Expanding Freeflight Using Outdoor Environments
Safer bird shows and incredible experiences

Written by Chris Biro, Libertywings.com

Abstract
Careful evaluation and exposure to select environments can increase the competence of free flying birds reducing the risk of loss or injury during free flight demonstrations. This paper provides a system for evaluating and selecting freeflight environments, towards the goal of a competent bird that has mastery of the many situations that can arise during shows. Discusses the experience of systematically using complex outdoor environments in freeflight training and illustrates the immense benefits of allowing a bird to fly at liberty in carefully evaluated environments.

Included resources are an evaluation worksheet, illustrations of evaluated areas, and case studies of those areas. Draws on the author's 18 years of show experience and two years of implementing this method to increase the competence of 22 parrots ranging from conures to macaws.

Bio
Since 1993 Chris Biro has been flying a flock of variety of parrots at county and state fairgrounds, parks, and other venues across the United States as part of The Pirate's Parrot Show. During show season Chris does his show and flies his birds at a different location each week. Off-season he spends most of his time working with pet parrot owners, maintains a 3,000 sq foot aviary for rescued and abandoned birds that have come into his care, and develops the flight skills of his 25 bird flying team. Chris is the founder of the freeflight email list, started in 1999 and the author and webmaster of the www.wingsatliberty.com website.

I. Introduction

This paper outlines the use of carefully selected outdoor environments as part of a process to enhance flight skills in captive birds.

I will also mention our use of "at liberty" and "sport flying" (Biro, 2008) as part of the training. In the at liberty situation the bird is allowed to fly as it pleases and explore the area around it. Flying away, losing focus on the trainer, and interacting with the environment are expected and even encouraged. At the end of the session the bird returns by responding to a recall. There is a history in modern bird training of at liberty flying time used as a reward for a good training session, so it is known that with a clear delineation between "work time" and "play time" the bird can have two different modes of flying with its trainers.

My approach to flight training involves maximizing birds' natural tendencies. In addition to a series of specifically selected flight environments I consider choice of species, age at the start of training, flying at free weight, and use of "anchor" birds where possible.

The approach to flight training I discuss here allows the animal's natural instincts to do most of the work. The training is almost effortless and well within the abilities of the average pet owner willing to learn some basic training and handling skills. If experienced professionals use this approach, flight skills equaling or even exceeding those of wild birds can be achieved. Such high skill development provides the bird with a superior ability to cope with a variety of dangers sometimes encountered in the show environment such as hawk attacks, sudden windy conditions, dangerous moving objects like amusement rides or automobile traffic, and come through disorienting events without getting lost. I've seen the benefit of skills gained through this process because my birds have many times faced the aforementioned situations during our show season.

The methodology presented here is different from many currently used, and I do not suggest that it is better than or a necessary replacement for current methods, it is merely an alternative. Point to point outdoor flight is a starting point when I fly my birds, as opposed to an end goal. Careful consideration is used when selecting freeflight environments. Releasing a juvenile bird into just any outdoor environment without proper preparation is irresponsible and may lead to the injury, death, or loss of a bird. My experience is with parrots, I hope that those who fly raptors and other species can respond to this paper and offer insight.

Why Complex Environments?

The ability to fly in new locations is a skill needed by anyone who flies birds outdoors. Unexpected fly offs caused by unforeseen events can affect you whether you are flying at movie shoots, traveling shows, performing daily at set locations, or are the hobbyist flying in your home area. Every time a bird veers out of its normal flight area, regardless of why, the bird is flying in a new location. If it is not already accustomed to flying in new locations, it may become fearful and act in an unpredictable manner. The best way I have found to prepare for such events is simply to train the bird to fly in new locations of your selection. Starting at easy locations and progressing to more complex environments lets you be in control of matching the skill level of the bird to the features of the location. Progressing in a

pre-planned manner is always better than chance deciding when a bird will encounter new challenges.

