

Technical steps for developing detailed infiltration rating curves for each pond using the PONDS 3.2 computer code in conjunction with AdICPR (version 1.4 or 2.x) are as follows:

Case #1: *a pond with one runoff basin coming into it and with no upgradient ponds*

- ① Generate the adICPR hydrographs using a print increment of 5 minutes. The adICPR hydrographs are in the simulation directory with a file name of "*.HYD".
- ② Set up the PONDS computer program with its input parameters. Under the hydrographs tab, pick the "external file" option under hydrograph type. Select the appropriate "*.hyd" file and it then select the name of the node.
- ③ Run the PONDS program.
- ④ After the results are available in the PONDS computer program, go to the "Hydrograph" menu and there is an option for exporting to adICPR. Export the nodal infiltration data back to the adICPR simulation directory. Save the infiltration data in a file name "*.OFF" if using Version 1.4 of adICPR or "*.BDQ" if using Version 2.x of adICPR. The infiltration credits are stored in this file and they automatically picked up by adICPR when it is executed. Note that, from PONDS, you can append/replace nodal data to this file (*.OFF" or "*.BDQ") as needed.

Note: what is happening here is that PONDS is writing negative hydrographs back to adICPR. Under normal circumstances, the "*.OFF" contains the offsite hydrographs so make sure all of our hydrographs are onsite. The "*.BDQ" file in version 2.x are the boundary hydrographs (which are less likely to be in use by adICPR than the offsite hydrograph file).

Case #2: *a pond with more than one basin (hydrograph) coming into it and no upgradient ponds*

- ① Generate the adICPR hydrographs using a print increment of 5 minutes. The adICPR hydrographs are in the simulation directory with a file name of "*.HYD".
- ② Copy/import the hydrograph data from the "*.HYD" text file into a spreadsheet, place them side by side and then sum them up. Note that the hydrographs in the "*.HYD" file will all have the same time step (5 minutes) so you can add them up. Go to the PONDS computer program, select "Local" for hydrograph type and copy & paste the time-flow rate data from the spreadsheet. Set the outside recharge rate to zero in the local hydrograph grid as this parameter is only non-zero when performing continuous simulation simulations.
- ③ same as for case 1.
- ④ same as for case 1.

Case #3: *a pond with more than one basin (hydrograph) coming into it and/or upgradient ponds*

- ① For the downstream node you are analyzing, set up a dummy run where that node has a large weir at the pond bottom (for dry bottom pond) or the control elevation (for wet bottom pond). The discharge from this link is basically the inflow hydrograph you would want to use in the PONDS computer program. This dummy run makes sure that all the water that comes into the pond (from the various contributing basins) goes out immediately to the link so you basically obtain a composite hydrograph.
- ② Copy/import the link discharge data from the output text file into a spreadsheet. Follow the same procedure as for case 2 using the local grid.
- ③ same as for case 1.
- ④ same as for case 1.