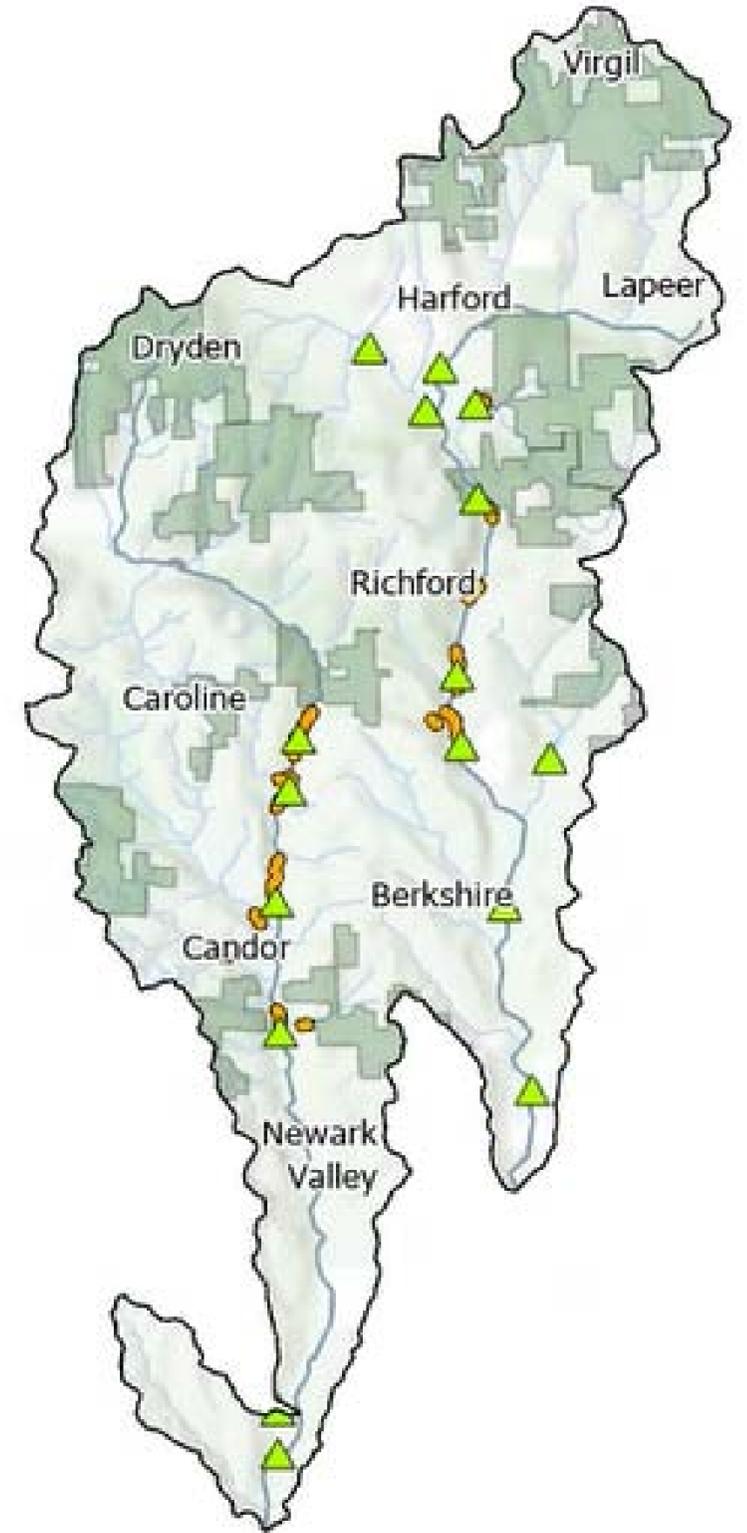


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