The following is taken from a publication entitled, WILDLIFE MONOGRAPHS - A STUDY OF WATERFOWL ECOLOGY ON SMALL IMPOUNDMENTS IN SOUTHEASTERN ALBERTA, Lloyd B. Keith, 1961.

While no concentrated effort was made to collect geese for stomach analysis, 5 specimens were secured incidentally... Each of the geese examined had fed almost exclusively on blades of grass... p 34

A herbicide spray, consisting of a mixture of 2,4-D and Dalapon, was applied at a rate of 12.5 lbs. (active ingredient) of Dalapon per acre. Approximately 0.5 acre of cattail bordering 3 potholes was sprayed... After the third week of May, there was a vast difference in treated ad untreated shorelines. Adult ducks of all species responded... Usage of sprayed potholes increased to almost 4 times that of unsprayed potholes... p 48

...observations indicate that cattle effectively checked the development of cattail along shorelines by trampling the young seedlings... p 30

While lesser scaups usually nest on dry ground, it was surprising to find 50 percent of the redheads and ruddy ducks, and even 2 of 18 canvasbacks also nesting on land. p 50

In 1954, 17 of 29 pintail nests were discovered on ground that had been completely denuded of vegetative cover by an April 13 prairie fire. Some of these birds nested only a few feet from unburned areas with excellent cover... Most canvasback nests over water were placed in open rather than dense stands of emergents. p 51

No marked differences were noted in average plp values that could be related to predation, either between cover types or between hatched and destroyed nests within cover types. Destroyed nests in cattail and Juncus cover had slightly better concealment than hatched nest. Many previous workers have reported that nest concealment had little or no bearing on nest losses to predators. p 62

Nest losses within the first 25 feet of water were significantly greater in Juncus-cattail cover than beyond 25 feet... The reason for this increased predation in the 1-25 foot zone, probably...rests with the feeding behavior and/or movements of the principle nest predator, the skunk. Two possibilities suggest themselves: (1) skunks may be attracted to Juncus and cattail cover, because vegetation there is densest and they can search unseen for food, or because other foods aside from duck eggs (frogs, snakes, invertebrates, etc.) are more abundant; and (2) skunks may simply discover more nests in this zone because its usually damp conditions make nest odors easier to detect. p 62

The number of mammal free islands [in this study area] during any one year varied from 4 to 7, depending on water levels in [the] lake... Hatching success was very high compared to other sections of the study area, averaging 76 percent. Two nests were lost to avian predators and none were destroyed by mammals. p 63

Hatching success on unfenced mainland areas was 35 percent, less than half that on the mammal-free islands. The striped skunk accounted for most of the nest destruction, and very likely the coyote (included under unknown predation) was second in importance. Weasels killed 6 hens at 417 nest sites, and avian predators destroyed 8 nest. No nest were lost to trampling by cattle. p 64

In A-area, hatching success was significantly lower than on nearby unfenced areas - amounting to only 22 percent [nesting success]... The dense growth of vegetation that developed in the absence of grazing in A-area was very attractive to nesting waterfowl... Unfortunately, skunks were also attracted to this fenced area... Bennett (1938b: 100-102) reported a marked increase in both skunk and badger populations after grazing was discontinued on a portion of his Iowa study area. p 64 & 65

The various breeds of dogs, a weimaraner, a Brittany spaniel, a cocker spaniel, a Labrador-Alsatian cross, and a Labrador-Chesapeake cross, were used with excellent results for hunting nests. p 21

Dogs were used in the nesting study frequently located broods traveling between water areas; coyotes and weasels were undoubtedly as efficient in this regard, and must have inflicted considerable losses at such times. p 72

Three instances of predation on ducklings were witnessed: a marsh hawk taking an early Class-I gadwall, a California gull taking an early Class-I blue-winged teal, and a Swainson's hawk taking an early Class-III pintail. p 72

Munro (1941) declared that one of the chief causes of death among scaup ducklings in British Columbia was drowning or suffocation after becoming entangled in weeds or mats of filamentous algae... The bottoms of lakes and potholes also were sometimes covered with this algae. In attempting to escape capture on banding drives, etc., young ducklings often dove and became thoroughly entrapped in submergent algal masses. Theoretically, harassment by predators could have produced the same effect. p 72

IMPORTANCE OF SOLAR RECEPTION

Independent Study, by Western Farm Management Company, Phoenix, Arizona, Malheur National Wildlife Refuge 1976 - A. George Vensel Wrote:

The importance of solar radiations penetrating the vegetation cannot be overlooked. - - - Height of vegetgation was 12 incehes and there was a mat of litter approximately six inches thick. The solar reception was 0 at ground level, 6 above the litter mat, and 7 above the vegetation.

