# SUMMARY

| Component | Cost (w/o shipping) | Weight (lb) |
|---|---|---|
| Base/Frame | $464 | 133 |
| Plow | $237 | 13 |
| Conveyor | $632 | 35 |
| Basket | $56 | 3 |
| Motor/RC | *$400-$700* | *25-50* |
| **TOTAL:** | $1,789-2,089 (+shipping) | --- |

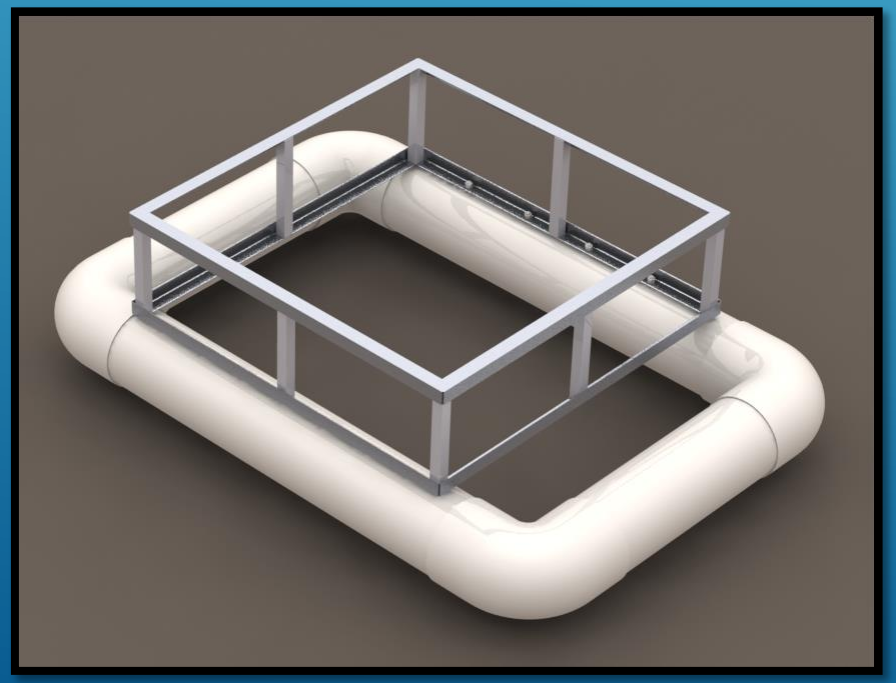
Fulfillment of user needs:

| | |
|---|---|
| Cost: GOOD | Under-budget with extra (prob. need to purchase on-shore conveyor) |
| Weight: MEDIUM | Heaviest component 133 lb (goal <100, could be alleviated w/ trailer, good grips) |
| Capacity: GOOD | 4-6 ft plow span, able to hold up to 18 cubic ft azolla |

# FRAME

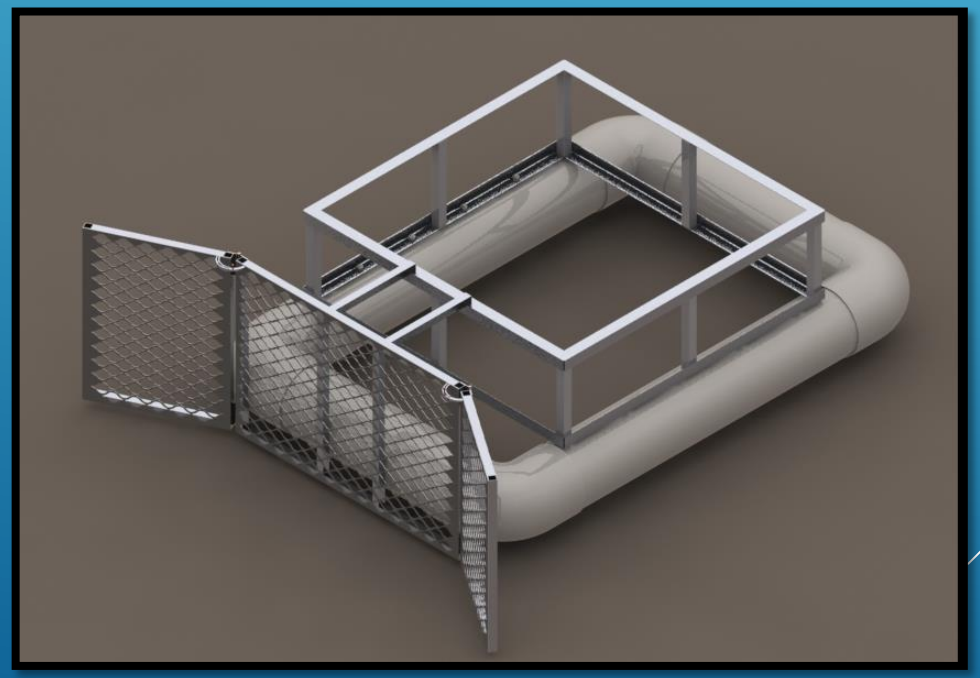
| Item | Cost =(w/o shipping) | Weight (lb) | Supplier |
|---|---|---|---|
| 8” PVC pipes | $339 | 79 | PVC pipe supplies |
| PVC elbows | | 36 | PVC pipe supplies |
| Aluminum L’s | $68 | 12 | Online Metals |
| Aluminum sqr. | $38 | 5 | Online Metals |
| SS Bolts | ~$5 | <1 | McMasterCarr |
| SS Nuts | ~$3 | <1 | McMasterCarr |
| Sealing Washers | ~$1 | ~0 | McMasterCarr |
| **TOTALS:** | $464 | ~133 | --- |

