

Appendix G

Table 1. 1996 Noxious Weed List Revised 2004 for Yuma County

Common Name	Scientific Name
Field bindweed	<i>Convolvulus arvensis</i>
Canada thistle	<i>Cirsium arvense</i>
Musk thistle	<i>Carduus nutans</i>
Silverleafed Povertyweed	<i>Ambrosia tomentosa</i> Nutt.
Woolyleafed Povertyweed	<i>Ambrosia grayi</i>
Jointed goatgrass	<i>Aegilops cylindrical</i>
Leafy spurge	<i>Euphorbia esula</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Spotted knapweed	<i>Centaurea maculosa</i>
Russian knapweed	<i>Centaurea repens</i>
Saltcedar	<i>Tamarix ramosissima</i>
Hoary Cress	<i>Cardaria draba</i>
Dalmation Toadflax	<i>Linaria genistifolia</i> ssp. Dalmatica

Table 2: Noxious, troublesome weeds* and woody plants found at Bonny Reservoir and mentioned in Direct Control Methods

Species	Life History
Canada thistle (<i>Cirsium arvense</i>)	Perennial with creeping rhizomes
* Cottonwood (<i>Populus</i> spp.)	Trees
* Downy Brome (<i>Bromus tectorum</i>)	Annual, persistent
Field bindweed (<i>Convolvulus arvensis</i>)	Perennial with creeping rhizomes
Musk thistle (<i>Carduus nutans</i>)	Biennial
Puncture vine (<i>Tribulus terrestris</i>)	Annual, easy to control by establishing perennial vegetation
Russian olive (<i>Elaeagnus angustifolia</i>)	Shrub or small tree
Russian thistle (<i>Salsola iberica</i>)	Annual
Saltcedar (<i>Tamarix ramosissima</i>)	Trees
* Sunflower (<i>Helianthus annuus</i> L.)	Annual
* Willows (<i>Salix</i> spp.)	Shrub

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Photographs of Yuma County Noxious Weeds and troublesome plants at Bonny Reservoir



Canada thistle (*Cirsium arvensis*)

A perennial reproducing by seeds and horizontal roots. Canada thistle has an extensive, creeping root system. Root buds will come from depths of 3 feet or more to emerge and produce more plants for seed production. The leaves of Canada thistle are many lobed with spines on the ends of the lobed. Spines are absent on the stem. They stand from 1 to 5 feet tall with small, compact rose-purple or white flowers. Canada thistle is capable of crowding out and replacing native grasses and forbs in natural and non forested communities changing the natural structure and species composition where it can become well established.



Cottonwoods (*Populus* spp.)

Cottonwood trees growing on a dam or on soil line conveyance system can be a troublesome. Root establishment can cause water piping on earthened dam and canals when the tree dies. This can lead to the instability of an earthen dam or canal. The genus *Populus* is composed of 35 species which look similar. Cottonwood trees can reach heights close to 200 feet tall.

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Downy brome (*Bromus tectorum*)

Downy brome is an annual or winter annual, 4 to 30 inches tall reproducing by seed. It is widely distributed throughout the United States. Downy brome is common along roadsides waste areas, misused pastures and rangelands. After maturity, it becomes a nuisance and a serious fire hazard. Downy brome is also a serious problem in grains.



Bindweed (*Convolvulus arvensis*)

A creeping perennial reproducing from seeds and horizontal roots. The 1 to 4 feet stems spreads thickly over the ground and winds around erect plants. The flowers are white trumpet-shaped occurring from late June until frost. This weed can be found in cultivated field and waste places. It is hard to eradicate because of its extensive tap root and lateral roots. Seeds can remain viable for 50 years.



