

Learning from Legacy Owls: Lessons From Parent-Reared, Non-Releasable (PRNR) Owls and Trainers Who Care For Them

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Owls are among the most charismatic birds found in educational programs. Since its publication, the IAATE Position Statement on the Welfare of Human-Reared vs Parent-Reared Owls in Ambassador Animal Programs (2018) has brought the conversation about the welfare of parent-reared, non-releasable (PRNR) owls in human care to center stage. The fervor of this conversation emphasizes the passion owls inspire, not only in audiences but in trainers themselves. The authors of this paper strongly believe the IAATE position statement is an excellent guideline to better inform future acquisitions, however, also recognize the reality that PRNR owls are prevalent in education today. Many collections, particularly those at smaller facilities, are populated by 'legacy birds' placed before evidence-based acquisition guidelines were widely available. In the following paper, case studies will be used to highlight the importance of resource availability, trainer knowledge and skill level, clear communication, honest assessment, flexibility and pragmatic decision making when it comes to working with PRNR owls. The hope is that by sharing and learning lessons from the past, a better future will be ensured for owls in captivity and the trainers who only want the best for them.

Facility Information

The **American Bald Eagle Foundation (ABEF)** is a small raptor center and natural history museum in Haines, Alaska. Before 2015, this facility was, like many other raptor centers, staffed mostly by volunteers with little knowledge of operant learning. In 2015, the first staff person with a working understanding of operant learning was hired. Under her direction, a paradigm shift away from coercive training began in earnest in 2016 (Minch, 2017). From the inception of the raptor program in 2010 until this shift, birds were acquired with no formal collection policy or assessment protocols and minimal quality of life standards.

Wild Ontario (WO) is an experiential learning and outreach education program at the University of Guelph that delivers off-site education programs with a team of non-releasable, native raptors. Student volunteers spend a full semester participating in a comprehensive training program, then at least 2 more semesters contributing to the care and training of their assigned bird and acting as mentors to the next round of new recruits. The current small staff team started in 2006 with very little experience and no knowledge of operant learning, but with

an eye toward growth and improvement, facilitated a slow but steady shift toward improved welfare and contemporary training.

- **Both facilities** have a great deal of autonomy when it comes to acquisitions, training, standards of care, disposition, timelines, etc.
- **Both facilities** operate with very small staff teams (who also have many administrative responsibilities) and have highly trained interns/volunteers who contribute directly to bird care and training.
- The **ABEF** was renovated to create a self-guided tour of previously private aviaries, allowing for programming even with birds who are uncomfortable leaving their aviaries. **WO** does not do onsite programming or have birds on display – all birds are trained to travel to offsite education programs.
- **Both facilities** maintain birds at high, healthy weights by closely monitoring diet, weight, and behaviour.
- **Both facilities** are committed to contemporary, choice-based training.
- **Both facilities** work with PRNR owl ambassadors successfully. These owls are legacies or, in some cases, more recent, intentional acquisitions.

Measuring Success

Specific minimum criteria for success will vary from facility to facility based on many factors:

At the **ABEF** birds must:

- Live comfortably on display in front of a variable audience.
- Voluntarily step up on a scale every day.
- Meet quality of life standards including (but not limited to) engaging with enrichment, tolerating enclosure husbandry, and performing natural self care behaviours.

At **WO** birds must:

- Comfortably participate in daily training sessions, even with new volunteer trainers.
- Voluntarily step up and exit their enclosure while standing calmly on glove after trust has been established.
- Participate in voluntary health maintenance behaviours (scale, foot check, keel condition check, etc.).
- Exhibit calm, attentive behaviour and comfortably accept reinforcement while on glove in novel environments and in front of members of the public.
- Meet quality of life standards including (but not limited to) engaging with enrichment, tolerating enclosure husbandry, and performing natural self care behaviours.

Key Factors That Have Enabled Success - At a Glance

- Resources – Trainer knowledge & skill, autonomy, time, ability to make pragmatic decisions.
- Planning – Minimum criteria for success, timelines, flexibility.
- Action – Skilled observation & fine-tuned behavioural assessment, high level training, consistency, patience.
- Evaluation – Objective/honest discussion, flexibility, sometimes euthanasia is the only humane option.

