



Creating cost reductions in clean, compliant cooling water.

A horizontal splash of clear blue water with bubbles, spanning the width of the slide.

EPRI Winter Environment Advisory Meeting

February 14-16, 2011

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AquaSweep™ - patent pending inertial separation

A non-screening solution to meet aquatic life impingement & entrainment (IM&E) reduction requirements

Invented by global engineering firm CH2M Hill

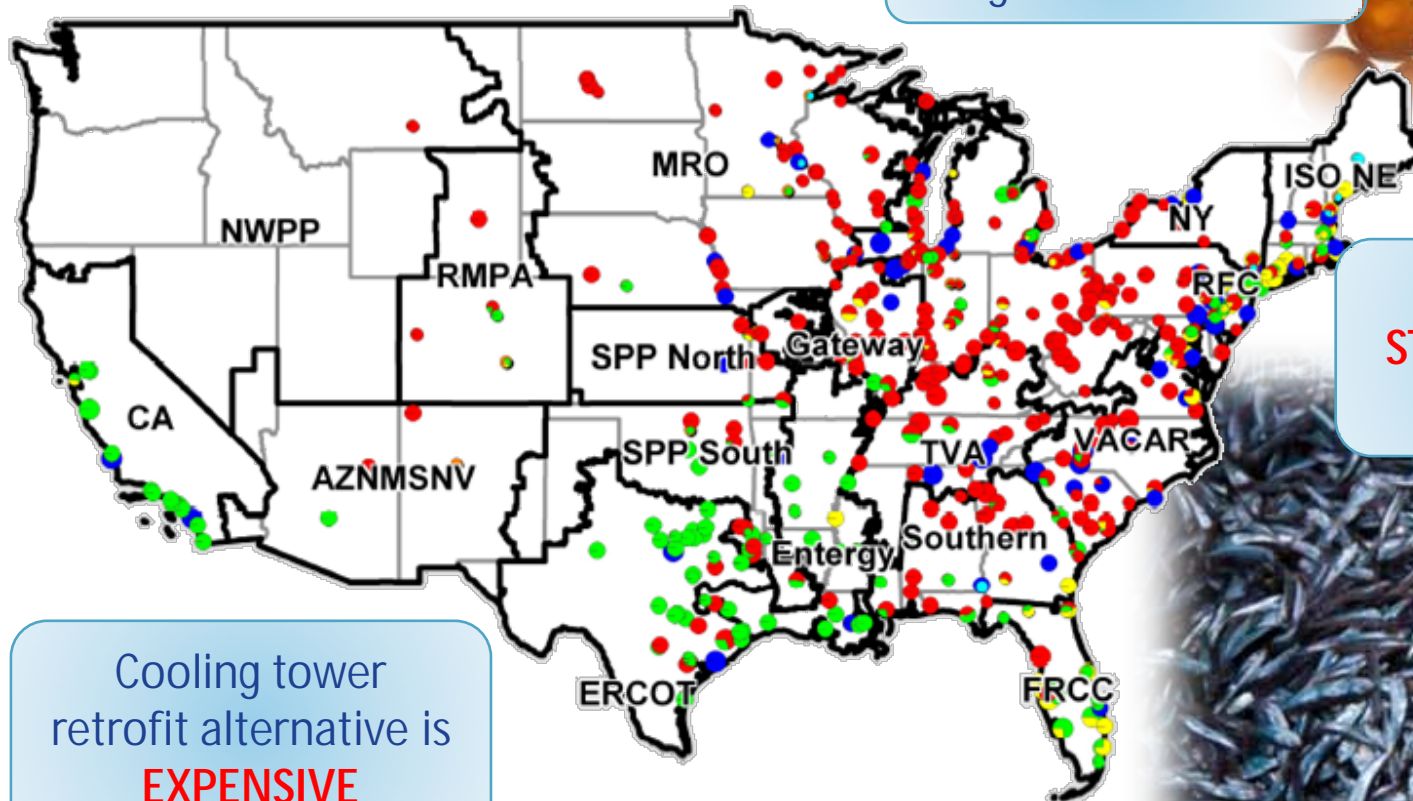
Development & commercialization by C-Water Technologies in cooperation with CH2M Hill

The Problem:

