

FARMERS & WILDLIFE

ENHANCING WILDLIFE ON PRIVATE LANDS

Summer 2007

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THINGS TO DO:

- ✓ Attend a fishing and hunting skills event near you.
- ✓ Go frogging.
- ✓ Go noodling.
- ✓ Get actively involved in a conservation issue that personally affects you. (Most do!)
- ✓ Consider the use of flushing bars or chains on swathers to reduce nesting bird mortality.
- ✓ When feeding catfish in a pond, only feed what they will clean up in 15-20 minutes.
- ✓ Lightning kills an average of 62 people each year, about the same as tornados. Get off the lake and take shelter before it is too late. A lightning bolt can travel 100,000 mph and reach 50,000°F. According to a study by Dr. Martin A Uman, in his 1971 book, "Understanding Lightning," 29 percent of those killed were farmers, compared to 19 percent being golfers, and nearly 15 percent fisherman.

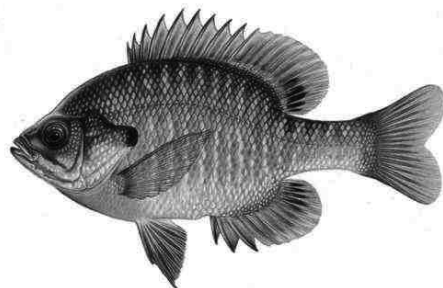
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Tips on stocking, managing hybrid sunfish

This time of year I get numerous requests for information about stocking hybrid sunfish. Hybrid sunfish are produced when eggs from a female green sunfish are fertilized with milt (seminal fluid) from a male bluegill. This cross produces a hybrid sunfish that resembles both parents physically but exhibits the more aggressive behavior of green sunfish. Stocking hybrid sunfish offers some fishing opportunities, but claims of faster growth and larger sizes are not necessarily true.



Contrary to popular belief, bluegill hybrids are not sterile. Most hybrid populations are 85 to 95 percent males, and this results in lower reproductive potential. However, they still tend to overpopulate, and the offspring are not desirable. Stock hybrids with either bass or catfish. When stocked with bass, hybrid offspring do not survive because the predacious bass quickly consume all of them. This prevents overpopulation and provides conditions for optimum growth of the originally stocked hybrids.

It is important to remember that hybrid sunfish management is for production of trophy bluegill, and bass growth will be less than desirable. Bass are stocked primarily as a management tool to keep hybrid reproduction down and to influence growth of hybrids favorably. Additionally, this is a "put and take" fishery, meaning that hybrids are grown, caught, and replaced by other hybrids stocked in subsequent years.

Periodic restocking is necessary to sustain a hybrid bluegill pond for more than a few years. Pond owners should keep records of the number of hybrids removed and plan to restock when 50 to 70 percent of the originally

stocked fish have been caught and removed.

A feeding program can be established using floating catfish pellets. Feed all the fish will consume in 15 to 20 minutes and adjust the amount as fish grow. If fish do not eat all the feed offered in that amount of time, you are probably overfeeding and wasting feed and money and reducing water quality.

Many people believe that hybrid sunfish grow faster and get bigger than either parent species. But research from Dr. Robert Hayward at the University of Missouri found that when bluegill and hybrid sunfish are separated and given unrestricted feeding, male bluegill grow twice as fast as male hybrids. When fed for 300 days, the differences were even greater. Male bluegill grew three times as much as male hybrids and more than four times as much as female hybrids.

The only advantage that hybrid sunfish may have over regular bluegill is their mouth size. Hybrid sunfish inherit a slightly larger mouth from their green sunfish parents. This allows them to eat larger prey such as small frogs, fish, and crayfish but prey that size is also being consumed by bass and catfish so they then are competitors for food.

Additional research has shown that both bluegill and hybrid sunfish grow well under similar conditions in ponds. These conditions include reasonably clear water, plenty of food (plankton and insects), and a good population of largemouth bass. Largemouth bass eat small sunfish and can keep sunfish thinned out well enough to allow good growth.

Prefer e-mail delivery?

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Low-cost device reduces flooding caused by beavers

The Clemson beaver pond leveler (below) is a simple low-cost device that allows water to flow through a beaver dam or a plugged culvert. It is usually made of PVC pipe. It was developed at Clemson University and can be very effective in reducing flooding in certain situations.