Musk thistle (*Cirsium natans*)

A biennial that is very prolific reproducing by seed only. Musk thistle sometimes is called "Nodding thistle". Emerges in March or April. First years growth is a large rosette from a large, corky taproot. The second year it bolts to 2 to 6 feet tall with large showy purple flowers. Blooms in late May and June. This plant can form dense stands which crowds out desirable foliage

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Puncture vine (*Tribulus terrestris*)

This plant is also called goathead, Mexican sandbur and Texas sandbur. This is an annual or perennial and due to the branching, prostrate growth form, can cover a very large area of the substrate. This plant produces a hard spiny bur which can be injurious to livestock and people. Native plants are essentially excluded from places where the puncture vine grows. Seeds can remain dormant in the soil up to 5 years



Russian olive (*Elaeagnus angustifolia*)

A fast growing tree of moderate size. The stems are reddish brown armed with 1 to 2 inch woody thorns. Leaves are narrow and silver color underneath due to scales. Flowers are yellow and arranged in clusters. The fruits are silver turning to brown olive shaped. This plant grows along roadsides, near abandoned buildings, in waste areas, and often in the edges of forests. When allowed to invade meadows, pastures, and along the perimeters of lakes and ponds it can become a serious problem.



Russian thistle (*Salsola iberica*)

A rounded, bushy, much branched annual, ½ to 3 feet tall, reproducing by seed. Stems are usually red or purple striped. It has become one of the most common and troublesome weed in the drier regions of the United States. It is well adapted to cultivated drylands agriculture, but it also found on disturbed wastelands, overgrazed rangeland and even some irrigated croplands. The mature plant can break off at ground and are scattered by wind as tumbleweeds.

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Sunflower (*Helianthus annuus*)

The common sunflower is an annual, 1 to 10 feet tall. Stems are erect, simple to much branched and rough. Leaves alternate and are simple, rough, hairy, ovate or heart-shaped, with toothed edges. The flowers are showy, with yellow to orange yellow rays flowers and brown or dark reddish-brown disk flowers. The sunflower is common weed of roadsides, fence rows, fields, pastures, and waste areas.



Saltcedar (*Tamarix ramosissima*)

A deciduous or evergreen shrub or small tree. Leaves are small and scale-like, on highly branched slender stems. Flowers are pink to white with five petals. Salt cedar was introduced from Eurasia and is now widespread in the United States. This plant has been used as an ornamental, but has escaped and become naturalized along streams, canals, and reservoirs in much of the West. Saltcedar can crowd out native riparian species besides having the capability to transpire large amounts of water per day per plant.



Willows (*Salix* spp.)

Willow can grow prolifically near most any body of fresh water and can become a pest along irrigation or drainage ditches. These plant have alternated leaf arrangement with simple leaves which are long and narrow. The flowers are in catkins and produce numerous small seeds. These woody plants can consume large quantities of water, degrade canal integrity and restrict water flow.

Photographs of Vertebrate and Invertebrate Pests found at Bonny Reservoir



Mosquitoes (Family: Culicidae)

Mosquitoes can carry West Nile encephalitis or meningitis. The symptoms of these two severe infections include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. It is estimated that 1 in 150 persons infected with the West Nile virus will develop a more severe form of disease. Symptoms of mild disease will generally last a few days. Symptoms of severe disease may last several weeks, although neurological effects may be permanent.



Spiders (Order:Araneida) Black Widow

The female black widow spider, distinguished by the red hourglass marking on the underside of her abdomen, is probably the best known and most feared of all North American spiders. In spite of the female black widow's small size of 1.2 cm (0.5 in.), its venom is quite toxic and may cause a wide range of symptoms in humans, including pain, swelling, nausea, and sometimes death. The male of this species is harmless to humans and lacks the hourglass marking on the abdomen.



Ants (Sub-Family: Formicidae)

Ants are placed in a single family, the Formicidae. They belong to the order Hymenoptera, which includes bees, wasps, sawflies, and ichneumons. A trait that characterizes ants is their body structure. The ant head is connected by a thin neck to the thorax, which is then connected by a thin "waist" to the abdomen. While this is the general structure of many insects, ants are distinguished by the waist, which is pinched down posteriorly at its connection with the abdomen.

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This section includes various mammals such as squirrels, mice, rats, voles and beavers which are found around Bonny Reservoir. These mammals can cause various types of damage to soil lined water conveyance system by burrowing into the outside and inside slope, or burrowing into the face of an earthened dam. In addition, mice can be vectors of various diseases such as Hanti virus while prairie dogs can be a vector for Bubonic plague.



