

## ISITHASISELO A

### AMANZI ANGAPHEZULU - INGXE NYE YENANI LEMIFULA

Imiphumela ehlongozwayo yokunqunywa Kwendawo Yokugcina Nokuhlukaniswa Kwemvelo endaweni ephatha amanzi e-Usuthu-Mhlathuze, lapho amanani Endawo Yokugcina eboniswa njengephesenti le-NMAR ezindaweni eziphatha amanzi (amaningi) ngokwesigaba (16)(1).

**Ithebula 1: Ukunqunywa Kwendawo Yokugcina engxenyeni yenani lemifula ehlanganisa i-EWR kanye ne-BHN ezindaweni ezibalulekile.**

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe                  | Izindawo eziphatha amanzi zekota lonyaka | Umfula           | i-PES      | i-EIS            | i-RE C     | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|--|--|------------------|------------|------------------|------------|---|-----------------------------|
| <b>Indawo ephatha amanzi i-W1 (umfula omkhulu: iMhlathuze)</b>         |  |                  |            |                  |            |   |                             |
| <b>i-IUA W11: iMatigulu</b>  |  |                  |            |                  |            |   |                             |
| W11-1  | W11A-03597                               | iMatigulu        | B          | Kuphezulu        | B          | 31.4  | 22.78                       |
|  | W11A-03748                               | iMngwenya        |            |                  |            |   |                             |
|  | W11A-03776                               | iMnyimeni        |            |                  |            |   |                             |
| W11-2  | W11A-03599                               | iNgoje           |            |                  |            |   |                             |
|  | <b>W11A-03612 (i-EWR MA1)</b>            | <b>iMatigulu</b> | <b>B/C</b> | <b>Kuphezulu</b> | <b>B/C</b> | <b>34</b>   | <b>55.17</b>                |
|  | W11C-03713                               | iNyezane         |            |                  |            |   |                             |
| W11-3  | W11C-03917                               | iNyoni           |            |                  |            |   |                             |
| <b>IUA: W12-a: iMhlathuze Engenhla</b>                                 |  |                  |            |                  |            |   |                             |
| W12-1  | W12A-03086                               | iGologodo        |            |                  |            |   |                             |
|  | W12A-03104                               | iMhlathuze       |            |                  |            |   |                             |
|  | W12A-03153                               | iMhlathuze       | B          | Kuphezulu        | B          | 39.8  | 32.15                       |
|  | W12A-03226                               | iMhlathuze       |            |                  |            |   |                             |
| W12-2  | W12B-03334                               | iMhlathuze       |            |                  |            |   |                             |
|  | W12B-03356                               | iMhlathuze       | B          | Kuphezulu        | B          | 39.8  | 95.13                       |
|  | W12B-03398                               | iMavungwini      |            |                  |            |   |                             |
| W12-3  | W12B-03471                               | iNyawushane      |            |                  |            |   |                             |
|  | W12B-03479                               | iMhlathuze       | C          | Kuphezulu        | C          | 41.3  | 125.08                      |
| W12-4  | W12B-03336                               | iKwaMazula       | C          | Kuphezulu        | B/C        | 47.6  | 12.87                       |
| <b>IUA: W12-b: Izinhlelo Zeminganela yeMfule, uMhlathuze, iNseleni</b> |  |                  |            |                  |            |   |                             |
| W12-5  | W12C-03189                               | iMfule           |            |                  |            |   |                             |
|  | W12C-03225                               | iMfule           |            |                  |            |   |                             |
|  | W12C-03232                               | iNhlozane        |            |                  |            |   |                             |
|  | W12C-03263                               | iMfulazane       |            |                  |            |   |                             |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe          | Izindawo eziphatha amanzi zekota lonyaka | Umfula              | i-PES    | i-EIS            | i-RE C   | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|--|--|---------------------|----------|------------------|----------|---|-----------------------------|
|  | W12C-03303                               | iMfule              | C        | Kuphezulu        | C        | 40.4  | 50.80                       |
| W12-7  | W12E-03526                               | iMhlatuzana         | B        | Kuphezulu        | B        | 37.9  | 23.13                       |
|  | W12E-03530                               | iMateku             |          |                  |          |   |                             |
|  | W12E-03558                               | iMhlatuzana         |          |                  |          |   |                             |
|  | <b>W12G-03229 (EWR NS1)</b>              | <b>iNseleni</b>     | <b>C</b> | <b>Kuphezulu</b> | <b>C</b> | <b>21.9</b>   | <b>31.23</b>                |
| W12-8  | W12H-03289                               | iMbabe              |          |                  |          |   |                             |
|  | W12H-03316                               | iMposa              |          |                  |          |   |                             |
|  | W12H-03401                               | i-Okula             |          |                  |          |   |                             |
|  | W12H-03418                               | iNseleni            |          |                  |          |   |                             |
|  | W12H-03428                               | iMbabe              |          |                  |          |   |                             |
|  | W12H-03459                               | iNseleni            | C        | Kuphezulu        | C        | 20.27   | 133.782                     |
|  | <b>IUA: W12-c: iMhlathuze Engezansi</b>  |                     |          |                  |          |   |                             |
| W12-6  | W12D-03346                               | iNtambanana         |          |                  |          |   |                             |
|  | W12D-03375                               | iMhlathuze          |          |                  |          |   |                             |
|  | W12D-03388                               | iMhlathuze          | C        | Kuphezulu        | C        | 30.51   | 177.90                      |
|  | W12E-03475                               | iMhlathuze          |          |                  |          |   |                             |
| <b>IUA: W13: iMlalazi</b>                                      |  |                     |          |                  |          |   |                             |
| W13-1  | W13A-03583                               | iMlalazi            |          |                  |          |   |                             |
|  | W13A-03609                               | iMlalazi            | C        | Kuphezulu        | C        | 38.4  | 107.19                      |
|  | W13A-03641                               | iMkukuze            |          |                  |          |   |                             |
|  | W13B-03593                               | iKwaGugushe         |          |                  |          |   |                             |
| W13-2  | W13B-03774                               | iManzamyama         | B/C      | Kuphezulu        | B/C      | 18.8  | 42.57                       |
| <b>Indawo ephatha amanzi i-W2 (umfula omkhulu: i-UMfolozi)</b> |  |                     |          |                  |          |   |                             |
| <b>IUA: W21: i-Umfolozi Emhlophe Engenhla Nengezansi</b>       |  |                     |          |                  |          |   |                             |
| W21-1  | W21A-02527                               | i-Umfolozi Emhlophe |          |                  |          |   |                             |
|  | W21A-02512                               | iMagoda             |          |                  |          |   |                             |
|  | W21B-02539                               | iShoba              |          |                  |          |   |                             |
|  | W21B-02546                               | i-Umfolozi Emhlophe | C        | Kuphezulu        | B/C      | 46.8  | 53.41                       |
| W21-2  | W21B-02603                               | iLenjane            |          |                  |          |   |                             |
|  | W21B-02652                               | i-Umfolozi Emhlophe |          |                  |          |   |                             |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe | Izindawo eziphatha amanzi zekota lonyaka | Umfula                     | i-PES      | i-EIS               | i-RE C     | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|----------------------------|------------|---------------------|------------|---|-----------------------------|
|   | W21B-02670                               | i-Umfolozi Emhlophe        | B          | Kuphezulu           | B          | 46.4  | 63.55                       |
| W21-3   | W21C-02599                               | i-Sandspruit               |            |                     |            |   |                             |
|   | W21F-02727                               | i-Umfolozi Emhlophe        | C          | Kuphezulu           | C          | 39.5  | 103.29                      |
| W21-4   | W21D-02676                               | iMvunyane                  |            |                     |            |   |                             |
|   | W21D-02788                               | iVumankala                 |            |                     |            |   |                             |
|   | W21D-02832                               | iJojosi                    |            |                     |            |   |                             |
|   | W21D-02848                               | iJojosi                    |            |                     |            |   |                             |
|   | W21D-02815                               | iMvunyane                  | D          | Kumaphakathi        | D          | 30.1  | 66.0                        |
|   | W21E-02934                               | iVuwankala                 |            |                     |            |   |                             |
|   | W21E-02963                               | iNondweni                  |            |                     |            |   |                             |
|   | W21E-02953                               | iNgwebini                  |            |                     |            |   |                             |
|   | W21E-02912                               | iNondweni                  |            |                     |            |   |                             |
|   | W21E-02873                               | iNondweni                  |            |                     |            |   |                             |
| W21-5   | W21F-02840                               | iMvunyane                  |            |                     |            |   |                             |
|   | W21G-03085                               | iNtinini                   |            |                     |            |   |                             |
|   | W21G-03067                               | i-Umfolozi Emhlophe        |            |                     |            |   |                             |
|   | W21G-02929                               | iNsubeni                   |            |                     |            |   |                             |
|   | W21G-02914                               | iNtinini                   |            |                     |            |   |                             |
|   | W21G-02885                               | i-Umfolozi Emhlophe        |            |                     |            |   |                             |
|   | W21G-02851                               | i-Umfolozi Emhlophe        |            |                     |            |   |                             |
|   | W21H-02889                               | iMhlahlane                 |            |                     |            |   |                             |
|   | <b>W21H-02897 (EWR WM1)</b>              | <b>i-Umfolozi Emhlophe</b> | <b>B/C</b> | <b>Kumaphakathi</b> | <b>B/C</b> | <b>40.1</b>   | <b>222.51</b>               |
|   | W21H-03004                               | i-Umfolozi Emhlophe        |            |                     |            |   |                             |
| W21-6   | W21J-03112                               | iMzinhlanga                |            |                     |            |   |                             |
|   | W21J-03036                               | iMpembeni                  |            |                     |            |   |                             |
|   | W21J-03018                               | iMaphophoma                |            |                     |            |   |                             |
|   | W21J-03075                               | iMkumbane                  |            |                     |            |   |                             |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe | Izindawo eziphatha amanzi zekota lonyaka | Umfula                    | i-PES    | i-EIS               | i-RE C   | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|---------------------------|----------|---------------------|----------|---|-----------------------------|
|   | W21J-03066                               | iMpembeni                 |          |                     |          |   |                             |
|   | W21J-03050                               | iMpembeni                 |          |                     |          |   |                             |
|   | W21J-03030                               | i-Umfoloji Emhlophe       | B        | Kuphezulu           | B        | 35.03   | 412.569                     |
| W21-7   | W21K-02976                               | iMbilane                  |          |                     |          |   |                             |
|   | W21K-03019                               | iNhlungwane               |          |                     |          |   |                             |
|   | W21K-02981                               | i-Umfoloji Emhlophe       |          |                     |          |   |                             |
|   | W21K-03080                               | i-Umfoloji Emhlophe       | B        | Kuphezulu           | B        | 35.60   | 460.103                     |
| <b>IUA: W22: i-Umfoloji Emnyama Engenhla</b>          |  |                           |          |                     |          |   |                             |
| W22-1   | W22A-02587                               | uMgobhozi                 |          |                     |          |   |                             |
|   | W22A-02591                               | 0                         |          |                     |          |   |                             |
|   | W22A-02586                               | i-Umfoloji Emnyama        |          |                     |          |   |                             |
|   | W22A-02596                               | i-Umfoloji Emnyama        |          |                     |          |   |                             |
|   | <b>W22A-02610 (EWR BM1)</b>              | <b>i-Umfoloji Emnyama</b> | <b>C</b> | <b>Kumaphakathi</b> | <b>C</b> | <b>26.1</b>   | <b>166.72</b>               |
|   | W22B-02662                               | iKwaMbizankulu            |          |                     |          |   |                             |
|   | W22B-02773                               | iHlangabende              |          |                     |          |   |                             |
|   | W22B-02661                               | iHlonyana                 |          |                     |          |   |                             |
|   | W22B-02728                               | iHlonyane                 |          |                     |          |   |                             |
|   | W22B-02706                               | iHlonyane                 |          |                     |          |   |                             |
| W22-2   | W22C-02688                               | i-Umfoloji Emnyama        | B        | Kumaphakathi        | B        | 40.42   | 78.371                      |
|   | W22D-02795                               | iThaka                    |          |                     |          |   |                             |
|   | W22F-02722                               | i-Umfoloji Emnyama        |          |                     |          |   |                             |
| W22-3   | W22E-02601                               | iBululwana                |          |                     |          |   |                             |
|   | W22E-02605                               | iSikwebezi                |          |                     |          |   |                             |
|   | W22E-02595                               | iSikwebezi                |          |                     |          |   |                             |
|   | W22E-02702                               | iSikwebezi                |          |                     |          |   |                             |
|   | W22F-02726                               | iSikwebezi                | C        | Kuphezulu           | C        | 37.9  | 69.08                       |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe | Izindawo eziphatha amanzi zekota lonyaka | Umfula                | i-PES | i-EIS        | i-RE C | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|-----------------------|-------|--------------|--------|---|-----------------------------|
| W22-4   | W22F-02748                               | i-Umfoloji Emnyama    |       |              |        |   |                             |
|   | W22G-02624                               | i-Umfoloji Emnyama zi |       |              |        |   |                             |
|   | W22H-02846                               | i-Umfoloji Emnyama    |       |              |        |   |                             |
| <b>IUA: W23: Isiqiwu se-Umfoloji Hluhlwe</b>          |  |                       |       |              |        |   |                             |
| W21-8   | W21L-03161                               | iMunywana             |       |              |        |   |                             |
|   | W21L-03176                               | iMayayeni             |       |              |        |   |                             |
|   | W21L-03163                               | iMunywana             |       |              |        |   |                             |
|   | W21L-03059                               | i-Umfoloji Emhlophe   |       |              |        |   |                             |
|   | W21L-03041                               | i-Umfoloji Emhlophe   | C     | Kumaphakathi | C      | 44.61   | 416.687                     |
| W22-5   | W22H-02844                               | iMbhekamuzi           |       |              |        |   |                             |
|   | W22J-02942                               | iMvalo                |       |              |        |   |                             |
|   | W22J-02918                               | iWela                 |       |              |        |   |                             |
|   | W22J-02807                               | i-Umfoloji Emnyama    |       |              |        |   |                             |
|   | W22J-02910                               | i-Umfoloji Emnyama    |       |              |        |   |                             |
|   | W22J-02817                               | i-Umfoloji Emnyama    | B     | Kumaphakathi | B      | 55.86   | 288.623                     |
|   | W22K-02761                               | iMapopoma             |       |              |        |   |                             |
|   | W22K-02636                               | iManzimakhulu         |       |              |        |   |                             |
|   | W22K-02629                               | iMona                 | B     | Kumaphakathi | B      | 55.86   | 24.716                      |
|   | W22K-02783                               | iMona                 |       |              |        |   |                             |
|   | W22L-02916                               | i-Umfoloji Emnyama    | B     | Kumaphakathi | B      | 55.86   | 325.787                     |
| W23-1   | W23A-03098                               | iNkatha               |       |              |        |   |                             |
|   | W23A-03160                               | iMvamanzi             |       |              |        |   |                             |
|   | W23A-03058                               | iMbukwini             |       |              |        |   |                             |
|   | W23A-03083                               | iMfolozi              |       |              |        |   |                             |
|   | W23A-03149                               | iMfolozi              |       |              |        |   |                             |

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|---|--|---------------|----------|------------------|------------|---|-----------------------------|
|   | W23A-03113                               | iMfolozi      | B        | Kuphezulu        | B          | 43.7  | 808.98                      |
| W23-2   | W23B-03250                               | iNtobozi      | B        | Kuphezulu        | B          | 43.2  | 19.38                       |
|   | W23B-03222                               | iMsunduzi     |          |                  |            |   |                             |
| <b>Indawo ephatha amanzi i-W3 (umfula omkhulu: iMkuze )</b> |  |               |          |                  |            |   |                             |
| <b>IUA: W31-a: iMkuze Engenhla</b>                          |  |               |          |                  |            |   |                             |
| W31-1   | W31A-02494                               | iNkongolwana  |          |                  |            |   |                             |
|   | W31A-02534                               | iMkuze        |          |                  |            |   |                             |
|   | W31B-02477                               | iMkuze        | C        | Kuphezulu        | B/C        | 41.5  | 56.17                       |
| W31-2   | W31C-02556                               | iSihlengeni   |          |                  |            |   |                             |
|   | W31D-02436                               | iManzimhlope  |          |                  |            |   |                             |
|   | W31D-02450                               | iNtutshe      |          |                  |            |   |                             |
|   | W31D-02495                               | iMkuze        |          |                  |            |   |                             |
|   | W31D-02500                               | iMkuze        | B        | Kuphezulu        | B          | 44.7  | 99.66                       |
| W31-3   | W31E-02456                               | iMkuze        |          |                  |            |   |                             |
|   | W31F-02573                               | iMphiphisi    |          |                  |            |   |                             |
|   | W31F-02555                               | iNkunzana     |          |                  |            |   |                             |
|   | W31F-02530                               | iNkunzana     |          |                  |            |   |                             |
|   | W31G-02455                               | iMtiki        |          |                  |            |   |                             |
|   | W31G-02506                               | iMkuze        | C        | Kuphezulu        | B/C        | 44.53   | 209.887                     |
| <b>IUA: W31-b: iMkuze Engezansi</b>                         |  |               |          |                  |            |   |                             |
| W31-4   | W31G-02425                               | iMkuze        |          |                  |            |   |                             |
|   | W31H-02514                               | iKwaSekane    |          |                  |            |   |                             |
|   | W31J-02501                               | iNhlohlela    |          |                  |            |   |                             |
|   | W31J-02469                               | iMkuze        | B        | Kuphezulu        | B          | 28.52   | 17.873                      |
| W31-5   | W31J-02343                               | iMthambalala  |          |                  |            |   |                             |
|   | W31J-02406                               | iNdlamyane    |          |                  |            |   |                             |
|   | <b>W31J-02480 (EWR MK1)</b>              | <b>iMkuze</b> | <b>C</b> | <b>Kuphezulu</b> | <b>B/C</b> | <b>37.1</b>   | <b>158.75</b>               |
|   | W31J-02509                               | iMkuze        |          |                  |            |   |                             |
| W31-6   | W31K-02617                               | iMduna        |          |                  |            |   |                             |
|   | W31K-02611                               | iMsebe        |          |                  |            |   |                             |
|   | W31K-02582                               | iNtweni       |          |                  |            |   |                             |
|   | W31K-02568                               | iMsunduzi     |          |                  |            |   |                             |
|   | W31L-02553                               | iNsumu        |          |                  |            |   |                             |
|   | W31L-02525                               | iNsumu        |          |                  |            |   |                             |

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|---|--|-------------|-------|-----------|--------|---|-----------------------------|
|   | W31L-02528                               | iMasundwini |       |           |        |   |                             |
|   | W31L-02551                               | iNsumu      |       |           |        |   |                             |
|   | W31L-02563                               | iNsumu      |       |           |        |   |                             |
|   | W31L-02569                               | iMsunduzi   | B     | Kuphezulu | B      | 59.3  | 20.16                       |
| W32-1   | W32A-02345                               | iNeshe      |       |           |        |   |                             |
|   | W32A-02557                               | iMkuze      |       |           |        |   |                             |
|   | W32B-02476                               | iKhobeyane  |       |           |        |   |                             |
|   | W32B-02547                               | iMkuze      | B     | Kuphezulu | B      | 30.53   | 236.811                     |
| <b>IUA: W32-a: iHluhluwe Engenhla</b>                         |  |             |       |           |        |   |                             |
| W32-2   | W32D-02811                               | iNzimane    |       |           |        |   |                             |
|   | W32D-02720                               | iWela       |       |           |        |   |                             |
|   | W32E-02887                               | iHluhluwe   |       |           |        |   |                             |
|   | W32E-02797                               | iManzabomvu |       |           |        |   |                             |
|   | W32E-02765                               | iMansiya    |       |           |        |   |                             |
|   | W32E-02779                               | iNzimane    |       |           |        |   |                             |
|   | W32E-02859                               | iNzimane    |       |           |        |   |                             |
|   | W32E-02865                               | iHluhluwe   | B     | Kuphezulu | B      | 30.2  | 23.90                       |
| <b>IUA: W32-b: Imingenela yeNyalazi neMzinene</b>             |  |             |       |           |        |   |                             |
| W32-3   | W32G-02946                               | iSikhathula |       |           |        |   |                             |
|   | W32G-02973                               | iNyalazi    | B     | Kuphezulu | B      | 32.9  | 11.80                       |
| W32-4   | W32G-03102                               | iNsane      |       |           |        |   |                             |
|   | W32G-02943                               | iHlazane    |       |           |        |   |                             |
|   | W32G-02980                               | uMnyaba     |       |           |        |   |                             |
|   | W32G-03006                               | iNyalazi    |       |           |        |   |                             |
|   | W32G-03055                               | iNyalazi    | C     | Kuphezulu | C      | 29.6  | 25.92                       |
|   | W32G-02986                               | iHlazane    |       |           |        |   |                             |
| W32-5   | W32C-02684                               | iNgweni     |       |           |        |   |                             |
|   | W32C-02749                               | iMzinene    |       |           |        |   |                             |
|   | W32C-02721                               | iMzinene    |       |           |        |   |                             |
|   | W32C-02671                               | iMzinene    | C     | Kuphezulu | C      | 34.8  | 20.80                       |
| W32-6   | W32C-02634                               | iMhlosinga  |       |           |        |   |                             |
|   | W32C-02612                               | iMunywana   | B     | Kuphezulu | B      | 44.1  | 3.72                        |
| <b>Indawo ephatha amanzi i-W4 (umfula omkhulu: iPongola )</b> |  |             |       |           |        |   |                             |
| <b>IUA: W41: Umfula iBivane</b>                               |  |             |       |           |        |   |                             |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe | Izindawo eziphatha amanzi zekota lonyaka | Umfula           | i-PES    | i-EIS               | i-RE C   | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|------------------|----------|---------------------|----------|---|-----------------------------|
| W41-1   | W41A-02372                               | iBivane          |          |                     |          |   |                             |
|   | W41B-02401                               | iBivanyana       |          |                     |          |   |                             |
|   | W41B-02427                               | iBivane          |          |                     |          |   |                             |
|   | W41B-02431                               | iBivane          |          |                     |          |   |                             |
|   | W41B-02434                               | i-Soetmelks      |          |                     |          |   |                             |
|   | W41C-02437                               | iMpemvana        |          |                     |          |   |                             |
|   | W41D-02373                               | iBivane          |          |                     |          |   |                             |
|   | W41D-02435                               | iNxwayi          |          |                     |          |   |                             |
|   | W41E-02359                               | iBivane          | C        | Kuphezulu           | B/C      | 38.7  | 221.53                      |
| W41-2   | W41F-02433                               | iManzana         | B        | Kuphezulu           | B        | 37.0  | 45.09                       |
|   | W41F-02454                               | iManzana         |          |                     |          |   |                             |
|   | W41F-02461                               | iKwaCeba         |          |                     |          |   |                             |
|   | W41F-02481                               | iManzana         |          |                     |          |   |                             |
|   | W41F-02502                               | iManzana         |          |                     |          |   |                             |
| <b>IUA: W42-a: iPongola Engenhla</b>                  |  |                  |          |                     |          |   |                             |
| W42-1   | W42A-02261                               | iPhongolo        |          |                     |          |   |                             |
|   | W42A-02328                               | iPandana         |          |                     |          |   |                             |
|   | W42B-02268                               | iPhongolo        |          |                     |          |   |                             |
|   | W42B-02271                               | iPhongolo        | C        | Kuphezulu           | B/C      | 38.9  | 264.38                      |
|   | W42B-02315                               | iTsakwe          |          |                     |          |   |                             |
|   | W42B-02325                               | iTsakwe          |          |                     |          |   |                             |
|   | W42B-02331                               | iBazangoma       |          |                     |          |   |                             |
|   | W42C-02205                               | iNtombe          |          |                     |          |   |                             |
| W42-2   | W42D-02251                               | iPhongolo        |          |                     |          |   |                             |
|   | W42D-02327                               | iPhongolo        |          |                     |          |   |                             |
|   | <b>W42E-02221 (EWR UP1)</b>              | <b>iPhongolo</b> | <b>C</b> | <b>Kumaphakathi</b> | <b>C</b> | <b>27.3</b>   | <b>356.84</b>               |
|   | W42F-02185                               | i-Wit            |          |                     |          |   |                             |
|   | W42G-02317                               | iPhongolo        |          |                     |          |   |                             |
| <b>IUA: W42-b: iPongola Emaphakathi (i-lthala)</b>    |  |                  |          |                     |          |   |                             |
| W41-3   | W41G-02379                               | iBivane          | B        | Kuphezulu           | A/B      | 73.85   | 299.057                     |
| W42-3   | W42H-02382                               | iPhongolo        |          |                     |          |   |                             |
|   | W42H-02394                               | iThalu           |          |                     |          |   |                             |
|   | W42H-02411                               | iThalu           |          |                     |          |   |                             |
|   | W42H-02428                               | iMbizane         |          |                     |          |   |                             |

| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe     | Izindawo eziphatha amanzi zekota lonyaka | Umfula        | i-PES | i-EIS        | i-RE C | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|---------------|-------|--------------|--------|---|-----------------------------|
|   | W42J-02353                               | iPhongolo     |       |              |        |   |                             |
|   | W42J-02378                               | iPhongolo     | B     | Kuphezulu    | B      | 73.85   | 780.98                      |
|   | W42J-02397                               | iMhulumbela   |       |              |        |   |                             |
| W42-4   | W42K-02148                               | iMozana       |       |              |        |   |                             |
|   | W42K-02242                               | iMozana       |       |              |        |   |                             |
|   | W42K-02270                               | iMozana       |       |              |        |   |                             |
|   | W42L-02272                               | iMozana       | B     | Kumaphakathi | B      | 42.4  | 52.70                       |
| W42-5   | W42M-02269                               | iMtokotshwala |       |              |        |   |                             |
|   | W42M-02294                               | i-Spekboom    |       |              |        |   |                             |
|   | W42M-02352                               | iPhongolo     | B     | Kuphezulu    | B      | 37.2  | 901.99                      |
| <b>IUA: W44: iPongola Emaphakathi (i-Grootdraai)</b>      |  |               |       |              |        |   |                             |
| W44-1   | W44A-02332                               | iPhongolo     |       |              |        |   |                             |
|   | W44A-02386                               | iPhongolo     |       |              |        |   |                             |
|   | W44A-02389                               | iVoyizana     |       |              |        |   |                             |
|   | W44A-02410                               | iMdlavenga    |       |              |        |   |                             |
|   | W44B-02248                               | iManzawakho   |       |              |        |   |                             |
|   | W44B-02351                               | iPhongolo     |       |              |        |   |                             |
|   | W44C-02338                               | iPhongolo     |       |              |        |   |                             |
|   | W44D-02304                               | iPhongolo     | D     | Kumaphakathi | D      | 26.7  | 942.03                      |
| <b>IUA: W45: iPongola Engezansi (Ithafa lezikhukhula)</b> |  |               |       |              |        |   |                             |
| W43-1   | W43F-02013                               | iMsunduzi     |       |              |        |   |                             |
|   | W43F-02053                               | iNgwavuma     |       |              |        |   |                             |
|   | W43F-02072                               | iNgwavuma     | C     | Kumaphakathi | C      | 33.4  | 26.95                       |
|   | W43F-02076                               | iMsunduzi     |       |              |        |   |                             |
|   | W43F-02089                               | iNgwavuma     |       |              |        |   |                             |
|   | W43F-02099                               | iNgwavuma     |       |              |        |   |                             |
|   | W43F-02104                               | iMnvoni       |       |              |        |   |                             |
|   | W43F-02107                               | iMnvoni       |       |              |        |   |                             |
|   | W43F-02113                               | iNgwavuma     |       |              |        |   |                             |
|   | W43F-02142                               | iNgwavuma     |       |              |        |   |                             |
|   | W43F-02159                               | iNgwavuma     |       |              |        |   |                             |
| W45-1   | W45A-02216                               | iZibayeni     |       |              |        |   |                             |
|   | W45A-02245                               | iZibayeni     |       |              |        |   |                             |
|   | W45A-02246                               | iPhongolo     |       |              |        |   |                             |

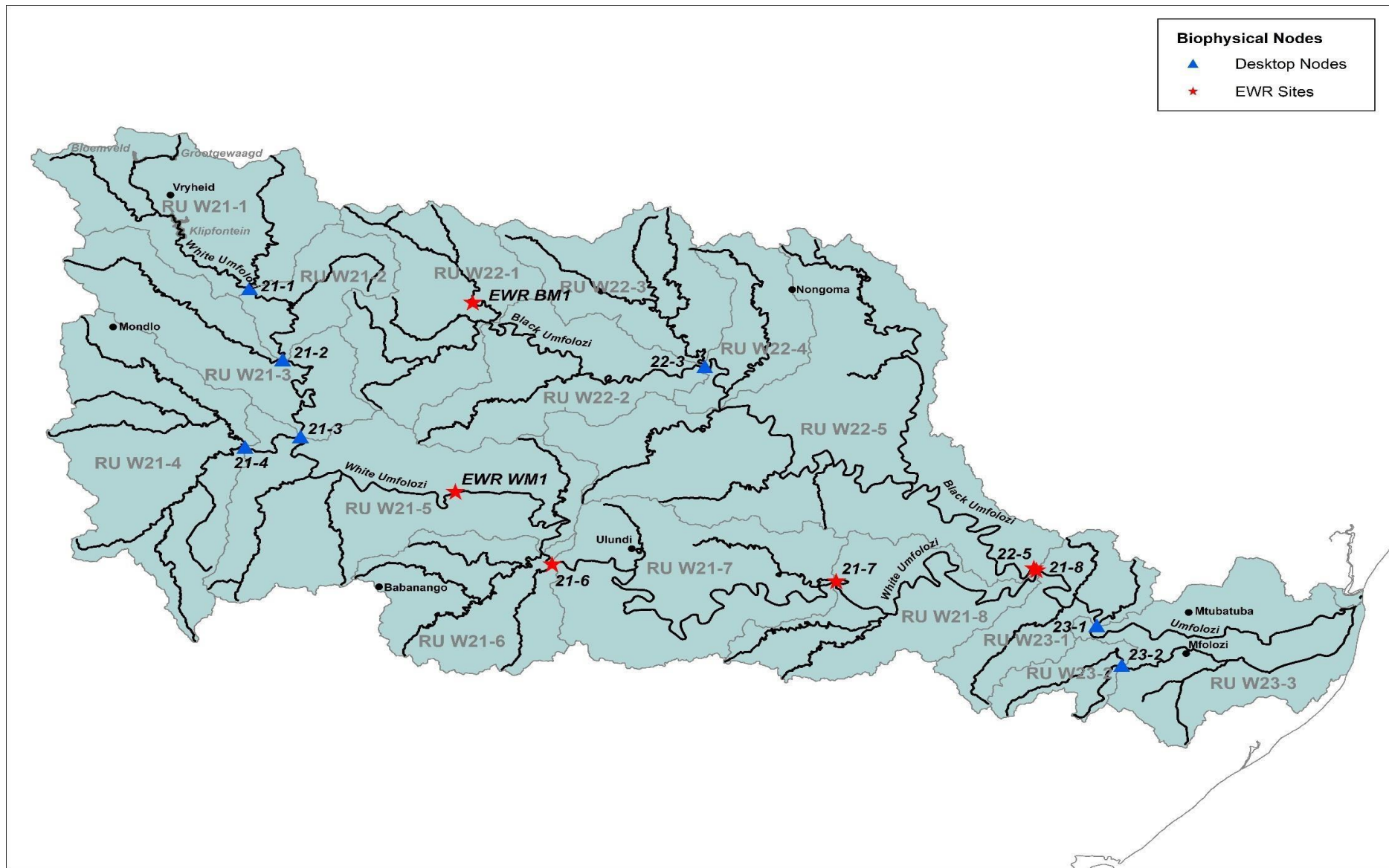
| Inombolo/Igama le-RU: Iyunithi Yokuhlaziya Edidiyelwe                         | Izindawo eziphatha amanzi zekota lonyaka | Umfula            | i-PES      | i-EIS               | i-RE C     | <sup>2</sup> Indawo Yokugcina Yemvelo (i-% le-NMAR) | <sup>1</sup> i-NMAR (i-MCM) |
|---|--|-------------------|------------|---------------------|------------|---|-----------------------------|
|   | W45A-02256                               | iLubambo          |            |                     |            |   |                             |
|   | W45A-02275                               | uMpontshane       |            |                     |            |   |                             |
|   | W45A-02282                               | iPhongolo         |            |                     |            |   |                             |
|   | W45A-02285                               | iMpontshane       |            |                     |            |   |                             |
|   | W45A-02310                               | iMangqwashi       |            |                     |            |   |                             |
|   | W45A-02316                               | iMfongosi         |            |                     |            |   |                             |
|   | W45A-02356                               | iMlambo           |            |                     |            |   |                             |
|   | W45A-02367                               | iPhongolo         |            |                     |            |   |                             |
|   | W45A-02368                               | iPhongolo         |            |                     |            |   |                             |
|   | W45B-02029                               | iPhongolo         |            |                     |            |   |                             |
|   | W45B-02105                               | iPhongolo         | C          | Kuphezulu Kkakhulu  | B          | 31.63   | 1151.202                    |
| <b>Indawo ephatha amanzi i-W5 (umfula omkhulu: i-Usutu)</b>                   |  |                   |            |                     |            |   |                             |
| <b>IUA: W51-a: W5 Amadamu amakhulu engenhlia nomfula (i-Assegaai)</b>         |  |                   |            |                     |            |   |                             |
| W51-1   | W51A-02082                               | i-Assegaai        | C/D        | Kuphezulu           | C          | 41.1  | 99.61                       |
| W53-1   | W53A-01804                               | iNgwempisi        | D          | Kumaphakathi        | D          | 33.1  | 38.66                       |
| W53-2   | W53B-01694                               | iMpama            | B/C        | Kumaphakathi        | B/C        | 42.4  | 5.05                        |
| W54-1   | W54B-01569                               | i-Usuthu          | B          | Kumaphakathi        | B          | 46.0  | 32.77                       |
| <b>IUA: W52: W5 Amadamu amakhulu angezansi nomfula kanye Nomfula iHlelo -</b> |  |                   |            |                     |            |   |                             |
| W51-2   | W51C-01981                               | Ai-ssegaai        | B          | Kumaphakathi        | B          | 43.59   | 212.841                     |
| <b>W51-3</b>  | <b>W51E-02049 (EWR AS1)</b>              | <b>i-Assegaai</b> | <b>C</b>   | <b>Kumaphakathi</b> | <b>C</b>   | <b>21.6</b>   | <b>328.61</b>               |
| W51-4   | W51F-01986                               | i-Blesbokspruit   | C          | Kumaphakathi        | C          | 41.5  | 43.36                       |
| W52-1   | W52D-01862                               | iHlelo            | B/C        | Kuphezulu           | B/C        | 44.1  | 97.06                       |
| <b>W53-3</b>  | <b>W53E-01790 (EWR NG1)</b>              | <b>iNgwempisi</b> | <b>B/C</b> | <b>Kumaphakathi</b> | <b>B/C</b> | <b>32.5</b>   | <b>156.33</b>               |
| W54-2   | W54D-01593                               | i-Usuthu          | C          | Kumaphakathi        | C          | 35.0  | 79.46                       |
| <b>IUA: W55: Izinhlalo Zemifula iMpuluzi kanye neLusushwana</b>               |  |                   |            |                     |            |   |                             |
| W55-1   | W55E-01477                               | iMpuluzi          | B/C        | Kuphezulu           | B/C        | 49.9  | 128.96                      |
| W55-2   | W56A-01372                               | iLusushwana       | C          | Kuphezulu           | C          | 46.1  | 39.48                       |
| <b>IUA: W57: Ingezansi Lomfula i-Usutu</b>                                    |  |                   |            |                     |            |   |                             |
| W57-1   | W57K-01929                               | i-Usuthu          | B/C        | Kuphezulu           | B          | 40.3  | 2289.46                     |

1) I-NMAR Yisilinganiso Semvula Yemvelo Yonyaka.

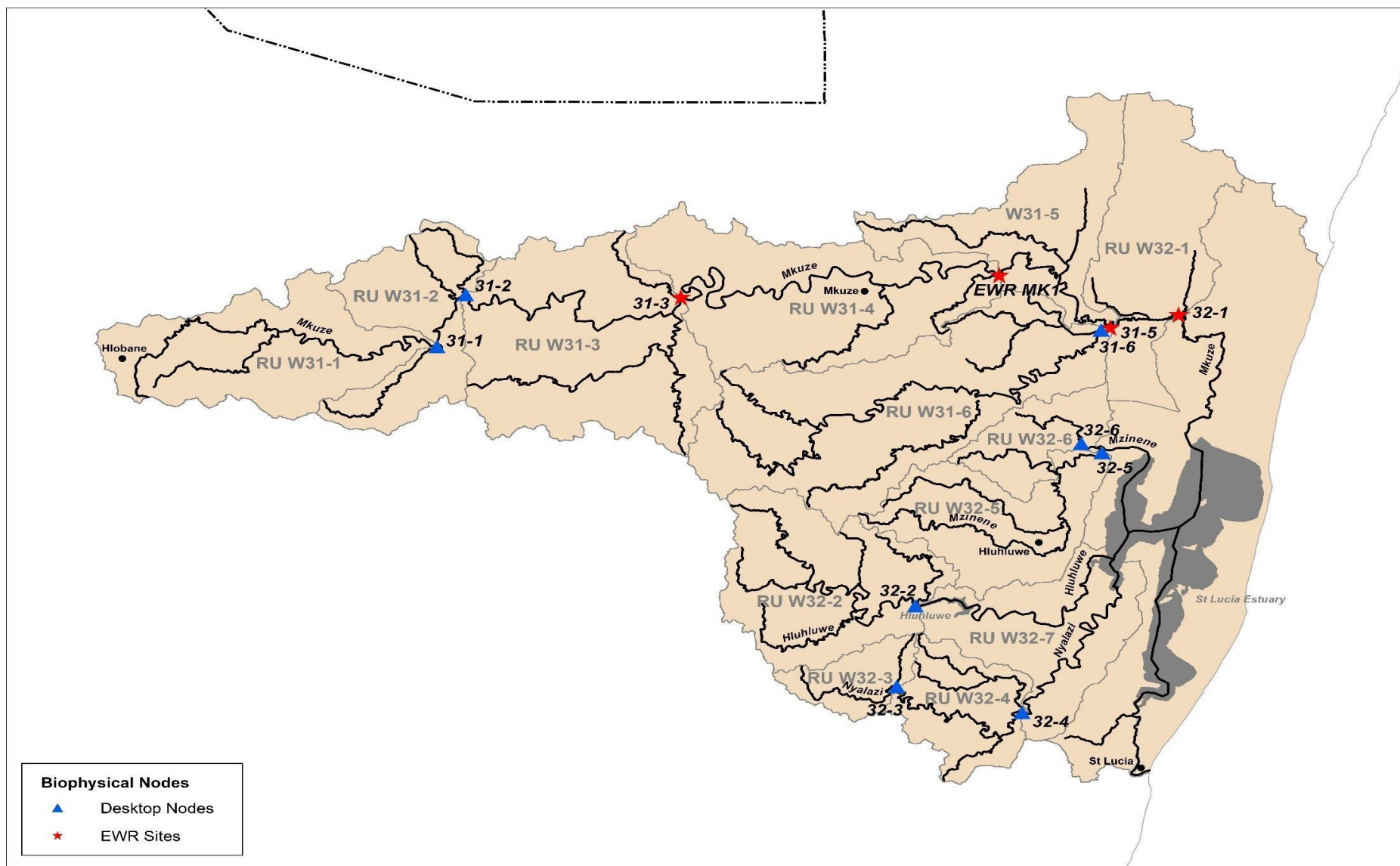
2) Leli nani limelela isilinganiso sesikhathi eside esisekelwe ku-NMAR. Uma i-NMAR ishintsha, le-% Lendawo Yokugcina Yemvelo nalo lizoshintsha.



Umfanekiso 1: Amayunithi Emithombo yendawo ephatha amanzi i-W1 (umfula omkhulu: iMhlathuze)



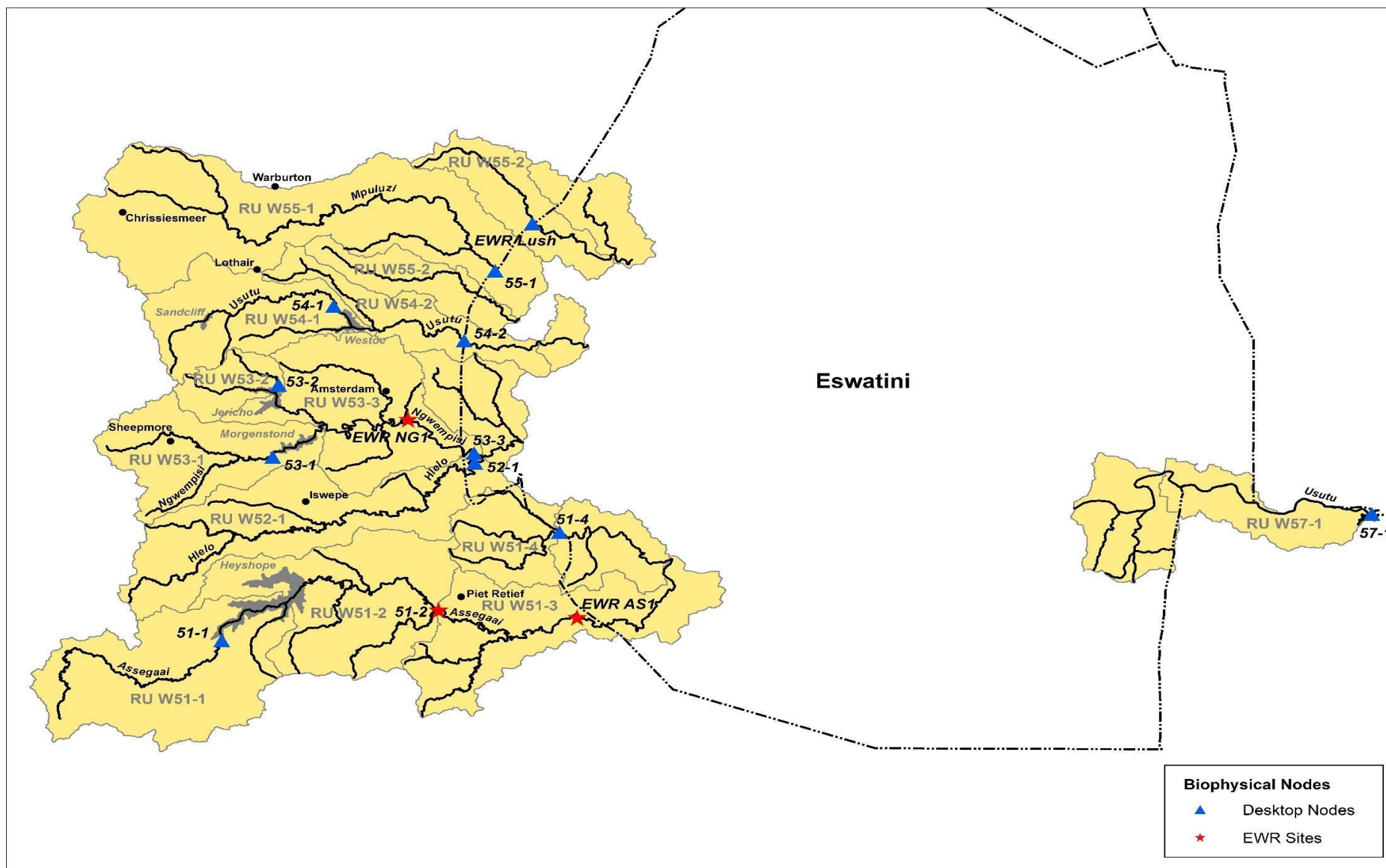
Umfanekiso 2: Amayunithi Emithombo yendawo ephatha amanzi i-W2 (umfula omkhulu: i-UMfolozi)



Umfanekiso 3: Amayunithi Emithombo yendawo ephatha amanzi i-W3 (umfula omkhulu: iMkuze)



Umfanekiso 4: Amayunithi Emithombo yendawo ephatha amanzi i-W4 (umfula omkhulu: iPongola)



Umfanekiso 5: Amayunithi Emithombo yendawo ephatha amanzi i-W5 (umfula omkhulu: i-Usutu)

## **Indawo Yokugcina Yezidingo Zabantu Eziyisisekelo (i-Basic Human Needs Reserve) (i-BHNR)**

Imiphakathi okungenzeka ukuthi incike ekutholeni amanzi ngokuqondile emifuleni nasemanzini angaphezulu komhlaba yahlonzwa endaweni yocwaningo kusetshenziswa ukulandelwa Kohlelo Lwemininingwane Yendawo (i-Geographic Information System) (i-GIS) kanye Nokubalwa Kwabantu ngo-2016. Kwenziwa uchungechunge lwezinyathelo zokunquma inani labantu endaweni ngayinye ephatha amanzi ngekwata lonyaka encike emithonjeni yamanzi. Le ndlela ilandela indlela ebuyekeze yi-DWS (DWA, 2008a), ngezinyathelo ezengeziwe zokuthuthukisa izibikezelo. Kulendlela, i-BHNR isebenza kuphela ezindaweni lapho imithombo yamanzi engekho emthethweni iyindlela lapho imiphakathi ithola khona amanzi. Indlela eyamukelwe isifinyezwa ngezansi:

- Izindawo Eziphatha Amanzi Ngekwata Lonyaka eziwela Ezindawo Eziphatha Amanzi zase-Usutu kuya eMhlathuze zinqunyiwe, futhi indawo yendawo ephatha amanzi ngayinye ibalwe ngokusekelwe emininigwaneni ye-GIS.
- Imininingwane evela Ekuhlaziyweni koMphakathi Kwezibalo zaseNingizimu Afrika kwango-2016 (Stats SA, 2016) isetshenziswe ukunquma inani labantu ngaphansi komasipala bendawo abawela ngokugcwele noma ngokwengxenywe Endaweni Ephatha Amanzi e-Usutu kuya eMhlathuze. Ezinye izindawo eziphatha amanzi ngekwata lonyaka ziwelaa ngaphansi kukaMasipala Wendawo. Imininingwane Kamasipala Wendawo inikezwa ngokuhlaziywa kwezibalo zezinga lensizakalo maqondana nokuhlinzekwa kanye noikutholakala kwemithombo yamanzi.
- Ukuhlaziywa koMphakathi Kwezibalo zaseNingizimu Afrika (Stats SA, 2016) kuwuhlu lwemininingwane kazwelonke ephelile yakamuva. Ukubalwa Kwabantu kuka-2011 kuphelelwe yisikhathi njengomthombo othembekile wemininingwane yensizakalo yamanzi futhi Ukubalwa Kwabantu (2022) bekungatholakali.
- Inani labantu ngaphakathi kuMasipala Wendawo lahlukaniswa laba yindawo ephatha amanzi yesikhathi sekwata yonyaka ngokususelwa kubukhulu besikhathi sekwata yonyaka maqondana Nenani Labantu likaMasipala.
- Ngokusekelwe ezingeni lezinsizakalo ezihlinzekwa nguMasipala Wendawo, inani labantu abalinganiselwa ukuthi bathembele ngqo emithonjeni yamanzi ehluahlukene libalwe ngokwendawo ephatha amanzi yekwata yonyaka. Izindawo eziwela ngokuphelele noma ngokwengxenywe endaweni ngayinye ephatha amanzi yekwata yonyaka zasetshenziselwa ukunquma amakhaya anokutholakala kokuhlinzekwa kwamanzi okusemthethweni nokungekho emthethweni. Eyokuqala yayihlanganisa yonke imizi enamanzi ahamba ngamapayipi kunoma yikuphi ukwakheka, kuyilapho eyokugcina ihlanganisa yonke imizi engenamanzi ahamba ngamapayipi futhi ngenxa yalokho izoncika kweminye imithombo engahlelekile efana nemifula egelezayo, iziphethu, amadamu, amachibi, abathengisi kanye namathangi. Kumele kuqashelwe ukuthi Ekuhlaziyweni koMphakathi Kwezibalo zaseNingizimu Afrika kuka-2016 (Stats SA, 2016) ukuhlinzekwa kwamanzi kwanqunyelwa imizi futhi ngakho-ke indlela edingekayo ukulungisa ukuze kucatshangelwe abantu. Inqanaba yemizi efanelekayo ephindaphindwe ngenani labantu eliphakathi isetshenziselwe ukuthola inani labantu abafanelekayo ngaphansi kwe-BHNR. Labo abathola amanzi ngezinhlelo ezisemthethweni nasekukhishweni kwamanzi angaphansi komhlaba ngemishini abazange bahlanganiswe (bhaka isiqondiso se-DWS (DWA, 2008a) esiphathelene nokukhishwa ohlelweni olusemthethweni). Labo abasebenzisa amabhakede ukuze baqoqe emithonjeni bahlanganisiwe. Ngokwemiphumela

Yokuhlaziywa koMphakathi Kwezibalo zaseNingizimu Afrika kuka-2016, cishe u-77% wabantu bonke Bendawo Yokulawulwa Kwamanzi (i-WMA) banokufinyelela ezinhlelweni zokuhlinzekwa kwamanzi ezisemthethweni noma ukukhishwa kwamanzi angaphansi komhlaba ngokusebenzisa imigodi embiwe.

- Ngemva kokubalwa kwenani labantu abafanelekile endaweni ngayinye ephatha amanzi ngekwata lonyaka, isinyathelo esilandelayo ekunqumeni i-BHNR ukubikezela inani labantu ngosuku oluhlosiwe. Isilinganiso sokukhula Komasipala Bendawo phakathi Kokubalwa Kwabantu ngo-2011 kanye Nokuhlolwa Komphakathi ngo-2016 okungu-1.7% ngonyaka kwasetshenziswa.
- I-BHNR ihlinzeka ngezidingo eziyisisekelo zabantu abahlinzekwa ngokuqondile ngumthombo wamanzi okukhulunywa ngawo futhi ihlanganisa amanzi okuphuza, okulungiselela ukudla nawokuhlazeka komuntu siqu. Ukubala inani lamanzi e-BHNR, isibonelelo esijwayelekile sansuku zonke samalitha angu-60 umuntu ngamunye ngosuku sasetshenziswa kubantu abafanelekile emphakathini. Isibalo samalitha angu-60 sisuselwa eziqondisweni njengoba zibekwe ku-DWAF (u-1999; u-2007 no-2008a; b).

