A scientific basis for advancing terrestrial conservation priorities of Madagascar

Report of the scientific workshop on priority terrestrial sites within the framework of the 30x30 Biodiversity Plan

Antananarivo, March 23-24, 2026

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Executive summary

Madagascar is facing an unprecedented biodiversity crisis. As one of the world's top conservation priorities, the nation harbours exceptional rates of endemism and a unique biological heritage. And yet, these irreplaceable ecosystems and their constituent species are under severe threats from deforestation, habitat fragmentation, ecosystem degradation, overexploitation of natural resources, and the compounding effects of climate change.

To halt biodiversity loss and meet the global 30x30 target, Madagascar must conserve at least 30% of its terrestrial and marine areas by 2030 — as defined under the Kunming-Montreal Global Biodiversity Framework.

This strategic report synthesizes findings from a landmark scientific workshop held in March 2026 in Antananarivo, Madagascar, where 50 international and national experts across seven taxonomic groups conducted the most comprehensive terrestrial biodiversity prioritization exercise in Madagascar since 1995. Using advanced GIS analysis of expert-drawn priority areas, this report provides decision-makers with:

- 2.7 million hectares of high-consensus new protected areas
- 3.3 million hectares of priority zones for extending existing protected areas,
- 1.97 million hectares of critical biological corridors requiring ecosystem restoration,
- Over 12 million hectares identified as priority research zones with significant knowledge gaps.

Madagascar est confrontée à une crise de biodiversité sans précédent. Figurant parmi les priorités mondiales en matière de conservation, la nation abrite des taux d'endémisme exceptionnels et un patrimoine biologique unique. Pourtant, ces écosystèmes irremplaçables sont gravement menacés par la déforestation, la fragmentation des habitats, la dégradation des écosystèmes, la surexploitation des ressources naturelles et les effets cumulatifs du changement climatique.

Pour enrayer l'érosion de la biodiversité et atteindre l'objectif mondial 30x30, Madagascar doit conserver au moins 30 % de ses zones terrestres et marines d'ici 2030, conformément au Cadre mondial de Kunming-Montréal pour la biodiversité.

Le présent rapport stratégique synthétise les conclusions d'un atelier scientifique majeur qui s'est tenu en Mars 2026 à Antananarivo, Madagascar. 50 experts internationaux et nationaux, issus de sept groupes taxonomiques, y ont mené l'exercice de priorisation de la biodiversité terrestre le plus exhaustif à Madagascar depuis 1995. Grâce à une analyse SIG avancée des zones prioritaires définies par les experts, ce rapport fournit aux décideurs :

- 2,7 millions d'hectares de nouvelles aires conservées faisant l'objet d'un large consensus,
- 3,3 millions d'hectares de zones prioritaires pour l'extension des aires protégées existantes ;
- 1,97 millions d'hectares de corridors biologiques critiques nécessitant la restauration des écosystèmes ;
- Plus de 12 millions d'hectares identifiés comme zones de recherche prioritaires présentant d'importantes lacunes dans les connaissances.

Key findings

During the Scientific Workshop on Terrestrial Biodiversity held in Antananarivo on 23–24 March 2026, organized and led by the Ministry of Environment and Sustainable Development (MEDD) of Madagascar, 50 experts of which 70% were Malagasy, provided the following recommendations that included seven major groups—reptiles/amphibians, birds, primates, other mammals, plants, freshwater organisms (fish and plants), and invertebrates—ensuring comprehensive representation of Madagascar's unique biodiversity:

Lors de l'atelier scientifique sur la biodiversité terrestre qui s'est tenu à Antananarivo les 23 et 24 mars 2026, organisé et piloté par le ministère de l'Environnement et du Développement Durable (MEDD) de Madagascar, 50 experts, dont 70 % Malagasy, ont formulé les recommandations suivantes, couvrant sept grands groupes : reptiles et amphibiens, oiseaux, primates, autres mammifères, plantes, organismes d'eau douce et invertébrés, afin d'assurer une représentation exhaustive de la biodiversité de Madagascar:

- Analysis of the deforestation pressure reveals critical areas under immediate threat from ongoing forest loss (period from 2014 to 2024). The integration of forest loss data shows many priority zones are losing habitat faster than they are being protected.

- L'analyse de la pression de la déforestation révèle des zones critiques immédiatement menacées par la déforestation en cours (période 2014-2024). L'intégration des données sur la perte de forêt montre que de nombreuses zones prioritaires perdent leur habitat plus rapidement qu'elles ne sont protégées.

- More than 18 million hectares across four conservation categories, including certain non-closed canopy habitats, were defined as priority areas. This significant extent reflects the nation's exceptional biodiversity and widespread conservation needs.

- Plus de 18 millions d'hectares, répartis en quatre catégories de conservation, ont été définis comme zones prioritaires. Cette superficie considérable témoigne de la biodiversité exceptionnelle du pays et de ses importants besoins en matière de conservation.

- High-confidence areas (endorsed by three or more expert groups) where multi-groups found consensus reaching more than 15 million hectares. These zones represent the strongest scientific consensus for immediate conservation action.

- Les zones à haut niveau de confiance (approuvées par au moins trois groupes d'experts) où plusieurs groupes ont dégagé un consensus couvrent une superficie totale de plus de 15 millions d'hectares. Ces zones représentent le consensus scientifique le plus fort en faveur d'une action de conservation immédiate.

Background and context

The last major scientific prioritization exercise for Madagascar's terrestrial ecosystems was conducted in 10 and 14 April 1995 when a group of scientists largely under the direction of Prof. Jörg Ganzhorn and the late Prof. Berthe Rakotosamimanana, were convened to prioritize recommendations for conservation actions. While foundational, the work did not superimpose recommendations across multi-groups and thanks to major advances in knowledge on the Malagasy biota is now outdated. The group included specialists in the field of paleontology (n=8), plants (n=18), invertebrates (n=9), aquatic ecosystems (n=12), reptiles and amphibians (n=14), birds (n=13), mammals (n=13), socio-economy (n=20), and geographical information systems and general issues (n=15): in total 122 participants attended that meeting, of which 62 or about 50% were Malagasy scientists. The results of the workshop included separate tables and figures on conservation and research priorities for six different groups (aquatic ecosystems, plants, invertebrates, reptiles/and amphibians, birds, and mammals, as well as similar analyses for human pressures).

An aspect that is important to underline, among the participants that took part in the 1995 workshop, a considerable percentage focused their research on a specific area of the island, for example, years studying lemurs at Bezà Mahafaly, and many did not have the needed experience to make island-wide recommendations. In contrast to the 1995 workshop, the one held in 2026 had fewer participants (see Appendix I), each chosen based on high levels of competence in their field of study (see Appendix II on the manner they were chosen), and years of experience in different areas of the island within and outside the current protected area system. Another important aspect of the 2026 workshop is that recommendations were requested for the natural terrestrial ecosystems of Madagascar and that participants should work out of the box of only looking at the close canopy forest zones. Finally, several participants worked off-site and still able to make recommendations (see Appendix II)

The workshop commenced on 23 March with opening talks and introductions, the participants made their recommendations that afternoon and on 24 March, the GIS group conducted a synthesis of the map amendments on 25 March, and on 26 March the preliminary results were presented (see Appendix III for the program). Over the following months, further analyses were conducted, the results presented to MEED, and finally to the minister.

Workshop methodology and approach

A range of different analytical tools were employed to capture and analyze the recommendations of the members of each of the seven taxonomic groups. This work relied on the capacity of highly performant Global Information System (GIS) specialists, engaged specifically for this exercise.

Creation of the support maps

Spatial datasets were compiled and reviewed before map production. This included details on administrative and hydrographic reference layers, place names, historical deforestation layers (1990-2014), recent forest-change layers (2014-2024), topographic support data, and current protected areas.

A standardized template was prepared for all 11 map sheets at a scale of 1:500,000 to ensure consistency in layout, legend, symbols, labeling, and visual hierarchy across all biodiversity groups. This tiling approach aligns with the FTM BD500 and the Kew Madagascar Vegetation Atlas, enabling direct comparison and easy cross-referencing with these standard and frequently referred to maps.

The maps constructed for the workshop used the following layers and sources:

- Base map (administrative limits, road network, toponyms, and rivers): FTM BD500.
- Ramsar sites.
- Protected areas: a combination of data from the Ministry of the Environment (MEDD) and the World Database of Protected Areas (UNEP-WCMC & IUCN, 2026).
- Deforestation: combined datasets from Harper *et al*. (2007) for the period 1994–2000 and Hansen *et al*. (2013) for the period 2000-2024.

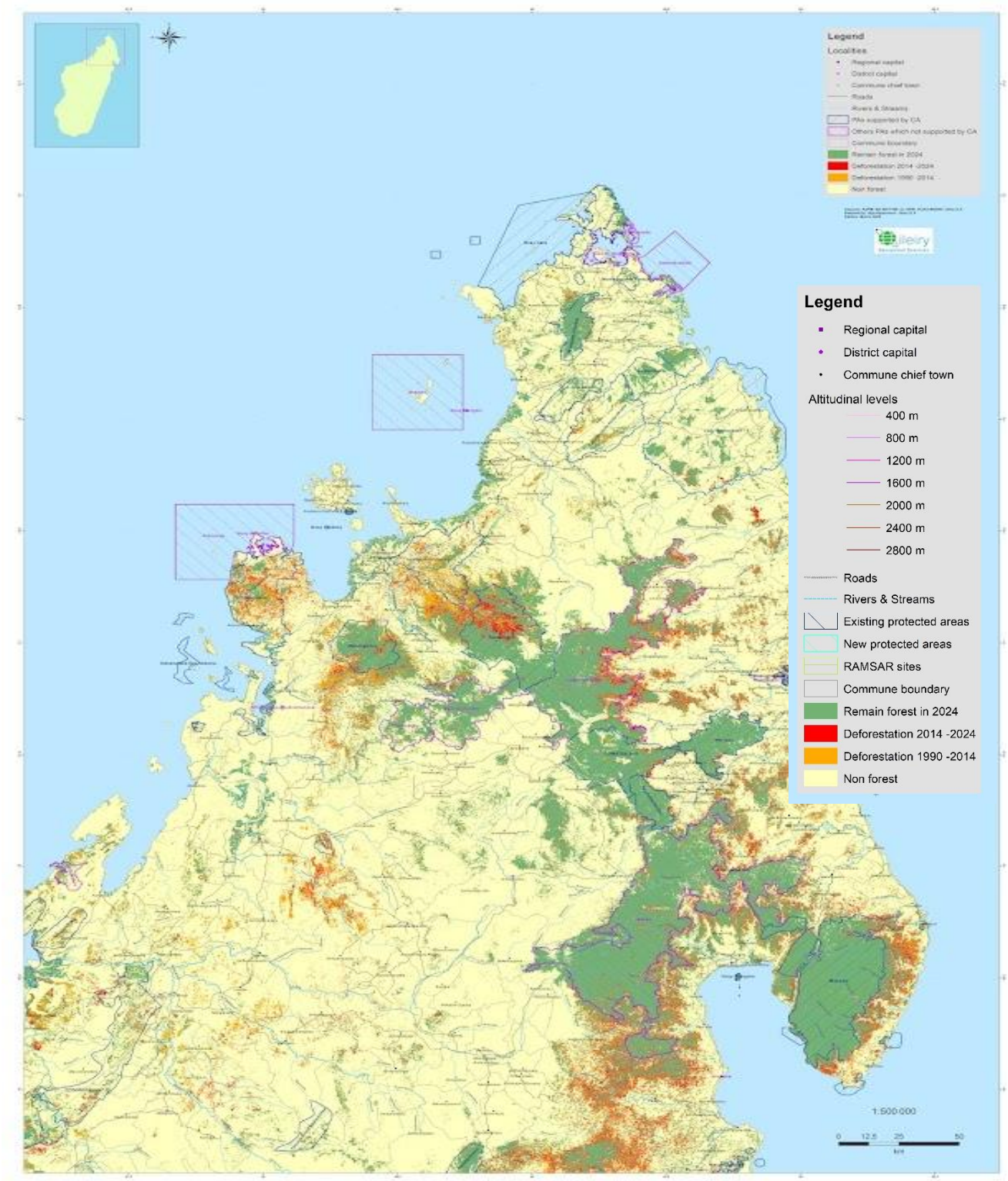

Figure 1 Example of base map, in this case map number 1 of far northern Madagascar, which the participants used to mark their recommendations. For each group, a total of 11 maps were employed covering the full terrestrial extent of the island.

