

**FIGHTING FIRE
SAVING FISH**



*Manufacturer of
Passive Fish
Screens*

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How We Started - Wildland Firefighting



Typical Non-Fish Rated Strainer Utilized on Wildland Fires

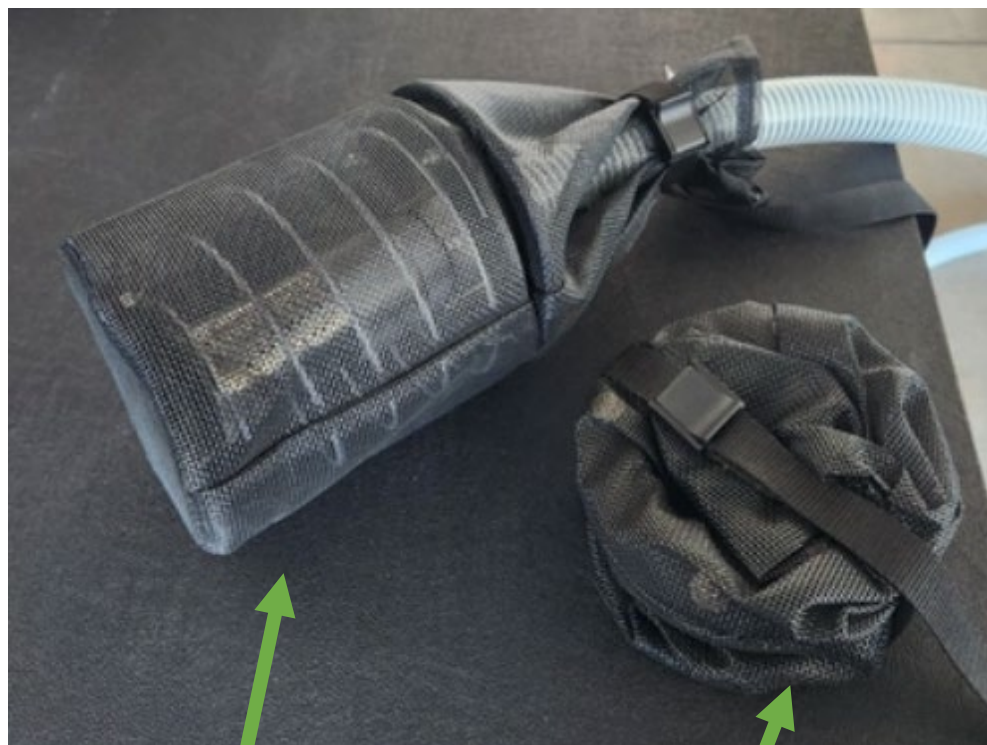
Problem – a legitimate fish screen on this equipment did not fit in the standard pump kit nor on the standard fire engine.

Forest Service Wildland Fire Design Requirements

- functional fish screen - adequate screen area
- collapsible
- durable
- easy to use
- no assembly
- limited budget
- shallow water friendly



Solution – Collapsible GreenScreens



Deployed GreenScreen
over Non-Compliant
Strainer

Collapsed Position for
Storage

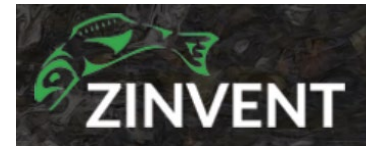
- Joint Collaboration with Forest Service
- Collapsible SlipOver GreenScreens
- Adequate Screen Area
- Use only when needed
- Replaceable Mesh Screen
- Self-Centering/Self-Baffling – uniform flow on all sides
- 4 Different Sizes
 - 100GPM (Thousands in Federal Fire Equipment Caches)
 - 200GPM
 - 350GPM
 - 500GPM
- Good temporary solution and emergency scenarios
- **But some folks wanted something more durable**