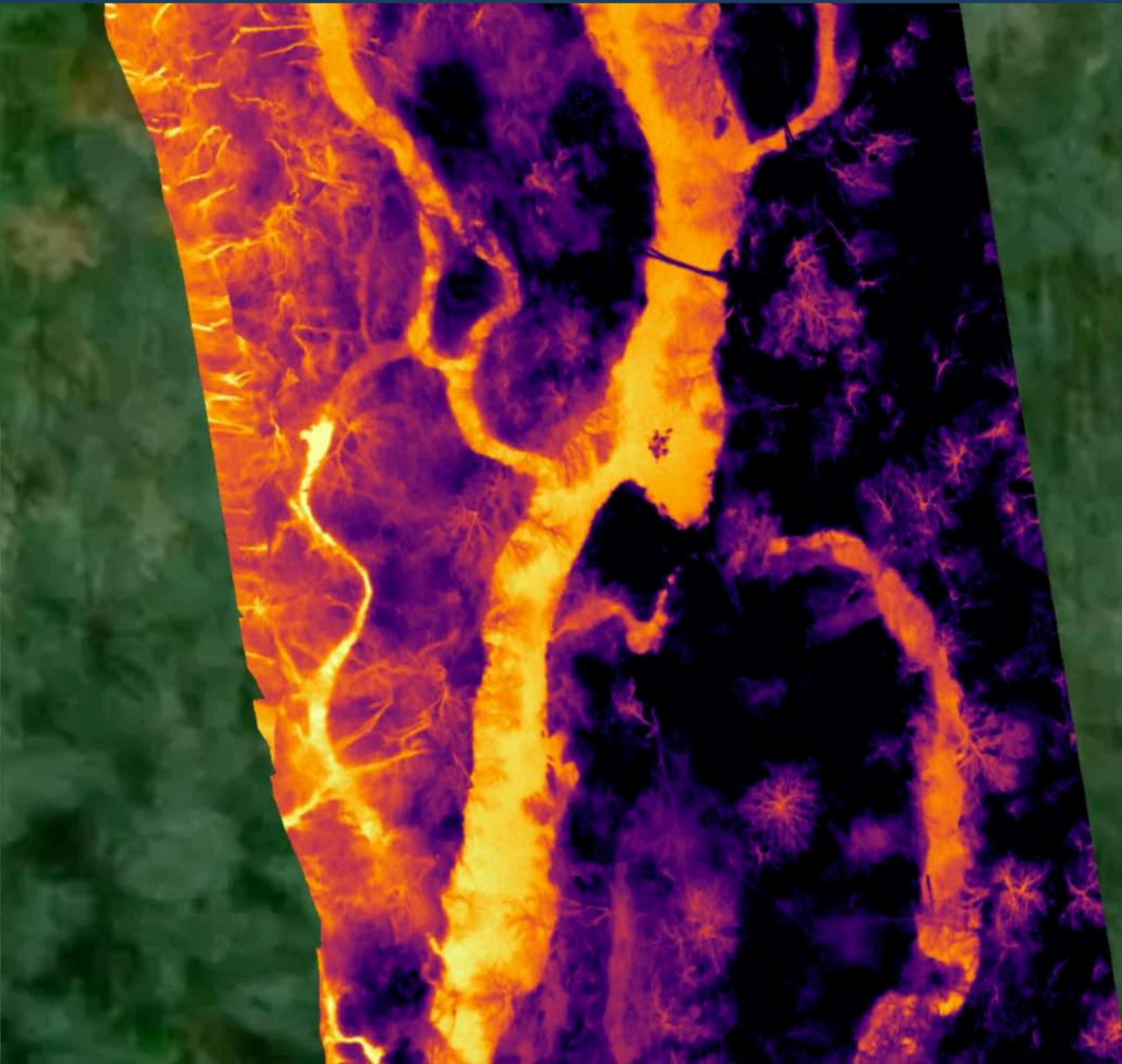


