Klamath Basin Coalition Briefing Paper

Restoring the Klamath Basin's National Wildlife Refuges is Key to Restoring the Klamath Basin

In the debate over how to balance the many competing demands for water in the arid Klamath Basin, one fact is certain: we have promised too much of this precious resource to too many interests. Any long-term solution to the Basin's woes must focus on reducing the demand for water. A key first step should be phasing out the practice of leasing land on Klamath Basin National Wildlife Refuges (NWR) for commercial agriculture.

This simple and inexpensive step could reduce demand within the massive Klamath Irrigation Project by over 10%, or approximately 60,000 acre-feet of water.[1] Restoring these refuges to marsh will also increase natural water storage capacity by 100,000 acre-feet on Tule Lake National Wildlife Refuge alone. Currently, administration of the refuges' farming program costs the Fish and Wildlife Service and Bureau of Reclamation between $313,000 and $363,000 per year. Restoration of native habitat in the refuges will require only adding water. Once the pesticides and tractors depart, native seeds, preserved underground, will spring to life. While the cost of restoration will be minimal, the benefits will be substantial.

Irrigation interests have argued against ending commercial farming on refuge lands, claiming the program is good for wildlife. But while the lease land program is a sweetheart deal for many irrigators, it creates serious problems for the Basin's wildlife and exacerbates the region's severe water storage and water over-allocation problems. The refuges' commercial farming program contradicts the fundamental purpose of the refuges, dramatically reduces food and habitat for wildlife, uses toxic pesticides and herbicides, and blocks a key solution to the Klamath Basin's water problems:

Water Use and Storage Problems

- Commercial agriculture on refuge lands uses roughly 60,000 acre-feet of water, blocks over 100,000 acre-feet of water storage, and intensifies water problems in and around the refuges. For example:

  The refuges suffer from chronic water shortages. U. S. Fish and Wildlife Service ("USFWS") documents indicate 2002 was the sixth year out of the last 13 when the refuges received no water in the fall, when peak waterfowl migration occurs.

  Chronic lack of water degrades marsh habitat, disrupts waterfowl migration, and reduces the food supply for threatened bald eagles.

  Lack of winter water storage forces the refuges to rely heavily upon water deliveries during the summer and fall, when competition and irrigation demand is the highest.

  Combating avian botulism–a disease that can kill thousands of birds on the refuge in a single outbreak–requires the ability to alternatively flood or drain different parts of the refuge. Refuge water shortages insure the increased prevalence of botulism by preventing essential water management.[2]

  Silt from agricultural runoff has filled in most remaining deep water (>3 ft.) habitat in Tule Lake, forcing resident endangered suckers to take refuge in one small section of the lake during the summer. Refilling the leaselands would provide significant deep-water habitat gains in the lake for fish.

[1] *Implementation of Agricultural Program on Tule Lake NWR*, Draft EA, USFWS 2001, p. 1.10
[2] *Development of Water Supply Production Wells for Lower Klamath NWR*, Final EA, USFWS 2001, p. 26

Loss of Wildlife Habitat

- Under the Kuchel Act, commercial agriculture should be permitted on the refuges only when it is "consistent" with waterfowl management. However, the lack of wetland habitat diversity and productivity has caused significant declines in waterfowl use of Tule Lake NWR.[3] Biologists have blamed poor habitat, poor wildlife food production, siltation, and unnaturally dense vegetation on the refuges for declines in duck populations on Tule Lake.[4] All of these problems result from or are aggravated by the large-scale presence of agriculture on the refuges. Scientists have also blamed crop harvest patterns on both Lower Klamath NWR and Tule Lake NWR for goose declines.[5]

- *Less than half of the Tule Lake NWR's potential waterfowl habitat is available for waterfowl.* Not including Tule Lake refuge's 8,476 acres of waterfowl-unfriendly sagebrush and rock outcroppings, 56% of the refuge is devoted to agricultural crops.

- Numerous studies published in scientific journals have shown that replacing natural habitats with row crops results in a devastating loss of nesting habitat for many bird species. (e.g. Camp and Best, 1994; Best, Freemark, Dinsmore and Camp, 1995; Benoit, DesGranges and Boutin, 1998)

- More than 85% of refuge cropland produces crops classified as surplus by the Department of Agriculture. Meanwhile, there is a critical shortage of the Klamath Basin's former wildlife habitat: at least 80% of the historic Klamath Basin wetlands–some 280,000 acres–have been lost.[6]

- Farming activities, such as tilling, planting, mowing, cultivation, irrigation, and pesticide/fertilizer applications, drive birds away and decrease nesting success.

Loss of Food for Wildlife

- The migrating waterfowl that take refuge in the Klamath Basin evolved to rely on the plants, seeds, and insects naturally occurring in marshes. Commercial agricultural operations, driven by the bottom line of individual irrigators, are a poor substitute for the essential food and shelter of natural wetlands. Out of the hundreds of bird species dependent upon the Klamath Basin NWR system, only geese, mallards, and pintail ducks are known to commonly feed on grain crops.

- Harvested small grains provide less than 200 lbs of food per acre of waste grain. Seasonally flooded wetlands produce from 535 to 2,600 lbs of food per acre, including moist soil seeds, tubers, rootlets, and invertebrates.[7] Grains fail to provide essential proteins as well as shelter for many species of waterfowl and other wildlife. For these reasons, some marshes attract 80% more species than adjacent grain fields. (Fredrickson and Taylor, *Management of Seasonally Flooded Impoundments for Wildlife*, USFWS 1982)

- The lack of wetlands on Tule Lake NWR has resulted in a critical lack of food for many duck species, such as the canvasback, shoveler, gadwall, teal, and several diving ducks.

Toxic Pesticide Impacts

- Known carcinogens, neurotoxins, and endocrine disruptors were included in the 56 pesticide products approved for use on the NWR's in 2002. Some of these pesticides are so toxic the Environmental Protection

[3] *Tule Lake NWR Sump 1B Waterfowl Hunting Area*, Final EA, USFWS 2002, p. 3.12
[4] Ibid, p. 1.4
[5] Ibid, p. 1.4
[6] 2001 Draft EA, p. 1.2
[7] *Compatibility/Consistency Determination*, USFWS 1999, p. 9-10

Agency has ruled it unsafe for humans to enter treated fields until 24 to 72 hours after application. Pesticides can sicken and fatally poison waterfowl, and collect in the insects they rely upon for food. Herbicides also impact the wild plant habitats of waterfowl.

- The Upper Klamath Basin supports the largest seasonal concentration of threatened bald eagles in the Lower 48 states, and Tule Lake NWR and Lower Klamath NWR contain much of the key wintering habitat for these eagles. (Keister et al., 1987) Until recently, Tule Lake refuge guidelines required irrigators to scare bald eagles off their fields to prevent poisoning by toxic pesticides, despite the federal law prohibiting harassing endangered species.[8] Until recently, the wildlife refuge enjoyed the dubious distinction of being the only place in America where harassing bald eagles was not only permitted, but required.

- Refuge farming sends large quantities of polluted agricultural runoff tainted with pesticides, fertilizers, and herbicides into refuge waters and the already heavily-polluted Klamath River. Water quality in Tule Lake is currently so poor, blankets of algae cover extensive areas of open water on the refuge in summer.[9] Agricultural pollution has reduced species diversity on the refuges and elsewhere in the Klamath Basin (Dileanis et al., 1996).

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[8] May 7, 1997 letter from Refuge Manager Tom Stewart approving the aerial spraying of Disyston 8 on barley fields at Tule Lake NWR
[9] 2002 Final EA p. 3.1