Density of vegetation was low in comparison to other plots and the grasses and grass like plants were in an earlier phenological stage as evidenced by the general absence of seedheads. I suggest that this is due mainly to the excessive litter buildup as a result of approximately four years of non-use.

The litter buildup decreased solar reception at the root crown and photosynthesis was thereby impeded, plant density decreased and plant vigor dropped.

BALANCE BETWEEN HAYED-PASTURED LANDS AND MARSH LANDS

Technicl Support for Position Statement on Franklin Lake by the Nevada Chapter of the Wildlife Society, February 24, 1987, President Larry Barngrover, acting Region II superviser of Nevada Department of Wildlife.

Presently a balance exists between the use of land surrounding the Lake for ranching and the undisturbed marsh. Many forms of wildlife, including cranes, geese, ibis, and others, rely both on the presence of irrigated grazed and hayed pasture and on the adjacent wetlands. Few hayed meadows exist at Ruby Lake, and certain species are believed to shift to Franklin Lake to take advantage of superior feeding conditions.

BENEFITS OF GRAZING IMPACTS ON MARSH EDGE

The following was taken from a paper presented at the WILDLIFE-LIVESTOCK RELATIONSHIPS SYMPOSIUM held at Coeur d'Alene, Idaho, April 1981, by James R. Rees, Biologist U.S. Fish and Wildlife Service, Turnbull National Wildlife Refuge, Cheney, WA.

Sowls (1955) found cattle grazing increased nest densities in Bulrush areas.

Completely undistrubed Bulrush habitat fills in over a period of years until there is a uniform mulch layer of previous years growth that may be 0.6m above the water level. This mulch hinders nesting and brooding, and excludes submergent plants and invertebrates. Cattle trails open the solid stands to access by ducks and tramples the Bulrush into the water where it is available as food for detritus-feeding invertebrates (Kaminski and Prince 1981)

It has been shown that grazing results in greater vegetation diversity than no grazing (Kelting 1954).

Grazing not only can create a variety of recovery stages among several grazing units, but can create a diversity of micro habitats that very from untouched areas to heavily grazed areas (Kelting 1954).

To obtain the greatest diversity of invertebrates, Morris (1971) recommended rotation grazing.

UPLAND SAGE BRUSH-GRASS TYPES

The following is taken from a paper presented at a workshop on Livestock and Wildlife Fisheries Relationships in the Great Basin --May 1977 Sparks, Nevada by Harold E. Heady Professor of Range Management, University of California, Berkely.

We found that the Agropyran Spicatum plants in the poorest vigor had not been grazed. They tended to build up mulch in dead centers; They were subject to fire damage much more than grazed plants; The leaves were short and yellowish; and they produced very few seed heads. Grazing but not over grazing has a beneficial effect on Agropyran Spicatum and on the other perennial bunch grasses.

BENEFITS OF HAYED AND GRAZED MEADOWS

The following was taken from an Independent Study done by Western Farm Management Company, Phoenix, Az. Malheur National Wildlife Refuge 1976 - Referance made to "Some Waterfoul-Agriculture Relationships on the Malheur National Wildlife Refuge, Oregon" by R.C. Erickson, during Early history of the Malheur Refuge.

Grazed rye-grass meadows surrounding Malheur Lake and in the lower parts of the Double-O Ranch Unit became concentration centers for large numbers of Lesser Snowgeese, Common Canada Geese, and smaller numbers of White-Fronted Geese, especially when the flats contain interspersed shallow pools of run-off water, Ibid, P. 30.

In the Blitzen Valley mowing of sedge meadows results in an early growth that is acceptable to Canada Geesse and White Fronted Geese, especially when the meadows are flooded lightly. Pre-nesting ducks frequent all newly flooded, grazed or hayed fields usually to a much greater extent than on ungrazed or unmowed areas. - - - Here again the more bare terrian maybe the important factor inviting greater use. Ibid, P.31.

The use by water foul of a shoreline margined with emergent vegetation almost invariably shows a substantial increase when the vegetation is largely removed or trampled by livestock, Ibid. P.31.