1200 Once Through Cooling (OTC) Power Plants

Water withdrawals –
190 billion gallons fresh
water per day

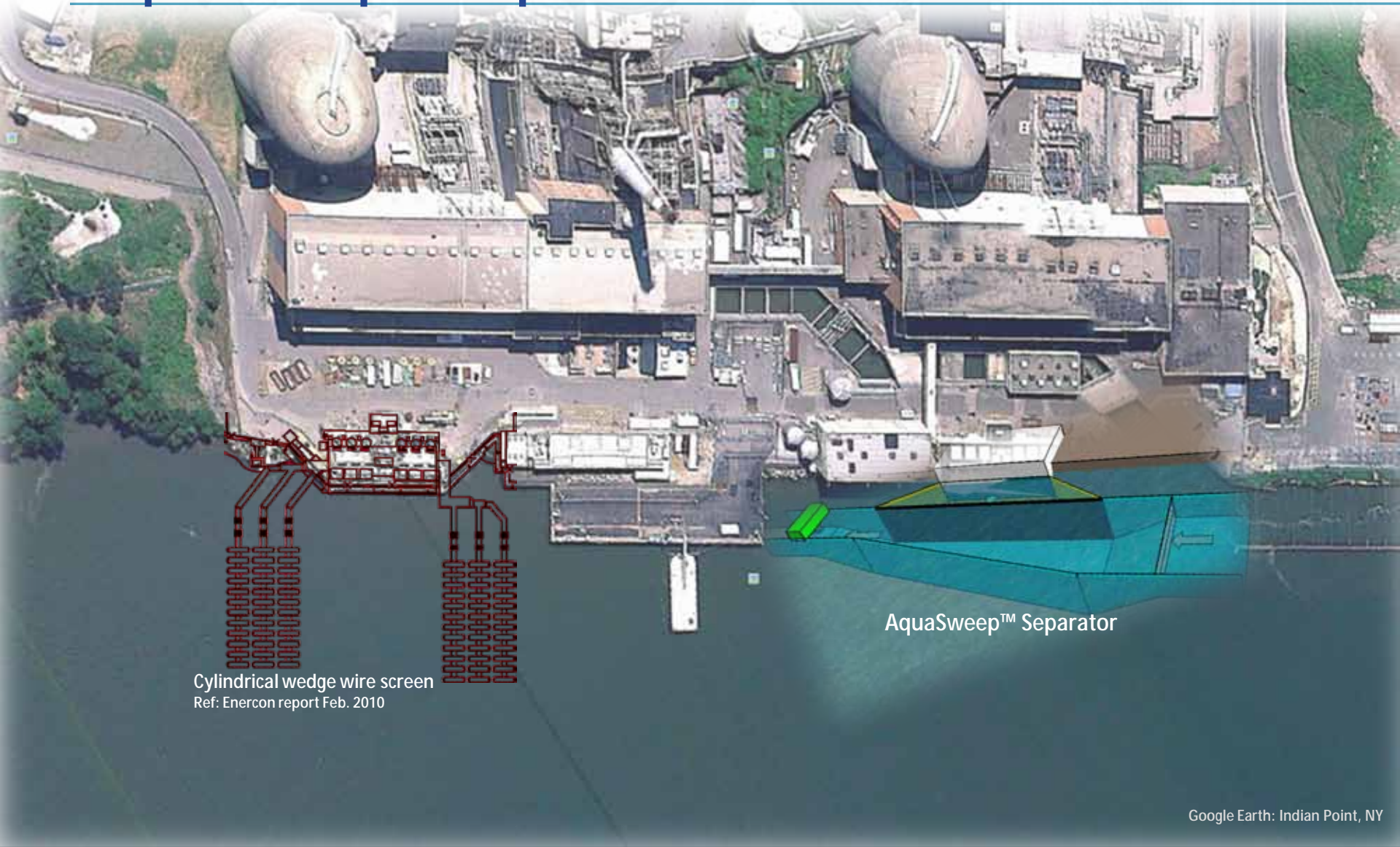
Trillions of aquatic
organisms harmed



EPA rule §316(b) –
STOP harming aquatic
life!

