

Moving Fish with Water



Cathal Dinneen | 15.10.15

KUTERRA



Pilot facility growing Atlantic salmon to market size
470 T max capacity





3000 m² building



5 x 500 m³ tanks
2 x 250 m³ tanks



Challenge: How to remove the fish from large tanks



Tanks 3 m deep, 15 m diameter



Densities $> 100 \text{ kg/m}^3$



Fish > 4 kg at harvest



Max fish size > 8kg
>50 fish transfers/annum



Clamshell crowder



Simple
construction



Folds in on itself completely when required
Prevents fish being trapped on wrong side of screen



Mobilizing the crowder





Graded, ungraded fish in same tank at same time



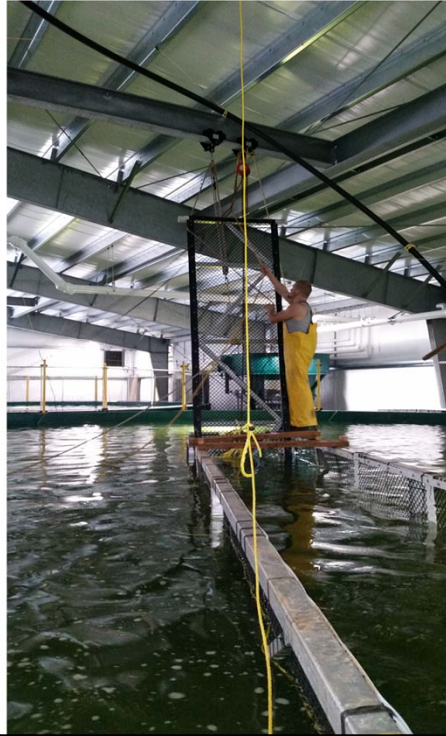
Remove 100% of fish without lowering water



Steady supply of fish to pump
Little stress on fish (or operator)



