
ENVIRONMENTAL Fact Sheet



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Lake Drawdown for Weed Control

Lake level drawdown and the subsequent exposure of sediments to prolonged freezing and drying is an inexpensive means of aquatic weed control. By exposing the sediments to prolonged freezing and drying, some rooted plant species are permanently damaged and the entire plant, including roots and perhaps seeds, are killed if exposed for two to four weeks.

Drawdown- or lowering of water levels periodically to expose bottom sediments can be effective in a limited number of situations. This will cause drying out of submerged vegetation around the shoreline and compaction of soft sediments. An added benefit, in some cases, is the concentration of fish into deeper portions of the lake or pond. Seeds from many aquatic plants will survive so that some plants will re-establish when the pond is returned to its full level.

Effectiveness

- The effectiveness of a winter drawdown is dependent upon deep frost and complete dewatering of the sediments. These conditions may not occur with heavy snow cover or milder, rainy winters.
- The technique is species-specific. Some species of aquatic weeds will not be affected and some will increase with abundance.
- Freezing and desiccation are required; wet, cold lake sediments, or wet sediments covered with snow may have little negative effect on plants.
- Drawdown should be alternated every two years with no drawdown, so that resistant species do not become firmly established.

Advantages of Drawdown

- Inexpensive means of aquatic weed control.
- Absence of machinery or toxic chemicals.
- Improvements to docks, dams, and swimming areas can be made (with appropriate Wetlands Bureau permits).

Disadvantages of Drawdown

- Possible algal blooms after reflooding due to nutrient release from sediments.
- Reduction in diversity and abundance of benthic invertebrates that are essential to fish and waterfowl diets.
- Consolidation of fish population into a more centralized area of deep water, making them more susceptible to over harvesting.

- Oxygen in remaining pool can be depleted leading to a fish kill. Amphibians and other fauna of the littoral zone may exhibit great changes in species composition and density due to each of over-winter habitat or exposure to harsh winter conditions after they have burrowed into lake sediments for the winter.
- The use of drawdown for aquatic plant management is limited to those lakes or ponds that have sufficient water control structures and hydrologic characteristics to adequately control water level. It can only be used where drawdown will not interfere with other primary water, uses such as domestic or irrigation supplies, navigation, or hydrologic power.

Summary

Water level drawdown is an effective technique for at least the short-term control of susceptible aquatic weeds, and can be accomplished at low costs without the introduction of chemicals or machinery. However, this technique is species-specific and requires careful identification of the target plants before drawdown to avoid rapid establishment of resistant species.