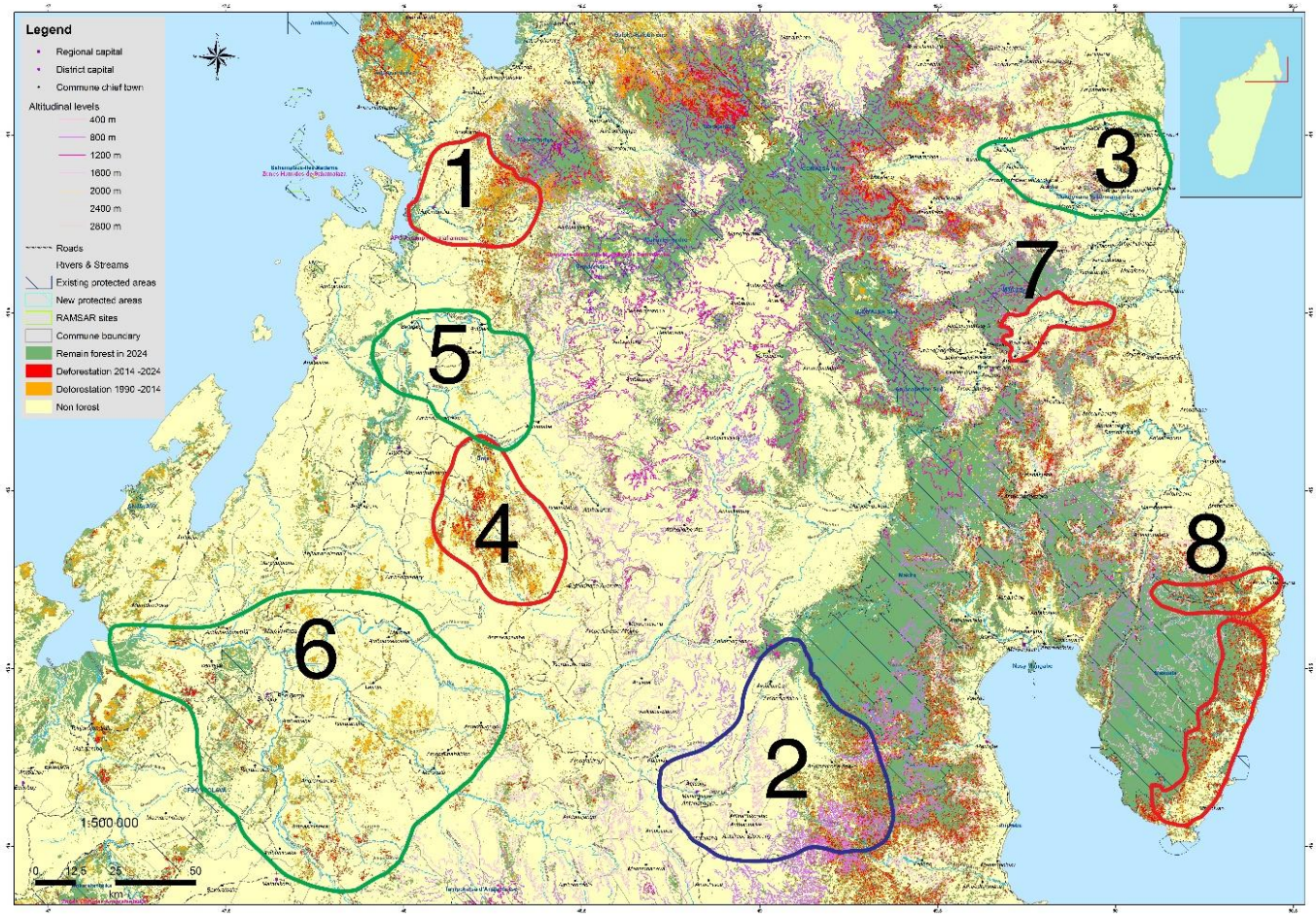

Figure 2 Example of a marked-up map number 1 of far northern Madagascar, in this case for freshwater organisms (fish and aquatic plants), with the four different types of color-coded recommendations. The number annotations refer to the site-specific recommendations simultaneously entered a database as the maps were being marked up.

Data capture

During the two-day workshop, experts for each of the seven taxonomic groups were gathered around the associated 11 base maps for their respective group. Using their expertise and existing data, they drew polygons around areas they considered recommendation priorities. Each polygon was assigned a unique ID linked to a Word or Excel document per group containing the associated justification and supporting scientific evidence for the individual selection. The different parameters the participants were asked to note in their associated database are given in Appendix IV. It is important to mention that recommendations at the first level were made for each group based on overall species composition, rather than per se on individual species. However, aspects of unique species or those with elevated IUCN Redlist categories can be found in the associated databases.

The marking of maps followed a coded color scheme:

- Green: new conservation sites, which might include different types of protection (protected areas or Other Effective Area-based Conservation Measures [=OECM]),

- Red: extension of existing protected area (buffer zones or adjacent priority areas),

- Blue: priority area for ecological restoration and biological corridors (for connectivity and landscape recovery), and

- Orange: priority area for biological inventories and presumed area of conservation importance, but currently with insufficient data to accurately decide on this aspect.

Figure 3 In the foreground is the plant group discussing the proposed recommendations, with one person acting as the sort of secretary noting different aspects associated with each marked recommendation (see Appendix III). In the background to the right is the bird group drawing their priority recommendations on their associated maps.

Figure 4 A composition of the 11 maps used in the recommendation exercise for each group and giving a sense of the scale of precision each group was able to work at.

The GIS team then digitized those polygons into spatial datasets.

Figure 5 One of the GIS-specialists manually digitizing polygons on the marked-up maps.

Analysis and methodological considerations

Separate and combined taxonomic groupings

Each recommendation category (green, red, blue, and orange), as defined above, was analyzed separately. After some discussion and deliberation, it was decided to conduct three separate analyses for each of the four recommendation categories:

1) Polygons for the terrestrial plant and non-arthropod groups, including plants, amphibian/reptiles, birds, non-primate mammals, and lemurs, were superimposed upon one another and merged into a single shapefile.

2) The arthropods group used a different delimitation approach, while respecting the color method, and was therefore analyzed separately from the other taxonomic groups. The decision to employ a different approach was largely based on aspects of arthropod natural history, such as home range size and often very limited distributions, which separated them from other terrestrial animal and plant groups.

3) The freshwater fish information was analyzed together with the freshwater plant sites. The separation of these two groups had to do with their way of life of these organisms and notably different conservation approaches than terrestrial animals, for example.

The analysis produced four priority shapefiles — one for each type of recommendation — for each of the recommendation categories.

Prioritization of recommendations

As the GIS analyses were analytical exercises, it was decided that it was inappropriate for the 30x30 group or the others responsible for organizing the workshop to present their opinions, and it was important that the different analyses would produce transparent recommendations. Hence, to be 100% clear, the number of overlapping areas proposed by different groups was used as the means of prioritizing recommendations. For example, if all five terrestrial groups independently marked the same area, a prioritization scale of five was assigned to the zone, if four of five groups then a prioritization of 4 was allocated, etc. We generally used prioritization of three or more as higher action recommendations.

Overall statistics

The analysis produced a set of shapefiles recording the frequency of spatial overlap between taxonomic group proposals. Each output shapefile contains the following attributes:

- Overlap count (number of taxonomic groups that proposed the same area as explained above),
- Contributing taxonomic groups,
- Polygon IDs of contributing groups (traceable to source justification documents),

- The area of each polygon, in hectares,
- Sequential polygon ID for map identification,
- Geographical references (town names, place names, or nearby landmarks).

In Table 1 is summarized areas and counts of polygon with high ranking (three or more overlapping) for the five terrestrial taxonomic groups.

Table 1 Number of polygons marked on maps and per color for the combined terrestrial groups and associated estimated surface area as measured in hectares.

	Total number of polygons	Estimated area (hectares)	Polygons with three or more overlapping	Estimated area (hectares)
Blue (restoration and corridors)	71	5 099 809	12	1 971 263
Green (new conservation areas)	284	9 334 856	111	2 696 488
Red (extensions)	282	8 899 754	90	3 287 674
Orange (research)	319	20 699 251	109	12 724 066

Across all priority categories, the analysis captured a combined total of 956 priority polygons covering approximately 44 million hectares across four conservation recommendation categories. The table above summarizes the total extent and high-confidence areas (3+ group overlap) for each category:

- The Green (new protected areas) and Red (extension of existing protected areas) categories yielded the highest polygon counts and spatial extents, with 284 and 282 polygons, respectively. Of these, high-confidence areas — defined as those proposed independently by three or more taxonomic groups — account for 111 polygons (2 696 488 hectares) for Green and 90 polygons (3 287 674 hectares) for red, underscoring strong multi-group consensus for these zones.
- The Orange category (priority areas for research) recorded the largest total extent at over 20.6 million hectares across 319 polygons, with 109 reaching the three-or-more overlap threshold.
- The Blue category (ecological restoration and corridors) had the fewest polygons (71) but retained a substantial high-confidence area of approximately 1.97 million hectares across 12 polygons.

These high-ranking polygons across all categories represent the strongest candidates for conservation intervention and are discussed in detail in the sections below.

New conserved areas (Green)

Coverage: 9.3 million hectares across 284 polygons

High-Confidence Areas: 2.7 million hectares across 120 polygons (endorsed by 3+ expert groups)

The Green recommendation category represents geographically distinct areas that currently lack formal protection but identified by multiple expert groups as essential for biodiversity conservation. These zones contain species, habitats, or ecosystems inadequately represented in the existing protected area network. Designating these new conservation areas is critical for meeting the 30x30 target and ensuring representation of all major biodiversity zones and safeguarding ecosystem functioning.

