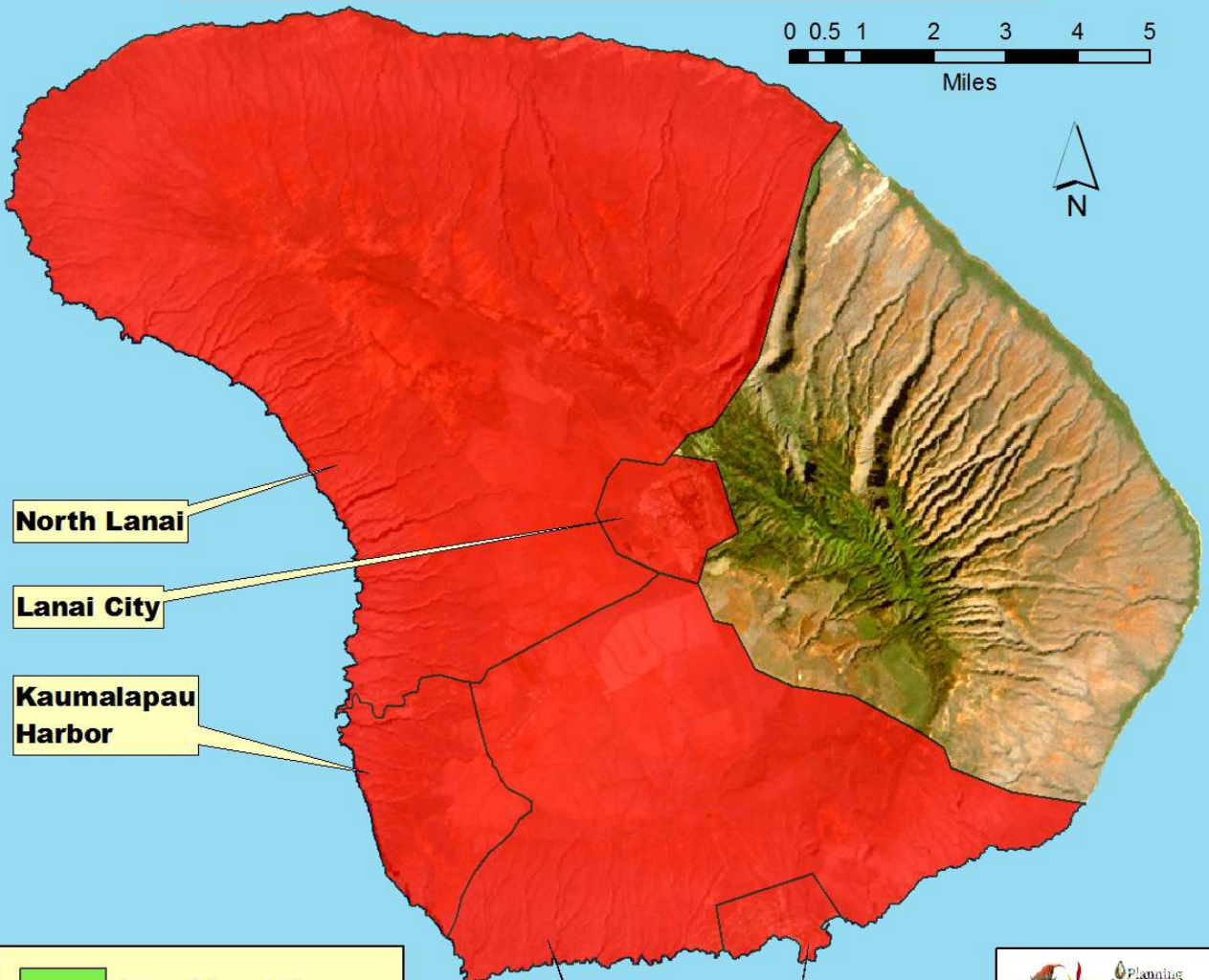
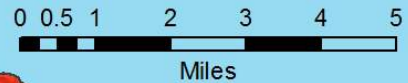


Lanai Hazard Assessment

Fire Protection Rating - Community Planning Practices & Ordinances

COMMUNITY PLANNING PRACTICES AND ORDINANCES

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|--|---|
| County/local laws, zoning ordinances, and codes require use of fire safe residential and subdivision designs. Fire department actively participates in planning process and enforces ordinances. Residents are compliant. | Have voluntary ordinances for fire safe practices. Local officials have an understanding of appropriate wildfire mitigation strategies. Fire department has limited input to fire safe planning and development efforts and limited enforcement. Residents are mostly compliant. | No local codes, laws, or ordinances requiring fire safe building or practices. Community standards for fire safe development and protection are marginal or non-existent. Little to no effort has been made in assessing and applying measures to reduce wildfire impact. Ordinances are not enforced and/or residents are not compliant. |



North Lanai

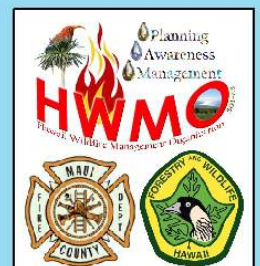
Lanai City

Kaumalapau Harbor

Manele

South Lanai

| | |
|-----------------|-----------------|
| Low Hazard | Low Hazard |
| Moderate Hazard | Moderate Hazard |
| High Hazard | High Hazard |

