



# HAND-RAISING WATERFOWL: THE SCIENCE IS IN THE SETUP

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*Big topic, from ASAG hand-rearing survey and selected topics. Will field questions about specifics at end.*

# Pre-incubation

- Egg management depends on species/location/season
  - Geese/swans left alone (Nene/Red-breasted Geese)
  - Wooden dummies, infertile dummies
- Black-rat snake prevention
- Wine cooler for storage during clutch formation?

*Precocial species.*

*Ducks can't count past 3-4 eggs under themselves.*

*Electric wire predator deterrent?*

# Egg Storage

- Air-conditioned
- Dehumidifier
- Turned 2x a day (back and forth arrows)
- < 10days
- Graphite on air cell

*However have used Sharpie pen – not a fan.*



# Incubation

- 14 days under hen (real, foster, chicken)
- R-com 20 Pro (not the 50)
  - 99.5F at 55% humidity
  - Success from day 0
  - Previously did not artificially incubate some species
  - Fumigation?
- Hand turn swan/geese eggs

*Homemade incubator / Grumbach, Lyon, Brinsea*

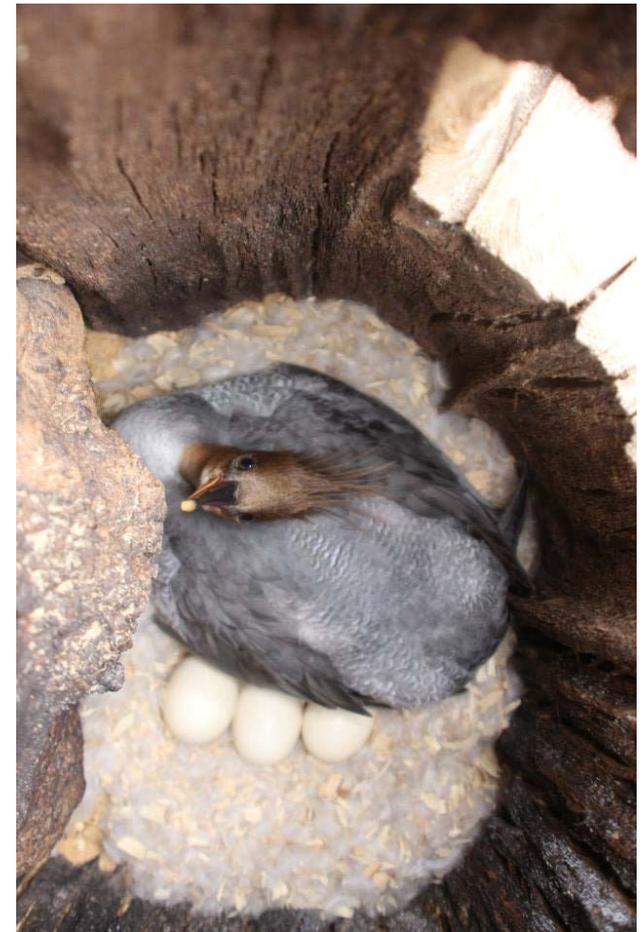
*R-Com 50 is the same guts as the 20.*

*R-com details (max) - set programs*

*Turning radius*

*Brinsea disinfectant versus formaldehyde*

*/potassium permanganate fumigation*



# Hatching

- Egg is moved to pre-hatcher at internal pip
  - Misted directly
- Moved to hatcher when externally pipped
- “Fluffer-upper” after hatch for 12 hours to dry

*Modified Roll-X incubator as hatcher.*

*Shop vac for removing fluff.*



# Incubation Notes

- Eggs candled every morning
  - Lights left off in room otherwise
- Lids left off for cool down
  - Important to think about general biology
    - Stiff-tail verse tree-duck, etc.
- Except R-com, water trays in all incubators not used
  - Room humidity controlled

