# Causal Loop Diagram (CLD)

## Table

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**The notation used in creating CLD:**

|  |  |  |
| --- | --- | --- |
| **Variables (factors)** |  | Written without any boxes; these are variables that impact the stocks.  |
| **Causal Links:** thin, curved arrows  |    | Uni-directional. Bi-directional. Go in or out of variables (accompanied by a + or – sign).  |
| **Relations:** +, - sign or ‘s, o’ letters.s: Same directiono: Opposite direction **This is not a value judgment (i.e., good, or bad).** These signs are neutral and only show the nature of the relationship, not its value or desirability. |  **+ or s** - **or o** |  **+ or s:** The increase or decrease experienced by variables is proportional. This means that when one variable goes up or down the other one follows the same. - **or o:** The increase or decrease experienced by variables is inversely proportional. When one variable goes up, the other goes down or vice versa.  |
| **Feedback:** loops set of connections across a series of variables that feedback on themselves. |  | **Balancing loop:** The change in one direction is countered by a change in the other direction. It brings an equilibrium and generally tends to stay like that. For example, the prey-predator relation (more prey = more predator, since predators have more food. Increased predation reduces the prey population. With less food available, the predator population declines). **Reinforcing loop:** The change in one direction is compounded by more changes in the same direction. It can lead to exponential growth or collapse. For example, the number of healthy, mature adults = more spawning that grow into healthy, mature adults, which increases the overall population of mature adults.  |
| **Tipping point/ Time dependant:**  |  | The change may be in one direction until reaching the threshold and then the direction changes. Usually this depends on time, e.g., the concentration level of a chemical, or a temperature at which a specific event occurs. |

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