Richardson Ground Squirrel (*Spermophilus richardsonii*)

This squirrel is a burrowing mammal, which prefers to inhabit sandy, well-drained soils of prairies and pastures throughout north and eastern North Dakota. Also known commonly as the "flickertail," it is buffy yellow in color with a light brown tail tinged with black. The ears are very short and appear as open slits in the side of its head.



Meadow Mouse (*Microtus* spp.)

Microtus pennsylvanicus is the most widespread vole in North America. Its east to west range is continuous from central Alaska to the Atlantic coast. South of the Canadian border, its western limit is the Rocky mountains. The meadow vole is found as far south as New Mexico and Georgia (Maser and Storm 1970).



Deer Mouse (*Peromyscus* spp.)

The deer mouse color varies greatly with habitat and geographic area. Often grayish to reddish brown above; white below. Tail distinctly bicolored and shorthaired. two forms in eastern part of range: woodland and prairie. Woodland form has much longer tail and larger feet, ears, and body than prairie form. Because it is the most common species in many small mammal communities and is exceedingly variable, the deer mouse can be difficult to distinguish from other

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Kangaroo Rat (*Dipodomys ordii*)

Any of 22 species of bipedal North American desert rodents with a tufted tail. Kangaroo rats have large heads and eyes, short forelimbs, and very long hind legs and feet. Fur-lined external cheek pouches open alongside the mouth and can be everted for cleaning. Kangaroo rats are considered medium-sized, weighing 35 to 180 grams.



Norway Rat (*Rattus norvegicus*)

Similar to the roof rat but larger and chunkier; tail shorter than length of head and body. External measurements average: total length, 440 mm; tail, 205 mm; hind foot, 46 mm. Weight, 400-500 g.



Bushy Tailed Rat (*Neotoma cinerea*)

Often brownish peppered with black hairs above, but varies from pale grayish to blackish; whitish below. Tail squirrel-like, bushy, and flattened from base to tip.

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Black-tailed Prairie Dog (*Cynomys ludovicianus*)

A close cousin of the ground squirrel, the Black-tailed Prairie Dog is a heavy-bodied rodent with a black-tipped tail. Prairie dogs have large eyes, short tails and a brownish-tan pelage.



Striped skunk (*Mephitis mephitis*)

The size of this noxious odorous creature is similar to that of a housecat. It has a small, black head with a white stripe between the eyes and two broad white stripes, which meet at the shoulders of its black back. The tail is black with a white tip or fringe.



Beaver (*Castor canadensis*)

The beaver is a semi-aquatic rodent noted for the building of dams. There are only two kinds of beavers, the American beaver and the Eurasian beaver. The two species share similar behavior and anatomy, although they have some small physical differences, such as the shape of the nasal bones. They are large rodents; the average adult beaver weighs about 16 kg (about 35 lb), but specimens as heavy as 40 kg (90 lb) have been found.

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Feral Pig, Wild Pig

Any of the wild members of the pig species *Sus scrofa*, family Suidae. The term boar is also used to designate the male of the domestic pig, guinea pig, and various other mammals. The term wild boar, or wild pig, is sometimes used to refer to any wild member of the *Sus* genus. These wild pigs can cause riparian damage from rooting activities around Bonny Reservoir.

Photographs of Potential Invasive Weeds and Pest to consider for immediate eradication at Bonny Reservoir

These plants have the potential to push out native plant and can create large monocultures; in some cases, some of these plants can be toxic to wildlife and man. These plants have the potential to develop extensive root systems, which can out compete native plants.



Dalmatian Toadflax
(*Linaia genistifolis* spp. *Dalmatica* L.)

A creeping perennial with snapdragon-shaped bright yellow flowers with orange centers. This plant spreads by seed and rootstalks. The extensive root system with waxy leaves make it hard to control. The leaves are waxy, heart-shaped, and clasp the stem. It blooms in summer-fall.

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Leafy spurge (*Euphorbia esula* L.)

A perennial reproducing by seeds and creeping roots. Shoots are 1 to 3 feet high with a milky latex inside. The roots will grow to a depth of 15 or more feet. The seeds are propelled 15 feet from the parent plant. Leaves are alternate and narrow in shape. Three small, yellowish-green flowers are enclosed in a pair of yellowish-green, heart-shaped bracts. Roots are brown with pink buds, for new plant growth. Flowering occurs in May-June (Bracts have the appearance of flowers).