Case Studies

ABEF: Aspen (GGOW)

Aspen was a PRNR great gray owl with an above-the-wrist amputation that made her non-releasable. Pre-paradigm shift, she was openly described by her handler as “nervous”, so her enclosure was kept very dark and quiet. Although the space was modified with a ramp in an attempt to accommodate her poor mobility, Aspen often tripped or startled and hit walls. This was especially common when someone entered the enclosure to clean, feed, or get her for programming. As a result, she regularly had an open wound at her amputation site. To minimize the reopening of this wound, Aspen was used in exactly 12 programs each year during the quiet season in front of as few guests as possible to remain in permit compliance. Under the direction of the new curator hired in 2015, a brief attempt was made to counter condition and relationship build with her, but ultimately Aspen was humanely euthanized. To be clear, although we no longer accept birds with wing amputations, Aspen’s disability did not automatically disqualify her from an opportunity to transition to choice-based program participation. The severity of her disability exacerbated her distress in even the most “basic” of situations. Staff determined that, while she may some day learn to be comfortable, it was not humane to subject her to ongoing pain and distress to pursue it. Discussion with staff highlighted the importance of recognizing their limitations in skill and resources, the advice of professionals, and a firm belief in humane and dignified death as a gift to an animal in distress.

WO: Blue, Yellow and Orange the Northern Saw Whet Owls

In 2019, WO accepted 3 adult Northern Saw Whet Owls (Blue, Yellow and Orange – named for their colour bands) from a reputable, local rehab facility. All 3 of these birds were deemed permanently non-releasable due to varying degrees of wing injuries. None had any exposure to people beyond the bare minimum required to provide basic care at the rehab facility – they were all completely “green”. Many factors influenced this acquisition decision including available resources, staff knowledge and skill, and a commitment to objectivity and pragmatic

decision making. Due to a well-established foundation of professionalism and trust, the staff at the rehab facility felt confident that WO could give these birds a fair chance while prioritizing welfare.

From the onset, expectations were managed and there was a clear understanding that these birds might not end up being suitable for permanent life in captivity. Basic minimum quality of life criteria and reasonable goals/timelines were established. First, staff worked toward establishing basic comfort using extremely slow, careful counterconditioning. After approximately 1 month Blue was still exhibiting fearful behaviour, spending most of his time hiding on top of his nest box and had not progressed to a point where he would take food from trainers or even eat in their presence. Based on our established criteria, staff made the decision to humanely euthanize. After approximately 2 months the same decision was made about Yellow because while she had started to eat in front of trainers (only occasionally and only when they stood very far away), she still exhibited extremely nervous behaviour and would look to escape at the introduction of any outside stimulus at all. Staff felt that it was not fair to continue subjecting either bird to that level of stress in hopes that the situation might improve.

The 3rd NWSO, Orange, showed the most promise from the beginning and after a small setback (she required further surgery to repair wing damage) she seemed to be on track with quality of life and training goals. Being essentially non-flighted, she lives free lofted in a space that is specially tailored to her needs. Today Atwood (formerly Orange) voluntarily engages in training (including station, step up, comfort on glove and health maintenance behaviours) and has been a star at many smaller offsite education programs. Atwood still requires that trainers exercise patience at times - for example, requiring that the team take several steps back in her training program to re-establish comfort/confidence after her cage was moved to a new space - but overall she has exceeded initial expectations and has become a fantastic little ambassador.

ABEF: Sarah (GHOW)

Sarah was a PRNR great horned owl from the MatSu Valley in the interior of Alaska. She presented with a fractured right ulna that had healed in the wild and reduced her mobility on that side to about 50% extension. She was acquired by the ABEF in 2010 and between that time and 2015 was used in gloved or tethered programs by means of learned helplessness. Sarah often displayed extreme distress during these programs and during regular husbandry. In 2016, she was shifted to in-aviary programming and a training plan was developed to determine whether she could learn to target to a scale. Beginning in January of 2017, staff worked with Sarah every day to achieve this. At the time, our team believed that positive reinforcement training was a magical force of good that could help any animal learn to function in the context

of educational programming. In the space of five months, staff taught her to come to a scale and do small targets. At the peak of her improvement, Sarah would approach within arms-length and take bits from her trainer's hand.