Erickson further states Study Plot III-C, commonly called Knox Swamp, bears evidence of the value of cattle trails in imporving impenetrable Bulrush cover to permit use by nesting geese. Ibid, P.32

In no instance has the reduction of plant cover by mowing or grazing appeared to decrease utilization of an area by geese. Ibid, P.32.

From the book, "TIME TO CRY WOLF" , by Lester J. McCann, Ph.D., Professor Emeritus of Biology, College of St. Thomas.

Considering ducks in terms of cover, it has been shown that the degree of cover makes no difference in improving nesting success. As mentioned in an earlier chapter, two of the most knowledgeable waterfowl experts, Kalmbach and Hammond, could find no positive correlation between cover and nesting success. Predators were able to locate nests with comparative ease no matter where the nests were located.

There is little evidence to show the amount of cover makes any great difference in protecting non-nesting birds from predators, either. Most dogs hunt in a manner very similar to canine predators, relying principally on their powers of scent to seek out the quary. Dogs usually do better when birds are in heavy cover than where the cover is sparse. In sparse cover, the birds see a dog coming, and instead of relying on the questionable safety of skulking, they flush well in advance of the dog's approach. In heavy cover, birds tend to hold, and a dog often gets close enough to catch a bird, if not restrained. Wild predators, hunting day in and day out, and more practiced in the art, are able to catch birds in heavy cover with relative ease, particularly when operating at night.

In a report before the Livestock and Wildlife-Fisheries Relationships workshops held in May 1977. Gustav A. Swanson, Professor of Wildlife Biology, Colorado State University related: We Americans have a strong penchant for seeing things as black or white, right or wrong, all or none.

I was struck by this on my first visit to Scandinavia over 20 years ago, when I visited several areas of national park status. I had been convinced that our national parks policy was the correct and logical one for national parks everywhere. Designate the national park, permit a few roads so that the public could visit and enjoy the park, but otherwise eliminate all activities of man. By all means eliminate all such obscene activities as HUNTING, GRAZING, or CUTTING TIMBER. These were contrary to park policy.

All of the Americans on a tour sponsored by the International Union for the Conservation of Nature were surprised to find that on a particular reserve in Denmark grazing of cattle was not only permitted, it was required, and Professor Ragnar Sparck, Chairman of the Nature Conservation Council, explained that only by continuing grazing could they maintain the Community for which the reserve had been established, the finest stand of juniper in the country. On another reserve which he showed us, both hunting and carefully selected cutting of timber were permitted, and he explained that the area had been designated primarily because Stone Age man had come to this site as the best source of flint for his axes and other implements, and there was abundant evidence that Stone Age man had not only used the rich outcrops of flint, but had hunted, and cut trees there. He patiently explained that the carefully regulated hunting and selective cutting, as conducted there, did not interfere, they actually contributed, to the purposes of the reserve.

Even MORE surprising was the fact that the government had not purchased these areas outright; they had simply ACQUIRED EASEMENTS which controlled the land use so as to preserve the desired features, but left the areas on the tax rolls. The Danish national policy was strongly one of multiple use, tailored to the needs and conditions of each individual area, despite the fact that these areas had the same general goals as our national parks. Our policy for similar areas in the United States would be to purchase them outright, and eliminate any cultural activities except visiting them.

In the Introduction of Chapter I of a thesis titled RELATIONSHIP OF PREDATION AND LAND USE PRACTICES TO DUCK NESTING ACTIVITIES ON VALENTINE NATIONAL WILDLIFE REFUGE, NEBRASKA, by Wilbur N. Ladd, Jr., it is recognized that less than 2% of all ducks raised on the North American Continent are produced on National Wildlife Refuges and other public lands.

If the figures used in Wilbur Ladd's thesis are correct, then apparently, 98% of all duck production must be occurring on private lands - which is the exact opposite of what the public is being told.

Interestingly, refuge personnel brag that they have been adding about 200,000 acres of prime wildlife habitat to our Nation's refuge system each year. These lands, they claim, are like crown jewels encompassing the most important wetlands on the North American Continent.

If these lands are the most important wetlands in our nation, why are they producing so little waterfowl? Much of the reason, I believe, is reveled in Wilbur Ladd's study publication. Government never does anything right, even when they know what they are doing is wrong. For years federal employees have been removing livestock from refuge system lands even though their own studies tell them that livestock grazing is the greatest tool ever used for improving wildlife habitat.