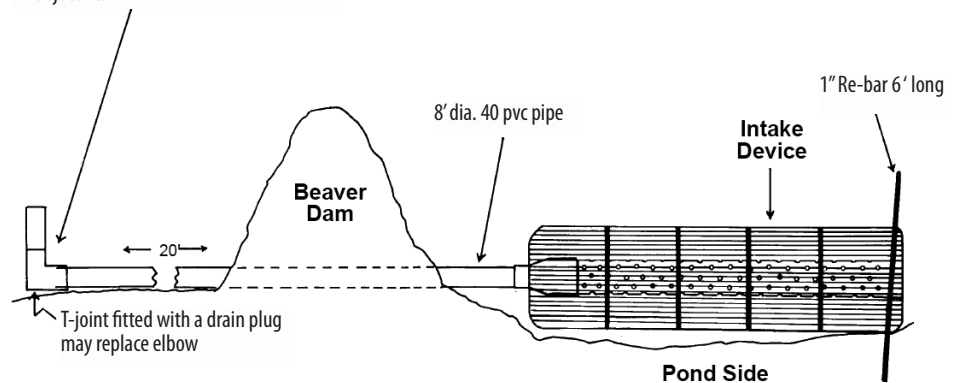
Beavers repair dams in response to the sight, sound, and feel of running water. The Clemson leveler transports water through a dam in such a manner that the beavers cannot sense it, and as a result they do not attempt to plug the leveler.

The intake device is the key component of the leveler. It is placed on the bottom of the pond, ditch or stream upstream from the dam. It seems to work better if it is not sitting on the pond bottom but is suspended from steel posts. The device consists of a piece of PVC pipe that is sized to handle the normal water flow, with about 160 2" holes drilled along its length. The

PVC pipe is then suspended in the center of a 30" diameter woven wire tube. The woven wire keeps the beavers away from the pipe and therefore the source of the leak in their dam. The device is then connected with a reducer to a section of the next size smaller PVC pipe that runs through the dam. This needs to extend at least 20 feet past the dam. (A 10" pipe will handle water flows up to about 700 gallons per minute.)

It works best when flooding, not tree damage, is the concern. It does not work in all situations such as when the water flow exceeds the capacity of the one or more levelers, or when the drop in elevation is slight. Such a system may allow the damage to be reduced or eliminated and still provide the benefits associated with a wetland. Contact your county extension office for plans on how to construct a Clemson beaver pond leveler.

Elbow and stand pipe are optional to manage water level if maintaining pond is an objective.



Studies examine impact of wind energy on wildlife

The impact of wind turbines on wildlife and habitat is poorly understood mainly because of lack of data. However, some studies show emerging patterns. The Altamont Wind Facility, in California, has unexpectedly high raptor fatality rates. Between 1998 and 2003 this wind energy plant caused the death of 880 to 1,300 birds of prey each year. However raptor fatalities are relatively low at other wind facilities where they have been studied. When we look at the deaths of perching birds and songbirds, it seems similar across the United States; fatalities average 3 to 4 birds per each megawatt (MW) of energy gener-

ated. The numbers of estimated bat fatalities varies from about 1/MW year in the Pacific Northwest to 2/MW in the Rocky Mountains, 8/MW in Iowa and 30 to 40/MW in the East.

Investigations are ongoing in Kansas to determine if species such as prairie chickens are negatively impacted. Preliminary information suggests they may avoid the turbines and transmission towers during nesting and brood-rearing periods. There is little doubt that wind turbines change the view. Some folks say the turbines are an improvement and others state they are a blight and should not be allowed.



- Keep a record of the size, species and number of fish you catch out of each pond. Your memory will not be as good as you might think.
- Yes, it is too late this year for most aquatic weed control. Like most weeds, aquatic plants should be controlled when they are young and actively growing. If you must treat, select the correct chemical and only treat part of the pond to reduce the likelihood of a fish kill.
- Spot spray for sericea and mark locations on a map so that they can be checked again next year and treated if necessary.

Florida: Record high for vehicle-panther deaths

Florida panthers are having a difficult time surviving due to vehicle accidents. By July 1, 2007, 14 panthers had already been killed on the roads in Florida. The number of kittens known to have been born this year is 29. This is a new record high for vehicle-related panther deaths in a single year. State biologists who track the endangered animal see the sad statistic as an indication that the panther has succeeded beyond its means in southwest Florida. "It could be evidence they've shot up beyond carrying capacity, and they're coming down to a more stable level," said Mark Lotz, a wildlife biologist with the state wildlife commission.

Federal scientists estimate that at least 480 panthers — in two populations of 240 — must be established before the species can be moved from the ranks of the endangered to threatened. Their single population now hovers around 100.

Here is a look at the number of panther deaths on Florida roadways over the past five years. The average during the 1990s was two a year.