Full Range of Natural Behaviors
Freeflight is the most natural form of exercise and enrichment that can be offered to a bird. My goal for my macaws, for example, is to help my birds develop similar behaviors and comparable skills matching wild macaws flying high in the Andes. By selecting environments that provide specific new challenges, the bird develops specific new skills. Like going to the gym to pump weights or practice Karate, skills may be acquired and practiced that exceed those of ordinary individuals and increase self-defense capabilities, as birds can outmaneuver predators.

Developing such high skill levels at the right age, and having the time to practice them, provides for better predator avoidance skill development. My birds not only fly as a flock, they react to predators as a flock, even posting sentries as the others feed on juniper berries in the morning. There was a sad conclusion from the 1980's Thick Billed Parrot Reintroduction Project: Domestically raised parrots are not suitable for reintroduction purposes because they have no flocking skills and no predator avoidance skills. Perhaps what I've seen with my flock means that it is possible for captive raised birds to develop flocking and predator avoidance behaviors. My birds clearly fly as a flock, including mixed species flocking. Throughout the day they respond to perceived threats and occasionally to real threats. We have many times seen hawks or falcons interact with our at-liberty flying birds. So far we have suffered zero losses to predation even though we currently fly 20 plus birds most of the day, most of the year. Since 1993 I have consistently had at least 5 birds flying out doors in this manner.

Why Evaluate?
Good training is all about setting the animal up to succeed. The skill level of the bird defines the criteria for selecting the next level of location and its attributes as we progress to more challenging skills. By evaluating an environment the trainer can match the skills of the bird to appropriate challenges presented by the environment. The bird's interactions with the environment will naturally shape the desired behavior and skills.

Being selective in choosing flight environments is important, even when flying indoors. The indoor environment should also be evaluated for the abilities and development of the flying bird. When a bird is making its first flights, that I call desperation flights, smaller rooms are selected to reduce contact speed with walls and windows. Mirrors and windows are avoided or covered and inappropriate tempting perches such as lamps, picture frames and books are moved. To increase safety, a responsible trainer always evaluates the intended flight location to insure the challenges of the location match the skill level of the bird.

Responsibly Approaching Advanced Locations
If new flight skills are introduced in a haphazard way, expect unpleasant surprises. Sending a bird flying into a canyon without proper training to prepare it for the tasks it will face is irresponsible. When developing advanced skills that could involve loss or injury, safety is best achieved by careful evaluation of existing skills and conditions, realistic planning, and

training that is appropriate to the task.

II The Training Process

When The Environment Does The Training For You

ONTOGENETIC BEHAVIOR

Each organism has a unique life history that contributes to its behavior. Ontogenetic behavior is due to events that occur over the lifetime of an individual. Ontogenetic history builds on species history to determine when, where, and what kind of behavior will occur at a given moment. (Bostow, 1999)

PHYLOGENETIC BEHAVIOR

Environment-behavior relations that are based on the evolutionary history of a species are called phylogenetic. The reflex is one instance of phylogenetic behavior. Species history provides the organism with a basic repertoire of responses that interact with environmental conditions. See also ontogenetic behavior. (Bostow, 1999)

INSTINCTIVE DRIFT

Species-characteristic behavior patterns that became more and more invasive during operant training. (Bostow, 1999)

Instinctive Drift is the term for learned behavior that tends to drift toward natural or instinctive forms of behavior. This is where ontogenetic behavior and phylogenetic behavior come together.

“Instinctive drift is the TENDENCY for a learned behavior (for trainers, that means a trained behavior) to trigger innate behaviors. The closer the similarity (topography) between the learned behavior and an innate behavior, the more likely the occurrence of the underlying innate behavior.” (Bailey, 2002)

Through the process of natural selection each species has developed a particular set of instincts and natural tendencies adapted to their specific habitat. When we take them out of their natural environment and place them in a very different environment of our selection, the animal tries to fit its natural instinctive urges to the conditions of the environment we have selected. Often this puts their natural inclinations in conflict with the behaviors we seek from them. When this occurs, the tendency is for the behavior to drift away from what has been trained toward what the natural tendency would be. As a general rule: The more natural the behavior is, the longer it will last without maintenance training. The less natural the behavior is, the quicker the behavior will degrade without maintenance training and in some instances the natural behavior may dominate even with maintenance training.