Getting out
the last fish



Getting out the last fish



Mobile Magic Valley BP120 fish pump
12" pump 75hp power pack



Capacity up to 300 l/s or 150 T/h
Max head 8 m. Max distance 1500 m



Mobile pumping system



Disassembled and reassembled elsewhere

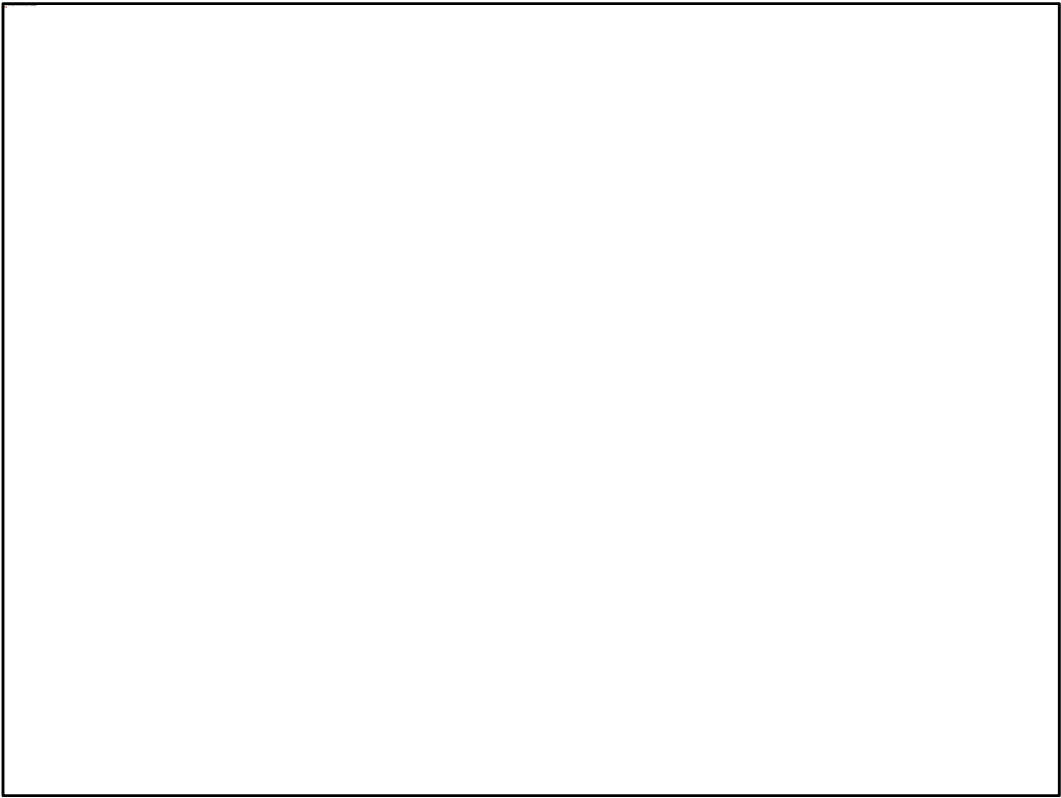


Transported to another location when needed



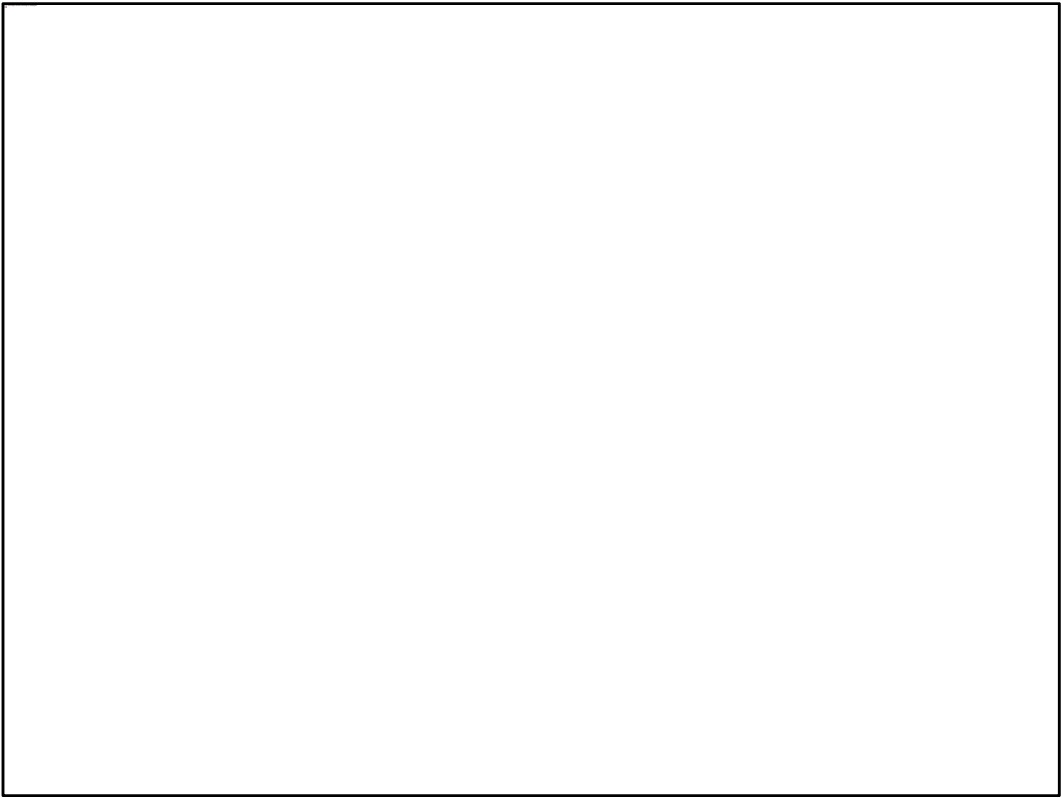
Fish gradually brought to the pump suction