*Note: w/ shipping PVC/Elbows were $519, Frame was $177.*

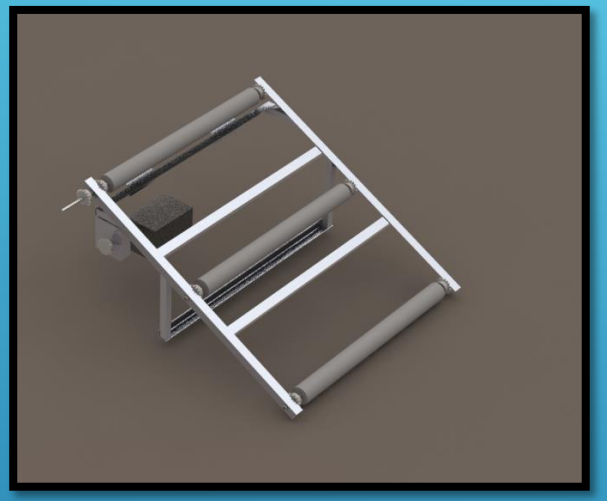


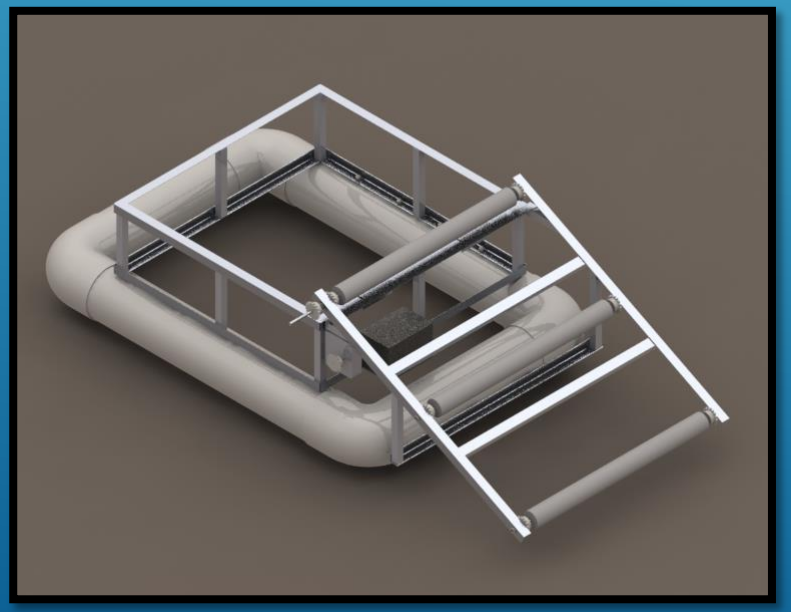
# PLOW

| Item | Cost =(w/o shipping) | Weight (lb) | Supplier |
|---|---|---|---|
| Aluminum Tubing | $164.89 | 9 | Moscow Building Supply |
| Mesh/Screen | $18.99 | 2 | Moscow Building Supply |
| Grommets | $7.99 | ~0 | Moscow Building Supply |
| Duct Tape | $4.5 | ~0 | Moscow Building Supply |
| Zipe Ties | $3.69 | ~0 | Moscow Building Supply |
| Hinges | $37.32 | 2 | Whole Sale Marine |
| **TOTALS:** | $237 | 13 | |