A good example of this is recall training. The wild bird will always be in charge of where it goes and when it chooses to go there. But in captivity, birds are trained to respond to our selection of where and when to take flight. If not maintained with continued training, instinctive drift (natural tendencies,) will cause the trained responses to diminish and the bird will again resort to following its own urges of where and when to take flight.

Instinctive drift is normally viewed as a troublesome element of operant conditioning. But there is another side that is not often discussed: We can utilize this drift toward natural behaviors as part of our training. As an example, careful exposure to selected natural environments will naturally increase flight skills to levels similar to those of wild birds as evidenced by some of our video material. Dr. Dewey of Walden University says about instinctive drift, "behavior psychologists who use reinforcement techniques are well aware that some types of behavior (those prepared by evolution) are easier to train than others." (Dewey, 2008)

Common Skills Sets Required For Flying Styles

There are several different styles of flying parrots outdoors. Each presents common dangers that require similar skills to survive. Consider the skills and dangers associated with the following list of flying styles:

1) Aviary Flying – Flying confined within walls of an aviary or home environment.
2) Point To Point Flying – Flying where the bird has designated landing sites and route, "A to B" flying.
3) Freestyle Flying – Flying where the bird has a designated landing site but is free to select its route. Flies from handler and circles before returning to the handler.
4) At Liberty Flying – Flying in a familiar environment where the bird is free to choose its landing sites, route, and activities until recalled by the handler.
5) Sport Flying – A combination of at liberty and freestyle flying done at challenging locations.
6) Competition Flying – Specific flying skills and tasks performed as part of a competitive event.

Each of these styles focus on slightly different skills sets but all have in common the potential for the unexpected fly off or predator attack. The ability to function in an unfamiliar environment, orient using local land marks and navigate back to the starting point may at times be the most critical skill set for any flighted bird. Peak physical fitness and coordination can also be critically important.

What Skills Must The Bird And Trainer Have To Begin?

Each time I fly a bird outdoors, several factors come together to influence how successful those flights will be: the bird's skill level, the bird's physical fitness, the bird's attitude, my attitude, the qualities of the location, and current conditions at the location. Of these factors, only the bird's skill level and attitude can be influenced through effective training. Physical fitness comes with adequate flying time and practice. The trainers/handlers must not only train the bird for the skills needed but also it is their responsibility to correctly evaluate themselves, the nature of the location, and the current conditions prior to release of the bird.

The higher is the bird's skill level and the better its attitude, then the greater the chances of a successful day of flying. The animal must be *able* and it must be *willing*. The "able" component includes the elements of physical fitness, physical coordination, and comprehension of the criteria. The "willing" or motivation component includes the animal

having a belief that its actions may result in satisfaction of some compelling interest. The use of sport flying at advanced locations especially enhances the ability components. Because we can incorporate practice and exercises at locations chosen for maximum effect, physical fitness levels, physical coordination and related flight skills can reach similar levels as in wild birds. The bird's motivation to return to the handler builds on its natural interests of security, social ties, and foraging needs. Instinctive drift actually assists in strengthening these motivational elements when practiced in this natural manner. Recall practice, like natural foraging, involves flights to a location to obtain a desired food item. When practiced as part of at liberty or sport flying activities where the animal has a high degree of choice and control, recall practice can quickly become the equivalent of natural foraging practice. Throughout the day I will step into the yard and almost always have 2 or more birds land on me for a treat, whether I call them or not. They are not hungry as they enjoy an abundance of juniper berries available at all times when loose on our property, and have free feed access before being released.