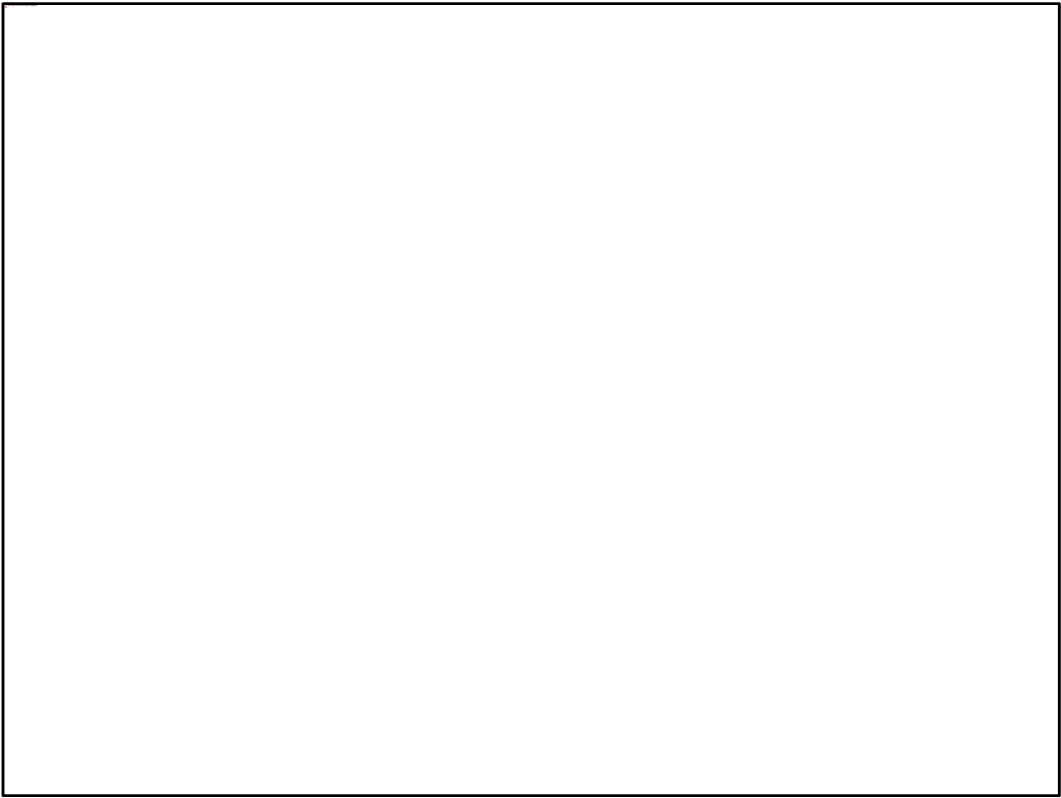


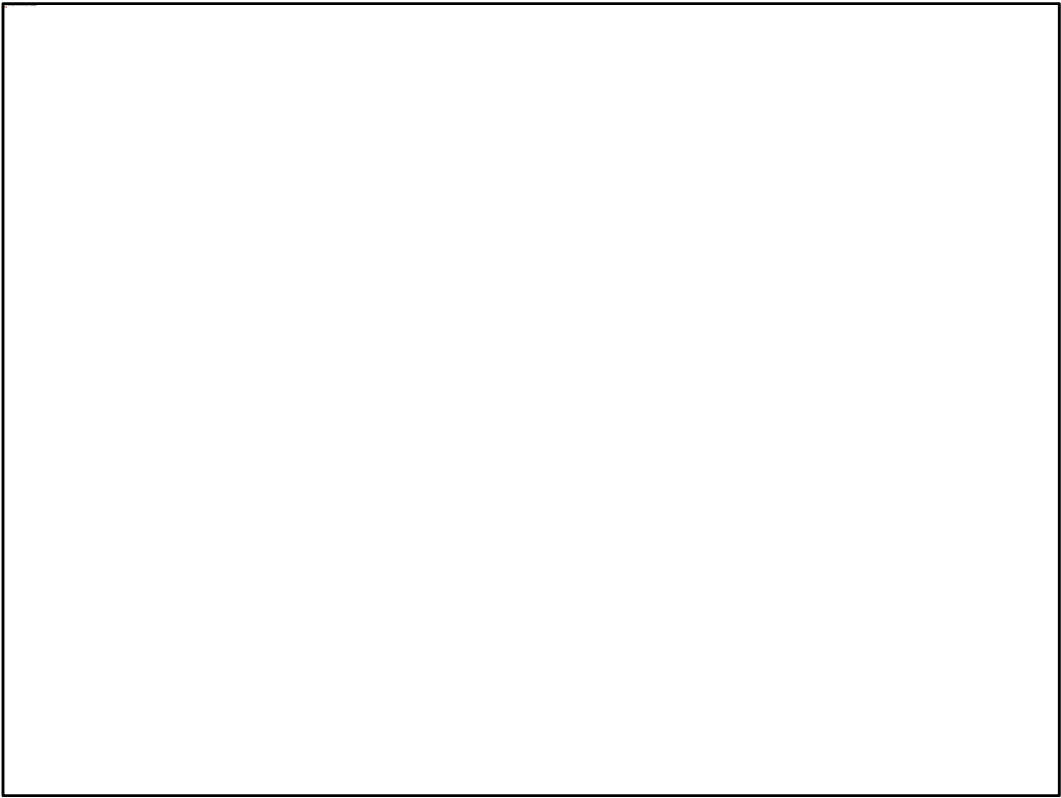


