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The Cover

Its wings tinged with yellow to eliminate confusion with geese, an adult trumpeter swan gets used to its new home at Summer Lake.
Photo by Randy Henry

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Home On The Range

In the U.S. today, words or phrases defining certain political and social issues are guaranteed to bring quick, personal responses. Often these responses will fall far to one side or the other of a question, with few people holding to middle ground. Views are polarized. The operative phrase is "If you're not for us, you're against us."

Grazing — It's one of those words that rouse the fighting spirit. You can almost hear the sound of positions on the issue being staked out and defended. "Cow Free In '93," say grazing opponents. "Environmental Extremism," supporters respond. The argument has gone on for decades whether the contributions of cattle ranching to Oregon's economy and pioneer heritage outweigh the corresponding impacts on public lands, waters and wildlife.

The debate has intensified during the last 20 years as the losses of fish and wildlife to a range of human activities become more and more obvious. We can no longer claim that consumption of natural resources to meet human needs is without cost. Evidence is all around us that business as usual on a variety of fronts will mean a very different Oregon for future generations.

Does such intensity and apparent polarization on the grazing issue mean inescapable stalemate and ultimate failure to act? I don't think so. We can work this out. I base such hope not on rosy optimism, but on what I see happening. The middle ground is quickly filling with people who may have diverse philosophical views, but who also share some common interests. They are talking. They are working together. Bottom line: they are people who care about this special place we call Oregon.

In this edition of Oregon Wildlife we give our readers an overview of grazing, as it relates to fish and wildlife, from a variety of perspectives. We unveil no quick fixes. What we do highlight, however, is the undeniable fact that good faith efforts to find solutions are underway. One of the great advantages humans have over other life on earth is our ability to learn from past mistakes and seek ways of correcting them. The ability to do this does not always mean it will happen, but — more often than not — reasonable people will behave reasonably.

Based on that concept, I predict that 20 years from now Oregon will still have a healthy cattle industry, or at least the opportunity to conduct such business if people so choose. I also predict this activity will have completed its evolution from a largely exploitative enterprise to one more in harmony with other land and water uses. People, fish, wildlife and livestock will be able to share their common home on the range. □

Randy Fisher
Director

"UPDATE"

Big Game Regs Available, March 2, 1992 Deadline For Most Controlled Hunts

The 1992 Oregon Big Game Regulations is out, and now offers information on all big game general and controlled hunting seasons, including spring bear.

"In the past we've had two separate editions - a spring and a fall synopsis. The new format allows people to make their plans for next fall's hunting trips sooner, and should eliminate confusion caused by the two separate synopsis," says Walt Vandyke, staff biologist in charge of the synopses.

One very important date to remember, warns Vandyke, is the March 2, 1992 deadline for nearly all controlled hunts. "Controlled buck deer, antelope and bighorn sheep all fall under the March 2 deadline. If you want to hunt deer on the east side, make sure you get your application in before March 2."

Spring bear controlled hunt applications must be in by January 15. Tags for spring bear will be mailed March 1. Tags for antelope and bighorn sheep will be mailed July 1, with all other controlled hunt tags mailed July 17.

This is the second year that all eastside buck deer hunting has fallen under the controlled hunt process, but the March 2 deadline is over a month ahead of last year's deadline.

Nongame Program Task Force Seeks Changes

A new name and broader focus on habitat protection are two recommendations a task force has made for the Oregon Department of Fish and Wildlife's Nongame Wildlife Program.

The task force, formed last spring, is updating and reviewing the Nongame Wildlife Program's goals and objectives. Policy recommendations were presented on Wednesday, Dec. 18, 1991 to the Oregon Fish and Wildlife Commission for endorsement. The commission's endorsement paved the way for further work on the plan that will go out for public review in the spring.

"After the public has reviewed and commented on the draft plan, we will integrate the new information into another draft that will go before the commission in August or September," said Claire Puchy, staff nongame biologist.

Changes recommended by the task force start with a new name to reflect the program's new direction - "Wildlife Diversity Program." The draft plan cites a need to protect and manage habitats on an ecosystem basis, not just for individual species. Another major focus of the draft is to identify a stable funding source for the program without relying on the dollars paid to the department by hunters and anglers. Currently, the program is funded by a tax-form checkoff and State general fund dollars - both of which are declining and unstable, says Puchy.

"Wild and Fishy IV" Deadline March 15, 1992

See November/December Issue for Rules

"WILD AND FISHY"

Photo contest entry form

(Please print)

Name _____

Street _____

City _____ State _____ Zip _____

CATEGORY: (Check one)

1. Wildlife ☐ 2. Scenics ☐ 3. Fishing Scenes ☐ 4. Hunting Scenes ☐

FORMAT: (Check one)

1. 35mm slide ☐ 2. print ☐

I understand that this photo or slide entry (duplicates allowed) will not be returned to me, and automatically entitles Oregon Department of Fish and Wildlife future free and repeated use of the image. This entry is released to ODFW for use at agency discretion with recognition of the photographer.

Signature _____ Date _____

Mail all entries to: WILD AND FISHY, PO Box 59, Portland, OR 97207.

Tip of the Hat

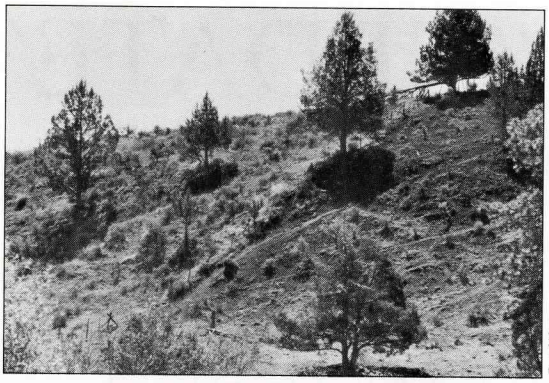
Umatilla District Court Judge Richard Courson sentenced a Meacham businessman to one year in jail and 16 years probation for his part in what has been called one of the biggest poaching rings in Oregon history.

Undercover Oregon State Police officers estimate that as many as 20 elk a week were being killed for commercial sale at one point. The man was found guilty on nine counts of poaching and food-fish records violations. The three-month undercover investigation ended in a raid last January. Seven people were charged in the case. Officers alleged that hunters from the Umatilla Indian Reservation were commissioned to kill elk for commercial sale out of a Meacham business.