In Table 2 is shown the distribution of polygons and area (hectares) by overlap count for newly proposed conservation areas (Green). Higher overlap values indicate stronger multi-group consensus for that area.

Table 2 Overlap count and corresponding areas for the new conservation area (Green) recommendation category.

Overlap count	Area (hectares)	Polygon count
1	3 169 421	71
2	3 468 936	93
3	1 824 082	71
4	740 120	42
5	132 297	7
Total	9 334 856	284

This category, representing newly proposed conservation areas, covers 9 334 856 hectares across 284 polygons — the highest polygon count of all four recommendation categories. Areas proposed by a single expert group account for 3 169 421 hectares (71 polygons), while those with two-group agreement cover 3 468 936 hectares (93 polygons). High-confidence new conservation areas, proposed by three or more groups, total 2 696 499 hectares across 120 polygons, with the highest consensus tier (overlap count 5) covering 132 297 hectares across only seven polygons. These areas should be prioritized for immediate procedures to secure them.

The spatial concentration of these high-consensus new areas highlights locations that multiple expert groups consider insufficiently protected under the current system and warrant urgent consideration for the creation of new conservation sites.

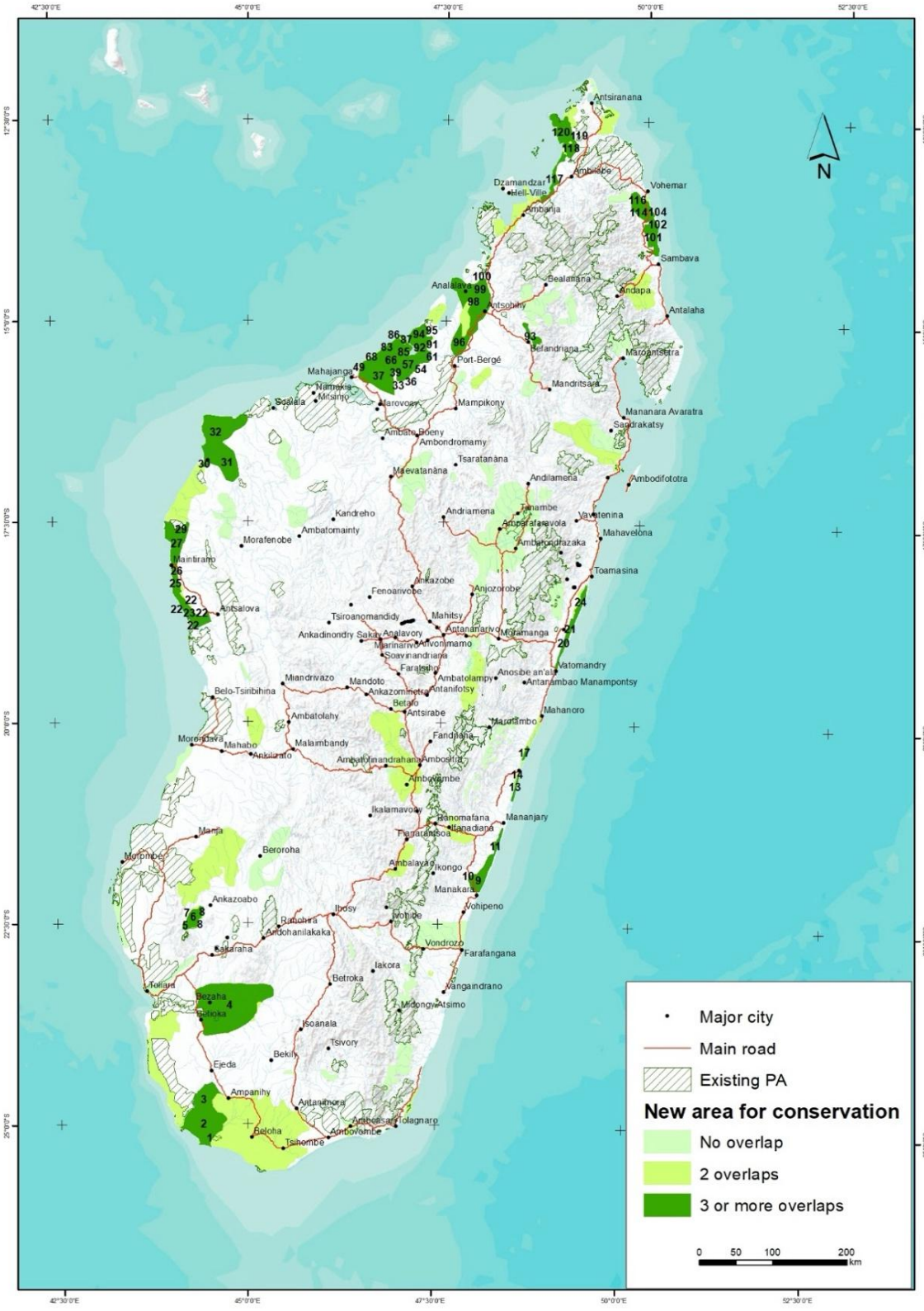

Figure 6 Localization of high overlap areas (three or more group recommendations) for priority areas for new conservation sites (Green). Each area is individually numbered, and these details are presented in Table 3.

Table 3 Listing of priority areas for new conservation sites (Green) and following the numbers presented on Figure 6.

N.	Name		N.	Name
1	Entre Linta and Menarandra		41	Delta du Mahajamba - Sofia
2	Entre Linta and Menarandra		42	Delta du Mahajamba - Sofia
3	Entre Linta and Menarandra		43	Delta du Mahajamba - Sofia
4	Suite Amorin'I Onilahy		44	Delta du Mahajamba - Sofia
5	Ambatolahy-Sarondrano, Miary Afovoany		45	Delta du Mahajamba - Sofia
6	Ambatolahy-Sarondrano, Miary Afovoany		46	Delta du Mahajamba - Sofia
7	Ambatolahy-Sarondrano, Miary Afovoany		47	Delta du Mahajamba - Sofia
8	Ambatolahy-Sarondrano, Miary Afovoany		48	Delta du Mahajamba - Sofia
9	Bord Mananjary and Manakara		49	Delta du Mahajamba - Sofia
10	Bord Mananjary and Manakara		50	Delta du Mahajamba - Sofia
11	Bord Mananjary and Manakara		51	Delta du Mahajamba - Sofia
12	Ambahy, Mahela		52	Delta du Mahajamba - Sofia
13	Ambahy, Mahela		53	Delta du Mahajamba - Sofia
14	Ambahy, Mahela		54	Delta du Mahajamba - Sofia
15	Masomeloka		55	Delta du Mahajamba - Sofia
16	Masomeloka		56	Delta du Mahajamba - Sofia
17	Masomeloka		57	Delta du Mahajamba - Sofia
18	Masomeloka		58	Delta du Mahajamba - Sofia
19	Masomeloka		59	Delta du Mahajamba - Sofia
20	Manambolo, Andevoranto		60	Delta du Mahajamba - Sofia
21	Manambolo, Andevoranto		61	Delta du Mahajamba - Sofia
22	Mandrozo to Tsimembo Manambolomaty APs		62	Delta du Mahajamba - Sofia
23	Mandrozo to Tsimembo Manambolomaty APs		63	Delta du Mahajamba - Sofia
24	Manambolo, Andevoranto		64	Delta du Mahajamba - Sofia
25	Mandrozo to Tsimembo Manambolomaty APs		65	Delta du Mahajamba - Sofia
25	Mandrozo to Tsimembo Manambolomaty APs		66	Delta du Mahajamba - Sofia
27	Mandrozo to Tsimembo Manambolomaty APs		67	Delta du Mahajamba - Sofia
28	Mandrozo to Tsimembo Manambolomaty APs		68	Delta du Mahajamba - Sofia
29	Mandrozo to Tsimembo Manambolomaty APs		69	Delta du Mahajamba - Sofia
30	Nord Besalampy		70	Delta du Mahajamba - Sofia
31	Nord Besalampy		71	Delta du Mahajamba - Sofia
32	Nord Besalampy		72	Delta du Mahajamba - Sofia
33	Delta du Mahajamba - Sofia		73	Delta du Mahajamba - Sofia
34	Delta du Mahajamba - Sofia		74	Delta du Mahajamba - Sofia
35	Delta du Mahajamba - Sofia		75	Delta du Mahajamba - Sofia
36	Delta du Mahajamba - Sofia		76	Delta du Mahajamba - Sofia
37	Delta du Mahajamba - Sofia		77	Delta du Mahajamba - Sofia
38	Delta du Mahajamba - Sofia		78	Delta du Mahajamba - Sofia
39	Delta du Mahajamba - Sofia		79	Delta du Mahajamba - Sofia
40	Delta du Mahajamba - Sofia		80	Delta du Mahajamba - Sofia
81	Delta du Mahajamba - Sofia		102	Fanambana au Tanambao-Daoud
83	Delta du Mahajamba - Sofia		103	Fanambana au Tanambao-Daoud

84	Delta du Mahajamba - Sofia		104	Fanambana to Tanambao-Daoud
85	Delta du Mahajamba - Sofia		105	Fanambana to Tanambao-Daoud
86	Delta du Mahajamba - Sofia		106	Fanambana to Tanambao-Daoud
87	Delta du Mahajamba - Sofia		107	Fanambana to Tanambao-Daoud
88	Delta du Mahajamba - Sofia		108	Fanambana to Tanambao-Daoud
89	Delta du Mahajamba - Sofia		109	Fanambana to Tanambao-Daoud
90	Delta du Mahajamba - Sofia		110	Fanambana to Tanambao-Daoud
91	Delta du Mahajamba - Sofia		111	Fanambana to Tanambao-Daoud
92	Delta du Mahajamba - Sofia		112	Fanambana to Tanambao-Daoud
93	Sud Tsiamalao		113	Fanambana to Tanambao-Daoud
94	Delta du Mahajamba - Sofia		114	Fanambana to Tanambao-Daoud
95	Delta du Mahajamba - Sofia		115	Fanambana to Tanambao-Daoud
96	Antsohihy		116	Fanambana to Tanambao-Daoud
97	Antsohihy		117	Bobasakoa
98	Antsohihy		118	Bobasakoa
99	Antsohihy		119	Bobasakoa
100	Antsohihy		120	Bobasakoa
101	Fanambana to Tanambao-Daoud			

Extension of existing protected areas (Red)

Coverage: 8.9 million hectares across 282 polygons

High-Confidence Areas: 3.3 million hectares across 90 polygons (endorsed by 3+ expert groups)

The Red category identifies buffer zones, biodiversity corridors, and adjacent areas where the extension of existing protected areas would enhance conservation effectiveness. Extension zones often represent transitional habitats, migratory corridors, or areas directly adjacent to core protected areas that would benefit from formal protection to reduce fragmentation and improve landscape connectivity. Extensions offer a cost-effective means to expand protected area networks because they build on existing management infrastructure and institutional capacity.

In Table 4 we present the distribution of polygons and area (hectares) by overlap count for areas proposed for extension of existing protected areas. Higher overlap values indicate stronger multi-group consensus for that zone.