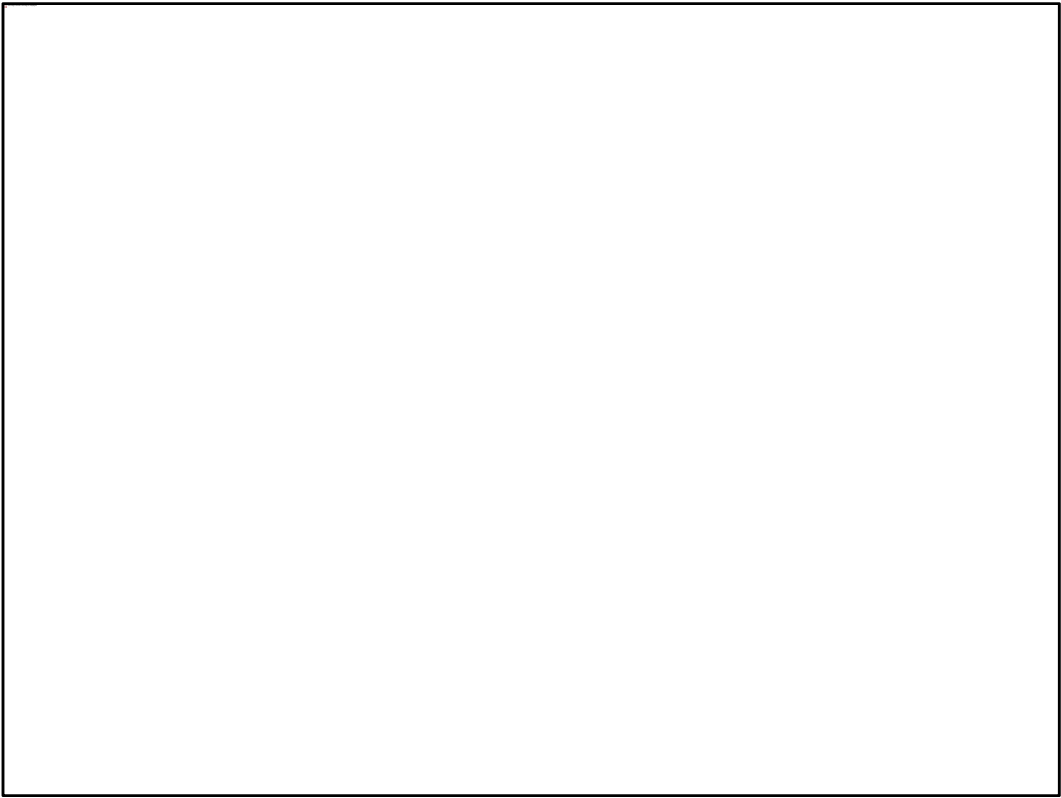
Inside dewatering unit





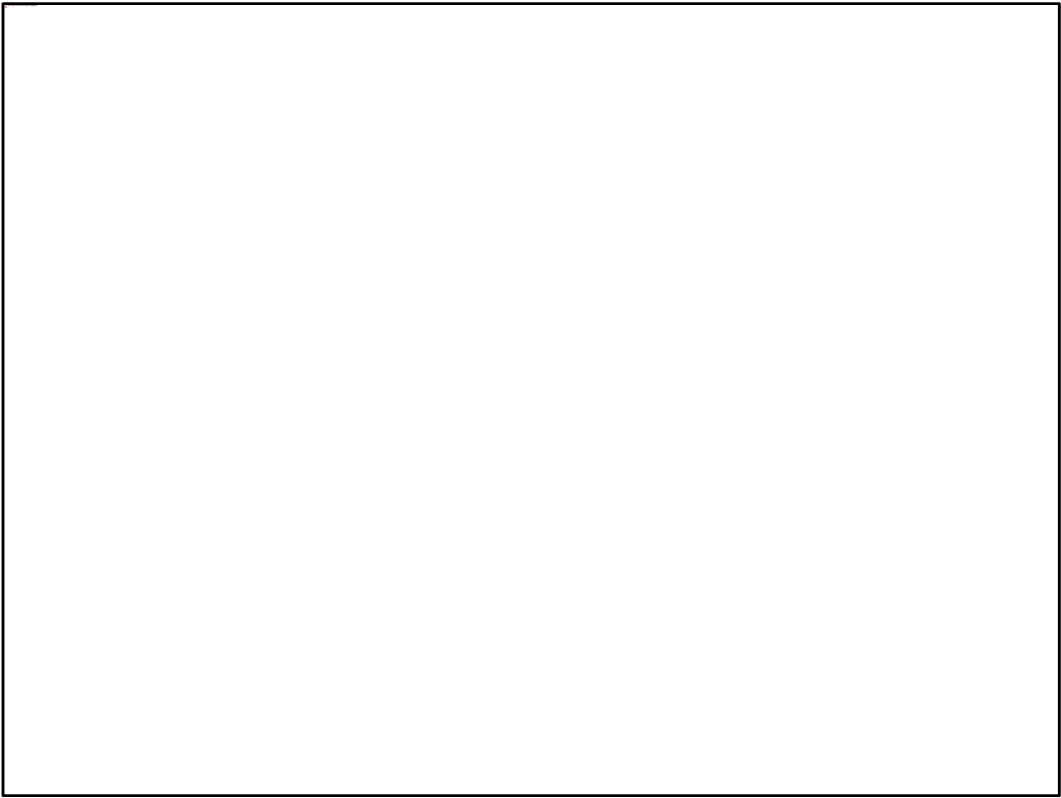