The progress made with the birds at these locations is to some degree dependent on the bird being willing to do lots of spontaneous freestyle flying at each level. Freestyle flying and at liberty flying are in some ways creative ventures for the bird. If the bird is too hungry, it will generally not act creatively and not want to do this kind of flying. They *can* be trained to do such flights but this requires more time and work than simply flying them less hungry. To fly them less hungry requires alternate motivators that replace very strong hunger. A rudimentary understanding of *behavior economics* is recommended. A very reliable recall, recognition of the trainer as a source of security, social interaction, and high valued food rewards (favorite treats as opposed to feeding the regular diet as a reward) keep the bird motivated and should be practiced at lower level locations before attempting level 3 or above. Birds trained with weight management may, at first, be slower to respond in the creative manner we are interested in. Using food as the main motivator has been shown to decrease creative output in other species. When a chimpanzee draws for praise and fun it may draw detailed scribbles, but when offered a food reward the lines become brief stabs at the paper in order to receive a treat. This is why, to quote Hierry Lenain and Desmond Morris, "Painting is appreciated by chimpanzees for its own sake and is used as a form of reward in the same way as sweets or a walk." (Lenain, 1997.)

III. How to Evaluate

Evaluating The Environment

From the bird's perspective there are essentially only 3 levels: levels 0 through 2. Level 0 is a confined space. (I use zero here because a confined space is an unnatural condition with virtually no loss potential.) Level 1 is unconfined two-dimensional flights. Level 2 is unconfined three-dimensional flights. Unless the bird engages with the terrain features, outdoor flights are all essentially the same when flying at normal treetop altitudes, regardless of what the terrain is like below. Swimming is similar in that swimming in 5 ft. of water is similar to swimming in 50 ft. of water unless the swimmer dives below the surface some distance. Because we cannot fly with the birds as they learn new flight skills, it is helpful to evaluate how best we land based humans insure our very different mobility capabilities sufficiently converge with those of flying birds during skill development to prevent loss.

From the trainer's perspective, for any given flight, conditions are different depending on where the trainer is located. Visibility and access will be significantly different from the bottom of a canyon as compared to the top of the canyon for the same flight.

As such I classify flying environments into Level 0 through Level 5. Level 0 is indoors or caged spaces. Level 1 is flat open space with great visibility and access in all directions for maximum effectiveness in recovery efforts, should the bird need assistance. Level 5 is rugged terrain with very limited visibility and restricted access with virtually no recovery potential other than the bird returning on its own. Understanding the sequence of objectives helps identify the type of terrain to select for the birds current skill level. Here are our objectives for each level.

Overall Goal: Bird handles terrain features of nearly any kind and safely returns to handler every time. Note: this discussion does not include dangers such as power lines, transformers or busy roads.

Level 0
1) Introduce basic physical flying skills.
2) Introduce behavioral flying skills, cued recall.
3) Introduce changes in handler locations.

Level 1
1) Introduce flying with no walls, open space, no obstacles, calm weather conditions.
2) Introduce flying at new locations with no loss of sight to handler.
3) Establish focus on handler location and return to said location.

Level 2
1) Introduce mild elevation changes, breezy weather conditions.
2) Introduce momentary loss of sight potential.
3) Increase awareness of handler location and reliable return.

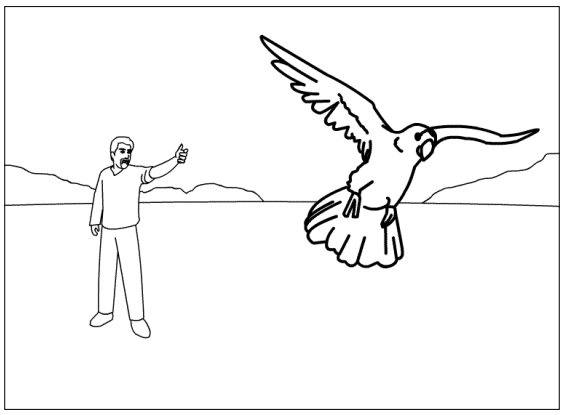
Level 3
1) Introduce significant elevation changes.
2) Introduce several second loss of sight potential.
3) Observe reliable return to handler location.