Cooling tower
retrofit alternative is
EXPENSIVE

AquaSweep™ Implementation

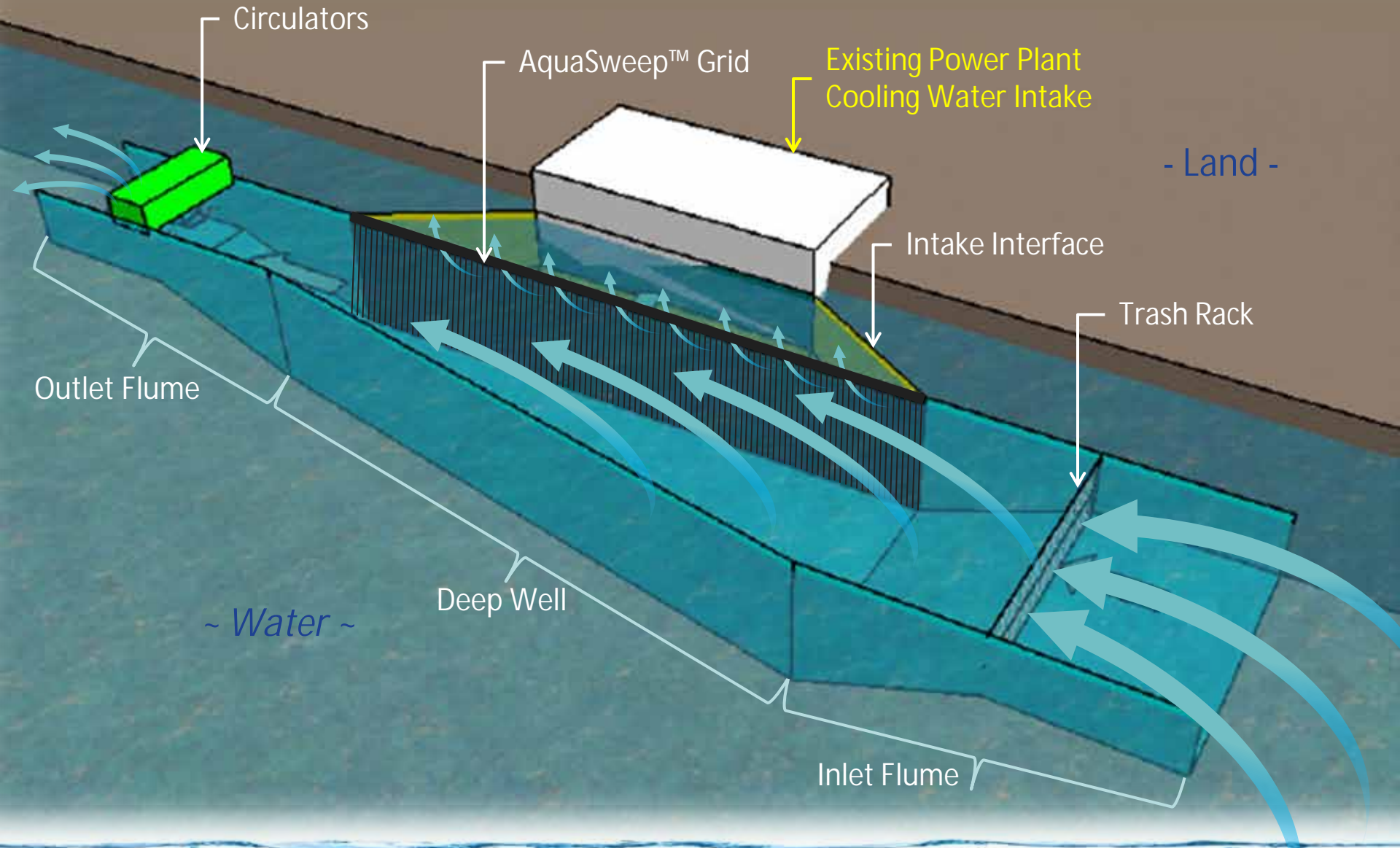


Cylindrical wedge wire screen
Ref: Enercon report Feb. 2010

AquaSweep™ Separator

Google Earth: Indian Point, NY

AquaSweep™ Separator



AquaSweep™ Competitive Advantage

~70% less capital investment

<0.5% parasitic & efficiency loss

Short downtime for retrofit

Low operating costs

Cooling Tower Retrofit Capital

- Brayton Point, MA - \$0.5 billion
- Oyster Creek, NJ - \$0.8 billion
- Diablo Canyon, CA - \$2.7 billion
- SONGS, CA - \$3 billion
- Indian Point, NY - \$1.1 billion