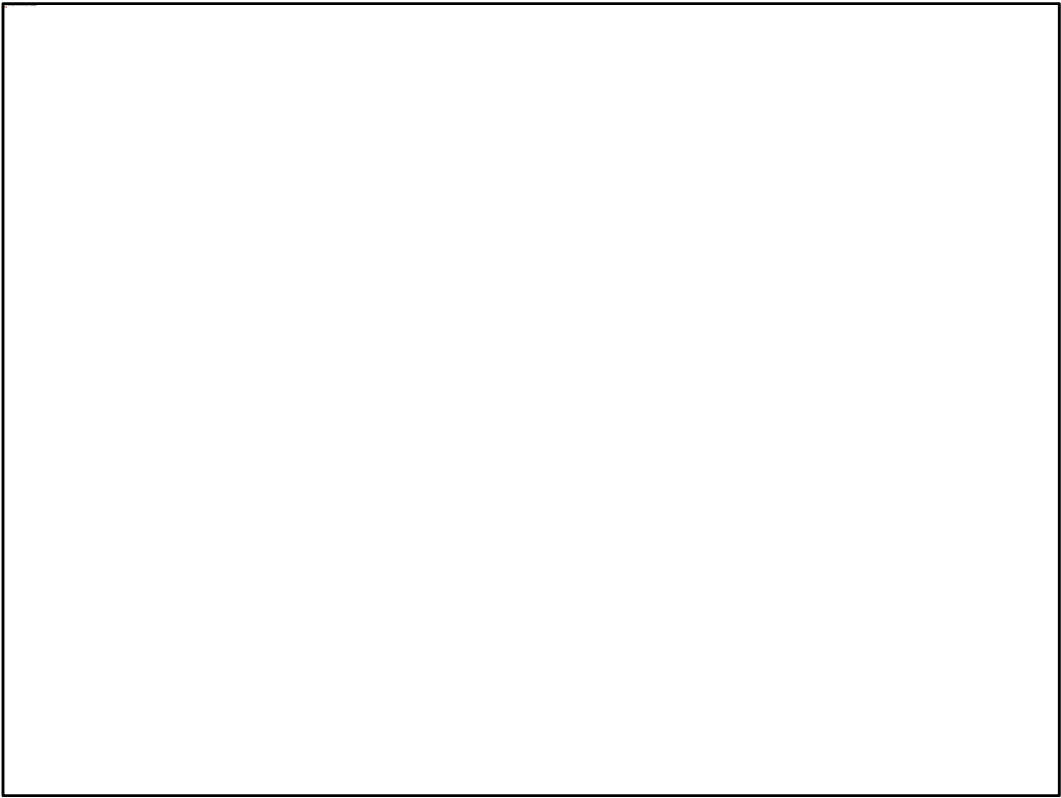




One side channel
used when slower
speed required
(eg. grading)