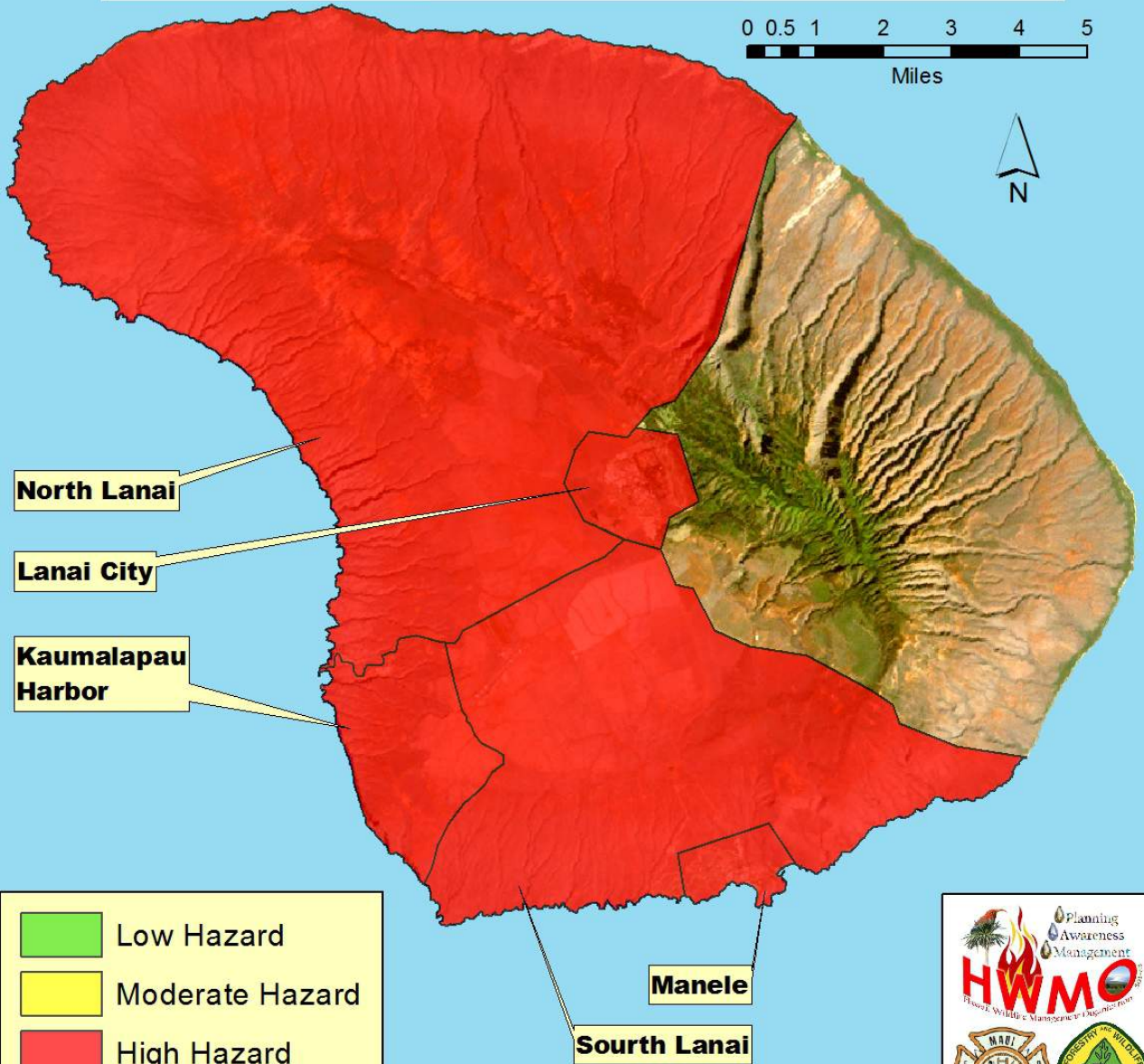
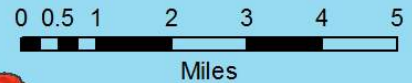


Lanai Hazard Assessment

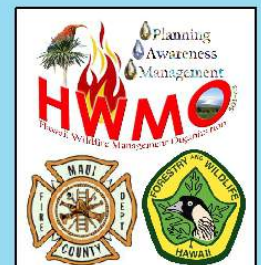
Fire Protection Rating - Wildland Firefighting Capacity of Initial Response Agency

WILDLAND FIREFIGHTING CAPACITY OF INITIAL RESPONSE AGENCY

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|---|--|
| Sufficient personnel, equipment, and wildland firefighting capability and experience. Good supply of structural and wildland fire apparatus and <u>misc</u> specialty equipment | Limited personnel, and or equipment but with some wildland firefighting expertise and training. Smaller supply of fire apparatus in fairly good repair with some specialty equipment. | Fire department non-existent or untrained/unequipped to fight wildland fire. Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment. |



| | |
|--------------|-----------------|
| [Green Box] | Low Hazard |
| [Yellow Box] | Moderate Hazard |
| [Red Box] | High Hazard |