Ref: Power Engineering, October 2010

Photo: Indian Point, NY

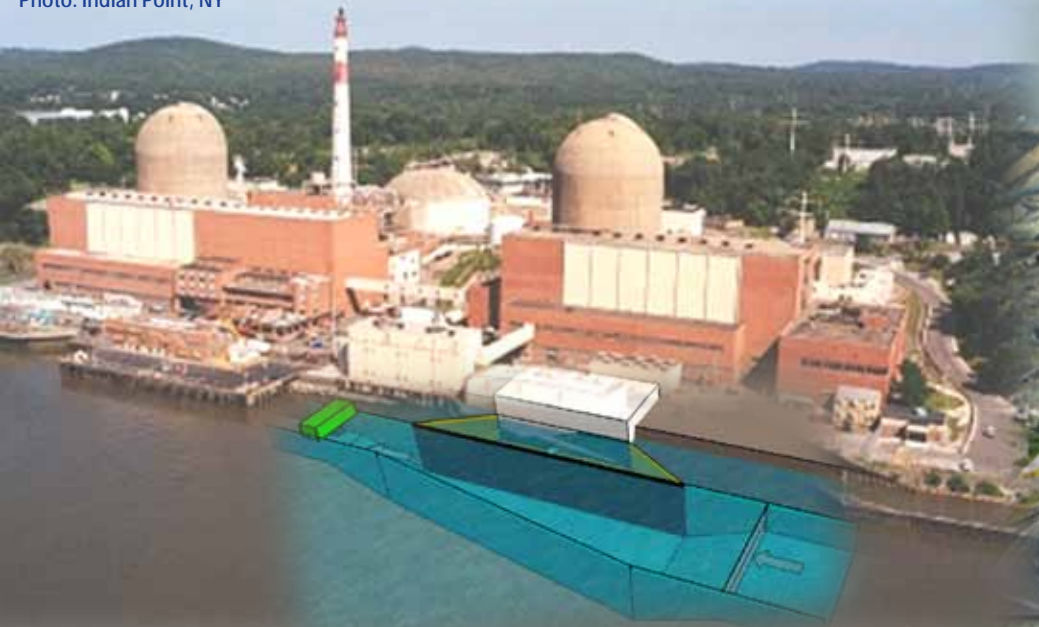


Photo: Brayton Point, MA



Industry & Regulatory Contacts

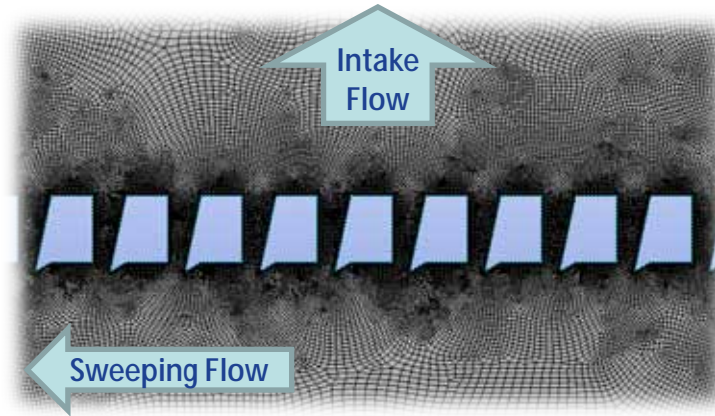


Enthusiastic reception from industry and regulatory audiences

Path to Commercialization

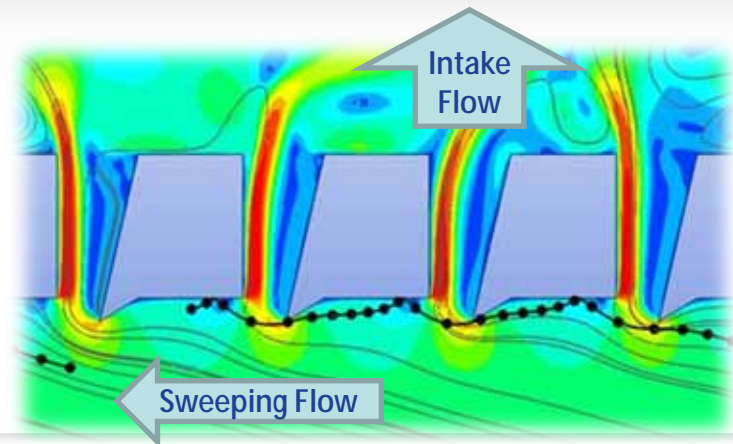
C-Water
Secures
Technology

Computational
Fluid Dynamics

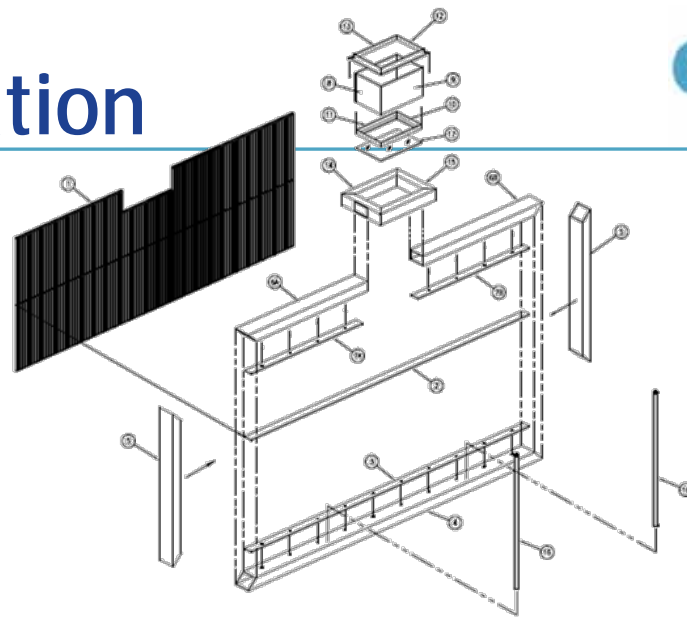