Heavy-Duty GreenScreens

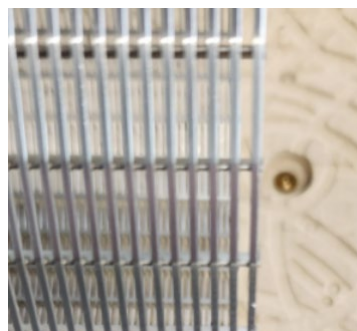
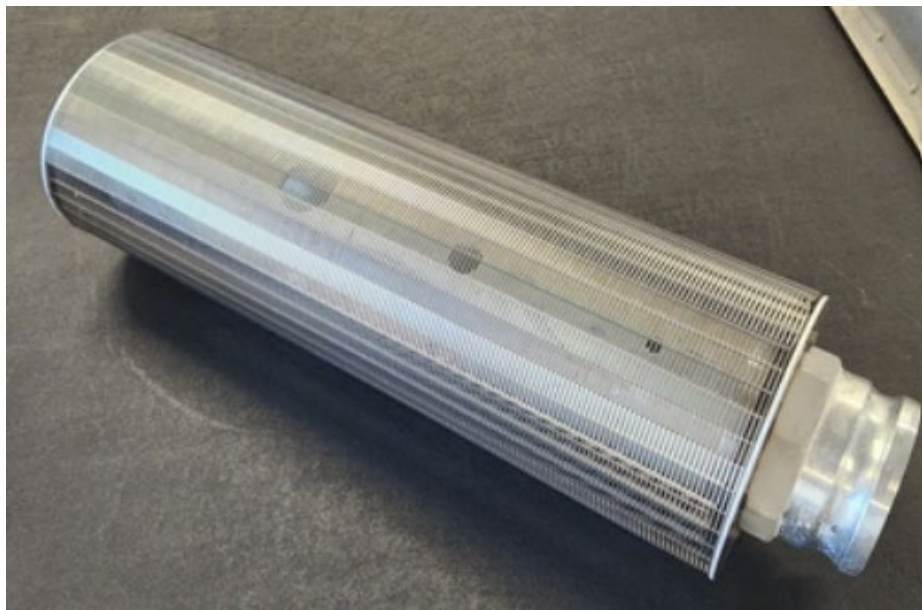


Heavy Duty GreenScreen with Optional Props

- Non-Ferrous
- Stainless Perforated Screen
- Cam-lock Fitting
- 7 Different Sizes
 - 25GPM to 500GPM
- **But some folks wanted something that would plug up less frequently in poor water sources**