Table 4 Overlap count and corresponding areas for protected area extensions (Red).

Overlap count	Area (hectare)	Polygon count
1	1 541 892	76
2	4 070 189	116
3	2 196 119	67
4	1 076 849	22
5	14 706	1
Total	8 899 754	282

This category — proposing extensions to existing protected areas — encompasses 8 899 754 hectares across 282 polygons. The bulk of the coverage falls in areas proposed by two expert groups (4 070 189 hectares, 116 polygons), reflecting a moderate level of consensus between the groups. Areas with three or more overlaps, totaling 3 287 674 hectares across 90 polygons, constitute the high-priority subset for protected area expansion. These zones are particularly valuable for expanding the surface area and encompassing the protected of the local ecosystems. Only one polygon reached full five-group agreement, covering 14,706 hectares, indicating a highly localized but unanimously endorsed zone. Areas with the strongest expert consensus should be prioritized for formal expansion procedures under existing protected area management frameworks.

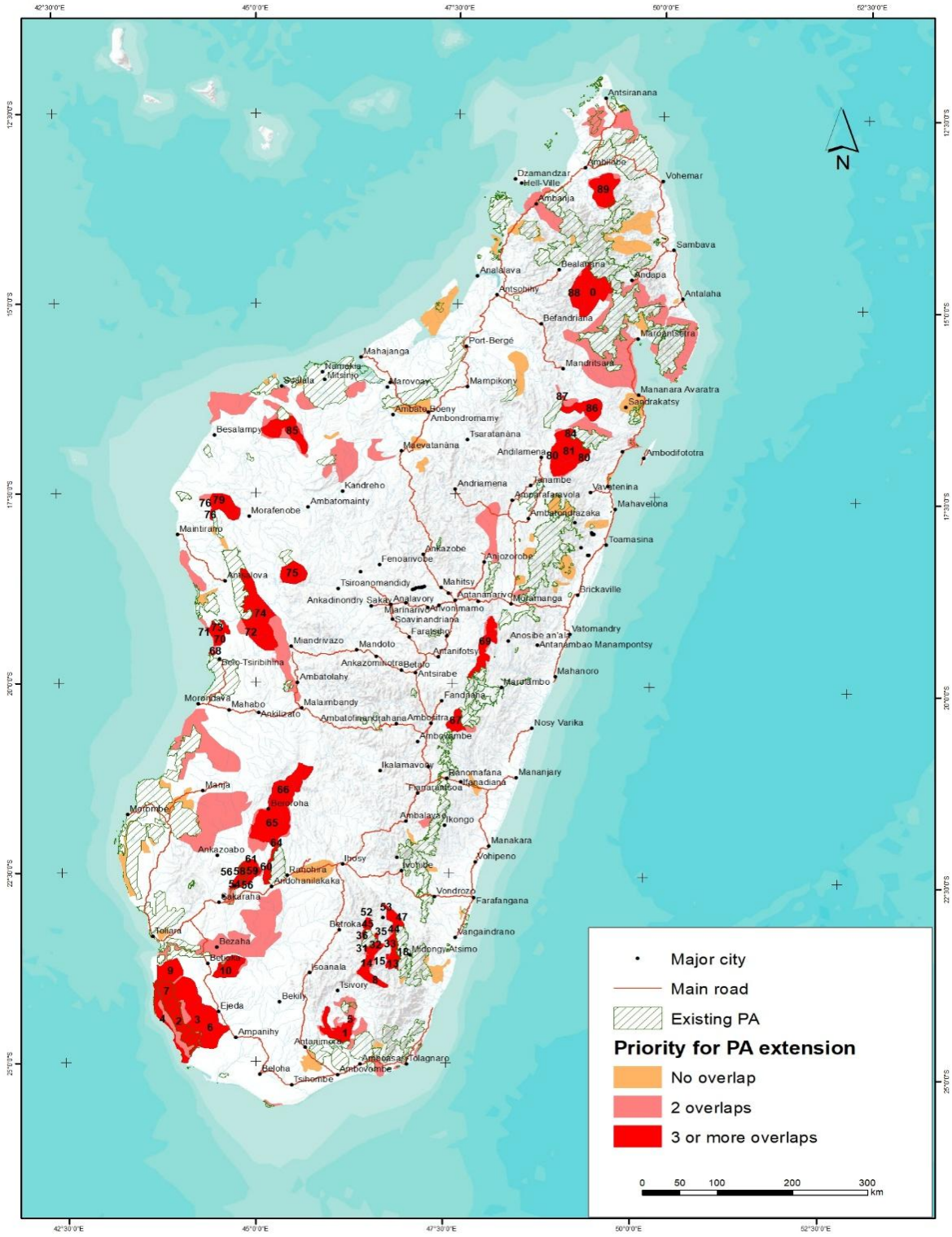

Figure 7 Localization of high overlap areas (three or more group recommendations) for priority areas for protected area extensions (Red). Each area is individually numbered, and these details are presented in Table 5.

Table 5 Listing of priority areas for protected area extensions (Red) and following the site numbers presented on Figure 7.

Number	Name		Number	Name
1	Extension Nord-Ifotaka		38	Extension Kalambatritra
2	Extension Tsimanapetsotse		39	Extension Kalambatritra
3	Extension Tsimanapetsotse		40	Extension Kalambatritra
4	Extension Tsimanapetsotse		41	Extension Kalambatritra
5	Extension Nord-Ifotaka		42	Extension Kalambatritra
6	Extension Tsimanapetsotse		43	Extension Befotaka-Midongy South
7	Extension Tsimanapetsotse		44	Extension Befotaka-Midongy South
8	Extension Kalambatritra		45	Extension Kalambatritra
9	Extension Tsimanapetsotse		46	Extension Kalambatritra
10	Extension Bezà-Mahafaly		47	Extension Befotaka-Midongy South
11	Extension Befotaka-Midongy South		48	Extension Kalambatritra
12	Extension Befotaka-Midongy South		49	Extension Kalambatritra
13	Extension Befotaka-Midongy South		50	Extension Kalambatritra
14	Extension Kalambatritra		51	Extension Kalambatritra
15	Extension Befotaka-Midongy South		52	Extension Kalambatritra
16	Extension Befotaka-Midongy South		53	Extension Befotaka-Midongy South
17	Extension Befotaka-Midongy South		54	Extension Zombitse-Vohibasia
18	Extension Befotaka-Midongy South		55	Extension Zombitse-Vohibasia
19	Extension Befotaka-Midongy South		56	Extension Zombitse-Vohibasia
20	Extension Befotaka-Midongy South		57	Extension Zombitse-Vohibasia
21	Extension Befotaka-Midongy South		58	Extension Zombitse-Vohibasia
21	Extension Befotaka-Midongy South		59	Extension Zombitse-Vohibasia
22	Extension Befotaka-Midongy South		60	Extension Isalo
23	Extension Befotaka-Midongy South		61	Extension Zombitse-Vohibasia
24	Extension Befotaka-Midongy South		62	Extension Marolambo
25	Extension Befotaka-Midongy South		63	Extension Marolambo
26	Extension Befotaka-Midongy South		64	Extension Marolambo
27	Extension Befotaka-Midongy South		65	Extension Marolambo
28	Extension Befotaka-Midongy South		66	Extension Marolambo
29	Extension Befotaka-Midongy South		67	Extension Marolambo
30	Extension Befotaka-Midongy South		66	Extension Menabe Antimena
31	Extension Kalambatritra		69	Extension Marolambo
32	Extension Kalambatritra		70	Extension Ambondrombe
33	Extension Befotaka-Midongy South		71	Extension Ambondrombe
34	Extension Befotaka-Midongy South		72	Extension Bemaraha
35	Extension Kalambatritra		73	Extension Ambondrombe
36	Extension Kalambatritra		74	Extension Bemaraha
37	Extension Kalambatritra		75	Extension Ambohijanahary
76	Extension Beanka		83	Extension Ambatovaky
77	Extension Beanka		84	Extension Ambatovaky
78	Extension Beanka		85	Extension Namoroka
79	Extension Beanka		86	Extension Marotandrano

80	Extension Ambatovaky		87	Extension Marotandrano
81	Extension Ambatovaky		88	Extension COMATSA South
82	Extension Ambatovaky		89	Extension COMATSA North

Ecological restoration and biological corridors areas (Blue)

Coverage: 5.1 million hectares across 71 polygons

High-Confidence Areas: 2.0 million hectares across 12 polygons (all endorsed by 3 expert groups)

The Blue category represents zones proposed for landscape-scale ecological restoration and underline the importance of forest corridors. The areas of intervention often contain degraded former forested zones or fragmented habitats where restoration activities to reconstruct or rehabilitate aspects of natural forest ecosystems, as well as the control of invasive plant species, would reconnect isolated protected areas and satellite forest parcels, which would in turn increase forest coverage and provide the means for forest-dependent plant and animal species to disperse across the landscape; all critical aspects for maintaining genetic pools of the organisms in question. While geographically more limited than other three categories, the Blue areas are strategically critical for long-term biodiversity persistence.

In Table 6 we present the distribution of polygons and area (hectares) by overlap count for those zones designated as priority for ecological restoration and biological corridor connectivity. This category only reaches a maximum overlap count of 3, reflecting a more specialized expert consensus compared to the other categories.

Table 6 Overlap count and corresponding areas for ecological restoration and biological corridor connectivity (Blue) actions.

Overlap count	Area (hectares)	Polygon count
1	2 041 607	36
2	1 086 938	23
3	1 971 263	12
Total	5 099 809	71

This category, covering priority areas for ecological restoration and biological corridor connectivity, encompasses 5 099 809 hectares across 71 polygons — should receive dedicated funding for restoration and management using integrated landscape approaches. The overlap count reaches a maximum of 3, with the highest-consensus polygons (overlap count 3) covering 1 971 263 hectares across 12 polygons. These 12 areas, identified by a maximum of three contributing groups, represent the most critical biological corridor and restoration zones. The remaining 59 polygons (with overlap counts 1 and 2), covering 3 128 545 hectares, still warrant consideration in regional biodiversity connectivity strategies