Bridge
Financing

CFD Stage Gate
PASSED



Path to Commercialization



C-Water Secures Technology

Lab Proto Hydraulic Results

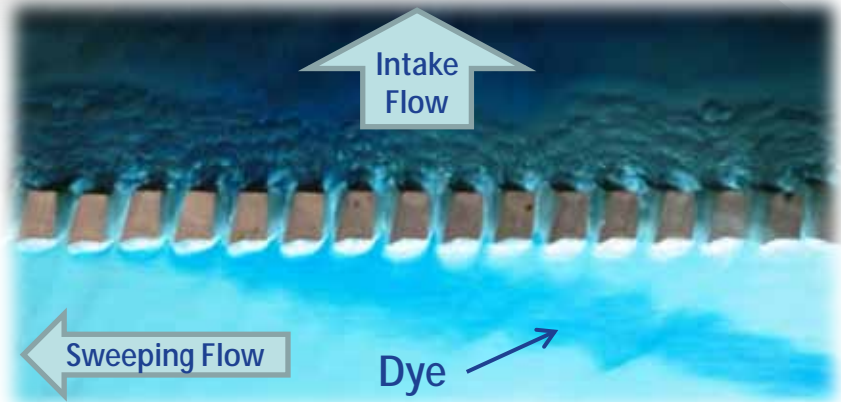
CFD Optimization

Lab Proto Aquatic Results



Bridge Financing

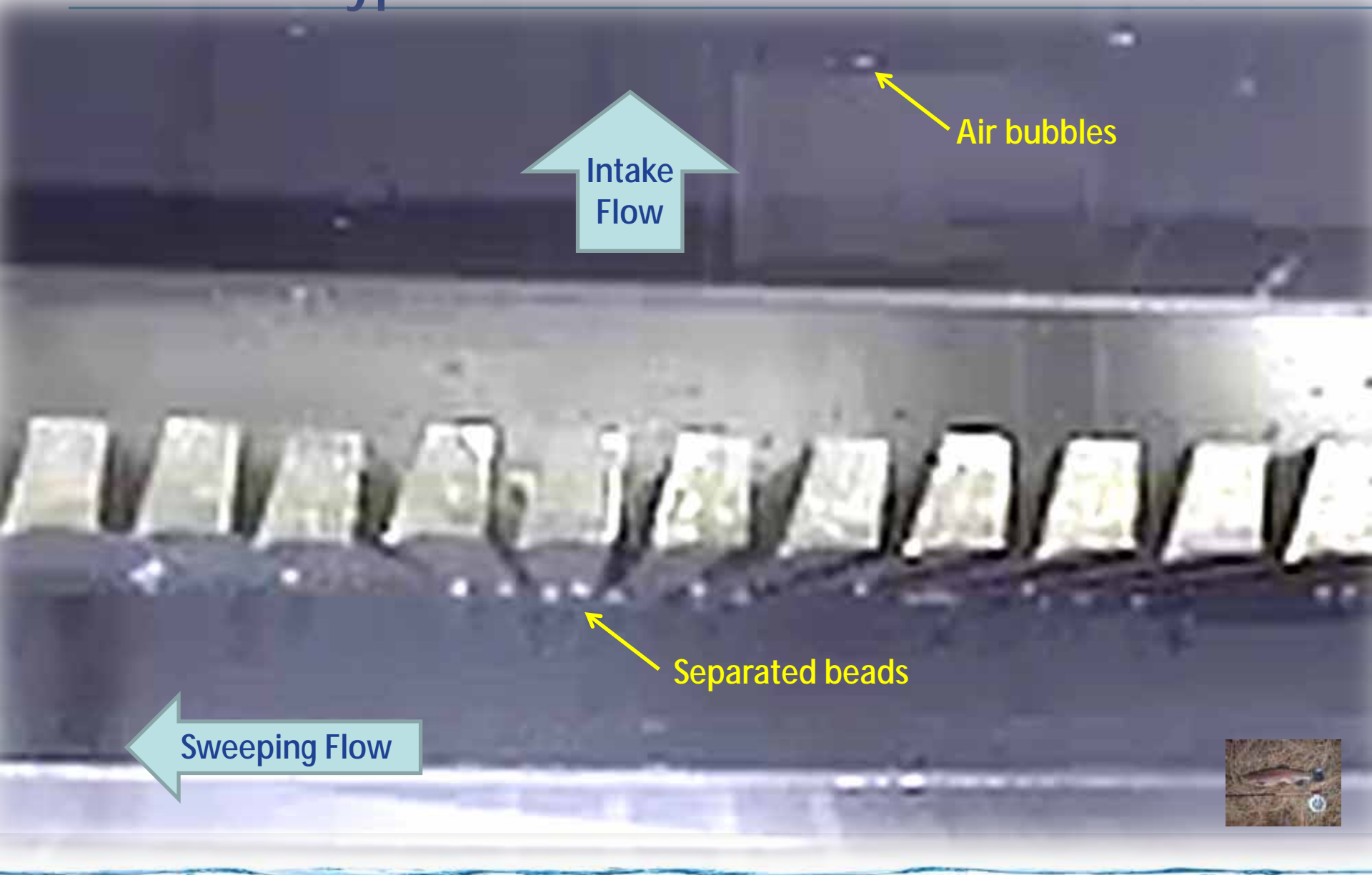
Series A Financing



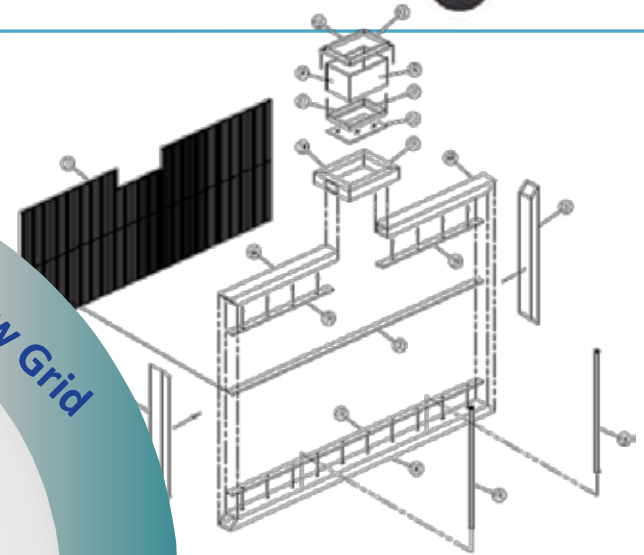
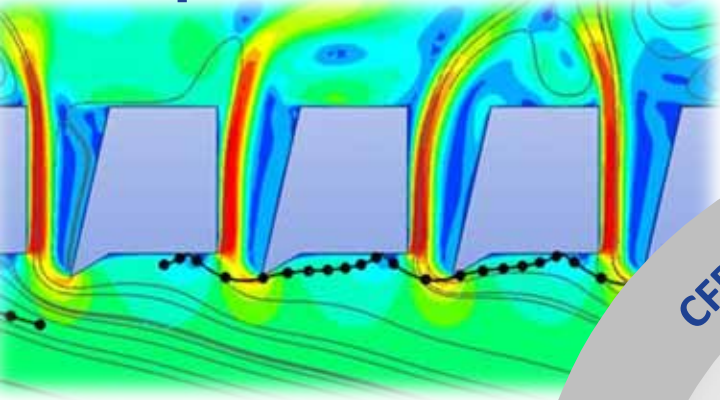
ALDEN Solving flow problems since 1894