*LED tactical flashlight –*

*Swans*

*Anything bad about them?*



**Eggs removed quickly if embryo  
dies.**

*No weight loss management –  
monitor air cell development instead.*

# Hatching Assistance

- Once pipped, we expect the bird out in 24 hours, or making progress
- We will slowly help eggs that are not making progress
  - First check on ability to breath
  - Slowly start looking for wing position (right?)
  - Pull-wing and rest for 6 hours
  - Slowly start working chick out, leaving last bit for chick
- Don't let dry out (wet paper towel)
- Yolk sac infection: Iodine on yolk scar

*Hatching assistance is a  
slow process.  
I prefer dental tools.*



# Raising “wild” Ducklings



- Ducklings that have been on open water are a different story
- Constantly try to climb out of brooder, fail to feed, etc.
- For accidental hatchings, we often just leave the ducklings
- Domestic/hand-reared ducklings can help calm “wild”
  - Best left alone

# Brooder Recommendations

- All birds start in dry brooder
- 2'x3.5' dry brooder with .25" hardware cloth on the floor
- Bar mat is placed on one end of the brooder under a 250watt heat bulb
  - No specific temperature we aim for, but instead check the activity. We want them to be active, not be directly under the bulb or pressed to the sides of the brooder
- Marbles in water bowl
- Transition to wet brooder based on species (~7days)
  - Remove floor
  - Pinion/vent sex prior?

*Shorebird setup, bowl is smaller*



# Little Duckery

- Adjustable flow, seaducks like splashing water
- Nail trims for cavity nesters



# Little Duckery



**HALOGEN Infrared Lamp** **250w**

**Characteristics**  
Ryu-Arm infrared lamp is a specially manufactured high quality heat lamp that absorbs maximum visible rays to radiate infrared rays in mid-or short waves. Infrared lamp provides not only long life by radiating whole heat energy, but is also water & shock resistant (spraying, liquid disinfection) in radiating condition (lighting).

**Biological Effect**  
Ryu-Arm infrared lamp produces a high biological effect, which has ultimate abilities in thermal efficiency and hypodermic saturation on organic bodies enabling heat diffusion into the whole body by high blood circulation.

**Applications**  
Livestock (pig, cattle, deer, poultry, etc) infrared lamp improves food efficiency, stimulates appetite and assists disease cure. It minimizes loss of livestock by changing their habit, which is trying to gather. It also makes the surface dry for clean environment.

**OTHER APPLICATIONS**

- Pets
- Sterilization
- Drying
- Home & medical use
- Chiropractic
- Skin care
- Green house

**MADE IN KOREA**  
by Ryu for

**AGRI-SPAC** St-Hyacinthe (Quebec) Canada

**ENERGY EFFICIENT**

**NEW PATENTED TECHNOLOGY**

**SYRVET INC.** Waukegan, Iowa, USA

halogen lamps, low splash, flip between 175-250 watts

# Big Duckery

- After 2+ weeks moved to larger wet brooders
- Adjustable pool depth with eventual access to outdoor pools and natural sunlight
- Both the initial move from dry to wet brooders, and the move to outdoor pools early is important on feather quality





*for seaducks add rocks*

# Juvenile Pens

- Low aggression if birds moved out under 18 months



*Large amount of unpaired birds ok.*

# Rearing Spaces



- Sylvan is designed to raise ducks, however there are lots of unique ways to hand-raise ducklings
- The important components are...
  - Clean water
    - Our flow through system reduces bacteria buildup
  - Reduced “people time”
    - I.e. how long does it take staff to clean?
  - Outdoor rearing areas

# Fledging / Integration with other Birds

- Same genus important prior to entering Big Duckery
- Transitioning into mixed flocks easier in juvenile pens
- Conspecific aggression



# Diets

- In-house corn based extruded pellet (Mazuri Waterfowl Maintenance)
- Mazuri Seaduck
- Mazuri Waterfowl Starter
- Some experience with Mazuri trial diets
  - Diving duck, high-fiber: palatability issues
- Japanese white millet
- Milo
- Greens (not spinach or high iron types)

# Starting Feeding



- Depends on species
  - Most do well with ground egg yolk, crumble, Mazuri waterfowl starter
- No daily weights
- Pygmies, Pink-eared, Stiff-tails do well with teal teachers
  - Duck weed encourages feeding
- Feed pan location important!