The sentence included the following:

- One year in jail
- 16 years probation
- $9,000 in fines
- $3,750 in restitution ($750 for each of the five elk purchased by undercover OSP officers
- Prohibited from ever applying again for a hunting or fishing license in Oregon or any other state in the union.

Jail time was to begin at Umatilla County Jail immediately, with fines due by June 1, 1995.



Pat Wray

The difference between use and abuse. On the left is a state wildlife area which is grazed under controlled conditions. Across the fence is private land where the livestock needed closer control.

LIVESTOCK GRAZING
A Fish and Wildlife Perspective

By Pat Wray

Historical Overview

"*Wildlife and livestock* production both are legitimate, traditional and desirable uses of public rangeland."

With those words, Lonnie Williamson of the Wildlife Management Institute opened his keynote address to the Livestock/Big Game Symposium in Sparks, Nevada in September of 1991.

A statement like that, gratefully received by cattlemen in 1991, could have gotten Williamson in hot water had he been addressing one of several conservation organizations advocating for the removal of cattle from public rangelands.

Fifty years ago, the effects of his statement would have been reversed, deeply appreciated by conservationists but distrusted by livestock operators.

It's a reflection of changing priorities and advancing knowledge. Fifty years ago, federal management agencies like the U.S. Forest Service and the fledgling Bureau of Land Management were attempting to impose some order upon the chaos that had been public land grazing. But even as they took gradual control of what had been an essentially unregulated industry, both agencies operated on the assumption that livestock were priority number one. The needs of fish and wildlife were secondary.

Much of the range damage was already done well before ranchers of the 1940s were born. As ranchers Doc and Connie Hatfield have pointed out in their thoughtful essays, many ranchers born to the land refused to believe that their land had been damaged because it had looked the same all their lives.

Many early stockmen of the late 1800s adopted a "take what you can, first" attitude. Some of the largest herds of cattle and sheep were owned by nomads in the true sense of the word. They had no permanent homes, no private land bases and all too often, little understanding of stewardship for the land.

"They had no worries," said Marty Vavra, OSU professor of rangeland resources. "When the land was used up, they just moved on."

Long term climatic changes also threw early cattlemen a curve. "The first ranchers settled eastern Oregon during a time of abundant precipitation and they pretty much assumed it would last forever," said BLM spokesman Ed Ciliberti. "They had excellent range and they used it, stocking to its full carrying capacity and sometimes more. When the precipitation level went down, much of the vegetation was quickly used up, resulting in long term damage to the range in some areas and creating a western dust bowl."

The combination of drought, uncontrolled grazing and rapidly deteriorating range resulted in an appeal by livestock operators for federal range control. The Taylor Grazing Act in 1934 was enacted and since that time federal land managers have been attempting to restore the health of Western rangelands while maintaining the viability of the Western livestock industry. Until legislation was passed in the 1960s and '70s requiring a multiple use management effort, their emphasis was on the livestock. Wildlife concerns were not a high priority and fisheries even less so.

The '70s ushered in a new appreciation of human relationship with the earth. A new wave of environmental activists began to demand an active role in the development of management plans. Suddenly, land management agencies had new and very vocal constituents.

"In the past our primary dealings were with livestock operators," said Mike Crouse, BLM Chief of Biological Resources for Oregon and Washington. "But in recent years, we've seen a dramatic increase in the

number of people who take part in our planning process for their own widely diverse interests. Now we have people lobbying for native plants, native fish, various species of wildlife, water, all kinds of things."

Slowly but surely, many of the new voices were joined with those of biologists. Changes began to occur.

Unfortunately, the natural world heals slowly . . . and the arid areas of eastern Oregon heal more slowly still.

Uplands and Riparian Areas

Rangelands generally fall into two categories, the uplands and riparian, or streamside areas. For many years little distinction was made between the two. But each has its own unique traits.

Uplands

Eastern Oregon uplands were historically a rich mosaic of habitat types, several varieties of sagebrush intermixed with many grass types in unpredictable patterns woven by temperature, precipitation, fire, insects, wind and disease. Wildlife species populated the areas that fit their needs and shifted locations regularly as changes in the mosaic occurred.

Unlike the central plains of mid-America, Oregon was grazed by few bison; domestic cattle and sheep were probably the first large herbivores that used the sagebrush steppe in large numbers. Unfortunately, the effect of domestic livestock was heightened instead of lessened by the manner in which they were grazed. There were often too many cattle grazing for too long at the wrong time.

- **Too Many:** With little knowledge of the basics of carrying capacity, cattle and sheep operators sometimes functioned on the idea that if more is better, a whole bunch is great.
- **Too Long:** With thousands of animals ranging across hundreds of thousands of acres, little effort was made to keep them moving for the good of the range. When native plants were grazed down too far, their root reserves were depleted and the plants lost their ability to reproduce. Soon they were vulnerable to takeover by the various exotic plants that had previously been introduced, either purposefully or by accident.
- **Wrong Time:** Although livestock grazing can be used as a tool to make nutritious vegetative growth more available in the spring and fall for wildlife, grazing at the wrong time may remove forage just when wildlife need it most. All too often, cattle and sheep were allowed to graze intensively during the summer and fall on historic wildlife winter range. When deer and elk were forced down from the high country by snow they found little or no forage available.

Fire Suppression

As cattle and sheep removed grasses and forbs from the high desert country, they were also removing fuel necessary for fires. Coupled with land managers' herculean efforts at fire suppression, this fuel removal effectively put an end to the natural cycle of wildfires and vegetative re-emergence.

Thousands of acres of land have grown up in different types of artificially created monocultures, said Larry Bright, wildlife research coordinator. Many of these provide suitable habitation only for fire crews, according to Bright.

Because of the absence of fire, much desert vegetation has been allowed to mature and then progress in its cycle toward climax. This has resulted in the transition of much historic sagebrush steppe and native grasslands into juniper woodland. Besides being less productive habitat for native wildlife species and livestock as well, juniper woodlands also absorb far more moisture from the land than sagebrush and grass, compounding an already serious water shortage in parts of eastern Oregon.

The suppression of wildfire has probably been even more significant than the impact of livestock on the high desert range.

Introduced Vegetation

In the last 30 years, land management agencies and ranchers have been working in concert to manipulate rangeland to support ever greater numbers of livestock. Native sagebrush has been sprayed or disked under and replaced with crested wheat grass, an introduced species described by Wildlife Division Chief Rod Ingram as being great habitat for meadowlarks and cattle, but not much else.