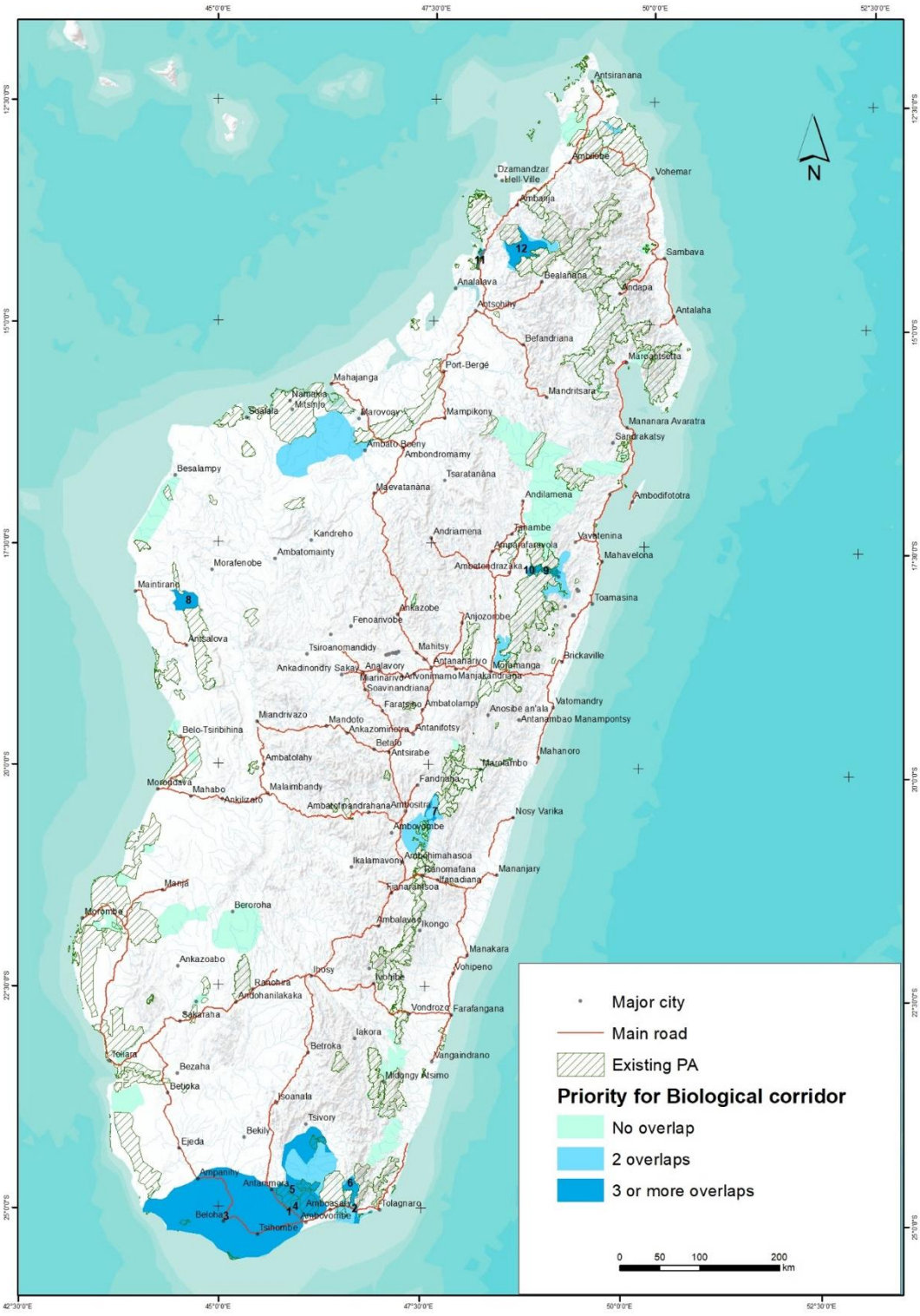

Figure 8 Localization of high overlap areas (three group recommendations) of priority areas for ecological restoration and biological corridor connectivity sites (Blue). Each area is individually numbered, and these details are presented in Table 7.

Table 7 Listing of priority areas for ecological restoration and biological corridors and following the numbers presented on Figure 8.

Number	Name
1	Angavo-South West Ifotaly
2	Andohahela
3	Vohidava_Betsimalaho-Sainte Marie cape
4	Angavo-South West Ifotaly
5	Angavo-Ifotaly
6	Andohahela-Behara Tranomaro
7	Ambositra_Vondrozo-Marolambo
8	Bemaraha-Beanka
9	CAZ-Zahamena
10	CAZ-Zahamena
11	Sahamalaza Radama islands
12	Manongarivo-Bemanevika-Mahimborondro

Priority research areas (Orange)

Coverage: 20.7 million hectares across 319 polygons

High-Confidence Areas: 12.7 million hectares across 109 polygons (endorsed by 3+ expert groups)

Table 8 presents the distribution of polygons and area (hectare) by overlap count for the prioritization of research actions. The Orange category represents areas identified by expert groups as presumably having conservation importance but lacking sufficient scientific data to make definitive recommendations. These zones may harbor undocumented species, unique habitats, or critical ecological processes that require further investigation before final conservation designation.

While not immediately allocated for protection, Orange areas should trigger targeted biodiversity surveys and research programs during the first phases of the 30x30 program and the results feeding directly into proposed actions. This knowledge-gathering approach is particularly important for Madagascar, where many remote regions remain poorly inventoried. As scientific data accumulates, Orange zones can be reclassified into appropriate conservation recommendations, either as Green category (new conservation sites) or Red (extension of existing protected areas).

Table 8 Overlap count and corresponding areas for the priority area for research (Orange) to complete as possible in the early stages of the 30x30 program and for associated data to feed-in to the prioritization of 30x30 actions.

Overlap count	Area (hectares)	Polygon count
1	2 304 556	77
2	5 670 629	131
3	9 207 190	79
4	2 715 676	27
5	801 201	5
Total	20 699 252	319

In Figure 9 is shown the polygons with an overlap count of three or more. The Orange category recorded the largest total coverage among all recommendation types, spanning 20 699 252 hectares across 319 polygons.

Most of this extent is concentrated in areas proposed by two or three groups (overlap counts 2 and 3), covering 5 670 629 hectares (131 polygons) and 9,207,190 hectares (79 polygons), respectively. Areas with the highest consensus (overlap counts 4 and 5) cover a combined 3 516 877 hectares across 32 polygons, signaling locations where multiple expert groups independently identified knowledge gaps requiring targeted research.

These high-priority research zones are spatially distributed across key biodiversity regions and are presented on Figure 9. Once again, it is considered important in the early stages of the 30x30 project for these sites to be visited by multi-disciplinary groups of field biologists to complete needed data, which will in turn be used in proposing new actions or help to refine existing recommendations.

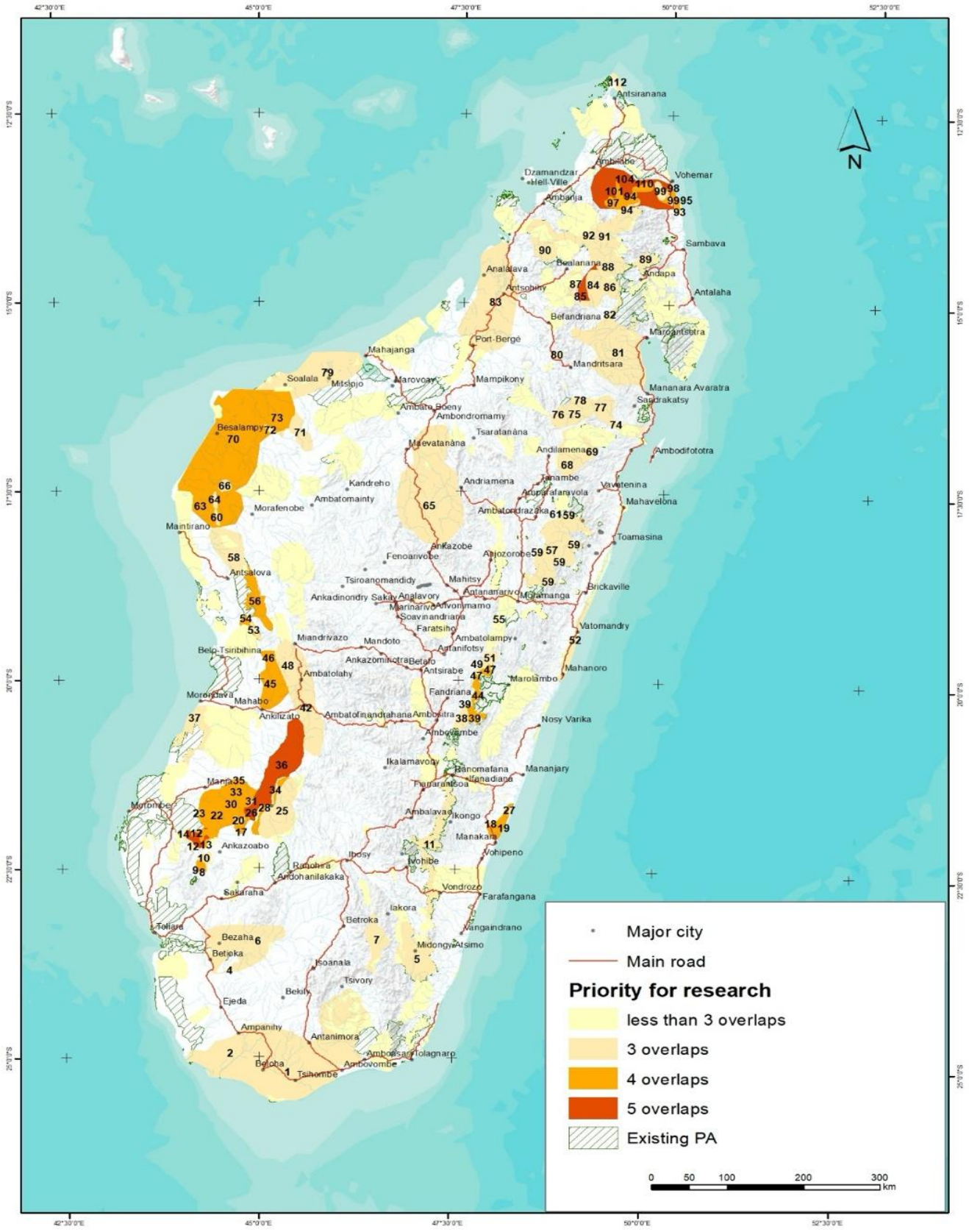

Figure 9 Localization of high overlap areas (three or more group recommendations) for priority areas for research (Orange). Each area is individually numbered, and these details are presented in Table 9.

Table 9. Listing of priority areas for research (Orange) and following the site numbers presented on Figure 9.