This took many, many hours of work, and yet she would only do these things in an absolute vacuum. If other people or sounds were present, she would sit up high, hissing and pinning eyes or in concealment posture. When we began to have regular summer guests again, Sarah's improvement broke down completely. Although tours were moved past her as quickly as possible, she would inevitably hit the wire mesh trying to escape, often scraping her cere or injuring her feet. She stopped coming to a scale, targeting, and eating in front of trainers. In August of 2017, the pragmatic choice was humane euthanasia. Through this experience, we learned that positive reinforcement is not a magical cure for poor welfare. We were not skilled enough at the time to help Sarah be successful - and that doesn't mean euthanasia was the wrong choice. We felt that it wasn't humane to subject her to further distress just to see if we could get her to improve. Furthermore, the pragmatic choice was to use the space she occupied and the training time she took for a bird who could contribute to educational programming in a meaningful way.

WO: Thomson the Great Grey Owl

Thomson, an adult Great Grey Owl with a shoulder injury, was admitted to a local rehab facility in 2017. He could still fly short distances, navigate his perches, etc. and when closed, the wing appeared normal. Prior to the transfer he was already taking food from volunteers and staff at the rehab centre and generally seemed comfortable in the presence of people. These factors led the WO team to consider that Thomson might be a good candidate for permanent life in captivity with a high minimum standard of welfare.

Despite a challenging start to Thomson's time with WO – the team was moved into suboptimal temporary housing more than 6 months before a new facility was completed – he maintained very slow (glacial at times) progress. The team was committed to choice-based training and working at Thomson's pace. For example, he only came out of his enclosure when he voluntarily stepped up and allowed equipment to be attached while calmly standing on glove, but that meant there were many training sessions when he did not come out at all, especially when new trainers were still learning to read his subtle body language cues and establishing trust. Trainers could still perform health checks, station Thomson to the scale and work toward voluntary retrieval.

At his peak, Thomson was performing well for experienced trainers – maintaining comfort on glove for long periods in new environments (bait-free, accepting food), health maintenance behaviours, crate training, and attending smaller, quiet offsite programs - but generalizing behaviours to new trainers and novel stimulus was still extremely slow. The team had come to terms with the fact that Thomson would likely never participate in more challenging off-site programs. He might be a 1-hour quiet classroom visit bird, not a weekend at a busy trade show bird.

Even with very slow but steady progress, and the fact that Thomson never appeared to be in serious physical distress (healthy appetite/body condition, voluntary participant in his training, engaged with enrichment, etc.) staff had begun to wonder if there was enough potential for educational impact to make it worth continuing to train him for a life as a WO ambassador. Was it enough that he worked well with select experienced trainers, provided opportunities for new trainers to learn about patience and reading body language, and *might* be comfortable participating in occasional quiet off-site programs? All things considered, was he the right bird for this job? These difficult questions require serious consideration, the outcome of which will influence updates to WO training criteria and policies.

Tragically, Thomson was lost to West Nile Virus in 2021.

ABEF: Dylan (EASO)

Dylan is a PRNR Eastern screech owl with a detached retina in his right eye. He was admitted following a presumed vehicle or window strike and determined to be non-releasable because of the loss of vision. Dylan was transferred to the ABEF from Alabama in 2010. Until 2015, he was used in gloved programs or left tethered to a small display for the day. He was also part of a youth raptor program that taught young children to handle raptors. Dylan was considered a “beginner bird” because he was small and therefore easy to corner, put on a glove, and carry around. He appeared “calm” on the glove, standing very tall and still with tufts erect and eyes often closed - this was often described as looking “sleepy”. Like Sarah, Dylan was moved to in-aviary programming in 2016 and a training program was designed to teach him to fly to a scale. Initially, this work was done protected contact with lots of luring. Over time, Dylan progressed to working on cue with a trainer inside his (very small) enclosure flying short targets. In 2017, he began working primarily with a single, very dedicated trainer. Her patience and consistency paid off in bigger ways than we anticipated, and Dylan progressed over a period of two years to free flying in a modified indoor space.