Purple loosestrife (*Lythrum salicaria* L.)

A rhizomatous perennial with erect stems, often growing 6 to 8 feet tall, usually associated with moist or marsh sites. Leaf are simple, entire, and opposite or whorled. Rose-purple flowers have five to seven petals and are arranged in long vertical raceme and have a square stem. A species often found growing along marsh, pond, lakes and river margins, canals, wet meadows. Populations of purple loosestrife often spread so aggressively that native vegetation is suppressed and the structure of wetlands are altered.



Scotch thistle (*Onopordum acanthium* L.)

A biennial that grows up to 12 feet tall. Stems have broad spiny wings. Leaves are large, spiny, and covered with fine dense hair, giving a grayish appearance. Upper leaves are alternate, coarsely lobed; basal leaves may be up to 2 feet long and 1 foot wide. Flower heads are numerous, 1 to 2 inches in diameter, bracts spine-tipped.

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Yellow starthistle (*Centaurea solstitialis* L.)

An annual, 2 to 3 feet tall, has rigid branching, winged stems covered with a cottony pubescence. Basal leaves are deeply lobed while upper leaves are entire and sharply pointed. Flower heads are yellow, located singly on ends of branches, and armed with sharp straw-colored thorns up to 3/4 inch long. Fruits from ray flowers are dark-colored without bristles, while fruits from disk flowers are lighter and have a tuft of white bristles.



Yellow toadflax (*Linaria vulgaris* Mill)

A perennial commonly known as “Butter and Eggs” reproducing by seed and underground rootstocks. It is an aggressive perennial. The leaves are narrow and pointed at each end. The flowers are yellow, bearded with an orange throat and spur-like appendages. There are no natural enemies of the toadflaxes in the United States, so they tend to spread quickly.



Spotted knapweed (*Centaurea maculosa*)

Spotted knapweed is a perennial that reproduces from seed and forms a new shoot each year from a taproot. The plant can have one or more shoots up to 4 feet tall. Rosette leaves can be six inches long and deeply lobed. Flowering heads are solitary and are 1 inch in diameter. Flower color is lavender to purple. Seed head bracts are stiff and black tipped, with five to seven pairs of short feathery appendages.

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Diffused knapweed (*Centaurea diffusa*)

Diffused knapweed is a biennial or short-lived perennial forb, which reproduces only by seed. The plant produces a single main much-branched stem up to 2 feet tall. A basal rosette of leaves is present in young plants with each leaf divided into narrow segments. Flowers are mostly white, sometimes purple and are located on each branch tip. The bracts surrounding each flower bear four to five pairs of lateral spines and one long terminal spine. Diffused knapweed can resemble spotted knapweed with the black tipped bracts.



Russian Knapweed (*Acroptilon repens*)

Russian knapweed is a creeping perennial introduced from Europe. It reproduces by seeds and creeping, horizontal roots. Roots, which are both vertical and horizontal in the soil, may or may not be black with a scaly appearance. The ridged stems are erect, rather stiff, branched, and 1 to 3 feet high. Young stems are covered with soft gray hairs or nap. The upper leaves are small and narrow with broken edges. Leaves attached midway up the stem have slightly toothed margins, while basal leaves are deeply notched. The flowers are thistle-like, solitary, terminal, 1/3 to 1/2 inch in diameter and lavender to white. The plant flowers in June to August and seed is produced in later summer to early fall.



Zebra Mussels (*Dreissina polymorpha*)

Zebra Mussels are small clamshells (1/2 - 2 inches) which attach to any solid object with tufts of fiber called "byssal threads." They are native to the Caspian Sea region of Asia, and were introduced into North America in the mid 1980's via transoceanic ships that discharged ballast water into Lake St. Claire, near Detroit. These tiny mussels were first discovered in North America in Lake Erie in 1988, most likely introduced through the discharge of ballast water from a European vessel. A single zebra mussel female can produce in excess of 30,000 eggs, and the generations mature rapidly, making it difficult to control them. A body of water may have no detectable zebra mussels one year, and have its bottom covered with them the next.