Lab Prototype

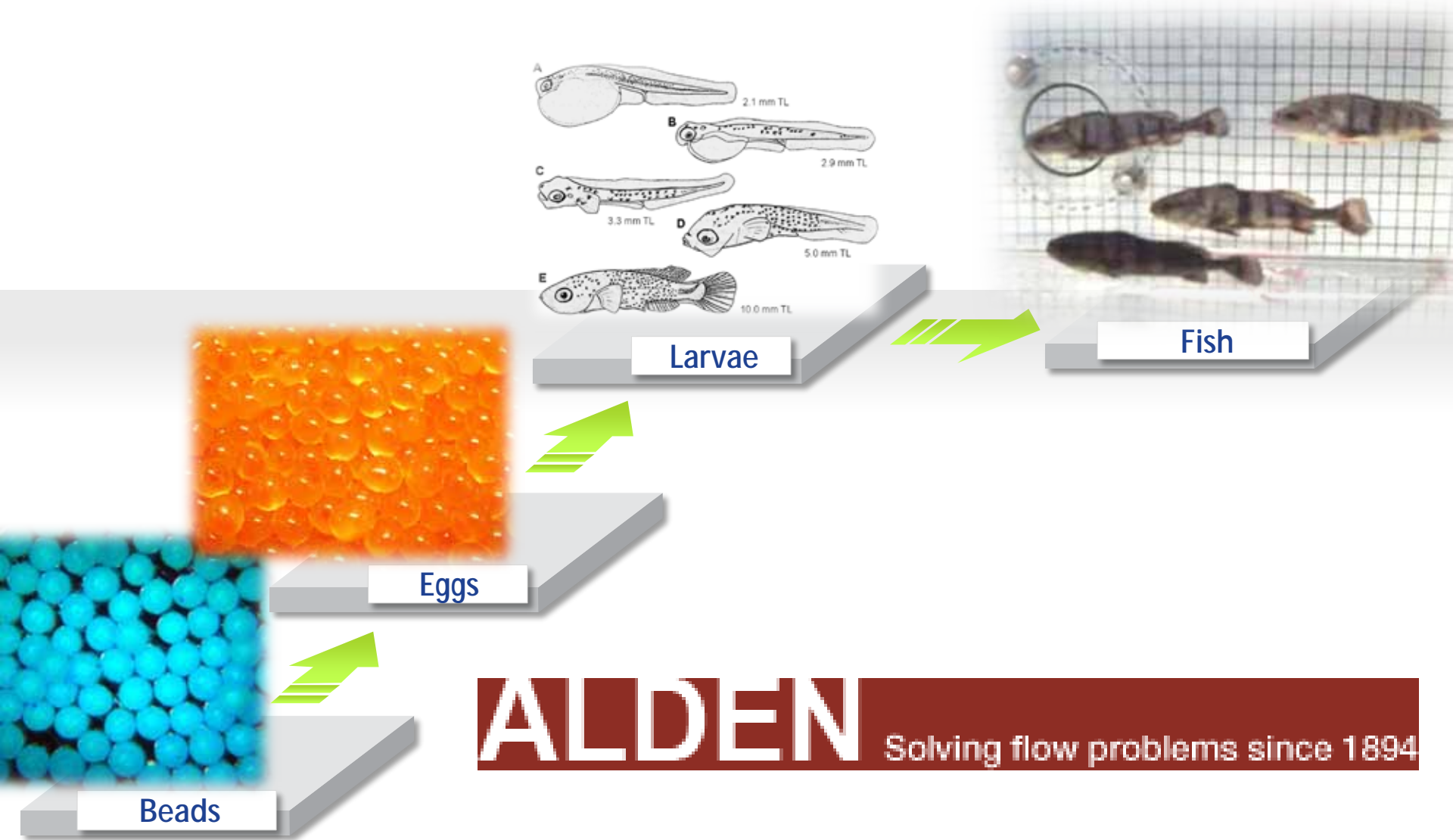


Optimization



pppst.com

Aquatic Life Testing



ALDEN Solving flow problems since 1894

Comprehensive Evaluation



Seaweed & Debris

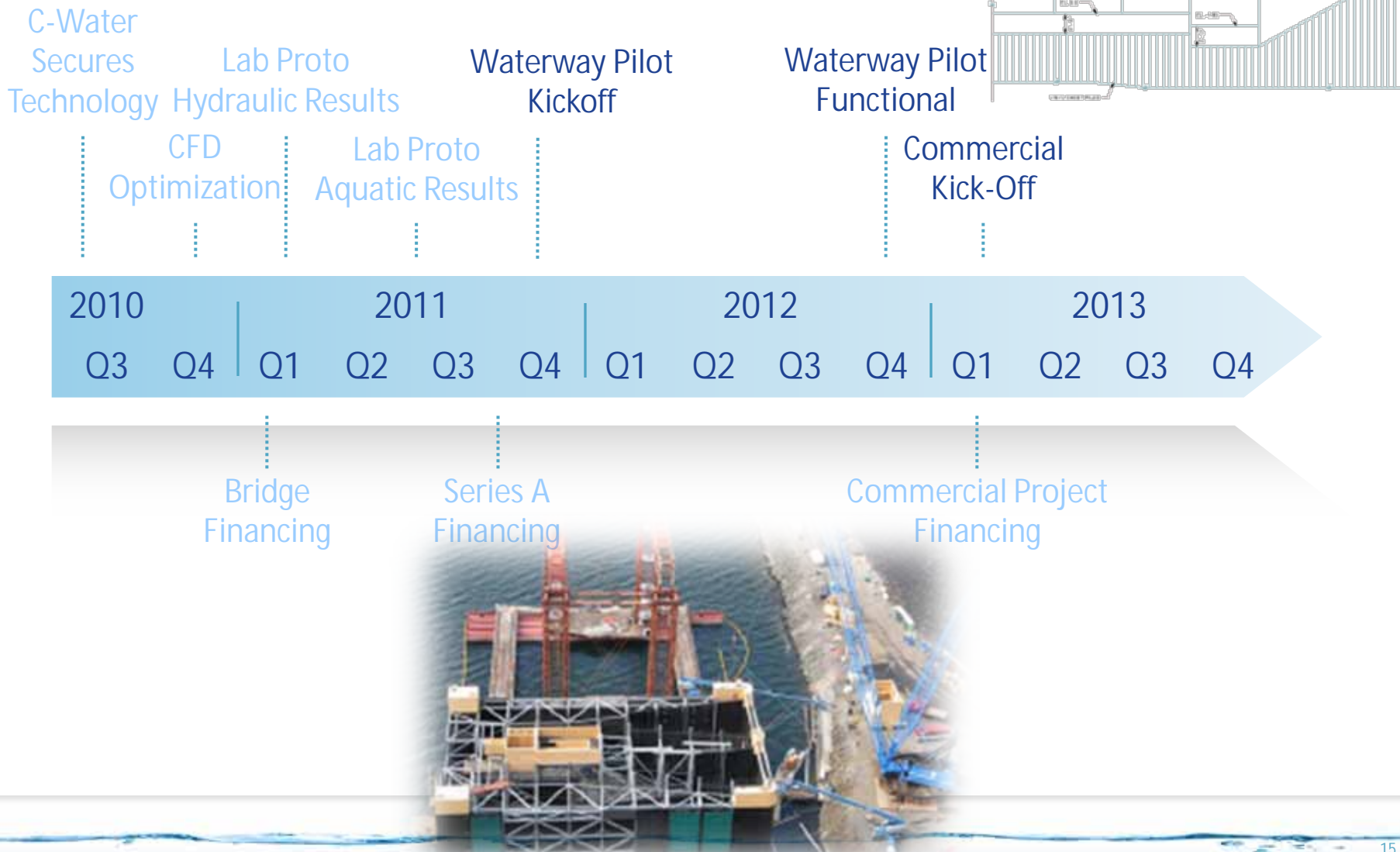


Materials & Coatings



Circulators

Path to Commercialization



Waterway Pilot

Technology communication – March 2011

Seeking input on test protocols & results

Landscaping potential waterway pilot candidates

How can we work with EPRI and utilities to advance the AquaSweep™ technology?