Crested wheat grass, like other introduced species of vegetation, is generally considered poor wildlife forage. However, it is the loss of habitat diversity, of the natural vegetative mosaic, that is of greatest concern.

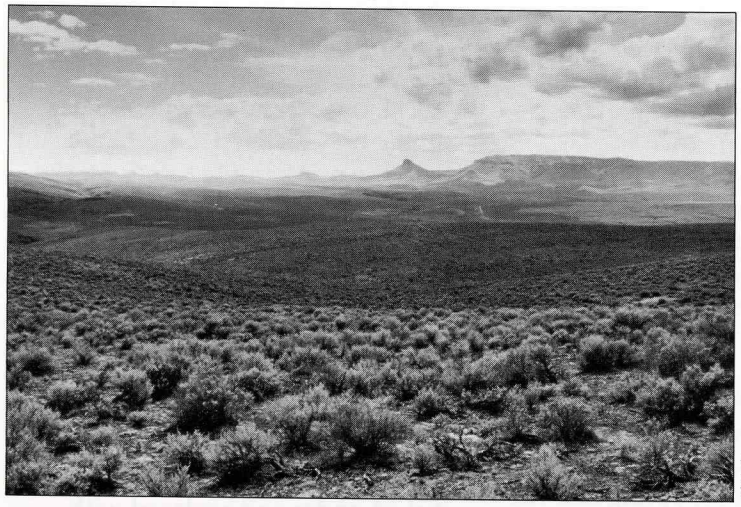
Riparian Areas

In the harsh, open topography of most sagebrush steppe, riparian areas offer the best cover, best forage and moderation of temperature extremes. It is no surprise that unconfined cattle will spend much of their time near them.

As ODFW Northeast Region Supervisor Jim Lauman said, "Left to their own devices, cattle will go to gentle grades, they will go to water and they will go to shade. In other words, they will go to riparian areas."

Wildlife often congregate there too. Fish, of course, are completely dependent on rivers, streams and the watersheds that support them.

Grazing can be a disaster in riparian areas. Streamside vegetation, which stabilizes the streambanks, keeps water temperature low and provides homes for fish, wildlife and insects, is often quickly removed by livestock grazing along the watercourse. Widespread erosion follows



Al Polenz

A large expanse of low sagebrush is one example of real monocultural vegetation systems that have sprung up in the aftermath of heavy grazing and fire suppression.

and is made far worse by cattle hooves that collapse delicate streambanks and widen the stream beds. The streams then become more shallow and warmer.

This vicious cycle of further erosion and streambank deterioration ends only when the riparian area is completely protected and vegetation is allowed to re-establish itself.

As delicate and easily damaged as the riparian areas are, they can recover if adequately protected. Projects around the state have shown repeatedly how quickly grasses, willows and other streamside growth can recover themselves if left alone. Fenced exclosures throughout eastern Oregon have demonstrated remarkable improvements of stream health as streamside vegetation returned.

However, cattle obviously cannot be kept away from all water sources and excluding them from one water source may increase their impact on others nearby.

Grazing in riparian areas is the most difficult of all livestock/wildlife issues.

Where are we now?

Much of the natural mosaic is now monocultural. Hundreds of miles of streams and many watersheds have been badly damaged. Thousands of acres of rangeland are covered by non-native vegetation. And yet, there is reason for optimism.

There is reason for optimism because land management agencies are increasing the priority given to fish and wildlife needs. Some Forest Service plans are beginning to emphasize the effects of grazing almost as much as those of logging and road construction. BLM management plans for the Trout Creek Mountains, an area that has been seriously overgrazed in the past, now recognize the protection and rehabilitation of riparian areas as a top priority, according to Mike Crouse.

There is reason for optimism because more and more ranchers are recognizing the need for careful management and stewardship of our resources, both public and private.

There is reason for optimism because small scale models have shown that livestock grazing and wildlife can be compatible when carefully managed, even that grazing can benefit wildlife in some cases. The Bridge Creek Wildlife Area south of Ukiah was acquired by the state in 1965. Since that time cattle grazing has been used to improve the nutritional quality of forage for wildlife. A carefully controlled grazing prescription, which includes lay-down fences, rest-rotation and carefully timed use by cattle, has resulted in significant increases in numbers of cattle and elk supported on the area, while achieving an improvement in health of the range. Similar results are much harder to deliver in the more arid parts of southeastern Oregon but success is possible.

There is reason for optimism because a new climate of cooperation exists between groups that were historically at odds; cattlemen, wildlife biologists, land managers.

"I think most of us recognize that we share common interests," said Rod Ingram. "And that everyone's needs are best served, not by managing the land specifically for livestock, or for wildlife or for any other single product, but for a healthy ecosystem. Then everything benefits, wildlife, livestock and people."

Where are we going?

Future management of uplands must find a balance that will provide for the native species of wildlife while permitting grazing at a level that will allow the steady improvement of habitat. Different situations will require different methods and levels of use.

Extensive research and aggressive experimentation on effects of grazing are taking place at several different areas around Oregon and most other western states as well. Information derived will be included in future management plans.

Management of riparian areas is

considerably more difficult, both in planning and implementation. Although riparian areas produce more forage than an upland area of comparable size, they also are more easily damaged, in a variety of ways. Some healthy streams might tolerate a low level of grazing before they begin to deteriorate but others may not tolerate any. Even so, Fisheries Division Chief Jim Martin supports the concept of grazing in healthy riparian areas.

"Cattle do not have to be excluded from healthy riparian areas, but they do have to be closely controlled," Martin said. "The key word here is 'healthy'. Many streams would need to be protected for a period of time before any grazing at all could be allowed. Then it would have to be closely controlled and monitored.

"We have to begin managing for watershed health and we have to recognize that the most important product of a watershed is not livestock or wildlife or fish. It is water. We have to manage for the health of entire watersheds, then accept the level of livestock and wildlife use that they can provide."

Marty Vavra of OSU agrees.

"Proper grazing is compatible with wildlife. Improper grazing is not compatible with anything," he said. □

Jim Martin

A classic example of riparian damage. Stripped of vegetation, with collapsing streambanks and rampant erosion, this stream contributes little to fish, wildlife or a healthy watershed.

