

Fish for the Future



A Vision and Long-Term Plan for the SD State Fish Hatchery System

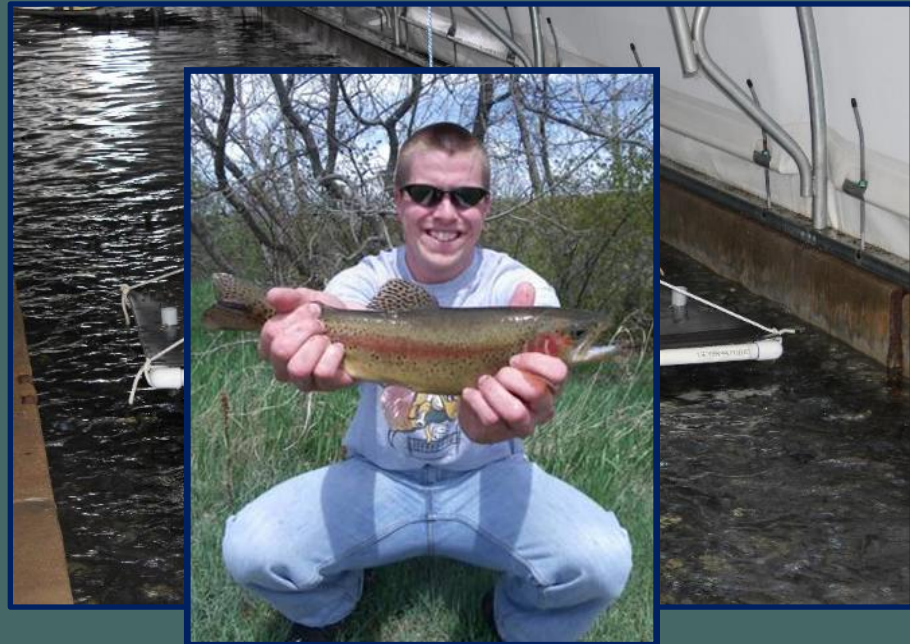
Michael Barnes, Hatchery Program Administrator

GOAL



Maximize Angler Satisfaction

- Post-Stocking Survival
- Fish Quality



We strive to:



- Meet Production Requests
- Maximize Efficiencies
- Minimize Impact (AIS, Health, Environmental)



Hatchery System



Blue Dog Lake 1982



McNenny 1953



Cleghorn Springs 1928/2007



Blue Dog



Cleghorn



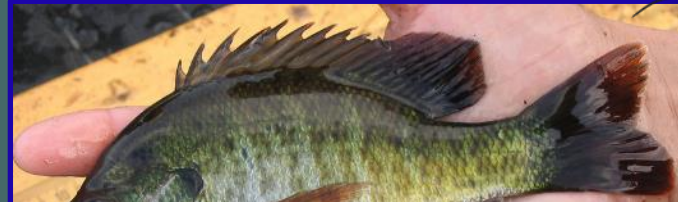
McNenny



Why Change?



- Unmet Needs
- AIS/Fish Health Risks
- Money



Why Change?



Angler Satisfaction!