Level 4
1) Introduce major elevation changes.
2) Introduce several minute loss of sight potential.
3) Last adjustments to reliability of return to handler location.

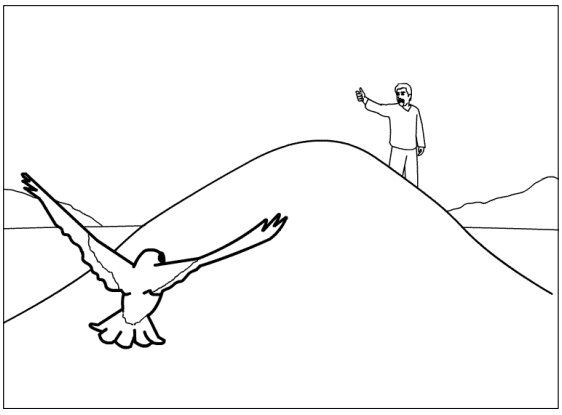
Level 5
1) No new skills for bird.
2) Confirmation of reliability of return to handler location without recovery potential.

Level Illustrations

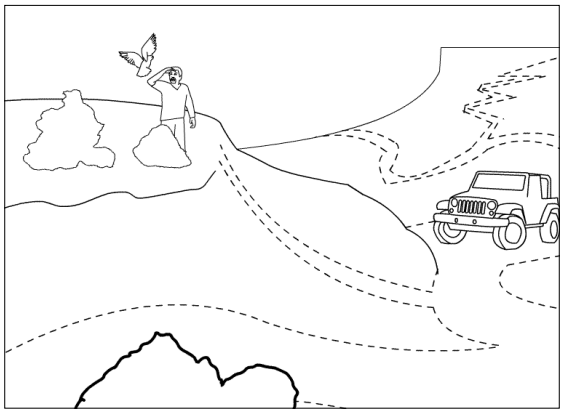
Level 0



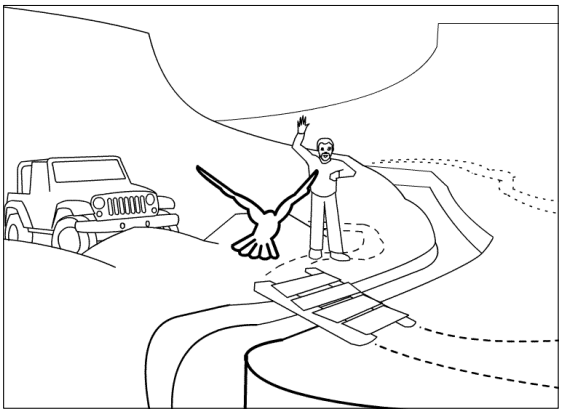
Level 1



Level 2



Level 3



Level 4

Level 5

Assessing an Area for Freeflight Location Name _____

Level of Bird's Skill

Ease of Recovery

0	1	2	3	4	5
Confined area. Inside buildings or flight cages.	Wide open spaces with unrestricted view and access. Flat plains, agricultural fields, sports fields.	Buildings, trees, or terrain may block view of bird. Minor difficulty getting to bird's location.	Landforms will hamper recovery in some places, areas of limited visibility of bird.	Many spots where recovery is very difficult, requires significant effort to navigate or see bird.	Recovery is probably not possible without extensive crew and equipment.

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Obstacles

0	1	2	3	4	5
Carpeted or smooth floors.	Open land. Turf and bushes.	Mild elevation change, trees, hills, boulders, rock fields, human objects (fences, parked cars)	Significant elevation change, big trees, multiple buildings, noticeable noise level.	Intricate landforms, multiple elevations, areas of dense trees, medium noise level.	Extreme landforms (canyons, cliffs) tall, close buildings, dense forest, high noise level.

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Present Conditions

0	1	2	3	4	5
Still air	Calm air. Dry, no rain.	Light breeze. Light rain. Light mist or fog. Snow on ground.	Winds, gusts. Moderate rain.	Winds interact with landforms to create updrafts and currents. Dense mist or fog.	Wind and landforms may interact to create unsafe conditions. Falling Snow.

