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The Use of Reptiles in Public Education

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The use of animals in education is not new, nor is the controversy surrounding such use. The effectiveness of educational programs using animals has recently been studied to determine if the learners are learning what the program developers intended and, in the case of wildlife education programs, whether the desired attitudinal shifts are being made.

The use of reptiles in education programs faces the same issues as the use of other animals. Reptiles are neither more nor less dangerous than other animals and, like other animals, some are more appropriate than others for use in certain educational settings. The use of reptiles, however, may provide more opportunities for growth and change given the largely negative view of them held by the general public.

Rationale

Adams (1986) described wildlife education as "those teaching and learning processes that introduce information about specific wildlife resources, habitats, ecological relationships, conservation, and management strategies into public school and community educational programs." To be worthwhile, the educational process must result in lasting changes in the learner's knowledge, attitude and awareness (Kellert, 1989; Sherwood, 1989).

Filmmakers recently found they were producing material that much of their potential audience failed to understand or did not watch because some footage "offended their sensibilities." Biologists and humane educators have become aware that what they assumed children and adults knew, thought or felt about animals was incorrect. They had assumed that the general public thought and felt as they themselves thought and felt about animals and the environment. "Biology teachers presumed and assumed that students knew and understood what they in fact did not" and attempted to teach concepts for which their students were not intellectually prepared. Research suggests that the importance of learning about animals decreases as people age (Kellert, 1989; Paterson, 1989).

Animal welfare organizations produced educational materials that were "poorly researched and which grossly under-estimated the public's background knowledge of animals." Educational programs were not assessed to determine if the material presented was being absorbed and retained beyond the giving of correct answers on tests that may have been administered at the time the material was presented (Paterson, 1989; Kellert, 1989).

Research in the United States and Britain in the 1980's found that the most popular animals were all mammals with large eyes and cuddly, rounded bodies; in a word, humanoid. The least popular animals lacked easily anthropomorphic features and were described in pejorative terms such as slimy, dirty or dangerous (Paterson, 1989).

Middle childhood aged children rated high in naturalistic [1] views of anthropomorphically charged animals; younger children, however, were highly negativistic [2] and dominionistic [3] in their attitudes towards wildlife. Younger children were also less informed about animals and the natural environment than older children. Children aged 6-10 years old were found to be "exploitative, harsh and unfeeling in their attitude towards animals," generally lacking empathy and emotional identification (Kellert, 1989).

Kellert (1981) also found that not only was basic identification and understanding of animals lacking, especially in urban children and adults, but so, too, was their understanding of the ecology of animals. Predation and nutrient cycles were viewed in predominantly negative terms, with animals such as dung beetles considered "disgusting" and predation as being inherently wrong. Nature was viewed as good or bad rather than merely neutral.

Goals of education

While large mammalian predators are admired, the role of reptilian predators is often lost in the revulsion and fear many people feel when thinking about them. People who would think nothing of reaching out and touching a mammal or bird if given the opportunity shriek and shy away, or look on with morbid fascination, when faced with a creature with scales instead of feathers or fur.

When live reptiles are used in an educational setting, learning occurs in both the cognitive and affective realms. This provides the opportunity for almost immediate personal growth and development. Besides the facts of reptiles, their classification, behavior and ecology, the learner begins to see how the animal functions as a member of an ecosystem. As information is integrated into the learner's cognitive system, the learner is able to take in more and increasingly complex information.

Personal and interpersonal growth occurs as the learner makes use of the opportunity to overcome fear and resistance to touching the animal. This builds self-confidence and self-esteem that is strengthened through others' recognition of the accomplishment and positive reinforcement of appropriate handling. Cooperation and sharing when interacting with the reptiles are important skills learned by school-aged children. Late childhood and adolescent learners may develop leadership skills through working with others, supervising younger children and interacting with peers and adults in the learning and teaching about reptiles (Hodges, 1991; Patterson-Morris, 1993; Skeen, et al., 1987).

The goal of a positive learning encounter is to change the learner's perception of reptiles from one of fearsome predator or mindless non-sentience to the recognition and acceptance of life. The learner comes to understand that, cold-blooded or warm, living things are deserving of respect, both individually, wherever they are encountered, and as an important member species in the maintenance of a health ecosystem.