**Ithebula 2: i-BHNR yendawo ephatha amanzi ngekwata lonyaka ngamamitha a-cubic Ayizigidi ngonyaka**

| Izindawo Eziphatha Amanzi Ngekwata Lonyaka | Inani Labantu Elincike Endaweni Yokugcina ye-BHN ngaphandle kwemigodi embiwe nezinhlelo ezisemthethweni | Indawo Yokugcina ye-BHN (1 000 000 m <sup>3</sup> /ngonyaka) |       |       |
|--|---|--|-------|-------|
|  |   | 2022   | 2025  | 2030  |
| W11A                                       | 1 041   | 0.023  | 0.024 | 0.027 |
| W11A                                       | 10 849  | 0.238  | 0.254 | 0.277 |
| W11B                                       | 4 827   | 0.106  | 0.113 | 0.123 |
| W11B                                       | 686   | 0.015  | 0.016 | 0.017 |
| W11C                                       | 8 404   | 0.184  | 0.197 | 0.214 |
| W11C                                       | 6 610   | 0.145  | 0.155 | 0.168 |
| W12A                                       | 2 766   | 0.061  | 0.065 | 0.070 |
| W12A                                       | 2 349   | 0.051  | 0.055 | 0.060 |
| W12A                                       | 2 909   | 0.064  | 0.068 | 0.074 |
| W12B                                       | 3 540   | 0.078  | 0.083 | 0.090 |
| W12B                                       | 1 518   | 0.033  | 0.036 | 0.039 |
| W12B                                       | 7 618   | 0.167  | 0.178 | 0.194 |
| W12C                                       | 8 984   | 0.197  | 0.210 | 0.229 |
| W12D                                       | 2 643   | 0.058  | 0.062 | 0.067 |
| W12D                                       | 1 408   | 0.031  | 0.033 | 0.036 |
| W12D                                       | 7 846   | 0.172  | 0.184 | 0.200 |
| W12E                                       | 372   | 0.008  | 0.009 | 0.009 |
| W12E                                       | 6 833   | 0.150  | 0.160 | 0.174 |
| W12F                                       | 3 230   | 0.071  | 0.076 | 0.082 |
| W12F                                       | 109   | 0.002  | 0.003 | 0.003 |
| W12G                                       | 883   | 0.019  | 0.021 | 0.023 |
| W12G                                       | 833   | 0.018  | 0.020 | 0.021 |
| W12G                                       | 1 734   | 0.038  | 0.041 | 0.044 |
| W12H                                       | 2 894   | 0.063  | 0.068 | 0.074 |
| W12H                                       | 2 198   | 0.048  | 0.051 | 0.056 |
| W12J                                       | 3 372   | 0.074  | 0.079 | 0.086 |
| W12J                                       | 595   | 0.013  | 0.014 | 0.015 |
| W13A                                       | 8   | 0.000  | 0.000 | 0.000 |
| W13A                                       | 9 180   | 0.201  | 0.215 | 0.234 |
| W13B                                       | 248   | 0.005  | 0.006 | 0.006 |
| W13B                                       | 688   | 0.015  | 0.016 | 0.018 |

| Izindawo Eziphatha Amanzi Ngekwata Lonyaka | Inani Labantu Elincike Endaweni Yokugcina ye-BHN ngaphandle kwemigodi embiwe nezinhlelo ezisemthethweni | Indawo Yokugcina ye-BHN (1 000 000 m <sup>3</sup> /ngonyaka) |       |       |
|--|---|--|-------|-------|
|  |   | 2022   | 2025  | 2030  |
| W13B                                       | 4 511   | 0.099  | 0.106 | 0.115 |
| W21A                                       | 2 665   | 0.058  | 0.062 | 0.068 |
| W21A                                       | 24  | 0.001  | 0.001 | 0.001 |
| W21A                                       | 124   | 0.003  | 0.003 | 0.003 |
| W21B                                       | 5 136   | 0.112  | 0.120 | 0.131 |
| W21C                                       | 3 271   | 0.072  | 0.077 | 0.083 |
| W21D                                       | 2 915   | 0.064  | 0.068 | 0.074 |
| W21D                                       | 2 679   | 0.059  | 0.063 | 0.068 |
| W21E                                       | 8 001   | 0.175  | 0.187 | 0.204 |
| W21F                                       | 1 118   | 0.024  | 0.026 | 0.028 |
| W21F                                       | 165   | 0.004  | 0.004 | 0.004 |
| W21F                                       | 2 365   | 0.052  | 0.055 | 0.060 |
| W21G                                       | 5 250   | 0.115  | 0.123 | 0.134 |
| W21G                                       | 6 359   | 0.139  | 0.149 | 0.162 |
| W21H                                       | 9 494   | 0.208  | 0.222 | 0.242 |
| W21J                                       | 744   | 0.016  | 0.017 | 0.019 |
| W21J                                       | 10 590  | 0.232  | 0.248 | 0.270 |
| W21K                                       | 33  | 0.001  | 0.001 | 0.001 |
| W21K                                       | 3 201   | 0.070  | 0.075 | 0.082 |
| W21K                                       | 12 973  | 0.284  | 0.304 | 0.331 |
| W21L                                       | 3 042   | 0.067  | 0.071 | 0.078 |
| W21L                                       | 815   | 0.018  | 0.019 | 0.021 |
| W21L                                       | 3 113   | 0.068  | 0.073 | 0.079 |
| W21L                                       | 81  | 0.002  | 0.002 | 0.002 |
| W22A                                       | 2 112   | 0.046  | 0.049 | 0.054 |
| W22B                                       | 1 691   | 0.037  | 0.040 | 0.043 |
| W22B                                       | 3 084   | 0.068  | 0.072 | 0.079 |
| W22C                                       | 1 361   | 0.030  | 0.032 | 0.035 |
| W22C                                       | 697   | 0.015  | 0.016 | 0.018 |
| W22D                                       | 5   | 0.000  | 0.000 | 0.000 |
| W22D                                       | 4 319   | 0.095  | 0.101 | 0.110 |
| W22E                                       | 2 210   | 0.048  | 0.052 | 0.056 |
| W22E                                       | 3 594   | 0.079  | 0.084 | 0.092 |
| W22E                                       | 1 523   | 0.033  | 0.036 | 0.039 |
| W22E                                       | 2   | 0.000  | 0.000 | 0.000 |
| W22F                                       | 21  | 0.000  | 0.000 | 0.001 |
| W22F                                       | 5 326   | 0.117  | 0.125 | 0.136 |
| W22F                                       | 4 642   | 0.102  | 0.109 | 0.118 |
| W22G                                       | 13 547  | 0.297  | 0.317 | 0.345 |
| W22H                                       | 2 079   | 0.046  | 0.049 | 0.053 |
| W22H                                       | 5 875   | 0.129  | 0.138 | 0.150 |
| W22J                                       | 652   | 0.014  | 0.015 | 0.017 |
| W22J                                       | 13 995  | 0.306  | 0.328 | 0.357 |
| W22J                                       | 6 385   | 0.140  | 0.150 | 0.163 |
| W22K                                       | 629   | 0.014  | 0.015 | 0.016 |
| W22K                                       | 22 888  | 0.501  | 0.536 | 0.583 |
| W22L                                       | 3 220   | 0.071  | 0.075 | 0.082 |
| W22L                                       | 0   | 0.000  | 0.000 | 0.000 |
| W22L                                       | 65  | 0.001  | 0.002 | 0.002 |
| W22L                                       | 0   | 0.000  | 0.000 | 0.000 |
| W23A                                       | 4   | 0.000  | 0.000 | 0.000 |
| W23A                                       | 2 912   | 0.064  | 0.068 | 0.074 |
| W23A                                       | 7 548   | 0.165  | 0.177 | 0.192 |

| Izindawo Eziphatha Amanzi Ngekwata Lonyaka | Inani Labantu Elincike Endaweni Yokugcina ye-BHN ngaphandle kwemigodi embiwe nezinhlelo ezisemthethweni | Indawo Yokugcina ye-BHN (1 000 000 m <sup>3</sup> /ngonyaka) |       |       |
|--|---|--|-------|-------|
|  |   | 2022   | 2025  | 2030  |
| W23B                                       | 2 481   | 0.054  | 0.058 | 0.063 |
| W23C                                       | 3 178   | 0.070  | 0.074 | 0.081 |
| W23C                                       | 2 649   | 0.058  | 0.062 | 0.068 |
| W23D                                       | 159   | 0.003  | 0.004 | 0.004 |
| W23D                                       | 9 500   | 0.208  | 0.223 | 0.242 |
| W31A                                       | 3 272   | 0.072  | 0.077 | 0.083 |
| W31B                                       | 2 679   | 0.059  | 0.063 | 0.068 |
| W31B                                       | 25  | 0.001  | 0.001 | 0.001 |
| W31C                                       | 1 518   | 0.033  | 0.036 | 0.039 |
| W31D                                       | 1 527   | 0.033  | 0.036 | 0.039 |
| W31D                                       | 1 972   | 0.043  | 0.046 | 0.050 |
| W31E                                       | 520   | 0.011  | 0.012 | 0.013 |
| W31E                                       | 4 454   | 0.098  | 0.104 | 0.114 |
| W31F                                       | 322   | 0.007  | 0.008 | 0.008 |
| W31F                                       | 17 834  | 0.391  | 0.418 | 0.455 |
| W31F                                       | 3 536   | 0.077  | 0.083 | 0.090 |
| W31G                                       | 503   | 0.011  | 0.012 | 0.013 |
| W31G                                       | 10 939  | 0.240  | 0.256 | 0.279 |
| W31G                                       | 4 773   | 0.105  | 0.112 | 0.122 |
| W31H                                       | 4 571   | 0.100  | 0.107 | 0.117 |
| W31H                                       | 1 570   | 0.034  | 0.037 | 0.040 |
| W31H                                       | 1 332   | 0.029  | 0.031 | 0.034 |
| W31J                                       | 9 394   | 0.206  | 0.220 | 0.239 |
| W31J                                       | 847   | 0.019  | 0.020 | 0.022 |
| W31K                                       | 1 356   | 0.030  | 0.032 | 0.035 |
| W31K                                       | 7 541   | 0.165  | 0.177 | 0.192 |
| W31K                                       | 21 175  | 0.464  | 0.496 | 0.540 |
| W31L                                       | 396   | 0.009  | 0.009 | 0.010 |
| W31L                                       | 6 214   | 0.136  | 0.146 | 0.158 |
| W32A                                       | 0   | 0.000  | 0.000 | 0.000 |
| W32A                                       | 2 573   | 0.056  | 0.060 | 0.066 |
| W32A                                       | 2 135   | 0.047  | 0.050 | 0.054 |
| W32B                                       | 2 853   | 0.062  | 0.067 | 0.073 |
| W32B                                       | 267   | 0.006  | 0.006 | 0.007 |
| W32B                                       | 4 835   | 0.106  | 0.113 | 0.123 |
| W32C                                       | 8 390   | 0.184  | 0.197 | 0.214 |
| W32C                                       | 99  | 0.002  | 0.002 | 0.003 |
| W32D                                       | 1 903   | 0.042  | 0.045 | 0.049 |
| W32D                                       | 5 601   | 0.123  | 0.131 | 0.143 |
| W32E                                       | 4 846   | 0.106  | 0.114 | 0.124 |
| W32E                                       | 1 531   | 0.034  | 0.036 | 0.039 |
| W32F                                       | 1 099   | 0.024  | 0.026 | 0.028 |
| W32F                                       | 3 733   | 0.082  | 0.087 | 0.095 |
| W32G                                       | 961   | 0.021  | 0.023 | 0.025 |
| W32G                                       | 22 780  | 0.499  | 0.534 | 0.581 |
| W32H                                       | 8 370   | 0.183  | 0.196 | 0.213 |
| W32H                                       | 22 353  | 0.490  | 0.524 | 0.570 |
| W41A                                       | 627   | 0.014  | 0.015 | 0.016 |
| W41B                                       | 1 334   | 0.029  | 0.031 | 0.034 |
| W41B                                       | 682   | 0.015  | 0.016 | 0.017 |
| W41C                                       | 121   | 0.003  | 0.003 | 0.003 |
| W41C                                       | 1 995   | 0.044  | 0.047 | 0.051 |
| W41C                                       | 173   | 0.004  | 0.004 | 0.004 |

| Izindawo Eziphatha Amanzi Ngekwata Lonyaka | Inani Labantu Elincike Endaweni Yokugcina ye-BHN ngaphandle kwemigodi embiwe nezinhlelo ezisemthethweni | Indawo Yokugcina ye-BHN (1 000 000 m <sup>3</sup> /ngonyaka) |       |       |
|--|---|--|-------|-------|
|  |   | 2022   | 2025  | 2030  |
| W41D                                       | 71  | 0.002  | 0.002 | 0.002 |
| W41D                                       | 3 020   | 0.066  | 0.071 | 0.077 |
| W41E                                       | 21  | 0.000  | 0.000 | 0.001 |
| W41E                                       | 3 950   | 0.087  | 0.093 | 0.101 |
| W41F                                       | 1 745   | 0.038  | 0.041 | 0.044 |
| W41F                                       | 1 920   | 0.042  | 0.045 | 0.049 |
| W41G                                       | 410   | 0.009  | 0.010 | 0.010 |
| W41G                                       | 574   | 0.013  | 0.013 | 0.015 |
| W41G                                       | 94  | 0.002  | 0.002 | 0.002 |
| W42A                                       | 19  | 0.000  | 0.000 | 0.000 |
| W42A                                       | 1 342   | 0.029  | 0.031 | 0.034 |
| W42A                                       | 959   | 0.021  | 0.022 | 0.024 |
| W42A                                       | 6   | 0.000  | 0.000 | 0.000 |
| W42B                                       | 4 391   | 0.096  | 0.103 | 0.112 |
| W42B                                       | 135   | 0.003  | 0.003 | 0.003 |
| W42B                                       | 213   | 0.005  | 0.005 | 0.005 |
| W42C                                       | 366   | 0.008  | 0.009 | 0.009 |
| W42C                                       | 9   | 0.000  | 0.000 | 0.000 |
| W42C                                       | 1   | 0.000  | 0.000 | 0.000 |
| W42C                                       | 1 209   | 0.026  | 0.028 | 0.031 |
| W42D                                       | 3 048   | 0.067  | 0.071 | 0.078 |
| W42D                                       | 1 312   | 0.029  | 0.031 | 0.033 |
| W42E                                       | 1 768   | 0.039  | 0.041 | 0.045 |
| W42E                                       | 495   | 0.011  | 0.012 | 0.013 |
| W42F                                       | 1 558   | 0.034  | 0.036 | 0.040 |
| W42G                                       | 2 141   | 0.047  | 0.050 | 0.055 |
| W42G                                       | 106   | 0.002  | 0.002 | 0.003 |
| W42G                                       | 1 041   | 0.023  | 0.024 | 0.027 |
| W42H                                       | 1 508   | 0.033  | 0.035 | 0.038 |
| W42H                                       | 1 656   | 0.036  | 0.039 | 0.042 |
| W42J                                       | 494   | 0.011  | 0.012 | 0.013 |
| W42J                                       | 3 794   | 0.083  | 0.089 | 0.097 |
| W42K                                       | 1 120   | 0.025  | 0.026 | 0.029 |
| W42K                                       | 27  | 0.001  | 0.001 | 0.001 |
| W42L                                       | 241   | 0.005  | 0.006 | 0.006 |
| W42L                                       | 3 287   | 0.072  | 0.077 | 0.084 |
| W42M                                       | 4 984   | 0.109  | 0.117 | 0.127 |
| W43C                                       | 79  | 0.002  | 0.002 | 0.002 |
| W43E                                       | 9   | 0.000  | 0.000 | 0.000 |
| W43F                                       | 13 636  | 0.299  | 0.319 | 0.348 |
| W44A                                       | 4 119   | 0.090  | 0.096 | 0.105 |
| W44B                                       | 5 567   | 0.122  | 0.130 | 0.142 |
| W44C                                       | 1 085   | 0.024  | 0.025 | 0.028 |
| W44D                                       | 3 451   | 0.076  | 0.081 | 0.088 |
| W44E                                       | 1 227   | 0.027  | 0.029 | 0.031 |
| W44E                                       | 5 002   | 0.110  | 0.117 | 0.127 |
| W45A                                       | 20 726  | 0.454  | 0.486 | 0.528 |
| W45A                                       | 2 362   | 0.052  | 0.055 | 0.060 |
| W45A                                       | 9   | 0.000  | 0.000 | 0.000 |
| W45B                                       | 2 793   | 0.061  | 0.065 | 0.071 |
| W45B                                       | 2 711   | 0.059  | 0.064 | 0.069 |
| W51A                                       | 1 446   | 0.032  | 0.034 | 0.037 |
| W51A                                       | 8   | 0.000  | 0.000 | 0.000 |

| Izindawo Eziphatha Amanzi Ngekwata Lonyaka | Inani Labantu Elincike Endaweni Yokugcina ye-BHN ngaphandle kwemigodi embiwe nezinhlelo ezisemthethweni | Indawo Yokugcina ye-BHN (1 000 000 m <sup>3</sup> /ngonyaka) |               |               |
|--|---|--|---------------|---------------|
|  |   | 2022   | 2025          | 2030          |
| W51A                                       | 377   | 0.008  | 0.009         | 0.010         |
| W51B                                       | 461   | 0.010  | 0.011         | 0.012         |
| W51B                                       | 1 642   | 0.036  | 0.038         | 0.042         |
| W51C                                       | 0   | 0.000  | 0.000         | 0.000         |
| W51C                                       | 3 455   | 0.076  | 0.081         | 0.088         |
| W51D                                       | 2 687   | 0.059  | 0.063         | 0.068         |
| W51E                                       | 96  | 0.002  | 0.002         | 0.002         |
| W51F                                       | 1 560   | 0.034  | 0.037         | 0.040         |
| W52A                                       | 249   | 0.005  | 0.006         | 0.006         |
| W52A                                       | 994   | 0.022  | 0.023         | 0.025         |
| W52B                                       | 1 714   | 0.038  | 0.040         | 0.044         |
| W52C                                       | 907   | 0.020  | 0.021         | 0.023         |
| W52D                                       | 366   | 0.008  | 0.009         | 0.009         |
| W53A                                       | 3   | 0.000  | 0.000         | 0.000         |
| W53A                                       | 761   | 0.017  | 0.018         | 0.019         |
| W53A                                       | 1 255   | 0.027  | 0.029         | 0.032         |
| W53B                                       | 4   | 0.000  | 0.000         | 0.000         |
| W53B                                       | 690   | 0.015  | 0.016         | 0.018         |
| W53C                                       | 1 487   | 0.033  | 0.035         | 0.038         |
| W53C                                       | 76  | 0.002  | 0.002         | 0.002         |
| W53D                                       | 1 343   | 0.029  | 0.031         | 0.034         |
| W53D                                       | 163   | 0.004  | 0.004         | 0.004         |
| W53E                                       | 904   | 0.020  | 0.021         | 0.023         |
| W53F                                       | 6   | 0.000  | 0.000         | 0.000         |
| W54A                                       | 796   | 0.017  | 0.019         | 0.020         |
| W54B                                       | 34  | 0.001  | 0.001         | 0.001         |
| W54B                                       | 873   | 0.019  | 0.020         | 0.022         |
| W54C                                       | 341   | 0.007  | 0.008         | 0.009         |
| W54D                                       | 167   | 0.004  | 0.004         | 0.004         |
| W54D                                       | 215   | 0.005  | 0.005         | 0.005         |
| W54D                                       | 201   | 0.004  | 0.005         | 0.005         |
| W54E                                       | 15  | 0.000  | 0.000         | 0.000         |
| W54E                                       | 74  | 0.002  | 0.002         | 0.002         |
| W55A                                       | 437   | 0.010  | 0.010         | 0.011         |
| W55A                                       | 1 909   | 0.042  | 0.045         | 0.049         |
| W55B                                       | 2   | 0.000  | 0.000         | 0.000         |
| W55B                                       | 689   | 0.015  | 0.016         | 0.018         |
| W55C                                       | 2 057   | 0.045  | 0.048         | 0.052         |
| W55C                                       | 384   | 0.008  | 0.009         | 0.010         |
| W55D                                       | 367   | 0.008  | 0.009         | 0.009         |
| W55D                                       | 487   | 0.011  | 0.011         | 0.012         |
| W55E                                       | 14  | 0.000  | 0.000         | 0.000         |
| W56A                                       | 1 191   | 0.026  | 0.028         | 0.030         |
| W56B                                       | 217   | 0.005  | 0.005         | 0.006         |
| W57J                                       | 1 915   | 0.042  | 0.045         | 0.049         |
| W57K                                       | 2 962   | 0.065  | 0.069         | 0.076         |
| W70A                                       | 18 427  | 0.404  | 0.432         | 0.470         |
| <b>Inggikithi</b>                          |   | <b>15.329</b>  | <b>16.412</b> | <b>17.855</b> |

## AMANZI ANGAPHEZULU – INGXYENYE YEZINGA LEMIFULA

### Ukunqunywa Kwendawo Yokugcina yengxenywe Yezinga ezindaweni ze-EWR

**Ithebula 3.1: i-EWR MA1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B)**

| Isilinganiso sezinga lamanzi                       | Ukucaciswa Kwemvelo   | i-TPC  |
|--|---|--|
| <b>Usawoti lwezinto ezingaphili</b>                |   |  |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤23 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-19 - 23 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤33 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-27 - 33 mg/L.   |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mg/L.   |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤57 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-46 - 57 mg/L.   |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤191 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-153 - 191 mg/L.   |
| i-CaSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤351 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-280 - 351 mg/L.   |
| <b>Izici ezingokwenyama eziguququkayo</b>          |   |  |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤55 mS/m.   | Imininingwane engamaphesenti angu-95 lingu-44 - 55 mS/m.   |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.4. | Imininingwane engamaphesenti angu-95 lingu- <6.7 no- >7.8, kanti amaphesenti angu-95 angu- <6.7 no->8.2.   |
| Izinga lokushisa                                   | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni.   |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu-≥7.5 mg/L.   | Imininingwane engamaphesenti angu-5 lingu- ≤7.7 mg/L.  |
| Ukufiphala   | Kulindeleke umthelela omncane ngenxa yokusetshenziswa komhlaba kanye nokufakwa kwenzika endaweni.                                       | Imithwalo yenzika ephakeme ngokungemvelo kanye nokufiphala ngesikhathi sezenzakalo zokugeleza. Imiphumiithelelaela ivame ukuba yesikhashana, kodwa okunye ukufakwa kwenzika kusobala. Hlola ukuphendula kwezinto eziphilayo ngezinguquko ezihlobene nendawo yokuhlala. |
| <b>Izakhi</b>                                      |   |  |
| Inggikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu- <0.25 mg/L.  | Imininingwane engamaphesenti angu-50 lingu- 0.2 - 0.25 mg/L  |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.015 mg/L.  | Imininingwane engamaphesenti angu-50 lingu- 0.012 - 0.015 mg/L   |
| <b>Izici zokuphendula eziguququkayo</b>            |   |  |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤15 mg/L  | Imininingwane engamaphesenti angu-50 lingu- 12 - 15 µg/L.  |
| i-Chl-a periphyton                                 | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤12 mg/m <sup>2</sup>   | Imininingwane engamaphesenti angu-50 lingu- 10 - 12 mg/m <sup>2</sup> .  |
| <b>Ubuthi</b>                                      |   |  |
| i-Ammonia (NH <sub>3</sub> -N)                     | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.1 mg/L   | Imininingwane engamaphesenti angu-95 lingu- 0.08 - 0.1 mg/L.   |

|                            |  |   |
|----------------------------|--|---|
| Ezinye izici eziguququkayo | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kwesigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihloliwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |
|----------------------------|--|---|

### Ithebula 3.2: EWR NS1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B)

| Isilinganiso sezinga lamanzi                       | Ukucaciswa Kwemvelo  | i-TPC  |
|--|--|--|
| <b>Usawoti lwezinto ezingaphili</b>                |  |  |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤37 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-30 - 37 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤51 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-41 - 51 mg/L.   |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤51 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-41 - 51 mg/L.   |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤105 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-84 - 105 mg/L.  |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤389 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-311 - 389 mg/L.   |
| i-CaSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤1105 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-884 - 1105 mg/L.  |
| <b>Izici ezingokwenyama eziguququkayo</b>          |  |  |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤85 mS/m.  | Imininingwane engamaphesenti angu-95 lingu-68 - 85 mS/m.   |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 to 8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu- <6.7 no->7.8, kanti amaphesenti angu-95 angu- <6.7 no->8.6.   |
| Izinga lokushisa                                   | Kulindeleke ukuthi kube nokushisa okungokwemvelo.  | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni.   |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu-≥7.5 mg/L.  | Imininingwane engamaphesenti angu-5 lingu- ≤7.7 mg/L.  |
| Ukufiphala   | Kulindeleke umthelela olingene ngenxa yokusetshenziswa komhlaba kanye nokufakwa kwenzika endaweni.                                 | Imithwalo yenzika ephakeme ngokungemvelo kanye nokufiphala ngesikhathi sezenzakalo zokugeleza. Imiphumlimithelelaela ivame ukuba yesikhashana, kodwa okunye ukufakwa kwenzika kusobala. Hlola ukuphendula kwezinto eziphilayo ngezinguquko ezihlobene nendawo yokuhlala. |
| <b>Izakhi</b>                                      |  |  |
| Ingqikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu- <0.25 mg/L.   | Imininingwane engamaphesenti angu-50 lingu- 0.2 - 0.25 mg/L.   |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.015 mg/L.   | Imininingwane engamaphesenti angu-50 lingu- 0.012 - 0.015 mg/L.  |
| <b>Izici zokuphendula eziguququkayo</b>            |  |  |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤15 mg/L   | Imininingwane engamaphesenti angu-50 lingu- 12 - 15 µg/L.  |
| i-Chl-a periphyton                                 | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤12 mg/m <sup>2</sup>  | Imininingwane engamaphesenti angu-50 lingu- 10 - 12 mg/m <sup>2</sup> .  |
| <b>Ubuthi</b>                                      |  |  |

|                            |  |   |
|----------------------------|--|---|
| Ezinye izici eziguququkayo | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kwesigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |
|----------------------------|--|---|

**Ithebula 3.3: i-EWR WM1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B)**

| Isilinganiso sezinga lamanzi                       | Ukucaciswa Kwemvelo   | i-TPC   |
|--|---|---|
| <b>Usawoti lwezinto ezingaphili</b>                |   |   |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤23 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-19 - 23 mg/L.  |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤33 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-27 - 33 mg/L.  |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mg/L.  |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤57 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-46 - 57 mg/L.  |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤191 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-153 - 191 mg/L.  |
| i-CaSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤351 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-280 - 351 mg/L.  |
| <b>Izici ezingokwenyama eziguququkayo</b>          |   |   |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤55 mS/m.   | Imininingwane engamaphesenti angu-95 lingu-44 - 55 mS/m.  |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu- <6.7 no->7.8, kanti amaphesenti angu-95 angu- <6.7 no->8.6.  |
| Izinga lokushisa                                   | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni.  |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu-≥7.5 mg/L.   | Imininingwane engamaphesenti angu-5 lingu- ≤7.7 mg/L.   |
| Ukufiphala   | Kulindeleke umthelela olingene ngenxa yokusetshenziswa komhlaba kanye nokufakwa kwenzika endaweni.                                      | Imithwalo yenzika ephakeme ngokungemvelo kanye nokufiphala ngesikhathi sezenzakalo zokugeleza. ImiphumImithelelaela ivame ukuba yesikhashana, kodwa okunye ukufakwa kwenzika kusobala. Hlola ukuphendula kwezinto eziphilayo ngezinguquko ezihlobene nendawo yokuhlala. |
| <b>Izakhi</b>                                      |   |   |
| Inggikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu- <0.25 mg/L.  | Imininingwane engamaphesenti angu-50 lingu- 0.2 - 0.25 mg/L.  |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu- ≤0.015 mg/L.   | Imininingwane engamaphesenti angu-50 lingu- 0.012 - 0.015 mg/L.   |
| <b>Izici zokuphendula eziguququkayo</b>            |   |   |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu- ≤15 mg/L.  | Imininingwane engamaphesenti angu-50 lingu- 12 - 15 µg/L.   |
| i-Chl-a periphyton                                 | Imininingwane engamaphesenti angu-50 kumele ibe ngu- ≤12 mg/m <sup>2</sup> .  | Imininingwane engamaphesenti angu-50 lingu- 10 - 12 mg/m <sup>2</sup> .   |
| <b>Ubuthi</b>                                      |   |   |

|                                |  |   |
|--------------------------------|--|---|
| i-Ammonia (NH <sub>3</sub> -N) | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.02 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-0.016 - 0.02 mg/L  |
| Ezinye izici eziguququkayo     | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kwesigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

**Ithebula 3.4: i-EWR BM1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B/C)**

| Isilinganiso sezinga lamanzi                       | Ukucaciswa Kwemvelo   | i-TPC  |
|--|---|--|
| <b>Usawoti lwezinto ezingaphili</b>                |   |  |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤23 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-19 - 23 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤33 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-27 - 33 mg/L.   |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mg/L.   |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤57 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-46 - 57 mg/L.   |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤191 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-153 - 191 mg/L.   |
| CaSO <sub>4</sub>                                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤773 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-618 - 773 mg/L.   |
| <b>Izinhlaiya zosawoti wezinto ezingaphili</b>     |   |  |
| i-Sulphate ngengo-SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mg/L <sup>2</sup> .   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mg/L.   |
| <b>Izici ezingokwenyama eziguququkayo</b>          |   |  |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤55 mS/m.   | Imininingwane engamaphesenti angu-95 lingu-44 - 55 mS/m.   |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu- <6.7 no->7.8, kanti amaphesenti angu-95 angu- <6.7 no->8.6.                         |
| Izinga lokushisa                                   | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni. |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu->8.0 mg/L.   | Imininingwane engamaphesenti angu-5 lingu- ≤8.2 mg/L.  |
| Ukufiphala   | Izinguquko ezincane ezilindelekile.   | Ukuguguleka endaweni ngenxa yokusetshenziswa komhlaba.   |
| <b>Izakhi</b>                                      |   |  |
| Ingqikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu-<0.25 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.2 - 0.25 mg/L   |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.015 mg/L.  | Imininingwane engamaphesenti angu-50 lingu-0.012 - 0.015 mg/L.   |
| <b>Izici zokuphendula eziguququkayo</b>            |   |  |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤15 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-12 - 15 µg/L50  |
| i-Chl-a periphyton                                 | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤12 mg/m <sup>2</sup>   | Imininingwane engamaphesenti angu-50 lingu-10 - 12 mg/m <sup>2</sup>   |
| <b>Ubuthi</b>                                      |   |  |

|                                |  |   |
|--------------------------------|--|---|
| i-Ammonia (NH <sub>3</sub> -N) | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.02 mg/L   | Imininingwane engamaphesenti angu-95 lingu-0.016 - 0.02 mg/L  |
| Ezinye izici eziguququkayo     | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kwesigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezanga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

### Ithebula 3.5: i-EWR MK1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B/C)

| Isilinganiso sezinga lamanzi                      | Ukucaciswa Kwemvelo   | i-TPC  |
|---|---|--|
| <b>Usawoti lwezinto ezingaphili</b>               |   |  |
| i-MgSO <sub>4</sub>                               | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤37 mg/L, <i>njengoba kuboniswe emfuleni Wesigaba D.</i>                            | Imininingwane engamaphesenti angu-95 lingu-30 - 37 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                 | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤51 mg/L, njengoba kuboniswe emfuleni Wesigaba D.                                   | Imininingwane engamaphesenti angu-95 lingu-41 - 51 mg/L.   |
| i-MgCl <sub>2</sub>                               | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤51 mg/L, njengoba kuboniswe emfuleni Wesigaba D.                                   | Imininingwane engamaphesenti angu-95 lingu-41 - 51 mg/L.   |
| i-CaCl <sub>2</sub>                               | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤105 mg/L, njengoba kuboniswe emfuleni Wesigaba D.                                  | Imininingwane engamaphesenti angu-95 lingu-84 - 105 mg/L.  |
| i-NaCl  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤389 mg/L, njengoba kuboniswe emfuleni Wesigaba.                                    | Imininingwane engamaphesenti angu-95 lingu-311 - 389 mg/L.   |
| i-CaSO <sub>4</sub>                               | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤1105 mg/L, njengoba kuboniswe emfuleni weSigaba D.                                 | Imininingwane engamaphesenti angu-95 lingu-884 - 1105 mg/L.  |
| <b>Izinhlayiya zosawoti wezinto ezingaphili</b>   |   |  |
| i-Sulphate njengo-SO <sub>4</sub>                 | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤100 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-80 - 100 mg/L.  |
| <b>Izici ezingokwenyama eziguququkayo</b>         |   |  |
| Ukudluliselwa Kukagesi                            | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤85 mS/m, <i>njengoba kuboniswe emfuleni Wesigaba D.</i>                            | Imininingwane engamaphesenti angu-95 lingu-68 - 85 mS/m.   |
| i-pH  | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu- <6.7 no->7.8, kanti amaphesenti angu-95 angu- <6.7 no- >8.6.                        |
| Izinga lokushisa                                  | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni. |
| Umoyampilo oncibilikisiwe                         | Imininingwane engamaphesenti angu-5 kumele ibe ngu-≥7.0 mg/L.   | Imininingwane engamaphesenti angu-5 lingu- <7.2 mg/L.  |
| Ukufiphala  | Izinguquko ezincane noma eziphakathi ezihlobene nokuguguleka kwamanzi ezindaweni eziphezulu neziphakathi.                               | Akuhlolwe ukuphendula kwezinto eziphilayo ngezinguquko ezihlobene nendawo yokuhlala. Akuqhutshekwe nokuqashwa kokufiphala.     |
| <b>Izakhi</b>                                     |   |  |
| Inqikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.25 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.2 - 0.25 mg/L.  |
| i-PO <sub>4</sub> -P                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.015 mg/L.  | Imininingwane engamaphesenti angu-50 lingu-0.012 - 0.015 mg/L.   |
| <b>Izici zokuphendula eziguququkayo</b>           |   |  |
| i-Chl-a phytoplankton                             | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤15 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-  |

|                                |  |   |
|--------------------------------|--|---|
|                                |  | 12 - 15 µg/L.   |
| i-Chl-a periphyton             | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤12 mg/m <sup>2</sup> .  | Imininingwane engamaphesenti angu-50 lingu-10 - 12 mg/m <sup>2</sup> .  |
| <b>Ubuthi</b>                  |  |   |
| i-Ammonia (NH <sub>3</sub> -N) | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.043 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-0.034 - 0.043 mg/L.  |
| i-Fe                           | The Fe concentration should not vary more than 10% of the background dissolved Fe concentration (TWQR; DWAF, 1996a).   | The Fe concentration is varying ≥8% of the background dissolved Fe concentration.   |
| i-Al                           | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.055 mg/L (ANZ, 2000 - 2023).  | Imininingwane engamaphesenti angu-95 lingu-0.044 - 0.055 mg/L.  |
| i-Pb                           | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.003 mg/L (ANZ, 2000 - 2023).  | Imininingwane engamaphesenti angu-95 lingu-0.002 - 0.003 mg/L.  |
| i-Zn                           | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤0.008 mg/L (ANZ, 2000 - 2023).  | Imininingwane engamaphesenti angu-95 lingu-0.006 - 0.008 mg/L.  |
| Ezinye izici eziguququkayo     | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kwesigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

**Ithebula 3.6: i-EWR UP1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: A/B)**

| Isilinganiso sezinga lamanzi              | Ukucaciswa Kwemvelo   | i-TPC  |
|---|---|--|
| <b>Usawoti lwezinto ezingaphili</b>       |   |  |
| i-MgSO <sub>4</sub>                       | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤16 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-13-16 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>         | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤20 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-16 - 20 mg/L.   |
| i-MgCl <sub>2</sub>                       | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤15 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-12 - 15 mg/L.   |
| i-CaCl <sub>2</sub>                       | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤21 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-17 - 21 mg/L.   |
| i-NaCl                                    | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤45 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-36 - 45 mg/L.   |
| i-CaSO <sub>4</sub>                       | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤351 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-280 - 351 mg/L.   |
| <b>Izici ezingokwenyama eziguququkayo</b> |   |  |
| Ukudluliselwa Kukagesi                    | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mS/m.   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mS/m.   |
| i-pH                                      | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu- <6.7 no->7.8, kanti amaphesenti angu-95 angu- <6.7 no->8.6.                         |
| Izinga lokushisa                          | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ubuningi kanye nokuvama kokuvela kwezinhlobo ezizwelayo ezingeni lokushisa buncane kunalokho obekulindelekile ekubhekiselweni. |
| Umoyampilo oncibilikisiwe                 | Imininingwane engamaphesenti angu-5 kumele ibe ngu-≥7.5 mg/L.   | Imininingwane engamaphesenti angu-5 lingu- ≤7.7 mg/L.  |
| Ukufiphala                                | Izinguquko ezincane ezilindelekile.   | Okunye ukuguguleka kwemifantu endaweni.  |
| <b>Izakhi</b>                             |   |  |

|  |   |   |
|--|---|---|
| Inggikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu-<0.25 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.2 - 0.25 mg/L  |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.01 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.008 - 0.01 mg/L  |
| <b>Izici zokuphendula eziguququkayo</b>            |   |   |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu-<10 mg/L.   | Imininingwane engamaphesenti angu-50 lingu-8 - 10 µg/L  |
| i-Chl-a periphyton                                 | Imininingwane engamaphesenti angu-50 kumele ibe ngu-<1.7 mg/m <sup>2</sup> .  | Imininingwane engamaphesenti angu-50 lingu-1.4 - 1.7 mg/m <sup>2</sup>  |
| <b>Ubuthi</b>                                      |   |   |
| Zonke izici eziguququkayo                          | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kweSigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathi kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindeleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

### Ithebula 3.7: i-EWR AS1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B/C)

| Isilinganiso sezinga lamanzi                       | Ukucaciswa Kwemvelo   | i-TPC  |
|--|---|--|
| <b>Usawoti lwezinto ezingaphili</b>                |   |  |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤16 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-13 - 16 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤20 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-16 - 20 mg/L.   |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤15 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-12 - 15 mg/L.   |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤21 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-17 - 21 mg/L.   |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤45 mg/L.   | Imininingwane engamaphesenti angu-95 lingu-36 - 45 mg/L.   |
| i-CaSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤351 mg/L.  | Imininingwane engamaphesenti angu-95 lingu-280 - 351 mg/L.   |
| <b>Izici ezingokwenyama eziguququkayo</b>          |   |  |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu-≤30 mS/m.   | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mS/m.   |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.8. | Imininingwane engamaphesenti angu-5 lingu-<6.7 no->7.8, kanti amaphesenti angu-95 angu-<6.7 no->8.6.                               |
| Izinga lokushisa                                   | Kulindeleke ukuthi kube nokushisa okungokwemvelo.   | Ezinye izinhlobo ezinokuzwela ezingeni lokushisa ekuchichimeni okuncane kanye nemvamisa yokubela kunokulindelekile ekubhekiseleni. |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu->7.0 mg/L.   | Imininingwane engamaphesenti angu-5 lingu-≤7.2 mg/L.   |
| Ukufiphala   | Izinguquko ezincane ezilindelekile.   | Ukugcina ngaphakathi kwebanga lamanje (isilinganiso: 14.0 NTU).  |
| <b>Izakhi</b>                                      |   |  |
| Inggikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.7 mg/L.  | Imininingwane engamaphesenti angu-50 lingu-0.6 - 0.7 mg/L  |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu-≤0.075 mg/L.  | Imininingwane engamaphesenti angu-50 lingu-0.06 - 0.075 mg/L.  |

| <b>Izici zokuphendula eziguququkayo</b> |  |  |
|---|--|--|
| i-Chl-a phytoplankton                   | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 20$ mg/L.   | Imininingwane engamaphesenti angu-50 lingu-16 - 20 $\mu\text{g/L}$   |
| i-Chl-a periphyton                      | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 21$ mg/m <sup>2</sup> .   | Imininingwane engamaphesenti angu-50 lingu-17 - 21 mg/m <sup>2</sup>   |
| <b>Ubuthi</b>                           |  |  |
| Ezinye izici eziguququkayo              | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kweSigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguquququkayo ezingekho ku-DWAF (2008a). | Kulindleleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihloliwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

**Ithebula 3.8: i-EWR NG1- Ukucaciswa Kwemvelo kwezinga lamanzi kanye nama-TPC (i-PES ne-TEC: B)**

| <b>Isilinganiso sezinga lamanzi</b>                | <b>Ukucaciswa Kwemvelo</b>  | <b>i-TPC</b>   |
|--|---|--|
| <b>Usawoti lwezinto ezingaphili</b>                |   |  |
| i-MgSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 16$ mg/L.  | Imininingwane engamaphesenti angu-95 lingu-13 - 16 mg/L.   |
| i-Na <sub>2</sub> SO <sub>4</sub>                  | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 20$ mg/L.  | Imininingwane engamaphesenti angu-95 lingu-16 - 20 mg/L.   |
| i-MgCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 15$ mg/L.  | Imininingwane engamaphesenti angu-95 lingu-12 - 15 mg/L.   |
| i-CaCl <sub>2</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 21$ mg/L.  | Imininingwane engamaphesenti angu-95 lingu-17 - 21 mg/L.   |
| i-NaCl   | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 45$ mg/L.  | Imininingwane engamaphesenti angu-95 lingu-36 - 45 mg/L.   |
| i-CaSO <sub>4</sub>                                | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 351$ mg/L.   | Imininingwane engamaphesenti angu-95 lingu-280 - 351 mg/L.   |
| <b>Izici ezingokwenyama eziguququkayo</b>          |   |  |
| Ukudluliselwa Kukagesi                             | Imininingwane engamaphesenti angu-95 kumele ibe ngu- $\leq 30$ mS/m.  | Imininingwane engamaphesenti angu-95 lingu-24 - 30 mS/m.   |
| i-pH   | Imininingwane engamaphesenti angu-5 kumele ibe phakathi kuka-6.5 kuya ku-8.0, bese iphesenti elingu-5 kumele lisuke ku-6.5 kuya ku-8.4. | Imininingwane engamaphesenti angu-5 lingu- $< 6.7$ no- $> 7.8$ , kanti amaphesenti angu-95 angu- $< 6.7$ no- $> 8.2$ .                               |
| Izinga lokushisa                                   | Kulindleleke ukuthi kube nokushisa okungokwemvelo.  | Ezinye izinhlobo ezinokuzwela ezingeni lokushisa ekuchichimeni okuncane kanye nemvamisa yokuvela kunokulindlelekile ekubhekiseleni.                  |
| Umoyampilo oncibilikisiwe                          | Imininingwane engamaphesenti angu-5 kumele ibe ngu- $> 7.0$ mg/L.   | Imininingwane engamaphesenti angu-5 lingu- $\leq 7.2$ mg/L.  |
| Ukufiphala   | Izinguquko ezincane ezilindelekile.   | Ukwanda okuncane kokuhlinzekwa kwenzika evela emhlabathini olinywayo nasemahlathini. Ukugcina ngaphakathi kwebanga lamanje (isilinganiso: 10.7 NTU). |
| <b>Izakhi</b>                                      |   |  |
| Ingqikithi ye-Nitrogen Yezinto Ezingaphili (TIN-N) | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 0.5$ mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.4 - 0.5 mg/L  |
| i-PO <sub>4</sub> -P                               | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 0.075$ mg/L.   | Imininingwane engamaphesenti angu-50 lingu-0.06 - 0.075 mg/L.  |
| <b>Izici zokuphendula eziguququkayo</b>            |   |  |
| i-Chl-a phytoplankton                              | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 20$ mg/L.  | Imininingwane engamaphesenti angu-50 lingu-16 - 20 $\mu\text{g/L}$   |

|                            |  |  |
|----------------------------|--|--|
| i-Chl-a periphyton         | Imininingwane engamaphesenti angu-50 kumele ibe ngu- $\leq 21$ mg/m <sup>2</sup> .   | Imininingwane engamaphesenti angu-50 lingu-17 - 21 mg/m <sup>2</sup>   |
| <b>Ubuthi</b>              |  |  |
| Ezinye izici eziguququkayo | Imininingwane engamaphesenti angu-95 kumele ibe ngaphakathi kweSigaba A (noma ku-0) ku-DWAF (2008a), noma ngaphakathin kwe-AEV njengoba kubekwe ku-DWAF (1996a) kulezo zici eziguququkayo ezingekho ku-DWAF (2008a). | Kulindleke umthelela uma amaphesenti angu-95 eminingwane edlula Isigaba A ku-DWAF (2008a), noma Ububanzi Bezinga Lamanzi Elihlosiwe (i-TWQR) njengoba kubekwe ku-DWAF (1996a). |

## Ukuhlukaniswa Kwemvelo kwe-Desktop kanye Nesifinyezo Sokubaluleka Kwezindawo Ezingamaxhaphozi

Ukuhlukaniswa kwemvelo kwe-desktop kwezindawo ezingamaxhaphozi kwenzelwe Umbiko Wokuhlukanisa kanye Nesimo Samanje. Isifinyezo semiphumela yokuhloilwa kwe-PES kanye nokubekelwa phambili kwezindawo ezingamaxhaphozi kuphindiwe lana, futhi kuboniswe kumaThebula ezigabeni ezingezansi endaweni enkulu ephatha amanzi ngayinye lapho Izihloko zamaThebula zinjengezilandelayo:

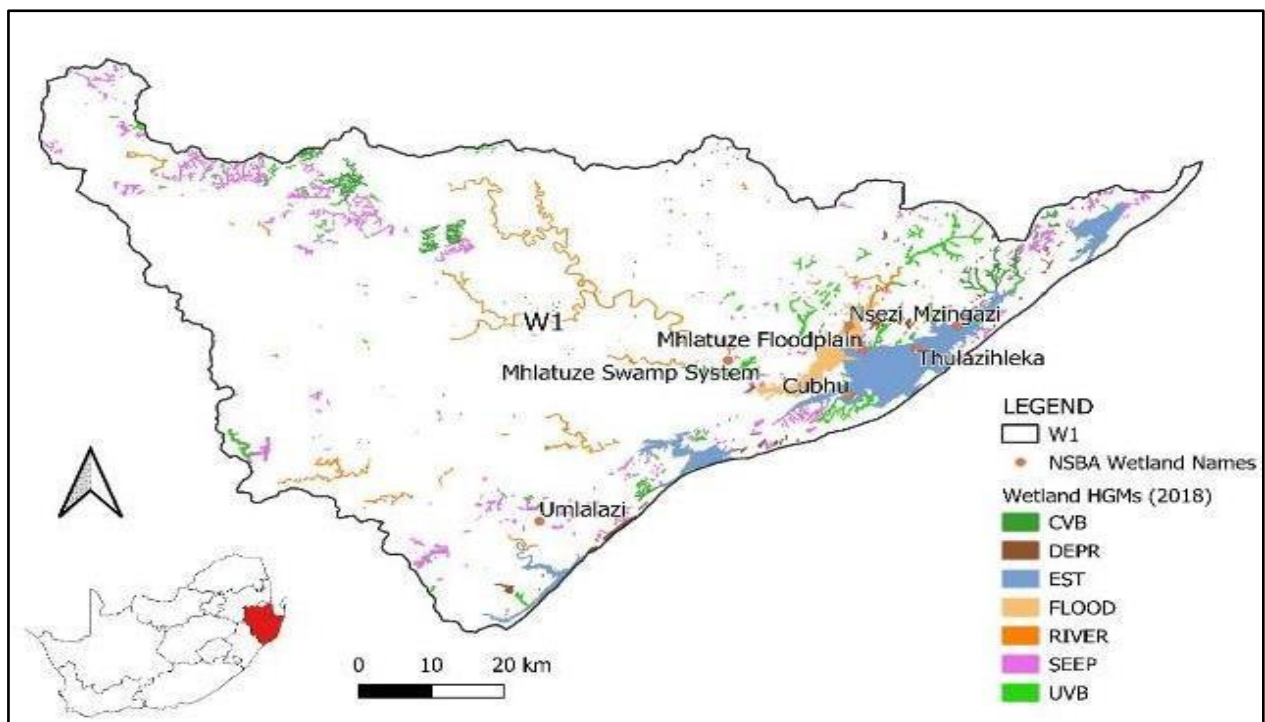
- **I-SQ:** Inani le-SQ elivela ocwaningweni lwe-PES/i-EI/i-ES (DWS, 2014a) elimele indawo encane ephatha amanzi ngekwata yonyaka.
- **Igama:** Igama loMfula oku-SQ uma ukhona.
- **I-PES Yendawo Eyixhaphozi:** Isigaba se-PES esivelele sezindawo ezingamaxhaphozi ngaphakathi kwendawo encane ephatha amanzi.
- **Ukubaluleka Kwemvelo Kwendawo Yexhaphozi (i-EI):** Okutholakale ekudidiyelweni kwesimo se-RAMSAR, isimo se-FEPA sendawo eyixhaphozi, ukuhlinzekwa kwezindawo zokuhlala zezinhlobo ezingavamile kanye nezinhlobo ezisengozini (izinyoni, amaxoxo, izitshalo), izindawo ezibucayi zokuhlukahluka kwezinto eziphilayo (Berliner & Desmet, 2007), nobubanzi bendawo eyixhaphozi (indawo).
- **Ukuzwela Kwemvelo Kwendawo Eyixhaphozi (i-ES):** Ngokusekelwe eminingwaneni yemvelo yokumbozwa komhlaba ngaphakathi kwamaxhaphozi nasemngceleni engu-100m ezungeze amaxhaphozi (iminingwane ye-NFEPA; Nel *nabanye.*, 2011 kanye Ukuhlolwa Kwezinhlobonhlobo Zezinto Eziphilayo Kuzwelonke (i-NBA); Van Deventer *nabanye.*, 2018).
- **Ukubaluleka Kwemvelo Okuhlanganisiwe (i-IEI):** Ngokusekelwe ekulinganisweni kusuka ku-1 kuya ku-5 lapho u-1 Uphansi Kakhulu futhi u-5 Uphezulu Kakhulu. I-IEI icabangela kokubili i-ES kanye ne-PES.
- **Ukubaluleka Kokusetshenziswa Kwemithombo Yamanzi (i-WRUI):** Kususelwa ekulinganisweni kusuka ku-0 kuya ku-4 lapho u-0 Uphansi Kakhulu futhi u-4 Uphezulu Kakhulu.
- **Ukubekelwa Phambili Kwendawo Eyixhaphozi:** Lokhu kusekelwe ekulinganisweni kusuka ku-1 kuya ku-4 lapho u-1 Uphansi, u-2 Ulinganiselwe, u-3 Uphezulu kanti u-4 Uphezulu Kakhulu, futhi kucabangela kokubili i-IEI ne-WRUI. Ezingeni le-SQ, indawo ebekelwe phambili yendawo eyixhaphozi imelela ukubekelwa phambili okuhlanganisiwe kwazo zonke izindawo ezingamaxhaphozi endaweni ephatha amanzi eyisisekelo.

Izifinyezo ezilandelayo ze-HGM Yendawo Eyixhaphozi zisebenza kumamephu akulesi Sahluko:

- i-CVB - Izigodi eziphansi ezingumgudu.
- i-DEPR – Imifantu.
- IZIKHUKHULA– Izindawo Ezinezikhukhula.
- UMFULA – Imifula.
- SEEP – Izindawo Ezinamanzi Amile.
- UVB - Izigodi Eziphansi Ezingesiwo Umgudu.
- I-EST – Isizalo Somfula.

### **Indawo Ephatha Amanzi i-W1 (Umfula Omkhulu: iMhlathuze)**

Indawo Ephatha Amanzi yaseMhlathuze inezindawo ezingamaxhaphozi ezingaba ngu-124 000 Ha kuhlanganise nezizalo zemifula kanye nama-Ha acishe abe ngu-20 000 uma izizalo zemifula zingafakiwe. **Umfanekiso 4.1** ubonisa ukusatshaliswa kwendawo yama-HGM ahlukahlukene ezindaweni ezingamaxhaphozi. Izindawo ezingamaxhaphozi ezindaweni ezinezikhukhula zibusa indawo ephatha amanzi enendawo ehlangene engaphezu kuka-6700 Ha, kodwa Izigodi Eziphansi Ezingesiwo Umgudu kanye Nemifula kanye Nezindawo Ezingamaxhaphozi Ezinamanzi Amile kuphawuleka ngezanga elihlanganisa u-3078, 3882 kanye no-4490 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe Ekuhlolweni Kwezindawo Zezinhlobonhlobo Zezinto Eziphilayo Kuzwelonke (i-NSBA) phakathi kwalendawo ephatha amanzi zibandakanya indawo enezikhukhula kanye nohlelo lwamaxhaphozi, i-Umlalazi, iCubhu, iNsezi, iThulazihleka kanye neMzingazi. IMzingazi ngokomlando yayiyinxenye yesizalo somfula wase-Richard's Bay, kodwa kwakhiwa idamu phakathi kwechibi nokuxhumeka olwandle okuholela echibini ukuba libe uhlelo lwamanzi ahlanzekile. Izindawo ezingamaxhaphozi ezibekelwe phambile ngaphakathi Kwendawo Ephatha Amanzi eMhlathuze, kanye neminingwane ecatsangelwa ekunqunyweni kwayo, kufingqwe emazingeni ezindawo eziphatha amanzi ngekwata lonyaka kuThebula 4.1. Ama-SQ anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W12E-03475 (iMhlathuze engenela ohlelweni lwendawo eyixhaphozi yaseMhlathuze), i-W12H-03459 (kaningi izindawo zeNseleni ezingezansi, okuhlanganisa iNsezi kanye nezingxenye zandawo enezikhukhula yaseMhlathuze), i-W12J-03450 (iNundwane, ngokuyinhloko iMzingazi), iW12J-03392 (iMpisini) kanye ne-W12J-03403 (izindawo ezingamaxhaphozi zesigodi esiphansi kakhulu esingumgudu omkhulu ezingenela Esizalweni Somfula wase-Richard's Bay, and W12J-03411 (Imifantu kanye nezindawo ezinamanzi amile esizalweni somfula waseNlabane).