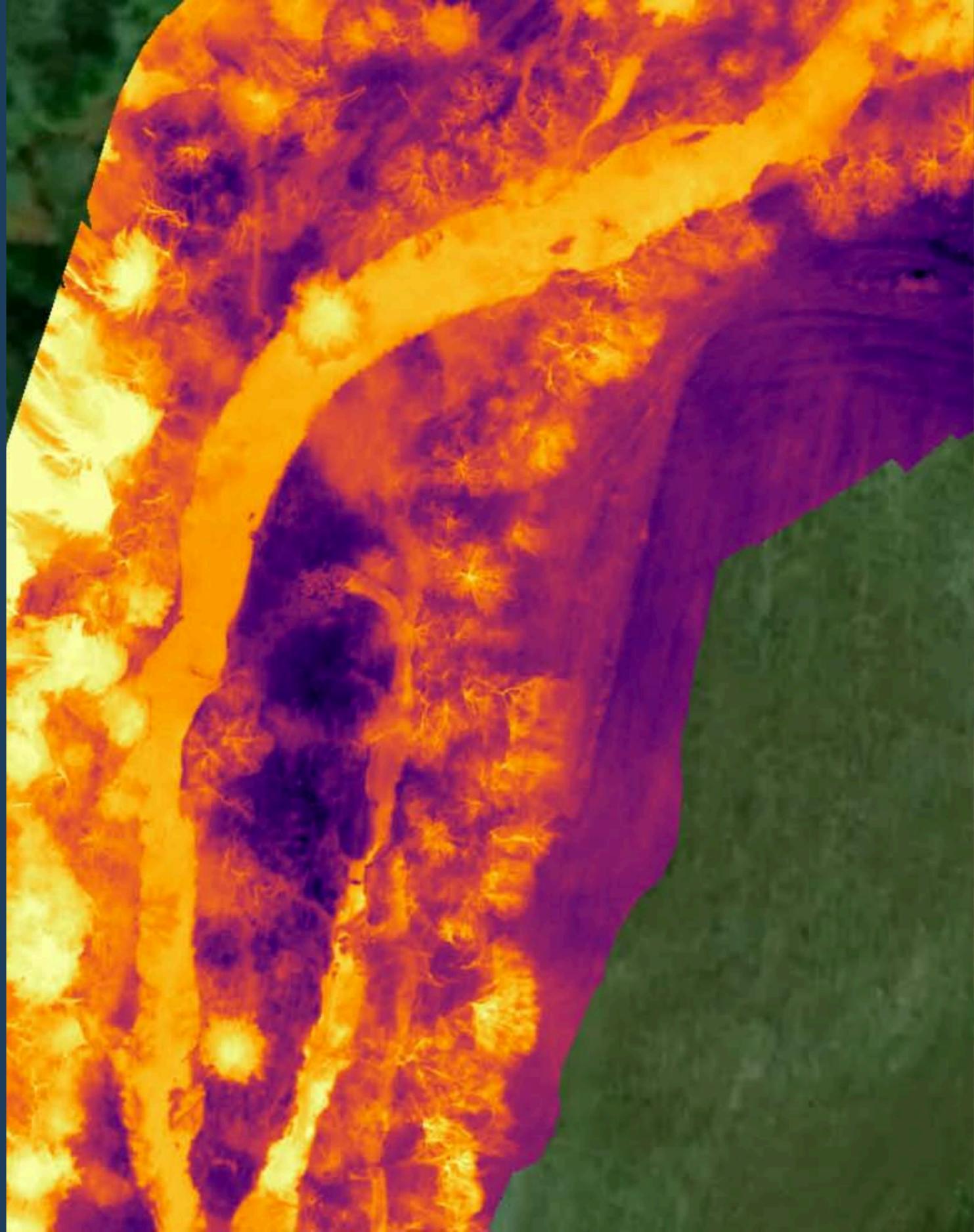
CURRENT FOCAL WATERSHED EFFORTS

COHOCTON RIVER OWEGO CREEK



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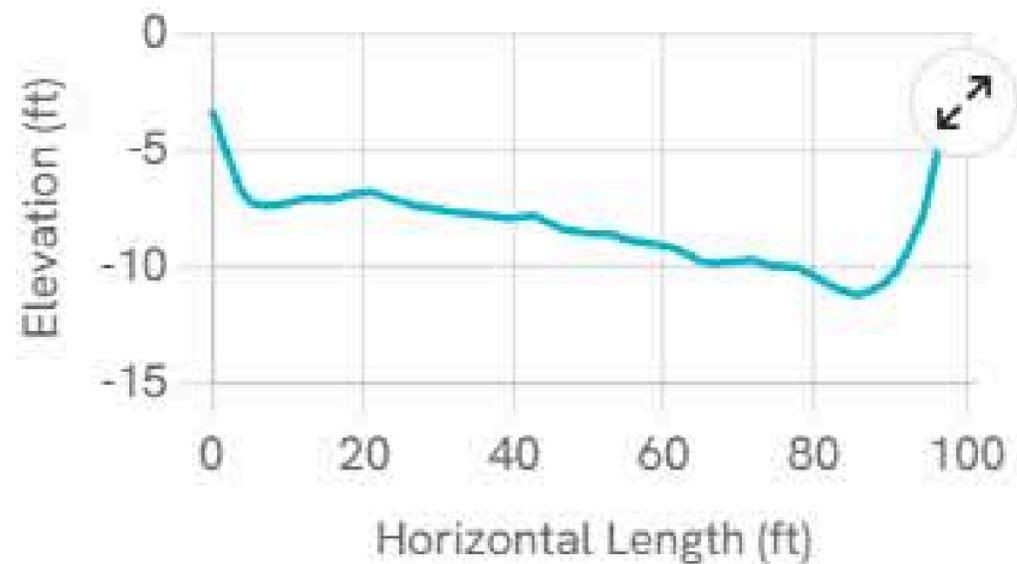
Drone Survey Workflow