Direct Contact With Live Animals Vs. Mere Exposure

With television and computer videography making inroads into homes and schools, student and adult learners are exposed as never before to a wealth of information and visuals. In one evening, the viewer may see tuataras in Tasman Bay and gavials in the Ganges, with stops in Indonesia and Africa in between. Ultimately it may be too much, the overstimulation resulting in tuning out; wildlife at risk becomes just another installment of Wile E. Coyote getting squashed by yet another Acme anvil, yet another plea to give, stop, or do something for someone somewhere. Having seen it all, there is little left to challenge, to create dissonance, to stimulate learning in those with little prior interest or commitment to animals and their environment. What does create dissonance and stimulate growth and learning is exposure to the real thing: contact with live animals (Gibson, 1994b; Morris, 1990; Paterson, 1989).

Kreger, et al. (1995) found that zoo visitors desire more contact with the animals. Typically zoo contacts have included petting zoos, the public feeding of animals, and animal rides. These contact opportunities have been reduced or stopped in many zoos due to concern with the animal's welfare and lack of research on the effect of such interactions. Information on the behavioral and physiological responses in animals is emerging, however, through controlled physiological studies and practical applications in the training of animals and environmental enhancements in zoos and wildlife parks (Laule, 1993; Kreger, 1993b; Reichard, et al., 1992; Warwick, 1990a, b). Most zoos now offer only superficial educational opportunities, their energies and monies concentrated on those few (usually mammalian) species that best draw in the paying public. During the 30-120 seconds typically spent at a zoo exhibit, the public is now merely exposed to information rather than being an active participant in its acquisition (Kreger, et al., 1995).

Studies found that students whose animal-related activities involved zoo visits and classroom learning had relatively low knowledge scores and the highest negativistic scores. Ethnic and urban/rural differences showed the need to focus on the children's perceptions of animals as these students also scored low in knowledge and high negativistically and dominionistically. Studies in the United States and Great Britain strongly indicate that regular school curricula, in which learning about animals is divorced from direct experience with animals, has failed to present material in such a way as to promote affective and cognitive learning about animals and the environment (Kellert, 1989; Paterson, 1989).

Conversely, children who participated in animal care activities, spent time birdwatching, belonged to animal-related clubs, or hunted were more appreciative, knowledgeable and concerned about animals. The difference between the passive (zoos, schools) and active (self-directed and group participation) animal learning activities is that such activities provide opportunities for experiential contact and involvement. This in turn facilitates and enhances the affective and cognitive development of children of all ages (Kellert, 1989).

One often used alternative to the hands-on approach is modeling by an authority figure. 'Modeling' is based on the informational approach to teaching and learning. Subjects are presented with information and are shown an object or animal being held by the speaker. Subjects are expected to modify their behavior or attitudes due to the persuasiveness of the information presented and the perceived credibility or respectability of the presenter. In studies with snake-phobic adults in laboratory studies, with modeling done by a non-phobic presenter, the adults were able to make some improvement in their attitude towards snakes. When a presenter exhibited fear during the presentation, the modeling failed to produce attitudinal change. Modeling by peers or respected adults, however, did not effect any attitude change in children (Morgan, et al., 1989).

Some educators advocate the use of preserved specimens and artifacts including bones, skins, shells, and products made from animals such as clothing and accessories. One research study found through posttests that cognitive and attitudinal changes in students who handled preserved specimens were close to the learning and attitudinal changes in students who handled live specimens. This, however, changed somewhat in the later retention testing, the results of which showed that the learners who handled the live specimens retained more information and sustained attitudinal changes, while learners who handled only preserved specimens regressed in their knowledge and attitude. The greatest increase was in the affective domain of those students who handled live specimens (Sherwood, 1989).

Types of Education Events

Wildlife and conservation education now takes place in a wide variety of settings. From schools to parks, libraries to birthday parties, the opportunities for teaching and learning often take place under the guise of having fun. The number of animals and depth of information will vary depending upon the target audience.

From pre-school age up through high school, there is a wealth of information that may be taught. The information and concepts must be kept to that which the children are developmentally able to understand. Given the often wide range of ages, cognitive development and attention spans often found in any one group, the educator must feel his or her way, keeping things moving along for the younger children while keeping the older children challenged. Groups of age-related or mixed ages will be found in schools, summer school programs, birthday parties and library lectures. The focus for these audiences is on reptiles as a class, their characteristics, defenses, reproduction, feeding and their environment.