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Copy the highest level out of three categories

This is the level of the area

_____

Risks to Bird

Natural Hazards

A	B	C	D	E	F
Barrier between outdoors and area.	Other animals may spook bird.	Shallow/standing water, unfriendly birds in the area.	Large/moving body of water, chance of predators.	Predators known to be in area, chance of storms.	Dangerous features like gas vents, severe weather, predators in immediate area.

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Human Hazards

A	B	C	D	E	F
Only handlers.	Some people, empty country roads.	Buildings, roads with some traffic, groups of people.	Busy roads, construction, crowds, designated dog areas, power lines.	Dense crowds, downtown urban areas, highways, power transformers.	Unsafe human activities, multiple highways, low flying planes,

_____

Copy the highest risk out of two categories

This is the risk of the area

_____

Selecting Indoor Flight Spaces, Level 0
By the time the baby parrot makes its first desperation flights indoors, it is physically ready to take off at full speed. Observation of behavior at this stage suggests the bird may not be as mentally ready to fly at full speed in the house or flight cage as it might be ready for full speed in the wide open spaces out doors. Turns, avoiding obstacles, and landing on perches may be difficult for the fledgling. So I select a room that is smaller for these first flights to keep flight speeds low to limit the potential for high speed crashes. As the flight skills improve I allow flight in larger and more complex indoor environments. The bird is also exposed to the first outdoor flight environments at this time by letting them spend significant time in a cage outdoors. The strong natural need of the baby bird to follow and stay near the "parent," in this case the handler, helps prevent fly offs.

In the wild at this stage the baby parrot is still being fed from its parents but is also starting to experiment in eating solid foods on its own. We also match this by providing them sunflower seeds, peanuts, and veggies as forage. Once they start eating these items formal training sessions begin. At this stage basic recall skills are easy to train and involve capturing their natural tendency to fly to the hand feeder. This is quickly put on cue as we develop a game of flying to and from a perch. The initial trained behavior is established: Fly to the trainer on cue. From here we will let instinctive drift shape this learned behavior into more and more skilled natural flying behaviors indoors and then outdoors. The skills involved in flying are the natural behaviors. The initial trained behavior is point to point flying on cue. If given enough freedom to practice in natural conditions instinctive drift will alter that initial trained behavior and develop it into complete natural flying skills as documented by some of our video clips.

Selecting First Outdoor Flight Space, Level 1
The skill development for this level is transitioning from small indoor spaces to vast outdoor space and learning about air currents.

The ideal level 1 location is a wide open space with no obstacles or terrain features to limit visibility or access. Safety for first outdoor flights comes down to indoor training history and outdoor recovery potential. The ability to see the bird wherever it goes and the ability to follow it without restriction are the two most important factors to selecting level 1 locations.

This is not setting up for failure; this is planning for the unexpected. Even if you superbly evaluate the bird's indoor training progress and adequately habituate the bird to the outdoor flying environment, you still cannot control all aspects of what happens. Crows, seagulls or hawks may fly over and may curiously or aggressively chase your bird. Visibility and access are the keys to recovering the bird in these situations. The predators in an area may limit what species can be flown as solo individuals.

If trained at the same age the bird would learn to fly in the wild, this first outdoor location is less critical than it would be for an older bird. The young bird has a natural tendency to stay close to the hand feeder and will decrease the need to recover a bird.

At a level 1 location we work on recall to and from a perch, between two trainers, and freestyle flying out and returning to the trainer.

Selecting Level 2 Location
The skill development for this level is introducing three-dimensional flying and learning to stay keyed on handler location. This is when object permanence needs to be fully developed as the bird will need to be aware of the handlers location even when the handler is temporarily blocked from view by objects or terrain features.

The goal for level 2 site selection is to find locations which will introduce mild elevation variations while retaining great visibility and access. This location may be a small hill top, ridge top, or could be started from the top of a shallow canyon or ravine. I want the bird to experience vertical drops, brief loss of sight of handler and at first no more than gentle breeze conditions. I usually see an immediate interest in flying down over the edge of these terrain features. This is a good level to introduce large shrubs or small trees.

