Matrix version of Figures

Table 2: Matrix version of the chord diagram of the overview section (Figure 2).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | System scale | Com fishery | Rec fishery | Guidance of policy/ management | Explanation/ theory-building | Policies | Behaviour | Environment | Other | None |
| System scale | 10 |  |  | 4 | 6 | 6 | 3 | 1 | 1 | 1 |
| Com fishery |  | 81 |  | 28 | 53 | 30 | 50 | 27 | 1 |  |
| Rec fishery |  |  | 19 | 10 | 9 | 12 | 7 | 3 |  |  |
| Guidance of policy/ management | 4 | 28 | 10 | 42 |  | 35 | 11 | 11 |  |  |
| Explanation/ theory-building | 6 | 53 | 9 |  | 68 | 13 | 49 | 20 | 2 | 1 |
| Policies | 6 | 30 | 12 | 35 | 13 | 48 |  |  |  |  |
| Behaviour | 3 | 50 | 7 | 11 | 49 |  | 60 |  |  |  |
| Environment | 1 | 27 | 3 | 11 | 20 |  |  | 31 |  |  |
| Other | 1 | 1 |  |  | 2 |  |  |  | 2 |  |
| None | 1 |  |  |  | 1 |  |  |  |  | 1 |

Table 3: Matrix version of the chord diagram of the social interaction (Figure 4).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Sharing recourses | Trading | Interference | Cheating | None interaction | Indirect observing | Direct one | Direct multiple | Know everything | Know everything from network | Know parts | Unknown | None information | Static | Evolving | Unknown network | None network |
| Sharing recourses | 1 |  |  |  |  |  |  |  |  |  |  |  | 1 | 1 |  |  |  |
| Trading |  | 9 |  |  |  |  | 1 | 1 | 1 | 1 | 2 |  | 8 | 4 | 2 |  | 5 |
| Interference |  |  | 2 |  |  | 1 |  |  |  |  |  |  | 1 |  | 1 |  | 1 |
| Cheating |  |  |  | 2 |  |  |  |  |  |  |  |  | 2 |  | 2 |  |  |
| None interaction |  |  |  |  | 38 | 14 | 6 | 15 | 3 | 2 | 3 | 1 | 7 | 19 | 1 | 1 | 21 |
| Indirect (observing) |  |  | 1 |  | 14 | 15 |  |  |  |  |  |  |  | 5 | 2 |  | 9 |
| Direct (one) |  | 1 |  |  | 6 |  | 7 |  |  |  |  |  |  | 5 |  | 1 | 4 |
| Direct (multiple) |  | 1 |  |  | 15 |  |  | 15 |  |  |  |  |  | 9 |  |  | 8 |
| Know everything |  | 1 |  |  | 3 |  |  |  | 3 |  |  |  |  | 2 |  |  | 2 |
| Know everything from network |  | 1 |  |  | 2 |  |  |  |  | 3 |  |  |  | 3 |  |  | 2 |
| Know parts |  | 2 |  |  | 3 |  |  |  |  |  | 4 |  |  | 2 |  |  | 2 |
| Unknown |  |  |  |  | 1 |  |  |  |  |  |  | 1 |  |  |  |  | 1 |
| None information | 1 | 8 | 1 | 2 | 7 |  |  |  |  |  |  |  | 16 | 10 | 2 |  | 9 |
| Static | 1 | 4 |  |  | 19 | 5 | 5 | 9 | 2 | 3 | 2 |  | 10 | 23 |  |  |  |
| Evolving |  | 2 | 1 | 2 | 1 | 2 |  |  |  |  |  |  | 2 |  | 4 |  |  |
| Unknown network |  |  |  |  | 1 |  | 1 |  |  |  |  |  |  |  |  | 1 |  |
| None network |  | 5 | 1 |  | 21 | 9 | 4 | 8 | 2 | 2 | 2 | 1 | 9 |  |  |  | 25 |

Table 4: Matrix version of the chord diagram of the legal norms/policies (Figure 5).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | One | Multiple | Static | Dynamic | Input areas | Input fishing season | Input effort | Input gear | Output quotas | Output MLS | Output bag limit | Other |
| One | 42 |  | 28 | 14 | 19 | 3 | 1 | 1 | 11 | 3 |  | 2 |
| Multiple |  | 24 | 24 | 10 | 13 | 6 | 3 | 4 | 18 | 6 | 3 | 5 |
| Static | 28 | 48 | 76 |  | 28 | 6 | 5 | 4 | 13 | 10 | 3 | 7 |
| Dynamic | 14 | 10 |  | 24 | 4 | 3 |  | 1 | 16 |  |  |  |
| Input areas | 19 | 13 | 28 | 4 | 32 |  |  |  |  |  |  |  |
| Input fishing season | 3 | 6 | 6 | 3 |  | 9 |  |  |  |  |  |  |
| Input effort | 2 | 3 | 5 |  |  |  | 5 |  |  |  |  |  |
| Input gear | 1 | 4 | 4 | 1 |  |  |  | 5 |  |  |  |  |
| Output quotas | 11 | 18 | 13 | 16 |  |  |  |  | 29 |  |  |  |
| Output MLS | 4 | 6 | 10 |  |  |  |  |  |  | 10 |  |  |
| Output bag limit |  | 3 | 3 |  |  |  |  |  |  |  | 3 |  |
| Other | 2 | 5 | 7 |  |  |  |  |  |  |  |  | 7 |