Lectures focusing more on selection and care of reptiles may be set up by pet stores or human societies. These may be attended not only by the general public, including adults and children, but by shelter staff and pet store employees. The way in which the reptile lives within its native environment, captive requirements and temperament tend to be the focus in these settings. Since the audience represents such a varied background of interests and existing knowledge, the questions may range from the very basic to quite technical.

Exhibitions may range from very small thematic exhibits (rainforest; temperate forests; mimicry; indigenous to state or locale, etc.) where the audience is focused on a certain topic, to large exhibits with hundreds or thousands of people attending. These may be fund-raisers for animal welfare and wildlife groups, raising awareness for environmental causes, and special programs for museums, science and nature centers and parks.

Programs for veterinary office staff, pet store employees and animal shelter staff will have a slightly different focus from all other programs. Besides captive care and natural history, handling and restraint techniques are also covered; this may justify bringing in animals who are not normally used in education programs due to their more active nature.

No matter the setting or the focus, the opportunity to touch and hold reptiles has the greatest impact in promoting cognitive and affective development.

Selection and Use of Education Animals

Wildlife educators are generally the primary caretakers of the animals they use in their education programs. The animals may have been selected specifically for educational purposes or may have been acquired from other educators, reptile owners or wildlife rehabilitators.

One of the goals of wildlife education is to teach the audience respect for both the individuals used in the program as well as generally for the species or family. The communication of information is both verbal,

through the dissemination of facts and clarifying misconceptions, and physical, in the appearance of the animals. This requires that the animals be healthy which in turn requires that the educator knows what each animal needs. The educator must be able to provide the proper housing, environment, diet, and stimulation to keep the education animals healthy. The educator must also know what constitutes normal behavior for the species, both in the wild and in captivity, and to be able to identify abnormal behavior and its causes. Through such intimate knowledge of the species and individual animals, the educator is able to assess the suitability of an animal for use in education, at what level that animal will be used, and to make day-to-day determinations as to the fitness of any of the animals to be used (Gibson, 1994b).

The criteria by which education animals are selected are geared to the animal's welfare, the comfort of both the handler and the animal, and the message to be conveyed to the public.

The education animal should be representative of a normal form of the species (Gibson, 1994a; San Francisco Zoological Society, 1983). One of the goals of reptile education is to teach not only about the reptile itself but how that species lives in its environment, including how it is camouflaged from predator and prey. In the case of indigenous species, normal forms will help the audience identify the species when they see it in their yards, parks or in wild areas. Captive-bred color and pattern morphs are best saved for use in teaching the basics of genetics and heredity or in lectures addressing reptiles as pets rather than where the focus is on creating an awareness of wildlife and conservation. An exception would be the use of a small albino snake, such as a corn or rat snake (*Elaphe guttata*), in working with severely phobic individuals in any educational setting.

The education animal must be well adapted to captivity. It must also be comfortable with being on view and, in the case of animals to be touched and held, with physical contact with strangers. Not all members of a species may be equally well adapted for educational purposes, and not all education animals may be suited for all educational settings. If the choice is between a representative who is not well adapted or doing without that species for the time being, then the program should do without that species until a well-adapted representative can be obtained or one socialized and habituated to contact or setting type.

The animal must be healthy and in good physical shape; injuries which may have precipitated the reptile's being brought into captivity and which prevents its release should be well healed and no longer painful. While the goal may be to promote care and concern for the species in general, the representative animal should be an object of respect, not pity (Gibson, 1994a, b).

The animal should stimulate learning about some aspect of wildlife or habitat. The animal's story, how it or its parents came to be in captivity, is often useful in illustrating issues and concerns (Gibson, 1994b). When possible, use captive-bred or captive-born exotics. This enables communication, on verbal and nonverbal levels, that such animals are being bred, are available (in the case of reptiles suitable as pets), and for many reasons may be preferable to wild-caught members of the same species. When native species are used they should, when possible, be non-releasable animals. It is difficult to teach non-consumptive wildlife uses when the educator's animals are wild-collected native species who were collected for the sake of collection.

The handler should work with, not dominate, the animal; the audience should learn respect, not fear. The audience will learn how to hold the reptile in part by watching how the educator holds and interacts with the animal as it moves about. When both the reptile and the handler are comfortable with their interaction, it helps relax those members of the audience who will, often for the first time, touch or hold the reptile (Gibson, 1994b; Morgan, et al., 1989).