- 2007 (through June) -14
- 2006 -11
- 2005- 9
- 2004 - 9
- 2003 - 10

Control vegetation to prevent summer fish kills

Some ponds are stratified in summer with a warm upper layer of water on top of a colder bottom layer. These layers do not usually mix until fall. When organic matter starts to decompose in the deeper areas, this results in the colder bottom layer eventually losing most, if not all, of its oxygen by August. This is not a problem unless the pond turns over in August or early September. This premature mixing can also be caused by a heavy cold rain. When fish run out of oxygen, they die.

Vegetation biomass, weather, and pond size and depth all play an important role in the likelihood of a fish kill. Vegetation-choked ponds are much more likely to experience problems than a pond with little or no vegetation. A calm, hot summer day or a cloudy summer also increases potential problems. Small deep ponds without much wind exposure may tend to stratify and lack oxygen as compared to a large wind-swept pond.

To prevent summer fish kills from occurring in existing ponds, control the vegetation early in the growing season. If late-season herbicide control is needed, treat the pond in sections but never more than one-third of the pond at a time or use one of the slow-acting aquatic herbicides. Perhaps the most effective method to prevent summer fish kills is to install an aeration system. The system will continually add oxygen to the water and prevent summer stratification from occurring. Most of the small windmills sold for pond aeration are not effective when they are most needed (on hot summer nights).

QUESTIONS & ANSWERS

Q: How do I keep squirrels out of my bird feeders?

A: This can be a difficult challenge. Several “squirrel-proof” feeders are on the market. To make a squirrel guard that acts as a baffle to keep squirrels from climbing the pole, place plastic pipe on the horizontal wires so it spins when a squirrel is on it. It may be simplest to fasten a grid of welded wire around your feeder that birds can get through but not squirrels. Many just admit defeat and buy more seed and enjoy the antics of the squirrels.

Q: Are most bats that are found on the ground rabid?

A: It is unusual for bats to be on the ground, but you cannot tell from a physical inspection if the animal is carrying rabies. Rabies can be confirmed only in a laboratory. However, any bat that is active by day, or is found in a place where bats are not usually seen (for example, in a room in your home or on the lawn), or is unable to fly, is far more likely than others to be rabid. Such bats are often the most easily approached.

Q: Where can I find out who sells fish for pond stocking in Kansas?

A: A list of the Kansas Aquaculture producers, their location, and a list of the species they sell or services they offer is found at www.kansasaquaculture.com. Also paper directories are available at most county Extension offices or offices of Kansas Department of Wildlife and Parks.

Q: I found a track that is too large to be from a dog, is it a cougar?

Many dogs leave larger tracks than cougars. So size alone is not a good criteria. Track identification is difficult in less than ideal track substrates. But most dog tracks will show the presence of blunt claw marks and the toes tend to radiate outward from a center point. Cougars have a tri-lobed rear pad, dogs have a bi-lobed rear pad.

Mixed prairie grasses provide more usable energy than ethanol, biodiesel or switchgrass, ecologist says

A recently published study by Dr. David Tilman, an ecologist at the University of Minnesota, shows that diverse mixtures of native perennial grasses and flowering plants provide more useable energy per acre than corn ethanol, soybean biodiesel, or monocultures of switchgrass. This 10-year-long study has been partially supported by the National Science Foundation and was published in the December 8, 2006, issue of *Science*. The diverse prairie mixtures produced 238% more bioenergy on average than switchgrass plantings on degraded agricultural land. They estimated that the prairie biomass would yield 51% more energy per acre than ethanol from corn grown on fertile land. Switchgrass is very productive when grown like corn

in fertile soil with lots of fertilizer, pesticide and energy inputs, but this approach doesn't yield as much energy gain as mixed species in poor soil, nor does it have the same environmental benefits," said co-author Jason Hill, also of the University of Minnesota. Good news for those that appreciate the diversity of native or mixed species plantings and not monocultures. Such information is important to keep in mind as we formulate the 2007 Farm Bill and what it means for CRP. Automatically embracing only corn and soybeans as the solution to the energy crisis may be shortsighted. Many experts believe we should think about bioenergy as a whole system and include soil, water, air, wildlife and human impacts.

Coyote food habits then and now

Coyote food habit research still continues. Similarities exist as I look back at some old information and contrast it with information from urban areas.

Table 1. Frequency of Food Items in the Diets of Coyotes in Cook County, Illinois.*

Diet Item	Occurrence
Small rodents	42%
White-tailed deer	22%
Fruit	23%
Eastern cottontail	18%
Bird species	13%
Raccoon	8%
Grass	6%
Invertebrates	4%
Human-associated	2%
Muskrat	1%
Domestic cat	1%
Unknown	1%

* Based on the contents of 1,429 scats collected during 2000-2002. Some scats contained multiple items; therefore, the percentages exceed 100%. See Morey 2004.