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Development & commercialization by C-Water Technologies in cooperation with CH2M Hill

For more information regarding C-Water's innovative
AquaSweep™ technology contact:

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water is power



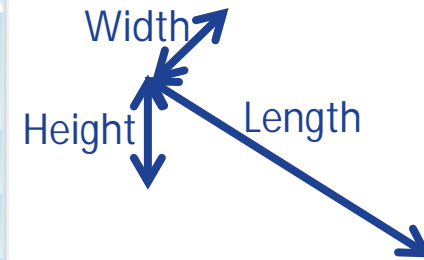
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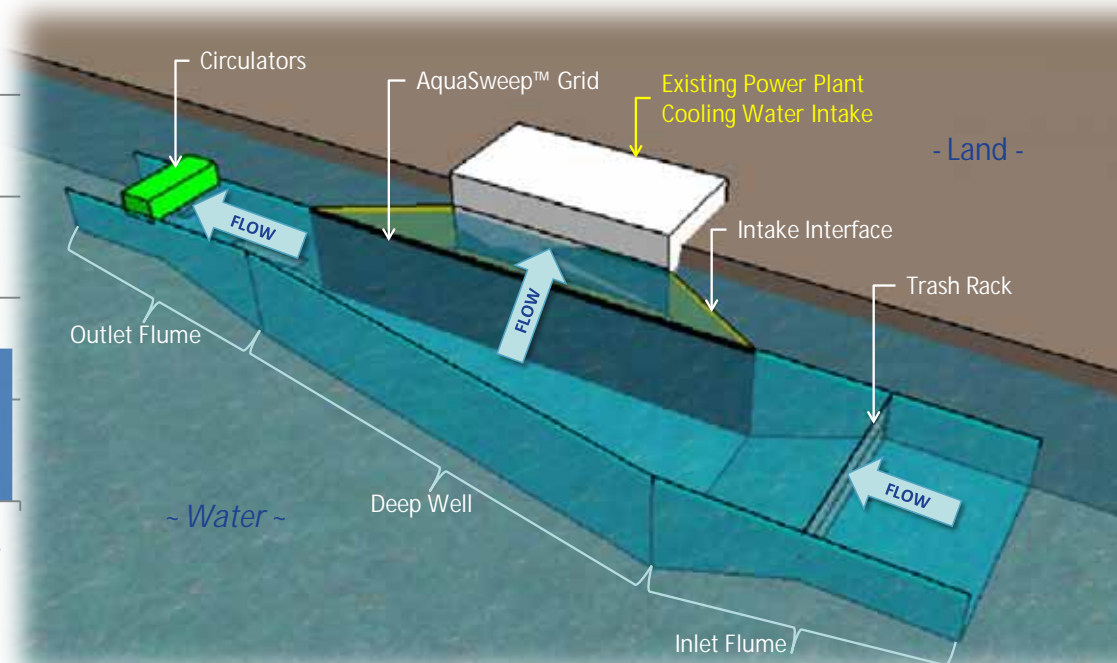
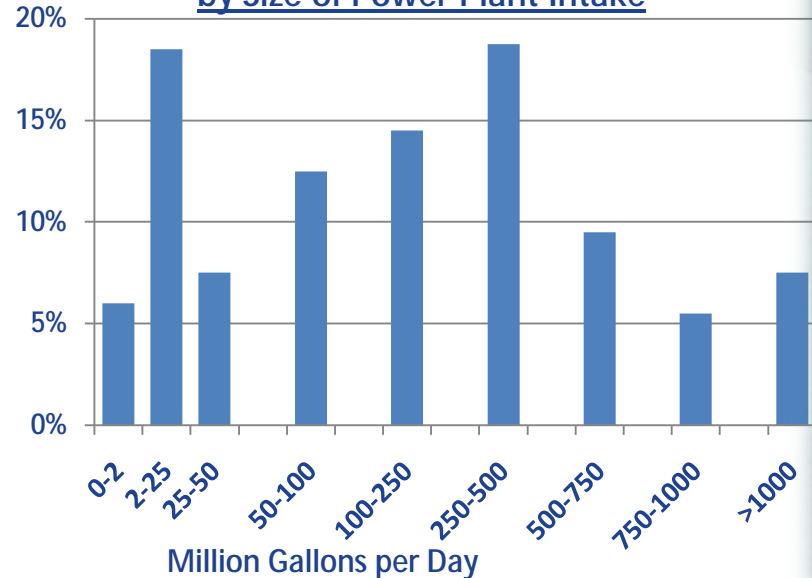
Appendices

AquaSweep™ Footprint

AquaSweep™ Preliminary Structure Sizes				
Intake Water Volume (mgpd)	% OTC Power Plants	Length (feet)	Width (feet)	Depth (feet)
< 50	32%	< 75	< 15	< 10
50 - 500	46%	75 - 230	15 - 40	10 - 25
500 - 1,800	22%	230 - 500	40 - 100	25 - 55