Types of Use

More than one animal is brought to an education event to reduce the amount of time the animal is out or being handled. This also provides the flexibility to change an animal from being used to being placed off exhibit without unduly affecting the diversity or quality of the program. For a classroom or lecture, 12-15 reptiles are typically included in the program. Exhibitions may include the use of 15-20 or more reptiles, with duplicates rotated on and off exhibit to reduce stress or fatigue as necessary.

The animals themselves may be classed into one of four categories:

1. No contact: animal off exhibit.
2. Minimum contact: animal is looked at, not touched.

3. Moderate contact: animal is looked at and touched.
4. Maximum contact: animal is held by the learners.

The reptiles are routinely classified into one of the four categories. As the animals in the minimum contact category become acclimated to human contact, they may be changed to moderate contact, and perhaps ultimately to being held by learners. Reptiles in the third and fourth contact categories may be temporarily moved down one or more categories depending upon their individual status on any given day. During long events, some reptiles may be taken off exhibit for rest periods as needed.

Some animals may tolerate intermittent contact or exposure, and so are kept off exhibit, brought out at intervals for viewing and, if suitable, touching and then returned to their off-exhibit holding area. For example, the author worked with an alligator who was brought out for fifteen minutes every hour for lecture and touching, then returned to his off-exhibit holding enclosure, kept in a quiet area away from the exhibition, until the next appearance.

Animal Welfare

One of the most common questions asked about education animals, especially reptiles who are not generally known for their sociable natures, is "how do you know they are not stressed all the time?" Working with reptiles is no different from working with mammals or birds. Working with a species over time, and with individual representatives of the species, one learns to recognize normal behaviors and signs of well-being and discomfort. Reptiles appear inscrutable to those who have little or no experience with them. Most, however, are just as expressive as any mammal or bird, communicating through their behavior, posture, appetite, color and other key and subtle indicators (Kreger, 1993a; Duncan, 1993; Laule, 1993). Key indicators of well-being include normal activity, thermoregulation, feeding, elimination, shedding and reproduction for the species (Chiszar et al., 1993; Kreger, 1993a).

Reptiles may appear to be unsuitable as education animals to those whose jobs include laboratory research and clinical treatment of these animals, but research indicates that reptiles, like other animals, can and do become habituated to regular human contact (Reichard, et al., 1992; Bowers, et al., 1992; Laule, 1993a). Kreger, et al. (1993c) found that there was no change in plasma corticosterone levels and heterophil/lymphocyte ratios in ball pythons (*Python regius*) and blue-tongued skinks (*Tiliqua scincoides*) when they were handled as pets would be handled and during gross veterinary examinations. It was further found that such handling did little to change their post-treatment feeding and activity levels. Kreger (1995) makes the salient point that context and habituation are important factors in handling and stress reduction. The effects of regular handling of a lizard or snake kept as a pet or education animal are sure to be greatly different than when the same type of animal is hurriedly selected from a study group or noosed in the wild, a cloacal thermometer thrust in, the animal then quickly slung from a scale and measured several different ways before being released. The author believes that it would not be grossly anthropomorphic to say that such treatment would likely cause stress in a tame, habituated animal of any species, let alone in a wild animal or laboratory research subject handled only when put through its paces or during invasive or noninvasive measurement and data recording sessions.

Anthropomorphism

Humans are perhaps coming full circle in their view and understanding of animals. Where once the study of animals and their habits was essential to human survival, superstition, utilitarianism and negativism took hold, condemning animals as unthinking, unfeeling beasts, and subjected to total domination. The tide is slowing changing, however, as scientists are beginning to realize that animals think, communicate, and play, and that individuals may display distinct personalities (Arluke, 1990; Bowers, et al., 1992). The relatively new field of ethology, the study of behavior and motivation, has greatly improved our understanding of species and has shown us how little we still know.

Despite ethological findings, educators and pet owners are castigated for the sin of anthropomorphising whenever they make reference to what they believe an animal is thinking or feeling. Living closely with an animal, caring for it, observing it for many years, does give one insight (Dawkins, 1990). While the terms a pet owner may use, or an educator may use when dealing with the lay public, may not be the same as those used by an ethologist or biologist, they often convey the same meaning and intent. This then is not a case of anthropomorphism but of semantics, of addressing the target audience in such a way as to ensure understanding. In another example, in the above section on animal welfare, the text states that reptiles are "expressive...communicating through their behavior" etc. Does this mean that the author thinks the reptile is intentionally acting in some way to tell the handler "I don't want to work today?" The reader may argue with

the choice of words, but the meaning was clearly and quickly communicated.