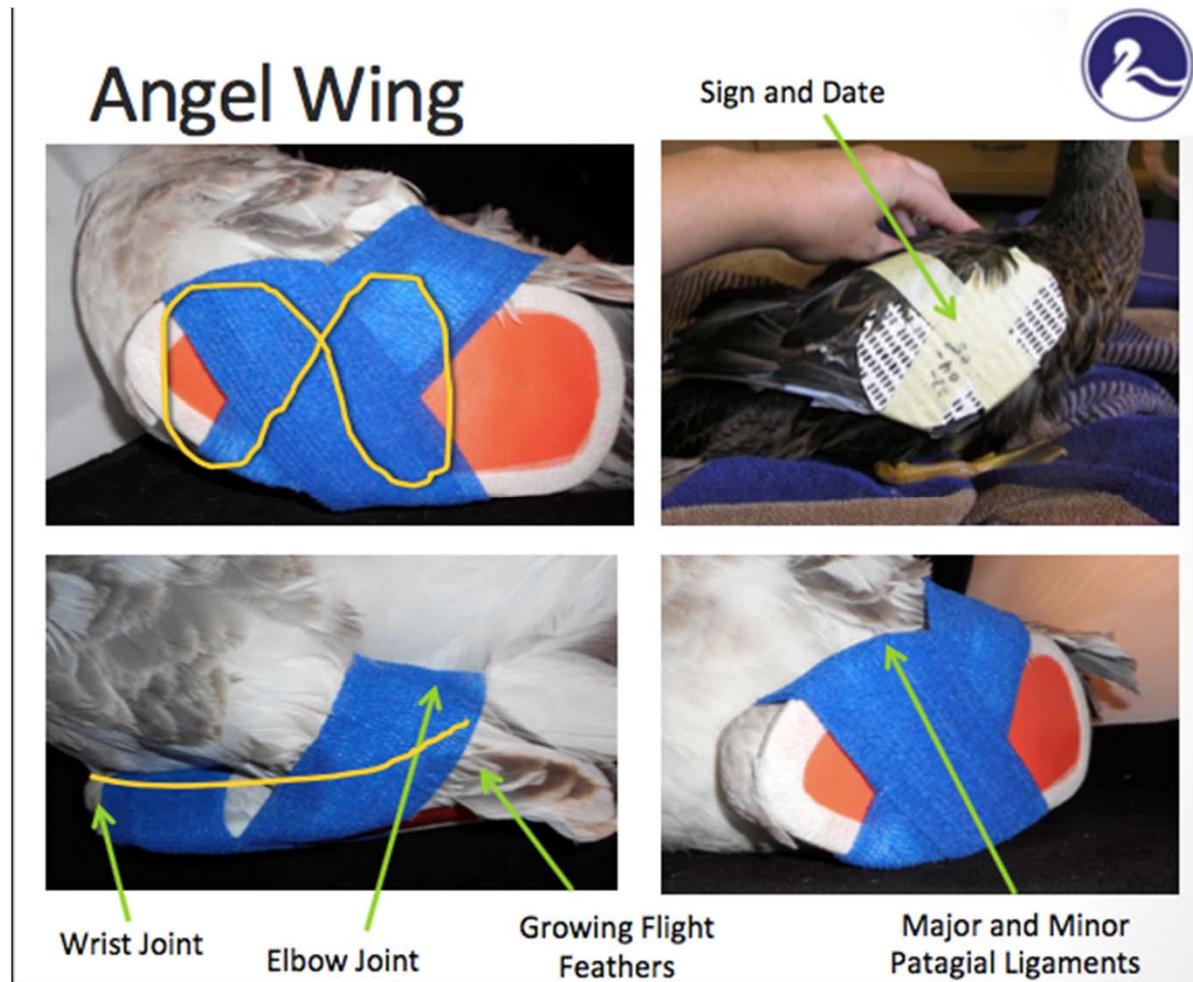
# Ad lib vs Limit Feeding

- Only geese are feed limited
  - Moved to outdoor pens during the day to graze
  - Pens moved daily
- Low nutrition grain (milo) fed to juvenile pens in addition to balanced pellet