Table 5: Matrix version of the chord diagram of the memory (Figure 6).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Single | Multiple | Short term | Long term | Static | Dynamic accumulating | | Dynamic both | Fishing spots | | Other locations | Social value | Catches | | Economic outcomes | Rules | | Effort | Stock status |
| Single | 38 |  | 14 | 26 | 9 | 8 | 9 | | 9 |  | | 2 | 16 | 8 | | |  | 1 | 2 |
| Multiple |  | 34 | 4 | 33 | 2 | 22 | 9 | | 27 | 3 | |  | 24 | 6 | | | 2 | 4 | 1 |
| Short term | 14 | 4 | 17 |  |  |  |  | | 7 |  | |  | 7 | 5 | | |  | 2 |  |
| Long term | 26 | 33 |  | 58 | 11 | 30 | 17 | | 31 | 3 | | 2 | 35 | 10 | | | 2 | 4 | 3 |
| Static | 9 | 2 |  | 11 | 11 |  |  | | 5 |  | | 2 | 3 | 3 | | |  |  |  |
| Dynamic accumulating | 8 | 22 |  | 30 |  | 30 |  | | 18 | 3 | |  | 20 | 4 | | | 2 | 2 | 2 |
| Dynamic both | 9 | 9 |  | 17 |  |  | 17 | | 8 |  | |  | 12 | 3 | | |  | 2 | 1 |
| Fishing spots | 9 | 27 | 7 | 31 | 5 | 18 | 8 | | 35 |  | |  |  |  | | |  |  |  |
| Other locations |  | 3 |  | 3 |  | 3 |  | |  | 3 | |  |  |  | | |  |  |  |
| Social value | 2 |  |  | 2 | 2 |  |  | |  |  | | 2 |  |  | | |  |  |  |
| Catches | 16 | 24 | 7 | 35 | 3 | 20 | 12 | |  |  | |  | 40 |  | | |  |  |  |
| Economic outcomes | 8 | 6 | 5 | 10 | 3 | 4 | 3 | |  |  | |  |  | 14 | | |  |  |  |
| Rules |  | 2 |  | 2 |  | 2 |  | |  |  | |  |  |  | | | 2 |  |  |
| Effort | 1 | 4 | 2 | 4 |  | 2 | 2 | |  |  | |  |  |  | | |  | 5 |  |
| Stock status | 2 | 1 |  | 3 |  | 2 | 1 | |  |  | |  |  |  | | |  |  | 3 |

Table 6: Matrix version of the chord diagram of the interactions of the social and ecological subsystem (Figure 7).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Fishery entry/ exit | Investment | Sell/ buy Quota | Effort | Trip timing | Gear typ | Site choice | Port choice | Trip length | harvest/release | Chose fishbuyer | None | Spatial aspects | Spot information | Fishstock feedback | Wind/weather | Hydrodynamics | Seasonality | Water characteristics | None environment |
| Fishery entry/ exit | 7 |  |  |  |  |  |  |  |  |  |  |  | 2 | 3 | 5 |  |  |  |  | 1 |
| Investment |  | 2 |  |  |  |  |  |  |  |  |  |  | 1 | 1 | 1 |  |  |  |  |  |
| Sell/ buy Quota |  |  | 4 |  |  |  |  |  |  |  |  |  | 3 | 2 | 3 |  |  |  |  |  |
| Effort |  |  |  | 46 |  |  |  |  |  |  |  |  | 11 | 18 | 25 | 4 |  | 1 | 3 | 4 |
| Trip timing |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 9 | 1 |  |  |  |  |  |
| Gear typ |  |  |  |  |  | 5 |  |  |  |  |  |  | 2 | 1 | 4 |  |  |  |  |  |
| Site choice |  |  |  |  |  |  | 85 |  |  |  |  |  | 39 | 44 | 53 | 12 | 2 | 2 | 3 | 2 |
| Port choice |  |  |  |  |  |  |  | 5 |  |  |  |  | 5 | 2 | 4 | 1 |  |  |  |  |
| Trip length |  |  |  |  |  |  |  |  | 21 |  |  |  | 11 | 15 | 11 | 6 |  |  |  |  |
| harvest/release |  |  |  |  |  |  |  |  |  | 4 |  |  | 2 | 2 | 2 |  |  |  |  |  |
| Chose fishbuyer |  |  |  |  |  |  |  |  |  |  | 7 |  | 2 |  |  |  |  |  |  | 5 |
| None |  |  |  |  |  |  |  |  |  |  |  | 2 |  |  |  |  |  |  |  | 2 |
| Spatial aspects | 2 | 1 | 3 | 11 |  | 2 | 39 | 5 | 11 | 2 | 2 |  | 41 |  |  |  |  |  |  |  |
| Spot information | 3 | 1 | 2 | 18 | 9 | 1 | 44 | 2 | 15 | 2 |  |  |  | 44 |  |  |  |  |  |  |
| Fishstock feedback | 5 | 1 | 3 | 25 | 1 | 4 | 53 | 4 | 11 | 2 |  |  |  |  | 68 |  |  |  |  |  |
| Wind/weather |  |  |  | 4 |  |  | 12 | 1 | 6 |  |  |  |  |  |  | 12 |  |  |  |  |
| Hydrodynamics |  |  |  |  |  |  | 2 |  |  |  |  |  |  |  |  |  | 2 |  |  |  |
| Seasonality |  |  |  | 1 |  |  | 2 |  |  |  |  |  |  |  |  |  |  | 3 |  |  |
| Water characteristics |  |  |  | 3 |  |  | 3 |  |  |  |  |  |  |  |  |  |  |  | 3 |  |
| None environment | 1 |  |  | 4 |  |  | 2 |  |  |  | 5 | 2 |  |  |  |  |  |  |  | 10 |