Perspectives

"If we continue to suppress fire the range will not be healthy. It's like not allowing rain." **Larry Bright - ODFW, Wildlife Research Coordinator**

"A good example of the ranchers' sense of stewardship for the land, and of improving relations between the BLM and cattlemen, is that many eastern Oregon ranchers voluntarily reduced grazing during the terribly dry spring of 1991." **Mike Crouse - BLM Chief, Biological Resources for Oregon and Washington**

"Riparian areas are definitely the Achilles heel of grazing plans." **Marty Vavra - Professor, Rangeland Resources, OSU**

"We cannot afford to maximize one way or another. When you maximize one thing, you short something else." **Larry Bright - ODFW, Wildlife Research Coordinator**

"High value areas, like riparian zones, are high value for everyone, livestock and wildlife alike." **Chris Carey - Central Region Non-Game Biologist**

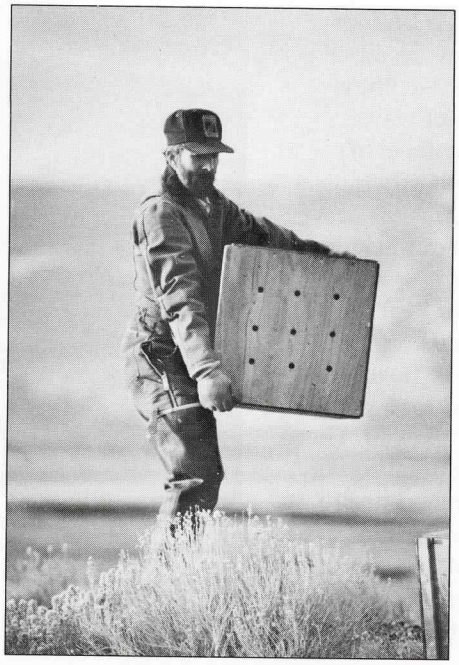
"We are worried that a number of riparian and grassland-dependent species may approach threatened or endangered status under continued grazing." **Linda Craig - Portland Audubon Society, Conservation Comm. Member**

"Some people think that if cows are removed from the range that everything will be perfect. That's not necessarily true. Just because cattle are removed doesn't mean the land will revert to its historic pattern or that it will be ideal for anything. " **George Keister - Southeast Region Non-Game Biologist**

"The issue of grazing on public land is simply a matter of imposing an industry on a resource; every industry is based on a resource of some kind. The western beef industry is based on grazing on public land. We must simply answer the question, 'Is grazing compatible with range health?' The answer is 'yes', provided it is maintained at an acceptable level." **Ed Ciliberti - Public Affairs Chief, BLM**

"Ranchers, land managers and wildlife biologists are working much better together now because they recognize a common enemy. It's called economics. If the large ranches are forced out of business they may end up subdivided into 20 acre ranchettes and ranchettes don't support wildlife." **Larry Bright - ODFW, Wildlife Research Coordinator**

"Everything is always changing all the time. The minute you have perfect habitat it will get worse." **Bill Krueger - Chairman, Rangeland Resources Department OSU**

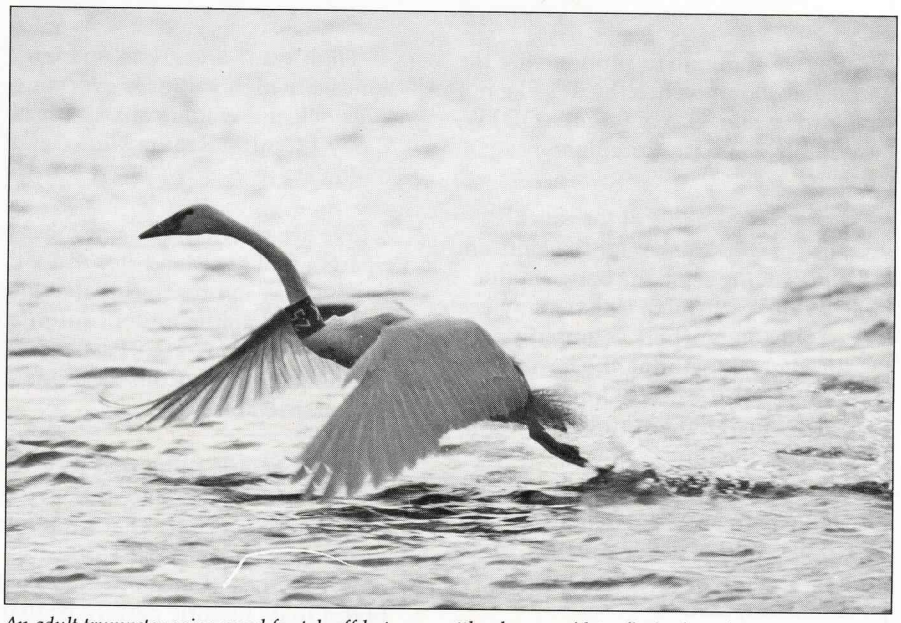


Summer Lake Wildlife Area Manager Marty St. Louis, with assistance from other wildlife area personnel, puts one of the trumpeter swan boxes in place for the early-morning release.

Story and photos by Randy Henry

Majestic Trumpeters Join Summer Lake Waterfowl

The panel is lifted and the birds coaxed out. These swans arrived in good shape and were quick to explore their new home.



An adult trumpeter gains speed for takeoff but soon settles down amidst a flock of tundra swans.

These trumpeters, stained bright yellow for easy identification, were seen throughout the refuge by hunters looking for snow geese. All swans are protected by law. Several hunters requested help in identifying the "big yellow birds."

"We're not sure if trumpeter swans traditionally used the Summer Lake area during their winter migrations. But we hope they will now. There's no reason for them not to."

Marty St. Louis, manager of the Summer Lake Wildlife Area, made this prediction while eyeing 11 rare trumpeter swans through his spotting scope. The swans, released moments before into a large wetland at Summer Lake, had already settled in among the tundra swans and were drinking and looking for food.

The releases are another stage in the comeback of the once-nearly extinct bird. (See Nov/Dec 1991 Oregon Wildlife) Plans for transplanting 100 trumpeter swans from Harriman State Park in Idaho to Summer Lake were temporarily halted in late November because the birds were becoming difficult to trap in the brighter phases of the moon. Trapping began again after Thanksgiving and the goal of 100 swans was reached. □

The trumpeters settled in quickly, drinking water, eating or just resting along the shorelines of the many ponds and lakes at Summer Lake.