April 17, 2025

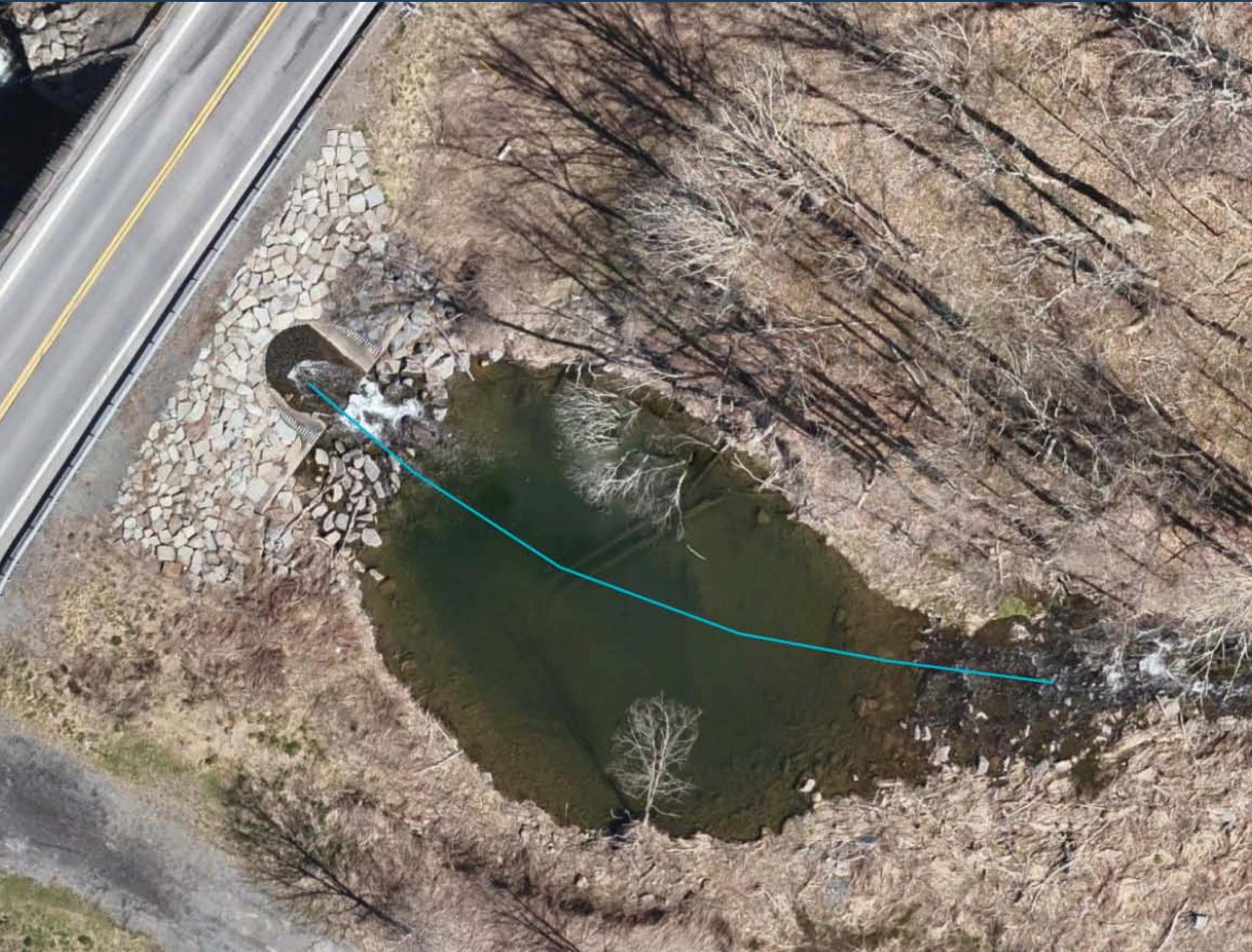
Length: 101.46 ft
Horizontal length: 101.45 ft
Vertical length (?): 0.68 ft
Surface length: 105.99 ft
Slope: -0.39°, 0.67%
Vertical height (?): -0.68 ft