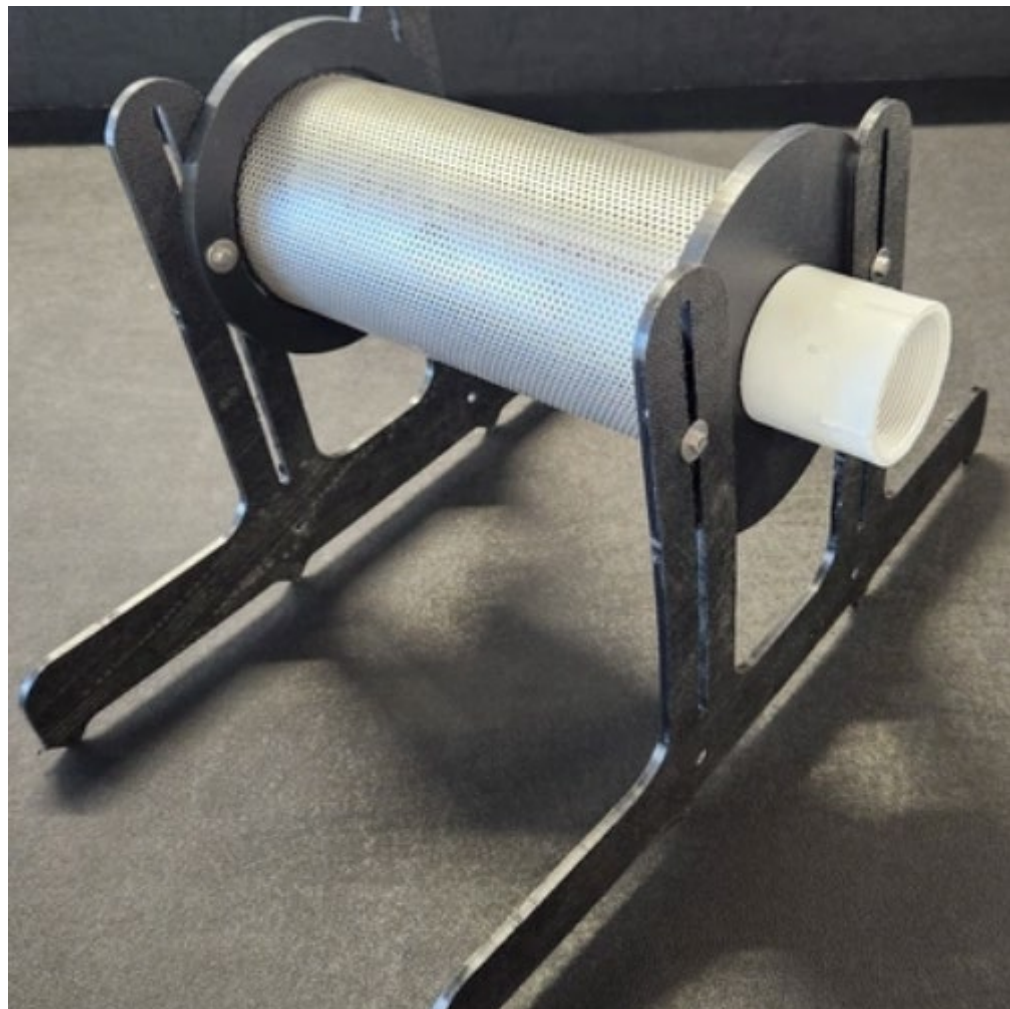
Ultra Heavy-Duty GreenScreens



- All Metal
- Stainless Wedge Wire Screen
- Cam-lock
- 7 Different Sizes
 - 25GPM to 500GPM

- **But some folks wanted something cheaper**

Light-Duty GreenScreens

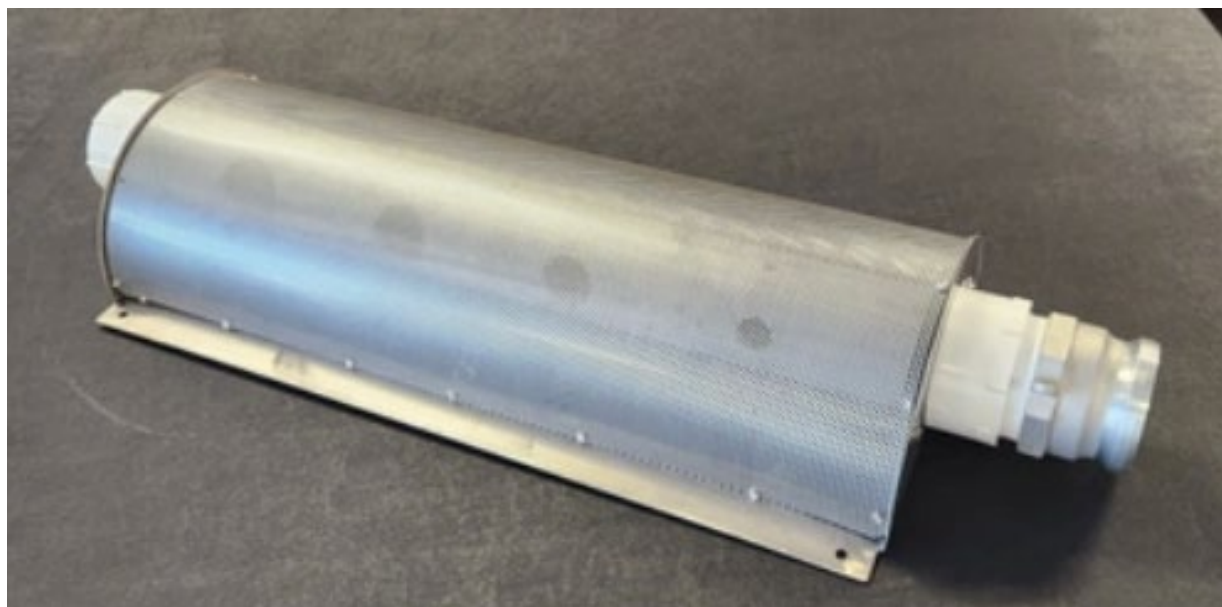


Light-Duty with Optional Adjustable Stand

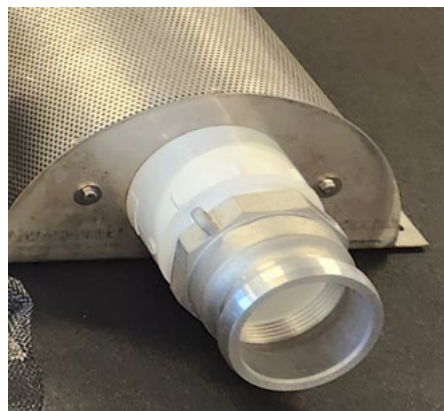
- PVC Construction with Stainless Screen
- Threaded PVC
- 7 Different Sizes
 - 25GPM to 500GPM