Table 2. Occurrence of food items found in 1948 coyote stomachs.

	Year											Total	%
	'48	'49	'50	'51	'52	'53	'54	'55	'56	'57	'58-'62		
Rabbit	84	103	120	72	82	50	27	26	59	56	111	790	41
Chicken	17	24	40	23	17	8	11	9	22	16	17	204	10
Carrion	42	76	88	42	17	27	42	29	53	38	93	547	28
Game Birds	2	12	5	6		2	1	2	10	4	21	65	3
Quail	1	1		2		1	1	2	6	3	16	33	2
Prairie chicken					1			4	1	5	11	1	
Pheasant	1	11	5	4								21	1
Other Birds	11	12	5	5	7	4	1	2	4	15	24	90	5
Unidentified	4	7	4	2	6	2	1	1	1	2		30	2

Coyotes in Kansas, H. T. Gier, 1968.

Table 3. Frequency of occurrence (n) and percent frequency of occurrence (%) of prey items found in 23 coyote scats collected in western Kansas during April-July, 1996.

	Frequency (n)	Percent % frequency		Frequency (n)	Percent % frequency
Plant	9	39	Northern grasshopper mouse	3	13
Commercial sunflower seeds	9	39	Western jumping mouse	1	4
Mammal	23	100	Long-tailed weasel	1	4
Cottontail	5	22	Striped skunk	4	17
Black-tailed jackrabbit	2	9	Mule or white-tailed deer	3	13
Vole	9	39	Pronghorn	7	30
Ground squirrel	2	9	Domestic cattle	4	17
Black-tailed prairie dog	1	4	Unknown mammal	11	48
Plains pocket gopher	5	22	Bird	2	9
Ord's kangaroo Rat	5	22	Unknown bird	2	9
Harvest mouse	2	9	Insect	7	30
White-footed mouse	13	57	Ground beetle	3	13

Sovada et al. Northern Prairie Research Center

Field guide IDs native prairie plants of central states

A guide to help identify native plants at various stages of growth is available from the Missouri Department of Conservation (MDC) and the USDA Natural Resources Conservation Service.

The Central Region Seedling ID Guide for Native Prairie Plants, includes photos and descriptions of the most common native prairie grasses and wildflowers in 10 central states.

Color photos illustrate seed, seedling, juvenile, and flowering stages, in addition to a distinguishing characteristic. Seedling stages depict the appearance of a single cotyledon (first leaf) in grasses and a pair of cotyledons in broadleaved plants, fol-

lowed by photos of the first true leaves within three weeks of growth in a controlled environment. Juvenile stages portray the continued development of a seedling with more fully formed leaves within the first eight weeks of shoot development. Distinguishing characteristics show a specific biological feature representative of the plant.

You can purchase the guide through the MDC Web site at <http://www.mdc-natureshop.com/mdc.cgi/01-0290.html> or download the electronic version from <http://plant-materials.nrcs.usda.gov/technical/plantid/herbaceous/mopmcseedlingID.pdf>

EPA proposes new rodenticides rules

The United States Environmental Protection Agency (EPA) has recently proposed some new risk mitigation measures to reduce the possible exposure of children and non-target wildlife to rodenticides. Most poisoning incidents involving exposure to second-generation anticoagulants occur in children less than six years old.

The EPA is proposing the elimination of certain formulations (pellets, for example) from retail sale and allowing rodenticides to be available to consumers only if they are contained in tamper-resistant, pre-loaded bait stations.

Three second-generation rodenticides, will be categorized as Restricted Use Pesticides (RUPs), and purchase and use of products made with these active ingredients will require certification in an appropriate state category. This means consumers, farmers, ranchers, and business owners would have to get certified to continue to use those products.

Although the date (May 18, 2007) to comment has passed, it will be probably be several years before decisions are made and the manufacturers change their labels.

Study compares products for managing prairie dogs

Jeff Leflore, of East Cheyenne County Colorado Weed and Pest Control, and I completed a trial this winter comparing efficacy of three different toxicants applied in-burrow to manage prairie dogs. Results are summarized in the table below.

Chlorophacinone (Rozol Prairie Dog Bait) is registered in Kansas. Diphacinone (Kaput-D Prairie Dog Bait) is not currently registered in Kansas. Zinc phosphide is sold under several trade names and is legal in Kansas.