**Umfanekiso 4.1:** Ukusatshalaliswa kwendawo kwama-HGM ahlukahlukene (imephu 5 yango-2018 evuselelwe; van Deventer *nabanye.*, 2018) Endaweni Ephatha Amanzi eMhlatuze (i-W1) kanye nezindawo ezingamaxhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver *nabanye.*, 2005)

**IThebula 4.1:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamaxhaphozi, ngokuhambisana ne-WRUI kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi eMhlatuze

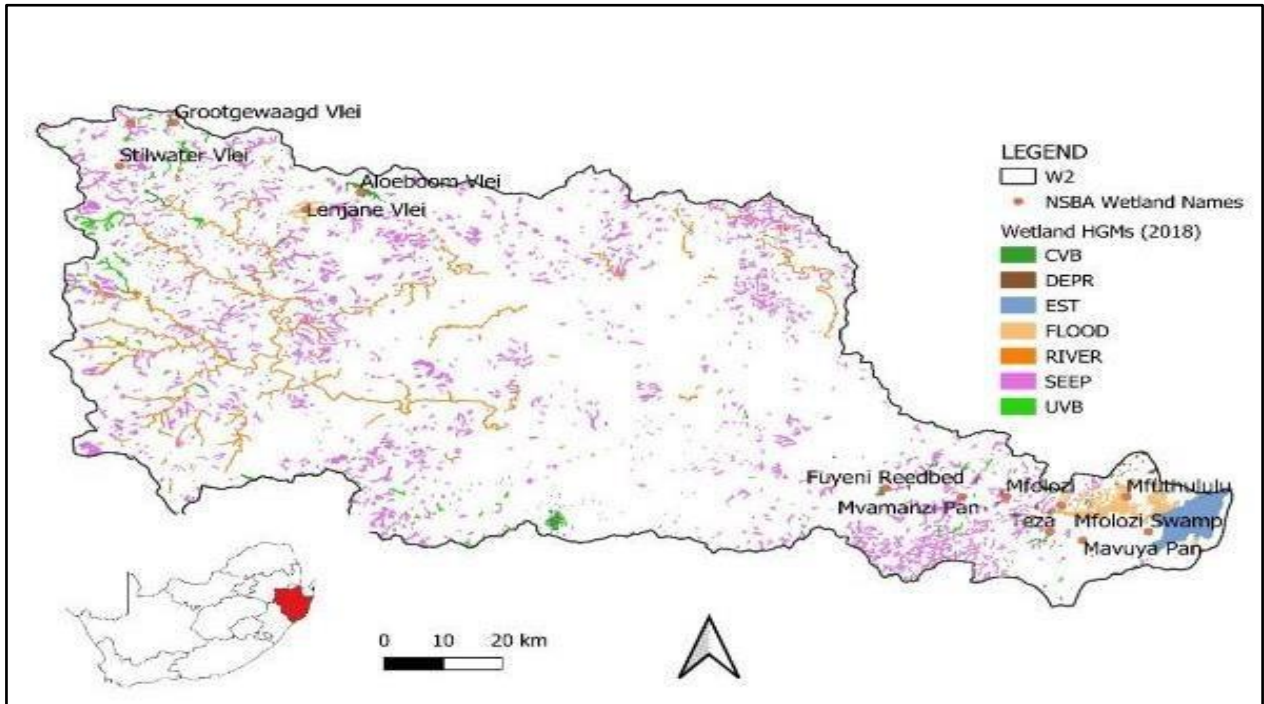
| i-SQ        | Igama       | i-PES<br>Yendawo<br>Eyixhaphozi | i-EI<br>Yendawo<br>Eyixhaphozi | -ES<br>Yendawo<br>Eyixhaphozi | -IEI<br>Yendawo<br>Eyixhaphozi | i-WRUI | Ukubaluleka |
|-------------|-------------|---------------------------------|--------------------------------|-------------------------------|--------------------------------|--------|-------------|
| W11A-03597  | iMatigulu   | C/D                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 1      | 1           |
| W11A-03748  | iMngwenya   | C                               | ISESILINGANISW<br>ENI          | ISESILINGANIS<br>WENI         | ISESILINGANIS<br>WENI          | 1      | 1           |
| W11A-03776  | kuMnyameni  | C                               | ISESILINGANISW<br>ENI          | ISESILINGANIS<br>WENI         | ISESILINGANIS<br>WENI          | 1      | 1           |
| W11A-03599  | iNgoje      | D/E                             | IPHEZULU                       | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 2      | 2           |
| W11A-03612  | iMatigulu   | C                               | IPHEZULU<br>KAKHULU            | IPHEZULU                      | ISESILINGANIS<br>WENI          | 2      | 2           |
| W11C-03713  | iNyezane    | D                               | IPHEZULU<br>KAKHULU            | IPHEZULU                      | ISESILINGANIS<br>WENI          | 2      | 3           |
| W11C-03917  | iNyoni      | D/E                             | IPHEZULU<br>KAKHULU            | IPHANSI                       | ISESILINGANIS<br>WENI          | 2      | 3           |
| W12A-03086  | iGologodo   | C                               | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU                       | 2      | 2           |
| W12A-03104  | iMhlatuze   | D                               | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 2      | 2           |
| W12A-03153  | iMhlatuze   | C/D                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 2      | 2           |
| W12A-03226  |             | D                               | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 2      | 2           |
| W12B-03334  | iMhlatuze   | C                               | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU                       | 1      | 2           |
| W12B-03356  | iMhlatuze   | B/C                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU<br>KAKHULU            | 1      | 2           |
| W12B-03398  | iMavungwini | B/C                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU<br>KAKHULU            | 1      | 2           |
| W12B-03471i | iNyawushane | B/C                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU<br>KAKHULU            |        | 3           |
| W12B-03479  | iMhlatuze   | D/E                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 4      | 3           |
| W12B-03336  | iKwaMazula  | D/E                             | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | ISESILINGANIS<br>WENI          | 1      | 1           |
| W12C-03189  | iMfule      | D                               | IPHEZULU<br>KAKHULU            | IPHEZULU                      | ISESILINGANIS<br>WENI          | 2      | 2           |
| W12C-03225  | iMfule      | C                               | IPHEZULU<br>KAKHULU            | IPHEZULU<br>KAKHULU           | IPHEZULU                       | 2      | 2           |
| W12C-03232  | iNhlozane   | B                               | IPHEZULU<br>KAKHULU            | IPHANSI                       | IPHEZULU                       | 2      | 2           |

| i-SQ       | Igama       | i-PES<br>Yendaw<br>o Eyixhap | i-EI<br>Yendaw<br>o Eyixhap<br>hozi | -ES<br>Yendaw<br>o Eyixhap<br>hozi | -IEI<br>Yendaw<br>o Eyixhap | i-WRUI | Ukubalule<br>ka |
|------------|-------------|------------------------------|-------------------------------------|------------------------------------|-----------------------------|--------|-----------------|
| W12C-03263 | iMfulazane  | <b>C/D</b>                   | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 2      | 2               |
| W12C-03303 | iMfule      | <b>B/C</b>                   | IPHEZULU<br>KAKHULU                 | IPHANSI                            | ISESILINGANIS<br>WENI       | 2      | 2               |
| W12D-03346 | iNtambanana | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    |        | 3               |
| W12D-03375 | iMhlatuze   | <b>C/D</b>                   | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12D-03388 | iMhlatuze   | <b>E</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12E-03475 | iMhlatuze   | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 4               |
| W12E-03526 | iMhtatuzana | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    |        | 1               |
| W12E-03530 | iMateku     | <b>D</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       |        | 1               |
| W12E-03558 | iMhlatuzana | <b>B</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU<br>KAKHULU         |        | 2               |
| W12G-03229 | iNseleni    | <b>D</b>                     | IPHEZULU                            | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12H-03289 | iMbabe      | <b>C/D</b>                   | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12H-03316 | iMposa      | <b>D</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12H-03401 | i-Okula     | <b>E</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12H-03418 | iNseleni    | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 3               |
| W12H-03428 | iMbabe      | <b>D</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12H-03459 | iNseleni    | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 4               |
| W12F-03611 | iMzingwenya | <b>D</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12J-03290 | iNhlabane   | <b>C/D</b>                   | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12J-03411 |             | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 4               |
| W12J-03493 |             | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 3               |
| W12J-03501 | iKondweni   | <b>C/D</b>                   | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | ISESILINGANIS<br>WENI       | 4      | 3               |
| W12J-03392 | iMpisini    | <b>C</b>                     | IPHEZULU<br>KAKHULU                 | IPHEZULU<br>KAKHULU                | IPHEZULU                    | 4      | 4               |
| W12J-03403 |             | <b>C</b>                     | IPHEZULU                            | IPHEZULU                           | IPHEZULU                    | 4      | 4               |

| i-SQ       | Igama        | i-PES<br>Yendaw<br>o<br>Eyixhap | i- EI<br>Yendaw<br>o<br>Eyixhap<br>hozi | - ES<br>Yendaw<br>o<br>Eyixhap<br>hozi | - IEI<br>Yendaw<br>o<br>Eyixhap | i-WRUI | Ukubalule<br>ka |
|------------|--------------|---------------------------------|---|--|---------------------------------|--------|-----------------|
|            |              |                                 | KAKHULU                                 | KAKHULU                                |                                 |        |                 |
| W12J-03450 | iNundwane    | <b>C</b>                        | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | IPHEZULU                        | 4      | 4               |
| W13A-03583 | iMlalazi     | <b>C</b>                        | IPHEZULU                                | IPHEZULU<br>KAKHULU                    | ISESILINGANIS<br>WENI           | 2      | 2               |
| W13A-03609 | iMlalazi     | <b>C/D</b>                      | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | ISESILINGANIS<br>WENI           | 2      | 3               |
| W13A-03641 | iMkukuze     | <b>C</b>                        | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | IPHEZULU                        | 2      | 2               |
| W13B-03593 | iKwaGugushe  | <b>C</b>                        | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | IPHEZULU                        | 2      | 3               |
| W13B-03774 | iManzamnyama | <b>B</b>                        | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | IPHEZULU<br>KAKHULU             | 1      | 2               |
| W12F-03494 | iMhlatuze    | <b>D/E</b>                      | IPHEZULU<br>KAKHULU                     | IPHEZULU<br>KAKHULU                    | ISESILINGANIS<br>WENI           |        | 1               |

#### Indawo Ephatha Amanzi i-W2 (umfula omkhulu: i-UMfolozi)

Indawo ephatha amanzi i-UMfolozi inezindawo ezingamaxhaphozi ezingaba ngu-90 000 kuhlangukane nezizalo zemifula kanye nama-Ha acishe abe ngaphezu kuka-66 100 Ha, uma izizalo zemifula zingafakiwe. **Umfanekiso 4.2** ubonisa ukusatshalaliswa kwendawo yama-HGM ahlukahlukene ezindaweni ezingamaxhaphozi. Imifula kanye nezindawo ezingamaxhaphozi ezinamanzi amile zibusisa endaweni ephatha amanzi ngendawo ephelele ngayinye ecishe ibe ngu-32300 Ha kaanye no-26072 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe ku-NSBA phakathi kwalendawo ephatha amanzi zibandakanya i-Bloemveld Vlei, i-Stilwater Vlei, i-Grootgewaagd Vlei, i-Lenjani Vlei, i-Aloeboom Vlei, the Indawo Yezinhlanga Enamanzi yaseFuyeni, Umfantu waseMvamazi, i-UMfolozi, Ichibi laseTeza, Ichibi lase-Collin's, Umfantu waseMavuya, iMfuthululu kanye Nexhaphozi lase-Umfolozi. Ama-SQ anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W21G-02885, i-W21H-02897 kanye ne-W21H-03004 (ngokuyinhloko iMfolozi Emhlophe, futhi ngokuyinhloko ngoba i-PES ingu-B kanti i-WRUI iphezulu) (**iThebula 4.2**).



**Umfanekiso 4.2:** Ukusatshalaliswa kwendawo kwama-HGM ahlukehukene (imephu 5 yango-2018 evuselelwe; van Deventer *nabanye.*, 2018) Endaweni Ephatha Amanzi e-UMfolozi (i-W2) kanye nezindawo ezingamakhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver *nabanye.*, 2005)

**IThebula 4.2:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamakhaphozi, ngokuhambisana ne-WRUJ kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi eMfolozi

| i-SQ/i-RU  | Igama             | i-PES Yendawo | i-EI Yendawo     | -ES Yendawo Eyixhap | -IEI Yendawo       | i-WRUJ | Ukubaluleka |
|------------|-------------------|---------------|------------------|---------------------|--------------------|--------|-------------|
| W21A-02512 | i-aMagoda         | C/D           | IPHEZULU KAKHULU | IPHEZULU KAKHULU    | ISESILINGAN ISWENI | 2      | 3           |
| W21A-02527 | iMfolozi Emhlophe | C/D           | IPHEZULU KAKHULU | IPHEZULU            | ISESILINGAN ISWENI | 2      | 3           |
| W21B-02539 | iShoba            | C             | IPHEZULU KAKHULU | IPHEZULU            | ISESILINGAN ISWENI | 2      | 3           |
| W21B-02546 | iMfolozi Emhlophe | B/C           | IPHEZULU KAKHULU | ISESILINGAN ISWENI  | ISESILINGAN ISWENI | 2      | 3           |
| W21B-02603 | iLenjane          | B/C           | IPHEZULU KAKHULU | IPHEZULU            | IPHEZULU           | 2      | 3           |
| W21B-02652 | iMfolozi Emhlophe | B             | IPHEZULU KAKHULU | IPHEZULU            | IPHEZULU KAKHULU   | 2      | 3           |
| W21B-02670 | iMfolozi Emhlophe | B             | IPHEZULU KAKHULU | IPHEZULU            | IPHEZULU KAKHULU   | 2      | 3           |
| W21C-02599 | i-Sandspruit      | B             | IPHEZULU KAKHULU | IPHEZULU KAKHULU    | IPHEZULU KAKHULU   | 1      | 3           |
| W21F-02727 | iMfolozi Emhlophe | B/C           | IPHEZULU KAKHULU | IPHEZULU            | IPHEZULU           | 1      | 2           |
| W21D-02676 | iMvunyane         | C/D           | IPHEZULU KAKHULU | IPHEZULU            | ISESILINGAN ISWENI | 1      | 1           |

| i-SQ/i-RU  | Igama             | i-PES<br>Yendaw | i- EI<br>Yendaw     | - ES<br>Yendaw<br>Eyixhap | - IEI<br>Yendaw       | i-WRUI | Ukubalule<br>ka |
|------------|-------------------|-----------------|---------------------|---------------------------|-----------------------|--------|-----------------|
| W21D-02788 | iVumankala        | <b>C/D</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21D-02815 | iMvunyane         | <b>B/C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | IPHEZULU              | 1      | 2               |
| W21D-02832 | iJojosi           | <b>C/D</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21D-02848 | iJojosi           | <b>C/D</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21E-02873 | iNondweni         | <b>B/C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | IPHEZULU              | 1      | 2               |
| W21E-02912 | iNondweni         | <b>C/D</b>      | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21E-02934 | iVuwankala        | <b>C</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21E-02953 | iNgwebini         | <b>D</b>        | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21E-02963 | iNondweni         | <b>C/D</b>      | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21F-02840 | iMvunyane         | <b>B/C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | IPHEZULU              | 3      | 3               |
| W21G-02851 | iMfolozi Emhlophe | <b>B/C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU                  | IPHEZULU              | 3      | 3               |
| W21G-02885 | iMfolozi Emhlophe | <b>B</b>        | IPHEZULU<br>KAKHULU | IPHEZULU                  | IPHEZULU<br>KAKHULU   | 3      | 4               |
| W21G-02914 | iNtinini          | <b>B/C</b>      | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU              | 3      | 3               |
| W21G-02929 | iNsubeni          | <b>B/C</b>      | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU              | 3      | 3               |
| W21G-03067 |                   | <b>E</b>        | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 3      | 3               |
| W21G-03085 | iNtinini          | <b>D</b>        | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 3      | 3               |
| W21H-02889 | iMhlahlane        | <b>C</b>        | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAHULU        | ISESILINGAN<br>ISWENI | 3      | 3               |
| W21H-02897 | iMfolozi Emhlophe | <b>B</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU<br>KAKHULU   | 3      | 4               |
| W21H-03004 | iMfolozi Emhlophe | <b>B</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU<br>KAKHULU   | 3      | 4               |
| W21J-03018 | iMaphophoma       | <b>D</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | INCANE                | 1      | 1               |
| W21J-03030 | iMfolozi Emhlophe | <b>C</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | ISESILINGAN<br>ISWENI | 1      | 1               |
| W21J-03036 | iMpembeni         | <b>B</b>        | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU              | 1      | 2               |
| W21J-03050 | iMpembeni         | <b>B</b>        | IPHEZULU<br>KAKHULU | ISCANE                    | IPHEZULU              | 1      | 2               |
| W21J-03066 | iMpembeni         | <b>B/C</b>      | IPHEZULU            | ISESILINGAN               | ISESILINGAN           | 1      | 1               |

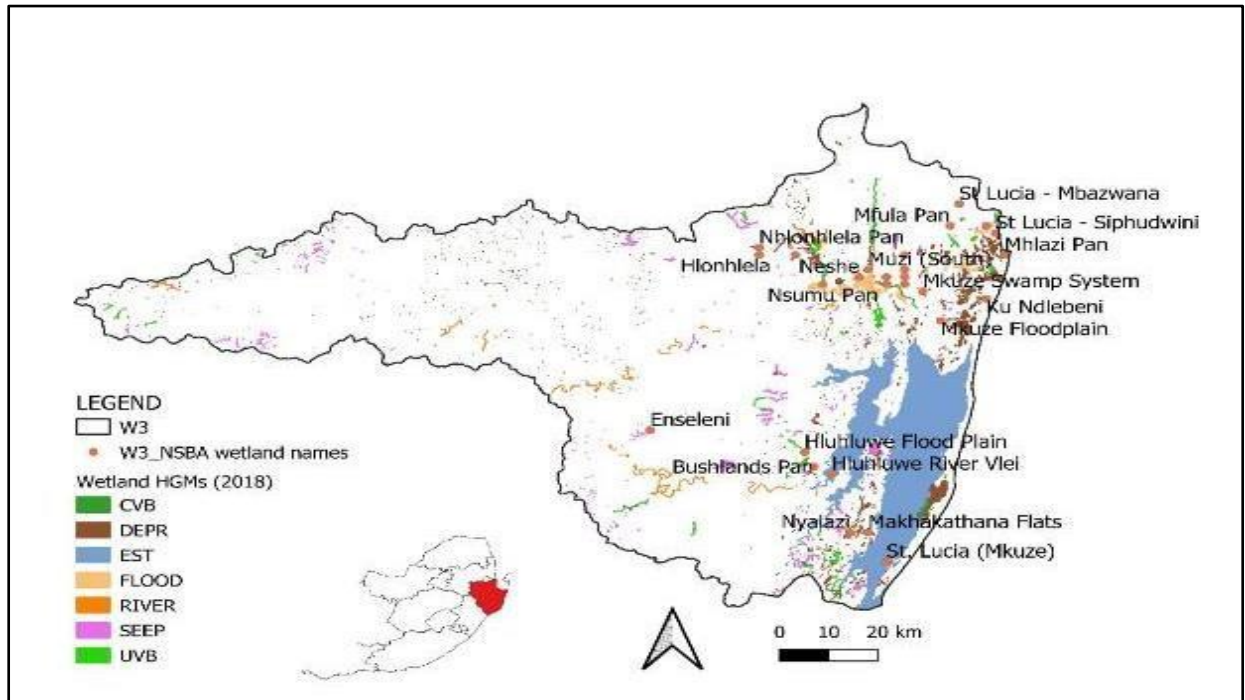
| i-SQ/i-RU  | Igama             | i-PES<br>Yendawo | i-EI<br>Yendawo     | -ES<br>Yendawo<br>Eyixhapho | -IEI<br>Yendawo       | i-WRUI | Ukubaluleka |
|------------|-------------------|------------------|---------------------|-----------------------------|-----------------------|--------|-------------|
|            |                   |                  | KAKHULU             | ISWENI                      | ISWENI                |        |             |
| W21J-03075 | iMkumbane         | <b>B</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W21J-03112 | iMzinhlanga       | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W21K-02976 | iMbilane          | <b>C/D</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W21K-02981 | iMfolozi Emhlophe | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W21K-03019 | iNhlungwane       | <b>B</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W21K-03080 | iMfolozi Emhlophe | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 1      | 1           |
| W21L-03041 | iMfolozi Emhlophe | <b>B</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 1      | 2           |
| W21L-03059 | iMfolozi Emhlophe | <b>B</b>         | IPHEZULU            | ISESILINGAN<br>ISWENI       | IPHEZULU              | 1      | 2           |
| W21L-03161 | iMunywana         | <b>B/C</b>       | IPHEZULU            | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W21L-03163 | iMunywana         | <b>B</b>         | IPHEZULU            | INCANE                      | IPHEZULU              | 1      | 2           |
| W21L-03176 | iMayayeni         | <b>B</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 1      | 2           |
| W22A-02586 | iMfolozi Emnyama  | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | IPHEZULU              | 2      | 3           |
| W22A-02587 | iMgobhozi         | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | IPHEZULU              | 2      | 3           |
| W22A-02591 |                   | <b>C/D</b>       | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | ISESILINGAN<br>ISWENI | 2      | 3           |
| W22A-02596 | iMfolozi Emnyama  | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | IPHEZULU              | 2      | 3           |
| W22A-02610 | iMfolozi Emnyama  | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22B-02661 | iHlonyana         | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22B-02662 | iKwaMbizankulu    | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22B-02706 | iHlonyane         | <b>B/C</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22B-02728 | iHlonyane         | <b>B</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 2      | 2           |
| W22B-02773 | iHlangabende      | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | IPHEZULU              | 2      | 2           |
| W22C-02688 | iMfolozi Emnyama  | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22D-02795 | iThaka            | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22F-02722 | iMfolozi Emnyama  | <b>C/D</b>       | IPHEZULU            | IPHEZULU                    | ISESILINGAN           | 0      | 1           |

| i-SQ/i-RU  | Igama            | i-PES<br>Yendawo | i-EI<br>Yendawo     | -ES<br>Yendawo<br>Eyixhapho | -IEI<br>Yendawo       | i-WRUI | Ukubaluleka |
|------------|------------------|------------------|---------------------|-----------------------------|-----------------------|--------|-------------|
|            |                  |                  | KAKHULU             |                             | ISWENI                |        |             |
| W22E-02595 |                  | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22E-02601 | iBululwana       | <b>C/D</b>       | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22E-02605 | iSikwebezi       | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22E-02702 | iSikwebezi       | <b>C/D</b>       | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22F-02726 | iSikwebezi       | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22F-02748 | iMfolozi Emnyama | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 2      | 2           |
| W22G-02624 | iVuna            | <b>B/C</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 2      | 2           |
| W22H-02846 | iMfolozi Emnyama | <b>B/C</b>       | IPHEZULU<br>KAKHULU | INCANE                      | IPHEZULU              | 2      | 2           |
| W22H-02844 | iMbhekamuzi      | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22J-02807 | iMfolozi Emnyama | <b>C/D</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22J-02817 | iMfolozi Emnyama | <b>B/C</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 1      | 2           |
| W22J-02910 | iMfolozi Emnyama | <b>B/C</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU              | 1      | 2           |
| W22J-02918 | iWela            | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22J-02942 | iMvalo           | <b>C/D</b>       | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22K-02622 |                  | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI |        | 1           |
| W22K-02629 | iMona            | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22K-02636 | iManzimakulu     | <b>C</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | ISESILINGAN<br>ISWENI | 1      | 1           |
| W22K-02761 | iMapopoma        | <b>B</b>         | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI       | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W22K-02783 | iMona            | <b>B</b>         | IPHEZULU<br>KAKHULU | INCANE                      | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W22L-02916 | iMfolozi Emnyama | <b>B</b>         | IPHEZULU<br>KAKHULU | IPHEZULU                    | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W23A-03058 | iMbukwini        | <b>C/D</b>       | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | ISESILINGAN<br>ISWENI | 1      | 1           |
| W23A-03083 | iMfolozi         | <b>C</b>         | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU         | IPHEZULU              | 1      | 2           |
| W23A-03098 | iNkatha          | <b>C/D</b>       | IPHEZULU            | IPHEZULU                    | ISESILINGAN<br>ISWENI | 1      | 1           |

| i-SQ/i-RU  | Igama     | i-PES<br>Yendawo | i- EI<br>Yendawo      | - ES<br>Yendawo<br>Eyixhap | - IEI<br>Yendawo      | i-WRUJ | Ukubaluleka |
|------------|-----------|------------------|-----------------------|----------------------------|-----------------------|--------|-------------|
|            |           |                  | KAKHULU               | KAKHULU                    |                       |        |             |
| W23A-03113 | iMfolozi  | <b>C/D</b>       | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 1      | 1           |
| W23A-03149 | iMfolozi  | <b>B/C</b>       | ISESILINGA<br>NISWENI | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 1      | 1           |
| W23A-03160 | iMvamanzi | <b>C/D</b>       | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 1      | 3           |
| W23B-03222 | iMsunduzi | <b>C</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | IPHEZULU              | 0      | 1           |
| W23B-03250 | iNtobozi  | <b>D</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 0      | 1           |
| W23B-03231 | iMsunduzi | <b>D</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |
| W23C-03180 | iMsunduzi | <b>E</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |
| W23C-03254 | iMavuya   | <b>D</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |
| W23C-03272 | iNtenja   | <b>E</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |
| W23C-03287 | iMavuya   | <b>D</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |
| W23D-03108 | iMfolozi  | <b>E</b>         | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU        | ISESILINGAN<br>ISWENI | 4      | 3           |

### Indawo ephatha amanzi i-W3 (umfula omkhulu: iMkuze)

Indawo Ephatha Amanzi iMkuze inezindawo ezingamaxhaphozi ezingaba ngu-1 000 000 Ha kuhlenganise nezizalo zemifula kanye nama-Ha acishe abe ngaphezu kuka-33 000 Ha uma izizalo zemifula zingafakiwe. **Umfanekiso 4.3** ubonisa ukusatshalaliswa kwendawo yama-HGM ahlukahlukene ezindaweni ezingamaxhaphozi. Izindawo ezinezikhukhula kanye nezindawo ezingamaxhaphozi eziyimifantu zibusa endaweni ephatha amanzi ngendawo ephelele ngayinye ecishe ibe ngu-11844 Ha kanye no-9484 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe ku-NSBA phakathi kwalendawo ephatha amanzi zibandakanya i-Enseleni, iNyalazi, Amafulethi aseMakhakathana, i-Vlei Yomfula waseHluhluwe, Umfantu Wasemahlathini, Indawo Enezikhukhula yaseHluhluwe, Indawo Enezikhukhula yaseMkuze kanye Nohlelo Lwexhaphozi, iKu Ndlebeni, Umfantu waseNhlonhlela, iHlonhlela, Imifantu Yesikhumulo yaseMkuze, Umfantu waseNsumo, iNeshe, iMuzi (eseNingizimu), iTshanetshe, Ichibi laseNtshangwe, Umfantu waseMpanze, iYengweni, Umfantu waseMdlaze, i-St Lucia-Manzibomvu, Umfantu waseMhlazi, i-St Lucia-Siphudwini, iSiphudwini, Umfantu waseMfula kanye ne-St Lucia-Mbazwana. Ama-RU anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W31-1 (iMkuze), iW31-4 (iMkuze ehlanganisa Umfantu waseHlonhlela), i-W31-5 (iMkuze), i-W31-6 (iNsumo), i-W32-1 (iMkuze), i-W33-7 (iHluhluwe, iNyalazi kanye neMpate, okuhlenganisa iNyalazi, Imifantu Wasemahlathini kanye ne-Vlei Yomfula waseHluhluwe) kanye ne-St Lucia RU (IThebula 4.3).



**Umfanekiso 4.3:** Ukusatshalaliswa kwendawo kwama-HGM ahlukehukene (imephu 5 yango-2018 evuselelwe; van Deventer nabanye., 2018) Endaweni Ephatha Amanzi eMkuze (i-W3) kanye nezindawo ezingamakhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver nabanye., 2005)

**IThebula 4.3:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamakhaphozi, ngokuhambisana ne-WRUI kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi eMkuze

| i-SQ       | Igama        | i-PES Yendawo | i-EI Yendawo     | -ES Yendawo Eyixhaphozi | -IEI Yendawo      | i-WRUI | Ukubaluleka |
|------------|--------------|---------------|------------------|-------------------------|-------------------|--------|-------------|
| W31A-02494 | iNkongolwana | <b>F</b>      | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 2      | 2           |
| W31A-02534 | iMkuze       | <b>B/C</b>    | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | IPHEZULU KAKHULU  | 2      | 3           |
| W31B-02477 | iMkuze       | <b>C</b>      | IPHEZULU KAKHULU | IPHEZULU                | ISESILINGANISWENI | 2      | 2           |
| W31C-02556 | iSihlengeni  | <b>C</b>      | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | IPHEZULU          | 2      | 2           |
| W31D-02436 | iManzimhlope | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU                | ISESILINGANISWENI | 2      | 2           |
| W31D-02450 | iNtutshe     | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU                | ISESILINGANISWENI | 2      | 2           |
| W31D-02495 | iMkuze       | <b>C/D</b>    | IPHEZULU KAKHULU | INCANE                  | INCANE            | 2      | 1           |
| W31D-02500 | iMkuze       | <b>B</b>      | IPHEZULU KAKHULU | INCANE                  | IPHEZULU          | 2      | 2           |
| W31E-02456 | iMkuze       | <b>C/D</b>    | IPHEZULU KAKHULU | INCANE                  | INCANE            | 3      | 2           |
| W31F-02530 | iNkuzana     | <b>C/D</b>    | IPHEZULU KAKHULU | INCANE                  | INCANE            | 3      | 2           |

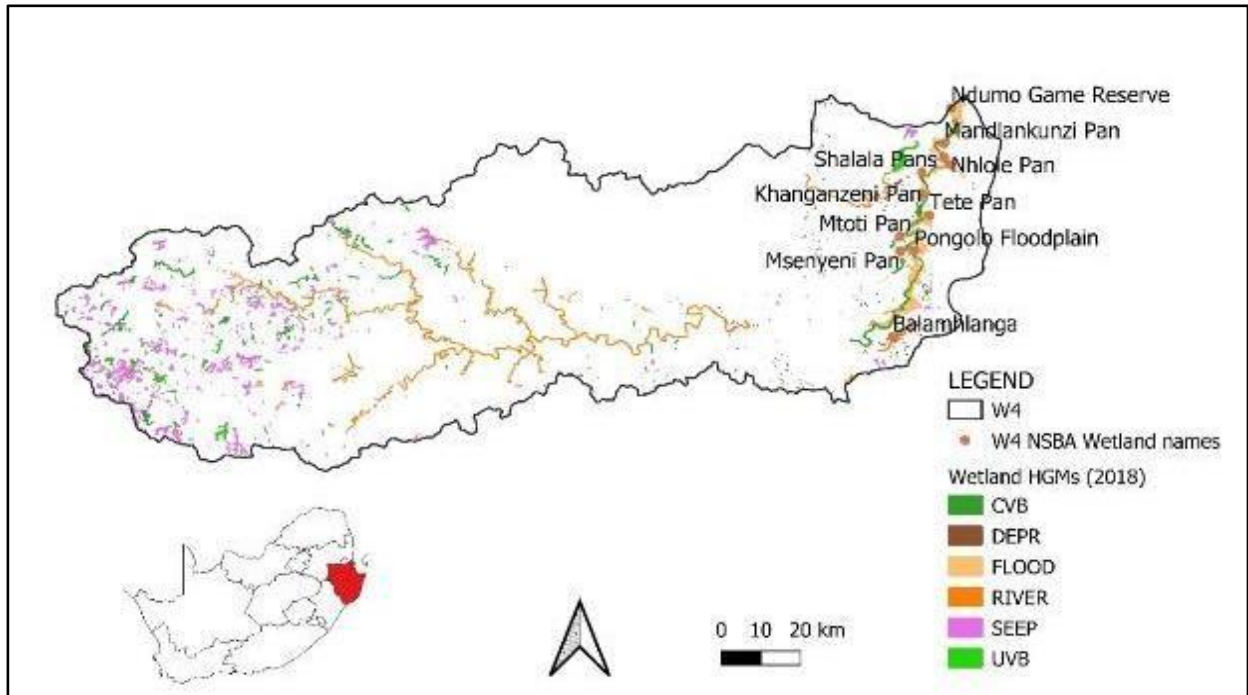
| i-SQ       | Igama        | i-PES Yendaw | i-EI Yendaw           | -ES Yendaw Eyixhap    | -IEI Yendaw           | i-WRUI | Ukubaluleka |
|------------|--------------|--------------|-----------------------|-----------------------|-----------------------|--------|-------------|
| W31F-02555 | iNkuzana     | D/E          | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3           |
| W31F-02573 | iMpuphisi    | B            | IPHEZULU<br>KAKHULU   | INCANE                | IPHEZULU              | 3      | 3           |
| W31G-02455 | iMtiki       | C/D          | ISESILINGAN<br>ISWENI | INCANE                | INCANE                | 3      | 2           |
| W31G-02506 | iMkuze       | C/D          | ISESILINGAN<br>ISWENI | INCANE                | INCANE                | 3      | 2           |
| W31G-02425 | iMkuze       | C            | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 3      | 3           |
| W31H-02514 | iKwaSekane   | B/C          | ISESILINGAN<br>ISWENI | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3           |
| W31J-02469 | iMkuze       | B            | IPHEZULU              | KAKHULU               | IPHEZULU<br>KAKHULU   | 3      | 4           |
| W31J-02501 | iNhlohlela   | B            | IPHEZULU              | INCANE                | IPHEZULU              | 3      | 3           |
| W31J-02343 | iMthambalala | C            | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31J-02406 | iNdlamyane   | C/D          | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31J-02480 | iMkuze       | B/C          | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | IPHEZULU              | 0      | 1           |
| W31J-02509 | iMkuze       | B            | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31K-02568 | iMsunduzi    | C            | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31K-02582 | iNtweni      | C/D          | IPHEZULU<br>KAKHULU   | INCANE                | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31K-02611 | iMsebe       | B            | IPHEZULU<br>KAKHULU   | INCANE                | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31K-02617 | iMduna       | D            | IPHEZULU<br>KAKHULU   | INCANE                | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31L-02525 |              | B            | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31L-02528 | iMasundwini  | B            | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31L-02551 | iNsumu       | B            | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31L-02553 | iNsumu       | D            | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 0      | 1           |
| W31L-02563 | iNsumu       | B            | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W31L-02569 | iMsunduzi    | B            | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W32A-02345 | iNeshe       | C            | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1           |
| W32A-02557 | iMkuze       | B/C          | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU              | 0      | 1           |

| i-SQ       | Igama       | i-PES Yendaw | i-EI Yendaw         | -ES Yendaw Eyixhap    | -IEI Yendaw           | i-WRUI | Ukubaluleka |
|------------|-------------|--------------|---------------------|-----------------------|-----------------------|--------|-------------|
| W32B-02476 | iKhobeyane  | <b>B</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W32B-02535 | iMkuze      | <b>C</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 0      | 3           |
| W32D-02720 | iWela       | <b>B/C</b>   | IPHEZULU<br>KAKHULU | INCANE                | IPHEZULU              | 1      | 2           |
| W32D-02811 | iNzimane    | <b>C</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 1      | 1           |
| W32E-02765 | iMansiya    | <b>C</b>     | IPHEZULU<br>KAKHULU | INCANE                | ISESILINGAN<br>ISWENI | 1      | 1           |
| W32E-02779 | iNzimane    | <b>B/C</b>   | IPHEZULU<br>KAKHULU | INCANE                | IPHEZULU              | 1      | 2           |
| W32E-02797 | iManzabomvu | <b>D</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 1      | 1           |
| W32E-02859 | iNzimane    | <b>B</b>     | IPHEZULU<br>KAKHULU | INCANE                | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W32E-02865 | iHluhluwe   | <b>B</b>     | IPHEZULU<br>KAKHULU | INCANE                | IPHEZULU<br>KAKHULU   | 1      | 2           |
| W32E-02887 | iHluhluwe   | <b>B/C</b>   | IPHEZULU<br>KAKHULU | INCANE                | IPHEZULU              | 1      | 2           |
| W32G-02946 | iSikhathula | <b>C/D</b>   | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 0      | 1           |
| W32G-02973 | iNyalazi    | <b>B</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU   | 0      | 2           |
| W32G-02943 | iHlazane    | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU              | 2      | 2           |
| W32G-02980 | iMnyaba     | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32G-02986 | iHlazane    | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32G-03006 | iNyalazi    | <b>D/E</b>   | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32G-03055 | iNyalazi    | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU              | 2      | 2           |
| W32G-03102 | iNsane      | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32C-02671 | iMzinene    | <b>B</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHEZULU              | 2      | 3           |
| W32C-02684 | iNgweni     | <b>C/D</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32C-02721 | iMzinene    | <b>C</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 2      | 2           |
| W32C-02749 | iMzinene    | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 2      | 3           |
| W32C-02612 | iMunywana   | <b>B</b>     | IPHEZULU            | ISESILINGAN           | IPHEZULU              | 0      | 1           |

| i-SQ       | Igama       | i-PES Yendawo | i-EI Yendawo        | -ES Yendawo Eyixhapho | -IEI Yendawo          | i-WRUI | Ukubaluleka |
|------------|-------------|---------------|---------------------|-----------------------|-----------------------|--------|-------------|
|            |             |               | KAKHULU             | ISWENI                |                       |        |             |
| W32C-02634 | iMhlosinga  | <b>C</b>      | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 0      | 1           |
| W32F-02835 | iHluhluwe   | <b>D/E</b>    | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 3      | 3           |
| W32H-02854 | iNyalazi    | <b>C/D</b>    | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 3      | 3           |
| W32H-02998 | iMpate      | <b>B</b>      | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU   | 3      | 4           |
| W31J-02497 | iNdlamyane  | <b>B</b>      | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHEZULU<br>KAKHULU   |        | 2           |
| W32B-02429 | iMbazwana   | <b>C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI |        | 1           |
| W32B-02462 | iSiphudwini | <b>C</b>      | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI |        | 3           |
| W32B-02467 | iMbazwana   | <b>B</b>      | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU<br>KAKHULU   |        | 2           |
| W32B-02489 |             | <b>B/C</b>    | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU              |        | 1           |

#### Indawo ephatha amanzi i-W4 (umfula omkhulu: iPongola – ngaphandle kwe-Eswatini)

Indawo Ephatha Amanzi iPongola inezindawo ezingamaxhaphozi ezingaphezu kuka-113 000 Ha. **Umfanekiso 4.4** ubonisa ukusatshalaliswa kwendawo yama-HGM ahlukahlukene ezindaweni ezingamaxhaphozi. Izindawo ezingamaxhaphozi zasemfuleni zibusa endaweni ephatha amanzi ngendawo ephela ngayinye ecishe ibe ngu-61752 Ha, kodwa izigodi eziphansi ezingumgudu kanye nezindawo ezinezikhukhula nazo ziophezulu ngo-20759 Ha kanye no-17660 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe ku-NSBA phakathi kwalendawo ephatha amanzi zibandakanya iBalamhlanga, Indawo enezikhukhula yasePongola, Umfantu waseMsenyeni, Umfantu waseMtoti, Umfantu waseTete, Umfantu waseKhangazeni, Imifantu yaseShalala, Umfantu waseNhlole, Umfantu waseBumbe, Umfantu waseMandlankunzi kanye nezindawo ezingamaxhaphozi Zesiqiwu saseNdumo (indawo yase-Ramsar). Indawo Ephatha Amanzi yasePongola nayo iqukethe iziphethu ezimbili ezishisayo, i-Natal Spa kanye ne-Swaelfontein, isiphethu sesibabule. Ama-RU anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W41-1 (iBivane) kanye ne-W43-1 (iNgwavuma [iNdumo]). Umphumela ongalindelekile wale nqubo wukuthi indawo enezikhukhula yasePongola inokubekelwa phambili okuphezulu futhi hhayi okuphezulu kakhulu. Lokhu kungenxa yesimo esingasihle semvelo (i-PES ngokuyinhloko ingu-C/D, D imbi kakhulu) noma ukubaluleka kwemvelo kanye ne-WRUI kuphezulu (**IThebula 4.4**).



**Umfanekiso 4.4:** Ukusatshalaliswa kwendawo kwama-HGM ahlukehukene (imephu 5 yango-2018 evuselelwe; van Deventer nabanye., 2018) Endaweni Ephatha Amanzi ePongola (i-W4) kanye nezindawo ezingamaxhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver nabanye., 2005)

**IThebula 4.4:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamaxhaphozi, ngokuhambisana ne-WRUI kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi ePongola

| i-SQ       | Igama       | i-PES Yendaw | i-EI Yendaw           | -ES Yendaw Eyixhap    | -IEI Yendaw           | i-WRUI | Ukubalul eka |
|------------|-------------|--------------|-----------------------|-----------------------|-----------------------|--------|--------------|
| W41A-02372 | iBivane     | <b>B/C</b>   | IPHEZULU<br>KAKHULU   | IPHEZULU              | IPHEZULU              | 3      | 3            |
| W41B-02401 | uBivanyana  | <b>C/D</b>   | IPHEZULU              | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41B-02427 | iBivane     | <b>D</b>     | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41B-02431 | iBivane     | <b>B</b>     | ISESILINGAN<br>ISWENI | IPHEZULU              | IPHEZULU<br>KAKHULU   | 3      | 4            |
| W41B-02434 | i-Soetmelks | <b>C/D</b>   | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41C-02437 | iMpemvana   | <b>C/D</b>   | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41D-02373 | iBivane     | <b>D/E</b>   | IPHEZULU<br>KAKHULU   | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41D-02435 | iNxwayi     | <b>C</b>     | IPHEZULU              | IPHEZULU              | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41E-02359 | iBivane     | <b>D/E</b>   | IPHEZULU<br>KAKHULU   | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 3      | 3            |
| W41F-02433 | iManzana    | <b>D</b>     | IPHEZULU              | ISESILINGAN<br>ISWENI | IPHANSI               | 1      | 1            |

| i-SQ       | Igama      | i-PES Yendaw | i-EI Yendaw        | -ES Yendaw Eyixhap | -IEI Yendaw        | i-WRUI | Ukubalul eka |
|------------|------------|--------------|--------------------|--------------------|--------------------|--------|--------------|
| W41F-02454 | iManzana   | <b>D</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 1      | 1            |
| W41F-02461 | iKwaCeba   | <b>C</b>     | IPHEZULU           | IPHEZULU           | ISESILINGAN ISWENI | 1      | 1            |
| W41F-02481 | iManzana   | <b>C/D</b>   | ISESILINGAN ISWENI | IPHEZULU           | IPHANSI            | 1      | 1            |
| W41F-02502 |            | <b>D</b>     | ISESILINGAN ISWENI | IPHEZULU           | IPHANSI            | 1      | 1            |
| W42A-02261 | iPhongolo  | <b>B/C</b>   | IPHEZULU KAKHULU   | IPHEZULU           | IPHEZULU           | 3      | 3            |
| W42A-02328 | iPandana   | <b>C/D</b>   | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42B-02268 | iPhongolo  | <b>C/D</b>   | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42B-02271 | iPhongolo  | <b>C/D</b>   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | ISESILINGAN ISWENI | 3      | 3            |
| W42B-02315 | iTsakwe    | <b>C</b>     | IPHEZULU           | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42B-02325 | iTsakwe    | <b>D</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42B-02331 | iBazangoma | <b>D</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42C-02205 | iNtombe    | <b>C/D</b>   | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 3      | 3            |
| W42D-02251 | iPhongolo  | <b>C/D</b>   | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 2      | 2            |
| W42D-02327 |            | <b>C</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 2      | 2            |
| W42E-02221 | iPhongolo  | <b>C</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 2      | 2            |
| W42F-02185 | i-Wit      | <b>D</b>     | IPHEZULU KAKHULU   | IPHEZULU           | ISESILINGAN ISWENI | 2      | 2            |
| W42G-02317 | iPhongolo  | <b>B</b>     | IPHEZULU KAKHULU   | IPHEZULU           | IPHEZULU KAKHULU   | 2      | 3            |
| W41G-02379 | iBivane    | <b>D</b>     | IPHEZULU KAKHULU   | ISESILINGAN ISWENI | IPHANSI            | 2      | 1            |
| W42H-02382 | iPhongolo  | <b>B</b>     | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | 2      | 3            |
| W42H-02394 | iThalu     | <b>B</b>     | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | 2      | 3            |
| W42H-02411 | iThalu     | <b>B/C</b>   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | 2      | 3            |
| W42H-02428 | iMbizane   | <b>B</b>     | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | 2      | 3            |
| W42J-02353 | iPhongolo  | <b>B</b>     | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | IPHEZULU KAKHULU   | 2      | 3            |

| i-SQ       | Igama         | i-PES Yendaw | i-EI Yendaw         | -ES Yendaw Eyixhap    | -IEI Yendaw           | i-WRUI | Ukubalul eka |
|------------|---------------|--------------|---------------------|-----------------------|-----------------------|--------|--------------|
| W42J-02378 | iPhongolo     | <b>B</b>     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU   | 2      | 3            |
| W42J-02397 | iMhulumbela   | <b>B/C</b>   | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU   | 2      | 3            |
| W42K-02148 | iMozana       | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 2      | 2            |
| W42K-02242 |               | <b>B/C</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU              | 2      | 2            |
| W42K-02272 | iMozana       | <b>B</b>     | IPHEZULU            | IPHANSI               | IPHEZULU              | 2      | 2            |
| W42L-02270 | iMozana       | <b>B</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHEZULU              | 2      | 2            |
| W42M-02269 | iMtokotshwala | <b>D/E</b>   | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHANSI               | 2      | 1            |
| W42M-02294 | i-Spekboom    | <b>D</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHANSI               | 2      | 1            |
| W42M-02352 | iPhongolo     | <b>B</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHEZULU              | 2      | 2            |
| W43F-02013 | uMsunduzi     | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02053 |               | <b>D/E</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 3            |
| W43F-02072 | iNgwavuma     | <b>C/D</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02076 | iMsunduzi     | <b>E/F</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02089 | iNgwavuma     | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02099 | iNgwavuma     | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02104 | iMvoni        | <b>B/C</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU              | 0      | 1            |
| W43F-02107 |               | <b>C/D</b>   | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02113 | iNgwavuma     | <b>D</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W43F-02142 |               | <b>B</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | IPHEZULU<br>KAKHULU   | 0      | 2            |
| W43F-02159 | iNgwavuma     | <b>C</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 0      | 1            |
| W44A-02332 | iPhongolo     | <b>C</b>     | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | ISESILINGAN<br>ISWENI | 4      | 3            |
| W44A-02386 | iPhongolo     | <b>D/E</b>   | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI | IPHANSI               | 4      | 3            |
| W44A-02389 | iVoyizana     | <b>E</b>     | IPHEZULU<br>KAKHULU | IPHEZULU              | ISESILINGAN<br>ISWENI | 4      | 3            |

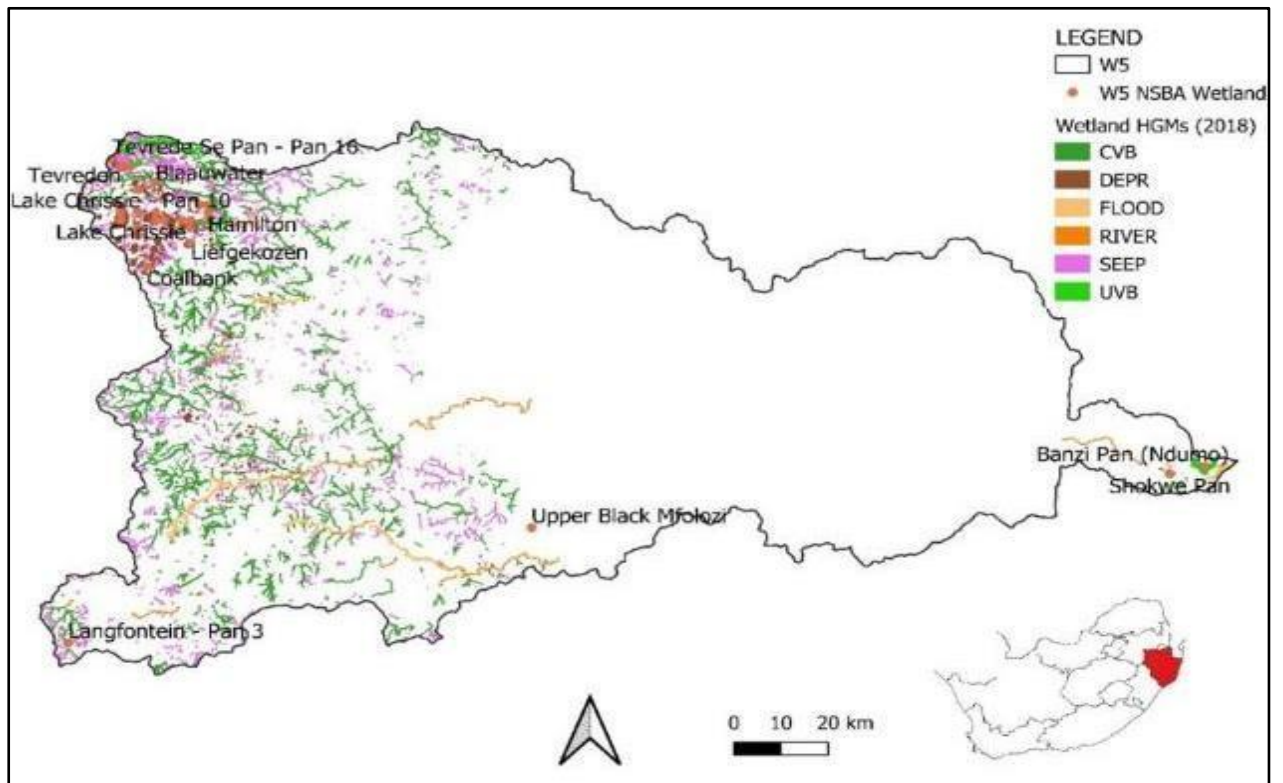
| i-SQ       | Igama       | i-PES Yendawo | i-EI Yendawo     | -ES Yendawo Eyixhapho | -IEI Yendawo      | i-WRUI | Ukubaluluka |
|------------|-------------|---------------|------------------|-----------------------|-------------------|--------|-------------|
| W44A-02410 | iMdlavenga  | <b>D</b>      | IPHEZULU KAKHULU | ISESILINGANISWENI     | IPHANSI           | 4      | 3           |
| W44B-02248 | iManzawakho | <b>F</b>      | IPHEZULU KAKHULU | ISESILINGANISWENI     | IPHANSI           | 4      | 3           |
| W44B-02351 | iPhongolo   | <b>E</b>      | IPHEZULU KAKHULU | ISESILINGANISWENI     | IPHANSI           | 4      | 3           |
| W44C-02338 | iPhongolo   | <b>E</b>      | IPHEZULU KAKHULU | ISESILINGANISWENI     | IPHANSI           | 4      | 3           |
| W44D-02304 | iPhongolo   | <b>D</b>      | IPHEZULU KAKHULU | ISESILINGANISWENI     | IPHANSI           | 4      | 3           |
| W45A-02216 | iZibayeni   | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02245 | iZibayeni   | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02246 | iPhongolo   | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02256 | iLubambo    | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02275 | iMpontshane | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02282 | iPhongolo   | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02285 | iMpontshane | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02310 | iMangqwashi | <b>D/E</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02316 | iMfongosi   | <b>C</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02356 | iMlambo     | <b>C</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02367 | iPhongolo   | <b>C/D</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45A-02368 | iPhongolo   | <b>D/E</b>    | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45B-02029 | iPhongolo   | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |
| W45B-02105 | iPhongolo   | <b>D</b>      | IPHEZULU KAKHULU | IPHEZULU              | ISESILINGANISWENI | 4      | 3           |

#### Indawo ephatha amanzi i-W5 (umfula omkhulu: i-Usutu - ngaphandle kwe-Eswatini)

Indawo Ephatha Amanzi i-Usuthu inezindawo ezingamaxhaphozi ezicishe zibe ngu-80 100 Ha. **Umfanekiso 4.5** ubonisa ukusatshalaliswa kwendawo yama-HGM ahlukehlukehene ezindaweni ezingamaxhaphozi. Izindawo ezingamaxhaphozi zezigodi eziphansi ezingumgudu zibusa endaweni ephatha amanzi ngendawo ephelele ngayinye ecishe ibe ngaphezu kuka-33081 Ha, kodwa izindawo ezingamaxhaphozi ezinamanzi amile, imifantu

kanye nezindawo ezinezikhukhula kuphawuleka ngezinga elihlanganisa u-16814, u-11266 kanye no-12934 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe ku-NSBA phakathi kwalendawo ephatha amanzi zibandakanya Umfantu waseBanzi, Umfantu waseShokwe, i-Umfoloji Emnyama Engenhla, Umfantu 3 wase-Langfontein, Indawo yamalahle, iLiefgekozen, Ichibi lase-Chrissie kanye neminye imifantu eminingi yeChibi lase-Chrissie, iTweelingpan, Izindawo ezingamaxhaphozi zase-Tweelingpan, Ichibi lase-Banagher kanye neminye imifantu eminingi yeChibi lase-Banagher, i-Van Aardt Kaalpan, i-Blinkpan, i-Hamilton, i-Neethlingpan, i-Grasdal, i-Florence, i-Blaauwater, Umfantu 18 wase-Lusthop, iTevreden kanye nomfantu 16 wase-Tevrede. Ama-RU anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W51-2 (i-Boesmanspruit kanye ne-Assegaai), i-W51-3 (i-Swartwater kanye neMhkondvo), i-W53-1 (i-Sandspruit kanye neNgwempisi), i-W54-1 (i-uSuthu, kuhlanganisa i-Coalbank kanye ne-Liefgekozen, kanye neSeganagana) kanye ne-W55-1 (isifunda somfantu waseMpumalanga E-Chrissiesmeer, i-Vlei yase-Majosie se kanye neMpuluzi) kanye ne-W57-1 (iuSuthu, Umfantu waseBanzi, iNdumo, Umfantu waseShokwe) (**IThebula 4.5**).

Ngokombono wesifunda, i-Chrissiesmeer (Isifunda Samachibi aseMpumalanga) ihlukaniswe Njengendawo Ebaluleke Kakhulu Yezinhlobonhlobo Zezinto Eziphilayo Kuhlelo Lomkhakha Lwezinhlobonhlobo Zezinto Eziphilayo lwaseMpumalanga luka-2013. Ingxenye enkulu yalolu hlelo lwezinto eziphilayo iwela ngaphansi kohlelo lwezinto eziphilayo ze-Chrissiesmeer panveld ezifakwe ohlwini lukazwelonke lwezinto eziphilayo ezisengozini kuhlelo lwezinto eziphilayo ezisengozini futhi ezidinga ukuvikelwa (i-GN1002 yangomhlaka 9 Disemba 2011). Ngokombiko Wesifundazwe saseMpumalanga (Isaziso 19 sika-2014) Isifunda Sechibi laseMpumalanga siyingxenye Sendawo yase-Chrissiesmeer Evikelekile (i-CPE). Le ndawo ihlukile ngenxa yobuningi obuphezulu bamaxhaphozi, amaningana awo agcwele unomphela (DWA, 2014a). Amaxhaphozi angahlukahluka ngobukhulu kusukela engxenyeni engaphansi kwehektare kuya engxenyeni engaphezu kwamahektare ayinkulungwane (Ichibi lase-Chrissie). Ngokuka-McCarthy *et al.* (2007), Umfantu wase-Tevreden, kanye neminye imifantu Esifundeni Samachibi aseMpumalanga kufanele aqokwe noma aphakanyiselwe ukubalwa Njengezindawo Ezingamaxhaphozi Zokubaluleka Kwamazwe ngamazwe ngokoMbuthwano wase-Ramsar, ngenxa yokwehluka kwendawo, okubandakanya isimo sayo njengendawo ebalulekile yezinyoni (Global IBA: SA019 Imifantu yase-Chrissie ecishe ibe ngu-62500 Ha), kanye nokuhluka kwayo ngokuma komhlaba nangokuma kwamanzi.



