System-A, based on the example network of the same name in Loucks et al. (1995), is a simple system that contains five gauge nodes (green), a lake (blue circle), a reservoir (blue triangle), two consumption nodes (yellow) and a demand (red) node. This system is intended to show some of the basic features of IRAS-2010. A schematic of the example network can be found in Figure 1 below.

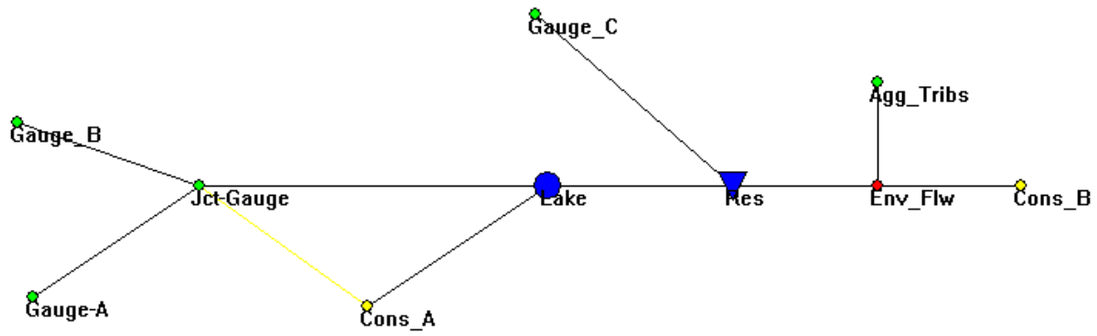

Figure 1. The System-A network.

Table 1 describes the nodes in the system.

Table 1. Description of the nodes found in System-A. Modified from Loucks et al. (1995).

Node Name	Description
Gauge-A	Beginning node of river with a flow time series.
Gauge-B	Beginning node of a tributary with flow time series.
Gauge-C	Beginning node of a tributary with flow time series.
Jct-Gauge	Junction and diversion node that also serves as a gauge node with a flow time series that represents the aggregation of flow from multiple tributaries between Gauge-A, GaugeB and Jct-Gauge.
Agg-Tribs	Gauge node with a flow time series that represents an aggregation of the flow from tributaries between the Res and Cons-B nodes.
Lake	Normal Lake with a maximum capacity of 100 million M^3 (HM^3) and initial storage of 75 HM^3.
Reservoir	Reservoir with a maximum capacity of 700 million M^3 and initial storage of 350 HM^3.
Cons-A	A consumption node with return flows.
Cons-B	A consumption node.
Env-Flw	A demand node that requests reservoir releases when it experiences a flow deficit.

Table 2 and Table 3 shows the rating tables for the Lake and Res nodes.

Table 2. Lake rating table

Elevation (m)	Area (m^2)	Volume (Hm^3)	Discharge (M^3/s)
24	400	39	0
28	800	63	20
30	1400	85	80
31	2100	100	250

Table 3. Reservoir rating table.

Volume (Hm^3)	Min.Discharge (M^3/s)	Max. Discharge (M^3/s)
0	0	0
100	20	20
250	35	35
350	45	45
550	180	180
700	330	330

Table 4 shows the diversion function for the Jct-Gauge node.

Table 4. Jct-Gauge diversion table

Total available flow in Jct-Gauge (M^3/s)	Diversion to Cons-A (M^3/s)
0	0
30	0
31	1
65	35
100	35

Table 5 and Table 6 show the consumption tables for the two consumption nodes.

Table 5. Cons-A consumption table

Total flow in Jct-Gauge (M^3/s)	Diversion to Cons-A (M^3/s)
0	0
10	10
35	20

Table 6. Cons-B consumption table

Total flow in Cons-A (M^3/s)	Consumption (M^3/s)
0	0
20	0
30	10
50	10

Table 7 shows the seasonal demand target values and for which date ranges they are applicable for the Env-Flw node.

Table 7. Env-Flw seasonal demand table

Season	Day Range	Demand (M^3/s)
1	1-80.999	50.0
2	81-205.999	60.0
3	206-265.999	50.0
4	266-365.999	40.0

References

Loucks, D.P., Taylor, M.R., French, P.N., 1995. IRAS - Interactive river-aquifer simulation model, program description and operating manual. Cornell University, Ithaca, NY.