- **But some folks wanted something for really really shallow water**

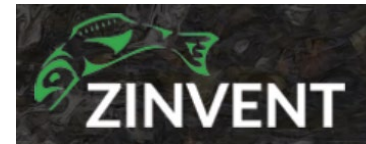
StreamBed GreenScreens



- Half Cylinder
- Pulls water through top-side only
- Stainless Sheet Metal Body
- Up to 500GPM
- Intake pipe just an inch off bottom



- ←
- **But some folks have some uncommon applications or equipment**



Custom GreenScreens

- Fitting Size
- Fitting Type
- GPM
- Materials
- Long and skinny or short and stubby
- 100% stainless steel is an option if corrosion is a noted issue
- Pump vs Gravity
- Smaller Openings for Lamprey - Wedge Wire and Perforated Screen

Custom GreenScreens



Submersible Pump
with No Intake
Connection



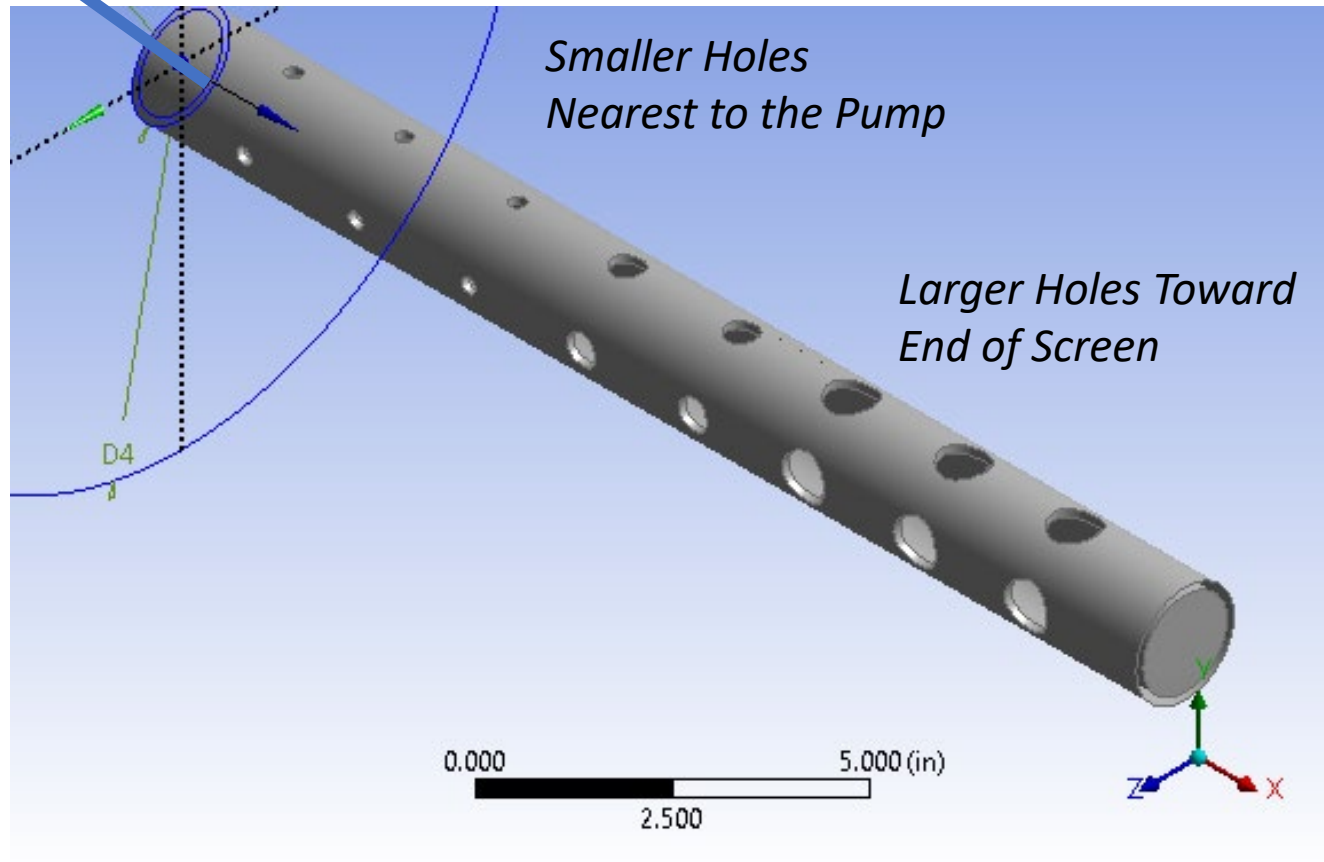
Example

- Customer had 10 of these pumps and wanted them screened.
- Re-engineered the intake so customer didn't have to buy a bunch of new pumps.