# CONVEYOR



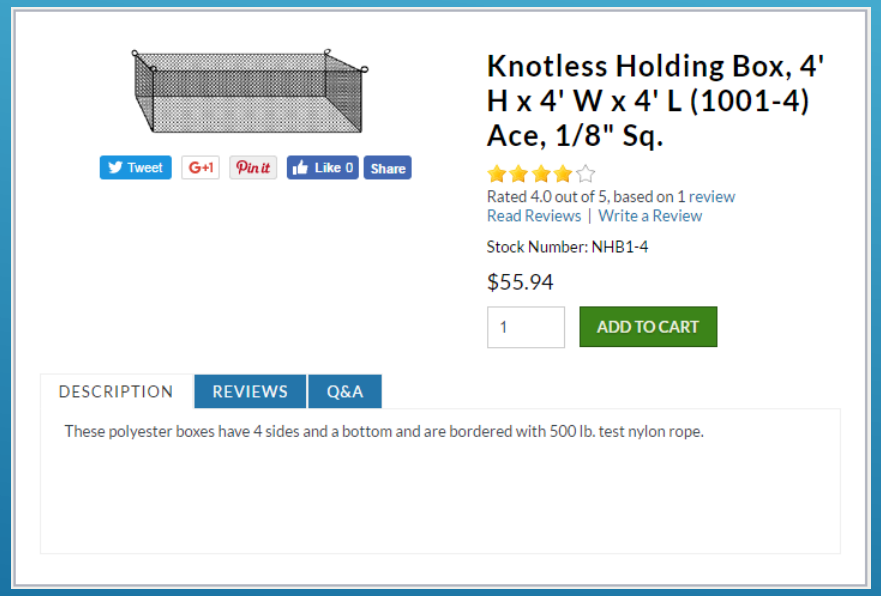


Other option: Hoffmeyer – awaiting quote

| Item | Cost =(w/o shipping) | Weight (lb) | Supplier |
|---|---|---|---|
| 4' Aluminum L | $51 | 10 | Online Metals |
| Acetal chain | $216 | *3* | McMasterCarr |
| Belt Sprockets | $92 | *1.5* | McMasterCarr |
| Mesh | $40 | *2* | Sailrite |
| Idle Rods | $17 | *2* | Online Metals |
| Drive Rod | $9 | <1 | Online Metals |
| Foam Rollers | $24 | <1 | Foambymail |
| Bearings | $20 | <1 | McMasterCarr |
| 1’ Aluminum L | $3 | <1 | Online Metals |
| 1’ Aluminum tube | $10 | <1 | Online Metals |
| 2’ Aluminum tube | $18 | 3 | Online Metals |
| Motor Shaft Sprocket | $15 | <1 | McMasterCarr |
| Drive Rod Sprocket | $15 | <1 | McMasterCarr |
| DC Motor | $56 | 3 | Zoro |
| Battery | $17 | 3.5 | Walmart |
| WP Box (estimate) | $30 | 5 | TBD |
| **TOTALS:** | $632 | ~35 | |

# BASKET

| Item | Cost =(w/o shipping) | Weight (lb) | Supplier |
|---|---|---|---|
| Basket | $56 | *3* | Memphis Net& Twine |
| **TOTALS:** | $56 | *3* | |




Should hold ~ 100 lb with a safety factor, since that is the max weight goal.

# MOTOR/RC

*Estimated Power Req: ~1 hp ----- We plan to use a trolling motor*

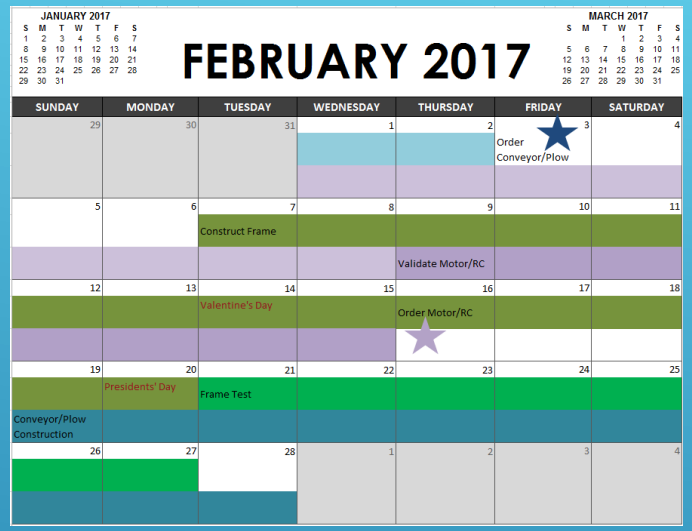
Planned Tests:

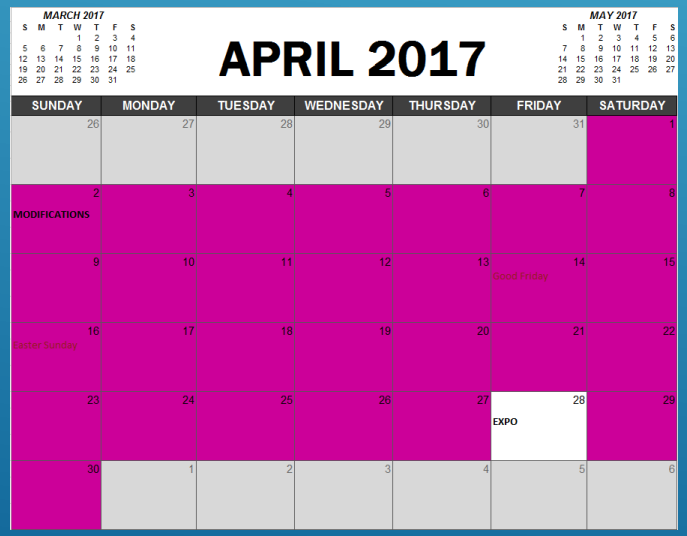
- SolidWorks Computer Model
- Water test with plow & frame once constructed