Although he is a successful and charismatic part of our team, it should be noted that his training requires considerably more time and flexibility than some of the other birds on our team. He is sensitive to stimuli that his team often cannot identify which can cause significant behavior breakdowns that require time to rebuild, sometimes in the neighborhood of weeks or months. This involves the reintroduction of food lures and excessive prompting, and takes much more time than other training sessions. Additionally, Dylan is very sensitive to temporal changes. Without a set working schedule, his food motivation trends later in the day which is not conducive to our programming schedule. Ultimately, Dylan taught us that consistency and patience can pay off. While he initially met our baseline welfare requirements to live on display, through training he has exceeded these expectations. He has progressed at his own (glacial) pace because we had the flexibility to redefine his job on our team and work without a deadline.

WO: Newton the Eastern Screech Owl & Mowat the Barred Owl

Newton joined the WO team as an adult in 2019. He has healed wing and leg fractures but can manage short flights without difficulty and his injuries are not visible. Staff at the rehab facility questioned if he might be suitable for re(re)release, but after having been admitted *twice* the veterinary team had extremely low confidence in his ability to survive in the wild.

Fortunately, as with all new acquisitions at WO, the team was able to work at Newton's place, without any specific imposed deadlines. Following the standard early training process of slow, careful counterconditioning, Newton began to approach trainers as they entered his enclosure. He became comfortable moving to stations (using a visible food prompt) with trainers in close proximity, accepting food from the hand and voluntary step up to the glove.

As with most PRNR owls, training progress has been slow – he still chooses not to come out for inexperienced trainers at times – but overall he is doing very well. He engages with enrichment, maintains comfort and accepts reinforcement on glove in novel environments, including smaller off-site programs. Newton consistently offers a voluntary step up without a prompt (visual food lure) for trainers who have worked with him the longest, but still requires a prompt at times, even for other experienced/skilled trainers. While fading the prompt is absolutely the end goal, the team agrees that this concession does not detract from his quality of life or the overall goal of voluntary engagement in training. It is a work in progress.

Mowat joined the team in 2015 after a car collision that left him with slight wing damage and partial visual impairment. Mowat met minimum criteria for intake and progressed through his training slowly but surely. Like Newton, generalization to new trainers can take a very long

time - weeks or even months - but when working with experienced trainers who have established trust, Mowat performs as well as any bird at WO. In general, Mowat has been very successful, participating in voluntary health maintenance behaviours, engaging with enrichment readily, offering voluntary retrieval, crating, etc. The WO team has learned a lot since he was transferred in 2015 and have been working to improve his training protocols ever since.

Newton and Mowat are both successful, willing participants in their training. In addition to the minimum criteria used for measuring training success, most birds at WO (including Newton and Mowat) are provided with a 'high perch' – an escape spot near a window that is out of trainers reach. The birds must choose to come down to a station signaling their willingness to engage before trainers proceed.

Both birds meet established criteria for success, but it should be noted that both still require more time and patience than other birds at times.

ABEF: Cirrus (NHOW)

Cirrus is a PRNR Northern hawk owl from the Anchorage area. He was admitted with a fractured coracoid and healed with just slightly imperfect flight. Cirrus was acquired in 2019 after much consideration. Knowing that we were acquiring a PRNR owl, we solicited third party consultation from two raptor specialists who agreed to regularly watch video training sessions. Staff and consultants agreed that a 30 day assessment period would be an appropriate amount of time to determine whether Cirrus had the potential to be successful. At minimum, we wanted to see comfortable behavior with humans and a complete scale behavior within that 30 day period. We strongly suspected that he would not be an appropriate fit for education, however we had the time, skill, and resources to make the assessment. Northern hawk owls are also rare in education and a unique part of our ecosystem which we felt would add value to our team. Our entire team understood from the outset that Cirrus was a longshot and likely destined for humane euthanasia.