Percent U.S. Water Withdrawals Ranked by Size of Power Plant Intake

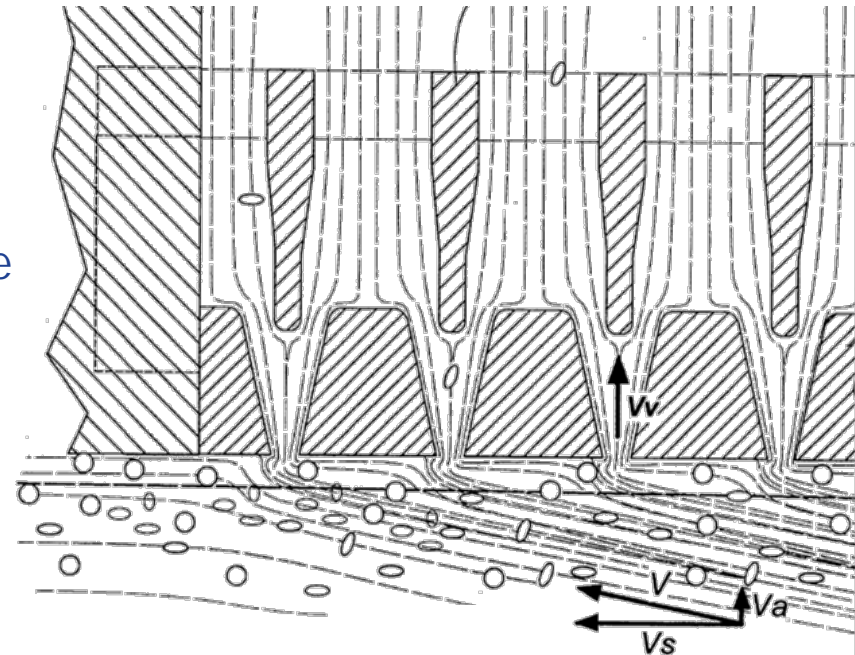


AquaSweep™ at the Core

AquaSweep™ applies the principle of inertial separation where dynamic forces are created by induced acceleration fields and mass naturally resisting the acceleration (inertia)

An acceleration field is created at the micro-scale around the AquaSweep grid assembly

Aquatic life (fish eggs, larvae, small fish) is separated from the acceleration stream lines flowing through the screen and swept away from the screen



Inertial separation is widely used in industry: oil and gas, chemical, refinery, pharmaceutical, life science, power generation, water treatment, etc.

Common inertial separation applications: centrifuge, gas and hydro-cyclones, separation blades and vanes, decanters, clarifiers, floatation separators, etc.

Competitive Analysis

Technology	Strengths	Weaknesses
C-Water AquaSweep™	<ul style="list-style-type: none"> • Reasonable retrofit cost –capital & downtime • Maintain power plant efficiency • Projected to meet §316(b) IM&E requirements 	<ul style="list-style-type: none"> • Unproven development stage
Closed-Loop	<ul style="list-style-type: none"> • Currently accepted BTA • Low water withdrawal → low IM&E 	<ul style="list-style-type: none"> • Highest retrofit cost – capital & downtime • Reduction in power plant efficiency • Large land area required • Air and visual pollution
Wedge wire screens	<ul style="list-style-type: none"> • Reasonable retrofit cost –capital & downtime • Maintain power plant efficiency • Reduces impingement & entrainment 	<ul style="list-style-type: none"> • Clog quickly w/o current or cleaning • Cleaning system effectiveness not certain • Large waterway footprint
Barrier nets	<ul style="list-style-type: none"> • Reduces impingement 	<ul style="list-style-type: none"> • Does not address entrainment • Large waterway footprint
Aquatic filtration barriers	<ul style="list-style-type: none"> • Reduces entrainment 	<ul style="list-style-type: none"> • Effectiveness on impingement not certain • Susceptible to fouling and clogging • Large waterway footprint
Vertical traveling screens	<ul style="list-style-type: none"> • Reduces impingement & entrainment 	<ul style="list-style-type: none"> • High fish mortality • Intake expansion required – low flow requirements • Long fish return remote to intake/discharge
Velocity caps	<ul style="list-style-type: none"> • Reduces impingement 	<ul style="list-style-type: none"> • Does not address entrainment
Diversion systems	<ul style="list-style-type: none"> • Reduces impingement 	<ul style="list-style-type: none"> • Does not address entrainment • Efficacy is species specific
Behavioral barriers	<ul style="list-style-type: none"> • Reduces impingement 	<ul style="list-style-type: none"> • Does not address entrainment • Efficacy is species specific

Key Executives

Brian R. Murphy, PhD, Co-Founder, President and CEO, Director

- 20 years entrepreneurial, managerial, research, and commercialization experience
- Co-founder, former Chairman and CEO of PrimeStar Solar (GE's solar business unit)
- Negotiated corporate financings approaching \$400 million

David Dutton, CFO

- 20 years public and private CFO and COO experience at Centerpointe, Egghead Computer, Platt, and Parr
- Built accounting teams from ground up multiple times for companies up to \$800 million
- Negotiated debt, equity, and real estate financings in excess of \$200 million

Richard Williams, CTO/CSO

- 25 year Navy career including command of deepest diving submersible, Commanding Officer of Nuclear attack submarine, Deputy Program Director for Advanced Technologies at Naval Warfare Systems Command, and Program Manager for Operational Experimentation

Scott Terhune, VP Business Development

- 20 years multi-national sales, competitive analysis, and strategic partnership development with utilities
- Clean energy, water, and environmental/pollution control systems focus

Kathren Cavanaugh, VP Communications

- 30 years – corporate communications – branding and company launches – community relations
- Business plans and corporate positioning in securing \$1B+ in investments

Josh Kardon, VP Government Relations

- 20 years federal & state government relations
- Campaign advisor to Hillary Clinton, aide to Barbara Boxer (D-CA), Chief of Staff to Senator Ron Wyden (D-OR), and advisor to two Oregon Governors

Board of Directors and Advisors

Mark Waller, Co-Founder and Chairman

- 30 years experience financing and nurturing early stage companies
- Investment from angel to seed to bridge to IPO – raised \$1B+
- Chairman of GE's Solar Business Unit (PrimeStar Solar) which he co-founded in 2006

Peter Hughes, Secretary and Director

- 30 years experience as counsel on international and domestic infrastructure projects for Bechtel and CH2M HILL
- Legal and risk management leadership for a CH2M HILL startup business unit which is now a \$1.5B a year operation

L.W. (Skip) Johnson, Director

- 30 years experience in power generation, water treatment, and petrochemical industries
- Vice President of CH2M HILL's Power Business Unit

Brian R. Murphy, PhD, Co-Founder, President and CEO, Director

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Advisory Board Member: Dwight Sangrey, PhD, PE

- 40 years experience in management, engineering, higher education, and public policy – 12 years CEO level
- Marine geo-engineering, soil dynamics, natural hazard risk assessment/mitigation in energy and transportation