**Umfanekiso 4.5:** Ukusatshalaliswa kwendawo kwama-HGM ahlukehukene (imephu 5 yango-2018 evuselelwe; van Deventer nabanye., 2018) Endaweni Ephatha Amanzi e-Usuthu (i-W5) kanye nezindawo ezingamakhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver nabanye., 2005)

**IThebula 4.5:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamakhaphozi, ngokuhambisana ne-WRUI kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi e-Usuthu

| i-SQ       | Igama           | i-PES Yendawo | i-EI Yendawo     | -ES Yendawo Eyixhaphozi | -IEI Yendawo      | i-WRUI | Ukubaluleka |
|------------|-----------------|---------------|------------------|-------------------------|-------------------|--------|-------------|
| W51A-02082 | i-Assegaai      | D/E           | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 1      | 3           |
| W51B-02101 | iNgulane        | E             | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 1      | 3           |
| W51C-01981 | i-Assegaai      | C/D           | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 4      | 3           |
| W51C-02011 |                 | C             | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | IPHEZULU          | 4      | 4           |
| W51C-02022 | i-Assegaai      | E             | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 4      | 3           |
| W51C-02067 | i-Assegaai      | C/D           | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 4      | 3           |
| W51C-02074 | i-Anysspruit    | C/D           | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 4      | 3           |
| W51C-02109 | i-Boesmanspruit | C             | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | IPHEZULU          | 4      | 4           |
| W51D-02044 | i-Assegaai      | C/D           | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGANISWENI | 4      | 3           |
| W51D-02151 | i-Swartwater    | D             | IPHEZULU         | ISESILINGANISWENI       | IPHANSI           | 4      | 3           |

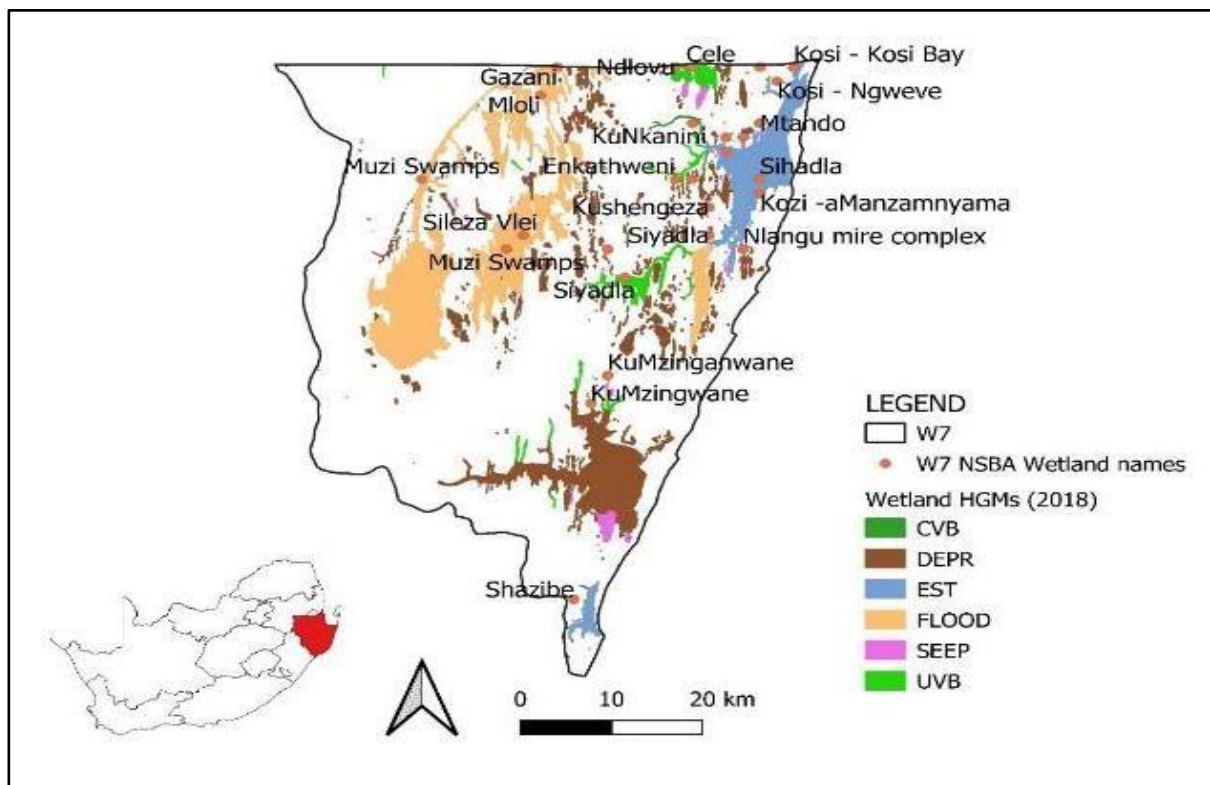
| i-SQ       | Igama            | i-PES<br>Yendaw | i-EI<br>Yendaw        | -ES<br>Yendaw<br>Eyixhap | -IEI<br>Yendaw        | i-WRUI | Ukubalulek<br>a |
|------------|------------------|-----------------|-----------------------|--------------------------|-----------------------|--------|-----------------|
|            |                  |                 | KAKHULU               | ISWENI                   |                       |        |                 |
| W51D-02160 |                  | <b>C</b>        | IPHEZULU              | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W51D-02171 | i-Klein-Assegaa  | <b>D</b>        | IPHEZULU              | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W51D-02177 | i-Klein-Assegaa  | <b>C</b>        | IPHEZULU              | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W51D-02193 | i-Swartwater     | <b>C</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | IPHEZULU              | 4      | 4               |
| W51E-02049 | iMhkondvo        | <b>B</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | IPHEZULU<br>KAKHULU   | 4      | 4               |
| W51F-01919 | iNdlozane        | <b>D</b>        | ISESILINGAN<br>ISWENI | IPHEZULU<br>KAKHULU      | IPHANSI               | 1      | 1               |
| W51F-01951 |                  | <b>D</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU                 | ISESILINGAN<br>ISWENI | 1      | 1               |
| W51F-01986 | i-Blesbokspruit  | <b>D</b>        | IPHEZULU              | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 1      | 1               |
| W51F-02019 | Blesbokspruit    | <b>D</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 1      | 1               |
| W52A-01934 |                  | <b>C/D</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 3               |
| W52A-01983 | iHlelo           | <b>C/D</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 3               |
| W52B-01890 |                  | <b>D</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 2               |
| W52B-01964 | iHlelo           | <b>D</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 2               |
| W52C-01867 | iHlelo           | <b>C/D</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 2               |
| W52C-01888 | i-Tweelingspruit | <b>C</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | IPHEZULU              | 2      | 2               |
| W52D-01862 | iHlelo           | <b>C/D</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 2      | 2               |
| W53A-01757 | i-Sandspruit     | <b>C</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | IPHEZULU              | 4      | 4               |
| W53A-01804 | iNgwempisi       | <b>E</b>        | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W53A-01853 | iNgwempisi       | <b>C/D</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU                 | ISESILINGAN<br>ISWENI | 4      | 3               |
| W53B-01694 |                  | <b>D/E</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W53B-01710 | iMpama           | <b>D/E</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | ISESILINGAN<br>ISWENI | 4      | 3               |
| W53C-01679 | iThole           | <b>B/C</b>      | IPHEZULU<br>KAKHULU   | IPHEZULU<br>KAKHULU      | IPHEZULU<br>KAKHULU   | 2      | 3               |
| W53D-01751 |                  | <b>B/C</b>      | IPHEZULU              | IPHEZULU                 | IPHEZULU              | 2      | 2               |

| i-SQ       | Igama              | i-PES<br>Yendaw | i- EI<br>Yendaw     | - ES<br>Yendaw<br>Eyixhap | - IEI<br>Yendaw       | i-WRUI | Ukubalulek<br>a |
|------------|--------------------|-----------------|---------------------|---------------------------|-----------------------|--------|-----------------|
| W53D-01764 | iMpama             | D/E             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 2      | 2               |
| W53D-01773 | iNgwempisi         | D/E             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 2      | 2               |
| W53D-01801 | iNgwempisi         | D               | IPHANSI<br>KAKHULU  | IPHANSI                   | IPHANSI<br>KAKHULU    | 2      | 1               |
| W53D-01809 | iNgwempisi         | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 2      | 2               |
| W53D-01814 | i-Swartwaterspruit | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 2      | 2               |
| W53E-01790 | iNgwempisi         | D/E             | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHANSI               | 2      | 1               |
| W54A-01534 | i-uSuthu           | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 4      | 4               |
| W54A-01630 |                    | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 4      | 4               |
| W54B-01569 | i-uSuthu           | D               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 4      | 3               |
| W54B-01623 | iSeganagana        | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 4      | 4               |
| W54C-01512 | i-Bonnie Brook     | B/C             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU<br>KAKHULU   | 1      | 2               |
| W54C-01552 | i-Bonnie Brook     | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 1      | 2               |
| W54C-01556 | i-Bonnie Brook     | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 1      | 2               |
| W54D-01593 | i-uSuthu           | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 1      | 1               |
| W55A-01375 | iMpuluzi           | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 2      | 4               |
| W55A-01423 | i-Majosie se Vlei  | C               | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 2      | 4               |
| W55C-01395 | iMpuluzi           | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU                  | ISESILINGAN<br>ISWENI | 2      | 4               |
| W55C-01489 | i-Swartwater       | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 2      | 2               |
| W55E-01477 | iMpuluzi           | C               | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | IPHEZULU              | 2      | 2               |
| W55D-01506 | iMetula            | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 1      | 1               |
| W56A-01372 | iLusushwana        | C/D             | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU       | ISESILINGAN<br>ISWENI | 1      | 1               |
| W57J-01923 | i-uSuthu           | A/B             | IPHEZULU<br>KAKHULU | ISESILINGAN<br>ISWENI     | IPHEZULU<br>KAKHULU   | 0      | 2               |
| W57K-01929 | i-uSuthu           | B               | IPHEZULU            | IPHEZULU                  | IPHEZULU              | 0      | 2               |

| i-SQ       | Igama | i-PES Yendaw | i- EI Yendaw        | - ES Yendaw Eyixhap | - IEI Yendaw | i-WRUI | Ukubaluleka |
|------------|-------|--------------|---------------------|---------------------|--------------|--------|-------------|
|            |       |              | KAKHULU             |                     | KAKHULU      |        |             |
| W57K-02025 |       | B/C          | IPHEZULU<br>KAKHULU | IPHEZULU            | IPHEZULU     | 0      | 1           |

**Indawo ephatha amanzi i-W7 (iSizalo somfula saseKosi kanye neChibi laseSibaya)**

Indawo Ephatha Amanzi Yechibi laseSibaya naseKosi i-Usuthu inezindawo ezingamaxhaphozi ezicishe zibe ngu-82 200 Ha okuhlenganisa izingalo zemifula kanye nezindawo ezingamaxhaphozi ezingu-59 500 Ha ngaphandle kwezizalo zemifula. **Umfanekiso 4.6** ubonisa ukusatshalaliswa kwendawo yama-HGM ahlukehlukehle ezindaweni ezingamaxhaphozi. Imifantu kanye nezindawo ezinezikhukhula ibusa endaweni ephatha amanzi ngendawo ephelele ngayinye ecishe ibe ngu-33191 Ha kanye no-21991 Ha ngokulandelana. Izindawo Ezingamaxhaphozi ezibalwe Ekuhlolweni Kwezindawo Zezinhlombohlobo Zezinto Eziphilayo Kuzwelonke phakathi kwalendawo ephatha amanzi zibandakanya iMgobozeleni – Shazibe, iKuMzingwane, iKuMzingwane, iSiyadla, iMvelabusha, Amaxhaphozi aseMuzi, iSileza Vlei, ubishi oluyinkimbinkimbi lwaseNlangu, Kosi – Siyadla, iKuShengeza, iKosi – aManzamyama, iSihadla, i-Enkathweni, iKosi – Swamanzi, iKuNkanini, iMatitimane, i-Apiesdraai, iMtando, iKosi – Ngweve, iKuZilonde, iKukalwe, iCele, i-Nlovu, iGazini kanye neMloli, amasoyi emfucumfucu yezitshalo Yexhaphozi laseVazi eduze kwedolobha laseManguzi nawo angaphansi kwale ndawo ephatha amanzi. Amayuthi Emithombio (ama-RU) anokubekelwa phambili kwendawo eyixhaphozi Okuphezulu Kakhulu kubandakanya i-W70-1 (iSwamanzi) kanye ne-W70-3 (Ichibi laseSibaya, amaxhaphozi aseMuzi) (I**Thebula 4.6**).



**Umfanekiso 4.6:** Ukusatshalaliswa kwendawo kwama-HGM ahlukehlukehlu (imephu 5 yango-2018 evuselelwe; van Deventer nabanye., 2018) Endaweni Ephatha Amanzi eChibini laseSibaya naseKosi (i-W6) kanye nezindawo ezingamakhaphozi ze-NSBA ezibaliwe (imininingwane evela ku-NSBA, Driver nabanye., 2005)

**IThebula 4.6:** Isifinyezo se-PES, i-EI, i-ES kanye ne-IEI yezindawo ezingamakhaphozi, ngokuhambisana ne-WRUI kanye nokubekelwa phambili kwendawo eyixhaphozi nge-SQ ngayinye endaweni ephatha amanzi eKosi naseChibini laseSibaya

| i-SQ       | Igama               | i-PES Yendawo          | i-EI Yendawo     | -ES Yendawo Eyixhaphozi | -IEI Yendawo       | i-WRUI | Ukubalul eka |
|------------|---------------------|------------------------|------------------|-------------------------|--------------------|--------|--------------|
| W70A-02046 | Amachibi laseKosi   | <b>Isizalo somfula</b> |                  |                         |                    |        | 2            |
| W70A-02079 | iSwamanzi           | <b>E</b>               | IPHEZULU KAKHULU | IPHEZULU                | ISESILINGAN ISWENI | 0      | 1            |
| W70A-02112 | iMalangeni          | <b>B/C</b>             | IPHEZULU KAKHULU | IPHEZULU                | IPHEZULU           | 0      | 1            |
| W70A-02030 | Amakhaphozi aseMuzi | <b>N/A</b>             | IPHEZULU KAKHULU | IPHEZULU                | IPHEZULU KAKHULU   |        | 4            |
| W70A-02278 | Ichibi laseSibaya   | <b>B/C*</b>            | IPHEZULU KAKHULU | IPHEZULU                | IPHEZULU KAKHULU   |        | 4            |
| W70A-02301 |                     | <b>D</b>               | IPHEZULU KAKHULU | IPHEZULU KAKHULU        | ISESILINGAN ISWENI | 2      | 2            |
| W70A-02381 |                     | <b>C</b>               | IPHEZULU KAKHULU | IPHEZULU                | ISESILINGAN ISWENI |        | 1            |

\* DWS (2015).

**IThebula 4.7: Isifinyezo se-PES, i-EI, i-ES, ukuthambekela, i-REC, i-TEC nezindlela zokuthuthukisa noma ukugcina izindawo ezingamaxhaphozi ezibekelwe phezulu kakhulu**

| i-RU                | Igama Lendawo Eyixhaphozi          | Uhlobo Lwendawo Eyixhaphozi   | Kuhlanganisa ama-SQ | i-PES | i-EI             | i-ES             | Ukuthambekeka | i-REC | Indlela yokuthola i-REC  | i-TEC |
|---------------------|------------------------------------|---|---------------------|-------|------------------|------------------|---------------|-------|--|-------|
| <b>W1 Mhlathuze</b> |                                    |   |                     |       |                  |                  |               |       |  |       |
| W12-8               | Indawo Enezikhukhula yaseMhlathuze | Indawo enezikhukhula  | W12H-03459          | E     | IPHEZULU KAKHULU | IPHEZULU KAKHULU | ↓             | D     | Ukunciphisa / ukulawula ukulinywa komoba.  | D     |
|                     |                                    |   | W12F-03494          |       |                  |                  |               |       |  |       |
| W12-9               | Amaxhaphozi aseNhlabane            | Imifantu nezindawo ezingamaxhaphozi ezinamanzi amile  | W12J-03411          | D     | IPHEZULU KAKHULU | IPHEZULU KAKHULU | ↓             | C/D   | Ukuvimbela ukungena kwezinhlobo zamahlathi ezindaweni ezingamaxhaphozi.  | C/D   |
| W12-10              | Ichibi laseMzingazi                | Ichibi (elingafaki izindawo ezingamaxhaphozi ezizungezile zezigodi eziphansi ezinemigudu)             | W12J-03489          | D/E   | IPHEZULU KAKHULU | IPHEZULU KAKHULU | ↓             | D     | Ukulawulwa kokwanda kwamahlathi nokwakiwa kwezindlu, ukuze kuthuthukiswe izinga lamanzi, ukunciphisa / ukulawula ukudoba (izinhlanzi nezinyoni), ukuze kuncishiswe ukuxhumana okuphezulu/ okuphansi (indlela yokudlula yezinhlanzi). | D     |
| W12-10              | iMzingazi                          | Izigodi eziphansi ezinemigudu, ngaphandle kwechibi  | W12J-03392          | C     | IPHEZULU KAKHULU | IPHEZULU KAKHULU | →             | C     | Ukuvimbela ukungena kwezinhlobo zamahlathi ezindaweni ezingamaxhaphozi. Ukulawulwa kokwanda kwamahlathi nokwakiwa kwezindlu.   | C     |
|                     |                                    |   | W12J-03493          |       |                  |                  |               |       |  |       |
|                     |                                    |   | W12J-03403          |       |                  |                  |               |       |  |       |
|                     |                                    |   | W12J-03450          |       |                  |                  |               |       |  |       |
| <b>W2 UMfolozi</b>  |                                    |   |                     |       |                  |                  |               |       |  |       |
| W22-1               | i-Aloeboom Vlei                    | Izindawo ezinamanzi amile emimangweni yezintaba ezixhumene nemigudu, kanye nezindawo ezingamaxhaphozi | W22A-02586          | C     | IPHEZULU KAKHULU | IPHEZULU KAKHULU | ↓             | B/C   | Ukuvimbela ukungena kwezinhlobo zamahlathi ezindaweni ezingamaxhaphozi, ukulawula ukwandiswa kwezindawo zokuhlala ezihlelekile.  | B/C   |
|                     |                                    |   | W22A-02591          |       |                  |                  |               |       |  |       |
|                     |                                    |   | W22A-02596          |       |                  |                  |               |       |  |       |

| i-RU            | Igama Lendawo Eyixhaphozi | Uhlobo Lwendawo Eyixhaphozi   | Kuhlanganisa ama-SQ      | i-PES | i-EI             | i-ES              | Ukuthambeleka | i-REC | Indlela yokuthola i-REC  | i-TEC |
|-----------------|---------------------------|---|--------------------------|-------|------------------|-------------------|---------------|-------|--|-------|
|                 |                           | zezigodi eziphansi ezinemigudu ngokuhambisana Nomfula iMfolozi Emnyama  |                          |       |                  |                   |               |       |  |       |
| W23-1           | Umgodi waseMvamanzi       | Indawo eyixhaphozi yezigodi eziphansi ezingesiwo umgudu ezingenela ezindaweni ezingamaxhaphozi eziyimifantu, ngokuhambisana Nomfula iMvamanzi                         | W23A-03160               | B/C   | IPHEZULU KAKHULU | IPHEZULU KAKHULU  | →             | B/C   | ukulawula ukwanda kwezitshalo zokuziphilisa / ezincane kanye nezindawo zokuhlala ezihlelekile. | B/C   |
| W23-3           | Amaxhaphozi aseMfolozi    | Imifula iMfolozi neMsunduzi yomibili iyingxenye yexhaphozi laseMfolozi emithonjeni yayo engezansi enezindawo ezinkulu ezinezikhukhula ezihlanganisa le mifula emibili | W23C-03180<br>W23D-03108 | D     | IPHEZULU KAKHULU | IPHEZULU KAKHULU  | →             | D     | Ukunciphisa / ukulawula ukulinywa komoba.  | D     |
| <b>W3 Mkuze</b> |                           |   |                          |       |                  |                   |               |       |  |       |
| W31-4           | Umgodi waseNhlonhlela     | Umfula iMkuze kanye nendawo lapho Umfula iNhlonhlela uhlangana khona kuhlanganise Nendawo eyixhaphozi yaseNhlonhlela, indawo  | W31J-02469<br>W31J-02501 | A     | IPHEZULU         | ISESILINGANISWENI | →             | A     | Ukulondolozwa okuvimbelayo: ukuvimbela ukwanda kwamahlathi azungezile.                         | A     |

| i-RU              | Igama Lendawo Eyixhaphozi         | Uhlobo Lwendawo Eyixhaphozi   | Kuhlanganisa ama-SQ  | i-PES | i-EI             | i-ES             | Ukuthambeleka | i-REC | Indlela yokuthola i-REC   | i-TEC |
|-------------------|-----------------------------------|---|--|-------|------------------|------------------|---------------|-------|---|-------|
|                   |                                   | eyixhaphozi engumfantu  |  |       |                  |                  |               |       |   |       |
| W32-7             | Indawo Enezikhukhula yaseHluhluwe | Umfula iHluhluwe kanye nendawo yawo yezikhukhula ngaphambi kokungena esizalweni somfula sase-St Lucia                                   | W32F-02835   | C/D   | IPHEZULU KAKHULU | IPHEZULU KAKHULU | ↓             | C     | Ukunciphisa / ukulawula ukutshala komlimi kamoba ohlanyelwa ukuhweba kanye nabalimi abasha.       | C     |
| W32-7             | Umgodi waseNyalazi                | Izindawo ezingamahlaphozi ezinemifantu ezinamahlathi amaxhaphozi endaweni ephatha amanzi eMfuleni iNyalazi                              | W32H-02854   | C     | IPHEZULU KAKHULU | IPHEZULU KAKHULU | →             | C     | Ukulawula ubukhulu bamahlathi akhona.   | C     |
| W32-7             | Amaxhaphozi aseMpate              | Izigodi eziphansi ezinemigudu kanye nezindawo ezingamaxhaphozi ezinemifantu endaweni ephatha amanzi eMfuleni iMpate engenela e-St Lucia | W32H-02998   | A     | IPHEZULU KAKHULU | IPHEZULU         | →             | A     | Ukulondolozwa okuvimbelayo: ukuvimbela ukwanda kwamahlathi kanye nokulima okuncane kokuziphilisa. | A     |
| N/A               | Indawo Enezikhukhula uaseMkuze    | Umfula iMkuze okuhlanganisa uhlelo lwexhaphozi laseMkuze kanye nendawo enezikhukhula yaseMkuze  | W32B-02535   | B     | IPHEZULU KAKHULU | IPHEZULU         | →             | B     | Ukulawula ubukhulu bezitshalo zokuziphilisa noma izitshalo ezincane zonyaka.                      | B     |
| <b>W4 Pongola</b> |                                   |   |  |       |                  |                  |               |       |   |       |
| W45-1             | Indawo Enezikhukhula yasePongola  | Indawo enezikhukhula kanye nephansi lezigodi ezinemigudu  | W45A-02216<br>W45A-02245<br>W45A-02246<br>W45A-02256<br>W45A-02275 | D     | IPHEZULU KAKHULU | IPHEZULU         | ↓             | C     | Ukunciphisa/ukulawula ubukhulu bezitshalo zokuziphilisa noma izitshalo ezincane zonyaka.          | D     |

| i-RU            | Igama Lendawo Eyixhaphozi          | Uhlobo Lwendawo Eyixhaphozi   | Kuhlanganisa ama-SQ  | i-PES | i-EI                | i-ES                | Ukuthambeleka | i-REC | Indlela yokuthola i-REC  | i-TEC |
|-----------------|------------------------------------|---|--|-------|---------------------|---------------------|---------------|-------|--|-------|
|                 |                                    |   | W45A-02282   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02285   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02310   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02316   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02356   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02367   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45A-02368   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45B-02029   |       |                     |                     |               |       |  |       |
|                 |                                    |   | W45B-02105   |       |                     |                     |               |       |  |       |
| <b>W5 Usutu</b> |                                    |   |  |       |                     |                     |               |       |  |       |
| W51-2           | Indawo Enezikhukhula yase-Assegaai | Izindawo ezinezikhukhula eziseduze noMfula i-Assegaai kanye nezindawo ezingamaxhaphozi zezigodi eziphansi ezinemigudu eziseduze nemingenela | W51C-01981<br>W51C-02011<br>W51C-02022<br>W51C-02067<br>W51C-02074<br>W51C-02109<br>W51D-02044<br>W51D-02151<br>W51D-02160<br>W51D-02171<br>W51D-02177<br>W51D-02193 | C     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU | →             | C     | Ukuvimbela ukungena kwezinhlobo zamahlathi ezindaweni ezingamaxhaphozi, ukulawula ukwandiswa kokulima okungekho emthethweni. | C     |
| W53-1           | Amaxhaphozi ase-Sandspruit         | Izindawo ezingamaxhaphozi zezigodi eziphansi ezinemigudu eduze ne-Sandspruit ngasezizalweni zemifula  | W53A-01757<br>W53A-01804<br>W53A-01853   | C     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU | →             | C     | Ukulawula ukwanda kwezitshalo ezitshalwa minyaka yonke ezentengiselwano nezolimo zomhlaba owomile.                           | C     |
| W54-1           | Amaxhaphozi ase-Usothu Engenhla    | Izindawo ezingamaxhaphozi zezigodi eziphansi ezinemigudu ngaphezulu kweDamu lase-Sandcliff kodwa hhayi eduze ne-SQ esemthethweni,           | W54A-01534<br>W54A-01630   | B/C   | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU | →             | B/C   | Ukulawula ukwanda kwezitshalo ezitshalwa minyaka yonke ezentengiselwano nezolimo zomhlaba owomile.                           | B/C   |

| i-RU  | Igama Lendawo Eyixhaphozi   | Uhlobo Lwendawo Eyixhaphozi  | Kuhlanganisa ama-SQ                    | i-PES | i-EI                | i-ES                | Ukuthambeleka | i-REC | Indlela yokuthola i-REC   | i-TEC |
|-------|-----------------------------|--|--|-------|---------------------|---------------------|---------------|-------|---|-------|
|       |                             | kunalokho umngenela wase-Usutu   |  |       |                     |                     |               |       |   |       |
| W54-1 | Amaxhaphozi aseSeganagana   | Izindawo ezinezikhukhula kanye nezindawo ezingamaxhaphozi zezigodi eziphansi ezinemigudu eduze nengaphezulu leSeganagana seDamu lase-Westoe  | W54B-01569<br>W54B-01623               | A     | IPHEZULU<br>KAKHULU | IPHEZULU<br>KAKHULU | →             | A     | Ukulondolozwa okuvimbelayo: Ukulawula ukwanda kwamahlathi nezolimo zomhlaba owomile.  | A     |
| W55-1 | Imigodi Yesifunda           | Iningi lezindawo ezinamaxhaphozi azihlangene ngokuqondile ne-SQ esemthethweni. Le ndawo inobuningi obuphezulu bezindawo ezingamaxhaphozi, izindawo ezingamaxhaphozi ezinkulu ezokuma kwamanzi kanye nezindawo ezinkulu zezigodieziphansi ezinemigudu | W55A-01375<br>W55A-01423<br>W55C-01395 | A/B   | IPHEZULU<br>KAKHULU | IPHEZULU            | →             | A/B   | Ukulondolozwa okuvimbelayo: Ukulawula ukwanda kwamahlathi nezitshalo ezitshalwa minyaka yonke ezentengiselwano, eziniselwa yimvula. | A/B   |
| W57-1 | i-Usuthu Engezansi (iNdumo) | Izindawo ezinezikhukhula eduze ne-W57K-02025 (umngenela woMfula i-Usutu) iyingxenye yezindawo ezinezikhukhula  | W57J-01923<br>W57K-01929<br>W57K-02025 | A     | IPHEZULU<br>KAKHULU | IPHEZULU            | →             | A     | Ukulondolozwa okuvimbelayo: ukuvimbela ukwanda kwemisebenzi yezolimo yokusika nokushisa eseduze.                                    | A     |

| i-RU                        | Igama Lendawo Eyixhaphozi | Uhlobo Lwendawo Eyixhaphozi  | Kuhlanganisa ama-SQ | i-PES | i-EI             | i-ES     | Ukuthambeleka | i-REC | Indlela yokuthola i-REC   | i-TEC  |     |
|-----------------------------|---------------------------|--|---------------------|-------|------------------|----------|---------------|-------|---|--|-----|
|                             |                           | zasePongola<br>Esiqiwini<br>saseNdumo kanye<br>Nexhaphozi<br>laseBanzi kuvela<br>eduze koMfula i-<br>Usutu (i-W57K-<br>01929), kokubili<br>kuyingxenywe<br>yendawo yase-<br>RAMSAR |                     |       |                  |          |               |       |   |  |     |
| <b>W7 Kosi &amp; Sibaya</b> |                           |  |                     |       |                  |          |               |       |   |  |     |
| W70-3                       | Ichibi lase Sibaya        | Ichibi laseSibaya nezindawo ezingamaxhaphozi ezizungezile ezihlanganisa izindawo ezingamaxhaphozi ezinokuma kwamanzi (650 Ha) kanye nezigodi eziphansi ezinemigudu                 | W70A-02278          | B/C   | IPHEZULU KAKHULU | IPHEZULU | →             | B     | Ukuvimbela kwamahlathi azungezile, zokuhlala nezolimo owomile, kungenzeka ukuvimbela lamanzi ngokwanele ukuhlukanisa imithombo. | ukwanda izindawo kanye zomhlaba lapho khona izinga eliphansi | B/C |
|                             |                           |  | W70A-02301          |       |                  |          |               |       |   |  |     |
|                             |                           |  | W70A-02381          |       |                  |          |               |       |   |  |     |
| W70-                        | Amaxhaphozi aseMuzi       | Izindawo ezingamaxhaphozi ezinemifantu kanye nezinezindawo ezinezikhukhula zihlanganisa amaxhaphozi aseMuzi  | Akukho              | C     |                  |          | ↓             | C     | Ukuvimbela kwamahlathi azungezile, zokuhlala nezolimo owomile, kungenzeka ukuvimbela lamanzi ngokwanele ukuhlukanisa imithombo. | ukwanda izindawo kanye zomhlaba lapho khona izinga eliphansi | C   |

\* Izincazelo zezindawo ezingamaxhaphozi zithathwe ku-NWM5 ka-2018 (van nabanyeeet al., 2018) njengengxenywe Yokuhlolwa Kwezindawo Zezinhlolobhlobo Zezinto Eziphilayo Kuzwelonke (i-NBA) kuka-2018 (Van Deventer, H., Smith-Adao, L., Mbona, N., Petersen, C., Skowno, A., Collins, N.B., Grenfell, M., Job, N., Lötter, M., Ollis, D., Scherman, P., Sieben, E. & Snaddon, K. 2018. Ukuhlolwa Kwezindawo Zezinhlolobhlobo Zezinto Eziphilayo Kuzwelonke 2018: Umbiko Wezobuchwepheshe. Inguqulo 2a: Uhlu lwaseNingizimu Afrika Lwezihlelo Zemvelo Yasemanzini (i-SAIIAE). Inguqulo 3, eyokugcina ikhishwe ngomhlaka 3

Okthoba 2019. UMkhandlu Wocwaningo Lwezesayensi Nezimboni (i-CSIR) kanye Nesikhungo Skuhlolwa Kwezindawo Zezinhlolonhlobo Zezinto Eziphilayo Kuzwelonke (i-SANBI): Pretoria, South Africa. Inombolo Yombiko: inombolo yombiko we-CSIR CSIR/NRE/ECOS/IR/2018/0001/A; inombolo yombiko we-SANBI <http://hdl.handle.net/20.500.12143/5847>).

## AMANZI ANGAPHEZULU – INGXYENYE YEZIZALO ZEMIFULA

Izigaba Zemvelo zezizalo zemifula ezisishiyagalombili ezimelelwe ngezansi zifingqa i-PES, i-REC kanye ne i-TEC, amanani kanye nokulandisa ku**Thebula 5.1** (ngokwezindlela zezizalo zemifula ze-DWS).

**IThebula 5.1:** Ukucaciswa Kwemvelo Kwezinga Lamanzi (Izizalo zemifula Ezisendaweni Ephatha Amanzi e-Usuthu-Mhlathuze)

|  | i-aMatigulu/iNyoni | iSiyaya                  | i-uMlazi | i-uMhlathuze | iNhlabane | i-uMgobezeleni | iKosi | i-St Lucia/uMfoloz       |
|--|--------------------|--------------------------|----------|--------------|-----------|----------------|-------|--------------------------|
| i-PES (umzila)                         | B/C ↓              | D/E ↓                    | B/C ↓    | D ↓          | E ↓       | B ↓            | A/B ↓ | D ↓ ↑                    |
| i-REC                                  | B                  | C                        | B        | D            | D         | A              | A     | B                        |
| i-TEC                                  | B                  | D (isikhathi esifushane) | B        | D            | D         | A/B            | A     | C (isikhathi esifushane) |
|  |                    | C (isikhathi eside)      |          |              |           |                |       | B (isikhathi eside)      |
| Amanzi                                 | C                  | B/C ↑                    | C        | C            | D         | B              | A     | C                        |
| Amandla okuhamba kwamanzi              | B                  | D ↑                      | B/C      | D/E          | C/D       | B              | A     | C                        |
| Indawo yokuhlala engokwenyama (inzika) | B                  | B                        | B        | D            | E → D     | A/B            | A     | C                        |
| Izinga lamanzi (usawoti)               | A                  | B                        | B        | C/D          | E → D     | A/B            | A     | D ↑                      |
| Izinga lamanzi (okujwayelekile)        | C                  | D ↑                      | C        | D            | D         | B              | A/B   | D ↑                      |
| Ulwelwe oluncane                       | B                  | C                        | C        | D            | D         | B              | A     | D ↑                      |
| Izimila ezinkulu                       | B                  | D → C                    | B/C      | D            | C/D       | B              | A/B   | B                        |
| Izilwane ezingenamgogodla              | B                  | D → C                    | B        | E → D        | E → D     | A/B            | B ↑   | D                        |
| Izinhlanzi                             | B/C                | D → C                    | B        | D            | E → D     | B              | B ↑   | C                        |
| Izinyoni                               | B                  | D → C                    | B        | C            | D         | A              | A/B   | C                        |

X (isikhathi esifushane; <iminyaka engu-5) → Y (isikhathi eside; iminyaka engu-5-10) – kukhombisa umzila wesikhathi eside olindelekile weguquke ukuze uhlangabezane ne-TEC yesikhathi eside.

↓ ↑ - kukhombisa ukuthi umzila wenguquko awuzinzile.

↑ - kukhombisa ukuthuthuka ngaphakathi kwesigaba (ikakhulukazi okuhambisana nezingxenywe eziwohlokile) futhi ngaleyo ndlela kugxila ekubuyiselweni.

### Ukucaciswa Kwemvelo

Iminyaka engaba yinkinga (i-TPC) ichazwa njengamaphuzu okugcina alinganisekayo ahlobene nezinkomba ezithile zezinto ezingaphili noma zezinto eziphilayo okuthi uma zifinyelelwa (noma lapho imodeli ibikezela ukuthi amaphuzu anjalo azofinyelelwa) isinyathelo sokuphatha ngokushesha. Ngokuyisisekelo, ama-TPC kufanele anikeze izimpawu zokuxwayisa kusenesikhathi zokungatholakali kokuhambisana nokucaciswa kwemvelo (okungukuthi, hhayi iphuzu 'lokungabuyi'). Lokhu kusho ukuthi izinkomba (noma imisebenzi yokuqapha) ezikhethiwe njengengxenywe yohlelo

lokuqapha lwesikhathi eside kudingeka zihlanganise izingxenywe zezinto ezingaphili noma zezinto eziphilayo ezizwela kakhulu ezinguqukweni ekungeneni komfula. Ama-

TPC ahambisana nencazelo ngayinye yemvelo nawo anikezwe **kuThebula 5.2 kuya kuThebula 5.9.**

**IThebula 5.2: Isizalo Somfula se-W1-Amatigulu/Inyoni**

| i-PES:   | B/C ↓    | i-REC:  | B | i-TEC: | B |
|--|----------|---|---|--------|---|
| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzoholela ekumisweni komzila ongemuhle nokufeza i-TEC:</p> <ul style="list-style-type: none"> <li>• Ukuvuselela indawo enezikhukhula ezizalweni zemifula (Indawo Yezizalo Zemifula Esebenzayo – i - EFZ) nokunciphisa imithelela yezolimo endaweni ephezulu kwamagagasi yohlelo.</li> <li>• Ukulawula/ukuphatha ukuvunwa kwe-Juncus nama-Phragmite ukuvimbela ukuxhashazwa ngokweqile (uhlelo lokulawula lukhona).</li> <li>• Ukunqanda/ukulawula imisebenzi yokudoba engekho emthethweni (isib., ukudoba ngamanetha) ukwenza ngcono umsebenzi wokunakekela kanye nokuchichima kwezimfanzi (izinto ezibanjwe ngephutha) kanye nokwandisa imfundo yomphakathi nokuqwashisa.</li> <li>• Ukulawula imisebenzi yokuzilibazisa emithambekeni ephansi ngokuhlukaniswa ngokwezifunda nokwenza ngcono ukuhambisana (isib. Ukusungulwa Kohlelo Lokulawulwa Kwezizalo Zemifula kanye nemephu yokuhlukaniswa ngokwezifunda kwezizalo zemifula).</li> <li>• Ukuthuthukisa amazanga okuvikelwa Ngokuvikelwa Okwenziwe Ngezivumelwano Ogwini oluseNyakatho – ingxenye ye-DFFE 30 x 30 Izinto Eziza Kuqala Ekuvikelweni Kwezizalo Zemifula ehlanganisa Ukwandiswa Kwendawo Evikelekile Yasolwandle lwaseThukela (iMPA).</li> <li>• Ukuthuthukisa ezokuvakasha (isib., imihlahlandlela yezinyoni) ukunciphisa umthelela nokuhlinzeka ngezinzuzo emphakathini.</li> <li>• Ukusebenzisa ukungenelela (isib., imisebenzi emihle kakhulu yezolimo, ukusungulwa kwezinhlelo zamapulazi) ngaphakathi kwendawo ephatha amanzi kanye nokusungula umngcele wezimila zemvelo eduze nobude bomfula ukuthuthukisa isimo sezakhi nokusiza ngezinkinga zenzika.</li> <li>• Ukususa izinhlobo ezihlaselayo ukuthuthukisa ukugeleza okuyisisekelo.</li> </ul> |          |   |   |        |   |
| Ingxenye/inkomba   | i-TEC    | i-TPC   |   |        |   |
| Amanzi   | <b>C</b> | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela uhlelo lokugeleza ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenela kokugeleza komfula (izingxenye zezikhukhula) akufanele ahlukelwe ngazulu kuka-10% (ngokobukhulu, isikhathi kanye nokuguquguquka) kulawo Esimo Samanje– (MAR = 113.77 x10<sup>6</sup> m<sup>3</sup>)(DWS, 2023a).</li> <li>▪ Amaphethini okusabalala kokungenela kokugeleza komfula akufanele ahlukelwe ngazulu kuka-5% kulawo Esimo Samanje okungukuthi., isimo sokugeleza esivunyelwe se- aMatigulu/iNyoni).</li> <li>▪ Ukungenela kokugeleza komfula kwanyanga zonke akufanele kube u-&lt; 0.75 m<sup>3</sup>/s ngaphezu kuka-17% wesikhathi.</li> <li>▪ Ukungenela kokugeleza komfula kwanyanga zonke akufanele kube u-&lt; 10.0 m<sup>3</sup>/s ngaphezu kuka-65% wesikhathi.</li> </ul> |   |        |   |
| Amandla okuhamba kwamanzi  | <b>B</b> | <p>Akugcinwe i-EC Ehlosiwe (&gt;78%). Ukugcina izimo zomlomo ukuvikela uhlelo lwemvelo lwezizalo zemifula kanye nendawo yokuhlala ehlobene nezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS, 2015a; 2023a):</p> <ul style="list-style-type: none"> <li>▪ Ukuvakeka komlomo kwenzeka ngaphansi kwamasono angu-6 - 8 ngonyaka.</li> <li>▪ Ukuvakeka komlomo kwenzeka ngaphansi kweminyaka angu-3 - 4 phakathi kweyishumi.</li> <li>▪ Ukuvakeka komlomo kwenzeka phakathi kukaSeptemba noMashi.</li> <li>▪ Izinguquko zamandla amagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kusuka Esimeni Samanje (DWS, 2015a) (umlomo osenyakatho, uma umlomo uhambela ngaseningizimu isilinganiso samandla amagagasi kulindeleke ukuthi sikhuphuke ngo-30 - 50%).</li> </ul>  |   |        |   |
| Indawo yokuhlala engokwenyama  | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%). Ukuvikela indawo yokuhlala efanelekile yokusatshalaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenela komfula (izingxenye zezikhukhula) angu-&lt;20% (ngokobukhulu, isikhathi kanye nokuguquguquka) kulawo alinganiselwe isimo samanjanje (bheka ku-DWS, 2015a).</li> <li>▪ Ukuhoxisa ukufakwa kwenzika ekungeneleni komfula kufanele kungaphambuki ngaphezu kuka-20% wobudlelwano bokukhishwa kwenqwaba yenzika besimo samanjanje (bheka ku-DWS, 2015).</li> <li>▪ Ayikho inzika kanye namaphethini okuguguleka esizalweni somfula okufanele avele esisekelweni samanjanje (bheka ku-DWS, 2015).</li> </ul>   |   |        |   |

|                                 |          |  |
|---------------------------------|----------|--|
| (inzika)                        |          | <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi:</p> <ul style="list-style-type: none"> <li>▪ Idayamitha yenzika yomfula emaphakathi akufanele ichezuke ngaphezu kwengxenywe eyodwa kwezimbili kumazinga esisekelo samanje (bheka ku-DWS, 2015a).</li> <li>▪ Ukusatshalaliswa kwesihlabathi/kodaka ezindaweni eziphakathi nendawo nangaphezulu kufanele kuguqule u-&lt;20% kusukela kwesisekelo samanje (bheka ku-DWS, 2015).</li> <li>▪ Izinguquko zamandla amagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kusuka esisekelweni samanje (bheka ku-DWS, 2015) ngenxa yezinqubo zenzika.</li> </ul>   |
| Izinga lamanzi (usawoti)        | <b>A</b> | <p>Akugcinwe i-TEC (&gt;93%). Uhlelo lukasawoti lokugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile (DWS 2015a; 2023a).</p> <ul style="list-style-type: none"> <li>▪ Amanani kasawoti angu-&gt;5 ezindaweni eziphezulu (Ekupheleni kweNdawo B/Ekuqaleni kweNdawo C) esizalweni somfula.</li> <li>▪ Amanani kasawoti angu-&gt;10 ezindaweni ezimaphakathi (Indawo B) ngesikhathi sesikhathi sokugeleza okuphansi.</li> <li>▪ Amanani kasawoti angu-&lt;5 ezindaweni ezimaphakathi (Indawo B) kanye no-&lt;15 ezindaweni eziphansi (Indawo A) ngesikhathi sesikhathi sokuvala komlomo.</li> <li>▪ Amanani kasawoti angu-&gt;5 Engalweni yaseNyoni cishe engu-1 km ukusuka endaweni yokuhlangana.</li> <li>▪ Usawoti akufane wehle ngo-&gt;20% ezindaweni ngazinye ngaphandle ngesikhathi sezimo ezibusayo zokugeleza okukhulu kwamanzi ahlanzekile. Usawoti akufanele wehlele gaphansi kuka-10 ezindaweni eziphansi nezimaphakathi, ngaphandle ngesikhathi sezinkathi ezimfishane esimeni sokugeleza okukhulu kwamanzi ahlanzekile, ukuvumela ukuthuthukiswa kwezilwane ezingenamgogodla ezinkulu ezinamagobolondo.</li> </ul>  |
| Izinga lamanzi (okujwayelekile) | <b>C</b> | <p>Akugcinwe i-TEC (&gt;63%). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile (DWS, 2023a).</p> <p>Ukungenela koMfula:</p> <ul style="list-style-type: none"> <li>▪ 7.5 &lt; i-pH &gt; 8.5 njalo ezinyangeni ezingu-2.</li> <li>▪ DO &gt;6 mg/l.</li> <li>▪ Ukufiphala &lt;15 i-NTU (ukugeleza okuncane).</li> <li>▪ Ukugeleza okuphezulu kokufiphala kunodaka ngokwemvelo</li> <li>▪ Ukugeleza okungu- &lt;5 m<sup>3</sup>/s: NO<sub>x</sub>-N &lt;200 µg/l ngaphezu kwezinyanga ezingu-2 (i-NO<sub>x</sub>-N ibhekisela ku-Nitrate-N + Nitrite-N); NH<sub>3</sub>-N &lt;30 µg/l ngaphezu kwezinyanga ezingu-2; PO<sub>4</sub>-P &lt;50 µg/l ngaphezu kwezinyanga ezingu-2.</li> <li>▪ Ukugeleza okungu- &gt;5 m<sup>3</sup>/s: i-DIN Esesilinganisweni esingu-&lt;300 µg/l; i-DIN Esesilinganisweni esingu -&lt;50 µg/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p>Isizalo somfula:</p> <ul style="list-style-type: none"> <li>▪ Ukufiphala okusesilinganisweni &lt;10 NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala, kunodaka ngokwemvelo.</li> <li>▪ 6.0 &lt; i-pH &gt; 8.5 kwinhlobo yokuthatha amasampula (okuzoqinisekiswa ngokuthatha amasampula)</li> <li>▪ I-DO esesilinganisweni &gt;6 mg/l kwinhlobo yokuthatha amasampula.</li> <li>▪ Ukugeleza komfula &lt;5 m<sup>3</sup>/s: i-NO<sub>x</sub>-N Esesilinganisweni &lt;200 µg/l; i-NH<sub>3</sub>-N Esesilinganisweni &lt;30 µg/l; i-PO<sub>4</sub>-P Esesilinganisweni &lt;50 µg/l kwinhlobo yokuthatha amasampula.</li> <li>▪ Ukugeleza komfula &gt;5 m<sup>3</sup>/s: i-NO<sub>x</sub>-N Esesilinganisweni &lt;300 µg/l; i-NH<sub>3</sub>-N Esesilinganisweni &lt;20 µg/l; i-PO<sub>4</sub>- P Esesilinganisweni &lt;50 µg/l kwinhlobo yokuthatha amasampula.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</p> <ul style="list-style-type: none"> <li>▪ I-Enterococci &lt;185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li>▪ <i>Ne-E. coli</i> &lt;500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul> |

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| Ulwelwe oluncane          | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa:<br/>         Ukugcina ukwakheka kwamanje, ukunotha, nobuningi bezinhlanganisela ze-phytoplankton nolwelwe oluncane olutholakala ngaphansi kwamanzi. Akukho ukudlondlobala kwezinhlobo zolwelwe okulimazayo (i-HAB), ngaphandle kokuthi kuphoqelele Endaweni yezimo ezivulekile zomlomo (isib., umsuka wasolwandle) (DWS, 2023a).</p> <p><b>i-Phytoplankton:</b></p> <ul style="list-style-type: none"> <li>▪ Inani elingamaphesenti angu-90 (isib., sonke isizalo somfula) lezinto zokubasa ze-phytoplankton engu-&lt;10 µg Chl-a l<sup>-1</sup>.</li> <li>▪ Azikho izimo zokudlondlobala (okuboniswa ngamanani angu-&gt;20 µg Chl-a l<sup>-1</sup>); ngisho nezimo ezizimele.</li> <li>▪ Ukungabi khona kwe-HAB engakha amaqoqo.</li> </ul> <p><b>Ulwelwe oluncane olutholakala emanzini:</b></p> <ul style="list-style-type: none"> <li>▪ i-Microphytobenthos esesilinganisweni (i-MPB) izinto zokubasa ezingu-&lt;50 mg Chl-a m<sup>-2</sup>.</li> <li>▪ Ukuhlukahluka okusesilinganisweni kwezinga lezinto ezitholakala emanzoini (H') &gt;3. (Kususelwa kumanani aphakathi aqoshwe kuso sonke isizalo somfula).</li> </ul>  |
| Izimila ezinkulu          | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukugcinwa kokusatshalaliswa kwezindawo zokuhlala zezimila ezinkulu esisekelweni samanje, ikakhulukazi izitende Zexhaphozi Lehlathi (&gt;300 ha) kanye nokuba khona kwezimila ezinkulu ezitholakala ngaphansi kwamanzi (bheka <b>Isithasiselo B</b> kanye ne-DWS, 2023a).</li> <li>▪ Inguquko yendawo engu-&lt;10% enezindawo ezihlukahlukene zezimila ezinkulu, ikakhulukazi ixhaphozi lehlathi kanye nezimila ezinkulu ezitholakala ngaphansi kwamanzi.</li> <li>▪ Izitshalo ezihlaselayo (isib. umsilinga, isihlekehleke, ubukhwebezane, <i>usandanezwe</i>, <i>idolofiya</i>) kufanele zingabikho kakhulu endaweni yomfula.</li> <li>▪ Azikho izindawo ezingenazo izitshalo, ezingenalutho ngasogwini.</li> <li>▪ Izilwane zasemanzini ezihlaselayo ezintantayo akufanele zibonwe ngenhla kwezizalo zemifula.</li> <li>▪ Izimila ezinkulu ezikhona kufanele zibe ngu-&lt;20% wendawo engaphezulu yamanzi asizalweni somfula.</li> <li>▪ Umoba akufanele ube khona endaweni esebenzayo yesizalo somfula.</li> <li>▪ Akufanele kube khona inguquko enkulu yokukhona emhlabeni wemvelo ku-EFZ yaseNyoni naseMatigulu– inguquko engaphansi kuka-5% kusuka ngo-2023.</li> </ul>   |
| Izilwane ezingenamgogodla | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa (DWS 2015a, 2023a):</p> <ul style="list-style-type: none"> <li>▪ Akugcinwe ubuningi bezilwane ezincane eziphila emanzini, izilwane ezihlala ngaphansi kwamanzi zesiqiwu kanye nezilwane ezinkulu ezingenamgogodla ezihlala ngaphansi kwamanzi (okuhlanganisa ukwahlukahluka kwesikhathi) kanye nokuceba kwezinhlobo esifundeni ngasinye sesizalo somfula. Ukwehla okungu-&lt;10% kokwanda kwezinto ezinkulu eziphila ngaphansi kwamanzi ngokwamanani nge-m<sup>-2</sup> endaweni yesizalo somfula (okungenani Izindawo A - C).</li> <li>▪ Izibungu zaselwandle, ama-amphipod nama-tannid kufanele kube namandla ngokwenani kuzo zonke izinkathi zonyaka. Kodwa-ke, ubuningi bawo wonke amaqembu amaqembu kufanele bube bukhulu entwasahlobo ngaphambi kokugeleza kwehlobo okuphezulu kanye nokwehla ngesikhathi sasebusika, izikhathi zokugeleza okuphansi.</li> <li>▪ Akukho ukwanda kokusabalala kanye nobuningi obuhlobene bezinhlobo zezilwane ezingajwayelekile ezingenamgogodla ezikhona njengamanje. Ukusabalala kweminenke yamagobolondo ehlaselayo kufanele kukhawulelwe Ezindaweni C no-D kanye no-&lt;20% okhona wobuningi kunoma iyiphi isampula. Azikho izinhlobo ezingajwayelekile ezintsha (ikakhulukazi izilwane ezithambile ezingenamathambo kunoma iyiphi indawo, kunoma iyiphi isampula).</li> <li>▪ Akukho nguquko emphakathini wezimfanzi kusuka ekuhlanganisweni kwamanje kwamanzi ahlanzekile olwandle ezindaweni eziphakathi kuya ekuhlanganisweni kwamanzi ahlanzekile okunamandla. okungukuthi. Izimfanzi ze-carid akufanele zibuse Endaweni A kanye nezinhlobo ezifudukayo (isib., <i>Izimfanzi ezinkulu kanye ne-Varuna</i> kufanele kube khona Ezindaweni B - D).</li> <li>▪ Ukuncipha kuka-&lt;20% kobuningi bezilwane ezincane eziphila emanzini ngokwamanani nge-m<sup>-2</sup> endaweni yonke yesizalo somfula (okungenani ezindaweni ezingu-3)</li> <li>▪ Izinhlobo eziyingqayizivele esifundeni zizogcinwa; <i>i-Paratyloidiplax blephariskios</i> ekhona kumasampula onyaka Ezindaweni A no-B.</li> </ul> |

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| Izinhlanzi | B/C | <p>Akugcinwe i-TEC (&gt;73%) ngokusebenzisa (DWS 2015a, 2023a):</p> <ul style="list-style-type: none"> <li>▪ Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zazolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>▪ Izinhlobo ezingosomathuba zezizalo zemifula zazolwandle kufanele zivele kuyo yonke iNdawo A kanye nasezindaweni eziphansi okungenani zeziNdawo B no-D. I - <i>Sillago sihama</i>, i-<i>Platycephalus indicus</i> kanye ne-<i>Stolephorus</i> spp. kufanele ivele ngaso sonke isikhathi. I - <i>Hilsa kelee</i>, i-<i>Bothus pantherinus</i> (noma i-<i>Pseudorhombus arsius</i>), i-<i>Sphyraena</i> spp., i-<i>Thryssa</i> spp. I-<i>Amblyrhynchotes honckenii</i> kufanele ivele okungenani kanye esikhathini sokuthatha amasampula ngaphezu kwesikhathi esiyiminyaka emibili ngokulandelana.</li> <li>▪ Zonke izindawo zezizalo zemifula kufanele zisebenze njengezindawo zokuhlala ezinokubaluleka okuphezulu kwezinhlobonhlobo zezizalo zemifula zazolwandle ezincikile ezivela ezizalweni zemifula eminyakeni emibili elandelayo: i-<i>Leiognathus equula</i>, i-<i>Acanthopagrus vagus</i>, i-<i>Pommadasys commersonii</i>, i-<i>Terapon jarbua</i>, i-<i>Rhabdosargus sarba</i>, i-<i>Rhabdosargus holubi</i>, i-<i>Caranx</i> spp. I-Mullet kufanele ivele kulo lonke uhlelo (zonke izindawo) minyaka yonke. I-<i>Pseudomyxus capensis</i>, i-<i>Mugil cephalus</i>, i-<i>Osteomugil cunnesius</i>, i-<i>Planiliza macrolepis</i>, i-<i>Chelon dumerilii</i> ivela kuzo zonke izindawo zesizalo ezinhlolsheni eziphelele zobukhulu besigaba.</li> <li>▪ Inani langaso sonke isikhathi lezinhlobo zendawo yokuhlala yesizalo somfula kufanele livele kul lonke uhlelo. i-<i>Ambassis ambassis</i> (noma i-<i>Ambassis natalensis</i>) kanye ne-<i>Glossogobius callidus</i> kukhona konke futhi kuningi esizalweni somfula (ngaphandle ngesikhathi sezikhukhula). I - <i>Croilia mossambica</i> iyavela esizalweni somfula, ithathwa amasampula okungenani kanye eminyakeni emibili ngokulandelana.</li> <li>▪ Kumele kube nesisekelo esihle sezigaba zokudla sezinhlobo ezingosomathuba nezincike ezizalweni zolwandle ezidla ezinye izinhlobo (okudla izinhlanzi). Izinhlanzi ezidla izinhlanzi (isib. I-<i>Agyrosomus japonicus</i>, i-<i>Caranx</i> spp.) ziyavela esizalweni.</li> <li>▪ Izinhlanzi zamanzi ahlanzekilw kufanele likhawulelwe ekusabalaleni kwazo ngokusebenzisa uhlelo. i-<i>Oreochromis mossambicus</i> iyizinhlobo zamanzi ahlanzekile ezivelayo eziningi kakhulu futhi ikhawulelwe Endaweni C nasezindaweni eziphezulu zeziNdawo B no-D ngesikhathi sokuqhekeza okuphansi.</li> <li>▪ Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Azikho izinhlanzi okungezona ezomdabu okufanele zivele.</li> </ul> |
| Izinyoni   | B   | <p>Akugcinwe i-TEC (&gt;78%). Ukugcina umphakathi wezinyoni zendawo okubandakanya okumele wonke amaqembu asekuqaleni ngokwesisekelo samanje (bheka k u - DWS, 2015; 2023a).</p> <ul style="list-style-type: none"> <li>▪ Ukubhanqwa kwendawo yokuhlala kweNkwazi yase-Afrika okukhona kanye nokuzalanisa ngempumelelo.</li> <li>▪ Imiphishamanzi kanye/noma izindwandwe/amalanda: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasogwini ezifudukayo, ikakhulukazi izinhlobo ezincike ezizalweni zemifula: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasemanzini (amadada namahansi): Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Yonke imiphakathi yezinyoni zasemanzini: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Unontenteza kanye nendawo kanobhelwane emlonyeni: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> </ul>  |