An educator must be able to assess his or her animals before, during and after every education event. An educator must be able to quickly and effectively stop an attempted interaction or initiate a change in status. A simple "He's a little tired and cranky; don't you get tired and want to be left alone sometimes?" may work better when telling a six-year old why a snake cannot be handled than a discussion as to all the reasons why this usually well adapted and placid animal is acting uncomfortable with being handling that particular day. Such an explanation, along with a caution for the need of parental supervision and oversight, is best reserved for the parents considering such an animal a pet for their child.

People who visit reptile education events do not always have the same concerns for the environment and conservation in mind as they might when approaching a wildlife exhibit featuring well- and comfortably-known mammals and birds. Describing and explaining reptile behavior in "human" terms understandable by those who are not ethologically or behaviorally oriented may help tip the balance between their seeing a "dangerous" snake and an interesting and non-threatening animal who plays an important role in helping to maintain a healthy ecosystem. On many occasions, homeowners, calling to demand traps, poisons or relocation services to rid their property of snakes, can be brought to making a few changes in their attitude, as well as their landscaping and garbage storage routines.

By giving them the information they need to understand the natural habits and preferences of the snakes in question and how to make the area around their house less desirable to prey, they are able to make changes without serious threat to the well-being of the animals, seen and unseen, who share their property.

Names

Names may be very important for some children and adults. While not always possible, naming a reptile by its native name or a name that, in an indigenous language, represents a characteristic of the species, is often a good launching point for instruction and discussion. Names also enable a personal identification with an animal. When identification forms with an animal typically reviled or grossly misunderstood, that animal becomes less threatening and the stage is set for real learning to take place. Overuse of the animal's name, however, may detract from the species as a whole by focusing all attention on the individual, especially in groups of very young children (Gibson, 1994b). In most instances, the educational goal may be accomplished with no or minimal use of the animal's name.

A Word For Educators

Educational efforts directed toward children aged 6-10 should focus on affective development, emphasizing emotional concern and sympathy for animals. Children aged 10-13, with their increased cognitive abilities, are ready to develop a more factual understanding of animals and their environment. High school students are more ecologicistic, naturalistic and moralistic in their attitudes, able to take in and assimilate more complex issues. Kellert (1985) found that this group was far more interested in direct contact with wildlife and outdoor recreation. Their increasing ability to deal with abstracts, such as biodiversity and ecosystems, coupled with their greater knowledge about animals and their environment, supports providing increased interactive learning opportunities for this group to deepen and strengthen their knowledge and understanding.

Wildlife education, regardless of the animals used, must be an ongoing, regularly repeated process, increasing in complexity and scope based on stages of child cognitive and affective development. Learning is further enhanced when the animals and their environment are used as a pivotal point on which the curriculum can be based. There is a growing body of work that focuses on bringing animals into the classroom and the curriculum to create an integrated learning experience. By use of creative curriculum, media, classroom animals, animal visitors and varied animal encounters, wildlife education will build on the learner's prior experiential and encourage further growth through continued experience and exposure.

Health Risks

Mammals, birds and reptiles all have the potential for zoonotic transmission of pathogens. Healthy animals, including humans, are generally successful in keeping parasite loads under control through normal immune system functioning. When animals are stressed, either psychologically or environmentally, immunosuppression results as does the risk of illness and cross-infection.

Risks are mitigated by using healthy animals who have been under observation for some time. Fecal and other examinations should be done initially to determine basal levels of organisms in the blood and feces. Regular retesting, along with close observation of the animal, should be done to ensure the animal continues

in good health.

Education animals should be clean before being packed up for transport to the educational site. Cleaning and disinfecting supplies, both for the animals, their carriers and the handlers, should be part of the regular gear.

If there is a possibility that the audience has handled substances that may be harmful to the education animals, they should be instructed to thoroughly wash their hands before handling the reptiles. They should also be instructed to wash their hands before handling or putting their hands near the reptiles if they have been handling animals that may be considered prey by the reptiles. Learners should also be instructed to wash their hands after handling the reptiles, with the point made that thorough hand-washing should be done after handling any animal.