At this level there is some recall practice between handlers but mostly freestyle circling out and returning to the handler.

Selecting Level 3 Location
The goal for level 3 locations is to significantly increase the elevation changes while still maintaining good visibility and reasonable access. These locations tend to be small canyons, valleys, or ridges. The bird will experience greater vertical distances and have more opportunity to lose sight of the handler for longer periods of time. The bird may have to work fairly hard to maneuver itself back to the handler due to terrain features, distances or strong breeze conditions. We usually see a strong interest in plunging down over the edge of these terrain features.

At this level we are doing some recall practice between handlers but mostly freestyle circling out and returning to the handler.

Selecting Level 4 Location
The goal for level 4 locations is to push vertical elevation changes to extremes while still retaining some recoverability options. Visibility may be limited due to terrain features or due to sheer distances. Access is usually very difficult, but it remains possible to reach recovery locations with considerable effort. These locations may include hikes with the birds along the top or the bottom of canyons or ridges. In level 4 locations the handler is relying mostly on the birds ability to return without help. Wind currents and updrafts at these locations can be fairly strong.

At this level we are doing some recall practice between handlers but mostly freestyle circling out and returning to the handler.

Selecting Level 5 Location
At these locations the handler is relying exclusively on the birds ability to return on its

own. These locations usually have fantastic views but the handler has no ability to follow the bird. In some cases, the conditions may be such that the bird may disappear from view due to the distances involved long before it reaches lower level terrain features suitable for landing. The goal for level 5 locations is to confirm confidence in the bird's abilities while putting these skills to beneficial use. As an amateur photographer I love the photo opportunities they present. The birds seem to enjoy flying these locations. Because of their previous demonstrations of skill I see these locations as great fun and not significant threats.

Each new location we consider flying is an opportunity to test my personal skill at matching the birds' abilities to the challenges of the location. I especially enjoy the personal sense of achievement I gain as an animal trainer when we successfully fly level 5 type locations. We have some level 5 locations we do not yet fly because the birds and I are not ready for their particular challenges.

To reach level 4 can take only a few days or weeks. But to reach level 5 can take significantly longer. Levels 1-4 are about skill development but level 5 is about reliability. There are birds that should never fly level 5 locations, and a trainer who prefers not to fly in level 5 environments is exercising reasonable caution.

Evaluating The Bird
As with training any new behavior, observation and realistic evaluation of the bird's progress is critical. The flight skills the birds develop are natural behaviors of a nature we ground based humans do not truly understand. Evaluation is based mostly on assessment of the bird's confidence and reliability. This requires trust that the birds can reach mastery of the skills needed to fly in these advanced locations if they are presented to them in a logical sequence. I pay close attention to how often the birds offer extended flights, the routes and speed they fly, how they interact with the terrain, and their attitudes toward each other. Each of these can be an indicator of the bird's confidence level. If the birds are not frequently returning to the handler, cued or uncued, or I am engaging in search and recovery efforts, they are not reliable enough for the next level.

IV. What The Process Is Like

What It Is Like To Evaluate And Progress
Each level mastered brings the birds to higher skill levels and reduces the chance of a bird becoming lost. As a trainer, watching the bird master its environment increases my confidence in the birds. I am never again as concerned about them as I was at the previous level. If this process is done correctly, the scariest flights are the very first outdoor flights. For example, once your bird is successfully recalling from tall trees and cliff sides you are never again concerned about the bird getting "stuck" in a tree. Trees are simply a form of enrichment rather than a worry.

Using At Liberty Flying at A Show
Due to the advanced flight skills my birds have developed due to this training system, I

now offer a more reliable show. My at liberty flying show birds fly in windy show conditions and in light rain with very rare interruptions due to recovering birds. If something unexpected does send a bird out of the area, they almost always self recover within a few hours, if not within minutes. I believe I spend fewer hours training the birds with this approach and the time we do spend looks more like natural enrichment than formal training sessions. It is impossible to carefully step by step mold each situation the birds will be exposed to. But, I can give them a broad experience that better applies to all situations they encounter.