### IThebula 5.3: i- W13 - Isizalo Somfula waseSiyaya

| i-PES:  | D/E↓  | i-REC:   | C | i-TEC: | D (Isikathi esifishane)<br>C (Isikhathi eside) |
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| <p>Ukungenelela okulandelayo kuzoholela ekumeni komzila ongemuhle nokufeza i-TEC :</p> <p>Kudingeka iphrojekthi yokuvuselela uhlelo lwemvelo esekelwe ekuzivumelaniseni nezimo ezihlanganiswe Ohlelweni Lokulawula Izizalo Zemifua ukuze kubuyiselwe ukusebenza kwezizalo zaseSiyaya. Esikhathini esifushane (iminyaka engu- &lt;5) kudingeka ukungenelela okuningi kwemishini ukuze kubuyiselwe ukusebenza kwezizalo zemifua:</p> <ul style="list-style-type: none"> <li>• Ukususa udaka olunqwabelene lwezinto eziphilayo ngokumba phansi ukuze kuthuthukiswe izinga lamanzi, okungukuthi., ukwandisa umoyampilo kumgudu wamanzi. Lokhu ukungenelela okwenziwa kanye kodwa kungadingeka ukuthi kuphindwe njalo eminyakeni engu-10 kuya kwengu-20 uma ukuxhumana kwasolwandle nezinga lamanzi kungathuthuki .</li> <li>• Ukususwa kwemihlanga ngemishini ezindaweni eziphansi ukuze kwandiswe indawo yamanzi avulekile (kanye).</li> <li>• Uma umlomo uvaleke isikhathi eside, kungadingeka ukuthi inzika eyakhelene emlonyeni isuswe ngemishini ukuze kuvunyelwe ukuqashelwa nokuphulwa kokuhlanzwa ngokweqile. Lokhu kungadinga nokujula komgudu wesizalo kanye/noma ukubakhona kwendawo yamanzi evulekile ngokususa isihlabathi solwandle emlonyeni. Kunikeziwe ukuthi ukususwa okungu-5 m<sup>3</sup> esizalweni kuqubula inqubo yomthelela wemvelo (UMthetho Wokulawulwa Kwemvelo Kazwelonke Nombolo 107 ka-1998), ukususwa kodwa lwezinto eziphilayo kanye nokukhwananisa/ukuhlela kabusha kwe-berm kuzodinga ukuthuthukiswa koMlomo Wesizalo/Uhlelo Lokugcina ukuqondisa igunya lokulawula lokhu isinyathelo esinjalo sidingeka nini. Uhlelo ludinga nokucabangela indawo yekhebula elingaphansi kolwandle enyakatho yohlelo .</li> </ul> <ul style="list-style-type: none"> <li>• ukuvuselela isihlabathi esiwugwadule emlonyeni .</li> </ul> <p>Esikhathini eside (iminyaka engu-5 - 10 ), kumele kuthathwe indlela "yendawo ephatha amanzi engasogwini" njengoba lokhu kungumthombo omncane womfula ohlanganisa:</p> <ul style="list-style-type: none"> <li>• Ukunciphisa imiphumela yezimayini ngokuqinisekisa indawo engumngcele engu-1 km yezimila eziseduze nomfula ezizungeze umlomo wesizalo ukunciphisa ukufiphala okuwuphawu kanye nokufakwa kwenzika kwezimayini. Qaphela: Ukutshalwa kwamahlathi ngaphakathi nasezindaweni ezizungeze i-EFZ kususe umthamo wemvelo womngcele ohlinzekwa izimila eziseduze nomfula.</li> <li>• Ukunciphisa umthelela oqondile wamahlathi esizalweni somfula ngokumisa izindawo eziyimingcele ezizungeze isizalo somfula (isib., indawo engu-1 km), ngesikhathi esingaphezulu sesilinganiso sesikhathi eside ukugeleza okuyisisekelo kufanele kuvuselelwe ngokuncishiswa okuphelele kwezindawo zamahlathi endaweni ephatha amanzi.</li> <li>• Ukuvula izindlela ezihlukahlukene eziya ogwini olusenyakatho ukuze kuncishiswe ukuphazamiseka kwezinyoni.</li> <li>• Ukwandisa ukuhambisana nokudoba njengoba ingcindezi yokudoba izokhula uma imiphakathi yezinhlanzi ivuselelwa ngezinyathelo zokubuyisela .</li> <li>• Ukuvuselela indawo engaphansi komfula futhi kususwe izimila ezingajwayelekile ukuze kusize ekubuyiseleni ukugeleza okuphansi futhi kusebenze njengesihlungi sokufiphala nezakhi.</li> <li>• Ukusungula imodeli yamanzi angaphezulu amanzi angaphansi komhlaba ukuqondisa ukusetshenziswa kwemithombo yamanzi angaphansi komhlaba nokuqinisekisa ukusebenza kokuvikeleka kwesizalo somfula kanye nokuqondisa ukulawulwa kokutshalwa nokuthezwa kwamahlathi. Qaphela ukuthi ukuncishiswa kokuthezwa kwamahlathi emphakathini kungadinga ukusungulwa kwezindlela zokuziphilisa ezihlukile.</li> </ul> |       |  |   |        |  |
| Ingxenywe/ inkomba  | i-TEC | i-TPC  |   |        |  |
| Amanzi  | B/C↑  | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela uhlelo lokugeleza ukudala indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi :</p> <p>Amaphethini okungenela komfula akufanele:</p> <ul style="list-style-type: none"> <li>▪ Ahluke ngaphezu kuka-5% kulawo Esimo Samanje - (MAR = 3.39 x10<sup>6</sup> m<sup>3</sup>) (2022) (DWS, 2023b).</li> <li>▪ Ukungenela komfula kwanyanga zonke okungu-&lt;0.05 m<sup>3</sup>/s ngaphezu kuka-10% wesikhathi.</li> <li>▪ ungenela komfula kwanyanga zonke okungu-&lt;0.5 m<sup>3</sup>/s ngaphezu kuka-87% wesikhathi.</li> </ul> |   |        |  |
| Amandla okuhamba kwamanzi   | D↑    | <p>Akugcinwe i-TEC (&gt;43%). Ukugcina izimo zomlomo ovulekile ukuze kuvikelwe izinhlelo zemvelo zezizalo zomfula kanye nendawo ehlobene yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi:</p> <ul style="list-style-type: none"> <li>▪ Ukuvaleka komlomo kwenzeka u-&lt;3%.</li> <li>▪ Izinguquko zesilinganiso samagagasi ngesikhathi sesilinganiso samagagasi esingu-&lt;20% kusuka Esimeni Samanje (2022) (DWS, 2023b).</li> </ul>  |   |        |  |

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| Indawo yokuhlala engokwenyama (inzika) | <b>B</b>                          | <p>Akugcinwe i-TEC (&gt;78%). Ukuvikela indawo efanelekile yokusabalala kwenzika yezizalo zezinto eziphilayo esizalweni (DWS, 2023b):</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalalisa okungenela komfula ( izingxenye zezikhukhula) kufanele ahlukwe ngo-&lt;20% (mayelana nobukhulu, isikhathi kanye nokuguququka ) kulawo Esimo Samanje (2021).</li> <li>▪ Ukufakwa kwenzika okumisiwe ekungeneleni komfula kufanele kuchezeke ngo-&lt;20% wobudlelwane bokulahlwa kwenqwaba yenzika okuzonqunywa njengengxenye yocwaningo oluyisisekelo (Isimo Samanje 2015).</li> <li>▪ Okutholakele ekuhlolweni kwemithombo yamanzi okwenziwe njengengxenye yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvele esizalweni somfula (<math>\pm</math> 0.5 m).</li> </ul> <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akufanele kubangele ukubekezelela okweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi (DWS, 2023b):</p> <ul style="list-style-type: none"> <li>▪ Ububanzi benzika eyisilinganiso kufanele buchezuke ngaphansi kwecisi sezimbili emazingeni azonqunywa njengengxenye yocwaningo oluyisisekelo (Isimo Samanje 2021).</li> <li>▪ Inguquko yokusabalala kwenhlabathi/udaka ezindaweni ezimaphakathi kanye nezipezulu kufanele ibe ngu-&lt;20% Esimeni Samanje (2022).</li> </ul> <p>Izinguquko zesilinganiso samagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kulezo Zesimo Samanje (2022).</p> |
| Izinga lamanzi (usawoti)               | <b>B</b>                          | <p>Akugcinwe i-TEC (&gt;78%). Uhlelo lukasawoti ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile (DWS, 2023b).</p> <ul style="list-style-type: none"> <li>▪ Amanani kaSawoti ngaphezulu angu-&gt;4 ezindaweni Eziphansi (Indawo A) ngaphezu kuka-90% wesikhathi (ukuthuthukisa izimo ezingaphikeleli zomlomo ovalekile).</li> <li>▪ Amanani Osawoti Ongaphansi phakathi kuka-5 - 10 akufanele avele ezindaweni Eziphansi (Indawo A) ngaphezu kuka-90% wesikhathi ( ukuthuthukisa izimo ezingaphikeleli zomlomo ovalekile ).</li> </ul>  |
| Izinga lamanzi (okujwayelekile )       | <b>D<math>\uparrow</math></b>     | <p>Akugcinwe i-TEC (&gt;43%). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile (DWS, 2023b).</p> <p><b>Ukungenela komfula kanye Nesizalo Somfula:</b></p> <ul style="list-style-type: none"> <li>▪ 7.5 &lt; i-pH &gt; 8.5.</li> <li>▪ Ukufiphala &lt; 5 i-NTU.</li> <li>▪ I-DO &gt; 6 mg/l (ngaphezulu), &gt; 4 mg/l (ngaphansi, uma kwehlukaniwe).</li> <li>▪ DIN &lt; 100 ug/l.</li> <li>▪ DIP &lt; 10 ug/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona iThebula A1 kuSithasiselo A.</li> <li>▪ Izinto ezinobuthi (inzika): Bona iThebula A2 kuSithasiselo A.</li> </ul> <p><b>Ezindaweni ezisetshenzisela ukuzijabulisa esizalweni (bona imininingwane eku-DEA, 2012):</b></p> <ul style="list-style-type: none"> <li>▪ I-Enterococci &lt; 185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li>▪ -E. coli &lt; 500 ukubalwa okungu-100 ml ( amaphesenti angu-90).</li> </ul>  |
| Ulwelwe oluncane                       | <b>C</b>                          | <p>Akugcinwe i-TEC (&gt;63%). Akugcinwe ubuningi bezinhlamvisela ze-phytoplankton nolwelwe oluncane olutholakala ngaphansi kwamanzi futhi kuqinisekiswa ukuthi akukho ukudlondlobala kwezinhlobo zolwelwe okulimazayo (i-HAB).</p> <p><b>i-Phytoplankton:</b></p> <ul style="list-style-type: none"> <li>▪ Inani elingamaphesenti angu-90 (isib., sonke isizalo somfula lezinto zokubasa ze-phytoplankton angu- &lt; 15 <math>\mu</math>g Chl-a l<sup>-1</sup>).</li> <li>▪ Azikho izimo zokudlondlobala (okubonise ngamanani angu-&gt;20 <math>\mu</math>g Chl-a l<sup>-1</sup>); ngisho nezimo ezizimele.</li> <li>▪ Ukungabi khona kwe-HAB engakha amaqoqo .</li> </ul> <p><b>Ulwelwe oluncane olutholakala emanzini :</b></p> <ul style="list-style-type: none"> <li>▪ i-Microphytobenthos esesilinganisweni (i-MPB) nezinto zokubasa ezingu-&lt;50 mg Chl-a m<sup>2</sup>.</li> <li>▪ Ukuhlukahluka okusesilinganisweni kwezininga lezinto ezitholakala emanzini (H') &gt; 2.5.</li> </ul> <p>(* Kususelwa kumanani aphakathi aqoshwe kuso sonke isizalo somfula.)</p>   |
| Izimila ezinkulu                       | <b>D<math>\rightarrow</math>C</b> | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa (DWS 2023b):</p> <ul style="list-style-type: none"> <li>▪ Ukugcinwa kokusatshalaliswa kwezindawo zokuhlala zezimila ezinkulu. Inguquko engaphansi kuka-10% endaweni ezezindawo ezahlukene zezimila ezinkulu (Isithasiselo B; DWS (2023b)).</li> <li>▪ Ukugcina ubuqotho bendawo. Akukho ukuthuthukiswa endaweni esebenzayo yesizalo somfula. Akukho kutshwala noma ezolimo (isib. umoba) endaweni esebenzayo</li> </ul>   |

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|---------------------------|-----|--|
|                           |     | <p>sesizalo somfula.</p> <ul style="list-style-type: none"> <li>▪ Izitshalo ezihlaselayo (isib. umsilinga, isihlekehleke, ubukhwebezane, usandanezwe, idolofiya ) azikho kakhulu endaweni yomfula .</li> <li>▪ Azikho izinhlobo zezilwane zasemanzini ezintantayo ezitholakala esizalweni somfula, isib., amazibo.</li> </ul>  |
| Izilwane ezingenamgogodla | D→C | <p>Ukugcina isigaba se-TEC (&gt;43%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukuchuma kwezinhlobo nezinhlobonhlobo zezilwane ezingenawo umgogodla akufanele kwehle kakhulu kunesilinganiso sendawo nesikhathi : inguquko engu-&lt;10% emphakathini we-plankton noma wezilwane ezingenamgogodla ezihlala ngaphansi kwamanzite Endaweni A no-B.</li> <li>▪ Okungenani amaqembu ayisisekelo ayishumi e-estuary kufanele abekhona njalo ohlelweni kubandakanya okumele i-Peracarida nezilwane ezithambile ezingenamgogodla, ikakhulukazi i-Ceratonereis , i-Grandidierella, i-Americorophium, i-Iphinoe, i-Halmrapseudes, i-Melanoides spp. Endaweni A.</li> <li>▪ Ukukhiqiza kwezilwane ezinkulu ezingenamgogodla ezinamagobolondo (i-Macrobrachium ne-Kraussillichirus) kuyenzeka (usawoti olungu-&gt;5 ezindaweni eziphansi nezimaphakathi, Indawo A) kanti womabili amaqoqo ahlala ekhona.</li> <li>▪ Isimo somlomo ovulekile sivumela ukuqashwa kwezilwane ezinkulu ezingenamgogodla ezinamagobolondo ohlelweni futhi okubaluleke kakhulu ukufuduka kwe-Varuna endala ehlobo kanye nokufuduka kwezibungu ekwindla (Ephreli/Meyi).</li> <li>▪ Izinambuzane zamanzi nezibungu zenhlabathi akufanele zilawule indawo (ezibezezelela umoyampilo ophansi, ikakhulukazi u-&lt;4 mg/l).</li> <li>▪ Ukusabalala kweminenke ehlaselayo ye-Tarebia granifera kukhawulelwe Indawo B, ngokungenyuki kokusabalala kanye nobuningi obuhlobene bezinhlobo ezingavamile zezilwane ezingenamgogodla. I - T. granifera ayingeqi ubuningi obuhlanganisiwe bezinhlobo ezihlala ezizalweni zemifula.</li> </ul>   |
| Izinhlanzi                | D→C | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa :</p> <ul style="list-style-type: none"> <li>▪ Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zazolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>▪ Zonke izindawo zezizalo zemifula kufanele zisebenze njengezindawo zokuhlala ezinokubaluleka okuphezulu kwezinhlobonhlobo zezizalo zemifula zazolwandle ezincikile. Ukwehlukahlukana okukhulu nokuningi kwezinhlobo zazolwandle ezincike esizalweni somfula kwenzeka ezindaweni eziphansi zeNdawo A . I-Rhabdosargus holubi nezinhlobo ezingana ze-Mugillidae zilawula lokhu kuhlangukiswa. Zonke lezi zinhlobo ezilandelayo ezitholakala ezizalweni eminyakeni emibili elandelayo : i-Planiliza alata, i-Planiliza macrolepis ne-Pseudomyxus capensis, i-Mugil cephalus, i-Osteomugil cunnesius, i-Rhabdosargus holubi, i-Terapon jarbua.</li> <li>▪ Ukuxhumana okuphansi kobude obuphelele kwesizalo somlando kanye nasendaweni yasolwandle kuyagcinwa. Izinhlobo ezintathu zezinhlanzi zikhona kulo lonke uhlelo (zonke izindawo) kuzo zonke izigaba zobukhulu.</li> <li>▪ Izinhlobo zezinhlobo ezihlala ezizalweni zemifula kufanele zibe khona kulo lonke uhlelo. i - Ambassis spp. I-Gilchristella aestuaria kanye ne-Glossogobius callidus konke kukhona esizalweni (ngaphandle ngesikhathi sezikhukhula).</li> <li>▪ Izinhlobo zamanzi ahlanzekile kufanele zilawulwe izinhlelo zezilwane ezimelana nosawoti lwamanzi. Izinhlobo ezingosomathuba zezizalo samanzi ahlanzekile nazi zivela ngaso sonke isikhathi, zibuswa yi-Oreochromis mossambicus. Izinhlanzi ezimelana nosawoti olinganiselwe emanzini ahlanzekile zinqatshelwe ezindaweni eziphezulu zeNdawo B.</li> <li>▪ Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Akufanele kube khona izinhlanzi ezingezona ezomdabu.</li> </ul> |
| Izinyoni                  | D→C | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ngenxa yobuningi bezinhlobo nezinhlobo zezinyoni zasemanzini, zonke izinhlobo kufanele zibe khona futhi zihlolwe.</li> <li>▪ Unontenteza/nendawo kanobhelwane emlonyeni nezinyoni zasemanzini ezisengozini, isib., Ingwedlamanzi yase-Afrika kanye Nendwandwe Yasebusuku Enomhlane Omhlophe, kukhona ohlelweni.</li> <li>▪ Akukho kulahleka okuqhubekayo kwezinhlobo ezibalulekile, ikakhulukazi noma yiziphi izinhlobo zezinyoni zasemanzini ezisengozini .</li> </ul>  |

**IThebula 5.4: i-W13-Isizalo Somfula wase-Umlalazi**

| i-PES:  | B/C↓  | i-REC:   | B | i-TEC: | B |
|---|-------|--|---|--------|---|
| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzoholela ekumisweni komzila ongemuhle nokufeza i-TEC:</p> <ul style="list-style-type: none"> <li>• Ukuwohloka kwezinga lamanzi kubeka usongo olukhulu ekusebenzeni kwemvelo kohlelo, ingozi iphezulu kakhulu ngesikhathi sokuvaleka. Akukho manzi angcolile okufanele akhishelwe ohlelweni lwe-RP futhi imisebenzi emihle kakhulu yezolimo kufanele isetshenziswe ngezinhlelo zepulazi ukunciphisa ukugeleza okubuyayo kwezolimo okunothile ngokwezakhi. Ukubhekana nokugeleza okungabonakali okuvela ezindlini ezingekho ezinhlelweni zokubuyiselwa ezisemthethweni (okusekelwa ngokusebenzisa Ukwanda Kwesifundazwe kanye Nesu Lokuthuthukiswa). Ukubheka izindlela ezintsha zokuphatha amanzi angcolile kule ndawo, isib., umkhono wemihlanga wokuzenzela.</li> <li>• Lapho kungenzeka khona, okungukuthi, ukunganqwabelisani, dala ukungenelela (isib., Ukutshalwa kwabusha kwezimila zemvelo, izindawo zamaxhaphozi zokuzenzela, nokulawulwa kwamadlelo) ngaphakathi kuka-500 m wendawo engumngcele ku-EFZ ukuthuthukisa isimo sezakhi nokunciphisa ukufakwa kwenzika.</li> <li>• Ukunqanda ukudoba okungekho emthethweni (okungukuthi, ukudoba ngamanetha) okuthinta ukusebenza kwendawo nezimfazi (ingxenywe yezinto ezibanjwe ngephutha).</li> <li>• Ukuvuselelwa kwe-EFZ yase-uMlalazi nokunciphisa imithelela yezolimo endaweni engaphezu kwamagagasi yohlelo. Ukuvuselela usebe nokubuyisela imithambeka lapho kungenzeka khona kanye nosebe lwesizalo somfula (ukuphenya inketho yokususa izakhiwo eziqinile zezikhungo zokufuywa kweezilwane zasemanzini).</li> <li>• Ukulawula/ukuphatha ukuvunwa kwe-<i>Juncus</i> nama-<i>Phragmite</i> (ukucubungula uhlelo olukhona).</li> <li>• Ukunqanda imisebenzi yokuzilibazisa ezindaweni eziphansi ngokusebenzisa ukuhlukaniswa ngokwezindawo nokuthuthukisa ukuhambisana (okungukuthi. deve ukusungulwa Kohlelo Lokulawulwa Kwezizalo Zemifula).</li> <li>• Ukuvumelanisa kabusha ukuhlukaniswa kwendawo evikelekile ne-EFZ ukuze kwandiswe amazinga okuvikelwa, kufaka phakathi Izinketho Zokuphatha / Ukulondolozwa kwenkontileka okwenziwa Osebenzi oluseNyakatho. Uhlelo luyizinto ezihlosiwe eziza kuwala ze-DFFE 30 x 30 njengengxenywe yokwandiswa kwe-MPA yasoThukela.</li> <li>• Ukulawula ukuphazamiseka ezinyonini (isib., Izindawo ezivaliwe, ukulawulwa kwezikebhe okufana nezindawo zesivini), okufaka phakathi ukulawulwa kokungena kwezithuthi emlonyeni nokukhuphula ezokuvakasha (abaqondisi bezinyoni njll.) ukunciphisa imithelela nokuqinisekisa ukuhamba kwezinzuzo emphakathini.</li> <li>• Ukususa/ukuvimbela ukumbiwa kwesihlabathi ezindaweni eziphezulu zohlelo.</li> <li>• Ukugcina ukuchumana kwamanzi ngokuqinisekisa ukuthi imigwaqo namabhuloho akuthinti ukugeleza kwamagagasi nemifula.</li> <li>• Ukugcina nokulawula imililo yezimila eziseduze nemifula ukuvikela imihlume.</li> <li>• Ukususa izitshalo ezingajwayelekile ezihlaselayo endaweni ephatha amanzi ukuvikela ngokuphephile ukugeleza okuyisisekelo ukuvimbela ukuvaleka komlomo kwesikhathi eside esingaphezu kwamaviki ayisithupha kuya kwayisishiyagalombili kanye nokuvimbela amazinga amanzi ekweqeni isilinganiso sezinga solwandle esingu-4m (okubonisa ukuvaleka kwsikhathi eside).</li> </ul> |       |  |   |        |   |
| Ingxenywe/ inkomba  | i-TEC | i-TPC  |   |        |   |
| Amanzi  | C↑    | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela uhlelo lokugeleza ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS, 2023c).</p> <p>Amaphethini okungenela komfula akufanele:</p> <ul style="list-style-type: none"> <li>▪ Ahluke ngaphezu kuka-5% kulawo Esimo Samanje (MAR = 99.55 x10<sup>6</sup> m<sup>3</sup>) (2022).</li> <li>▪ Ukungenela komfula kwanyanga zonke okungu- &lt;0.25 m<sup>3</sup>/s okungaphezu kuka-1% wesikhathi.</li> <li>▪ Ukungenela komfula kwanyanga zonke okuphakathi kuka-0.25 - 0.5 m<sup>3</sup>/s okungaphezu kuka-2% wesikhathi.</li> <li>▪ Ukungenela komfula kwanyanga zonke okuphakathi kuka-0.5 - 1.0 m<sup>3</sup>/s okungaphezu kuka-29% wesikhathi.</li> <li>▪ Ukungenela komfula kwanyanga zonke okuphakathi kuka-1.0 - 15.0 m<sup>3</sup>/s okungaphansi kuka-64% wesikhathi.</li> <li>▪ Ukungenela komfula kwanyanga zonke okungu-&gt;15.0 m<sup>3</sup>/s okungaphansi kuka-3% wesikhathi.</li> </ul> |   |        |   |
| Amandla okuhamba kwamanzi   | B/C   | <p>Akugcinwe i-TEC (&gt;73%). Ukugcina izimo zomlomo ovulekile ukuvikela izinhlelo zemvelo zesizalo somfula kanye nezindawo ehlobene yezinyoni, izinhlanzi izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS 2015b; 2023c):</p> <ul style="list-style-type: none"> <li>▪ Ukuvaleka komlomo kwenzeka ngapansi kwamaviki angu-2 - 4 ezingeni lamanzi &gt; 1.5 m izinga lamanzi eliyisilinganiso.</li> <li>▪ Ukuvaleka komlomo kwenzeka ngaphansi kweminyaka engu-2 years kweyishumi.</li> <li>▪ Ukuvaleka komlomo kwenzeka phakathi kukaSeptemba noMashi.</li> <li>▪ Azikho izinguquko zesilinganiso zamagagasi sesilinganiso ezingaphezu kuka-20% kusuka Esimeni Samanje (2015).</li> </ul>   |   |        |   |

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| Indawo yokuhlala engokwenyama (inzika) | <b>B</b> | <p>Akugcinwe i-TEC Ehlosiwe(&gt;78%). Ukuvikela indawo yokuhlala efanelekile yokusatshalaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenela komfula (izingxenye zezikhukhula) kufanele ahlukelwe ngo-&lt;20% (okobukhulu, isikhathi kanye nokuguquguquka) kulawo alinganiselwe isimo samanje (bheka ku-DWS, 2015b).</li> <li>▪ Ukuhoxisa ukufakwa kwenzika ekungeneleni komfula kufanele kungaphambuki ngaphezu kuka-&lt;20% wobudlelwano bokukhishwa kwenqwaba yenzika besimo samanje (bheka ku-DWS, 2015b).</li> <li>▪ Ayikho inzika kanye namaphethini okuguguleka esizalweni somfula okufanele avele esisekelweni samanje (bheka ku-DWS, 2015b).</li> </ul> <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi:</p> <ul style="list-style-type: none"> <li>▪ Idayamitha yenzika yomfula emaphakathi akufanele ichezuke ngaphezu kwengxenye eyodwa kwezimbili kumazinga esisekelo samanje (bheka ku-DWS, 2015b).</li> <li>▪ Ukusatshalaliswa kwesihlabathi/kodaka ezindaweni eziphakathi nendawo nangaphezulu kufanele kuguqule u-&lt;20% kusukela kwesisekelo samanje (bheka ku-DWS, 2015b).</li> <li>▪ Izinguquko zamandla amagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kusuka esisekelweni samanje (bheka ku-DWS, 2015) ngenxa yezinqubo zenzika.</li> </ul>   |
| Izinga lamanzi (usawoti)               | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%). Uhlelo lukasawoti lokugcina i-TEC yezingxenye zezinto eziphilayo ezincikile (DWS, 2023c).</p> <p><b>Isizalo esivulekile:</b></p> <ul style="list-style-type: none"> <li>▪ Amanani kasawoti angu-&lt;5 ezindaweni eziphezulu (Ekupheleni kweNdawo C / Ekuqaleni kweNdawo D) esizalweni somfula.</li> <li>▪ Amanani kasawoti angu-&lt;30 ezindaweni ezimaphakathi (Indawo C) ngesikhathi sesikhathi sokugeleza okuphansi.</li> </ul> <p><b>Isizalo esivalekile Closed:</b></p> <ul style="list-style-type: none"> <li>▪ Amanani kasawoti angu-&lt;10 ezindaweni eziphezulu (Ekupheleni kweNdawo C/ Ekuqaleni kweNdawo D) esizalweni somfula.</li> <li>▪ Amanani kasawoti angu-&gt;10 ezindaweni ezimaphakathi (Indawo C).</li> <li>▪ Amanani kasawoti angu-&gt;15 ezindaweni eziphansi (Indawo A no-B).</li> </ul> <p><b>Usawoti Lwesizalo Olusesilinganisweni:</b></p> <ul style="list-style-type: none"> <li>▪ Amanani kasawoti angu-&gt;23 Endaweni A.</li> <li>▪ Amanani kasawoti angu-&lt;16 Endaweni B.</li> <li>▪ Amanani kasawoti angu-&lt;11 Endaweni C.</li> <li>▪ Amanani kasawoti angu-&lt;3 Endaweni D.</li> </ul>   |
| Izinga lamanzi (okujwayelekile)        | <b>C</b> | <p>Akugcinwe i-TEC (&gt;63%). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile (DWS, 2023c).</p> <p><b>Ukungenela koMfula:</b></p> <ul style="list-style-type: none"> <li>▪ 6 &lt; i-pH &gt; 8.5 njalo ezinyangeni ezingu-2.</li> <li>▪ I-DO &gt;6 mg/l.</li> <li>▪ Ukufiphala: &lt;15 i-NTU (ukugeleza okuncane).</li> <li>▪ Ukufiphala: Ukugeleza okuphezulu kokufiphala kunodaka ngokwemvelo.</li> <li>▪ Ukugeleza &lt;5 m<sup>3</sup>/s (izimo zokuvaleka): i-DIN Elinganisiwe &lt;100 µg/l; i-DIP Elinganisiwe &lt;20 µg/l.</li> <li>▪ Ukugeleza &gt;5 m<sup>3</sup>/s (izimo zokuvuleka): i-DIN Elinganisiwe &lt;130 µg/l; i-DIP Elinganisiwe &lt;20 µg/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p><b>Isizalo Somfula:</b></p> <ul style="list-style-type: none"> <li>▪ Ukufiphala okusesilinganisweni &lt;10 NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala, kunodaka ngokwemvelo.</li> <li>▪ 6.0 &lt; i-pH &gt; 8.5.</li> <li>▪ I-DO esesilinganisweni &gt;5 mg/l ekhulolweni kokuthatha amasampula emanzini angaphezulu.</li> <li>▪ Ukugeleza &lt;5 m<sup>3</sup>/s (izimo zokuvaleka): i-DIN Elinganisiwe &lt;20 µg/l (kufanele iphele njengesakhi esikhawulelwe); i-DIN Elinganisiwe &lt;50 µg/l (kungabonisa ukunqwabelana okuthile).</li> <li>▪ Ukugeleza &gt;5 m<sup>3</sup>/s (izimo zokuvuleka): i-DIN Elinganisiwe &lt;100 µg/l; i-DIP Elinganisiwe &lt;20 µg/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> </ul> |

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|                           |            | <ul style="list-style-type: none"> <li>Izinto ezinobuthi (inzika): Bona i<b>Thebula A2 kuSithasiselo A</b>.</li> </ul> <p><b>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</b></p> <ul style="list-style-type: none"> <li>I-Enterococci &lt;185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li><i>ne-E. coli</i> &lt;500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul>  |
| Ulwelwe oluncane          | <b>C</b>   | <p>Akugcinwe i-TEC (&gt;63%) ngokusebenzisa (DWS, 2023b):</p> <p>Ukugcina ukwakheka kwamanje, ukunotha, nobuningi bezinhlanganisela ze-phytoplankton nolwelwe oluncane olutholakala ngaphansi kwamanzi. Akukho ukudlondlobala kwezinhlobo zolwelwe okulimazayo (i-HAB), ngaphandle kokuthi kuphoqelele Endaweni A yezimo zomlomo ovulekile (okungukuthi., umsuka wasolwandle).</p> <p><b>i-Phytoplankton:</b></p> <ul style="list-style-type: none"> <li>Inani elingamaphesenti angu-90 (okungukuthi sonke isizalo somfula) lezinto zokubasa ze-phytoplankton engu-&lt;15 µg Chl-a l<sup>-1</sup>.</li> <li>Azikho izimo zokudlondlobala (okubonise ngamanani angu-&gt;20 µg Chl-a l<sup>-1</sup>); ngisho nezimo ezincikile.</li> <li>Ukungabi khona kwe-HAB engakha amaqoqo (ngaphandle ngesikhatho sokuvuleka komlomo kanye nezingqinamba eNdaweni A?).</li> </ul> <p><b>Ulwelwe Oluncane Olutholakala Emanzini:</b></p> <ul style="list-style-type: none"> <li>I-MPB Esesilinganisweni yezinto zokubasa &lt;50 mg Chl-a m<sup>2</sup>.</li> <li>Ukuhlukahluka okusesilinganisweni kwezininga lezinto ezitholakala emanzini (H') &gt;3. (Kususelwa kumanani aphakathi aqoshwe kuso sonke isizalo somfula)</li> </ul>   |
| Izimila ezinkulu          | <b>B/C</b> | <p>Maintain the TEC (&gt;73%) through:</p> <ul style="list-style-type: none"> <li>Maintain the distribution of macrophyte habitats to present baseline, particularly the large Swamp Forest stands (&gt; 159 ha) and the presence of submerged macrophytes. (refer to <b>Appendix B</b> and DWS, 2023c).</li> <li>Less than 10% change in the area covered by different macrophyte habitats, especially mangroves, Swamp Forest and submerged macrophytes.</li> <li>Invasive plants (e.g. syringa berry, Spanish reed, black wattle, Brazilian pepper tree) are largely absent from the riparian zone.</li> <li>No unvegetated, cleared areas along the banks.</li> <li>Floating invasive aquatics observed in the upper estuary reaches. Macroalgae cover &lt;20% of estuarine water surface area.</li> <li>No extensive land cover change in EFZ.</li> <li><b>No additional</b> Sugarcane is present in the EFZ (2022) (Appendix A).</li> </ul>   |
| Izilwane ezingenamgogodla | <b>B</b>   | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa (DWS, 2015b; 2023c):</p> <ul style="list-style-type: none"> <li>Akugcinwe ubuningi bezilwane ezincane eziphila emanzini, izilwane ezihlala ngaphansi kwamanzi zesiqiwu kanye nezilwane ezinkulu ezingenamgogodla ezihlala ngaphansi kwamanzi (okuhlanganisa ukwahlukahluka kwesikhathi) an kanye nokuceba kwezinhlobo eNdaweni A – D ngayinye. Akukho ukwehla kobuningi bezilwane ezincane eziphila emanzini (&lt;20%) ngokwamanani e-m<sup>2</sup> ngayinye okungenani ezindaweni zamasampula ezingu-3, ngaphezu kweminyaka engu-3, noma ekuguqukeni kwamanani okungu-&lt;15% kwezilwane ezinkulu ezihlala ngaphansi kwamanzi nge-m<sup>2</sup> ngayinye okungenani ezindaweni zamasampula ezingu-5, ngaphezu kweminyaka engu-2.</li> <li>Izinhlobo zizohlanganisa ikakhulukazi imiphakathi yezizalo kodwa futhi nokumele amanzi ahlanzekile ezindaweni eziphezulu kanye nezinhlobo zasolwandle emlonyeni.</li> <li>Izinhlobo zezilwane ezifuywayo noma ezinokusatshalaliswa okulinganiselwe kwezinto eziphilayo ziyagcinwa. Akukho ukwehla kwamanani e-<i>Paratyloidiplax blephariskios</i> (inguquko engu-&lt;15% yesampula yonyaka). Kuzohloswa Endaweni B, eyindawo elinganiselwe yalezi zinhlobo.</li> <li>Ubuningi bawo wonke amaqembu amaqoqo buphakeme entwasahlobo ngaphambi kwezikhathi zokugeleza okuphezulu kwehlobo futhi buncipha ebusika, isikhathi sokugeleza okuphansi. Izinhlobonhlobo zesikhathi zezilwane ezinkulu ziyizinhlobo ezingu-15 (ehlobo) kuya ezinhlobeni ezingu-40 (ebusika). Izinhlobonhlobo zezilwane ezincane eziphila emanzini ziyizinhlobo ezingu-12 (ehlobo) kuya ku-20 (ebusika). Izinhlobo zezilwane ezingenamgogodla ezinamagobolondo ezingu-8 - 15, ezibonisa izinguquko zesikhathi kanye nokuqashwa ezindaweni ezifanele.</li> <li>Umlomo uzovuleka ngesikhathi esiphezulu sokuqashwa kwezinhlobo zomjikelezo wempilo encike ekuxhumaneni konyaka kolwandle lwezizalo zemifula kokuqoqwa kwezibungu kanye nangale kwezibungu (ikakhulukazi ngentwasahlobo) kwezimfanzi ze-Penaeidae kanye nama-Decapoda amaningi.</li> </ul> |

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|            |          | <ul style="list-style-type: none"> <li>▪ Ukusabalala kweminenke yamagobolondo ehlaselayo kufanele kukhawulelwe Endaweni D kanye no-&lt;20% okhona wobuningi kunoma iyiphi isampula esikhathini sonyaka.</li> <li>▪ Akukho nguquko emphakathini wezimfanzi kusuka ekuhlanganisweni kwamanje kwamanzi ahlanzekile olwandle ezindaweni eziphakathi kuya ekuhlanganisweni kwamanzi ahlanzekile okunamandla. U - &lt;20% wokwehla kwenani elilinganisiwe lezilwane ezinkulu ezingenamgogodla ezinamagobolondo zasolwandle ezincike ezizalweni Ezindaweni B - C, futhi akukho ukulahleka kwezinhlobo zasolwandle.</li> </ul>  |
| Izinhlanzi | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa (DWS, 2015b; 2023c):</p> <ul style="list-style-type: none"> <li>▪ Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zasolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>▪ Amanzi anempilo okuguquka kwezizalo zolwandle agcinwa ngokuxhumana okuhle ebudeni obuphelele besizalo somlando kanye nasemvelweni yasolwandle. Izinhlanzi azitholakali kulo lonke uhlelo (zonke izindawo). Zonke lezi zinhlobo zezinhlanzi ezilandelayo zikhona ohlelweni, i-<i>Pseudomyxus capensis</i>, i-<i>Mugil cephalus</i>, i-<i>Planiliza alata</i> (zivelele ezindaweni eziphezulu), i-<i>Osteomugil cunnesius</i>, i-<i>Planiliza macrolepis</i>, i-<i>Chelon dumerilii</i> (zivelele ezindaweni eziphansi) ezinhlotshezi eziphelele zezigaba zobukhulu.</li> <li>▪ zasolwandle kufanele zivele kuyo yonke iNdawo A kanye nasezindaweni eziphansi okungenani zeziNdawo B. Izinhlobo ezilandela zikhona kulezi zindawo: i-<i>Bothus pantherinus</i> (noma i-<i>Pseudorhombus arsius</i>), i-<i>Caranx</i> spp., i-<i>Chelonodon laticeps</i>, i-<i>Drepane longimana</i>, i-<i>Hilsa kelee</i>, i-<i>Platycephalus indicus</i>, i-<i>Pomadasys kaakan</i>, i-<i>Sillago sihama</i>, i-<i>Sphyræna jello</i>, i-<i>Stolephorus</i> spp, i-<i>Thryssa</i> spp.</li> <li>▪ Zonke izindawo (A-D) zezizalo zemifula kufanele zisebenze njengezindawo zokuhlala ezinokubaluleka okuphezulu kwezinhlobonhlobo zezizalo zemifula zasolwandle ezincikile. Zonke lezi zinhlobo ezilandelayo (ngaphandle kwezinhlanzi ezingenhla) zikhona ezizalweni ngaphansi kwezimo ezijwayelekile (ezingezona ezezikhukhula): i-<i>Leiognathus equula</i>, i-<i>Acanthopagrus vagus</i>, i-<i>Pomadasys commersonii</i>, i-<i>Terapon jarbua</i>, i-<i>Rhabdosargus holubi</i>, i-<i>Caranx</i> spp., i-<i>Gerres filamentosus</i>, i-<i>Gerres methueni</i>. I-<i>Monodactylus argenteus</i>, i-<i>Pegusa nasuta</i>.</li> <li>▪ Inani langaso sonke isikhathi lezinhlobo zendawo yokuhlala yesizalo somfula kufanele livele kulo lonke uhlelo. Zonke izinhlobo ezintathu ze-Ambassid zikhona (i-<i>Ambassis ambassis</i>, i-<i>Ambassis kanye ne-Ambassis dussumieri</i>). Okungenani izinhlobo ezintathu zezinhlanzi ezincane zangaphansi kwamanzi zesizalo zikhona, ngaphandle kwe-<i>Periophthalmus</i> spp. I-<i>Gilchristella aestuaria</i> ikhona.</li> <li>▪ Izinhlobo zamanzi ahlanzekile zisakazeka kuphela ezindaweni zesizalo eziphezulu. Ukusabalala kwe-<i>Oreochromis mossambicus</i> akwandelwa Endaweni B no-A ngale kwminyaka emibili elandelayo.</li> <li>▪ Kumele kube nesisekelo esihle sesigaba sokudla sezilwane ezincane eziphila emanzini (kufaka phakathi izinhlobo eziningana zezezinhlanzi ezinamafutha), izinhlobo zezinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgogodla, izinhlanzi ezikhethekile ekudleni izikhuphashe ezinkulu kanye nezilwane ezidla izinhlanzi. Ukuguquguquka uma ubuningi obuhlobene bungaphansi kuka-&lt;20% (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwe-<i>Gilchristella aestuaria</i> kanye nezinye izinhlobo zezilwane ezincane eziphila emanzini (i-<i>Thryssa</i> spp. ne-<i>Stolephorus</i> spp.), izinhlobo zezinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgogodla (isib. i-<i>Gerres</i> spp. ne-<i>Leiognathus equula</i>), izinhlanzi ezikhethekile ekudleni izikhuphashe ezinkulu (isib. I-<i>Pomadasys commersonii</i>) kanye nezilwane ezidla izinhlanzi (i-<i>Agyrosomus japonicus</i>, i-<i>Caranx</i> spp.).</li> <li>▪ Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Akufanele kube khona izinhlanzi ezingezona ezomdabu.</li> </ul> |
| Izinyoni   | <b>B</b> | <p>Akugcinwe i-TEC (&gt;78%). Ukugcina umphakathi wezinyoni zendawo okubandakanya okumele wonke amaqembu asekuqaleni ngokwesisekelo samanje (bheka ku-DWS, 2015b; 2023c):</p> <ul style="list-style-type: none"> <li>▪ Ukubhanqwa kwendawo yokuhlala kweNkwazi yase-Afrika okukhona kanye nokuzalanisa ngempumelelo.</li> <li>▪ Izinhlobo ezingavamile nezikhethelwe kakhulu, okungukuthi Ingwedlamanzi yase-Afrika, Indwandwe Yasebusuku Enomhlane Omhlophe, kanye nononkalankala: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Imiphishamanzi kanye/noma izindwandwe/amalanda: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasogwini ezifudukayo, ikakhulukazi izinhlobo ezincike ezizalweni zemifula: Akukho ukuncishiswa okukhulu kwamanani (20%).</li> <li>▪ Izinyoni zasemanzini (amadada namahansi): Akukho ukuncishiswa okukhulu</li> </ul>   |

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|  | <p>kwamanani (&lt;20%).</p> <ul style="list-style-type: none"> <li>▪ Yonke imiphakathi yezinyoni zasemanzini: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Unontenteza kanye nendawo kanobhelwane emlonyeni: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> </ul> |
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**IThebula 5.5: i-W12- Isizalo Somfula wase-Umhlathuze**

| i-PES:   | D     | i-REC:   | D | i-TEC: | D |
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| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzoholela ekumisweni komzila ongemuhle nokufeza i-TEC:</p> <p>Isikhathi esifushane (iminyaka engu-&lt;5): kungenelela okubalulekile okudingekayo ukuze kubuyiselwe/kuvikelwe le ndawo ebalulekile (isib., oshaka, izihlakahla nezinhlobo zezinhlanzi ezibalulekile kwezomnotho):</p> <ul style="list-style-type: none"> <li>• Ukunciphisa ingcindezi ephezulu kakhulu yokudoba (ukuzingela ngokungemthetho nokudoba ngamanetha ngokungemthetho) ngokuthuthukisa ukuhambisana.</li> <li>• Ukwandisa ukuxhumana phakathi kwamachibi namanzi angaphansi komfula ngokufaka kabusha/ukufaka izindlela zezinhlanzi esebenzayo.</li> <li>• Ukuthola nokuvikela izindawo lapho utshani basolwandle i-Zostera capensis ivuselelwa khona nokuvuselela/ukubuyisela le ndawo ebalulekile eduze nesiteshi sezikebhe.</li> <li>• Ukuthuthukisa ukutholakala Kwesizalo saseMhlathuze ukuvumela ukuhambisana okwandsiwe, ukuqapha kanye nocwaningo. Ukuntuleka kokutholakala (ngokusebenzisa isiteshi) kuholela ekungabini khona kokwengamelwa kanye nemiphumela ekungabini khona kokuqwashisa kwezininga eliphakeme kwemisebenzi engekho emthethweni.</li> </ul> <p>Isikhathi eside (iminyaka engu-5 - 10):</p> <ul style="list-style-type: none"> <li>• Ukuthuthukisa ukuvikelwa kwezindawo zononkalankala ngokufaka ngokomthetho Endaweni Evikelekile (okwamanje engafakwanga ekuvikelweni okusemthethweni).</li> <li>• Ukuthuthukisa ezokuvakasha kwezinyoni (okuzophinde kuthuthukise ukutholakala) okungahlinzeka ngezinzuzo emphakathini wendawo (isib. I-Zululand Birding Route).</li> <li>• Ukumisa/ukubuyisela izinga lamanzi elinciphayo ngokusungula ukubuyiselwa okusemthethweni kokuthuthukiswa kwamadolobha (okusekelwa Ngokukhula Kwesifundazwe kanye Nesu Lentuthuko) kanye nokuqalisa imisebenzi emihle kakhulu yezolimo (ngokusebenzisa ukuqaliswa kwezinhlelo zamapulazi) ukunciphisa ukugcwala kwezakhi ezizalweni, amachibi kanye neziteshi.</li> </ul> |       |  |   |        |   |
| Ingxenywe/ inkomba   | i-TEC | i-TPC  |   |        |   |
| Amanzi   | C     | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela uhlelo lokugeleza ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS, 2023d):</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okungenela komfula akufanele: Ahluke ngaphezu kuka-5% kulawo Esimo Samanje 2022 (MAR = 289.59 x10<sup>6</sup> m<sup>3</sup> )</li> <li>▪ Ukungenela komfula kwanyanga zonke okungu-&gt;0.5 m<sup>3</sup>/s ngaphezu kuka-60% wesikhathi.</li> <li>▪ Ukungenela komfula kwanyanga zonke okungu-&gt;20.0 m<sup>3</sup>/ ngaphezu kuka-30% wesikhathi.</li> <li>▪ Amaphethini okusabalala kokungenela komfula (izingxenywe zezikhukhula) ahluke ngaphezulu kuka-&lt;10% (okobukhulu, isikhathi kanye nokuguquguquka) kulawo Esimo Samanje (DWS, 2023d).</li> </ul>                  |   |        |   |
| Amandla okuhamba kwamanzi  | D/E   | <p>Akugcinwe i-TEC (&gt;38%). Ukugcina izimo zomlomo ukuvikela uhlelo lwemvelo lwezizalo zemifula kanye nendawo yokuhlala ehlobene nezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi: Umlomo kufanele uhlale uvuleke unomphela ngokusebenzisa umlomo wokuzenzela.</p>  |   |        |   |
| Indawo yokuhlala engokwenyama (inzika)   | D     | <p>Akugcinwe i-TEC (&gt;43%). Ukuvikela indawo yokuhlala efanelekile yokusatshalaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenela komfula (izingxenywe zezikhukhula) angu-&lt;10% (ngokobukhulu, isikhathi kanye nokuguquguquka) kulawo Esimo Samanje (2022) (DWS, 2023d).</li> <li>▪ Ukuhoxisa ukufakwa kwenzika ekungeneleni komfula kufanele kungaphambuki ngaphezu kuka-20% wobudlelwano bokukhishwa kwenqwaba yenzika eyingxenywe yocwaningo (Isimo Samanje 2022) (DWS, 2023d).</li> <li>▪ Okutholakele ekuhlolweni kwemithombo yamanzi okwenziwe njengengxenywe yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvele esizalweni somfula (± 0.5 m).</li> </ul> |   |        |   |

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|                                 |     | <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi:</p> <ul style="list-style-type: none"> <li>▪ Idayamitha yenzika yomfula emaphakathi kufanele ichezuke ngaphansi kwesici esisodwa kwezimbili emazingeni azonqunywa njengengxenywe yocwaningo oluyisisekelo (Isimo Samanje 2022) (DWS, 2023d).</li> <li>▪ Ukusatshalaliswa kwesihlabathi/kodaka ezindaweni eziphakathi nendawo nangaphezulu kufanele kuguqule u-&lt;20% kusukela Esimeni Samanje (2022) (DWS, 2023d).</li> <li>▪ Izinguquko zamandla amagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kusuka Esimeni Samanje (2022) (DWS, 2023d).</li> </ul>   |
| Izinga lamanzi (usawoti)        | C/D | <p>Akugcinwe i-TEC (&gt;58%). Uhlelo lukasawoti lokugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile (DWS, 2023d).</p> <p><b>Isimo sokugeleza okusesilinganisweni:</b></p> <ul style="list-style-type: none"> <li>▪ Indawo C1: &lt;30 (Indawo ephansi).</li> <li>▪ Indawo C2: &lt;25 (Indawo emaphakathi).</li> <li>▪ Indawo C3: &lt;15 (Indawo ephezulu).</li> </ul> <p><b>Isomiso:</b></p> <ul style="list-style-type: none"> <li>▪ Indawo C1: 35 (Indawo ephansi).</li> <li>▪ Indawo C2: &lt;30 (Indawo emaphakathi).</li> <li>▪ Indawo C3: &lt;20 (Indawo ephezulu).</li> </ul>  |
| Izinga lamanzi (okujwayelekile) | D   | <p>Akugcinwe i-TEC (&gt;43%). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile (DWS, 2023d).</p> <p><b>Ukungenela koMfula waseMhlathuze:</b></p> <ul style="list-style-type: none"> <li>▪ 7.5 &lt; i-pH &gt; 8.5.</li> <li>▪ DO &gt;6 mg/l.</li> <li>▪ Ukufiphala &lt;15 NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala: Kunodaka ngokwemvelo.</li> <li>▪ I-DIN &lt;200 µg/l.</li> <li>▪ I-DIP &lt;20 µg/l</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A.</b></li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A.</b></li> </ul> <p><b>Isizalo Somfula iMhlathuze:</b></p> <ul style="list-style-type: none"> <li>▪ Ukufiphala okusesilinganisweni &lt;10 NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala: Kunodaka ngokwemvelo.</li> <li>▪ 7.5 &lt; i-pH &gt; 8.5.</li> <li>▪ I-DO &gt;6 mg/l.</li> <li>▪ Indawo C1: i-DIN &lt;50 µg/l; i-DIP &lt;10 µg/l.</li> <li>▪ Indawo C2: i-DIN &lt;100 µg/l; i-DIP &lt;15 µg/l.</li> <li>▪ Indawo C3: i-DIN &lt; 200 µg/l; i-DIP &lt;20 µg/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A.</b></li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b></li> </ul> <p><b>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</b></p> <ul style="list-style-type: none"> <li>▪ I-Enterococci &lt; 185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li>▪ <i>ne-E. coli</i> &lt; 500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul> |