Then decide: Convert vs. Buy to get RC control

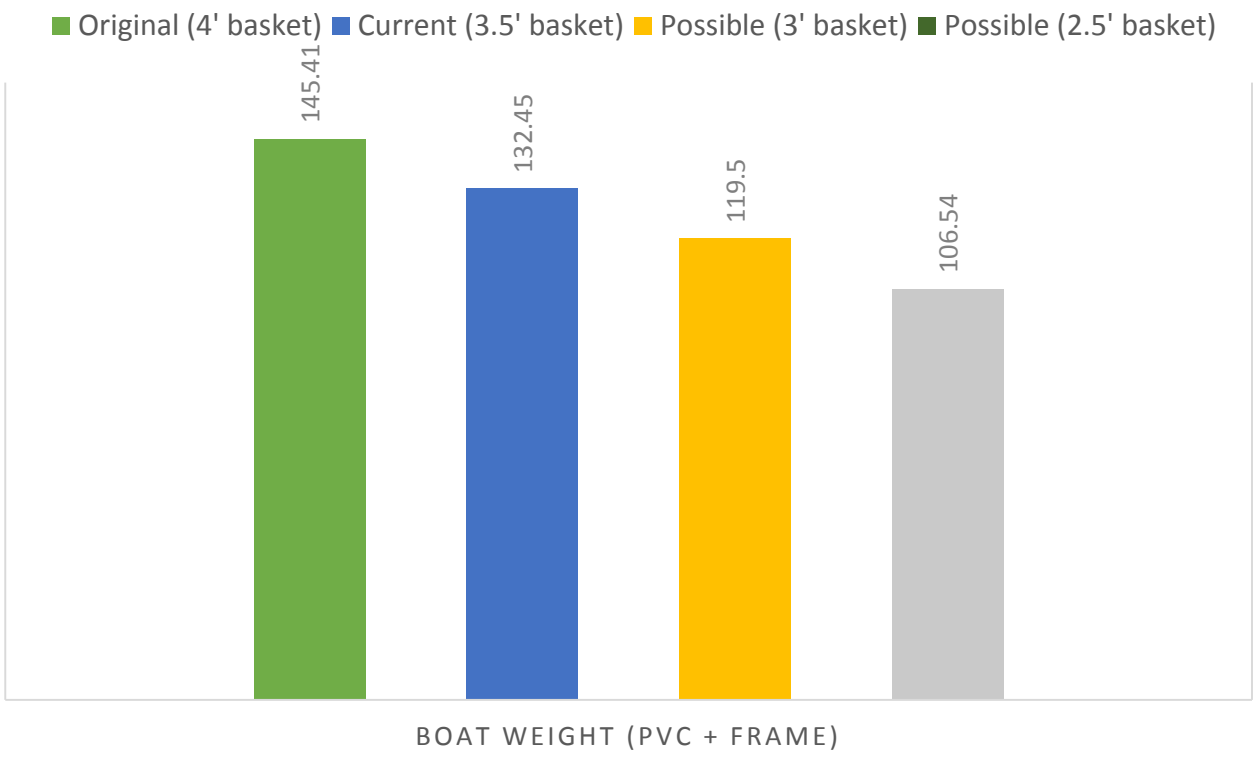
| Item | Cost =(w/o shipping) | Weight (lb) | Supplier |
|---|---|---|---|
| Trolling motor | | | TBD |
| RC components | | | TBD |
| Battery Pack | $400-$700 | 25-50 | TBD |
| **TOTALS:** | $400-$700 | 25-50 | |

# TIME MANAGEMENT: PLANNED SCHEDULE

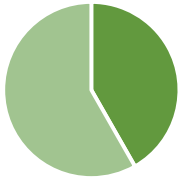




# BASE WEIGHT DISCUSSION



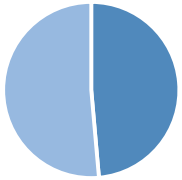

Original



Necessary Safety

42%

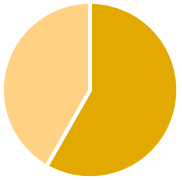
Current



Necessary Safety

49%

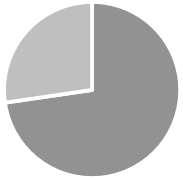
Possible (3')



Necessary Safety

58%

Possible (2.5')



Necessary Safety

73%