Money

Aquatics FY21



Hatcheries

\$ 7.6 million

Management

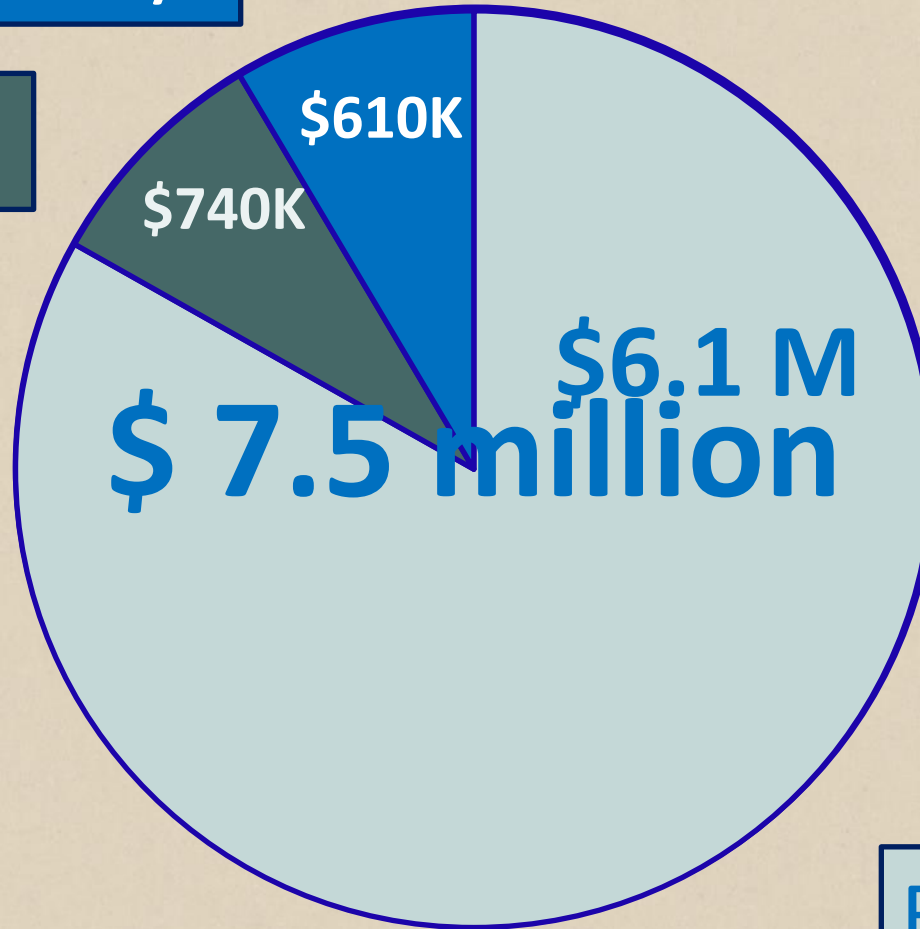
Does not include habitat stamp

Capital Development (FY 08-21)