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| Ulwelwe oluncane          | <b>D</b>   | <p>Akugcinwe i-TEC (&gt;43%). Ukugcina ukuhlanganiswa kwamanje kolwelwe oluncane, ngenhloso yokuthuthukisa lapho kungenzeka khona. Ngokukhethekile, ukulahleka kokuxhumana phakathi Kwezindawo kunciphise kakhulu ukuceba kwezinhlobo (ukulahlekelwa kwenguquko yokubakhona kosawoti) kanye nobuningi (ukulahlekelwa kwendawo yokuhlala) (DWS, 2023d).</p> <p><b>i-Phytoplankton:</b></p> <ul style="list-style-type: none"> <li>▪ i-Richards Bay (Indawo B): Inani lamaphesenti angu-90 lezinto zokubasa ze-phytoplankton &lt;5 µg Chl-a l<sup>-1</sup>.</li> <li>▪ Isizalo Somfula iMhlathuze (Indawo C): Inani lamaphesenti angu-90 lezinto zokubasa ze-phytoplankton &lt;10 µg Chl-a l<sup>-1</sup>.</li> <li>▪ Amachibi (Indawo A no-D): Inani lamaphesenti angu-90 lezinto zokubasa ze-phytoplankton &lt;15 µg Chl-a l<sup>-1</sup>.</li> <li>▪ Azikho izimo zokudlondlobala (okuboniswe ngamanani &gt;20 µg Chl-a l<sup>-1</sup>); ngisho nezimo ezincikile.</li> <li>▪ Ukungabi khona kwe-HAB engakha amaqoqo.</li> </ul> <p><b>Ulwelwe Oluncane Olutholakala Emanzini:</b></p> <ul style="list-style-type: none"> <li>▪ I-Richards Bay (Indawo B): Umthombo (Indawo B2): Average MPB biomass &lt;50 mg Chl-a m<sup>2</sup>; kanye noMlomo (Indawo B1): Izinto zokubasa ze-MPB Esesilinganisweni &gt;10 mg Chl-a m<sup>2</sup> (okungukuthi., ukuvimbela ukulahleka okuqhubekayo kwendawo ekhona).</li> <li>▪ Isizalo Somfula iMhlathuze (Indawo C) kanye Namachibi (Indawo A no-D): Average MPB biomass &lt;50 mg Chl-a m<sup>2</sup>.</li> <li>▪ Lonke uhlelo:Ukuhlukahluka okusesilinganisweni kwezinga lezinto ezitholakala emanzini (H') &gt;3.</li> </ul>  |
| Izimila ezinkulu          | <b>D</b>   | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukugcinwa kokusatshalaliswa kwezindawo zokuhlala zezimila ezinkulu esisekelweni samanje, ikakhulukazi izitende Zexhaphozi Lehlathi (&gt;300 ha) kanye nokuba khona kwezimila ezinkulu ezitholakala ngaphansi kwamanzi (bheka <b>Isithasiselo B</b> kanye ne-DWS, 2023d).</li> <li>▪ Ukugcina ubuqotho bendawo. Akukho ukuthuthukiswa endaweni esebenzayo yesizalo somfula. Akukho kutshwala noma ezolimo (isib. umoba) endaweni esebenzayo sesizalo somfula.</li> <li>▪ Azikho izinhlobo zezilwane zasemanzini ezintantayo ezitholakala esizalweni somfula, isib., amazibo.</li> </ul>   |
| Izilwane ezingenamgogodla | <b>E→D</b> | <p>Akugcinwe i-TEC (&gt;23%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ubuningi bezilwane ezinkulu ezihlala ngaphansi kwamanzi kanye nezilwane ezinkulu ezingenamgogodla ezinamagobolondo (okubandakanya ukuhlukahluka kwesikhathi sonyaka) kanye nokuceba kezinhlelo endaweni ngayinye yesizalo somfula angeke kwehle ngo-&gt;20% futhi/noma inani lawo wonke amaqoqo angeke lehlele ku-&lt;100 kunoma yisiphi isehlakalo sokuthatha isampula.</li> <li>▪ Izilwane ezinkulu ezihlala ngaphansi kwamanzi zizomelelwa amaqoqo amaningi (avela okungenani ezinhlobeni ezine, okuhlanganisa i-Annelida, i-Crustacea ne-Mollusca).</li> <li>▪ Iqoqo elibonisa ukucindezeleka kanye/noma inzika enezinto eziphilayo kufanele kungabi okuvelele ebuningini bezinhlobo zangaphansi kwamanzi kuzo zonke izindawo kubandakanya u-A, u-C3 no-D futhi lapho i-<i>Capitella capitata</i>, i-<i>Prionospio sexoculata</i> noma i-<i>Oligochaeta</i> spp. imelela u-&lt;40% wobuningi kunoma iyiphi indawo, nganoma yisiphi isikhathi sonyaka.</li> <li>▪ Ukugcina izinhlobo zezinhlobo eziyingqayizivele eziphila emanzini zase-Afrika eseningizimu ezingenakho ukulahleka kwezinhlobo zeyodwa eziyinhloko ezizalweni zemifula yaseKZN (isib., i-<i>Ceratonereis keiskama</i>, i-<i>Desdemona ornata</i>, i-<i>Dendronereides zululandica</i>, i-<i>Hymenosoma</i> sp.) ngesikhathi sanoma yikuphi ukuhlolwa.</li> <li>▪ Akukho ukulahleka kwezilwane ezinkulu ezingenamgogodla ezinamagobolondo zezizalo zemifula noma zolwandle Endaweni C2 no-C1. Izimfanzi ze-<i>Penaeidae</i> (okungenani izinhlobo ezingu-4) kanye nezinkalankala zase-<i>Portunidae</i> (okungenani izinhlobo ezingu-2) kanye nama-<i>Grapsidae</i> (okungenani izinhlobo ezingu-2) zizoba khona kukho konke ukuthathwa kwamasampula.</li> <li>▪ Indawo C3 kufanele ibe nokumelelwa okuqhubekayo kwezimfanzi eziphila emanzini ahlanzekile bese zifudukela emanzini anosawoti ukuze zikhiziqe (i-<i>Macrobrachium</i>, i-<i>Varuna litterata</i>) kanye namanzi ahlanzekile noma ama-carid abekezelela amanzi ahlanzekile (isib., i-<i>Palaemon</i>). I- <i>Macrobrachium</i> ne-<i>Varuna</i> endala ikhona esizalweni somfula esiphansi ngehlobo kanti i-<i>Varuna megalopae</i> ikhona emgudwini wesizalo somfula ngesikhathi sokuhlolwa ekwindle esiyophela noma ekuwaleni kobusika.</li> </ul> |

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|            |   | <ul style="list-style-type: none"> <li>▪ Akukho nguquko emphakathini wezimfanzi kusuka ekuhlanganisweni kwamanje kwamanzi ahlanzekile olwandle ezindaweni eziphakathi kuya ekuhlanganisweni kwamanzi ahlanzekile okunamandla. I - <i>Paratyloidiplax blephariskios</i> izoba khona minyaka yonke.</li> </ul>   |
| Izinhlanzi | D | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zazolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>▪ Amanzi anempilo okuguquka kwezizalo zolwandle agcinwa ngokuxhumana okuhle ebudeni obuphelele besizalo somlando kanye nasemvelweni yasolwandle. Izinhlanzi azitholakali kulo lonke uhlelo (zonke izindawo). Zonke lezi zinhlobo zezinhlanzi ezilandelayo zikhona ohlelweni, i-<i>Pseudomyxus capensis</i>, i-<i>Mugil cephalus</i>, i-<i>Planiliza alata</i> (zivelele ezindaweni eziphezulu), i-<i>Osteomugil cunnesius</i>, i-<i>Planiliza macrolepis</i>, i-<i>Chelon dumerilii</i> (zivelele ezindaweni eziphansi) ezinhlotsheni eziphelele zezigaba zobukhulu.</li> <li>▪ Ukuxhumana okusebenzayo kubuyiswane namaChibi aseCubhu naseMzingazi. I-<i>Pseudomyxus capensis</i> iba khona Emachibini aseCubhu naseMzingazi.</li> <li>▪ Izinhlobo zazolwandle zezizalo zemifula ezingosomathuba kufanele zibe khona kuyo yonke indawo C1 no-C2. Izinhlobo ezilandelayo ziba khona kulezi zindawo: i-<i>Bothus pantherinus</i> (noma i-<i>Pseudorhombus arsius</i>), i-<i>Caranx</i> spp., i-<i>Chelonodon laticeps</i>, i-<i>Amblyrhynchotes honckenii</i>, i-<i>Hilsa kelee</i>, i-<i>Platycephalus indicus</i>, i-<i>Pomadasys kaakan</i>, i-<i>Sillago sihama</i>, i-<i>Sphyræna jello</i>, i-<i>Stolephorus</i> spp, i-<i>Thryssa</i> spp.</li> <li>▪ Zonke izindaewo zesizalo somfula kufanele zisebenze njengendawo yezinga eliphakeme ekuhlukahlukeni kwezinhlobo zazolwandle ezincike ezizalweni zemifula. Zonke izinhlobo ezilandela (ukwengeza ezinhlanzini ezingenhla) ziba khona esizalweni somfula ngaphansi kwezimo zokugeleza okujwayelekile (okungenazo izikhukhula): i-<i>Leiognathus equula</i>, i-<i>Acanthopagrus vagus</i>, i-<i>Pomadasys commersonii</i>, i-<i>Terapon jarbua</i>, i-<i>Rhabdosargus holubi</i>, i-<i>Caranx</i> spp., i-<i>Gerres filamentosus</i>, i-<i>Gerres methueni</i>. I-<i>Monodactylus argenteus</i>, i-<i>Pegusa nasuta</i>.</li> <li>▪ Inani lezinhlobo ezingamahlalakhona ezihlala ezizalweni zemifula kufanele libe khona kulo lonke uhlelo. Zonke izinhlobo ezintathu ze-Ambassid ziba khona (i-<i>Ambassis ambassis</i>, i-<i>Ambassis natalensis</i> ne-<i>Ambassis dussumieri</i>). Okungenani izinhlobo ezintathu zezinhlanzi ezincane ezingaphansi kwamanzi esizalweni somfula ziba khona ngaphandle kwe-mudskipper <i>Periophthalmus</i> spp. i - <i>Gilchristella aestuaria</i> iba khona.</li> <li>▪ Izinhlobo zamanzi ahlanzekile zikhawulelwe ekusabalaleni kwazo ezindaweni eziphezulu esizalweni somfula.<br/><i>Ukusabalala kwe-Oreochromis mossambicus</i> akweqeli Endaweni C2 noma u-C1.</li> <li>▪ Isisekelo esihle sezigaba zokudla kumele sibekhona ezilwaneni ezincane eziphila emanzini (okubandakanya izinhlobo zezinhlanzi ezinamafutha eziningi), izinhlobo zezinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgogodla, izinhlanzi ezikhethlekile ezidla izikhuphashe ezinkulu nezilwane ezidla izinhlanzi. Ukushintsha kobuningi obuhlobene buka-&lt;20% (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwe-<i>Gilchristella aestuaria</i> kanye nezinye izinhlobo zezilwane ezincane eziphila emanzini (i-<i>Thryssa</i> spp. ne-<i>Stolephorus</i> spp.), nezinhlobo zezinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgogodla (isib. i-<i>Gerres</i> spp. ne-<i>Leiognathus equula</i>), izinhlanzi ezikhethlekile ezidla izikhuphe ezinkulu (isib., i-<i>Pomadasys commersonii</i>) kanye nezilwane ezidla izinhlanzi (i-<i>Agyrosomus japonicus</i>, i-<i>Caranx</i> spp.).</li> <li>▪ Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Akufanele kube khona izinhlanzi ezingezona ezomdabu.</li> </ul> |
| Izinyoni   | C | <p>Akugcinwe i-TEC (&gt; 63%) ngokugcina umphakathi wezinyoni ohlanganisa izinhlobo ezimele wonke amaqembu.</p> <ul style="list-style-type: none"> <li>▪ Ukubhanqwa kwendawo yokuhlala kweNkwazi yase-Afrika okukhona kanye nokuzalanisa ngempumelelo.</li> <li>▪ Izinhlobo ezingavamile nezikhethleke kakhulu, isib. Indwandwe Yasebusuku Enomhlane Omhlophe, Ingwedlamanzi yase-Afrika, nononkalankala Nesikhova esidla izinhlanzi: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Imiphishamanzi kanye/noma izindwandwe/amalanda: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasogwini ezifudukayo, ikakhulukazi izinhlobo ezincike ezizalweni zemifula: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasemanzini (amadada nama-hansi): Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Yonke imiphakathi yezinyoni zasemanzini: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>Unontenteza kanye nendawo kanobhelwane emlonyeni: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>Akukho ukulahleka kwezilwane ezidla izinhlanzi, ikakhulukazi izinhlobo ezitshuzayo, ngenxa yokugoqana kokudoba ngamanethi.</li> </ul> |
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### IThebula 5.6: i-W12-Isizalo sase-Inhlabane

| i-PES:   | E↓    | i-REC:  | D | i-TEC: | D |
|--|-------|---|---|--------|---|
| Ukungenelela okulandelayo kuzoholela ekumeni komzila ongemuhle nokugcina i-TEC:  |       |   |   |        |   |
| <ul style="list-style-type: none"> <li>Ukusungula Uhlelo Lokulawulwa Kwezizalo Zemifula (isidingo soMthetho Wokulawulwa Kwasogwini Okudidiyele) Ohlelweni Lwechibi Lwesizalo Somfula iNhlabane ukuthola izinyathelo eziyinhloko nokuhlanganisa imizamo yokubuyiselwa.</li> <li>Ukusungula Uhlelo Lomlomo Wesizalo Somfula/Lokulawulwa ukuze kube lula ukucwenga ukungcola emlomeni (u-&gt;3.0 m wesilinganiso sezinga lolwandle) kanye/noma ukuvulwa kokuzenzela kwesizalo somfula. Qaphela: Ukususwa kuka-5 m<sup>3</sup> wenzika esizalweni somfula kudala isidingo sokugunyazwa kwe-EIA.</li> <li>Ukususa udaka olunqwabelene olunezinto eziphilayo ngemishini yokuhambisa umhlaba noma ukudonsa kusuka ezingxenyeni ezingaphansi ukuze kuthuthukiswe izinga lamanzi ohlelweni (i.e., oxygen levels) in the system. Lokhu ukungukungenelela okwenziwa kanje uma izinga lamanzi nokuxhumana kolwandle kuthuthuka, kungenjalo kungadingeka ukuthi kuphindwe njalo eminyakeni engu-10 kuya kwengu-20.</li> <li>Ukuqinisekisa ukuxhumana phakathi kwezizalo zemifula nezingxanye ezahlukene zamachibi. Izindlela zezinhlanzi zamanje azisebenzi. Ukuthuthukisa ukuxhumana phakathi kwezizalo zemifula nezingxanye ezahlukene zamachibi ngokukhululwa kokugeleza okuvela edamini kanye nokwakhiwa kabusha okungenzeka kwezindlela zezinhlanzi.</li> <li>Ukuvimbela ukuphazamiseka kwezimila eziseduze nomfula, kubandakanya ukunyatheleka, izinkomo, umlilo, nokususa izimila ezingajwayelekile.</li> <li>Izinga lamanzi eliwohlokayo limelela usongo olukhulu, ubungozi buphakeme kakhulu ngesikhathi sokuvaleka. Ukubhekana nokugeleza okuxutshiwe okuvela ezindlini okungekho ezinhlelweni zokubuyisela ezisemthethweni. Ukubheka izindlela ezintsha zokulawula amanzi angcolile kule ndawo, isib., umkhono wemihlanga wokuzenzela. Akukho ukukhishwa kwamanzi angcolile (amapayipi endle noma izimboni) okufanele kukhishelwe emachibini noma ezizalweni zemifula. Ukuhlelwa kwamasu esifundazwe okusebenzayo (isib, Isu Lokukhula Nokuthuthuka lesiFundazwe) kuyadingeka endaweni ukunciphisa umthelela wezenzakalo zesikhathi esizayo, isibonelo, ukulahlwa kwemfucuzo kuyinkinga enkulu – imfucuzo ayikwazi ukutshuza ezizalweni zemifula ezivaliwe nasemachibini. Ukufaka imisebenzi emihle yezolimo (ngokuthuthukiswa kwezinhlelo zasemapulazini) ukunciphisa ukugeleza kwezolimo okunothile ngokwezakhi.</li> <li>Ukwandisa ukugeleza kwamanzi ahlanzekile ezizalweni zomfula nasemachibini ngokulawula noma ngokususa izihlahla zezinkuni ezingagunyaziwe noma amasimu kanye nokususa izinhlobo zezimila ezingajwayelekile ezihlaselayo.</li> </ul> |       |   |   |        |   |
| Ingxanye/ inkomba  | i-TEC | i-TPC   |   |        |   |
| Amanzi   | D     | Akugcinwe i-TEC (>43%). Ukuvikela uhlelo lokugeleza ukudala indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi (DWS, 2023e): <ul style="list-style-type: none"> <li>Amaphethini okungenela komfula akufanele ahluke ngaphezu kuka-5% kulawo Esimo Sokubuyiselwa (i-MAR = 26.35 x10<sup>6</sup> m<sup>3</sup>).</li> <li>Umlando we-EWR: Izindlela zezinhlanzi ziqhubeka nokukhishwa kuka-0.1 m<sup>3</sup>/s. Ukuze kuthuthukiswe ukuxhumana kolwandle, isizalo somfula sidinga u-175 000 m<sup>3</sup> ukugcwalisa nokwephula, i-EWR yomlando icacisa u-33m<sup>3</sup>/s amahora angu-9 njalo eminyakeni engu-2. Ukukhishwa kwalokhu kugeleza kuzophinde kuholele ezingeni eliguqakayo lamachibi okuzozuzisa nezinyoni zasemanzini emachibini. Ukwehla kwamachibi akufanele kube emazingeni angahlukanisa amachibi aseNyakatho nawaseNingizimu.</li> </ul> |   |        |   |
| Amandla okuhamba kwamanzi  | C/D   | Akugcinwe i-TEC (>58%). Ukugcina izimo zomlomo ovulekile ukuze kuvikelwe izinhlelo zemvelo zezizalo zomfula kanye nendawo ehlobene yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi: <ul style="list-style-type: none"> <li>Ukuvalwa komlomo kwenzeka isikhathi esingu-25%.</li> </ul>   |   |        |   |

|  |     |  |
|--|-----|--|
| Indawo yokuhlala engokwenyama (inzika) | E→D | <p>Akugcinwe i-TEC (&gt;23%). Ukuvikela indawo efanelekile yokusabalala kwenzika yezizalo zezinto eziphilayo esizalweni (DWS, 2023e):</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalalisa okungenela komfula ( izingxenywe zezikhukhula) kufanele ahluke ngo-&lt;20% (mayelana nobukhulu, isikhathi kanye nokuguquguquka) kulawo Esimo Sokubuyiselwa (2022).</li> <li>▪ Ukufakwa kwenzika okumisiwe ekungeneleni komfula kufanele kuchezuke ngo-&lt;20% wobudlelwane bokulahlwa kwenqwaba yenzika okuzonqunywa njengengxenywe yocwaningo oluyisisekelo (Isimo Samanje 2022).</li> <li>▪ Okutholakele ekuhlolweni kwemithombo yamanzi okwenziwe njengengxenywe yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvela esizalweni somfula (<math>\pm 0.5</math> m).</li> </ul> <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi:</p> <ul style="list-style-type: none"> <li>▪ Idayamitha yenzika yomfula emaphakathi ichezuka ngaphezu kwengxenywe eyodwa kwezimbili kumazinga esisekelo samanje (kuzonqunywa).</li> <li>▪ Ukusatshalaliswa kwesihlabathi/kodaka ezindaweni eziphakathi nendawo nangaphezulu kushintshe ngo-&lt;20% kusukela kwisisekelo samanje (kuzonqunywa).</li> <li>▪ Izinguquko zamandla amagagasi esilinganisweni samagagasi kungaphansi kuka-&lt;20% kusuka esisekelweni samanje (bheka ku-DWS, 2015) ngenxa yezinqubo zenzika.</li> </ul>  |
| Izinga lamanzi (usawoti)               | E→D | <p>Akugcinwe i-TEC (&gt;23%). Uhlelo lukasawoti lokugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile (DWS, 2023e).</p> <ul style="list-style-type: none"> <li>▪ Amanani kasawoti ongaphansi angu-&gt;5 ezindaweni eziphansi (Endaweni A) zesizalo somfula u-20% wesikhathi.</li> </ul>   |
| Izinga lamanzi (okujwayelekile)        | D   | <p>Akugcinwe i-TEC (&gt;43%). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenywe zezinto eziphilayo ezincikile.</p> <p><b>Ukungenela komfula:</b></p> <ul style="list-style-type: none"> <li>▪ 7.5 &lt; i-pH &gt; 8.5 ngokungaguquki ngaphezu kwezinyanga ezingu-2.</li> <li>▪ I-DO &gt;6 mg/l.</li> <li>▪ Ukufiphala &lt;15NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala kunodaka ngokwemvelo.</li> <li>▪ Ukungenela &lt;5 m<sup>3</sup>/s: i-NOx-N &lt;200 µg/l ngaphezu kwezinyanga ezingu-2; i-NH<sub>3</sub>-N &lt;30 µg/l ngaphezu kwezinyanga ezingu-2; i-PO<sub>4</sub>-P &lt;50 µg/l ngaphezu kwezinyanga ezingu-2.</li> <li>▪ Ukungenela &gt;5 m<sup>3</sup>/s: i-DIN Esesilinganisweni esingu-&lt;300 µg/l; i-DIP Esesilinganisweni esingu-50 µg/l.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona iThebula A1 kuSithasiselo A.</li> <li>▪ Izinto ezinobuthi (inzika): Bona iThebula A2 kuSithasiselo A.</li> </ul> <p>Isizalo Somfula:</p> <ul style="list-style-type: none"> <li>▪ Ukufiphala okusesilinganisweni &lt;10 NTU (ukugeleza okuphansi).</li> <li>▪ Ukugeleza okuphezulu kokufiphala: kunodaka ngokwemvelo.</li> <li>▪ 6.0 &lt; i-pH &gt; 8.5 ekuhlolweni kokuthathwa kwamasampula (kuzoqinisekiswa ngokuthathwa kwamasampula).</li> <li>▪ i-DO Esesilinganisweni esingu-&gt;6 mg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>▪ Ukungenela okungu-&lt;5 m<sup>3</sup>/s: i-NOx-N Esesilinganisweni esingu-&lt;200 µg/l; i-NH<sub>3</sub>-N Esesilinganisweni esingu-&lt;30 µg/l; PO<sub>4</sub>-P Esesilinganisweni &lt;50 µg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>▪ Ukungenela &gt;5 m<sup>3</sup>/s: i-NOx-N Esesilinganisweni esingu-&lt;300 µg/l; i-NH<sub>3</sub>-N Esesilinganisweni esingu-20 µg/l; i-PO<sub>4</sub>-P Esesilinganisweni &lt;50 µg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona iThebula A1 kuSithasiselo A.</li> <li>▪ Izinto ezinobuthi (inzika): Bona iThebula A2 kuSithasiselo A.</li> </ul> <p>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</p> <ul style="list-style-type: none"> <li>▪ I-Enterococci &lt;185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li>▪ <i>ne-E. coli</i> &lt;500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul> |
|  |     | <p>Akugcinwe i-TEC (&gt;43%). Ukugcina ukuhlangana kolwelwe oluncane olwamanje, ngenhloso yokuthuthukisa. Ikakhulukazi, ukulahleka kokuxhumana kolwandle Endaweni A, kanye nokulahleka kokuxhumana phakathi kwezizalo zemifula namachibi, kunciphise kakhulu ukuceba kwezinhlobo (umlomo uvalwe kakhulu) kanye nobuningi (ukulahleka kwendawo yokuhlala) (DWS, 2023e).</p> <p>i-Phytoplankton:</p> <ul style="list-style-type: none"> <li>▪ Isizalo somfula (Indawo A): inani elingamaphesenti angu-90 ezinto zokubasa ze-phytoplankton &lt;15 µg Chl-a l-1.</li> <li>▪ Amachibi (Indawo B no-C): inani elingamaphesenti angu-90 ezinto zokubasa ze-</li> </ul>  |

|                           |     |   |
|---------------------------|-----|---|
| Ulwelwe oluncane          | D   | <p>phytoplankton &lt;10 µg Chl-a l-</p> <ol style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Aziko izimo zokudlondlobala (okuboniswe ngamanani angu-&gt;20 µg Chl-a l-1); ngisho nezimo ezincikile.</li> <li>Ukungabi khona kwe-HAB engakha amaqoqo.</li> </ul> </li> </ol> <p>Ulwelwe oluncane olutholakala emanzini:</p> <ul style="list-style-type: none"> <li>Isizalo somfula: Izinto zokubasa ze-MPB esesilinganisweni &lt;50 mg Chl-a m-2 kanye nokwehluka kwe-diatom yezinhlobo eziphila emanzini (H') &gt; 2.5.</li> <li>Amachibi: Izinto zokubasa ze-MPB esesilinganisweni &lt;10 mg Chl-a m-2 (okungukuthi., ukuvimbela ukulahleka okwengeziwe kwendawo yokuhlala etholakalayo) kanye nokwehluka kwe-diatom yezinhlobo eziphila emanzini (H') &gt;2.</li> </ul> <p>(*Kususelwa kumanani aphakathi aqoshwe kuso sonke isizalo somfula)</p>   |
| Izimila ezinkulu          | C/D | <p>Akugcinwe i-TEC (&gt;58%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Ukugcinwa kokusatshalaliswa kwezindawo zokuhlala zezimila ezinkulu. Inguquko engaphansi kuka-10% endaweni enezindawo ezahlukenene zezimila ezinkulu –<b>Isithasiselo B</b> ne-DWS (2023e).</li> <li>Ukugcina ubuqoqho bendawo eseduze nomfula ngezikhukhula nangamazinga ezakhi aphansi: Aziko izindawo ezingenazo izitshalo, ezihlanziwe ngasezizalweni.</li> <li>Izitshalo ezihlaselayo (isib. umsilinga, isihlekehleke, ubukhwebezane, usandanezwe, idolofiya ) aziko kakhulu endaweni yomfula.</li> <li>Aziko izinhlobo zezilwane zasemanzini ezintantayo ezitholakala echibini lesizalo somfula, isib., amazibo.</li> <li>Umoba awukho ku-EFZ (endaweni esebenzayo yesizalo somfula).</li> <li>Ayikho inguquko yentuthuko noma yendawo yomhlaba (isib. izimayini, ezolimo, amasimu) ku-EFZ.</li> </ul>   |
| Izilwane ezingenamgogodla | E→D | <p>Akugcinwe isigaba se-TEC (&gt;23%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Izingxenyane noma izici zeqoqo lezilwane ezingenamgogodla kufanele zingehli ngokuqhubekayo kunoma iyiphi indawo, kunoma isiphi isikhathi sonyaka. Imikhawulo ingu-&gt;5% wenguquko yezilinganiso zemiphakathi ye-plankton noma yezilwane ezingenamgogodla ezitholakala emanzini (isib., ukunotha, ukwehluka kanye nokulingana) kanye nokwehla kwamanani ezinhlobo ezinkulu zasemanzini ngo-&gt;5% (no.m-2) Ezindaweni A - C.</li> <li>Iqoqo lesizalo somfula eliyinhloko lizobuyela ohlelweni ngokuzihlanza noma ngezimo zokuvuleka komlomo (Indawo A), lokhu kungumthombo ongaba khona wokuqasha okusele esizalweni somfula futhi kufanele kuqhubeka kube khona okungenani ezindaweni eziphansi zeNdawo A.</li> <li>Ubuncane bamaqoqo ezizalo zemifula ayinhloko amane kufanele bubekhona Endaweni A okungenani ngokumelelwa yi-Mollusca.</li> <li>Ukusabalalisa nobuningi obuhlobene bezinhlobo ezingajwayelekile zezilwane ezingenamgogodla (isib., i-Tarebia granifera) kuzoba u-&lt; 25% wobuningi kunoma iyiphi indawo Ezindaweni A - C. Iminenke ehlaselayo ikhawulelwe eduze nogu Ezindaweni B/C.</li> <li>i-Chironomidae ne-Oligochaeta emelana nesimo sokuphela komoyampilo wegazi akufanele ibuse noma kuyiphi indawo (i-DO u-&lt;4 mg/l ku-&gt;40% wesizalo somfula).</li> <li>Izimfanzi zamanzi ahlanzekile ezitholakala ezizalweni zemifula nasemachibini, futhi ezimelwe yimiphakathi yezinhlobo eziningi, ikakhulukazi Izindawo B - C.</li> <li>Ama-relict peracarid esizalo somfula ahlala etholakala Ezindaweni B-C nama-Halmrapseudes, i-Grandidierella ne-Americorophium ngo-&gt;70% wobuningi bendawo.</li> <li>Izinhlobo ezinokuthambekeka kwezinto eziphilayo eziyingozi kubantu akufanele zibe umphakathi wezilwane ezinkulu ezibusayo.</li> </ul> |
|                           | E→D | <p>Akugcinwe isigaba se-TEC (&gt;23%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zasolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>Indawo A kufanele isebenze njengesizalo somfula futhi ihlinzeke indawo enokwethembeka ezinhlobeni eziyizinhlobonhlobo zasolwandle ezincike esizalweni somfula. I-Rhabdosargus holubi nezinhlobo eziningana ze-Mugillidae zibusu kulokhu kuhlangukiswa. I-Ambassis ambassis, i-Ambassis natalensis, i-Glossogobius callidus, i-Planiliza alata, i-Planiliza macrolepis ne-Pseudomyxus capensis, i-Mugil cephalus, i-Osteomugil cunnesius, i-Rhabdosargus holubi, i-Terapon jarbua konke kuba khona Endaweni A, kanti zonke lezi zinhlobo zithathwa amasampula okungenani njalo ngonyaka wesibili.</li> <li>Ukuxhumana phakathi kwechibi nesizalo somfula kufanele kuvuselelwe futhi kugcinwe ngendlela yezihlanzi esebenzayo. Izinhlobo eziningi zasolwandle ezincike esizalweni somfula ezibandakanya i-Planiliza alata, i-Planiliza macrolepis, i-Pseudomyxus</li> </ul>   |

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| Izinhlanzi |   | <p>capensis, i-Acanthopagrus vagus, i-Monodactylus argenteus zibakhona echibini (Izindawo B no-C).</p> <ul style="list-style-type: none"> <li>Ubude bohlelo obuphelele (Izindawo A, B no-C) kufanele busekele inani lomphakathi wanjalo wezinhlangotho zezizalo zemifula ezihlanganisa ukuxutshwa kwezinhlobo zezilwane ezincane eziphila emanzini kanye nezinhlobo zezinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgodla. I-Gilchristella aestuaria ne-Glossogobius callidus kukhona kuzo zonke izindawo zohlelo.</li> <li>Izinhlangotho ezingosomathuba zezizalo samanzi ahlanzekile kufanele zingabusi ekuhlanganeni kwezinhlanzi (ngobuningi) esizalweni somfula (Indawo A).</li> <li>Izinhlangotho ezinamanzi ahlanzekile zama-stenohaline kufanele zikhawulelwe kakhulu ezindaweni eziphezulu ngaphezu kodamu (Izindawo B no-C), kodwa zingaba khona ngokwemvamisa, ebuningini obuphansi ezindaweni eziphezulu zezizalo somfula (Indawo A). Akufanele zibe khona eduze nomlomo wesizalo somfula.</li> <li>Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Azikho izinhlanzi okungezona ezomdabu okufanele zibe khona.</li> </ul> |
| Izinyoni   | D | <p>Akugcinwe i-TEC (&gt;43%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Akukho ukuncipha okukhulu kwamanani ezinyoni (&lt;20%), kuhlangukisa namanani okukhiqiza, kwanoma ikuphi kwezinyoni zamanzi ezidla izinhlobo ezakhelene nazo: izilwane ezidla izinhlanzi ezibhukudayo (iwonde nezinyoninyoka), izinyoni ezinkulu ezidla inyama ezihamba zigxabhuzela emanzini (isib. izindwandwe namalanda) kanye nezinyoni zasemanzini ezibhukudayo ezidla izitshalo (amadada namahansi).</li> <li>Ukugcina izindawo zokukhiqiza amakoloni ezilwane ezidla izinhlanzi ezibhukuda.</li> </ul>   |

**IThebula 5.7: i-W70- Isizalo somfula sase-Umgobezeleni Estuary**

| i-PES:  | B↓    | i-REC:   | A | i-TEC: | A/B |
|---|-------|--|---|--------|-----|
| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzohlela ekumisweni komzila ongemuhle nokufeza i-TEC:</p> <ul style="list-style-type: none"> <li>Kudingeka isinyathelo esiphuthumayo ukudala ukuqwashisa ngokubaluleka kwemihlume nokuvikela lezi zinhlobo zohlelo lwemvelo ezisongelekayo (isib., umgwaqo ongasemihlumeni).</li> <li>Ukuqinisekisa ukuvikeleka kwehlathi lexhaphozi elisebenza njengendawo yokuhlala ebalulekile kanye nokuqinisekisa izinga lamanzi lesizalo somfula (uhlelo lwamanzi angcolile).</li> <li>Ukuqeda ukudoba ngamanetha okungekho emthethweni emachibini ukuthuthukisa ukusebenza kwendawo nokusekela izindawo zokudoba ezisogwini.</li> <li>Ukuqeda nokuqapha ukubakhona kwezinhlobo ezingajwayelekile ezihlaselayo, isib., i-<i>Micropterus punctulatus enamabala</i>.</li> <li>Ukwandisa ukuvikelwa kwamachibi (isib. Ezinye Izinyathelo Zokulondoloza Eziphumelelayo, Ubuphathi, ukulungisa imingcele yepaki) njengoba ingxenye yawo ayifakwa ekuvikelweni okusemthethweni.</li> <li>Ukuvimbela ukusetshenziswa komhlaba okuhlanzekile endaweni yokusebenza kwesizalo somfula.</li> <li>Ukudala ukungenelela (isib. ukuvuselela isizalo semvelo sezimila, izindawo ezingamaxhaphozi zokuzenzela, ukunciphisa umthelela wamadlelo) ngendawo engumngcele ongu-500 m endaweni yesizalo somfula esisebenzayo, lapho kungekho khona ingqalasizinda yokwakha, ukuthuthukisa isimo sezakhi nokunciphisa ukungena kwenzika esizalweni somfula nasemachibini.</li> <li>Izinga lamanzi eliwohlakayo limelela usongo olukhulu; ubungozi buphakeme kakhulu ngesikhathi sokuvaleka. Ukubhekana nokugeleza okuxutshiwe okuvela ezindlini okungekho ezinhlelweni zokubuyisela ezisemthethweni. Ukubheka izindlela ezintsha zokulawula amanzi angcolile kule ndawo, isib., umkhono wemihlanga wokuzenzela. Akukho ukukhishwa kwamanzi angcolile (amapayipi endle noma izimboni) okufanele kukhishelwe emachibini noma ezizalweni zemifula. Ukuhlelwa kwamasu esifundazwe okusebenzayo (isib. Isu Lokukhula Nokuthuthuka lesiFundazwe) kuyadingeka endaweni ukunciphisa umthelela wezenzakalo zesikhathi esizayo, isibonelo, ukulahlwa kwemfucuzo kuyinkinga enkulu – imfucuzo ayikwazi ukutshuza ezizalweni zemifula ezivaliwe nasemachibini. Ukufaka imisebenzi emihle yezolimo (ngokuthuthukiswa kwezinhlelo zasemapulazini) ukunciphisa ukugeleza kwezolimo okunothile ngokwezakhi.</li> <li>Ukugcina ukuxhumana kwamanzi ngokuqinisekisa ukuthi imigwaqo namabhuloho, isib., ukuwela isizalo somfula eduze nomlomo, akuphazamisi amagagasi nokugeleza kwemifula.</li> <li>Ukuvimbela ukususwa kwamagxolo emihlumeni nakwezinye izihlahla.</li> <li>Ukuvimbela ukuphazamiseka kwezinyoni okungafanele.</li> </ul> |       |  |   |        |     |
| Ingxenye/ inkomba   | i-TEC | i-TPC  |   |        |     |
| Amanzi  | B     | <p>Akugcinwe i-TEC (&gt;93%). Ukuvikela uhlelo lokugeleza ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi:</p> <ul style="list-style-type: none"> <li>Ukugcina imithombo yamanzi angaphansi komhlaba ngaphakathi kuka-15% wamazanga emvelo.</li> <li>Inkomba yokucindezeleka kwamanzi angaphansi komhlaba: 0.15.</li> </ul> |   |        |     |

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| Amandla okuhamba kwamanzi              | B   | <p>Akugcinwe i-TEC (&gt;78%). Ukugcina izimo zomlomo ovulekile ukuze kuvikelwe izinhlelo zemvelo zezizalo zomfula kanye nendawo ehlobene yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi:</p> <ul style="list-style-type: none"> <li>▪ Ukugcina ukuxhumana okungaguququki nolwandle (ngaphandle kwezimo zesomiso).</li> <li>▪ Ukuqinisekisa ukuxhumana phakathi kwazo zonke izingxenye zohlelo Lwamachibi Esizalo Somfula (isib. akukho ukwakhiwa kwamadamu, akukho ukuvaleka kwamabhuloho, ukuqinisekisa ukugeleza kwemihubhe/kwemikhombe okwanele ngaphansi kwamabhulohwe akhona).</li> </ul>  |
| Indawo yokuhlala engokwenyama (inzika) | A/B | <p>Akugcinwe i-TEC (&gt;88%). Ukuvikela indawo yokuhlala efanelekile yokusatshalaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenela komfula (izingxenye zezikhukhula) angu-&lt;10% (ngokobukhulu, isikhathi kanye nokuguququka) kulawo Esimo Samanje (2022).</li> <li>▪ Ukuhoxisa ukufakwa kwenzika ekungeneleni komfula kufanele kungaphambuki ngaphezu kuka-20% wobudlelwano bokukhishwa kwenqwaba yenzika eyingxenye yocwaningo (Isimo Samanje 2022).</li> <li>▪ Okutholakele ekuhlolweni kwemithombo yamanzi okwenziwe njengengxenye yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvele esizalweni somfula (<math>\pm 0.5</math> m).</li> </ul> <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi:</p> <ul style="list-style-type: none"> <li>▪ Idayamitha yenzika yomfula emaphakathi kufanele ichezuke ngaphansi kwesici esisodwa kwezimbili emazingeni azonqunywa njengengxenye yocwaningo oluyisisekelo (Isimo Samanje 2022).</li> <li>▪ Ukusatshalaliswa kwesihlabathi/kodaka ezindaweni eziphakathi nendawo nangaphezulu kufanele kuguqule u-&lt;10% kusukela Esimeni Samanje (2022).</li> </ul> |
| Izinga lamanzi (usawoti)               | A/B | <p>Akugcinwe i-TEC (&gt;88%). Uhlelo lukasawoti lokugcina i-TEC yezingxenye zezinto eziphilayo ezincikile.</p> <ul style="list-style-type: none"> <li>▪ Isizalo somfula 5 - 20.</li> <li>▪ Amachibi &lt;1.</li> </ul>  |
| Izinga lamanzi (okujwayelekile)        | B   | <p>Akugcinwe i-TEC (&gt;78%).<br/>Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile.</p> <p><b>Isizalo Somfula Namachibi:</b></p> <ul style="list-style-type: none"> <li>▪ Ukufiphala okusesilinganisweni esingu-&lt;10 i-NTU (ukugeleza okuphansi).</li> <li>▪ <math>6.0 &lt; \text{i-pH} &gt; 8.5</math> ekuhlolweni kokuthathwa kwamasampula (kuzoqinisekiswa ngokuthathwa kwamasampula).</li> <li>▪ i-DO Esesilinganisweni &gt;6 mg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>▪ I-DIN &lt;100 <math>\mu\text{g/l}</math>.</li> <li>▪ I-DIP &lt; 30 <math>\mu\text{g/l}</math>.</li> <li>▪ Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>▪ Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p><b>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</b></p> <ul style="list-style-type: none"> <li>▪ i-Enterococci &lt;185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li>▪ <i>ne-E. coli</i> &lt;500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul>   |
| Ulwelwe oluncane                       | B   | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa:</p> <p><b>i-Phytoplankton:</b></p> <ul style="list-style-type: none"> <li>▪ Estuary: inani elingamaphesenti angu-90 ezinto zokubasa ze-phytoplankton &lt;10 <math>\mu\text{g Chl-a l}^{-1}</math>.</li> <li>▪ Amachibi: inani elingamaphesenti angu-90 ezinto zokubasa ze-phytoplankton &lt;15 <math>\mu\text{g Chl-a l}^{-1}</math>.</li> <li>▪ Azikho izimo zokudlondlobala (okuboniswe ngamanani angu-&gt;20 <math>\mu\text{g Chl-a l}^{-1}</math>); ngisho nezimo ezizimele.</li> <li>▪ Ukungabi khona kwe-HAB engakha amaqoqo.</li> </ul> <p><b>Ulwelwe oluncane olutholakala emanzini:</b></p> <ul style="list-style-type: none"> <li>▪ Izinto zokubasa ze-MPB esesilinganisweni esingu-&lt;50 mg Chl-a <math>\text{m}^{-2}</math> kanye nokuhlukahluka okusesilinganisweni kwezinga lezinto ezitholakala emanzini (<math>\text{H}^+</math>) &gt; 2.5.</li> </ul>   |

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| Izimila ezinkulu          | <b>B</b>   | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukugcinwa kokusatshalaliswa kwezindawo zokuhlala zezimila ezinkulu ezinenguquko engaphansi kuka-10% endaweni enezindawo ezahlukahlukene zezimila ezinkulu (<b>Isithasiselo B</b>).</li> <li>▪ Ukugcina ubuqotho bendawo eseduze nomfula ngezikhukhula nangamazinga ezakhi aphansi: Azikho izindawo ezingenazo izitshalo, ezihlanziwe ngasezizalweni.</li> <li>▪ Azikho izitshalo ezihlaselayo (isib., umsilinga, isihlekehleke, ubukhwebezane, usandanezwe, idolofiya) ezingekho kakhulu endaweni yomfula.</li> <li>▪ Azikho izinhlobo zezilwane zasemanzini ezintantayo ezitholakala esizalweni somfula, isib., amazibo.</li> <li>▪ Awukho umoba ku-EFZ (indawo yesizalo somfula esebenzayo).</li> <li>▪ Akukho ukuthuthukiswa noma ukuguqulwa kwendawo yomhlaba ku-EFZ (isib. izimayini, ezolimo, nezamasimu).</li> </ul>   |
| Izilwane ezingenamgogodla | <b>A/B</b> | <p>Akugcinwe i-TEC (&gt;88%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukuqinisekisa ukuvikelwa kokuhlukahluka okuphelele kwezinto eziphilayo, wonke amaqembu asebenzayo ezindaweni zokuhlala zezizalo zemifula nezamanzi ahlanzekile. Izinhlobo eziyingqayizivele zibaluleke ngokukhethlekile.</li> <li>▪ Akukho ukuncishiswa okuphawulekayo kwezinhlobo eziyingqayizivele (okuwela ngaphansi kuka-50% wobuningi besilinganiso esizalweni noma echibini).</li> <li>▪ Ukwehla kuka- &lt;10% ebuningini bezinhlobo zazolwandle ezingosomathuba ezingena emlomeni (isib., i-Urothoe spp. ebolekayo).</li> <li>▪ Ichibi laseMgobezeleni lizosekela inani lezinto abezihlala khona unomphela zezinhlobo zesizalo somfula ama-<i>relict peracarid</i> (isib., i-<i>Halmrapseudes digitalis</i>, i-<i>Grandidierella lignorum</i>).</li> <li>▪ Azikho izinhlobo ezengeziwe ezingajwayelekile ezihlaselayo (isib., i-<i>Meretrix</i> noma i-<i>Corbicula</i> spp.).</li> <li>▪ Akukho okunye ukungena kwe-<i>Tarebia granifera</i> ehlaselayo ezindaweni zezizalo zemifula enamandla okudlula izinhlobo zemvelo. I-T. granifera izohlala ingu- &lt;20% wobuningi bezilwane ezinkulu, ikakhulukazi ekhanda lesizalo somfula.</li> <li>▪ I-<i>Chironomidae</i> spp. ayiyona ingxenye enkulu yezinto zokubasa zezilwane ezinkulu kanye nobuningi.</li> </ul> <p>Ngokufanayo, i-Assimineidae yomdabu akufanele yakhe imiphakathi yohlobo olulodwa kunoma iyiphi indawo yesizalo somfula.</p>  |
| Izinhlanzi                | <b>B</b>   | <p>Akugcinwe i-TEC (&gt;78%) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>▪ Ukwehla okungu-&lt;20% kobuningi (okuzochazwa njengesilinganiso esinemikhawulo yokubikezela) kwezinhlobo zazolwandle zezizalo zemifula ezingosomathuba futhi nezinhlobo ezincike ezizalweni zemifula njengezincane.</li> <li>▪ Isizalo somfula sinikeza indawo yokuzala ezinhlotsheni zazolwandle ezihlukahlukene ezincike ezizalweni zemifula. Izinhlobo eziningi ze-<i>Mugillidae</i> zibusa ukuhlanganiswa. I-<i>Planiliza alata</i>, i-<i>Planiliza macrolepis</i>, i-<i>Pseudomyxus capensis</i>, i-<i>Mugil cephalus</i>, i-<i>Osteomugil cunnesius</i>, i-<i>Rhabdosargus holubi</i>, i-<i>Terapon jarbua</i> konke kukhona esizalweni somfula.</li> <li>▪ Isizalo somfula sisekela izinhlobo zanjalo zezinhlobo zezizalo zemifula. I-<i>Ambassis ambassis</i>, i-<i>Ambassis natalensis</i>, i-<i>Glossogobius callidus</i> ikhona esizalweni.</li> <li>▪ Ukuxhumana phakathi kwechibi nesizalo kuyagcinwa. I-<i>Planiliza alata</i>, i-<i>Planiliza macrolepis</i>, i-<i>Pseudomyxus capensis</i>, i-<i>Acanthopagrus vagus</i>, i-<i>Monodactylus argenteus</i> ikhona Echibini laseMgobezeleni.</li> <li>▪ Ichibi laseMgobezeleni lisekela izinhlobo zanjalo zezinhlobo zezizalo zemifula.</li> </ul> <p>i-<i>Gilchristella aestuaria</i> ne-<i>Glossogobius callidus</i> ikhona echibini.</p> <ul style="list-style-type: none"> <li>▪ Zonke izigaba zokudla zivezwe ekuhlanganisweni kwezinhlanzi. Izinhlobo ezidla izinto ezibolile (izinhlanzi) izilwane ezincane eziphila emanzini (i-<i>Ambassis</i> spp., i-<i>Gilchristella aestuaria</i>), izinhlanzi ezidla ezinye izinhlanzi nezilwane ezingenamgogodla (i-<i>Gerres</i> spp., i-<i>Pomadasys commersonii</i>) kanye nezilwane ezidla izinhlanzi (i-<i>Caranx</i> spp.) zikhona esizalweni somfula.</li> <li>▪ Izinhlanzi ze-<i>steno haline</i> zamanzi ahlanzekile zikhawulelwe endaweni ephezulu kohlelo.</li> </ul> <p>i-<i>Enteromius</i> ne-<i>Lacustricola</i> ayibi bikho eduze nomlomo wesizalo somfula.</p> <ul style="list-style-type: none"> <li>▪ Ukuhlanganiswa kwezinhlobo kufanele kube nezinhlobo zomdabu kuphela. Akufanele kube khona izinhlanzi ezingezona ezomdabu.</li> </ul> |
| Izinyoni                  | <b>A</b>   | <p>Akugcinwe i-TEC (&gt;93%). Ukugcina umphakathi wezinyoni zendawo okubandakanya okumele wonke amaqembu asekuqaleni ngokwesisekelo samanje:</p> <ul style="list-style-type: none"> <li>▪ Ukubhanqwa kwendawo yokuhlala kweNkwazi yase-Afrika okukhona kanye nokuzalanisa ngempumelelo.</li> <li>▪ Izinhlobo ezingavamile nezikhethelwe kakhulu, isib. Indwandwe Yasebusuku Enomhlane Omhlophe, Umhlume</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>▪ Isivuba: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Imiphishamanzi kanye/noma izindwandwe/amalanda: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Izinyoni zasemanzini (amadada namahansi): Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> <li>▪ Yonke imiphakathi yezinyoni zasemanzini: Akukho ukuncishiswa okukhulu kwamanani (&lt;20%).</li> </ul> |
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### IThebula 5.8: i-W70-iKOSI

| i-PES:   | A/B↓  | i-REC:  | A | i-TEC: | A |
|--|-------|---|---|--------|---|
| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzohlela ekumisweni komzila ongemuhle nokufeza i-TEC (DWS 2016a):</p> <ul style="list-style-type: none"> <li>• In line with existing fisheries management guidelines for the Kosi Lakes maintain the traditional subsistence fishery using traditional methods at sustainable levels (traditional methods refer to the back-facing traps and exclude gear such as diving masks and spear guns, augmented baskets (lined with nets / gill nets).</li> <li>• Ukulawula nokuqapha ukuthathwa kwezinkalankala (okungalawulwa njengamanje futhi okuthengiswa eThekwini).</li> <li>• Ukulawula ukusetshenziswa kwezinsizakalo zemihlangu, incema kanye nemihlune ngokwethula izindawo zokuphumula (ukucubungula uhlelo olukhona).</li> <li>• Ukulawula ukushiswa kwezitshalo zasemathafeni anezikhukhula, ihlathi lamaxhaphozi namahlathi omhlume, ngokwesibonelo, ngokuthuthukisa uhlelo lokufundisa.</li> <li>• Ukuvimbela inguquko yokusetshenziswa komhlaba nokulawula ukuhlanzwa nokumbiwa kwamasoyi emfucumfucu yezitshalo kanye namaxhathi angamaxhaphozi ukuze kulinywe izingadi.</li> <li>• Ukulawula ukusetshenziswa kwe-DDT, imithi yokubulala ukhula kanye nemithi yokubulala izinambuzane endaweni yokudonsa amanzi (ukukhathazeka okwandayo kokuthi ukusetshenziswa kwe-DDT kanye nama- phosphate ezinto eziphilayo kunomthelela ngenxa yesikhathi eside sokuhlala kanye nobuthakathaka bohlelo lwamachibi); futhi</li> <li>• Lapho kungakhiwa khona okwamanje (isib. izindlu, imigwaqo), akwenziwe umngcele ongu-2 km ozungeze indawo esebenzayo yezizalo somfula ukuvikela amanzi angaphansi komhlaba emtheleleni wezihlahla zezinkuni kanye nezitshalo zezohwebo.</li> <li>• Ukubekwa kwemingcele ekusetshenzisweni kwamanzi angaphansi komhlaba kanye nokwehliswa kwezitshalo - okuzoqondiswa ucwaningo lwamanzi angaphansi komhlaba olubeka izinga lemikhawulo yokutshalwa kanye nezihlahla zezinkuni endaweni ebanzi ephatha amanzi ngeke kube nomthelela ekufakweni kwamanzi angaphansi komhlaba Ohlelweni lweChibi leSizalo Somfula iKosi.</li> </ul> |       |   |   |        |   |
| Ingxenywe/inkomba  | i-TEC | i-TPC   |   |        |   |
| Amanzi   | A     | <p>Akugcinwe i-TEC (&gt;93%). Ukuvikela uhlelo lokuqapha ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi:</p> <ul style="list-style-type: none"> <li>▪ Amaphethini okusabalala kokungenelela komfula namanzi angaphansi komhlaba akufanele kuhluke ngaphezu kuka-5% kulawo emvelo (DWS, 2016a).</li> <li>▪ Inkomba yokucindezeleka kwamanzi angaphansi komhlaba: 0.15.</li> </ul>  |   |        |   |
| Amandla okuhamba kwamanzi  | A     | <p>Akugcinwe i-TEC (&gt;93%) (DWS, 2016a).</p> <ul style="list-style-type: none"> <li>▪ Ukugcina izimo zomlomo ovulekile ukuze kuvikelwe izinhlelo zemvelo zezizalo zomfula kanye nendawo ehlobene yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane kanye nezinga lamanzi.</li> <li>▪ Akukho ukuvaleka komlomo okufanele kube khona.</li> <li>▪ Ukuhlukahluka kwamagagasi okubonwe Ezinguqukweno zeChibini 1 neChibini 2 esilinganisweni samagagasi emandleni amagagasi angaphansi kuka-10% kusuka Esimeni Samanje (2015).</li> <li>▪ Izinga lamanzi ohlelweni alikho ngaphezu kuka-1,3 m MSL isikhathi esingaphezu kwezinsuku ezimbalwa (akuhlobene nezikhukhula).</li> </ul>   |   |        |   |
| Indawo yokuhlala engokwenyama (inzika)   | A     | <p>Akugcinwe i-TEC (&gt;93%):</p> <ul style="list-style-type: none"> <li>▪ Ukuvikela indawo yokuhlala efanelekile yokusatshalaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula. Ukufakwa kwenzika okumisiwe ekungeneleni komfula kufanele kuchezuke ngo-&lt;20% wobudlelwane bokulahlwa kwenqwaba yenzika okuzonqunywa njengengxenywe yocwaningo oluyisisekelo (Isimo Samanje 2015).</li> <li>▪ Akukho ukuguquka okufanele kwenzike ekusabalaleni kobhukhulu bezinhlamvu kanye nomongo wobudlelwane bezinto eziphilayo ngazodwa ngaphakathi kweNdawo kanye nengxenywe yechibi ngalinye. Ichibi 4 kanye Nesizalo Somfula kufanele kusekele isihlabatho solwandle sesilinganiso esingu-30%, kanye namaChibi 1 - 3 asekelo isihlabathi sezinhlamvu ezincane kuya kweziphakathi esinodaka oluncane noma esingenalo udaka (&lt;3%).</li> <li>▪ Okutholakele ekuhloleni kwemithombo yamanzi okwenziwe njengengxenywe yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvele esizalweni somfula (± 0.5 m).</li> </ul> |   |        |   |