Surface Profile (?)

[Export CSV](#)



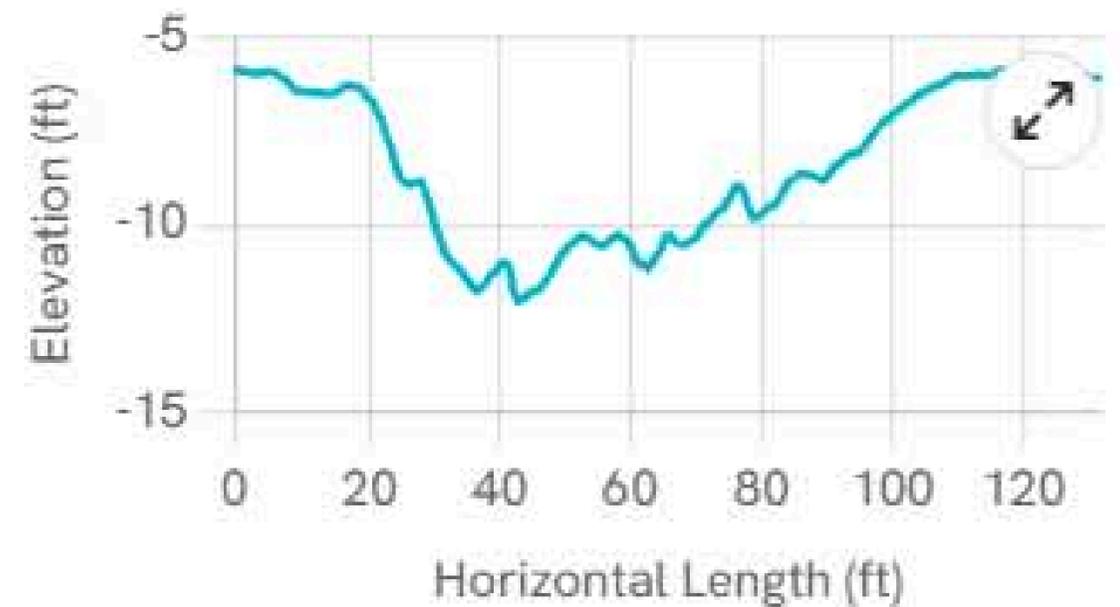
Drone Survey Workflow

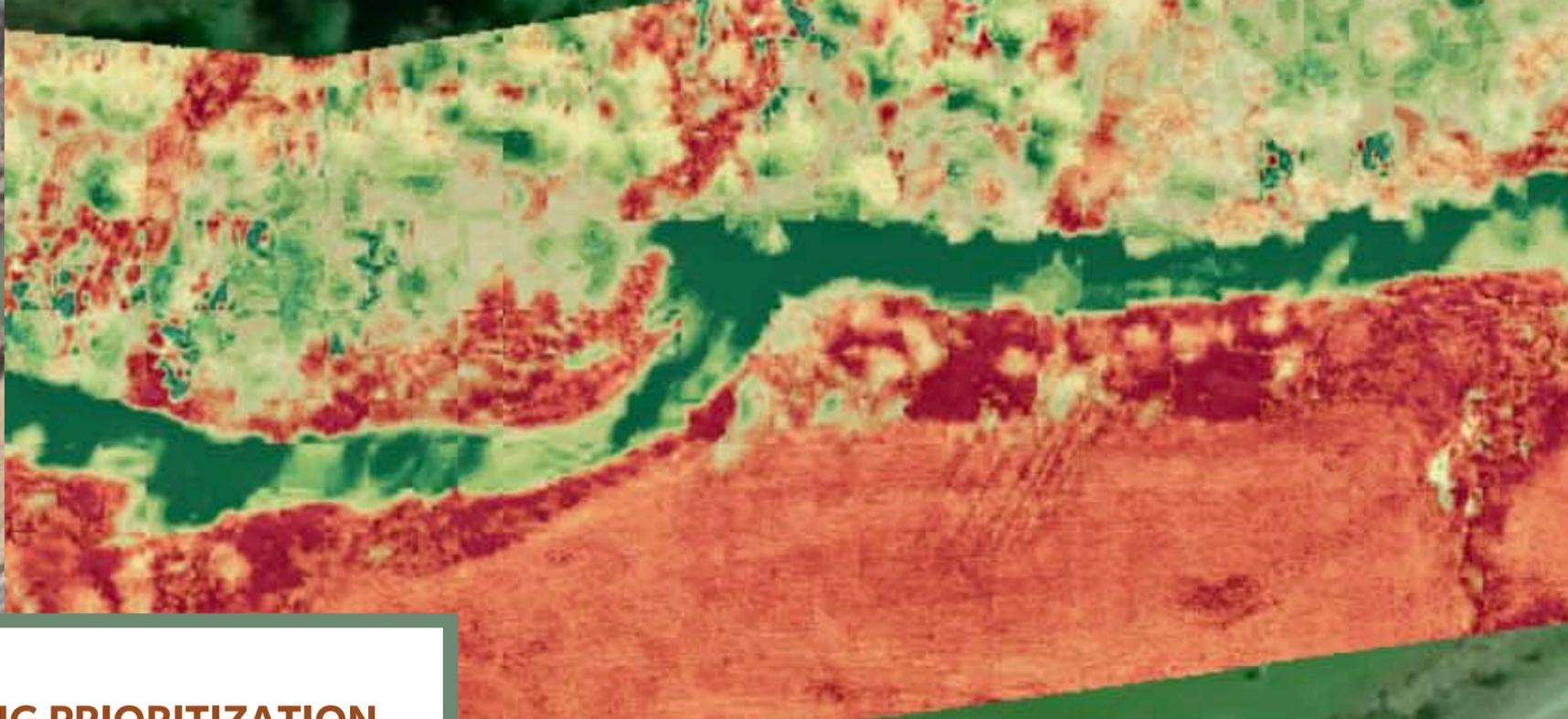


Length: 132.89 ft
Horizontal length: 132.40 ft
Vertical length ⓘ: 9.44 ft
Surface length: 135.33 ft
Slope: -0.12°, 0.21%
Vertical height ⓘ: -0.28 ft

Surface Profile ⓘ

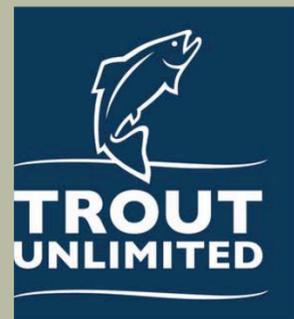
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RIPARIAN PLANTING PRIORITIZATION





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