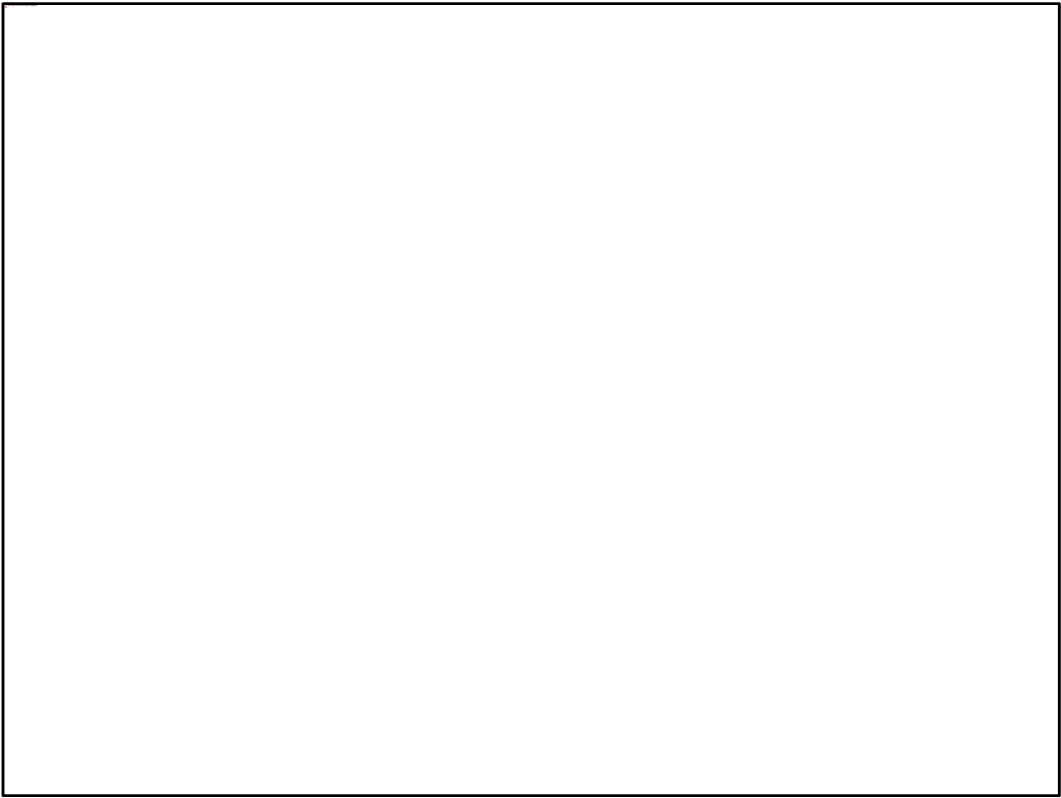


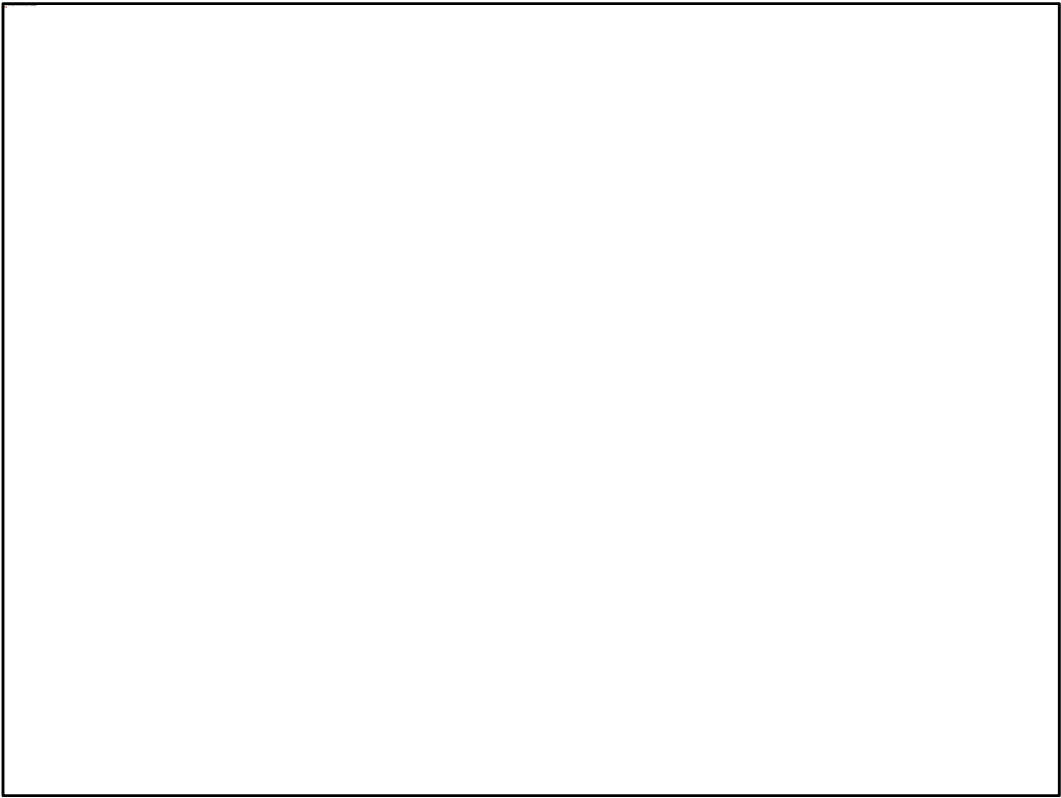
Straight transfer
to a tank

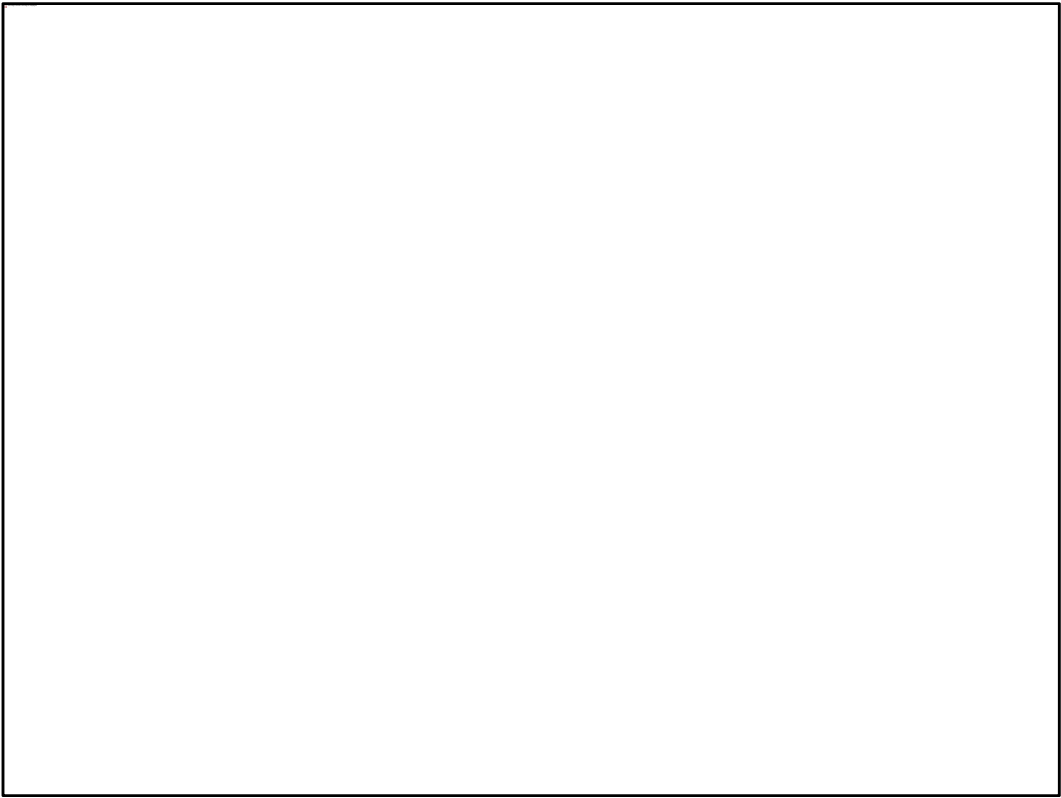