Cirrus has been affectionately dubbed a "unicorn" by others because he defied odds and proved almost immediately to be an excellent learner. He was given access to as much food as he wanted to ensure this was not the result of extreme hunger. The first day of formal training, he approached and ate in front of us even with several caches available. He was targeting to a scale, stepping on a glove, and voluntarily crating well within the 30 day assessment period. We learned that it doesn't hurt to try IF you have the necessary resources, clear minimum criteria, and are prepared to make welfare decisions objectively. One factor that should be emphasized with Cirrus can only be described as luck. Many moving parts were involved in the decision to

acquire him, and a great deal of effort and skill went into his success, but ultimately all involved feel that his disposition is extremely unique - we were lucky enough to take the chance on the right bird.

Key Factors That Have Enabled Our Success - A Closer Look

Resources –

- Trainer knowledge/skill - The IAATE position statement recognizes trainer skill as a limiting factor in the employment of PRNR owls in education. In-depth study of the theory of behaviour change and contemporary animal training, as well as time spent learning skilled observation and fine-tuned behaviour assessment are absolutely critical. When possible, it is recommended that PRNR owl trainers work with skilled mentors to maximize their abilities.
- Autonomy - Ideally, training teams have the freedom to make their own decisions/assessments and set their own goals when it comes to working with PRNR owls. Outside pressure or decisions made by administrators who do not work with birds will make it even more difficult to prioritize welfare. If teams do not have autonomy and are experiencing competing outside pressures, it might not be appropriate to work with PRNR owls.
- Time - It cannot be stressed enough that in nearly every case, training PRNR owls takes substantially more time and patience than training other non-releasable raptors. This absolutely must be taken into consideration if the goal is to use training to improve welfare for a legacy bird, or if a facility is contemplating a new acquisition. PRNR owls should NOT be employed if there are strict timelines in place that might prioritize results over welfare and working at the bird's pace.
- Honest assessment and pragmatism - Understandably, most trainers develop at least some degree of attachment to the animals they work with. It is extremely important to continually reassess overall welfare through an objective lens. Emotional attachment can make this very difficult, so it is recommended that PRNR owl trainers seek objective opinions from outside experts when possible.

Planning –

- Minimum criteria for success - It is important to have a clear picture of what success will look like. Welfare should always be the first priority, but trainers must also consider what birds will need to be able to do to be successful at their own facility. What will the bird eventually need to do to be a successful ambassador who contributes to your overall educational goals? It is also important to have a plan in mind for if/when goals and criteria are not met.
- Timelines - When considering minimum criteria for success, it is also important to set out reasonable timelines. These timelines (ie. how long before you'd like to see a bird comfortably taking food from the hand, or stepping on to a scale) are somewhat arbitrary, so outside expert guidance is recommended. There are also important welfare considerations - trainers can't rush a PRNR owl, but if it takes more than a few months to achieve acceptable welfare as an educator in a captive setting (ie. comfortable around trainers, performing simple voluntary behaviours, etc.), there is a bigger conversation to be had. Timelines also frame the training project and give trainers obvious checkpoints for assessment and goals to work toward.
- Flexibility - Criteria and timelines should be specific but can be flexible. For example, if the goal was to accomplish a voluntary scale behaviour in 30 days and the bird was well on their way, but not quite there, adjustments could be made. It might make sense to push the target for the complete behaviour back to 45 days if you are confident the bird still has high welfare and is clearly making progress. The original 30 day mark would be a great time to make a thorough, objective assessment and decide if it makes sense to give it a little more time, or if it might be time to move on to plan B. On the other hand, it is also important to be prepared for the (slim) possibility that the bird might exceed goals and expectations and to have a clear plan for how to proceed in that case.

Action –

- Skilled observation/fine-tuned behavioural assessment - Most owls are, by nature, more cryptic in their behavior than other raptors. Unskilled trainers may be on the lookout for overt "fight or flight" behaviors and fail to see the third, sometimes forgotten response to stress – "freeze". Owls are often characterized as "calm" or "docile" when a more skilled trainer recognizes the subtle cues in posture, feathers, and gaze that telegraph fear or distress. Honing the ability to identify these cues *and respond appropriately* is absolutely vital.