*All waterfowl fed 2x daily.*

# Problems: Angel Wing



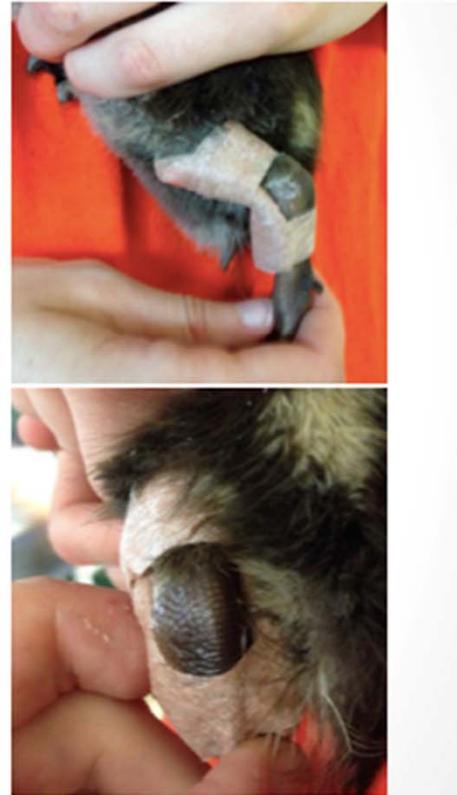
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# Problems: Slipped Tendon

## Perosis – Slipped Tendon



- Juveniles v. Adults
  - Perosis much more common in young, growing birds
    - Nutritional deficiency or excess
    - Inadequate exercise
- Substitute foam for padded aluminum splint and score hinge



Dr. Michele Goodman

## Problems: Over Handling



- Species dependent, however many species will quickly decline if they are interacted with too often

## Problems: Exercise



- Swimming space
- Swan swimming lessons
- Geese pastures

# Alternatives to Hand-rearing

- Many species are allowed to parent raise
  - Factor of other species on pond, predator access, and parent ability
  - Shelducks/geese, stiff-tails, comb ducks all do well
  - Visitor factor