Each method to determine percent reduction showed about the same results. The anticoagulants, Chlorophacinone and Diphacinone were very effective almost 100%) but in this trial, zinc phosphide in-burrow (14%) was not very effective. Only four dead prairie dogs were observed and collected with two daily carcass checks. Those prairie dogs were all found on the Diphacinone site.

Contact me if you want the proceedings paper that describes the study in detail.

Percent reduction of black-tailed prairie dog activity by applications of toxicants applied in-burrow and on the surface on variable-sized plots in eastern Colorado in 2006-2007.

Toxicant	Survey Technique		
	Visual observation (am)	Visual observation (pm)	Burrow plugging
Chlorophacinone (in-burrow)	100	100	100
Diphacinone (in-burrow)	100	100	93
Zinc phosphide (in-burrow)	21	16	14
Zinc phosphide (on surface)	50	49	45

Journal abstracts

Recreational shooting of prairie dogs: a portal for lead entering wildlife food chains

In a study published in the *Journal of Wildlife Management* 71(1):103-108; 2007, authors J.N. Pauli and S.W. analyzed prairie dog carcasses shot by a recreational shooter with two different bullet types. Eighty-seven percent of prairie dogs shot with expanding bullets contained bullet fragments, whereas 7% of the carcasses shot with non-expanding bullets did. The carcasses shot with expanding bullets contained about 300 mg of lead and the non-expanding bullets only had about 42 mg of the lead-containing bullet core and the copper alloy jacket. Lead fragments were less than 25 mg each, which is small enough to be easily ingested and absorbed by secondary consumers. That amount of lead is potentially sufficient to acutely poison scavengers or predators. They recommend managers consider measures such as using non-expanding or lead-free ammunition to reduce the likelihood of lead poisoning in upland wildlife.

Habitat use and survival of preflight wild turkey broods

Brian Spears and colleagues published an article in Volume 71 (1) : 69-81; 2007 of the *Journal of Wildlife Management* on survival of wild turkey broods. The study was conducted at three locations in the Texas Panhandle and at the Cimarron National Grasslands in Morton County Kansas.

Researchers found that after about 14 days, poults were able to escape ground predators by flushing to trees and roosting in trees at night. Poults survival is critical during the first few weeks of a poult's life, with observed survival rates ranging from 12%-52%.

Several factors may affect preflight poult survival including predation, weather, starvation and disease. This study showed hens selected ground-roost locations with more visual obstruction than random sites. The area surrounding the ground roosts had 1) greater visual obstruction; 2) increased tree decay; 3) higher percent grass, shrub, litter, and forb cover; and 4) lower percent bare ground. Poults survival increased with age of the poult, size of the brood, and density of shrubs 3 to 6 feet tall. With this in mind, woodland clearings with little cover such as may be found along grazed riparian zones do not make good poult survival areas.

Coyote Investigative Behavior Following Removal of Novel Stimuli

The *Journal of Wildlife Management* 71(2):587-593; 2007 included an article on coyote behavior following removal of novel stimuli by D. Heffernan, W. Andelt and J. Shivik.

Because coyotes (*Canis latrans*) show an aversion to novel objects, the authors examined the effects of the presence and removal of repellent and attractive stimuli on coyote behavior. They found that a greater proportion of captive coyotes investigated 10-cm-tall cones (0.95) and control sites, compared to 90-cm-tall cones (0.68) and control sites. However, investigation times at sites following removal of large (90 cm) cones were 1.6 and 2.3 times greater than investigation times at sites following removal of small (10 cm) cones and the control, respectively.

Results from pen studies were supported by a field study. Wild coyotes in south Texas visited 43% of small cones but did not visit large cones. Following removal of cones, visits to small cone stations decreased to 29%, whereas coyotes visited 43% of large cone stations. Thus, the researchers observed a direct relationship between aversion toward large novel objects and subsequent attraction to sites following their removal among both captive and wild coyotes.

Based upon results, the authors suggest that placing large novel objects over traps that are set and removing such objects after a few days, with the subsequent addition of an olfactory attractant, may increase exploratory behavior and capture of coyotes.

Survival of neonatal white-tailed deer in an exurban population

In this article in the *Journal of Wildlife Management* 71(3): 940-944; 2007 authors S.T. Saalfeld and S.S. Ditchkoff reported on a study that examined the causes and timing of deaths of white-tailed deer in the first eight weeks of life in an area of Alabama in 2004 and 2005. The suburban area consisted of lots ranging in size from 1 to 5 acres with native vegetation and wooded areas between houses that served as wildlife corridors. They found 67% mortality with the leading causes being predation by coyotes (41%) and starvation due to abandonment (25%). Vehicle collisions were not an important cause of mortality.

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