Number	Name		Number	Name
1	Tsihombe, Ambovombe		46	Bemaraha
2	Tsihombe, Ambovombe		47	Marolambo extension
4	Betioky, Tsimanampesotse		48	South of Miandrivazo
5	Itomampy, Beampingaratsy		49	Marolambo extension
6	Betioky, Tsimanampesotse		51	Marolambo extension
7	East of Betroka		52	Mahanoro, Andevoranto
8	Herea		53	South of Riv. Beboka
9	Herea		54	South of Riv. Beboka
10	Herea		55	Mangoro
11	Vondrozo, Marolambo		56	South of Riv. Beboka
12	West of Isalo		57	East of CAZ
13	West of Isalo		58	South of Riv. Beboka
14	West of Isalo		59	East of CAZ
15	West of Isalo		60	Maintirano, Kinkony
17	West of Isalo		61	East of CAZ
18	Manakara		62	Maintirano, Kinkony
19	Manakara		63	Maintirano, Kinkony
20	West of Isalo		64	Maintirano, Kinkony
22	West of Isalo		65	Anjozorobe
23	West of Isalo		66	Maintirano, Kinkony
24	West of Isalo		67	Maintirano, Kinkony
25	Beroroha		68	Vavatenina, Soanierana Ivongo
26	West of Isalo		69	Vavatenina, Soanierana Ivongo
27	Manakara		70	Maintirano, Kinkony
28	Beroroha		71	Maintirano, Kinkony
30	West of Isalo		72	Maintirano, Kinkony
31	West of Isalo		73	Maintirano, Kinkony
33	West of Isalo		74	Manompana
34	Beroroha		75	Manompana
35	West of Isalo		76	Manompana
36	Massif Makay		77	Manompana
37	Morondava		78	Manompana
38	Marolambo extension		79	Kinkony, Mahajanga
39	Marolambo extension		80	Mandritsara
41	Marolambo extension		81	Maroantsetra
42	Sud Miandrivazo		82	Maroantsetra
44	Marolambo extension		83	Antsohihy
45	Bemaraha		84	Marojejy
85	Marojejy		99	Daraina
86	Marojejy		100	Daraina
87	Marojejy		101	Daraina
88	Marojejy		102	Daraina

89	Andapa, Lokoho		103	Daraina
90	Manongarivo		104	Daraina
91	Tsaratanana		105	Daraina
92	Tsaratanana		106	Daraina
93	Daraina		107	Daraina
94	Tsaratanana		108	Daraina
95	Daraina		109	Daraina
96	Daraina		110	Daraina
97	Daraina		111	Daraina
98	Daraina		112	Cap Ambre

Freshwater fish and aquatic ecosystems

Freshwater habitats represent a critical but often-overlooked component of biodiversity conservation. The workshop dedicated specific attention to identifying priority zones for freshwater fish, aquatic plants, and riparian ecosystems. Since freshwater fish and aquatic plant data were treated jointly and independently of other groups, there is no cross-group overlap for these polygons.

In Table 10, the distribution by prioritization type and associated surface area for freshwater sites are presented.

Table 10 Number of polygons and associated area for each of the prioritization categories associated with freshwater fish and aquatic plants.

Color	Polygon count	Area (hectares)
Green	9	1 564 089,10
Red	17	2 745 694,96
Blue	3	909 775,44
Orange	1	14 513,70
TOTAL	30	5 234 073,2

The freshwater fish and plant priority polygons collectively cover approximately 5 234 073 hectares across 30 polygons. Key insights from aquatic groups:

- The dominance of the Red (extension of existing protected areas) recommendation both in polygon count (17) and spatial extent (2 745 694,96 ha), indicates that a large share of freshwater habitats is concentrated within or adjacent to existing protected areas, suggesting that strengthening and extending current protections may be more cost-effective than creating new ones for freshwater conservation.

- Furthermore, the Green category (new conservation areas) accounts for nine polygons covering 1 564 089,1 ha, reflecting significant freshwater habitats that remain unprotected and require urgent designation.

- The Blue category (ecological restoration and biological corridors) contributes three polygons totaling 909 775,44 ha, highlighting key freshwater connectivity zones.

- A single Orange polygon (14 513,7 ha) flags a freshwater site of conservation interest and from which current scientific data is insufficient.

These results underscore the importance of integrating freshwater and riparian ecosystems explicitly into the 30x30 protected area planning process.

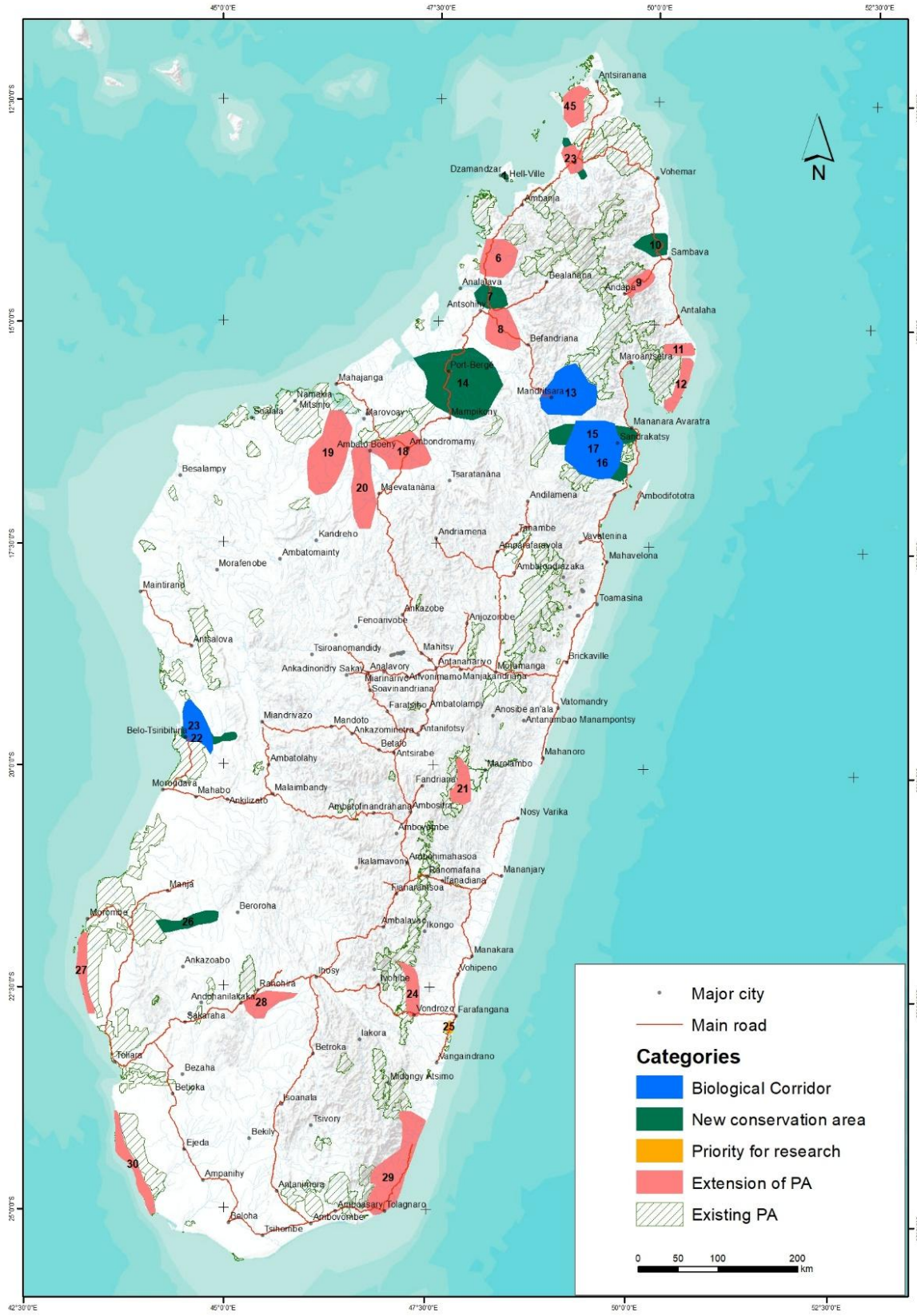

Figure 10 Localization of priority areas for freshwater habitats for fish and aquatic plants. Each area is individually numbered, and these details are presented in Table 11.

Table 11 Listing of priority areas for freshwater habitats and following the numbers presented on Figure 10.

Number	Names
1	Nosy Be crater lakes
2	Mananjeba River
3	Mananjeba River
4	Amber mountain rivers on western slopes
5	Amber mountain rivers on western slopes
6	Manongarivo and Maromandia
7	Anjingo - Ankofia River basins and Lake Andrapongy
8	Boraha Special Reserve expansion
9	Marojejy NPA Lokoho River basin expansion
10	Mananara River drainage basin
11	Masoala National Park Ankavanana-Onive River expansion
12	Masoala National Park Ankavanana-Onive River expansion
13	Mandritsara - Makira Corridor
14	Sofia and Bemarivo River basins
15	Lake Kinkony
16	Mananara River watershed
17	Mananara River watershed
18	Mananara River watershed
19	Mahajamba and Kamoro River basins
20	Mahavavy River basins and Lake Kinkony
21	Betsiboka and Ikopa River basins
22	Nosivolo River watershed
23	Tsiribihina River and tributaries
24	Tsiribihina River and tributaries
25	Ambositra Vondrozo Corridor
26	Manombo Special Reserve
27	Mangoky River middle reaches
28	Coastal plain karst formations-Ampanihy
29	Isalo region
30	River basins - Manampanihy
31	Coastal plain karst formations-Itampolo

Arthropods or invertebrates

Arthropods or invertebrates (insects, spiders, millipedes, crustaceans, etc.) represent the overwhelming majority of Madagascar's terrestrial species diversity and serve numerous ecological functions, yet they remain among the least studied and most underrepresented group in conservation planning. The habitat requirements of arthropods differ fundamentally from those of other taxonomic groups and as such are not compatible as an overlay with the polygon-based analysis used here for other terrestrial organisms. For certain groups of insects, such as ants, the relevant ecological unit can be as small as a few cubic meters.

While respecting the four color coded recommendations, the arthropod expert group approached spatial prioritization differently than the terrestrial groups, reflecting the often fine-grained ecological units relevant to insect distribution patterns. Therefore, arthropod data were analyzed independently from the other terrestrial groups, and no cross-group overlap was assessed (Table 12).

Table 12 Number of polygons and associated area for each of the prioritization categories associated with arthropods.

Color	Polygon count	Area (hectares)
Green	70	4 381 830,86
Red	59	4 838 252,61
Blue	27	2 925 993,99
Orange	76	11 980 101,31
TOTAL		24 126 178.77

Their analysis identified a total of 232 areas covering approximately 24 126 179 hectares across all four prioritization categories:

- The Green (new conservation areas) and Red (extension of existing protected areas) categories also show substantial coverage, with 70 polygons (4 381 830,86 hectares) and 59 polygons (4 838 252,61 hectares), respectively.

- The Blue category (biological corridors and restoration) contributes 27 polygons totaling 2 925 993,99 hectares.

- The large proportion of sites allocated to the Orange category (priority areas for research) reflects the knowledge gap in arthropod distributions across Madagascar, with 76 polygons covering 11 980 101,31 hectares — nearly half the total arthropod coverage. In the context of 30x30, this is an opportunity to target arthropod inventory programs in

these priority research zones that will certainly yield significant new discoveries and refine conservation prioritization.

The arthropod data provide a unique lens on biodiversity conservation, as insects respond to microhabitat conditions and are often endemic to specific host plants or soil types. The wide distribution of arthropod priorities (24 million hectares) emphasizes the landscape-scale nature of conservation requirements.