Uniform Flow - Optimized Baffle Pipe (inside the screen)

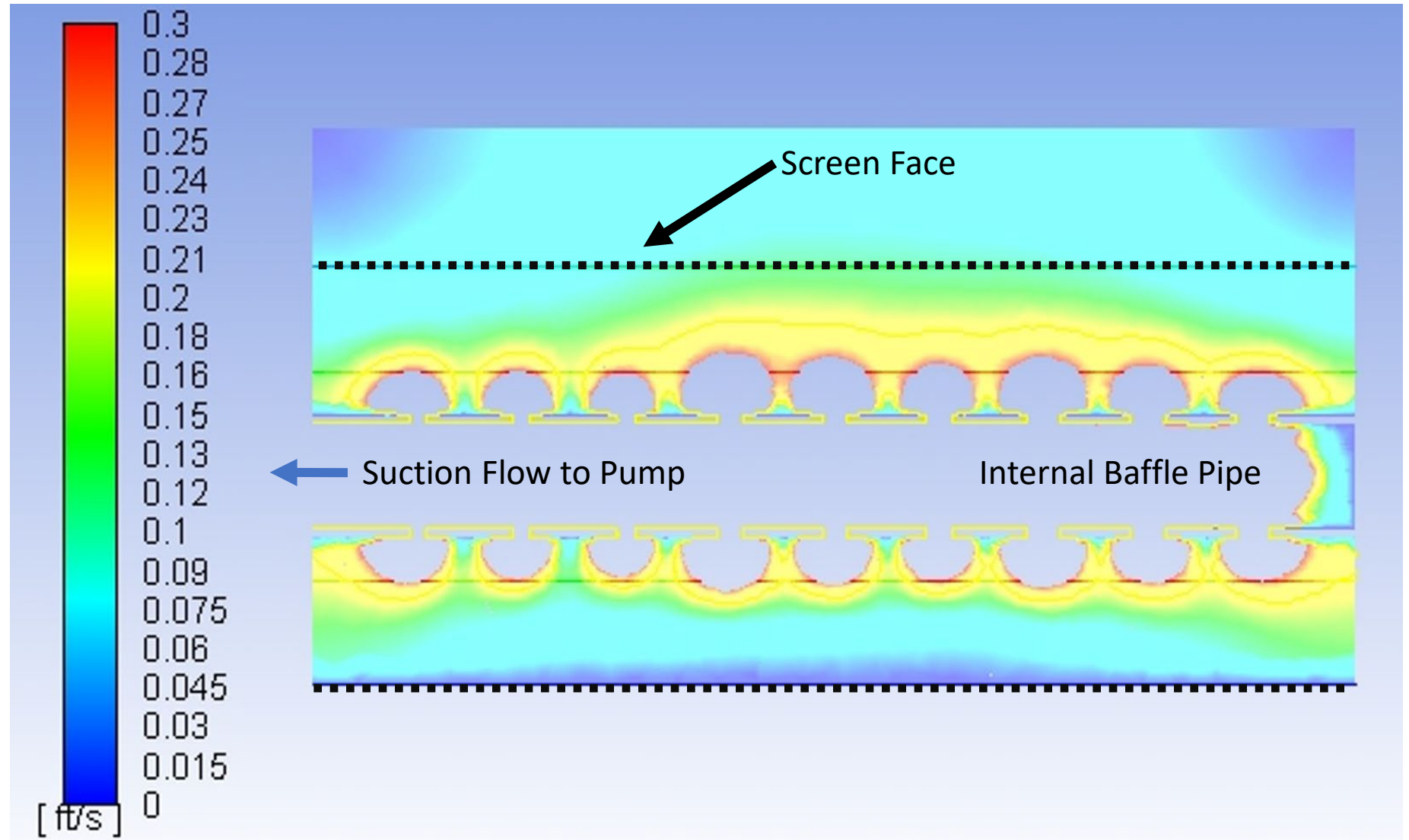
Baffle Pipe

- Optimized holes in the baffle pipe ensure water velocities at the screen face are in compliance.
- Modeling tells us how much to increase open area down the length of the baffle.



Uniform Flow/Approach Velocity - Screen Face

- We are verifying we don't have any 'Yellow' outside the screen face.



Questions?



- On deck
 - Self-Cleaning GreenScreens



Family Photo