To keep zoonotic risk in perspective, it may be necessary to point out to concerned parents and teachers that of some 240 infectious zoonotic diseases, 65 are transmitted by dogs and 39 by cats (Gittleman, 1995). There are 110 million pet dogs and cats in the United States. The chances, then, of contracting feline and canine hookworm, roundworm, and feline toxoplasmosis are higher than contracting host-specific parasites and Salmonella from the far-less common pet and education reptiles. Those individuals at high risk for contracting reptile salmonellosis are also at high risk for contracting Salmonella from eating poorly cooked poultry and for contracting other zoonotic diseases from other animals. If there are members of a lecture audience who are in the high risk category (pregnant women, newborns, toddlers, immunosuppressed and frail elderly) the educator may make a blanket cautionary statement advising the risks and what can be done to mitigate the risks. In other settings, where the contact is more one-on-one, such cautions may be discussed on an as-needed basis as well as being conspicuously posted.

A first aid kit should also be part of the regular gear, including alcohol that may be used to detach a reptile that has become clamped to some part of the handler or educator.

Dealing with Fear

Reptiles are often feared by people. Their reasons may be based on an early negative experience, acquired from their parents who themselves are fearful, or due to the belief that all reptiles, especially snakes, are inherently dangerous, unpredictable, and, more often than not, venomous.

Fear can and should be addressed when working with any age group. This can be done matter-of-factly by stating that no one has to touch any of the animals. If someone is particularly phobic in their response, they can be gently told that they are free to move as far away as they need to feel comfortable. In some groups, especially in classroom settings, the individuals who admit to their fears are often teased. This behavior should be stopped and can be done so by saying that it is "okay" to be afraid. At this point, it is helpful for the educator or handler to admit to a personal fear themselves and unobtrusively get the attention of the teacher or group leader to get a non-verbal cue from them, or to urge them, verbally or non-verbally, to participate in the discussion. It is often helpful for the educator to find out if the teachers or leaders are themselves afraid of any of the reptiles before the program begins, and to ascertain whether the teacher or leader may be drawn in and would be willing to hold or touch the animal if deemed beneficial.

Quite often, once a person accepts their fear and knows that their fear is acceptable to others, their initial aversion will abate. After watching everyone else touch or handle the reptiles without incident, they are often able to encourage themselves to reach out and, however briefly, touch one of the animals. Such overcoming of fear should be acknowledged and praised, not enough so that they are embarrassed by their earlier fear, but enough so that the encounter becomes a positive learning and growth experience.

When meeting fearful parents who nonetheless let their children explore by touching and holding reptiles, the author has found it beneficial to quietly praise the parents for overcoming their fear enough to not impart it to their children. These adults often overcome their own anxieties when they see their offspring's guided interaction with the animals and soon touch the animals themselves.

Another way to mitigate fear is to not abruptly spring new animals on the audience. When giving an organized lecture or program, the author starts off with lizards, moving to chelonians before finishing with snakes, with this order of progression announced at the start of the program. When providing exhibits, the snakes are placed at one end of the area, with the chelonians in between the snakes and the lizards; when possible, the snakes are arranged according to size to ease the transition for those nervous around large boids. When a

separate chelonian area is set aside, the area between the snakes and lizards is filled with artifacts, books, and educational materials. This enables those individuals who are fearful of certain animals to still enjoy and learn from the rest of the program or exhibit.

Conclusion

When early humans hunted with spear and club, animals, especially the large and potentially dangerous ones, were respected and feared. The earliest images that exist today are of such animals carved or painted on cave walls. Subtle changes in the human-animal relationship began to appear as animals were domesticated and weaponry improved hunter kill ability. No longer mysterious or brutal, humans began to no longer fear or revere the animals. As cultures became increasingly isolated from nature, became self-sufficient through breeding food animals and growing, rather than gathering, plants, lore and respect was lost. Successive generations became desensitized to animals, with any reference to an animal's thoughts or feelings or any concern for their basic welfare, dismissed (Morris, 1990). With reptiles, this distance and disdain is reinforced through such acts as excluding reptiles from protection under animal welfare laws and approved public displays of cruelty such as rattlesnake roundups (Kreger, 1992).

Wildlife educators who use reptiles, either solely or as part of a larger group of animal representatives, have a great opportunity to help individuals overcome fears and learn facts to replace myths. By using reptiles who are secondary and tertiary consumers, the educator is uniquely placed to reach both up and down the food chain, to pluck all the threads within the energy web. One of the best subjective experiences for an educator is to see the sparking of the imagination and growing respect in a learner, and to help the learner to truly see a reptile for the first time.

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