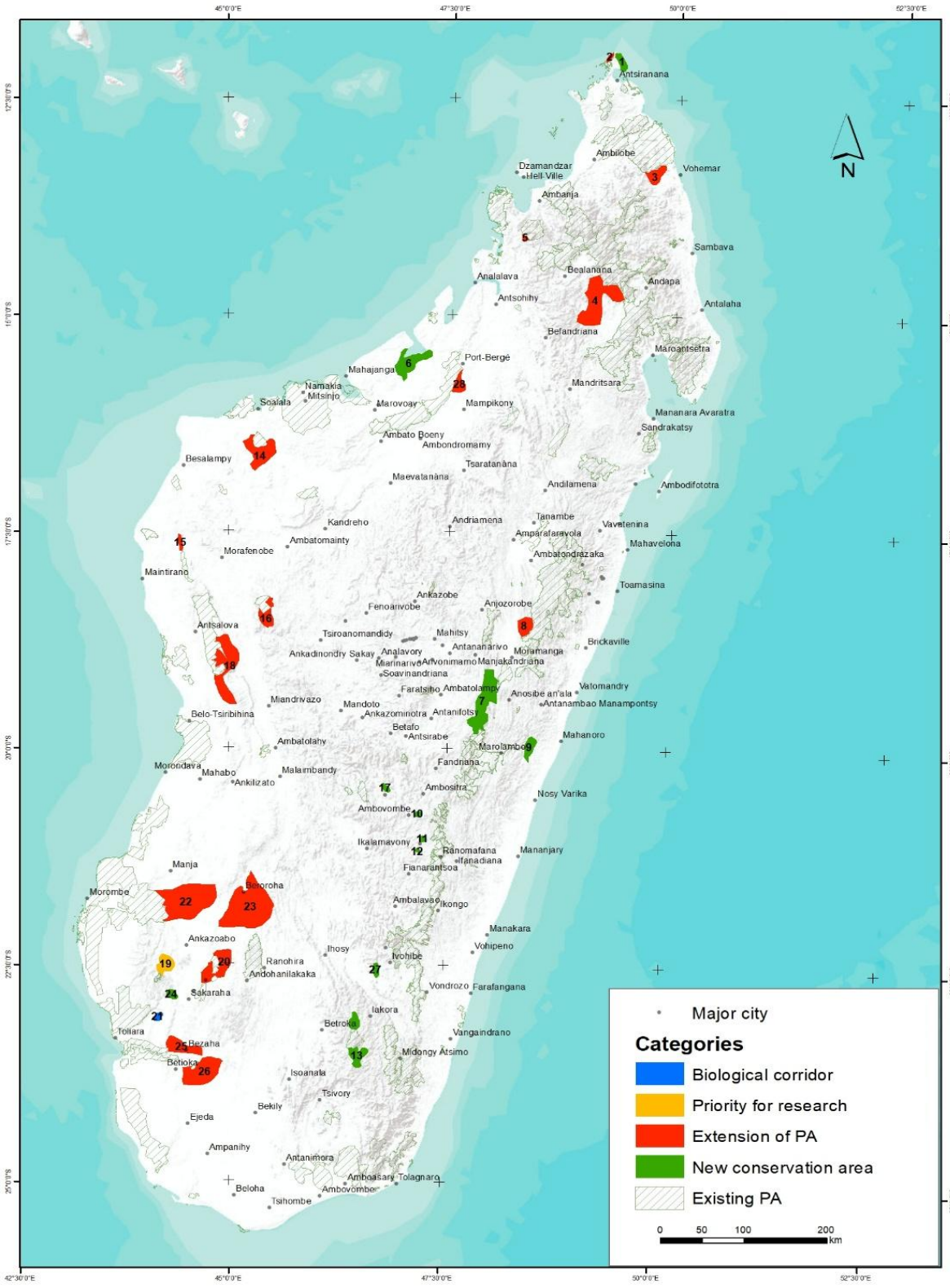

Figure 11 Localization of priority areas for arthropods. Each area is individually numbered and these details are presented in Table 13.

Table 13 Listing of priority areas for arthropods and insects following the numbers presented on Figure 11.

Number	Names
1	Ampombofofo
2	Nosy Hara extension
3	Extension Loky Manambato
4	Extension COMATSA, Anjanaharibe-South
5	Extension Manongarivo
6	Andranoboka
7	North of Marolambo
8	Ambohidray - CAZ
9	Nosy Volo - Marolambo
10	Ambalamanakana
11	Ialatsara
12	Ankafina-Tsarafidy
13	Nord de Kalambatritra
13	Extension Kalambatritra
14	Extension Namoroka
15	Extension Beanka
16	Extension Ambohijanahary
17	Ranofotsy
18	Extension Bemaraha
19	Extension Analavelona
19	Extension Analavelona
20	Extension Zombitse-Vohibasia
21	Andranovory
21	Andranovory
22	Extension Mangoky-Ihotry
23	Extension Mangoky / Isalo
24	Mahaboboka
25	Extension Amoron'ny Onilahy
26	Extension Bezà Mahafaly
27	West of Ivohibe
28	Extension Bongolava forested corridor

Strategic implications and decision framework

Madagascar currently has approximately 8 million hectares of its terrestrial land surface formally protected. To reach 30% by 2030, the country must increase the coverage of its protected or conserved areas by more than 10 million additional hectares. The priority areas identified in this report — totaling 44 million hectares — are candidates for meeting this objective, but strategic planning and cost-effectiveness analyses will determine which areas are prioritized for protection.

Tier 1A (Short term - Year 1-2):

Focus: A total of 90 high confidence Red areas (3.3 million hectares) for the extension of conservation sites, and 120 high-confidence Green areas (2.7 million hectares) for new conservation sites,

Rationale: Easiest to implement, strong scientific consensus, likely to deliver immediate biodiversity benefits.

Tier 1B (Short term - Year 1-2):

Focus: As possible, at least 25 of the highest priority Orange areas (a portion of the 12.7 million hectares) would be inventoried by multi-disciplinary field teams to fill in missing data for conservation actions,

Rationale: This work needs to commence at the start of the 30x30 process to allow the resulting information to feed-in the conservation actions in the Tier 2 period. This is considered the needed stepwise process to follow.

Tier 2A (Medium-term - Year 2-4): Extension and corridor of conserved areas

Objective : A total of 12 high-confidence Blue zones (2.0 million hectares),

Rationale: Build on existing infrastructure; enhance landscape connectivity.

Tier 2B (Long-term - Year 3-8): Research-driven expansion

Objective: Incorporation of data obtained during the Tier 1B work of surveyed Orange zones to advance conservation actions in these zones (12.7 million hectares). In the first portion of Tier 2B, finishing up the most important sites to be inventoried.

Rationale: As many of the Orange areas are presumed to be of high conservation priority, it is considered paramount that they be surveyed in Tier 1, and the data used in the Tier 2B period to advance their conservation priorities.

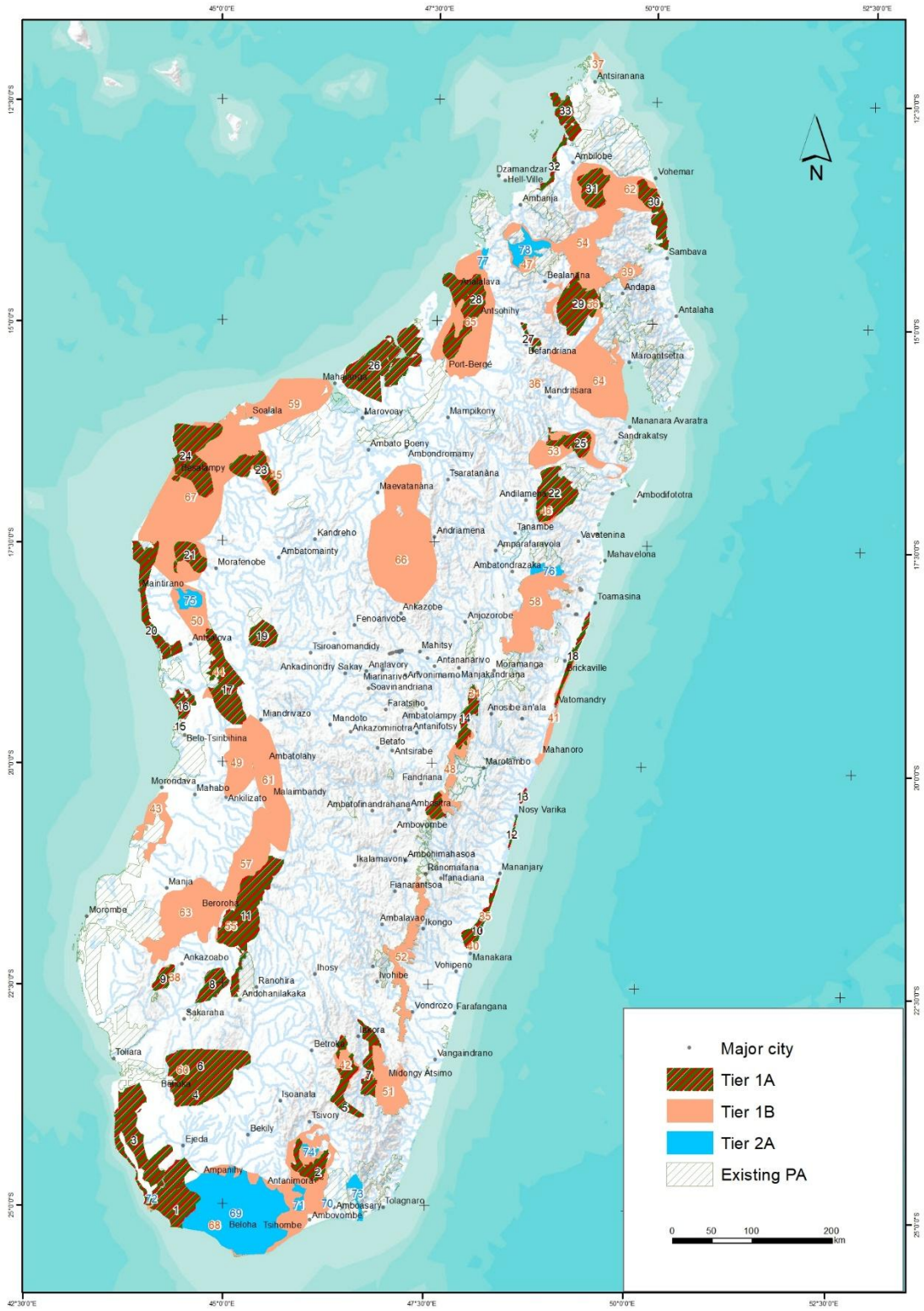

Figure 12 Localization of the tiered priority areas. Each area is individually numbered, and these details are presented in Table 14.

Table 14 Listing of priority areas in the tiered approach and following the numbers presented on Figure 12.