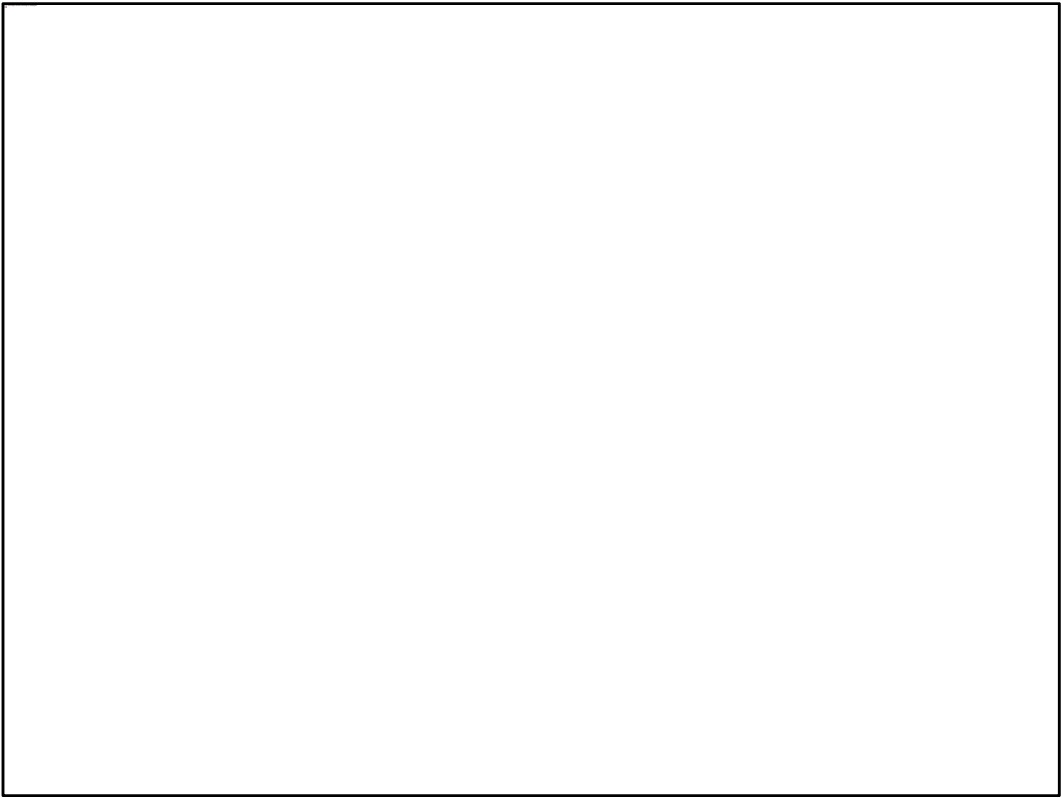
Transfer for harvest -
Use both side channels
to move greater
volumes