- High level training - The standards applied to raptors are often different than those applied to other animals, even in larger zoos. There is a precedent for allowing volunteers or docents to present raptors on the glove with little or no prior animal care or training experience. While this is not inherently a problem, the IAATE community is likely a good example of sampling bias. The volunteers we connect with here, committed to continuing education and high welfare, should not be mistaken for an accurate representation of all raptor volunteers, rather they are an exception (and exceptional!).

The use of traditional falconry equipment (jesses, leash, etc.) should not be viewed as a crutch. A bird “stepping up” with equipment gathered, standing on glove for a period or returning to glove after a bate should not be mistaken for measures of acceptable welfare. Raptors, including PRNR owls can and should be trained using choice-based methods and high standards for success and welfare.

When working with any animal - PRNR owls in particular - trainers should be knowledgeable, observant, sensitive, practiced, skilled, and committed to ongoing learning.

Evaluation –

- Objective/honest discussion - Trainers must be able to assess their own abilities and those of the animals in their care honestly and objectively. Owls, more than perhaps any other raptor, inspire deep, emotional connections. One of the greatest hurdles between a trainer and an honest, objective assessment of an owl’s welfare is attachment. A trainer may be inclined to ignore indications of poor welfare or to overestimate an owl’s abilities because they are emotionally invested in their success. Unbiased third parties are an essential part of ensuring objective welfare assessment.
- Flexibility - Even trainers who can see the subtleties of owl behavior may choose (or be forced) to ignore unwillingness to participate. Smaller facilities without diverse sources of income are particularly susceptible to pressures that may drive a trainer to do so. Imagine – admissions or tours are your primary source of income, a group has paid for a tour that features an owl, but there are only two owls on your team and both of them are saying no – the need to pay the bills might blur a trainer’s vision enough to ignore the bird’s choice, instead relying on learned helplessness.

- Euthanasia - Sometimes this is the only humane choice. One of the most important obligations as caretakers is bearing the responsibility to free birds from suffering or distress through humane euthanasia. Objectivity is absolutely crucial when it comes to making this difficult decision. Developing guidelines for euthanasia and consulting with objective third parties can help ensure the necessary decision is made in a timely manner.

It is worth noting that these factors contributed to success at ABEF and WO. This list may not be exhaustive and all points might not be directly applicable to other facilities. Neither ABEF nor WO has the flexibility to allow for a completely static, display only ambassador, but this could be an excellent option at a facility with the space and set up for it. Before considering euthanasia, placement at a facility with display only capabilities should be considered if there is still a possibility of high welfare in that situation.

Acquisition

Acquiring new PRNR owls is a risk to be undertaken with caution, careful consideration, and only when the appropriate resources are in place. Trainers must be confident that they have the right resources, knowledge, and skills and will be able to make pragmatic decisions that prioritize welfare above all else.

Conclusion

Owls working as ambassadors will probably always be a part of educational programs, but an important shift is being made in favor of improved welfare and employing human reared owls, in many cases due to their increased likelihood for success when compared to their parent reared counterparts. While this important shift should be celebrated, the community as a whole should also be committed to improving the welfare of PRNR owls that already exist in collections by providing support and guidance as necessary. Readers who feel they may lack the skill or resources required to optimize welfare for PRNR owls in their care are strongly encouraged to reach out to outside experts for help. The IAATE Professional Development Committee and the IAATE community in general are great resources for anybody looking for guidance or support in this area. While there are many situations where a PRNR owl definitely should not be employed, the authors feel that it is worth tweaking the narrative within the professional community to read that it absolutely should not be considered *unless* trainers have seriously contemplated all previously mentioned factors and have the requisite resources, knowledge, skill and a completely pragmatic, welfare-focused outlook. The hope is that this

conversation will be ongoing, safe, and respectful, with an eye toward improving welfare for all PRNR owls and the trainers who only want the best for them.

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