Wildlife Rehabilitation

An important . . . and evolving . . . volunteer effort

From deer mice to deer, wildlife rehabbers see it all

A young bobcat, caught accidentally in a trap meant for a porcupine, recuperates from surgery and awaits release into the wilds of its central Oregon home.

Story and photos by Randy Henry

Looking out from the well-kept cage is a bobcat. It has no name — this is a wild animal — but for a short time it is the involuntary captive of humans who may be the difference between its life and death. Jeff and Becky Picton, directors of Chintimini Wildlife Rehabilitation Center (CWRC), are volunteer wildlife rehabilitators licensed by the Department of Fish and Wildlife.

Like other animals in the Picton's care, the bobcat has an injury that could have meant death in the wild. This particular animal was caught in a trap meant for a porcupine. A red-tailed hawk just a few cages down was found with a badly broken wing that took two hours of surgery to repair. They are not sure it will fly again.

The purpose of wildlife rehabilitation is to restore an injured or sick animal to a condition that allows its release in the wild. The Pictons, supported by a team of volunteers, took in over 500 wild animals last year for this purpose. Not all the animals made it out — the Pictons realize that if an animal can't be healed and returned to the wild, a life in captivity is inhumane and often illegal. Many animals are euthanized here. "Sometimes you do get attached to them — especially the ones you've worked with for a long time," said Becky. "It can be very hard to put them down."

Jeff and Becky are among the 400 licensed wildlife rehabilitators, called "rehabbers," in the state who perform a vast amount of work that would otherwise fall to the department. Their work can be demanding — animals are brought in or retrieved at odd hours and require consistent, objective care. Though donations of materials and funds cover most of CWRC's expenses, the Pictons put in long hours on evenings and weekends to make it work. Wildlife rehabilitation is more than just a passing interest for people like the Pictons.

Common Interests, Different Views

Rehabbers and wildlife biologists share a common interest in wildlife but see it from different perspectives. Biologists worry about the health and survival of species, popu-

lations and habitats. Rehabbers worry about the health and survival of individual animals. The two perspectives sometimes collide.

For instance, biologists consider the opossum — a non-native but abundant animal in Oregon — a threat to other wildlife species. But a person who finds an injured baby possum may want to see it helped.

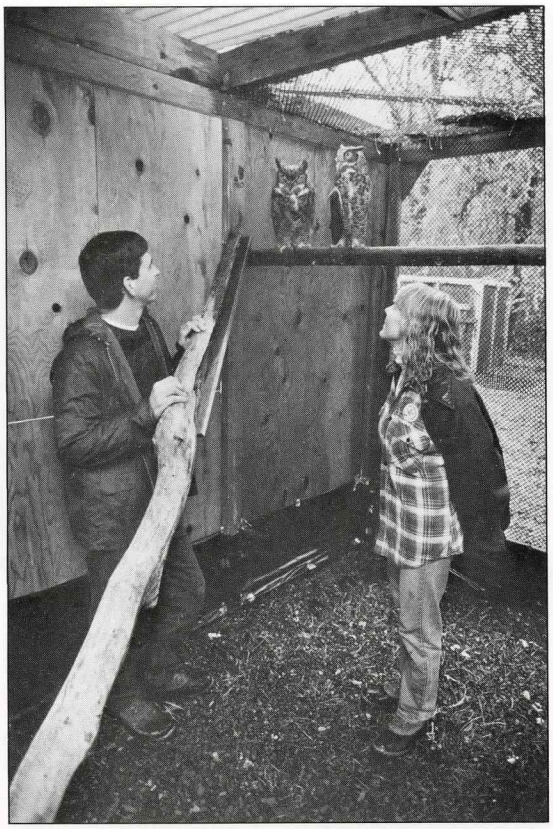
What if the animal needing rehabilitation is sick with a lung infection? In the natural world, this animal would die. Returning it to the wild could risk other members of the species.

Or what about the raccoon that has bonded to humans during its rehabilitation? Oregon law prohibits maintaining a wild animal as a pet.

Corey Heath, of Eugene, is one of many ODFW wildlife biologists who recognize the challenges facing the rehabilitation program. He also recognizes the important service rehabbers provide to the public and the department. "It takes a tremendous workload off of our agency. Because of these volunteers, we don't have to take care of the hundreds and hundreds of injured animals that are brought in. The public expects someone to do that, and the rehabbers do a good job."

The rehabilitation program has grown so large in recent years that the Oregon Department of Fish and Wildlife has imposed a temporary moratorium on the licensing of new rehabbers. Claire Puchy, staff nongame biologist, explains that the whole program is undergoing changes.

"We are in the process of establishing a little more control over the rehabilitation program," said Puchy. "We want to ensure a greater degree of standardization among the rehabilitators in the quality of care they provide." Puchy wants to ensure that rehabilitation facilities are professionally kept and managed and that communication between rehabbers and local department biologists is ongoing and positive.



Jeff and Becky Picton, operators of Chintimini Wildlife Rehabilitation Center, have helped hundreds of injured animals recover and return to the wild.

Another job for the new coordinator will be to educate the public that wildlife is best left alone, and that rehabbers should only be used in certain situations. "Animals in the wild are part of a natural cycle. An injured animal will either recover or serve as food for an animal higher in the food chain. Baby animals that appear to be abandoned usually aren't — parents may be temporarily away gathering food and will soon return. You can't second-guess nature," warned Puchy.