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|  |            | <ul style="list-style-type: none"> <li>Izinguquko zamandla amagagasi esilinganisweni samagagasi kufanele zibe ngu-&lt;20% kusuka esisekelweni samanje (Isimo Samanje 2015) (DWS, 2016a)</li> </ul>   |
| <b>Izinga lamanzi (usawoti)</b>        | <b>A</b>   | <p>Akugcinwe i-TEC (&gt;93%).</p> <p>Uhlelo lukasawoti lokugcina i-TEC yezingxenye zezinto eziphilayo ezincikile futhi kufanele lugcine isilinganiso esichazwe kahle nesivamile see; (DWS, 2016a):</p> <ul style="list-style-type: none"> <li>I-Polyhaline/i-euhaline esezindaweni zomlomo eziphansi (ngokuvamile olwandle futhi okungakaze kube ngaphansi kuka-20).</li> <li>I-Mesohaline kuya ku-euhaline ezindaweni ezimaphakathi noma eziphansi izobonisa ithonya loMfula iKhalwe.</li> <li>Amachibi 1 no-2 kufanele ahlale eyi-<i>mesohaline</i>, ngezikhathi ezithile abe i-<i>polyhaline</i> kancane kodwa esikhathini esikhawulelwe.</li> <li>Ichibi 3: Isimo se-Oligohaline enosawoti &lt;5.</li> <li>Ichibi 4: i-Limnetic/oligohaline enosawoti &lt;1.</li> </ul>  |
| <b>Izinga lamanzi (okujwayelekile)</b> | <b>A/B</b> | <p>Akugcinwe isigaba se-TEC (&gt;88%) (DWS, 2016a).</p> <p>Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile:</p> <ul style="list-style-type: none"> <li>7.0 &lt; i-pH &gt; 8 kunoma ikuphi ukhulolwa.</li> <li>I-DO &gt;6 mg/l.</li> <li>Ukufiphala &lt;10 i-NTU (ukugeleza okuphansi).</li> <li>Ukufiphala &lt;15 NTU (ukugeleza okuphezulu – Isimo 1).</li> <li>I-DIN &lt;100 µg/l ekuthathweni kwamasampula kwezinyanga ezingu-2 ngokulandelana.</li> <li>I-DIP &lt;10 µg/l ekuthathweni kwamasampula kwezinyanga ezingu-2 ngokulandelana.</li> <li>Izinto ezinobuthi (amanzi): Bona iThebula A1 kuSithasiselo A.</li> <li>Izinto ezinobuthi (inzika): Bona iThebula A2 kuSithasiselo A.</li> </ul> <p>Isizalo Somfula Namachibi:</p> <ul style="list-style-type: none"> <li>Ukufiphala okusesilinganisweni esingu-&lt;5 i-NTU.</li> <li>7.0 &lt; i-pH &gt; 8.5 kunoma yisiphi isiteshi.</li> <li>I-DO &gt;6 mg/l kumasampula angaphezulu (kuya ku- ~5 m wokujula kwamanzi).</li> <li>I-DIN Esesilinganisweni esingu-&lt;100 µg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>I-PO4-P Esesilinganisweni esingu-&lt;10 µg/l ekuhlolweni kokuthathwa kwamasampula.</li> <li>Azikho izinto eziphazamisayo (amapulasitiki) ezikhona esizalweni, emigudwini nasemachibini.</li> <li>Izinto ezinobuthi (amanzi): Bona iThebula A1 kuSithasiselo A.</li> <li>Izinto ezinobuthi (inzika): Bona iThebula A2 kuSithasiselo A.</li> </ul> <p>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</p> <ul style="list-style-type: none"> <li>I-Enterococci &lt;185 ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li><i>ne-E. coli</i> &lt;500 ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul> |
| <b>Ulwelwe oluncane</b>                | <b>A</b>   | <p>Akugcinwe i-TEC (&gt;93%) ngokusebenzisa:</p> <p>i-Phytoplankton:</p> <ul style="list-style-type: none"> <li>Isizalo somfula kanye Nechibi 1 - 2: inani elingamaphesenti angu-90 ezinto zokubasa ze-phytoplankton &lt;5 µg Chl-a l-1.</li> <li>Amachibi 3 - 4: inani elingamaphesenti angu-90 ezinto zokubasa ze-phytoplankton &lt;10 µg Chl-a l-1.</li> <li>Azikho izimo zokudlondlobala (okuboniswe ngamanani angu-&gt;20 µg Chl-a l-1); ngisho nezimo ezincikile.</li> <li>Ukungabi khona kwe-HAB engakha amaqoqo; ikakhulukazi ezifundeni zikasawoti.</li> </ul> <p>Ulwelwe Oluncane Olutholakala Emanzini:</p> <ul style="list-style-type: none"> <li>Isizalo somfula kanye Nechibi 1: Izinto zokubasa ze-MPB esesilinganisweni &lt;50 mg Chl-a m-2 kanye nokwehluka kwe-diatom yezinhlobo eziphila emanzini (H') &gt;3.</li> <li>Ichibi 2 - 4: Izinto zokubasa ze-MPB esesilinganisweni &lt;100 mg Chl-a m-2 kanye nokwehluka kwe-diatom yezinhlobo eziphila emanzini (H') &gt;2.5.</li> </ul>  |

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| Izimila ezinkulu          | A/B | <p>Akugcinwe i-TEC (&gt;88%) ngokusebenzisa (DWS, 2016a):</p> <ul style="list-style-type: none"> <li>Ukugcina ukusatshalaliswa kanye nokwehlukahluka kwezindawo zezimila ezinkulu kusukela esizalweni somfula kuya echibini 4. Ichibi 4 elizindawo zamahlathi ezivelayo, ezinemifantu yezinhlanga, incema, nexhaphozi elikhulu esizalweni esisentshonalanga ngokuba khona kwe-<i>Raphia australis</i> (umvuma).</li> <li>Ushintsho olungekho ngaphezu kuka-10% endaweni yezindawo zezimila ezinkulu ngenxa yezinguquko zikasawoti ezingaphezulu kuka-5 Echibini 3 nezingaphezulu kuka- 1 Echibini 4 (Isithasiselo B).</li> </ul> <p>Izizalo zezimila ezinkulu ezingaphansi kwamanzi Echibini 3 ngezinhlombo ezifana ne-<i>Ceratophyllum demersum</i>, i-<i>Potamogeton sweinfurthii</i> ne-<i>Najas marina</i>.</p> <ul style="list-style-type: none"> <li>Akukho ukulahleka kwanoma yiziphi izinhlobo ezibusayo / zezici ezibalwe ngaphansi kokucaciswa kwemvelo. Isibonelo – ukulahleka kwemihlume kanye nemivuma ngenxa yezikhukhula (okungukuthi, ukujula kwamanzi kungaphezu kuka-60 cm izinyanga ezintathu).</li> <li>Izinhlobo ezibusayo kuwo wonke amachibi zihlanganisa <i>Indola yasolwandle</i> (indola yechweba) kanye ne-<i>Acrostichum aureum</i> (unohlinzamvuku womhlume).</li> <li>Izinhlobo zemihlume eziyisithupha zine-<i>Lumnitzera racemosa</i> ne-<i>Bruguiera gymnorhiza</i> kuze kube phezulu komfula ukusuka emlonyeni njengeChibi 2.</li> <li>Akukho ukulahleka kwemihlume Echibini 2 ngenxa yesimo eside samanzi ahlanzekile (unyaka oyi-&gt;1 Echibini 2).</li> <li>Akukho ukulahleka kwemihlanga yamanzi ahlanzekile, incema kanye namaxhaphozi ehlati ngenxa yokwehla kokungenela kwamanzi angaphansi komhlaba.</li> <li>Azikho izinhlobo zezilwane zasemanzini ezintantayo ezitholakala echibini lesizalo somfula, isib., amazibo, i-<i>Azolla</i>, i-<i>Hydrilla</i>, i-<i>Pistia</i>.</li> </ul>  |
| Izilwane ezingenamgogodla | B↑  | <p>Akugcinwe isigaba se-TEC (&gt;78%) ngokusebenzisa (DWS, 2016a):</p> <ul style="list-style-type: none"> <li>Ukugcina ubuningi bamanje bezilwane ezincane eziphila emanzini, izilwane ezinkulu ezihlala ngaphansi kwamanzi kanye nezilwane ezinkulu ezingenamgogodla ezinamagobolondo (kufaka phakathi ukwehluka kwesikhathi) kanye nokuchichima kwezinhlobo esizalweni somfula ngasinye kanye nezifunda zamachibi ezine.</li> <li>U-&lt;50% wegalelo lobuningi nezinto zokubasa zanoma iliphi iqoqo elilodwa elingahlaseli eliphakamisa inguquko yesilinganiso semvelo.</li> <li>Akukho ukunyamalala kwanoma yiliphi iqembu noma inkomba yeqoqo yokuhlanganiswa kwendawo yenzika nekasawoti (njengoba kuvame ukuboniswa ngamachibi ahlukene nezindawo zemigudu).</li> <li>Ukugcwaliswa okuhlukahlukene kakhulu kwezilwane ezingenamgogodla okuvela kuma-Phyla amaningi, Izigaba namanye amaqembu, kufaka phakathi ama-congenerics e-Copepoda, i-Isopoda, i-Amphipoda. Konke ukuhlolwa kwezilwane ezingenamgogodla (kuzo zonke izinhlobo eziphila emanzini kanye nezilwane ezincane eziphila emanzini) kufanele kubandakanye izinhlobo ezivela kuma-Phyla amancane angu-7 futhi ikakhulukazi i-<i>Annelida</i>, i-<i>Arthropoda</i> ne-<i>Mollusca</i>.</li> <li>Ukugcina izilinganiso zosuku lwanamhlanje (2016/2022) zezibungu ezihlala olwandle kuya kuzikhuphe eziningi (i-Amphipoda, i-Isopoda) enzikeni yamaChibi no-2. Izinguquko zokubusa kwe-Amphipoda/i-Crustacea kwenye indawo zibonisa ubuningi bolwelwe oluncane noma lapho ukwanda kwezibungu ezihlala olwandle ezihlaselayo ezikhona kuphakamisa ukulahleka kolwelwe oluncane olutholakala emanzini lwama-<i>amphipods</i>.</li> <li>Izinhlobo eziphila ngaphansi komhlaba kanye nezilwane ezidla okumisiwe, izilwane ezidla ulwelwe, izilwane ezidla imfucumfucu, izilwane ezidla inyama kanye nezilwane ezidla inyama nezitshalo kufanele zilawule izinhlobo zezinyoni ezidla izinhlobo ezakhelene nazo esizalweni zomfula nasemachibini 1 - 3. Ushintsho ezinhlelweni ezidla ngaphezulu noma ngaphansi komhlaba kubonisa inguquko endaweni yokuhlala (ukusabalala kobukhulu bezinhlamvu kanye/noma umthombo wokudla).</li> <li>Izinto zokubasa ze-<i>Kraussicallichirus kraussi</i> kufanele zihlale zingaguquki futhi zibuse izindawo zamagagasi ezijulile Emachibini no-2, kuphela. Ukungena kwezimfazi zesihlabathi eChibini 3 kuphakamisa isikhathi eside sokungena kukasawoti eChibini 3.</li> <li>Izimo zomlomo ovulekile ngezikhathi eziphakeme zokuqashwa kwezinkalankala nezigaba zezibungu zezinye izinhlobo zezikhuphe ezinkulu nezilwane ezingenamgogodla ezinkulu (ngokuvamile ngentwasahlobo) zizosekela izidingo zomjikelezo wempilo zezinhlobo ezincike ekuxhumaneni kolwandle nesizalo somfula konyaka ekuqashweni kezibungu nangemuva kwezibungu.</li> <li>Izimo zikasawoti ngaphakathi kwesigaba ngasinye sechibi zibalulekile ekwahlukaneni kwezinhlobo zezilwane ezingenamgogodla futhi zisebenza ukugcina ukuhambisana okugcwele nokuhlukahleka kwamanzi ahlanzekile kuya emanzini asolwandle. Izilwane kufanele zihluke zisuka ezinhlotsheni ze-<i>polyhaline</i> ezisezingeni eliphansi, ezinhlotsheni ze-<i>mesohaline</i> Emachibini 1 no-2, izilwane ezibekezelela usawoti Echibini 3 kanye nezinhlobo ze-<i>oligohaline</i> zamanzi ahlanzekile kuphela Echibini 4.</li> <li>Izikhuphashe eziphila emanzini ahlanzekile, ezifudukela emanzini anosawoti ukuze zizale isib., i-<i>Varuna litterata</i> kufanele itholakale ngaso sonke isikhathi futhi ikakhulukazi Echibini 1 nasesizalweni somfula, ngesikhathi sesikhathi sokuzala.</li> </ul> |

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|------------|-----|---|
|            |     | <ul style="list-style-type: none"> <li>Umphakathi wezilwane ezingenamgogodla kufanele ube nezinhlobo zomdabu kuphela. Akukho ukusabalala kweTarebia granifera ezindaweni ezingaphakathi kohlelo ngale kwamaChibi 3 no-4, noma emaxhaphozini azungezile, imifula noma izindawo ezingamaxhaphozi.</li> </ul>  |
| Izinhlanzi | B↑  | <p>Akugcinwe isigaba se-TEC (&gt;78%) ngokusebenzisa (DWS, 2016a):</p> <ul style="list-style-type: none"> <li>Ukwehla kuka-&lt;20% kobuningi (okuzochazwa njengokulinganiselwa okukhawulelwe kokubikezela) of marine estuarine-opportunist species and estuarine species as juveniles.</li> <li>Ichibi 4, izindawo zezindawo ezinamanzi amile zamanzi ahlanzekile kanye nokungenela emifuleni kusekela ukuhlukahluka kwezinhlanzi eziyinhloko zamanzi ahlanzekile, kanye nezinhlobo ezinkulu zamanzi ahlanzekile. Lezi kufanele zibandakanye i-Hypseleotris dayi, izinhlobo eziningi ze-Enteromius ne-Lacustricola species. At least one species of stenohaline freshwater fishes (i-Enteromius spp., i-Lacustricola spp.) Echibini 4 elithathwe amasampula. Abukho ubuningi obungaphansi kwesilinganiso esiphansi (okuzochazwa njengokulinganiselwa okukhawulelwe kokubikezela) sezinhlanzi zamanzi ahlanzekile.</li> <li>Uhlelo lugcina ukusebenza nempilo njengendawo yokuhlala yezinhlobonhlobo zezinhlobo ezihlala ezizalweni zemifula ezibandakanya amaqembu ezinhlanzi ezitshuza kulo lonke ulwandle kanye nezinhlanzi eziphila ngaphansi kolwandle, kanye nezinhlobo ezincike kakhulu ezindaweni zezimila ezithile. Inhlobo zendawo yesizalo somfula kufanele zihlanganise kokubili amqembu ezinhlanzi ezitshuza kulo lonke ulwandle nezinhlanzi eziphila ngaphansi kolwandle. Esokuqala sasibusisa</li> </ul> <p>yi-Gilchristella aestuaria, i-Ambassis spp., kanye ne-Hyporhamphus capensis yezinga elincane. Lezi zinhlanzi kufanele zibekhona ngobuningi kanye nemvamisa engu-100% Emachibini 4, 3 kanye Nomgudu waseMtando okungenani. Amaqembu ezinhlobo ezitholakala ngaphansi kwamanzi kufanele zibandakanye izinhlobo zezinhlanzi ezincane ezingaphansi kwamanzi (i-Croilia mossambica, i-Silhouettea sibayi, i-Glossogobius callidus ngemvamisa engu-100%, kanye nezinye izinhlobo ezifana ne-Redigobius dawaali, i-Glossogobius giuris, i-Psammodobius biocellatus), kanye ne-Eleotris spp. i-Hippichthys spp. kufanele ibekhona endaweni efanelekile (izimila zasemanzi ezingaphansi kwamanzi). Ubuningi obusesilinganisweni kufanele bungabi phansi (okuzochazwa njengokulinganiselwa okukhawulelwe kokubikezela) kwanoma yiziphi izinhlobo zendawo zesizalo somfula esiyinhloko (i-Gilchristella aestuaria, i-Ambassis spp., i-Hyporhamphus capensis, i-Croilia mossambica, i-Silhouettea sibayi, i-Glossogobius callidus). I-Hippichthys spp. kufanele ihlale ikhona.</p> <ul style="list-style-type: none"> <li>Uhlelo lusebenza njengendawo yokukhula nendawo yokudla yezinhlanzi zisolwandle ezincike esizalweni somfula ezihla izinhlobo ezitholakala ngaphansi kwamanzi. Izinhlobo zisolwandle ezincike ezizalweni somfula (isigaba se-Whitfield Ila, Iib, Vb) kufanele zibuse izinhlanzi ezithathwa amasampula ezindaweni zezizalo zemifula (okungukuthi, ngaphandle kwezindawo zamanzi anezixhobo zamakhoralali ezude nomlomo wohlelo). Ngakho, izinhlobo zisolwandle ezincike ezizalweni zemifula ezidla izinhlobo ezitholakala ngaphansi kwamanzi kufanele zibe khona kulo lonke uhlelo lwamachibi oluxhunyanisiwe njengakuzo zonke izigaba zobukhulu (izinhlobo ezincane, ezindadlana nezindala). Ubuningi bufanele bube bukhulu Emachibini 1 no-2. Izinhlobo kufanele zibandakanye izinhlanzi (Echibini 4), i-Pomadasys commersonnii, i-Acanthopagrus vagus, i-Lutjanus argentimaculatus ne-Rhabdosargus sarba (okungenani Echibini 2). I-Gerres spp. kufanele ibe khona Echibini 3 okungenani njengezinhlobo ezincane. Zonke lezi zinhlanzi kufanele ngemvamisa engu-100%. Ukusatshalaliswa kobukhulu kufanele kubonise lezo ezingalindeleka ngaphansi kwezimo zokubhekisela.</li> <li>Izinhlobo zezilwane ezidla ezinye, okuhlanganisa i-Sphyræna spp., i-Carax spp. kanye ne-Scomberoides spp. kufanele zibonakale njengezilwane ezisencane nezingaphansi kwezindala eChibini 2 okungenani, kanti izilwane ezisencane zezinhlobo ezimbili zokuqala kufanele zingene eChibini 3.</li> <li>Izinhlobo zezinhlanzi ezingajwayelekile akufanele zibekhona.</li> </ul> |
| Izinyoni   | A/B | <p>Akugcinwe i-TEC (&gt;88%) ngokusebenzisa (DWS, 2016a):</p> <ul style="list-style-type: none"> <li>Ukugcina ubuningi bezinyoni ezisebenzisa uhlelo, ngobuningi bezinyoni obuphelele – ngaphandle konontenteza – hhayi ngaphansi kuna-1000 ekubalweni kathathu okulandelanayo (onontenteza abafakiwe njengona inani labo libonisa ukuguquguquka okukhulu phakathi nonyaka).</li> <li>Ukugcina ukwakheka okukhona kwezinyoni ezidla izinhlobo ezakhelene nazo(2016). Isilinganiso sezinyoni ezidla izinhlobo ezakhelene nazo ngasinye kufanele silingane cishe no-30% futhi azikho okufanele zichezukele ngaphezu kuka-20% ngokubala okungaphezu kokuthathu ngokulandelana (okungukuthi. izinyoni ezidla izinhlobo ezakhelene nazo kufanele ngazinye zibe phakathi kuka-10 no-50%). Izinyoni ezidla izinhlobo ezakhelene nazo: (i) izinyoni ezidlala izinhlanzi ezinkulu (u-&gt;10 cm); (ii) izinyoni ezidla izinhlanzi ezincane (u-&lt;10 cm) ; kanye (iii) nobuningi obuhlanganisiwe zezinhlobo ezidla izimila kanye nezinhlobo ezidla izilwane ezingenamgogodla.</li> <li>Ukuqinisekisa ukuba khona okuqhubekeyo kwezinhlobo zezindawo ezichaziwe ezikhethekile (okungukuthi. Ukuzisebenzisa njengezinkomba zohlelo lwezempilo). Akukho ukulahleka kwanoma yiziphi zezinhlobo ezilandelayo ezizwelayo ezivela ohlelweni: Isikhova esidla izinhlanzi; Ihansi elinguThwa lase-Afrika; Ingwedlamanzi yase-Afrika; Insingizi.</li> </ul>   |

### IThebula 5.9: i-St Lucia/UMfolozi

| PES:   | D ↓↑  | REC:   | B | TEC: | C (Short term) |
|--|-------|--|---|------|----------------|
|  |       |  |   |      | B (long term)  |
| <p>Ukungenelela okulandelayo okungekhona kokugeleza kuzoholela ekumisweni komzila ongemuhle nokufeza i-TEC (DWS, 2016b; DFFE, 2022):</p> <ul style="list-style-type: none"> <li>I-St Lucia/iMfolozi kufanele ibe nomlomo owodwa kanye nokushintshwa komlomo (ukuvulwa kokuzenzela noma ukuvalwa) okugcinwe ebuncaneni njengoba kwandisa isomiso noma ukuguquka kwesimo sezulu okubucayi.</li> <li>Ukuvuselela izindawo eziphansi zezindawo zezikhukhula zaseMfolozi ezimileni zemvelo ukuvumela izinqubo zemvelo isib., ukugcinwa kwekhabhoni, ukuvaleka komlomo). Kudingeka ucwaningo oluningiliziwe lokuzwa kude ukuze kutholakale izindawo eziphansi ezinezikhukhula ngesikhathi nomjikelezo wemvula.</li> <li>Ukususa izimila ezingajwayelekile eduze Nechibi, izizalo, kanye nemifula.</li> <li>Ukukhawulela ukugawulwa kwamahlathi kwemvelo okufana nasehlathini leDukuduku.</li> <li>Ukuqeda ukudoba ngamanetha okungenkho emthethweni ohlelweni.</li> <li>Ukuqeda nokuqapha ukuvela kwezinhlobo ezihlaselayo ezingajwayelekile (izitshalo, izilwane ezingenamgogodla nezinhlanzi).</li> <li>Kudingeka ukhulwa okuyisu ukuze kuvikelwe ukwanda kwamadolobha ezindaweni eziphatha amanzi ezithola amanzi ngokuqondile Echibini Nakungudu Wamanzi.</li> <li>Ukunciphisa ukudalwa kwamahlathi okwenziwa ngenjongo yokuhweba ezindaweni eziphethe amanzi zamachibi ukuze kwandiswe ukugeleza okuphansi ngangokunokwenzeka.</li> <li>Endaweni ephatha amanzi Emfuleni waseMfolozi, imisebenzi yokunakekela umhlaba kufanele igxile ezindaweni ezibucayi kakhulu eziphatha amanzi ukuze kuncishiswe ukuguguleka nokuwohloka komhlaba esikhathini esizayo okungaqhubeka nokunciphisa ukugeleza okuphansi.</li> <li>Ukukhishwa kwamanzi emfuleni okungagunyaziwe ikakhulukazi eMfuleni yaseMkuze naseMfolozi kufanele kuqedwe. I-DWS izodinga izokwenza uphenyo olwengeziwe ekukhawuleleni ukusetshenziswa kwamahlathi okwengeziwe endaweni ephatha amanzi e-St Lucia naseMfolozi futhi ibuyekeze imibandela yelayisense maqondana nezindawo eziyimingcele. Ukuqinisekiswa kokusetshenziswa kwamanzi kuyadingeka futhi kungaholela ekutheni kuhlinzekwe amalayisense ngokuyimpoqo.</li> </ul> |       |  |   |      |                |
| Ingxenywe/inkomba  | i-TEC | i-TPC  |   |      |                |
| Amanzi   | C     | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela uhlelo lokugeleza ukuze kwakheke indawo edingekayo yezinyoni, izinhlanzi, izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS, 2016b). <b>Ukugcina ukugeleza kwamanzi ahlanzekile avela kuyo yonke imifula engenelayo ezingeni eliseduze ngangokunokwenzeka nemvelo kodwa hhayi ngaphansi kwezimo zamanje.</b> Ukugeleza okuvela eMfolozi kubaluleke kakhulu ekuqinisekiseni ukuthi umlomo wesizalo somfula usebenza ngendlela efana nezimo zemvelo, ngenkathi ukugeleza okuvela emifuleni emincane okukhiphela ngokuqondile emachibini ase-St Lucia (iMkuse, iHluhluwe, iMsine, iNyalazi, UMfula iMpete) kanye namanzi angaphansi komhlaba abalulekile ekugcineni izinga lamanzi, ukuvimbela ukwanda kwezimo zokuba khona kukasawoti omningi, kanye namandla omlomo</p> <ul style="list-style-type: none"> <li>Ukukhishwa okuncane esiteshini i-W2H032 sokulinganisa se-DWS eMfolozi ngo-3 m<sup>3</sup>/s ukugcina umlomo uvulekile (ngaphandle kwesikhathi sesomiso esichaziwe).</li> </ul>   |   |      |                |
| Amandla okuhamba kwamanzi  | C     | <p>Akugcinwe i-TEC (&gt;63%). Ukugcina izimo zomlomo ovulekile ukuvikela izinhlelo zemvelo zesizalo somfula kanye nezindawo ezihlobene yezinyoni, izinhlanzi izimila ezinkulu, ulwelwe oluncane nezinga lamanzi (DWS, 2016b):</p> <ul style="list-style-type: none"> <li>Izigaba ezingaguququki ngezikhathi ezijwayelekile, okungukuthi izinguquko zamashumi eminyaka, njengoba lokhu kungathikameza ukusinda kwezigaba ezibucayi.</li> <li>Ukugcina izinga lamanzi Echibini lase-Charters Creek ku-&gt; 0.35 m wesilinganiso sezinga lolwandle (kuzoqinisekiswa ngokuhlola).</li> <li>Umlomo wesizalo somfula akufanele wephulwe ngokwenziwa ngaphandle uma kunesimo esiphuthumayo noma lapho kuphoqa izimo ezihlukile. Lokhu kuzovumela ukugelezela komfula okukhulu ngesikhathi sesomiso kanti uma wephulwa kuzovuleka umlomo omkhulu onokugeleza kwamagagasi okukhulu.</li> <li>Izinguquko ezingeni lamanzi Emachibini kufanele zihambisane eduze ngangokunokwenzeka nemvelo. Isilinganiso sezinga lamanzi emachibini ngaphansi kwezimo zemvelo kulinganiselwa ukuthi sicishe sibe ngu-0.55 m isilinganiso sezinga lolwandle (i-MSL) futhi sehlele ngaphansi kuka-0.1 m MSL ngaphansi kuka-16% wesikhathi.</li> <li>Isilinganiso sezinga lamanzi esijwayelekile Emachibini akufanele sehle ngaphansi kuka-0,1 m MSL isikhathi esingaphezu kuka-20% ngaphandle kwesikhathi sesomiso esichaziwe</li> </ul> |   |      |                |
|  | C     | <p>Akugcinwe i-TEC (&gt;63%). Ukuvikela indawo yokuhlala efanelekile yokusatshaliswa kwenzika yezizalo zemifula yezinto eziphilayo zezizalo zemifula (DWS, 2016b):</p> <ul style="list-style-type: none"> <li>Umthombo owumgudu kanye nezinga lesizalo Emachibini, Emihubheni Yamanzi kanye naseMfolozi kufanele ufane nalezo ezisesimeni semvelo ngangokunokwenzeka, noma lapho lezi ziguqulwe kakhulu emvelweni, akufanele zihluke kakhulu Kunosuku Lwamanje.</li> <li>Ingququko ezingezi lesizalo noma ikuphi esizalweni somfula ngaphezu kuka-10 cm kude nezimo zemvelo noma zanamhlanje, njengoba kusebenza, ngaphandle kokulandela okukhulu (u-&gt;1:20 wonyaka wezikhukhula).</li> </ul>  |   |      |                |

|  |     |  |
|--|-----|--|
| Indawo yokuhlala engokwenyama (inzika) |     | <p>Izinguquko zamaphethini okusabalala kobukhulu bezinhlamvu zenzika akungabangeli ukubekezelelwa ngokweqile kwezilwane ezingenamgogodla ezihlala ngaphansi kwamanzi (DWS, 2016b):</p> <ul style="list-style-type: none"> <li>Akukho ukuguquka okufanele kwenzeke ekusabalaleni kobukhulu bezinhlamvu kanye nomongo wobudlelwane bezinto eziphilayo ngazodwa ngaphakathi kweNdawo kanye nengxenye yechibi ngalinye.</li> <li>Okutholakele ekuhlolweni kwemithombo yamanzi okwenziwe njengengxenye yohlelo lokuqapha akufanele kubonise izinguquko kumaphethini okuba khona kwenzika nokuguguleka okuvela esizalweni somfula (<math>\pm 0.5</math> m).</li> </ul>   |
|  |     | <ul style="list-style-type: none"> <li>Ukufakwa kwenzika okumisiwe ekungeneleni komfula kufanele kuchezuke ngo-<math>&lt;20\%</math> wobudlelwane bokulahlwa kwenqwaba yenzika okuzonqunywa njengengxenye yocwaningo oluyisisekelo (Isimo Samanje 2023).</li> </ul>  |
| Izinga lamanzi (usawoti)               | D ↑ | <p>Akugcinwe i-TEC (<math>&gt;43\%</math>). Uhlelo lukasawoti lokucina i-TEC yezingxenye zezinto eziphilayo ezincikile (DWS, 2016b).</p> <ul style="list-style-type: none"> <li>Isakhiwo sikasawoti Emachibini, Ezindaweni kanye naseMfolozi kufanele sihambisane ngokusondelene ngangokunokwenzeka nesimo semvelo. Usawoti osesilinganisweni Emachibini ngaphansi kwezimo zemvelo ulinganiselwa ku-6.5 - 9.6, futhi weqe u-20 ngaphansi kuka-10% wesikhathi.</li> <li>Amazinga okubakhona kosawoti emachibini ngaphandle kwesikhathi sesomiso esichaziwe, kanye nesilinganiso esingaphezu kwesikhathi esengeziwe aweqi u-20.</li> <li>Izimo zokuba khona kosawoti omningi (ukuba khona kuka sawoti okungu-<math>&gt;35</math>) ziqoshwa ngaphandle kwesikhathi sesomiso esichaziwe.</li> </ul>  |
| Izinga lamanzi (okujwayelekile)        | D ↑ | <p>Akugcinwe i-TEC (<math>&gt;43\%</math>). Izinga lamanzi kufanele lifaneleke ukugcina i-TEC yezingxenye zezinto eziphilayo ezincikile. Izinga lamanzi emifuleni engenelayo nasezizalweni ngokwazo kufanele lilinganisele ngangokunokwenzeka izimo zemvelo. Izici ezibalulekile zobungozi zihlanganisa amazinga aphakeme e-pH kanye namazinga ezakhi emanzini angenelayo kanye namazinga aphansi omoyampilo esizalweni, ikakhulukazi ebusuku (DWS 2016b).</p> <p><b>Ukungenela koMfula (DWS 2016a):</b></p> <ul style="list-style-type: none"> <li>I-DIN <math>&lt;100</math> <math>\mu\text{g/l}</math>.</li> <li>I-DIP <math>&lt;30</math> <math>\mu\text{g/l}</math>.</li> <li>Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p><b>Isizalo Somfula (DWS 2016a):</b></p> <ul style="list-style-type: none"> <li>I-DO <math>&gt;4</math> <math>\text{mg/l}</math>.</li> <li>i-TSS Esesilinganisweni u-<math>&lt;50</math> <math>\text{mg/l}</math> wamazinga (Ezindaweni esikhathini sonyaka owodwa).</li> <li>Izinto ezinobuthi (amanzi): Bona <b>iThebula A1 kuSithasiselo A</b>.</li> <li>Izinto ezinobuthi (inzika): Bona <b>iThebula A2 kuSithasiselo A</b>.</li> </ul> <p><b>Ezindaweni ezisetshenziselwa ukuzijabulisa ezizalweni zemifula (bona imininingwane eku-DEA, 2012):</b></p> <ul style="list-style-type: none"> <li>I-Enterococci <math>&lt; 185</math> ukubalwa okungu-100 ml (amaphesenti angu-90), kanye</li> <li><i>ne-E. coli</i> <math>&lt; 500</math> ukubalwa okungu-100 ml (amaphesenti angu-90).</li> </ul> |
| Ulwelwe oluncane                       | D ↑ | <p>Akugcinwe i-TEC (<math>&gt;43\%</math>) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Ukugcina izinto zokubasa ezincane ze-phytoplankton kulo lonke ichibi lesizalo somfula. Izinto zokubasa ze-Phytoplankton: u-<math>&lt;5</math> <math>\mu\text{g Chl-a l}^{-1}</math> esizalweni somfula kanye no-<math>&lt;15</math> <math>\mu\text{g Chl-a l}^{-1}</math> echibini.</li> <li>Uhlelo kumele lungabi nakho ukudlondlobala kolwelwe noma amanyela olwelwe antantayo.</li> <li>Ukugcina ukusabalala kwamaqembu e-phytoplankton kuso sonke isizalosomfula.</li> <li><i>I-Cyanophyceae ne-Chlorophyceae</i> kuba okuvela uma isizalo somfula sihlanzekile kanti iqoqo lezinto eziphilayo liba elivelele uma uhlelo lusesimeni sikasawoti/solwandle. Ukudlondlobala kwe-<i>Cyanobacteria</i> nakho kungenzeka ngaphansi kwezimo zosawoti omningi.</li> </ul>  |
| Izimila ezinkulu                       | B   | <p>Akugcinwe i-TEC (<math>&gt;78\%</math>) ngokusebenzisa:</p> <ul style="list-style-type: none"> <li>Ukugcinwa kokusatshalaliswa nobuningi kwezindawo zokuhlala zezimila ezinkulu kulo lonke uhlelo lwamachibi esizalo somfula, lapho kunoshintsho olungaphansi kuka-20% endaweni yezindawo ezihlukene zezitshalo ezikhulu ezimila emanzini ngenxa yezinguquko zezakhi (Bheka <b>Isithasiselo B</b>).</li> <li>Izizalo ezinkulu izimila ezinkulu ezingaphansi kwamanzi zingakhiwa echibini eliseningizimu eduze kwe-Catalina Bay naseMakakatana. Akukho ukulahleka kwezinhlobo zezimila ezinkulu ezingaphansi kwamanzi ezivelele/ezinezoco okufanele kwenzeke.</li> <li>Akukho ukulahleka kwemihlanga yamanzi ahlanzekile, incema kanye namaxhaphozi ehlathi ngenxa yokwehla kokungenela kwamanzi angaphansi komhlaba.</li> <li>Azikhona izinhlobo zezilwane zasemanzini ezintantayo ezitholakala echibini lesizalo somfula, isib., amazibo, <i>i-Azolla</i>, <i>i-Hydrilla</i> kanye ne-<i>Pistia</i>.</li> </ul>  |

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| Izilwane ezingenamgog odla | D | <p>Akugcinwe isigaba se-TEC (&gt;43%) ngokusebenzisa (i-DWS, 2016b kanye neminingwane engashicilelwanga):</p> <ul style="list-style-type: none"> <li>▪ Ukuze kuqinisekiswa ukuvikelwa kokuhlukahluka kwezinto eziphilayo, okungenani amaqembu amane asebenzayo atholakala ezindaweni zokuhlala ezinosawoti ezizalweni, zasolwandle, zamanzi ahlanzekile nezinosawoti omningi. Izinhlobo zezilwane ezihlala ezindaweni ezithile zibaluleke ngokukhethekile, ikakhulukazi uma zikhawulelwe Uhlelo lweChibi lase-St Lucia.</li> <li>▪ Izinhlobo zezilwane ezihlala ezindaweni ezithile noma izinhlobo ezinokusabalala kwendawo okukhawulelwe ziyagcinwa (u-&lt;50% wesilinganiso). Akukho ukwehla kobuningi be-<i>Paratyloidiplax blephariskios</i> (u-&lt;25% wenguquko yamasampula onyaka). Kuzohloselwa ebuncaneni, okuyindawo elinganiselwe yalezi zinhlobo futhi edinga umlomo ovulekile wokushintshana kwezibungu.</li> <li>▪ Akugcinwe ubuningi bezilwane ezincane eziphila emanzini, izilwane ezihlala ngaphansi kwamanzi zesiqiwu kanye nezilwane ezinkulu ezingenamgogodla ezihlala ngaphansi kwamanzi (okuhlanganisa ukwahlukahluka kwesikhathi) kanye nokuceba kwezinhlobo Ohlelweni olulodwa lwamaChibi, Okuncane kanye neMfolozi. Akukho ukwehla kobuningi bezilwane ezincane eziphila emanzini (&lt;20%) ngokwamanani e-m2 ngayinye okungenani ezindaweni zamasampula ezingu-3, ngaphezu kweminyaka engu-2, noma ekuguqukeni kwamanani okungu-&lt;15% kwezilwane ezinkulu ezihlala ngaphansi kwamanzi nge-m<sup>2</sup> ngayinye okungenani ezindaweni zamasampula ezingu-5, endawenyi ngayinye ngonyaka ngamunye.</li> <li>▪ Azikho izinhlobo ezingajwayelekile ezihlaselayo ezingadlula izinhlobo zomdabu. Ikakhulukazi lezo ezinamanzi ahlanzekile noma anosawoti isib., i-<i>Tarebia</i>, <i>Corbicula</i>.</li> <li>▪ <i>Ukusabalala kwe-Tarebia granifera</i> kukhawulelwe ohlelweni lwe-Mfolozi kanti ukuba khona kosawoti okuphezulu kwezindawo eziphansi kufanele kuvimbele ukungenela e-St Lucia.</li> </ul> |
|                            |   | <ul style="list-style-type: none"> <li>▪ Izinhlobo zizohlanganisa izinhlangani zezizalo zemifula eziyinhloko (amachibi ne-False Bay) kodwa futhi nabamele amanzi ahlanzekile ezindaweni zaseMfolozi kanye nezinhlobo zasolwandle emlomeni.</li> <li>▪ Characteristic micro-crustaceans to be always found especially Eriopisa chilensis, Bolttsia minuta, Halmrapseudes cooperi and Afrochiltonia capensis in the Narrows and lower South Lake.</li> <li>▪ Ubuningi bawo wonke amaqembu amaqoqo buphakeme entwasahlobo ngaphambi kwezikhathi zokugeleza okuphezulu kwehlobo futhi buncipha ebusika, isikhathi sokugeleza okuphansi. Ngikucabangela isikhathi sonyakay, ukuhlukahluka kwezinhlobo zezilwane ezinkulu akufanele kwehlele emaqoqweni angu-&lt;50 ohlelweni, ngeChibi eliseNingizimu elibonisa ukuhlukahluka okukhulu (iqoqo elingu-&lt;25 taxa).</li> <li>▪ Umlomo uzovuleka ngesikhathi esiphezulu sokuqashwa kwezinhlobo zomjikelezo wempilo encike ekuxhumaneni konyaka kolwandle lwezizalo zemifula kokuqoqwa kwezibungu kanye nangale kwezibungu (ikakhulukazi ngentwasahlobo) kwezimfanzi ze-Penaeidae prawns kanye nama-Decapoda amaningi.</li> <li>▪ Akukho nguquko emphakathini wezimfanzi ezivelele olwandle (i-Penaeidea) ekuhlanganeni kokuvelela kwamanzi ahlanzekile (Izimfingo). Ukwehla okungu-&lt;20% ebuningini obuhlobene bezilwane ezinkulu ezingenamgogodla ezinamagobolondo zasolwandle ezincike ezizalweni somfula nasemachibini, futhi akukho nokulahleka kwezinhlobo zasolwandle.</li> <li>▪ Akukho ukuvelela kwezinhlobane ezinhlobeni ezinkulu zezilwane ezincane eziphila ngaphansi kwamanzi noma inzika, ikakhulukazi izinhlobo ezibekezelela izimo zemvelo engeyinhle isib., Izinambuzane zamanzi).</li> </ul>  |
| Izinhlanzi                 | C | <p>Ukucina isigaba se-TEC (&gt;63%) ngokusebenzisa (DWS, 2016b):</p> <ul style="list-style-type: none"> <li>▪ U-75% noma ngaphezulu wohlelo lwamachibi esizalo somfula asebenza njengendawo yokuzalela izinhlobo ezahlukahlukeni zezinhlobo ze-EDCII kodwa ikakhulukazi izinhlobo ze-EDCIIa. Ubuningi (obuzochazwa njengesilinganiso esinemikhawulo yokubikezela) bezinhlobo ze-EDCIIa ezikhona njengezintsha entwasahlobo nasekuqaleni kwehlobo (i-Acanthopagrus vagus, i-Agyrosomus japonicas, i-Elops machnata, i-Pommadasys comerssonii, i-Rhabdosargus holubi, i-Terapon jarbua) abufinyelelwa.</li> <li>▪ Kukhona isisekelo esihle sezigaba zokudla zezinhlobo zasolwandle ezincike olwandle (isib. i-Agyrosomus japonicus, i-Elops machnata, i-Caranx spp.).</li> <li>▪ Izinhlobo ezihlala ezizalweni zomfula zimelelwa yiqembu eliyinhloko (i-Glossogobius spp., i-Oligolepis spp. I-Ambassis spp. kanye ne-Gilchristella aestuaria). Izinhlobo zezinhlanzi ezine ezivelele (i-Mugil cephalus, i-Liza macrolepis, i-L. dumerelii ne-Valamugil cunnesius) zikhona kulo lonke uhlelo olumelelwa yizinhlobonhlobo zezigaba zobukhulu futhi zikhona kuwo wonke amasampula.</li> <li>▪ Izinhlanzi zotshani zikhawulelwe esindaweni eziphezulu ngaphansi kwezim zezizalo zemifula.</li> <li>▪ Ukuhlanganiswa kwezinhlobo kuhlangukisa izinhlobo zomdabu kuphela.</li> <li>▪ Ukuxhumeka ohlelweni lwamanzi ahlanzekile kwasemfuleni olwandle oluhambayo kugcinwa u-75% wesikhathi.</li> <li>▪ Ukuxhumana phakathi kweMfolozi ne-St Lucia kugcinwa ngisho nangesikhathi somjikelezo wokoma.</li> <li>▪ Akukho ukwehla kokubanjwa kwezinhlanzi eduze nogu (isib. i-Rhabdosargus sarba) okuvelayo (okungahlobene nokushintsha kwegiyis noma imikhawulo yokukhawulelwa kwesikhwama).</li> </ul>   |

|                 |          |   |
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| <b>izinyoni</b> | <b>C</b> | Akugcinwe i-TEC (>63%) (DWS, 2016b).  |
|                 |          | <ul style="list-style-type: none"> <li>▪ Uhlelo lwamachibi ezizalo zomfula kufanele lube nomphakathi wezinyoni ezihlukahlukene ohlanganisa okumelele bawo wonke amaqembu okuqala, futhi osekela inani lokuphilayo lapho uhlelo luthole khona isimo salo sokulondolozwa.</li> <li>▪ Inani lezinyoni zasemanzini ohlelweni lonke, ngaphandle kwalezo ezanda ngokwendawo njengamaLongwe, akufanele zehle ngaphansi kwezinhlobo ezingu-50 noma ngaphansi kwezinyoni ezingu-8000 ngokulandelana kathathu.</li> <li>▪ Ukuncipha okukhulu (&lt;20%) kwenani lazo zonke izinyoni zasemanzini ezizalisa amakoloni, ikakhulukazi uma kungalinganiswa ukusungulwa/ukukhula kwamakoloni kwenye indawo esifundeni Ukwehla okukhulu kokwehlukahlukana (ngokulinganayo) komphakathi wezinyoni, isibonelo ngenxa yokubusa kwezinhlobo ezimbalwa.</li> </ul> |

**IThebula A1:** Imikhawulo ephakanyisiwe yezinga lamanzi lokufakwa kwensimbi emanzini (njengoba kutholakala ku-DWAF, 1995)

| <b>Insimbi</b>  | <b>Imikhawulo ephakanyisiwe yezinga lamanzi</b> |
|-----------------|---|
| i-Arsenic (As)  | 12 µg/l   |
| i-Cadmium (Cd)  | 4 µg/l  |
| i-Chromium (Cr) | 8 µg/l  |
| Ithusi (Cu)     | 5 µg/l  |
| Umthofu (Pb)    | 12 µg/l   |
| Isigidi (Hg)    | 0.3 µg/l  |
| i-Nickel (Ni)   | 25 µg/l   |
| Isiliva (Ag)    | 5 µg/l  |
| i-Zinc (Zn)     | 25 µg/l   |

**IThebula A2:** Imikhawulo ephakanyisiwe yezinga lamanzi lokufakwa kwenzika yenzika ne-DDT (njengoba kutholakala ku-UNEP/i-Nairobi Convention Secretariat kanye ne-CSIR, 2009)

| <b>Insimbi</b>               | <b>Imikhawulo ephakanyisiwe yezinga lamanzi (mg/kg isisindo esomile)</b>  |
|------------------------------|---|
| i-Arsenic                    | 7.24  |
| i-Cadmium                    | 0.68  |
| i-Chromium                   | 52.3  |
| Ithusi                       | 18.7  |
| Umthofu                      | 30.2  |
| Isigidi                      | 0.13  |
| i-Nickel                     | 15.9  |
| Isiliva                      | 0.73  |
| Ithini njenge-Tributyltin-Sn | 0.005   |
| I-Zinc                       | 124   |
| <b>Isibulala-zinambuzane</b> | <b>Imikhawulo ephakanyisiwe yezinga lamanzi (µg/kg isisindo esomile esijwayelekile ku-1% wekhabhoni yezinto eziphilayo)</b> |
| Ingqikithi ye-DDT            | 3.89  |

## AMANZI ANGAPHANSI KOMHLABA – INGXYENYE YENANI

### INDAWO YOKUGCINA AMANZI ANGAPHANSI KOMHLABA – INGXYENYE YENANI LAMANZI

Indawo ephatha amanzi e-Usuthu-Mhlathuze iqukethe izindawo eziphatha amanzi ngekwata yonyaka ezingu-118 njengoba kuchazwe **kuThebula 6.1**. Ingxenywe yenani lamanzi angaphansi komhlaba lanqunywa ngokusebenzisa ngokusebenzisa amanani atholakale ngesikhathi Sokuhlukaniswa Kwemithombo Yamanzi ebalulekile kanye nokunqunywa Kwezinhloso Zezinga Lemithombo lemithombo yamanzi e-Usuthu-Mhlathuze. Amanani enani labantu atholwe Kubaqondisi Bezinsizakalo Zamanzi futhi alungiswa kusuka eminingwaneni yokubalwa kwabantu kwango-2023. Ukubala inani lamanzi e-BHN, isilinganiso esijwayelekile sosuku ngalunye esingamalitha angu-25 omuntu ngamunye ngosuku, njengoba kubekiwe eminingwaneni ebekiwe Ekubalweni Kwabantu kwango-2023.

\*Inani labantu lilinganiselwe kokusesilinganisweni Kwezindawo Eziphatha Amanzi Eziphakeme i-W41, i-W42, i-W51, i-W52, i-W53, i-W54 kanye ne-W55.

**IThebula 6.1: Ingxenywe Yenani Lamanzi Angaphansi Komhlaba yeNdawo Yokugcina yendawo ephatha amanzi e-Usuthu-Mhlathuze.**

| IKWATA YONYAKA | INANI LABANTU | INDAWO (Km <sup>2</sup> ) | UKUGCWALISWA (Mm <sup>3</sup> /a) | Izidingo Zomuntu Eziyisisekelo (Mm <sup>3</sup> /a) | UKUGELEZA OKUYISISEKELO KWAMANZI KOMHLABA (Mm <sup>3</sup> /a) | INDAWO YOKUGCINA (Mm <sup>3</sup> /a) |
|----------------|---------------|---------------------------|-----------------------------------|---|--|---------------------------------------|
| W11A           | 48 967        | 445.15                    | 39.56                             | 0.45  | 8.53   | 8.98                                  |
| W11B           | 18 593        | 126.82                    | 11                                | 0.17  | 2.44   | 2.61                                  |
| W11C           | 46 204        | 383.02                    | 40.52                             | 0.42  | 7.26   | 7.68                                  |
| W12A           | 34 459        | 623.31                    | 27.23                             | 0.31  | 9.05   | 9.36                                  |
| W12B           | 36 434        | 656.33                    | 35.93                             | 0.33  | 9.6  | 9.93                                  |
| W12C           | 33 008        | 570.07                    | 23.38                             | 0.30  | 8.53   | 8.83                                  |
| W12D           | 44 983        | 568.94                    | 25.02                             | 0.41  | 8.7  | 9.11                                  |
| W12E           | 30 947        | 248.59                    | 20.45                             | 0.28  | 3.76   | 4.04                                  |
| W12F           | 239 741       | 387.31                    | 53.37                             | 2.19  | 13.92  | 16.11                                 |
| W12G           | 33 560        | 326.36                    | 14.24                             | 0.31  | 4.92   | 5.23                                  |
| W12H           | 82 637        | 484.57                    | 44.68                             | 0.75  | 7.34   | 8.09                                  |
| W12J           | 126 703       | 332.85                    | 46.59                             | 1.16  | 11.95  | 13.11                                 |

| <b>IKWATA YONYAKA</b> | <b>INANI LABANTU</b> | <b>INDAWO (Km<sup>2</sup>)</b> | <b>UKUGCWALISWA (Mm<sup>3</sup>/a)</b> | <b>Izidingo Zomuntu Eziyisisekelo (Mm<sup>3</sup>/a)</b> | <b>UKUGELEZA OKUYISISEKELO KWAMANZI ANGAPHANSI KOMHLABA (Mm<sup>3</sup>/a)</b> | <b>INDAWO YOKUGCINA (Mm<sup>3</sup>/a)</b> |
|-----------------------|----------------------|--------------------------------|--|--|--|--|
| W13A                  | 40 043               | 275.84                         | 28.35                                  | 0.37   | 3.95   | 4.32                                       |
| W13B                  | 24 470               | 222.76                         | 31                                     | 0.22   | 3.03   | 3.25                                       |
| W21A                  | 72 935               | 340.14                         | 19.37                                  | 0.67   | 17.85  | 18.52                                      |
| W21B                  | 9 147                | 580.39                         | 26.67                                  | 0.08   | 23.08  | 23.16                                      |
| W21C                  | 865                  | 369.64                         | 10.63                                  | 0.01   | 9.93   | 9.94                                       |
| W21D                  | 104 674              | 468.7                          | 13.33                                  | 0.96   | 12.33  | 13.29                                      |
| W21E                  | 46 371               | 415.98                         | 12.85                                  | 0.42   | 11.08  | 11.50                                      |
| W21F                  | 2 603                | 242.75                         | 7.43                                   | 0.02   | 5.68   | 5.70                                       |
| W21G                  | 15 439               | 562.85                         | 22.6                                   | 0.14   | 14.33  | 14.47                                      |
| W21H                  | 21 239               | 432.82                         | 17.79                                  | 0.19   | 13.52  | 13.71                                      |
| W21J                  | 16 604               | 530.05                         | 21.19                                  | 0.15   | 19.49  | 19.64                                      |
| W21K                  | 94 453               | 797.46                         | 26.27                                  | 0.86   | 26.37  | 27.23                                      |
| W21L                  | 14 639               | 532.82                         | 17.41                                  | 0.13   | 17.28  | 17.41                                      |
| W22A                  | 2 874                | 238.71                         | 13.45                                  | 0.03   | 12.95  | 12.98                                      |
| W22B                  | 3 513                | 331.69                         | 13.58                                  | 0.03   | 13.39  | 13.42                                      |
| W22C                  | 9 336                | 185.61                         | 9.91                                   | 0.09   | 9.1  | 9.19                                       |
| W22D                  | 3 994                | 197.48                         | 8.15                                   | 0.04   | 6.04   | 6.08                                       |
| W22E                  | 18 679               | 385.42                         | 30.34                                  | 0.17   | 29.61  | 29.78                                      |
| W22F                  | 38 695               | 312.04                         | 11.67                                  | 0.35   | 10.43  | 10.78                                      |
| W22G                  | 30 875               | 249.36                         | 8.37                                   | 0.28   | 7.55   | 7.83                                       |
| W22H                  | 27 373               | 306.12                         | 10.81                                  | 0.25   | 8.4  | 8.65                                       |
| W22J                  | 38 422               | 604.95                         | 16.85                                  | 0.35   | 15.54  | 15.89                                      |
| W22K                  | 66 340               | 475.54                         | 13.81                                  | 0.61   | 13.63  | 14.24                                      |
| W22L                  | 8 828                | 279.3                          | 8.4                                    | 0.08   | 8.38   | 8.46                                       |
| W23A                  | 51 790               | 413.72                         | 17.15                                  | 0.47   | 16.87  | 17.34                                      |

| <b>IKWATA YONYAKA</b> | <b>INANI LABANTU</b> | <b>INDAWO (Km<sup>2</sup>)</b> | <b>UKUGCWALISWA (Mm<sup>3</sup>/a)</b> | <b>Izidingo Zomuntu Eziyisisekelo (Mm<sup>3</sup>/a)</b> | <b>UKUGELEZA OKUYISISEKELO KWAMANZI KOMHLABA (Mm<sup>3</sup>/a)</b> | <b>INDAWO YOKUGCINA (Mm<sup>3</sup>/a)</b> |
|-----------------------|----------------------|--------------------------------|--|--|---|--|
| W23B                  | 30 409               | 192.79                         | 11.44                                  | 0.28   | 10.52   | 10.80                                      |
| W23C                  | 11 033               | 312.69                         | 37.46                                  | 0.10   | 27.83   | 27.93                                      |
| W23D                  | 58 944               | 247.88                         | 26.32                                  | 0.54   | 17.63   | 18.17                                      |
| W31A                  | 22 943               | 369.72                         | 16.76                                  | 0.21   | 14.16   | 14.37                                      |
| W31B                  | 13 610               | 304.28                         | 12.66                                  | 0.12   | 11.32   | 11.44                                      |
| W31C                  | 1 313                | 171.56                         | 9.1                                    | 0.01   | 8.6   | 8.61                                       |
| W31D                  | 2 456                | 294.57                         | 12.49                                  | 0.02   | 10.64   | 10.66                                      |
| W31E                  | 3 724                | 334.19                         | 9.65                                   | 0.03   | 3.23  | 3.26                                       |
| W31F                  | 38 271               | 583.35                         | 14.01                                  | 0.35   | 5.17  | 5.52                                       |
| W31G                  | 11 461               | 519.77                         | 11.26                                  | 0.10   | 3.76  | 3.86                                       |
| W31H                  | 12 642               | 322.59                         | 6.94                                   | 0.12   | 2.8   | 2.92                                       |
| W31J                  | 21 632               | 552.6                          | 12.78                                  | 0.20   | 5.13  | 5.33                                       |
| W31K                  | 35 883               | 855.31                         | 18.77                                  | 0.33   | 7.68  | 8.01                                       |
| W31L                  | 2 447                | 321.38                         | 8.03                                   | 0.02   | 3.25  | 3.27                                       |
| W32A                  | 13 270               | 417.4                          | 18.75                                  | 0.12   | 9.31  | 9.43                                       |
| W32B                  | 31 090               | 934.44                         | 89.22                                  | 0.28   | 38.24   | 38.52                                      |
| W32C                  | 35 282               | 728.23                         | 21.55                                  | 0.32   | 8.06  | 8.38                                       |
| W32D                  | 39 467               | 267.22                         | 8.67                                   | 0.36   | 4.6   | 4.96                                       |
| W32E                  | 18 577               | 455.92                         | 16.99                                  | 0.17   | 7.74  | 7.91                                       |
| W32F                  | 17 625               | 187.34                         | 9.56                                   | 0.16   | 3.53  | 3.69                                       |
| W32G                  | 94 793               | 647.5                          | 36.63                                  | 0.86   | 15.43   | 16.29                                      |
| W32H                  | 36 207               | 1276.01                        | 113.79                                 | 0.33   | 65.72   | 66.05                                      |
| W41A*                 | 4587                 | 187.61                         | 20.57                                  | 0.04   | 2.63  | 2.67                                       |
| W41B                  | 6 576                | 305.61                         | 29.37                                  | 0.06   | 4.42  | 4.48                                       |
| W41C                  | 4 100                | 217.31                         | 20.67                                  | 0.04   | 3.16  | 3.20                                       |