Number	Name	Tier	Number	Name	Tier
1	Between Linta and Menarandra Rivers	1A	40	Manakara	1B
2	Extension North Ifotaky	1A	41	Mahanoro, Andevoranto	1B
3	Extension Tsimanampesotse	1A	42	East of Betroka	1B
4	Extension Bezà Mahafaly	1A	43	Morondava	1B
5	Extension Kalambatritra	1A	44	South of Beboka River	1B
6	Nord Bezà Mahafaly	1A	45	Maintirano, Kinkony	1B
7	Extension Befotaka-Midongy South	1A	46	Vavatenina, Soanierana Ivongo	1B
8	Extension Zombitse-Vohibasia	1A	47	Manongarivo	1B
9	Nord Analavelona	1A	48	Extension Marolambo	1B
10	Coast Mananjary and Manakara	1A	49	Bemaraha	1B
11	Extension Isalo	1A	50	South of Beboka River	1B
12	Ambahy-Mahela	1A	51	Itomampy, Beampingaratsy	1B
13	Masomeloka	1A	52	Vondrozo, Marolambo	1B
14	Extension Marolambo	1A	53	Manompana	1B
15	Extension Menabe Antimena	1A	54	Tsaratanana	1B
16	Extension Ambondrobe	1A	55	Beroroha	1B
17	Extension Bemaraha	1A	56	Marojejy	1B
18	Andevoranto	1A	57	Massif Makay	1B
19	Extension Ambohijanahary	1A	58	East of CAZ	1B
20	South of Mandrozo	1A	59	Kinkony, Mahajanga	1B
21	Extension Beanka	1A	60	Betioky, Tsimanampesotse	1B
22	Extension Ambatovaky	1A	61	South Miandrivazo	1B
23	Extension Namoroka	1A	62	Daraina	1B
24	Cap St Andre-Ankarea	1A	63	West of Isalo	1B
25	Extension Marotandrano	1A	64	Maroantsetra	1B
26	Delta of Mahajamba-Sofia	1A	65	Antsohihy	1B
27	Tsiamalaho-Befandriana North	1A	66	Anjozorobe	1B
28	Antsohihy	1A	67	Maintirano, Kinkony	1B
29	Extension COMATSA South	1A	68	Tsihombe, Ambovombe	1B
30	Fanambana	1A	69	Corridor Angavo-Voindefo	2A
31	Extension COMATSA North	1A	70	Corridor SW Ifotaky-Behara Tranomaro	2A
32	North Galoko-Kalobinono	1A	71	Corridor Angavo-SW Ifotaky	2A
33	West Ankarana	1A	72	Extension Tsimanampesotse	2A
34	Mangoro	1B	73	Corridor Andohahela-Behara Tranomaro	2A
35	Manakara	1B	74	Corridor Vohidava-North Ifotaky	2A
36	Mandritsara	1B	75	Corridor Beanka-Bemaraha	2A
37	Cap Ambre	1B	76	Corridor CAZ - Zahamena	2A
38	Herea	1B	77	Corridor Sahamalaza-Iles Radama	2A
39	Andapa, Lokoho	1B	78	Corridor Manongarivo-Bemanevika	2A

Recommendations:

The recommendations below translate the decision framework presented above into concrete actions for decision-makers; they specify its operational modalities without repeating the detail.

1. Establish and secure process for Tier 1A areas

Areas designated for the extension of existing protected areas, at high confidence (3.3 million hectares), and areas designated for the creation of new conserved areas (2.7 million hectares) deliver the most significant conservation results at the lowest cost within a reasonable timeframe. It is recommended that they benefit from a fast-track procedure, with government support for legal aspects, community mobilization, and the financing of activities. These areas constitute the strongest scientific foundation for the designation of new conserved areas.

2. Invest in targeted biodiversity research in priority knowledge gaps starting in Tier 1B and continuing to Tier 2B

Orange priority research zones (109 high-confidence areas, 12.7 million hectares) should receive targeted inventory and research support. These data would fill in crucial information on Orange zones passing to Green (new conservation sites) or Red zones (extension of existing protected depending on the results of the inventory work. These systematic surveys would certainly yield many new species discoveries and help refine conservation priorities. This research should be also being integrated into university curricula and capacity-building programs for young Malagasy scientists.

3. Strengthen landscape connectivity by building on existing conservation areas

Ecological restoration and biological corridor areas are essential to maintaining connectivity between conserved areas. By prioritizing the 12 high-confidence Blue zones (nearly 2 million hectares), which connect existing protected and conserved areas, the country builds on the infrastructure and management systems already in place to reduce fragmentation, facilitate species movement, and improve landscape-scale connectivity. These areas warrant dedicated funding for their restoration and management, mobilizing local communities and integrating traditional land-use practices. This approach strengthens the ecological coherence of the network as well as the long-term persistence and resilience of biodiversity.

4. Strengthen freshwater and riparian ecosystem protection

Freshwater ecosystems deserve explicit attention in the 30x30 framework. The nine high-priority unprotected freshwater zones (1.6 million hectares, Green category) should be designated for protection. Management plans must address riparian restoration, invasive species control in freshwater habitats, and sustainable fisheries management.

5. Align conservation priorities with deforestation hotspots

Implementation timelines should reflect forest loss patterns. Regions experiencing rapid deforestation (2014-2024) should receive accelerated protection timelines. Conversely, areas with stable forest cover could follow standard gazettement procedures, freeing government resources for urgent interventions

Conclusion

Madagascar stands at a critical juncture. The unprecedented scientific consensus reached during the workshop of late March 2026, underscores the scale of the nation's conservation requirements. Madagascar is one of the world's most exceptional centers of endemism. The workshop did not proceed from a premise that some areas are intrinsically more valuable than others. Rather, it sought to identify, with scientific rigor, which areas are currently most underrepresented in formal protection given the data in hand, and to provide a clear roadmap for the terrestrial actions required under the 30x30 program. Each of the seven taxonomic expert groups — invertebrates, plants, amphibians and reptiles, freshwater fishes, birds, lemurs, and other mammals — independently reviewed published literature, unpublished field reports, and georeferenced occurrence records brought to the workshop. The recommendations are based on four objective criteria:

- the presence of species not represented or poorly represented in the current protected area system;
- significant populations of IUCN Red List threatened taxa;
- unique habitats underrepresented in the existing network; and
- high species diversity relative to areas already under protection.

The identification of sites was grounded exclusively in the best available scientific data — not in institutional affiliations or prior designations. More than 18 million hectares were independently identified and delimited as important for conservation across all expert groups and at every level of consensus.

The resulting prioritization reflects the cumulative weight of evidence across taxonomic groups. **Sites endorsed by three or more independent expert groups — amounting to over seven million hectares** — carry the strongest multi-taxon scientific justification and provide a rigorous foundation for immediate action under the 30x30 program. Sites identified by fewer groups are not thereby excluded from conservation relevance; the level of consensus is a transparent measure of the breadth of documented biodiversity value at each location, not a judgment on the intrinsic worth of any given site. Where data were sparse or field surveys limited, expert groups could not make firm recommendations, and the absence of a recommendation reflects a gap in available evidence, not a conclusion about a site's importance. The workshop's outputs should therefore be treated as a scientifically robust but living baseline — open to revision as knowledge improves — and not as a closed or final ranking of conservation value across the island's landscapes.

This scientific foundation now requires an implementation pathway. The present report propose that the seven-million-hectare high-consensus tranche move first, in a phased sequence over the coming decade: an initial designation phase, in which legal protection status is secured for sites already enjoying community and government readiness; a consolidation phase, in which governance arrangements, financing, and monitoring systems are established; and an expansion phase, extending action into the wider 16-million-hectare set as evidence and capacity allow.

Each site should advance under a defined governance structure, a financing plan that includes a clear revenue model for the communities involved, and a monitoring framework with reporting cycles capable of tracking both biodiversity outcomes and community benefit.

Implementation on this scale depends on the communities who live within and around these landscapes. The durable model would be one in which communities are holding management authority, sharing in the revenue conservation generates, and exercising the capacity they already possess to steward these areas. Success further demands sustained financing, institutional capacity, and coordination across government agencies, civil society, and international partners.

The scientific foundation is now in place. The next steps — translating science into policy, and policy into action — will determine whether Madagascar's unique biodiversity is conserved for future generations or lost to development pressures and inaction.

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Appendix I List of participants in the Scientific Workshop on Terrestrial Biodiversity held in Antananarivo between 23 and 25 March 2026. Names in **bold** were group leaders and those in ***bold/italic*** are individuals not physically present during the workshop but submitted recommendations.

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Appendix II The choice of participants and the manner researchers off-site contributed recommendations.

The choice of participants

As our mandate was to produce well-founded scientific recommendations to advance different aspects of the 30 x 30 program, more specifically the needed conservation actions across the terrestrial portions of Madagascar, the profile for participants was not the same as the 1995 meeting, which brought together a wide range of researchers. In the case of the 2026 workshop, it was important to have a range of specialists with broad expertise associated with their specific study group, including changes in taxonomy and the description of new species, and considerable field experience within and outside the island's protected areas.

To decide on the list of participants outside of aspects of organizational or personnel conservation politics, we sent messages to a range of specialists (invertebrates, plants, amphibian/reptiles, freshwater fishes, birds, lemurs, other mammals) with broad experience on Madagascar, and clearly stating the profile of the type of participants we were looking for; in total 38 experts were contacted of which 20 (53%) were Malagasy. We asked each specialist to identify up to 10 individuals, including a minimum of five Malagasy scientists, which aligned with the profile mentioned above. For each group, the number of votes per individual scientist were tallied, and those that received the highest number of votes were invited to participate. For each group, two group leaders were chosen and in most cases one of which was Malagasy and the other a foreign scientist; this type of division also helped to span language aspects of participants being more comfortable to express themselves in French and others in English. Participants were asked to bring to the meeting their different data sources, associated publications, and unpublished reports. In this manner, they had access to the needed justifications for making recommendations.

A rough calculation was made on the field experience of the participants in the natural ecosystems of Madagascar. This included certain individuals that have conducted fieldwork on the island for over 40 years and the younger participants for about 15 years. The cumulative number of years of experience of the group was more than 2,000 years in the natural ecosystems of the island – which clearly shows the high level of cumulative knowledge that forms the basis, rigor, and strength of the recommendations coming out of the workshop.

Off-site participation

In certain cases, it was not possible to support the travel of selected scientists from Europe or North America, either because of the restricted budget or scheduling conflicts. These scientists were sent the base maps prepared for the exercise (see Creation of the support maps, below) and specifications as to how the recommendations needed to be made. The digital copies of the marked-up maps were sent to the group leaders before the meeting and these recommendations were integrated into the specific outputs of the group concerned. This allowed the active

participation of individuals that could not attend, incorporating years of experience into the outputs of the workshop

Appendix III Suggested information for participants within a given group to note with respect to their recommendations on the maps.

Group: [to be filled in]

Map annotation number: [to be filled in]

Name of individual(s) making recommendation:

Email address(es) of individual(s) making recommendation:

Basis of the recommendation, to be filled in as appropriate:

A) **Species or confirmed candidate species (listed) occurring in the zone not represented or poorly represented in current protected areas and, when appropriate, indications of threatened taxa based on IUCN Red List categories**:

B) **Important populations of threatened taxa based on IUCN Red List categories and when possible an estimate of relative population size for such species at the numbered site and relative to other known populations of the taxon**:

C) **Site of unique habitats poorly represented in the existing protected area system, does not have to be with forest:**

D) **Site of notably high species diversity in comparison to named protected areas, including those adjacent, in the same general area of the island, or parallel habitat types and elevations elsewhere on Madagascar**.

Citations to any published, in press, or unpublished data. [We suggest that these files be placed in separate folders with the group name and map annotation number. For example, folder name "Lemurs.map annotation1". Rather than taking time during the workshop, it might be best to send the citations to the group leaders for insertion in the associated site recommendation file.]