

## Weed Survey of Aquatic Water Bodies in Haryana

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Inland water environments such as rivers, lakes and creeks are used for daily life in India. They play a very important role in the supply of water for daily activities, agriculture, drinking water supply and fresh water fish culture. Aquatic weeds hamper human activities for instance irrigation and water surface traffic and may cause floods. So, an attempt was made to study the infestation of weeds in aquatic water bodies so as develop methods of weed control.

Different water bodies in Haryana were visited during rainy season (August-September, 2008) at a time when aquatic weeds were in full growth. Distribution and growth of weed species were recorded according to five grades from low infestation (+) to severe infestation (+++++) in Bhindawas lake (Jhajjar), Ottu lake (Sirsa), Sohna and Sultanpur lake (Gurgaon) depending upon severity of infestation. Bhindawas lake is a man made lake with natural gradient and used for storing excess water from rain and Jawahar Lal Nehru canal through drains from North-Eastern and Central Haryana situated at latitude of 28°32'-28°32'4" N and longitude of 76°32'-76°52'57" E at mean sea level of 205 metres. It is the biggest man made lake in Haryana spread in an area of about 5.5 km<sup>2</sup>. This lake is abode of

migratory birds from Siberia and countries having cold climate. Ottu lake is also a man made lake in village Ottu of district Sirsa for storing rain water flowing through seasonal river Ghaggar. This lake is situated at latitude of 28°29'20" N and latitude of 74°53'38" E. Several rivers, choes and streams such as Markanda, Tangri, Patiala Nadi, Sukhana Choe and Sarwati drain connect Ghaggar river in Ambala, Kurukshetra, Sangrur and Fatehbad districts and make it land water environment. Some towns and big villages such as Jakhal and Ratia in Haryana; Sardulgarh, Devi Garh and Moonak in Punjab are located on the banks of this river. So, the water environment is subjected to eutrophication by waste water, consequently aquatic weeds grow profusely in water released into the river. Sohna and Sultanpur lakes are natural lake situated in Arawali foot hills of district Gurgaon at 28°18'9" N and 28°27'28"-28°28'32" N latitudes with longitudes of 77°7'4" E and 76°48'16"-76°49'3" E, respectively.

### Composition of Weed Flora

About ¼ th part of Bhindawas lake was found to infest severely with *Salvinia molesta* followed by

Table 1. Distribution of aquatic weeds in water bodies of Haryana

| Weed species                 | Bhinda was lake | Ottu lake | Sohna lake | Sultanpur lake |
|------------------------------|-----------------|-----------|------------|----------------|
| <i>Salvinia molesta</i>      | +++++           |           |            |                |
| <i>Eichhornia crassipes</i>  | +++++           | +++++     |            |                |
| <i>Lemna minor</i>           | +++             |           | +          | +++            |
| <i>Polygonum barbatum</i>    | ++              | +++       | +          | +++            |
| <i>Ipomoea aquatica</i>      | ++              | ++        |            | ++             |
| <i>Hydrilla verticillata</i> |                 | +++       |            |                |
| <i>Trapa natans</i>          |                 | ++        |            |                |
| <i>Typha angustata</i>       |                 | ++        | +          |                |
| <i>Paspalum distichum</i>    |                 |           | ++         | +++++          |
| <i>Azolla pinnata</i>        | +               |           |            | ++             |
| <i>Phragmites karka</i>      |                 |           |            | +              |
| <i>Chara zeylenica</i>       | +               | +         | +          |                |
| <i>Cyperus papyrus</i>       |                 | +         | +          |                |

+++++ : Severe infestation, ++++ : Very high, +++ : High, ++ : Medium, + : Low

*Eichhornia crassipes* and *Lemna minor*. Other weeds such as *Polygonum barbatum* and *Ipomoea aquatica* were having medium infestation. *Azolla pinnata* and *Chara zeylenica* were also present, but with low infestation (Table 1).

Ottu lake (Sirsa) was severely infested with *E. crassipes*, *Hydrilla verticillata* and *P. barbatum* in some parts. In addition to this, infestation of *Typha angustata*, *I. aquatica* and *Trapa natans* was also observed in some parts. Gupta (1979) and Mathur *et al.* (2005) also reported infestation of *T. angustata*, *H. verticillata*, *E. crassipes* and *L. minor* weeds in aquatic water bodies of Haryana.

Natural lake Sohna (Gurgaon) was almost free from weeds and only some part of lake was infested with moderate to low intensity of *Paspalum distichum*, *T. angustata*, *P. barbatum* and *L. minor* which do not cause any hindrance in boating.

Sultanpur lake known as Sultanpur Bird Sanctuary is also natural lake and abode for migratory

birds. This lake was highly infested with *P. distichum*, *P. barbatum* and *L. minor* because no control measures were adopted so as to create suitable environment for the birds.

From the present survey it was observed that *E. crassipes*, *H. verticillata*, *S. molesta*, *T. angustata*, *T. natans*, *L. minor*, *I. aquatica*, *P. barbatum* and *P. distichum* were the major weeds infesting aquatic water bodies in Haryana. Infestation level and type of weed flora were influenced by the amount of water and source of its supply.

#### REFERENCES

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