"Although wildlife rehabilitation provides an important public service, and can be of tremendous educational value, it's critical that people realize rehabbers aren't the answer to the real problem facing animals," continued Puchy. "Protecting habitat is. Attention needs to stay focused on the issues that keep populations of animals alive." □

New Responsibilities Require Change In Program

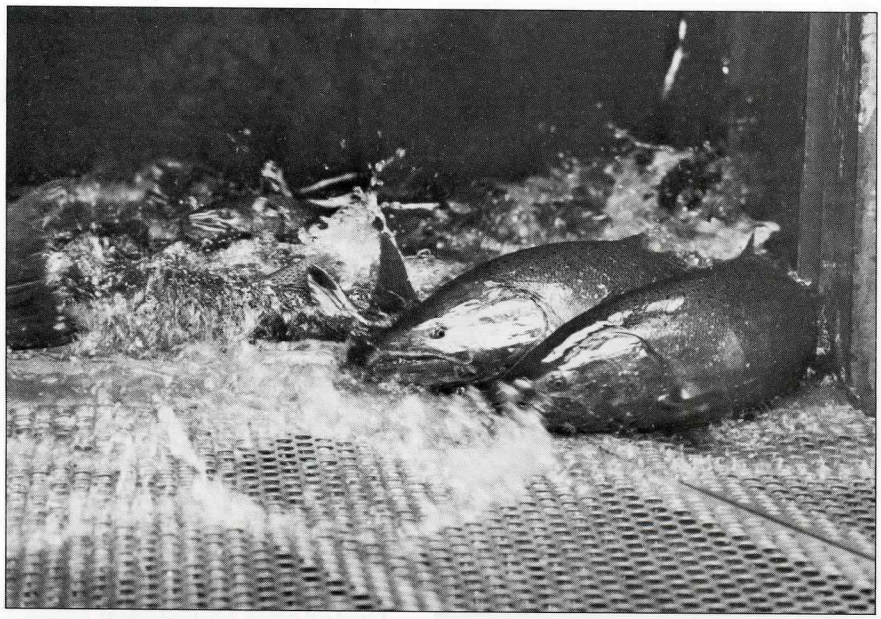
Wildlife rehabilitators form a network of trained volunteers throughout the state who will be asked to help rescue oil-soaked wildlife in the event of an oil spill. The 1991 Oregon legislature funded a full-time position to train volunteers in wildlife rescue and rehabilitation.

"Marnie Allbritten, who was recently hired for the position, will be responsible for making sure Oregon rehabilitators have the training and background to respond to an oil spill. She will also coordinate the day-to-day efforts of rehabbers around the state," said Puchy.

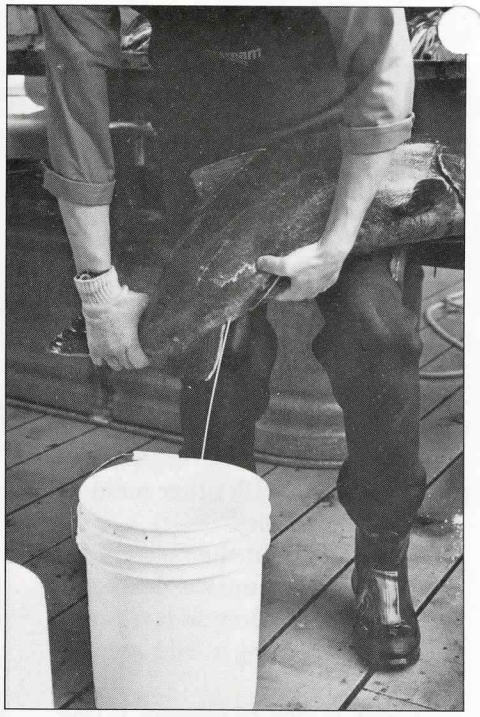
"The network of rehabilitators in the future will be better trained to function on an individual basis and much more capable of responding to widespread disaster as well," Puchy said.

Answers from 'Herptiles' Page 15.

	Lays eggs in water	Lays eggs on land	Lays soft, shell-less eggs with a leathery shell	Lays eggs with a leathery shell	Has moist, tough, smooth skin	Has dry skin covered with scales	Has no claws	Has claws	Has gills at least part of its life	Has lungs	Reptile	Amphibian
Northwest Pond Turtle		✓		✓		✓		✓		✓	✓	
Pacific Rattlesnake		✓		✓		✓	✓			✓	✓	
Northern Alligator Lizard		✓		✓		✓		✓		✓	✓	
Pacific Tree Frog	✓		✓		✓		✓		✓			✓
Alligator		✓		✓		✓		✓		✓	✓	
Tadpole	NA	NA	NA	NA	✓		✓		✓			✓
Rough-skinned Newt	✓		✓		✓		✓		✓			✓
Green Sea Turtle		✓		✓		✓		✓		✓	✓	
Pacific Giant Salamander	✓		✓		✓		✓		✓			✓



The Dexter Dam fish trap uses a high-tech approach — an elevator that brings the fish up a shaft filled with water and allows a gentle transition into an anesthatizing bath.



Milt from this fall chinook at Fall Creek Hatchery is mixed with eggs to begin fertilization.

A Salmon Spawning Spectacle

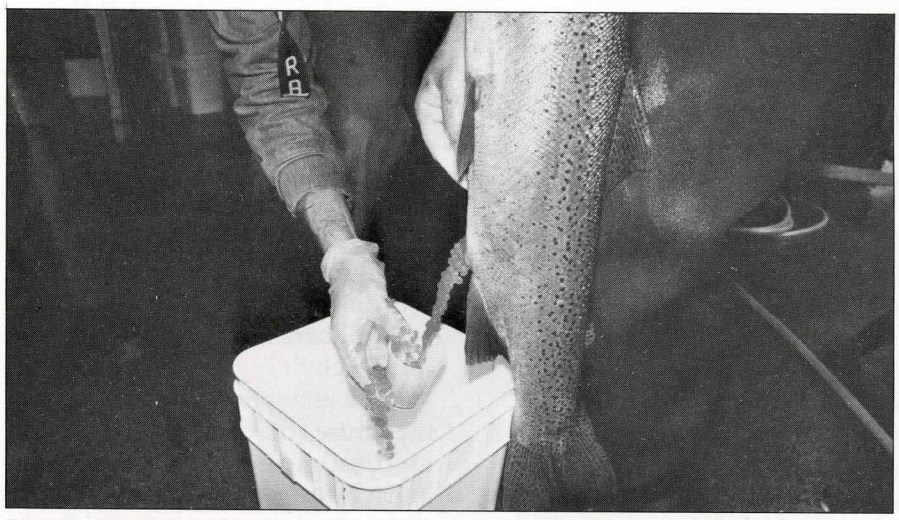
Story and photos by Randy Henry

Changing seasons never go unnoticed at a fish hatchery. Each new season means another stage in the rearing of the millions of fish that anglers and commercial fishermen rely on for their sport and their livelihood.