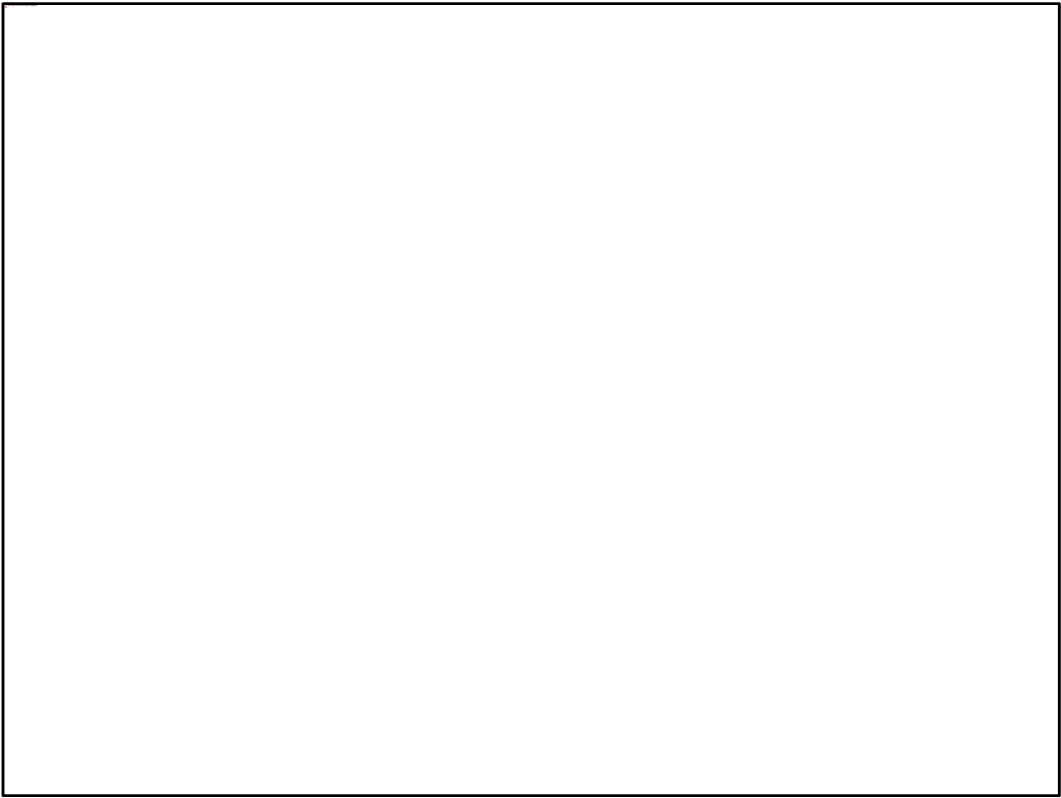


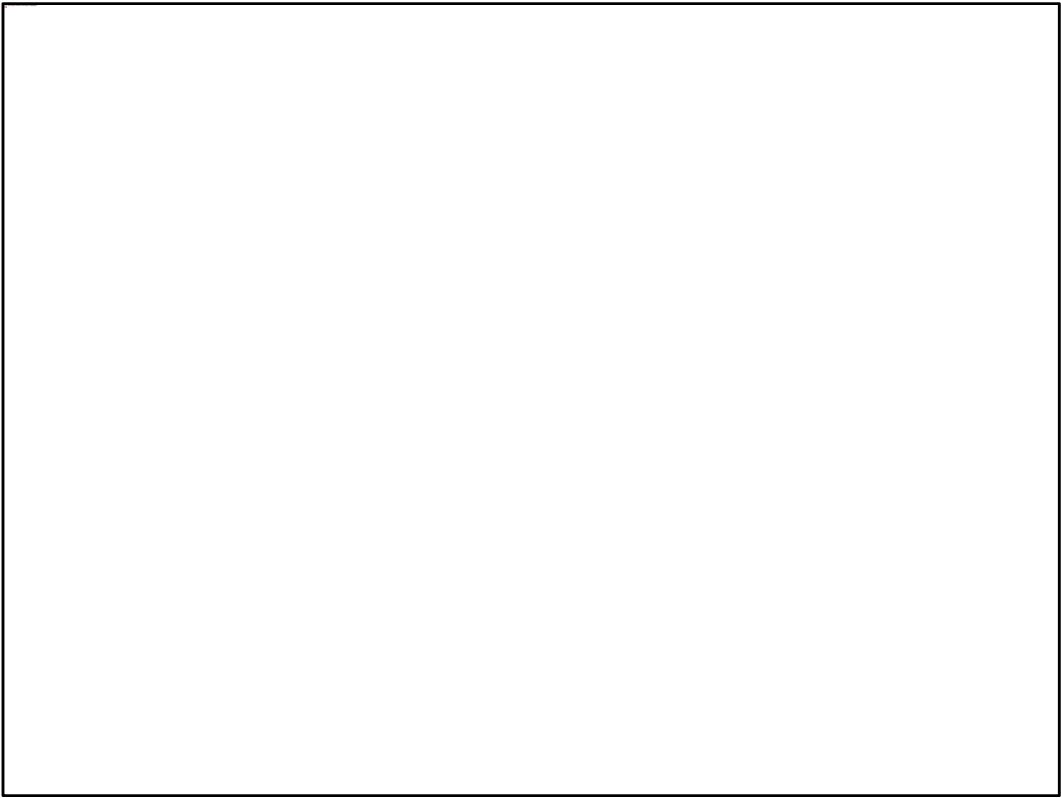












Harvest