| <b>IKWATA YONYAKA</b> | <b>INANI LABANTU</b> | <b>INDAWO (Km<sup>2</sup>)</b> | <b>UKUGCWALISWA (Mm<sup>3</sup>/a)</b> | <b>Izidingo Zomuntu Eziyisisekelo (Mm<sup>3</sup>/a)</b> | <b>UKUGELEZA OKUYISISEKELO KWAMANZI ANGAPHANSI KOMHLABA (Mm<sup>3</sup>/a)</b> | <b>INDAWO YOKUGCINA (Mm<sup>3</sup>/a)</b> |
|-----------------------|----------------------|--------------------------------|--|--|--|--|
| W41D                  | 1 061                | 238.02                         | 20.33                                  | 0.01   | 4.03   | 4.04                                       |
| W41E                  | 10 893               | 303.17                         | 23.74                                  | 0.10   | 3.06   | 3.16                                       |
| W41F                  | 3 489                | 343.46                         | 25.49                                  | 0.03   | 3.51   | 3.54                                       |
| W41G                  | 1 402                | 95.8                           | 6.39                                   | 0.01   | 0.99   | 1.00                                       |
| W42A                  | 4 381                | 397.37                         | 46.75                                  | 0.04   | 5.43   | 5.47                                       |
| W42B                  | 2 992                | 416.55                         | 39.21                                  | 0.03   | 6.95   | 6.98                                       |
| W42C*                 | 15292                | 376.56                         | 41.61                                  | 0.14   | 6.14   | 6.28                                       |
| W42D                  | 18 212               | 489.41                         | 41.79                                  | 0.17   | 8.29   | 8.46                                       |
| W42E                  | 34 671               | 231.74                         | 18                                     | 0.32   | 3.97   | 4.29                                       |
| W42F                  | 2 817                | 305.53                         | 23.96                                  | 0.03   | 5.24   | 5.27                                       |
| W42G                  | 24 599               | 248.17                         | 18.34                                  | 0.22   | 2.51   | 2.73                                       |
| W42H                  | 4 163                | 272.9                          | 17.99                                  | 0.04   | 2.82   | 2.86                                       |
| W42J                  | 11 346               | 290.46                         | 17.61                                  | 0.10   | 3.02   | 3.12                                       |
| W42K*                 | 15292                | 415.98                         | 30.16                                  | 0.14   | 4.23   | 4.37                                       |
| W42L                  | 19 842               | 250.66                         | 16.23                                  | 0.18   | 2.59   | 2.77                                       |
| W42M                  | 29 894               | 391.57                         | 23.11                                  | 0.27   | 6.77   | 7.04                                       |
| W43C                  | 878                  | 395.08                         | 26.24                                  | 0.01   | 6.49   | 6.50                                       |
| W43F                  | 48 213               | 631.45                         | 14.33                                  | 0.44   | 4.09   | 4.53                                       |
| W44A                  | 5 811                | 254.71                         | 7.45                                   | 0.05   | 1.34   | 1.39                                       |
| W44B                  | 60 527               | 486.09                         | 11.96                                  | 0.55   | 2.45   | 3.00                                       |
| W44C                  | 105                  | 314.3                          | 6.29                                   | 0.00   | 1.51   | 1.51                                       |
| W44D                  | 1 896                | 236.43                         | 4.38                                   | 0.02   | 0.96   | 0.98                                       |
| W44E                  | 3 843                | 711.45                         | 13.68                                  | 0.04   | 3.02   | 3.06                                       |
| W45A                  | 104 879              | 1289.09                        | 23.41                                  | 0.96   | 7.78   | 8.74                                       |
| W45B                  | 49 859               | 508.13                         | 13.09                                  | 0.45   | 3.17   | 3.62                                       |

| <b>IKWATA YONYAKA</b> | <b>INANI LABANTU</b> | <b>INDAWO (Km<sup>2</sup>)</b> | <b>UKUGCWALISWA (Mm<sup>3</sup>/a)</b> | <b>Izidingo Zomuntu Eziyisisekelo (Mm<sup>3</sup>/a)</b> | <b>UKUGELEZA OKUYISISEKELO KWAMANZI KOMHLABA (Mm<sup>3</sup>/a)</b> | <b>INDAWO YOKUGCINA (Mm<sup>3</sup>/a)</b> |
|-----------------------|----------------------|--------------------------------|--|--|---|--|
| W51A                  | 822                  | 624.64                         | 41.11                                  | 0.01   | 8.27  | 8.28                                       |
| W51B                  | 49 393               | 496.45                         | 31.29                                  | 0.45   | 6.59  | 7.04                                       |
| W51C                  | 7 546                | 677.71                         | 47.7                                   | 0.07   | 9.99  | 10.06                                      |
| W51D                  | 62 528               | 527.43                         | 36.12                                  | 0.57   | 7   | 7.57                                       |
| W51E*                 | 25739                | 274.28                         | 21.47                                  | 0.23   | 4.2   | 4.43                                       |
| W51F                  | 8 408                | 589.36                         | 49.1                                   | 0.08   | 10.16   | 10.24                                      |
| W52A                  | 23 668               | 289.44                         | 17.79                                  | 0.22   | 3.85  | 4.07                                       |
| W52B                  | 24 717               | 336.19                         | 20.6                                   | 0.23   | 4.92  | 5.15                                       |
| W52C                  | 1 276                | 177.84                         | 10.71                                  | 0.01   | 2.59  | 2.60                                       |
| W52D*                 | 16554                | 119.29                         | 9.37                                   | 0.15   | 1.8   | 1.95                                       |
| W53A                  | 5 321                | 547.48                         | 34.42                                  | 0.05   | 7.95  | 8.00                                       |
| W53B*                 | 8194                 | 218.54                         | 15.48                                  | 0.07   | 3.2   | 3.27                                       |
| W53C                  | 18 945               | 315.62                         | 24.97                                  | 0.17   | 4.66  | 4.83                                       |
| W53D                  | 317                  | 314.71                         | 21.45                                  | 0.00   | 4.61  | 4.61                                       |
| W53E*                 | 8194                 | 421.87                         | 36.96                                  | 0.07   | 7.2   | 7.27                                       |
| W53F*                 | 8194                 | 447.34                         | 39.19                                  | 0.07   | 7.64  | 7.71                                       |
| W54A*                 | 2762                 | 251.08                         | 15.73                                  | 0.03   | 3.33  | 3.36                                       |
| W54B                  | 1 276                | 281.94                         | 19.73                                  | 0.01   | 3.74  | 3.75                                       |
| W54C*                 | 2762                 | 107.45                         | 7.72                                   | 0.03   | 1.58  | 1.61                                       |
| W54D                  | 2 783                | 138.75                         | 12.2                                   | 0.03   | 2.38  | 2.41                                       |
| W54E                  | 4 226                | 194.12                         | 19.62                                  | 0.04   | 3.28  | 3.32                                       |
| W55A                  | 4 680                | 688.7                          | 39.75                                  | 0.04   | 9.82  | 9.86                                       |
| W55B                  | 13 560               | 217.83                         | 14.66                                  | 0.12   | 3.11  | 3.23                                       |
| W55C                  | 18 688               | 532.2                          | 48.66                                  | 0.17   | 13.9  | 14.07                                      |
| W55D                  | 27 719               | 270.86                         | 24.39                                  | 0.25   | 7.08  | 7.33                                       |

| <b>IKWATA<br/>YONYAKA</b> | <b>INANI<br/>LABANTU</b> | <b>INDAWO<br/>(Km<sup>2</sup>)</b> | <b>UKUGCWALISWA<br/>(Mm<sup>3</sup>/a)</b> | <b>Izidingo<br/>Zomuntu<br/>Eziyisisekelo<br/>(Mm<sup>3</sup>/a)</b> | <b>UKUGELEZA<br/>OKUYISISEKELO KWAMANZI<br/>ANGAPHANSI KOMHLABA<br/>(Mm<sup>3</sup>/a)</b> | <b>INDAWO<br/>YOKUGCINA<br/>(Mm<sup>3</sup>/a)</b> |
|---------------------------|--------------------------|------------------------------------|--|--|--|--|
| W55E*                     | 16162                    | 161.23                             | 15.43                                      | 0.15   | 4.16   | 4.31   |
| W56A                      | 31 536                   | 359.72                             | 65.68                                      | 0.29   | 12.8   | 13.09  |
| W56B                      | 2 434                    | 224.66                             | 45.02                                      | 0.02   | 9.31   | 9.33   |
| W57J                      | 1 004                    | 519.42                             | 12.87                                      | 0.01   | 2.9  | 2.91   |
| W57K                      | 2 297                    | 137.42                             | 2.42                                       | 0.02   | 0.79   | 0.81   |
| W70A                      | 104 133                  | 2577.95                            | 205.55                                     | 0.95   | 63.61  | 64.56  |

## INDAWO YOKUGCINA AMANZI ANGAPHANSI KOMHLABA – INGXYENYE YEZINGA LAMANZI

Izinga lamanzi angaphansi komhlaba lezindawo eziphatha amanzi ngekwata yonyaka ezineminingwane etholakalayo ye-hydrochemistry lahlolwa ngokumelene was assessed against amazinga okuhloswe ngawo izinga lamanzi asemakhaya (Umkhawulo ophezulu Wezinga Lamanzi [Okuphuza]) Esigaba I njengoba kubiniswe **kuThebula 7.1**. Isifinyezo semiphumela yokuhlukaniswa kwezinga lamanzi angaphansi komhlaba ezingeni lekwata yonyaka ngokuya ngezidingo eziyisisekelo zabantu sichazwe **kumaThebula 7.2 kuya ku-7.8**. **IThebula 7.9** libonisa amapharamitha akhathazayo ezinga lamanzi angaphansi komhlaba.

### IThebula 7.1: Izinga lamanzi angokomzimba nawamakhemikhali

| Ipharamitha                         | Amazinga Ahlosiwe Ezinga Lamanzi <sup>1)</sup> |           |                 |                    |             |
|-------------------------------------|--|-----------|-----------------|--------------------|-------------|
|                                     | Amayunithi                                     | Isigaba 0 | Isigaba I       | Isigaba II         | Isigaba III |
| i-pH                                | Amayunithi e-pH                                | 6 – 9     | 5 – 6 & 9 – 9.5 | 4 – 5 & > 9.5 – 10 | <4 & > 10   |
| Ukudluliselwa Kukagesi              | mS/m   | < 70      | 70 - 150        | 150 – 370          | > 370       |
| i-Calcium njenge-Ca                 | mg/l   | < 80      | 80 - 150        | 150 – 300          | > 300       |
| i-Magnesium njenge-Mg               | mg/l   | < 70      | 70 - 100        | 100 – 200          | > 200       |
| i-Sodium njenge-Na                  | mg/l   | < 100     | 100 - 200       | 200 – 400          | > 400       |
| i-Chloride njenge-Cl                | mg/l   | < 100     | 100 - 200       | 200 – 600          | > 600       |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l   | < 200     | 200 - 400       | 400 – 600          | > 600       |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l   | < 6       | 6 - 10          | 10 – 20            | > 20        |
| i-Flouride njenge-F                 | mg/l   | <0.7      | 0.7 – 1.0       | 1.0 – 1.5          | > 1.5       |

1) Ukubhekisela: Izinhlelo Zokuhlukanisa – ngokweKhomishini Yocwaningo Lwamanzi: Izinga Lokuhluzekwa Kwamanzi Emakhaya– Inguqulo 1. Umbiko Nombolo TT 101/98. Inguqulo Yesibili. 1998.

**Isigaba 0:** Amanzi ahlukaniwa njengamanzi aphuzwayo afaneleka kakhulu, afanele ukusetshenziswa ukuphila konke. Amanani ayafana impela nomhlahlandlela wamanzi okuhloswe ngawo kuMhlahlandlela Wezinga Lamanzi aseNingizimu Afrika Wokusetshenziswa Kwasekhaya.

**Isigaba I:** Amanzi asaphephile ukuthi asetshenziselwe ukuphila konke; Nokho, eminye imiphumela yezempilo ethambile ingase, ezimweni ezingavamile kakhulu, yenzeke. Kungase futhi kube imiphumela yobuhle.

**Isigaba II:** Amanzi avumelekile ukusetshenziswa kwesikhathi esifushane noma esiphuthumayo. Imiphumela yezempilo ingase izwakale ngokuvamile, uma iqhathaniswa ne-Class I, ikakhulukazi yilabo abangabasebenzisi bamanzi besikhathi eside. Ngakho-ke, akuphakanyiswa ukuthi amanzi asetshenziswe ngokuqhubekayo impilo yonke. Lesi yisigaba kuphela esiqondisweni esingacacisiwe ngokuqondene nesikhathi esiqondile amanzi angasetshenziselwa sona. Lesi sigaba sithi singasetshenziselwa ukusetshenziswa isikhathi esifushane; kodwa asichazi ukuthi isikhathi esingakanani 'isikhathi esifushane' esibhekisela kuso.

**Isigaba III:** Amanzi eSigaba III azodala imiphumela emibi kakhulu yezempilo, ikakhulukazi ezinganeni nakubantu asebekhulile. Ukusetshenziswa kwalawa manzi akuphakanyiselwa ukuphuza.

Izindawo eziphatha amanzi ngekwata yonyaka ezineminingwane yezinga lamanzi ekhawulelwe (imininingwane ebekiwe u-< 7) azifakwanga ekuhlaziywen, futhi ayikho Ingxenywe Yezinga Lamanzi Angaphansi Komhlaba esunguliwe:

- I-W11B, i-W12A

- I-W21B, i-W21C, i-W21F, i-W21G, i-W21J, i-W22A, i-W22B, i-W22C, i-W22D, i-W22E, i-W22G, i-W22H, i-W22J, i-W22L
- I-W31B, i-W31C, i-W31D, i-W31E, i-W31G
- I-W41A, i-W41B, i-W41C, i-W41E, i-W41F, i-W41G, i-W42A, i-W42C, i-W42E, i-W42F, i-W42G, i-W42H, i-W42J, i-W42K, i-W42L, i-W42M, i-W43C, i-W44A, i-W44C, i-W44D, i-W45B
- I-W51A, i-W51B, i-W51C, i-W51D, i-W51E, i-W51F, i-W52A, i-W52B, i-W52C, i-W52D, i-W53A, i-W53B, i-W53D, i-W53E, i-W53F, i-W54A, i-W54B, i-W54C, i-W54D, i-W54E, i-W55B, i-W55D, i-W55E, i-W56B, i-W57K, i-W57K

**IThebula 7.2 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W11A, i-W11C, i-W12B, i-W12C, i-W12D, i-W12E, i-W12F, i-W12G**

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W11A, i-W11C, i-W12B, i-W12C |        |        |        |   |               |        |               |   |  |               |           |               |
|-------------------------------------|----------|---|--------|--------|--------|---|---------------|--------|---------------|---|--|---------------|-----------|---------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |           |               |
|                                     |          | i-W11A  | i-W11C | i-W12B | i-W12C | i-W11A  | i-W11C        | i-W12B | i-W12C        |   | i-W11A   | i-W11C        | i-W12B    | i-W12C        |
| i-pH                                |          | 93  | 21     | 26     | 46     | 8.05  | 8.06          | 8.16   | 7.87          | 5.0 – 9.5   | 8.86   | 8.87          | 8.97      | 8.66          |
| Ukudluliselwa Kukagesi              | mS/m     | 93  | 21     | 26     | 46     | 45.00   | 104.30        | 46.70  | 37.55         | <150  | 49.50  | 114.73        | 51.37     | 41.31         |
| i-Calcium njenge-Ca                 | mg/l     | 93  | 21     | 26     | 46     | 21.70   | 29.00         | 25.90  | 25.05         | <150  | 23.87  | 31.90         | 28.49     | 27.56         |
| i-Magnesium njenge-Mg               | mg/l     | 93  | 21     | 26     | 46     | 11.90   | 25.70         | 9.45   | 9.35          | <100  | 13.09  | 28.27         | 10.40     | 10.29         |
| i-Sodium njenge-Na                  | mg/l     | 93  | 21     | 26     | 46     | 42.80   | 172.80        | 45.10  | 35.15         | <200  | 47.08  | 190.08        | 49.61     | 38.67         |
| i-Chloride njenge-Cl                | mg/l     | 93  | 21     | 26     | 46     | 37.60   | <b>243.40</b> | 33.40  | 39.35         | <200  | 41.36  | <b>243.40</b> | 36.74     | 43.29         |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 93  | 21     | 26     | 46     | 8.60  | 16.90         | 9.15   | 10.50         | <400  | 9.46   | 18.59         | 10.07     | 11.55         |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 93  | 21     | 26     | 46     | 0.96  | 0.58          | 0.42   | 0.37          | <10   | 1.05   | 0.64          | 0.46      | 0.40          |
| i-Flouride njenge-F                 | mg/l     | 93  | 21     | 26     | 46     | 0.38  | 0.44          | 0.29   | 0.33          | <1.0  | 0.42   | 0.48          | 0.31      | 0.36          |
|                                     |          |   |        |        |        |   |               |        |               | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b>      | Isigaba 0  | Isigaba II    | Isigaba 0 | Isigaba 0     |
| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W12D, i-W12E, i-W12F, i-W12G |        |        |        |   |               |        |               |   |  |               |           |               |
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |           |               |
|                                     |          | i-W12D  | i-W12E | i-W12F | i-W12G | i-W12D  | i-W12E        | i-W12F | i-W12G        |   | i-W12D   | i-W12E        | i-W12F    | i-W12G        |
| i-pH                                |          | 70  | 9      | 52     | 55     | 7.85  | 8.10          | 7.52   | 8.07          | 5.0 – 9.5   | 8.63   | 8.91          | 8.27      | 8.88          |
| Ukudluliselwa Kukagesi              | mS/m     | 70  | 9      | 52     | 55     | 31.55   | <b>201.00</b> | 59.80  | <b>237.00</b> | <150  | 34.71  | <b>201.00</b> | 65.78     | <b>237.00</b> |
| i-Calcium njenge-Ca                 | mg/l     | 70  | 9      | 45     | 55     | 14.45   | 43.80         | 48.60  | 63.60         | <150  | 15.90  | 48.18         | 53.46     | 69.96         |
| i-Magnesium njenge-Mg               | mg/l     | 70  | 9      | 45     | 55     | 8.70  | 50.20         | 9.70   | 42.80         | <100  | 9.57   | 55.22         | 10.67     | 47.08         |
| i-Sodium njenge-Na                  | mg/l     | 70  | 9      | 41     | 55     | 41.90   | <b>333.50</b> | 58.30  | <b>400.10</b> | <200  | 46.09  | <b>333.50</b> | 64.13     | <b>400.10</b> |
| i-Chloride njenge-Cl                | mg/l     | 70  | 9      | 52     | 55     | 23.00   | <b>438.40</b> | 107.70 | <b>539.80</b> | <200  | 25.30  | <b>438.40</b> | 118.47    | <b>539.80</b> |

|                                     |      |    |   |    |    |       |       |      |       |  |           |            |           |             |
|-------------------------------------|------|----|---|----|----|-------|-------|------|-------|--|-----------|------------|-----------|-------------|
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l | 70 | 9 | 47 | 55 | 10.05 | 48.00 | 6.30 | 34.20 | <400   | 11.06     | 52.80      | 6.93      | 37.62       |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l | 70 | 9 | 52 | 55 | 0.51  | 0.40  | 0.05 | 0.22  | <10  | 0.56      | 0.44       | 0.05      | 0.25        |
| i-Flouride njenge-F                 | Mg/l | 70 | 9 | 52 | 55 | 0.43  | 0.53  | 0.16 | 0.71  | <1.0   | 0.47      | 0.58       | 0.18      | 0.78        |
|                                     |      |    |   |    |    |       |       |      |       | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b> | Isigaba 0 | Isigaba II | Isigaba I | Isigaba III |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

### IThebula 7.3 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W12H, i-W12J, i-W13A, i-W13B, i-W21A, i-W21D, i-W21E, i-W21H

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W12H, i-W12J, i-W13A, i-W13B |        |        |        |   |        |        |        |   |  |        |        |        |
|-------------------------------------|----------|---|--------|--------|--------|---|--------|--------|--------|---|--|--------|--------|--------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |        |        |        | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |        |        |        |
|                                     |          | i-W12H  | i-W12J | i-W13A | i-W13B | i-W12H  | i-W12J | i-W13A | i-W13B |   | i-W12H   | i-W12J | i-W13A | i-W13B |
| i-pH                                |          | 82  | 27     | 30     | 16     | 8.11  | 7.93   | 7.93   | 7.65   | 5.0 – 9.5   | 8.92   | 8.72   | 8.72   | 8.42   |
| Ukudluliselwa Kukagesi              | mS/m     | 82  | 27     | 30     | 16     | 105.80  | 54.00  | 61.65  | 49.45  | <150  | 116.38   | 59.40  | 67.82  | 54.40  |
| i-Calcium njenge-Ca                 | mg/l     | 82  | 27     | 30     | 16     | 35.20   | 47.30  | 22.65  | 11.05  | <150  | 38.72  | 52.03  | 24.92  | 12.16  |
| i-Magnesium njenge-Mg               | mg/l     | 82  | 27     | 30     | 16     | 15.05   | 8.10   | 19.85  | 9.35   | <100  | 16.56  | 8.91   | 21.84  | 10.29  |
| i-Sodium njenge-Na                  | mg/l     | 82  | 27     | 30     | 16     | 165.30  | 49.40  | 75.90  | 57.70  | <200  | 181.83   | 54.34  | 83.49  | 63.47  |
| i-Chloride njenge-Cl                | mg/l     | 82  | 27     | 30     | 16     | 198.15  | 83.90  | 70.10  | 71.80  | <200  | 217.97   | 92.29  | 77.11  | 78.98  |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 82  | 27     | 29     | 16     | 28.25   | 11.90  | 17.80  | 13.25  | <400  | 31.08  | 13.09  | 19.58  | 14.58  |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 82  | 27     | 30     | 16     | 3.31  | 0.02   | 0.85   | 0.81   | <10   | 3.64   | 0.02   | 0.93   | 0.90   |
| i-Flouride njenge-F                 | mg/l     | 82  | 27     | 30     | 16     | 0.28  | 0.15   | 0.47   | 0.28   | <1.0  | 0.30   | 0.17   | 0.51   | 0.30   |

|                                     |          |   |        |        |        |   |        |        |        | Isigaba Sezinga<br>Lamanzi<br>Angaphansi<br>Komhlaba             | Isigaba I  | Isigaba<br>0 | Isigaba 0 | Isigaba 0 |  |
|-------------------------------------|----------|---|--------|--------|--------|---|--------|--------|--------|--|--|--------------|-----------|-----------|--|
| Ipharamitha<br>Yamakhemikhali       | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W21A, i-W21D, i-W21E, i-W21H |        |        |        |   |        |        |        |  |  |              |           |           |  |
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |        |        |        | Umkhawulo<br>Wezidingo<br>Zomuntu<br>Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |              |           |           |  |
|                                     |          | i-W21A  | i-W21D | i-W21E | i-W21H | i-W21A  | i-W21D | i-W21E | i-W21H |  | i-W21A   | i-W21D       | i-W21E    | i-W21H    |  |
| i-pH                                |          | 8   | 10     | 7      | 7      | 7.80  | 7.33   | 7.96   | 7.93   | 5.0 – 9.5  | 8.57   | 8.06         | 8.76      | 8.72      |  |
| Ukudluliselwa<br>Kukagesi           | mS/m     | 8   | 10     | 7      | 7      | 36.60   | 40.15  | 29.80  | 21.90  | <150   | 40.26  | 44.17        | 32.78     | 24.09     |  |
| i-Calcium njenge-Ca                 | mg/l     | 8   | 10     | 7      | 7      | 25.50   | 7.50   | 22.70  | 10.90  | <150   | 28.05  | 8.25         | 24.97     | 11.99     |  |
| i-Magnesium njenge-Mg               | mg/l     | 8   | 10     | 7      | 7      | 9.75  | 4.90   | 10.50  | 8.40   | <100   | 10.73  | 5.39         | 11.55     | 9.24      |  |
| i-Sodium njenge-Na                  | mg/l     | -   | 10     | 7      | 7      | -   | 59.20  | 25.40  | 15.50  | <200   | -  | 65.12        | 27.94     | 17.05     |  |
| i-Chloride njenge-Cl                | mg/l     | 8   | 10     | 7      | 7      | 17.05   | 25.30  | 17.00  | 10.70  | <200   | 18.76  | 27.83        | 18.70     | 11.77     |  |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | -   | 10     | 7      | 7      | -   | 10.30  | 5.40   | 8.50   | <400   | -  | 11.33        | 5.94      | 9.35      |  |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 8   | 10     | 7      | 7      | 0.19  | 0.09   | 0.64   | 0.17   | <10  | 0.21   | 0.10         | 0.70      | 0.19      |  |
| i-Flouride njenge-F                 | mg/l     | 8   | 10     | 7      | 7      | 0.24  | 0.52   | 0.26   | 0.40   | <1.0   | 0.26   | 0.57         | 0.29      | 0.44      |  |
|                                     |          |   |        |        |        |   |        |        |        | Isigaba Sezinga<br>Lamanzi<br>Angaphansi<br>Komhlaba             | Isigaba 0  | Isigaba 0    | Isigaba 0 | Isigaba 0 |  |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

**IThebula 7.4 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W21K, i-W21L, i-W22F, i-W22K, i-W23A, i-W23B, i-W23C, i-W23D**

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W21K, i-W21L, i-W22F, i-W22K |        |        |        |   |               |        |               |   |  |               |           |               |
|-------------------------------------|----------|---|--------|--------|--------|---|---------------|--------|---------------|---|--|---------------|-----------|---------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |           |               |
|                                     |          | i-W21K  | i-W21L | i-W22F | i-W22K | i-W21K  | i-W21L        | i-W22F | i-W22K        |   | i-W21K   | i-W21L        | i-W22F    | i-W22K        |
| i-pH                                |          | 9   | 26     | 10     | 30     | 8.37  | 8.15          | 7.89   | 7.96          | 5.0 – 9.5   | 9.21   | 8.97          | 8.67      | 8.76          |
| Ukudluliselwa Kukagesi              | mS/m     | 9   | 26     | 10     | 29     | 128.00  | <b>252.50</b> | 65.25  | <b>217.00</b> | <150  | 140.80   | <b>252.50</b> | 71.78     | <b>217.00</b> |
| i-Calcium njenge-Ca                 | mg/l     | 9   | 26     | 10     | 26     | 60.40   | 80.00         | 34.95  | 50.66         | <150  | 66.44  | 88.00         | 38.45     | 55.73         |
| i-Magnesium njenge-Mg               | mg/l     | 9   | 26     | 10     | 26     | 56.80   | 67.80         | 26.45  | 62.70         | <100  | 62.48  | 74.58         | 29.10     | 68.97         |
| i-Sodium njenge-Na                  | mg/l     | 9   | 26     | 10     | 27     | 137.90  | <b>363.90</b> | 66.80  | <b>321.46</b> | <200  | 151.69   | <b>363.90</b> | 73.48     | <b>321.46</b> |
| i-Chloride njenge-Cl                | mg/l     | 9   | 26     | 10     | 25     | 176.80  | <b>534.70</b> | 61.55  | <b>384.12</b> | <200  | 194.48   | <b>534.70</b> | 67.71     | <b>384.12</b> |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 9   | 26     | 10     | 26     | 18.40   | 39.45         | 15.00  | 164.53        | <400  | 20.24  | 43.40         | 16.50     | 180.98        |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 9   | 26     | 10     | 25     | 4.84  | 1.07          | 0.72   | 3.69          | <10   | 5.32   | 1.18          | 0.80      | 4.05          |
| i-Flouride njenge-F                 | mg/l     | 9   | 26     | 10     | 24     | 0.96  | 0.89          | 0.68   | 0.54          | <1.0  | 1.0  | 0.98          | 0.75      | 0.59          |
|                                     |          |   |        |        |        |   |               |        |               | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b>      | Isigaba I  | Isigaba II    | Isigaba 0 | Isigaba II    |
| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W23A, i-W23B, i-W23C, i-W23D |        |        |        |   |               |        |               |   |  |               |           |               |
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |           |               |
|                                     |          | i-W23A  | i-W23B | i-W23C | i-W23D | i-W23A  | i-W23B        | i-W23C | i-W23D        |   | i-W23A   | i-W23B        | i-W23C    | i-W23D        |
| i-pH                                |          | 56  | 56     | 9      | 13     | 8.04  | 8.01          | 8.14   | 7.99          | 5.0 – 9.5   | 8.84   | 8.81          | 8.95      | 8.79          |
| Ukudluliselwa Kukagesi              | mS/m     | 56  | 56     | 9      | 13     | <b>234.50</b>   | <b>171.50</b> | 55.10  | 64.80         | <150  | <b>234.50</b>  | <b>171.50</b> | 60.61     | 71.28         |
| i-Calcium njenge-Ca                 | mg/l     | 56  | 56     | 9      | 13     | 48.70   | 54.80         | 44.70  | 30.90         | <150  | 53.57  | 60.28         | 49.17     | 33.99         |
| i-Magnesium njenge-Mg               | mg/l     | 56  | 56     | 9      | 13     | 26.45   | 18.35         | 7.10   | 16.30         | <100  | 29.10  | 20.19         | 7.81      | 17.93         |
| i-Sodium njenge-Na                  | mg/l     | 56  | 56     | 9      | 13     | <b>388.95</b>   | <b>252.70</b> | 109.60 | 66.20         | <200  | <b>388.95</b>  | <b>252.70</b> | 120.56    | 72.82         |
| i-Chloride njenge-Cl                | mg/l     | 56  | 56     | 9      | 13     | <b>580.20</b>   | <b>297.45</b> | 59.60  | 91.00         | <200  | <b>580.20</b>  | <b>297.45</b> | 65.56     | 100.10        |

|                                     |      |    |    |   |    |       |       |       |       |  |            |            |           |           |
|-------------------------------------|------|----|----|---|----|-------|-------|-------|-------|--|------------|------------|-----------|-----------|
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l | 56 | 56 | 9 | 13 | 73.30 | 41.65 | 10.50 | 16.41 | <400   | 80.63      | 45.82      | 11.55     | 18.05     |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l | 56 | 56 | 9 | 13 | 0.11  | 0.43  | 0.70  | 0.28  | <10  | 0.13       | 0.47       | 0.77      | 0.31      |
| i-Flouride njenge-F                 | mg/l | 56 | 56 | 9 | 13 | 0.46  | 0.37  | 0.26  | 0.22  | <1.0   | 0.51       | 0.41       | 0.29      | 0.24      |
|                                     |      |    |    |   |    |       |       |       |       | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b> | Isigaba II | Isigaba II | Isigaba I | Isigaba 0 |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

### IThebula 7.5 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W31A, i-W31F, i-W31H, i-W31J, i-W31K, i-W31L, i-W32A, i-W32B

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W31A, i-W31F, i-W31H, i-W31J |        |        |        |   |               |               |               |   |  |               |               |               |
|-------------------------------------|----------|---|--------|--------|--------|---|---------------|---------------|---------------|---|--|---------------|---------------|---------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |               |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |               |               |
|                                     |          | i-W31A  | i-W31F | i-W31H | i-W31J | i-W31A  | i-W31F        | i-W31H        | i-W31J        |   | i-W31A   | i-W31F        | i-W31H        | i-W31J        |
| i-pH                                |          | 8   | 12     | 11     | 22     | 7.59  | 7.96          | 7.96          | 7.98          | 5.0 – 9.5   | 8.35   | 8.76          | 8.76          | 8.78          |
| Ukudluliselwa Kukagesi              | mS/m     | 8   | 12     | 11     | 22     | 55.30   | <b>205.50</b> | <b>160.00</b> | <b>263.50</b> | <150  | 60.83  | <b>205.50</b> | <b>160.00</b> | <b>263.50</b> |
| i-Calcium njenge-Ca                 | mg/l     | 8   | 12     | 11     | 22     | 46.75   | 67.80         | 68.10         | 78.05         | <150  | 51.43  | 74.58         | 74.91         | 85.86         |
| i-Magnesium njenge-Mg               | mg/l     | 8   | 12     | 11     | 22     | 13.75   | <b>108.85</b> | 19.00         | 66.80         | <100  | 15.13  | <b>108.85</b> | 20.90         | 73.48         |
| i-Sodium njenge-Na                  | mg/l     | 8   | 12     | 11     | 22     | 62.55   | <b>289.00</b> | 188.10        | <b>337.00</b> | <200  | 68.81  | <b>289.00</b> | 200           | <b>337.00</b> |
| i-Chloride njenge-Cl                | mg/l     | 8   | 12     | 11     | 22     | 15.05   | <b>434.65</b> | <b>284.00</b> | <b>695.90</b> | <200  | 16.56  | <b>434.65</b> | <b>284.00</b> | <b>695.90</b> |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 8   | 12     | 11     | 22     | 25.85   | 122.75        | 20.50         | 92.85         | <400  | 28.44  | 135.03        | 22.55         | 102.14        |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 8   | 12     | 11     | 22     | 0.06  | 0.31          | 0.36          | 0.25          | <10   | 0.06   | 0.34          | 0.40          | 0.28          |
| i-Flouride njenge-F                 | mg/l     | 8   | 12     | 11     | 22     | 0.47  | 0.65          | 0.60          | <b>1.11</b>   | <1.0  | 0.52   | 0.71          | 0.66          | <b>1.11</b>   |

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W31K, i-W31L, i-W32A, i-W32B |        |        |        |   |               |        |                |   |  |               |           | Isigaba Sezinga Lamanzi Angaphansi Komhlaba | Isigaba 0 | Isigaba II | Isigaba II | Isigaba III |
|-------------------------------------|----------|---|--------|--------|--------|---|---------------|--------|----------------|---|--|---------------|-----------|---|-----------|------------|------------|-------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |                | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |           |   |           |            |            |             |
|                                     |          | i-W31K  | i-W31L | i-W32A | i-W32B | i-W31K  | i-W31L        | i-W32A | i-W32B         |   | i-W31K   | i-W31L        | i-W32A    | i-W32B                                      |           |            |            |             |
| i-pH                                |          | 86  | 17     | 8      | 44     | 8.04  | 8.04          | 6.96   | 7.71           | 5.0 – 9.5   | 8.84   | 8.84          | 7.66      | 8.48  |           |            |            |             |
| Ukudluliselwa Kukagesi              | mS/m     | 16  | 17     | 8      | 43     | <b>178.50</b>   | 134.00        | 112.10 | <b>1014.00</b> | <150  | <b>178.50</b>  | 147.40        | 123.31    | <b>1014.00</b>                              |           |            |            |             |
| i-Calcium njenge-Ca                 | mg/l     | 13  | 17     | 8      | 38     | 64.90   | 43.30         | 73.25  | <b>381.89</b>  | <150  | 71.39  | 47.63         | 80.58     | <b>381.89</b>                               |           |            |            |             |
| i-Magnesium njenge-Mg               | mg/l     | 13  | 17     | 8      | 39     | 80.20   | 24.40         | 23.55  | <b>318.05</b>  | <100  | 88.22  | 26.84         | 25.91     | <b>318.05</b>                               |           |            |            |             |
| i-Sodium njenge-Na                  | mg/l     | 13  | 17     | 8      | 38     | <b>294.30</b>   | 199.50        | 129.90 | <b>1239.72</b> | <200  | <b>294.30</b>  | 200           | 142.89    | <b>1239.72</b>                              |           |            |            |             |
| i-Chloride njenge-Cl                | mg/l     | 13  | 17     | 8      | 37     | <b>350.50</b>   | <b>225.90</b> | 177.00 | <b>2579.91</b> | <200  | <b>350.50</b>  | <b>225.90</b> | 194.70    | <b>2579.91</b>                              |           |            |            |             |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 13  | 17     | 8      | 39     | 41.70   | 22.00         | 32.45  | <b>443.20</b>  | <400  | 45.87  | 24.20         | 35.70     | <b>443.20</b>                               |           |            |            |             |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 13  | 17     | 8      | 38     | 1.72  | 0.17          | 0.31   | 0.05           | <10   | 1.89   | 0.18          | 0.34      | 0.06  |           |            |            |             |
| i-Flouride njenge-F                 | mg/l     | 13  | 17     | 8      | 36     | 0.38  | 0.78          | 0.36   | 0.06           | <1.0  | 0.42   | 0.86          | 0.39      | 0.07  |           |            |            |             |
|                                     |          |   |        |        |        |   |               |        |                | Isigaba Sezinga Lamanzi Angaphansi Komhlaba             | Isigaba II   | Isigaba II    | Isigaba I |   |           |            |            | Isigaba III |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

**IThebula 7.6 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W32C, i-W32D, i-W32E, i-W32F, i-W32G, i-W32H, i-W41D, i-W42B**

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W32C, i-W32D, i-W32E, i-W32F |        |        |        |   |        |        |               |   |  |           |           |               |
|-------------------------------------|----------|---|--------|--------|--------|---|--------|--------|---------------|---|--|-----------|-----------|---------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |        |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |           |           |               |
|                                     |          | i-W32C  | i-W32D | i-W32E | i-W32F | i-W32C  | i-W32D | i-W32E | i-W32F        |   | i-W32C   | i-W32D    | i-W32E    | i-W32F        |
| i-pH                                |          | 16  | 18     | 9      | 23     | 7.86  | 7.90   | 7.90   | 8.28          | 5.0 – 9.5   | 8.64   | 8.69      | 8.69      | 9.11          |
| Ukudluliselwa Kukagesi              | mS/m     | 16  | 18     | 9      | 23     | <b>228.00</b>   | 68.45  | 41.30  | <b>175.00</b> | <150  | <b>228.00</b>  | 75.30     | 45.43     | <b>175.00</b> |
| i-Calcium njenge-Ca                 | mg/l     | 16  | 18     | 9      | 23     | 64.85   | 20.05  | 17.40  | 45.90         | <150  | 71.34  | 22.06     | 19.14     | 50.49         |
| i-Magnesium njenge-Mg               | mg/l     | 16  | 18     | 9      | 23     | 69.60   | 13.40  | 13.60  | 46.80         | <100  | 76.56  | 14.74     | 14.96     | 51.48         |
| i-Sodium njenge-Na                  | mg/l     | 16  | 18     | 9      | 23     | <b>303.26</b>   | 62.40  | 41.30  | <b>232.00</b> | <200  | <b>303.26</b>  | 68.64     | 45.43     | <b>232.00</b> |
| i-Chloride njenge-Cl                | mg/l     | 16  | 18     | 9      | 23     | <b>434.39</b>   | 89.89  | 33.00  | <b>296.10</b> | <200  | <b>434.39</b>  | 98.88     | 36.30     | <b>296.10</b> |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 16  | 18     | 9      | 23     | 39.95   | 9.35   | 11.10  | 17.40         | <400  | 43.95  | 10.29     | 12.21     | 19.14         |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 16  | 18     | 9      | 23     | 6.27  | 0.24   | 0.73   | 6.38          | <10   | 6.89   | 0.27      | 0.81      | 7.02          |
| i-Flouride njenge-F                 | mg/l     | 16  | 18     | 9      | 23     | 0.21  | 0.35   | 0.61   | 0.23          | <1.0  | 0.23   | 0.38      | 0.67      | 0.25          |
|                                     |          |   |        |        |        |   |        |        |               | Isigaba Sezinga Lamanzi Angaphansi Komhlaba             | Isigaba II   | Isigaba 0 | Isigaba 0 | Isigaba II    |
| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W32G, i-W32H, i-W41D, i-W42B |        |        |        |   |        |        |               |   |  |           |           |               |
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |        |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |           |           |               |
|                                     |          | i-W32G  | i-W32H | i-W41D | i-W42B | i-W32G  | i-W32H | i-W41D | i-W42B        |   | i-W32G   | i-W32H    | i-W41D    | i-W42B        |
| i-pH                                |          | 46  | 24     | 27     | 80     | 8.20  | 7.90   | 7.25   | 7.12          | 5.0 – 9.5   | 9.01   | 8.69      | 7.98      | 7.83          |
| Ukudluliselwa Kukagesi              | mS/m     | 46  | 24     | 27     | 80     | <b>157.00</b>   | 46.40  | 13.90  | 36.95         | <150  | <b>157.00</b>  | 51.04     | 15.29     | 40.65         |
| i-Calcium njenge-Ca                 | mg/l     | 44  | 21     | 27     | 80     | 45.25   | 26.38  | 9.80   | 33.70         | <150  | 49.78  | 29.02     | 10.78     | 37.07         |
| i-Magnesium njenge-Mg               | mg/l     | 44  | 21     | 27     | 80     | 35.45   | 8.70   | 5.50   | 11.50         | <100  | 39.00  | 9.57      | 6.05      | 12.65         |
| i-Sodium njenge-Na                  | mg/l     | 44  | 21     | 27     | 80     | <b>251.70</b>   | 48.06  | 5.40   | 14.35         | <200  | <b>251.70</b>  | 52.86     | 5.94      | 15.79         |
| i-Chloride njenge-Cl                | mg/l     | 46  | 24     | 27     | 80     | <b>313.85</b>   | 80.50  | 3.90   | 3.65          | <200  | <b>313.85</b>  | 88.55     | 4.29      | 4.02          |

|                                     |      |    |    |    |    |       |      |      |       |  |            |           |           |           |
|-------------------------------------|------|----|----|----|----|-------|------|------|-------|--|------------|-----------|-----------|-----------|
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l | 44 | 23 | 27 | 80 | 21.00 | 9.70 | 8.30 | 81.55 | <400   | 23.10      | 10.67     | 9.13      | 89.71     |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l | 46 | 24 | 27 | 80 | 0.72  | 0.18 | 0.21 | 0.10  | <10  | 0.80       | 0.20      | 0.23      | 0.11      |
| i-Flouride njenge-F                 | mg/l | 44 | 23 | 27 | 80 | 0.40  | 0.18 | 0.16 | 0.18  | <1.0   | 0.44       | 0.20      | 0.18      | 0.20      |
|                                     |      |    |    |    |    |       |      |      |       | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b> | Isigaba II | Isigaba 0 | Isigaba 0 | Isigaba 0 |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

### IThebula 7.7 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W42D, i-W43F, i-W44B, i-W44E, i-W45A, i-W53C, i-W55A, i-W55C

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W42D, i-W43F, i-W44B, i-W44E |        |        |        |   |               |        |               |   |  |               |        |               |
|-------------------------------------|----------|---|--------|--------|--------|---|---------------|--------|---------------|---|--|---------------|--------|---------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |               |        |               | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |               |        |               |
|                                     |          | i-W42D  | i-W43F | i-W44B | i-W44E | i-W42D  | i-W43F        | i-W44B | i-W44E        |   | i-W42D   | i-W43F        | i-W44B | i-W44E        |
| i-pH                                |          | 22  | 23     | 8      | 14     | 7.48  | 7.96          | 8.22   | 8.39          | 5.0 – 9.5   | 8.23   | 8.76          | 9.04   | 9.22          |
| Ukudluliselwa Kukagesi              | mS/m     | 22  | 23     | 8      | 14     | 14.05   | 138.00        | 97.30  | 140.00        | <150  | 15.46  | 150           | 107.03 | 150           |
| i-Calcium njenge-Ca                 | mg/l     | 21  | 23     | 8      | 14     | 10.40   | 34.90         | 41.40  | 20.00         | <150  | 11.44  | 38.39         | 45.54  | 22.00         |
| i-Magnesium njenge-Mg               | mg/l     | 21  | 23     | 8      | 14     | 5.40  | 11.50         | 39.25  | 7.50          | <100  | 5.94   | 12.65         | 43.18  | 8.25          |
| i-Sodium njenge-Na                  | mg/l     | 21  | 23     | 8      | 14     | 7.70  | 195.80        | 67.35  | <b>244.70</b> | <200  | 8.47   | 200           | 74.09  | <b>244.70</b> |
| i-Chloride njenge-Cl                | mg/l     | 22  | 23     | 8      | 14     | 3.50  | <b>228.70</b> | 26.95  | <b>267.65</b> | <200  | 3.85   | <b>228.70</b> | 29.65  | <b>267.65</b> |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 21  | 23     | 8      | 14     | 2.00  | 16.60         | 43.00  | 9.50          | <400  | 2.20   | 18.26         | 47.30  | 10.45         |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 22  | 23     | 8      | 14     | 0.55  | 0.02          | 4.11   | 0.05          | <10   | 0.61   | 0.02          | 4.52   | 0.06          |
| i-Flouride njenge-F                 | mg/l     | 21  | 23     | -      | 14     | 0.10  | <b>1.43</b>   | -      | <b>2.59</b>   | <1.0  | 0.11   | <b>1.43</b>   | -      | <b>2.59</b>   |

| Ipharamitha Yamakhemikhali          | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W45A, i-W53C, i-W55A, i-W55C |        |        |        |   |             |        |        |   |  |             |           | Isigaba Sezinga Lamanzi Angaphansi Komhlaba | Isigaba 0 | Isigaba II | Isigaba I | Isigaba II |
|-------------------------------------|----------|---|--------|--------|--------|---|-------------|--------|--------|---|--|-------------|-----------|---|-----------|------------|-----------|------------|
|                                     |          | Inani lamaSampula   |        |        |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |             |        |        | Umkhawulo Wezidingo Zomuntu Eziyisisekelo <sup>2)</sup> | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |             |           |   |           |            |           |            |
|                                     |          | i-W45A  | i-W53C | i-W55A | i-W55C | i-W45A  | i-W53C      | i-W55A | i-W55C |   | i-W45A   | i-W53C      | i-W55A    | i-W55C                                      |           |            |           |            |
| i-pH                                |          | 62  | 10     | 10     | 7      | 8.06  | 8.92        | 7.22   | 7.97   | 5.0 – 9.5   | 8.87   | 9.81        | 7.94      | 8.77  |           |            |           |            |
| Ukudluliselwa Kukagesi              | mS/m     | 62  | 10     | 10     | 7      | 132.25  | 24.70       | 13.00  | 22.10  | <150  | 145.48   | 27.17       | 14.30     | 24.31                                       |           |            |           |            |
| i-Calcium njenge-Ca                 | mg/l     | 62  | 10     | 10     | 7      | 37.40   | 2.65        | 5.85   | 12.60  | <150  | 41.14  | 2.92        | 6.44      | 13.86                                       |           |            |           |            |
| i-Magnesium njenge-Mg               | mg/l     | 62  | 10     | 10     | 7      | 15.20   | 0.50        | 2.80   | 2.20   | <100  | 16.72  | 0.55        | 3.08      | 2.42  |           |            |           |            |
| i-Sodium njenge-Na                  | mg/l     | 62  | 10     | 10     | 7      | <b>218.00</b>   | 49.35       | 9.85   | 15.70  | <200  | <b>218.00</b>  | 54.29       | 10.84     | 17.27                                       |           |            |           |            |
| i-Chloride njenge-Cl                | mg/l     | 62  | 10     | 10     | 7      | <b>211.55</b>   | 24.10       | 3.55   | 6.50   | <200  | <b>211.55</b>  | 26.51       | 3.91      | 7.15  |           |            |           |            |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l     | 62  | 10     | 10     | 7      | 21.10   | 6.35        | 4.60   | 5.90   | <400  | 23.21  | 6.99        | 5.06      | 6.49  |           |            |           |            |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l     | 62  | 10     | 10     | 7      | 0.08  | 0.17        | 0.23   | 0.48   | <10   | 0.09   | 0.19        | 0.25      | 0.53  |           |            |           |            |
| i-Flouride njenge-F                 | mg/l     | 62  | 10     | 10     | 7      | <b>1.11</b>   | <b>4.47</b> | 0.13   | 0.43   | <1.0  | <b>1.11</b>  | <b>4.47</b> | 0.14      | 0.47  |           |            |           |            |
|                                     |          |   |        |        |        |   |             |        |        | Isigaba Sezinga Lamanzi Angaphansi Komhlaba             | Isigaba II   | Isigaba III | Isigaba 0 | Isigaba 0                                   |           |            |           |            |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo ophezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahlandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

### IThebula 7.8 Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba: i-W56A, i-W70A

| Ipharamitha Yamakhemikhali | Iyunithi | Izindawo Eziphatha Amanzi Ngekwata Yonyaka i-W56A, i-W70A |        |   |        |                     |  |        |  |  |  |  |
|----------------------------|----------|---|--------|---|--------|---------------------|--|--------|--|--|--|--|
|                            |          | Inani lamaSampula   |        | Izinga Lamanzi Angaphansi Komhlaba noma inani eliphakathi <sup>1)</sup> |        | Umkhawulo Wezidingo | Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba <sup>3)</sup> |        |  |  |  |  |
|                            |          | i-W56A  | i-W70A | i-W56A  | i-W70A |                     | i-W56A   | i-W70A |  |  |  |  |
|                            |          |   |        |   |        |                     |  |        |  |  |  |  |

|                                     |      |   |     |      |       | Zomuntu Eziyisisekelo <sup>2)</sup>                |           |           |
|-------------------------------------|------|---|-----|------|-------|--|-----------|-----------|
| i-pH                                |      | 9 | 117 | 7.75 | 7.54  | 5.0 – 9.5  | 8.53      | 8.29      |
| Ukudluliselwa Kukagesi              | mS/m | 9 | 116 | 9.00 | 37.05 | <150   | 9.90      | 40.76     |
| i-Calcium njenge-Ca                 | mg/l | 9 | 102 | 5.10 | 17.43 | <150   | 5.61      | 19.17     |
| i-Magnesium njenge-Mg               | mg/l | 9 | 98  | 2.00 | 5.86  | <100   | 2.20      | 6.45      |
| i-Sodium njenge-Na                  | mg/l | 9 | 103 | 7.50 | 21.50 | <200   | 8.25      | 23.65     |
| i-Chloride njenge-Cl                | mg/l | 9 | 99  | 5.30 | 34.37 | <200   | 5.83      | 37.81     |
| i-Sulphate njenge-SO <sub>4</sub>   | mg/l | 9 | 103 | 5.20 | 4.80  | <400   | 5.72      | 5.28      |
| i-Nitrate njenge-NO <sub>x</sub> -N | mg/l | 9 | 102 | 0.35 | 0.05  | <10  | 0.38      | 0.06      |
| i-Flouride njenge-F                 | mg/l | 9 | 101 | 0.17 | 0.10  | <1.0   | 0.19      | 0.11      |
|                                     |      |   |     |      |       | <b>Isigaba Sezinga Lamanzi Angaphansi Komhlaba</b> | Isigaba 0 | Isigaba 0 |

<sup>1)</sup> Ngokususelwa kumininingwane yesikhathi eside yezinga lamanzi angaphansi komhlaba (Uhlelo Lokulawulwa Kwamanzi lwe-DWS). Inani eliphansi lokuhlaziywa okusetshenziselwe ukuhlolwa kwezibalo liyisikhombisa (7).

<sup>2)</sup> Umkhawulo opezulu wezinga lamanzi Esigaba I [Okuphuza] (WRC *nabanye*. Inguqulo Yesibili. 1998. Umqulu 1: Umhlahandlela Wokuhlola); kanye

<sup>3)</sup> Inani eliphakathi kanye no-10%. Lapho kutholakale khona umehluko phakathi kwezinga lamanzi angaphansi komhlaba noma inani eliphakathi kanye nezidingo zomuntu eziyisisekelo, Inani elivikela kancane noma kakhulu likhethelwe indawo yokugcina yezinga lamanzi angaphansi komhlaba. Lapho kukhethwe khona izinga lamanzi angaphansi komhlaba noma inani eliphakathi njengeNdawo Yokugcina yezinga lamanzi angaphansi komhlaba, inani lilinganiselwe ngamaphesenti angu-10 inqobo nje uma inani lingadluli Indawo Yokugcina Yezinga Lamanzi Angaphansi Komhlaba.

### IThebula 7.9 Amapharamitha Okukhathazayo Ezinga Lamanzi Angaphansi Komhlaba

| Ikwata Yonyaka | Amapharamitha Okukhathazayo                  |
|----------------|--|
| i-W11C         | i-Chloride                                   |
| i-W12E         | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride |
| i-W12F         | i-Chloride                                   |
| i- W12G        | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride |
| i-W12H         | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride |
| i-W21K         | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride |
| i-W21L         | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride |

|        |  |
|--------|--|
| i-W22K | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W23A | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W23B | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W23C | i-Sodium   |
| i-W31F | Ukudluliselwa Kukagesi, i-Magnesium, i-Sodium, i-Chloride                        |
| i-W31H | Ukudluliselwa Kukagesi, i-Chloride   |
| i-W31J | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride, i-Fluoride                         |
| i-W31K | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W31L | i-Chloride   |
| i-W32A | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W32B | Ukudluliselwa Kukagesi, i-Calcium, i-Magnesium, i-Sodium, i-Chloride, i-Sulphate |
| i-W32C | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W32F | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W32G | Ukudluliselwa Kukagesi, i-Sodium, i-Chloride                                     |
| i-W43F | i-Chloride, i-Fluoride   |
| i-W44B | Ukudluliselwa Kukagesi   |
| i-W44E | i-Sodium, i-Chloride, i-Fluoride   |
| i-W45A | i-Sodium, i-Chloride, i-Fluoride   |
| i-W53C | i-Fluoride   |

Izindawo Eziphatha Amanzi Eziphezulu ezihlanganisa Indawo Ephatha Amanzi e-Usuthu-Mhlathuze Catchment ziboniswe ngezansi kuMfanekiso 1.



Umfanekiso 1: Imephu yendawo yendawo ephatha amanzi e-Usuthu-Mhlatuze ebonisa Izindawo Eziphatha Amanzi Eziphezulu.