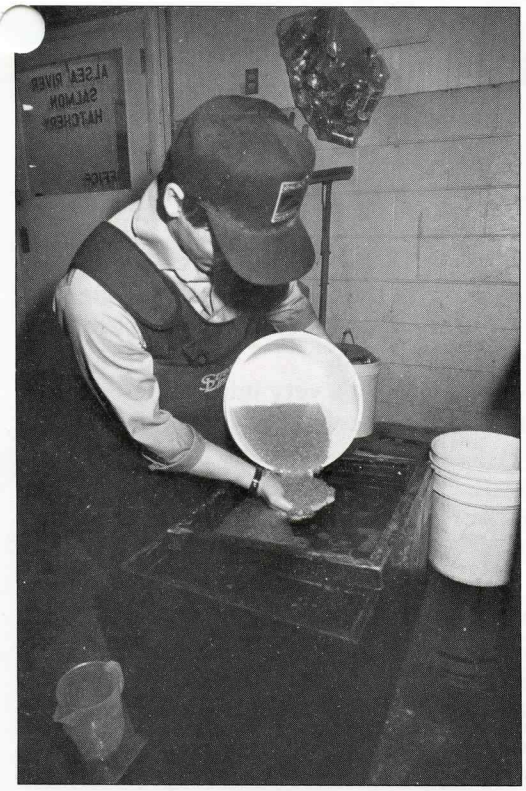
It is from these hatcheries that 70 percent of the fish caught by anglers are produced. Salmon, steelhead, trout and even some largemouth bass are their specialties. Each new generation begins with the spawning process.

Spawning varies as much from species to species as it does from hatchery to hatchery. Steelhead and sea-run cutthroats are typically spawned from February to March. Coho and chinook salmon are spawned from August to December. Rainbow trout from September to February. Largemouth bass in May.

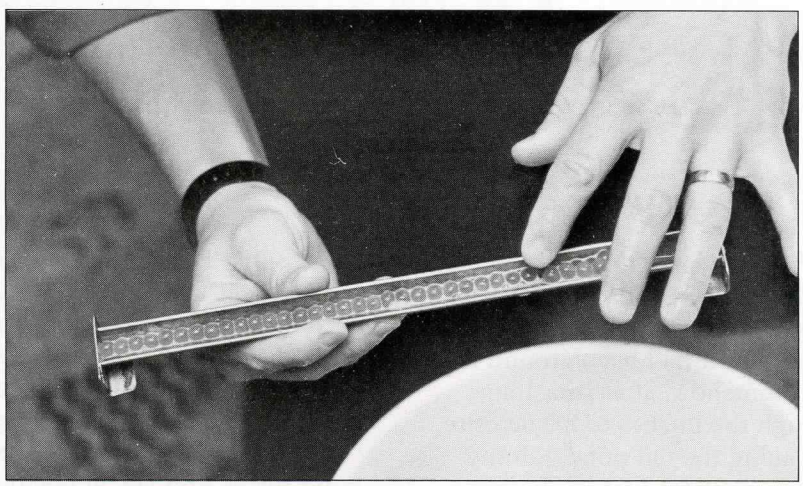
Fall and winter is the time for salmon spawning, but many hatcheries will continue to spawn steelhead and rainbow trout into the early spring. Nearly all hatcheries allow visitors to stand and watch the process — some from special viewing rooms and some from the doorway. Hatchery managers suggest interested viewers call to confirm if and when spawning will occur. □



Eggs are stripped from this female winter steelhead at a trap on the North Santiam. Samples taken here will be tested for disease.



After fertilization is complete, eggs are put into a disinfectant ...h to kill diseases that might be transmitted by the par-...s.



Eggs are sized to give an estimate on the number gathered.

Eggs are then placed in trays where they are carefully watched and development begins.

Spawning Schedule

Contact Hatchery For Confirmation

Hatchery	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
Alsea				CtS	StW	StW		
Bandon		ChS	ChF	Co	StW	StW		
Big Creek	ChF	ChF	ChF		StW, CtS	StW, CtS		
Bonneville	ChF	ChF	ChF					
Cascade			Co					
Cedar Creek	ChS	ChF			StW, StS, CtS	StW, StS, CtS	StW, StS, CtS	
Clackamas	ChS	ChS						
Cole Rivers	ChS	ChS	Co	Co		StS		
Fall Creek			Co, ChF					
Klamath				Rb	Rb			
Klaskanine			Co					
Leaburg				StS	StS			
Lookingglass		ChS						
Marion Forks	ChS, StW							
McKenzie	ChS							
Nehalem			Co		StS	StS		
Roaring River			Rb	Rb	Rb			
...k Creek	ChS	ChS, ChF	ChF			StS	StS	StW
...non River		ChF	Co	Co				
Sandy			Co					
Trask	ChS	Co	Co, ChF					
Willamette	ChS	ChS			Rb			
Wizard Falls			AS, Bt, Br	AS, Bt, Br				

Co - coho
StS - Summer Steelhead
StW - Winter Steelhead
Bt - Brook Trout
ChS - Spring chinook
Br - Brown Trout
ChF - Fall chinook
CtS - Searun Cutthroat
Rb - Rainbow
AS - Atlantic Salmon

Western Pond Turtles

By Randy Henry

Once considered tasty, now hard to find

If turtles were more like humans, this one would have a long, white beard, thought Johnny. It looked like it had been around forever. Somehow, after thrashing through the bushes to his favorite spot along the old pond, Johnny ended up sitting just yards away from the pond turtle and didn't scare it away. This was rare, he knew.

So he sat and looked at the turtle. The turtle looked back, its head shifting ever so slightly in small, jerky motions. Its mouth opened and it began to speak.

"Well aren't you a picture of exhaustion? Too much studying, huh?" said the turtle.

Johnny was shocked. "Too much caffeine," he thought. "Too much time in biology class studying amphibians. I definitely need a break." But then Johnny realized what was happening — this was a dream created to help him deal with a problem. The problem was that tomorrow his biology report was due. And he didn't even have a subject — just this book on turtles and a long night ahead.

"So stop looking stunned. You've got a report to write, and I've got a story to tell," said the turtle. Johnny prepared his pen, blinked carefully several times and was surprised to see that the turtle remained.

He looked back at the turtle and considered the situation. "Two can play at this game," he finally said. He scanned the index of the book for "Pond Turtles," thumbed to chapter 11 and prepared to take notes.

"Are you ready? I haven't got all day," said the turtle.