At home I let my birds fly loose on the property most of the day with as much confidence as letting the dog out. The birds are friendly and interactive, they are companion animals in the yard as opposed to semi-feral animals. At fairs the birds are loose 6-8 hours, free to take off and return at will. All this at liberty time does require a different approach to recall training. Since I rely on their natural abilities to keep themselves safe, I also have to accept that there will be times that they won't fly down until they do feel safe. *I want the bird to fly only when it judges the conditions to be appropriate*.

Using At Liberty Flying With A Fledging Bird
There is no more natural and efficient method of training a captive parrot to fly than starting with a baby bird at the same age they would normally learn to fly in the wild. Basic flight skills are quickly mastered with little need for coaching on my part. The young bird moves through the levels to peak mastery with enthusiasm and delight. My Shamrock Macaw "Buckle" naturally mastered level 5 locations with such ease it would be hard to observe us actually "training" her.

In April 2008 Dave, Jamie, and their 6 month old African grey visited us in Moab, Utah. This bird had flown indoors as a baby and had 11 days of flying outdoors. Five days after starting at level 1 the bird was flying comfortably at level 3 locations.

In October of 2008 Janet and her one year old Blue Throat Macaw visited us in Moab, Utah. This bird was raised flighted and purchased fully weaned. It had been flying in the Virgin Islands in windy conditions with two other macaws but was not flocking with them. This bird progressed from level 1 to level 4 in two days and was flocking with our macaws and immediately with hers once she returned home.

Using At Liberty Flying With A Non-Fledged Adult Bird
Of our current flock of 22 flying macaws and conures, two were trained as adult birds.

Rowdy (Calico Macaw) was two years old when he came to us never clipped but only flown indoors. At four years old he has flown level 1- 4 locations. The process took several months instead of a few weeks like usually it does with the fledglings we train.

Fizzy (Illigers Macaw) came to us at an unknown age. Clearly had indoor flying skills but was very hand shy. Six months later Fizzy is flying level 3 locations and flocking with our other birds. Most of his time has been spent flying at liberty in the area around our house.

What It Is Like To Reach Mastery

To know that your bird can fly from the top of a 2500 ft cliff and to watch them do it is a remarkable feeling of accomplishment. To watch a parrot soar and play on the updrafts next to a canyon is something very few people will ever get to experience. There is a sense of exhilaration, excitement, a sense of fulfillment and personal accomplishment that accompanies this type of flying. After reaching level 5 status with the birds, to return to a level 2 or 3 is almost casual and without concern. Flying a flock of macaws and conures at home and at fairs seems easy and routine. My remaining worries mostly are about hawks with the smaller species and power-poles and lines as attractive perches. At this point I have little fear of losing a bird to any kind of fly away. It takes a combination of fairly dramatic events to send us into recovery mode.

VI. Conclusion

The audience of a bird show benefits when the handler and the bird have greater competency and greater confidence. More advanced flying will work its way into the show making for increased show "wow factor." The performances become more reliable and the birds are safer from predation or loss due to becoming disoriented.

The bird keeper benefits with increased approval from the audience and increased employer satisfaction. Most bird trainers really enjoy and appreciate their animals on a personal level. To know the animal is flying as safely as letting the family dog loose brings great peace of mind. To watch these captive creatures fly free, play and advance in skill fills me with indescribable joy and personal satisfaction.

The pet owner benefits from helping their bird master high flight skill levels due to the expansion of shared pet and owner activities that become available. Both benefit when the owner and pet parrot become a team participating in exhilarating flight activities together. Pride and personal satisfaction enter into pet ownership where traditionally there is discontent with wing clipping and caging. With increased skill comes increased safety in longer daily outings. Adequate daily freedom turns cages into welcome resting locations instead of dreaded places of confinement.

VI. Acknowledgments

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VII. Sources

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