The same thing can be said about predator control. Our government people know the truth. Yet they go on year after year, hiding the truth from the public.

See the attached summery of Wilbur Ladd's thesis. See also other attached summerys.

Information from PRAIRIE DUCKS by Lyle K. Sowls

Study done on the Delta Marsh, Manitoba Canada

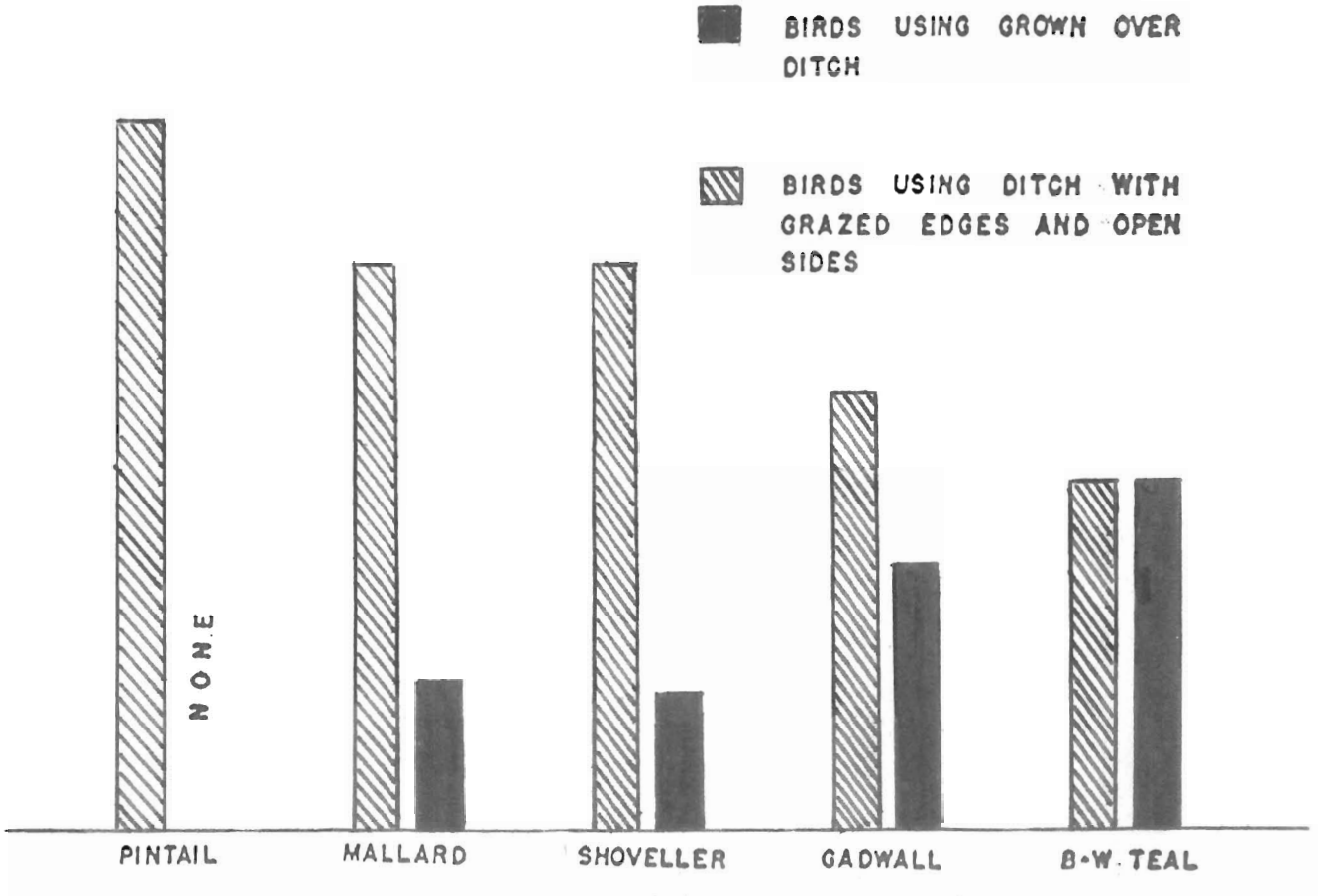

Figure 20. Comparative populations of five species of puddle ducks on two equal lengths of ditch during 1947 based on 22 counts.