*People love babies,  
however if ducklings  
die...*









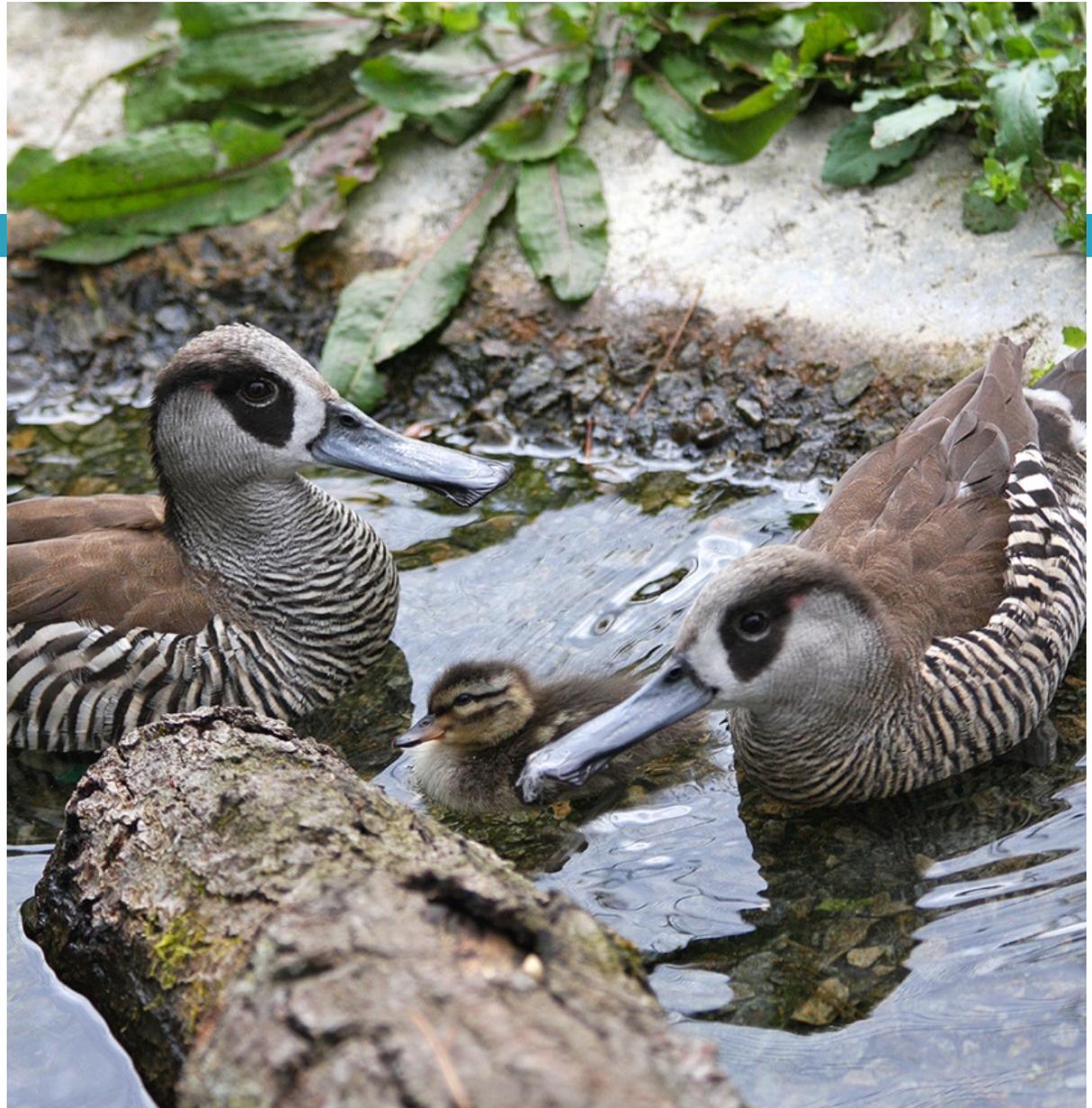


Leave sexes we don't want...

# Surrogates

- Not something we do often, but it does have advantages such as increasing pair bonds

*For monogamous-'ish species*



# Swans

- Swans are excellent parents and raise their cygnets better than we can
- Feed platforms for crumble (3x/day)
- We even swap pairs with week old cygnets onto display



*Rearing cygnets important for pair*



# Imprinting

- Ducks can often revert if imprinted
  - Geese/swans can become difficult
- Our imprinted birds are often the result of single clutch hatches
- Imprinted birds need to be kept separate
  - Constant problems in our “education pens”
- However, low time investment option for facilities



*Ceroposis is only imprint allowed to stay out with non-imprints.*

# Product Sources

- Lyon Technologies: R-com
  - We often have back up parts on hand
- Mazuri: Seaduck, Waterfowl Starter, Diving Duck
- JeffersPet.com: Halogen Lamps
- Jacksonwire: 6ft wide hardware cloth
- Ollies: bar mat
- Rearing Questions? e-mail me: **Dustin:**  
**aviculturist@shwpark.com**

*10% discount off Lyon?*

**Questions?**



**Dustin: [aviculturist@shwpark.com](mailto:aviculturist@shwpark.com)**

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