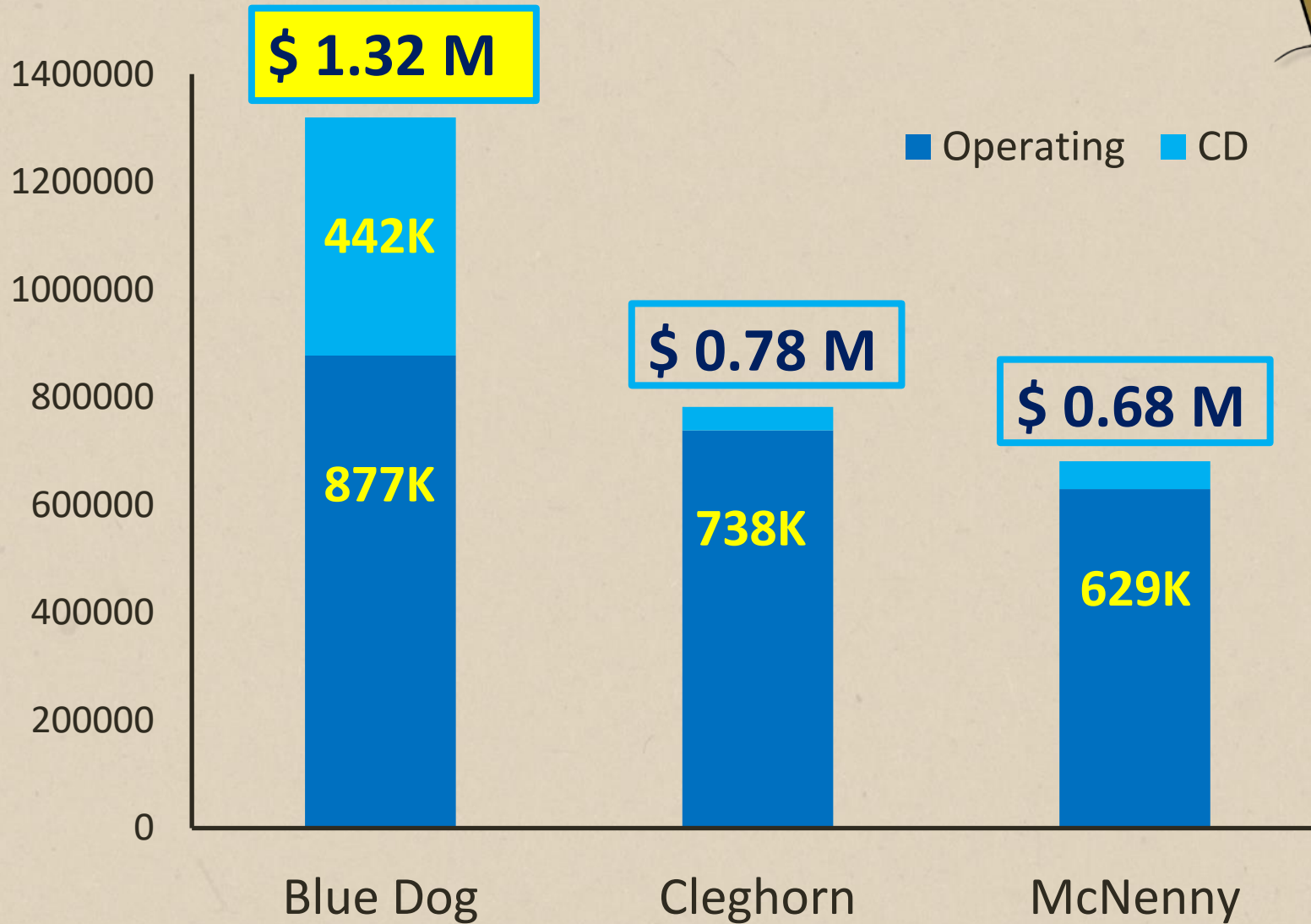
McNenny

Cleghorn



Blue Dog

Annual Expenditures



Needs/Issues



Cleghorn

- \$200K

McNenny

- \$200K

Blue Dog

- \$4 to 15 million





Solution

RAS
Recirculating
Aquaculture
Systems



Advantages



1. Geographic Freedom
2. ↓ AIS/Fish Health Risk
3. ↓ Environmental Impact
4. ↑ Control → ↑ Consistency
5. Multiple temps/multiple species

Advantages



Return-on-Investment



ROI



65,000

2 tanks



1 pond



ROI



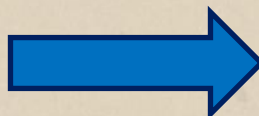
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65,000

×

25



1.7 million

÷

2 ?

2X size @ 28 days

Estimated costs / walleye



	Fry	Juvenile

Other States



Iowa

Walleye, Musky

Nebraska

Musky, Tiger Musky, Northern Pike, Bass, Sunfish

Kansas

Walleye, Bass

Wyoming

Walleye, Trout

+ California, Alaska,
and ...

Proposed Changes



Funded by:

Operating Budgets
and

Current Capital Development

(and bond payment repurposing FY28)

Changes - Cleghorn

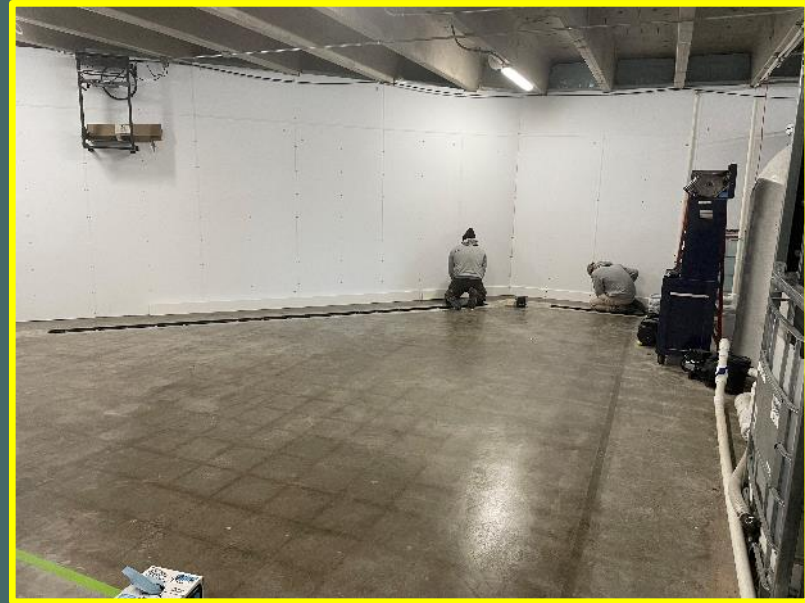


1. More RAS

2. New PLC

3. Upsize O₂ tank

4. Convert Old Offices to Tankroom



Changes - McNenny



1. Reuse Cleghorn O₂ Tank

2. New O₂ Tower

3. Replace AC Pipe



Changes – Blue Dog



1. Repair & Maintain
2. Gradually Shift Production
(already occurring with Cleghorn RAS)



New Facilities – Ft. Pierre



1. Adjacent to Current Offices
2. Gradual Process
3. Hybrid Staffing
4. Multiple Species



New Facilities – SD State



Why SDSU?



1. On-campus land
2. SDSU – grounds maintenance
3. Permanent staff recruitment / retention
4. Intern availability
5. Few FTE/ many interns (McNenny model)
6. Intern development – future employees
7. Proximity to feed supplier
8. Access to SDSU labs and expertise
9. Further develop existing relationship

Why SDSU?



Payback = 6 Years

Timeline



22 23 24 25 26 27 28 29 30

Cleghorn RAS, PLC, O₂

Tanks

Ft. Pierre

SDSU

McNenny O₂

ACP, Tower

BD Roof, +

Seasonal

Risks/Challenges



1. SDSU
2. Post-stocking survival
3. Construction costs
4. Staff retention/recruitment



Questions?

Opinions?



or