"Great. My first study-induced hallucination and I get a turtle with an attitude. This is my hallucination. I'm going as fast as I can. Let's see — according to this, you are the color of mud and have been called a mud turtle. Hmmm. You used to be quite common in Oregon. Is that right?"

"Our proper name is the western pond turtle. And yes, at one time we were abundant in Oregon. Early naturalists once counted more than of 1,000 of us in a 2.5 acre (one hectare) unit. That was back in the good old days before you guys figured out we were so tasty. And if we weren't used as hors d'oeuvres, we were captured as pets, sold in pet stores and sometimes sent to foreign markets to satisfy other interests or tastebuds willing to pay our high price."

Johnny gulped. He didn't realize this delusion would turn into a lecture. "I'm sorry," he said. "I caught one of you guys once when I was little. You didn't live very long in the house."

"Yea. Well, that happens. But that's not the worst of it. In the last 100 years or so, we've had all these new predators crowding us out. Snapping turtles from the east coast, bull-frogs from all over, even non-native fish. They're constantly chewing on our young, giving us diseases or taking our food. It's a real problem. Unfortunately, we've got an even bigger problem."

Johnny gulped again. "And what's that?" he asked.

"Habitat loss. Humans keep turning prime turtle habitat into golf courses, pastures, parks, farms . . . Or you cut the trees down around the ponds, or build highways along the rivers. Do you know why the turtle crossed the highway? To go lay eggs in its traditional nesting grounds! Do you know how hard it is for one of us to cross a highway with those huge trucks roaring by at the speed of heat? Needless to say, it's tough."

"That's very interesting — I hadn't even considered all that. But in our class, we did learn a few things that you probably didn't know," said Johnny. "For one, you're protected now! It is illegal to capture, keep, harass or bother you in just about every way."

"Be sure and tell your little brother that. He tried to catch me twice last week," said the turtle.

"I'll tell him. We also found out that there's only a few populations left in the Willamette Valley — there was a survey in the 1980s where they tried to find out how many of you were left. Also, the Department of Fish and Wildlife is working with landowners to protect what populations they did find. They're trying to get federal funding so they can work with other agencies and groups to learn more about you. If I didn't know you were a delusion, I'd send 'em on down."

"Thanks but no thanks. Now is there anything else we need for this report you're doing?" asked the turtle. "Would you like a few turtle jokes to go along with it — like this one: What's red and green and goes sixty miles an hour? . . ."

"This is getting seriously strange. If you don't mind, I'll leave now. Thanks for the help and hopefully we won't talk again soon," said Johnny. All was quiet for a moment until a loud thump startled him awake. He yawned, picked his book up from the ground where it had dropped and began to replay the dream in his mind. "That's not a bad idea for my report," he said as he disappeared through the brush and headed back home. □

HOORAY FOR HERPTILES!

By Bill Hastie

Turtles *are herptiles,* or "herps" for short. So are salamanders. But just exactly what is a herptile? If you said, "one of those creepy-crawly things", you'd be fairly close!

The word "herptile" comes from the Greek word "Herpeton", which means "crawling thing". Turtles, snakes, lizards, frogs, salamanders, and alligators and crocodiles are all herptiles. Herptiles include two very different groups of animals: reptiles and amphibians (am•'fib•ee•uns).

Early naturalists thought that reptiles and amphibians were very closely related, so they usually studied them together. This is why the two groups are often lumped together under the word "herptile". Even though we know today that reptiles and amphibians are very different groups, the name "herp" is still used to describe both.

Reptiles and amphibians do have lots in common. Most herps shed their skin several times a year. Snakes, for instance, often leave their skins around for humans to find. Many other herps actually eat their shed skins, since it is a good source of protein.

Some herps can change color. They have skin cells called chromatophores (crow•'mat•o•fores), which can change color when they are triggered by humidity, temperature, or changes in the amount of light.

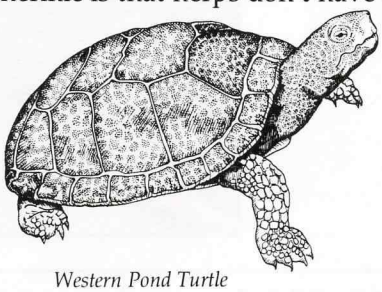
Herps are ectothermic (ek•tow•'therm•ik), or cold-blooded. They must depend on the sun or some other outside source to warm their bodies, unlike us humans. One advantage to being ectothermic is that herps don't have to eat as much as birds and mammals to keep their bodies at a constant temperature.

So, if herps have so much in common, why divide them into two groups, the reptiles and amphibians? Well, they also have some big differences. Generally speaking, you can see that there really are some differences between reptiles and amphibians. But do you know which herps belong to which group?

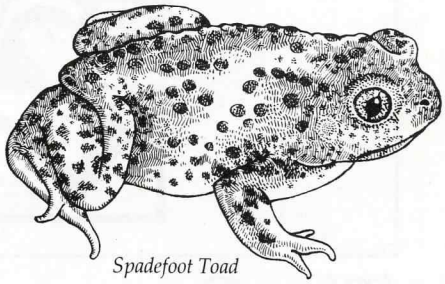
Test your knowledge below. For each herp, make a mark in the box that describes its characteristics. Then determine whether it is an amphibian or reptile. Answers are on page 11.

For more great reading about herptiles: Ranger Rick's Nature-Scope, "Let's Hear It For Herps!", National Wildlife Federation, 1412 Sixteenth St., N.W., Washington, D.C. 20036.

Horned Lizard



Western Pond Turtle



Spadefoot Toad

AMPHIBIANS

- lay their eggs in water
- lay soft, shell-less eggs with a jelly-like covering
- have moist, smooth skin
- most don't have claws
- have gills at least part of their lives

REPTILES

- lay eggs on land
- lay eggs with a leathery shell
- have dry skin covered with scales
- most have claws
- have lungs

OREGON Fish & Wildlife	Lays eggs in water	Lays eggs on land	Lays soft, shell-less eggs with a leathery shell	Lays eggs with a leathery shell	Has moist, tough, smooth skin	Has dry skin covered with scales	Has no claws	Has claws	Has gills at least part of its life	Has lungs	Reptile	Amphibian
Northwest Pond Turtle												
Pacific Rattlesnake												
Northern Alligator Lizard												
Pacific Tree Frog												
Alligator												
Tadpole												
Rough-skinned Newt												
Green Sea Turtle												
Pacific Giant Salamander												

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