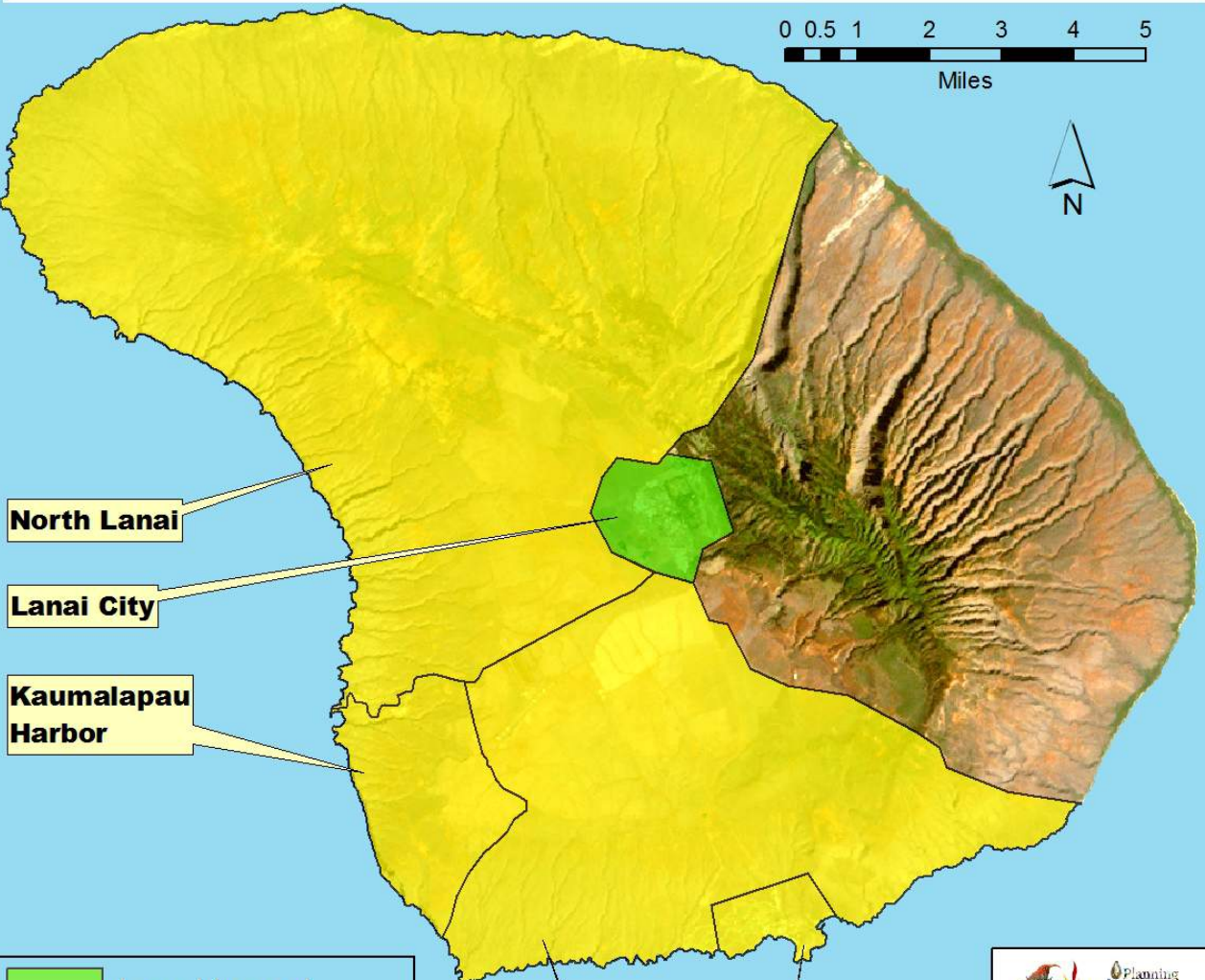
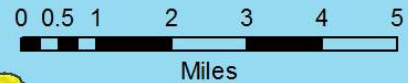


Lanai Hazard Assessment

Vegetation Rating - Vegetation Within 300' of Homes

VEGETATION TYPE WITHIN 300' OF HOMES

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|---|--|
| Grasses less than 6 inches in height. Light leaf litter. | Grasses 6–12 inches in height. Light brush and small trees. Patchy fuels. | Dense grass, brush, timber, and/or hardwoods. Moderate to heavy dead and downed vegetation. Fuels greater than 12 feet tall. Heavy vegetation. |



| | |
|--|-----------------|
| | Low Hazard |
| | Moderate Hazard |
| | High Hazard |

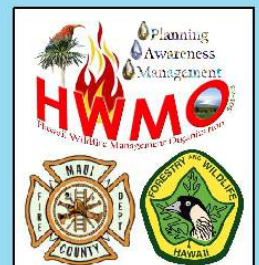
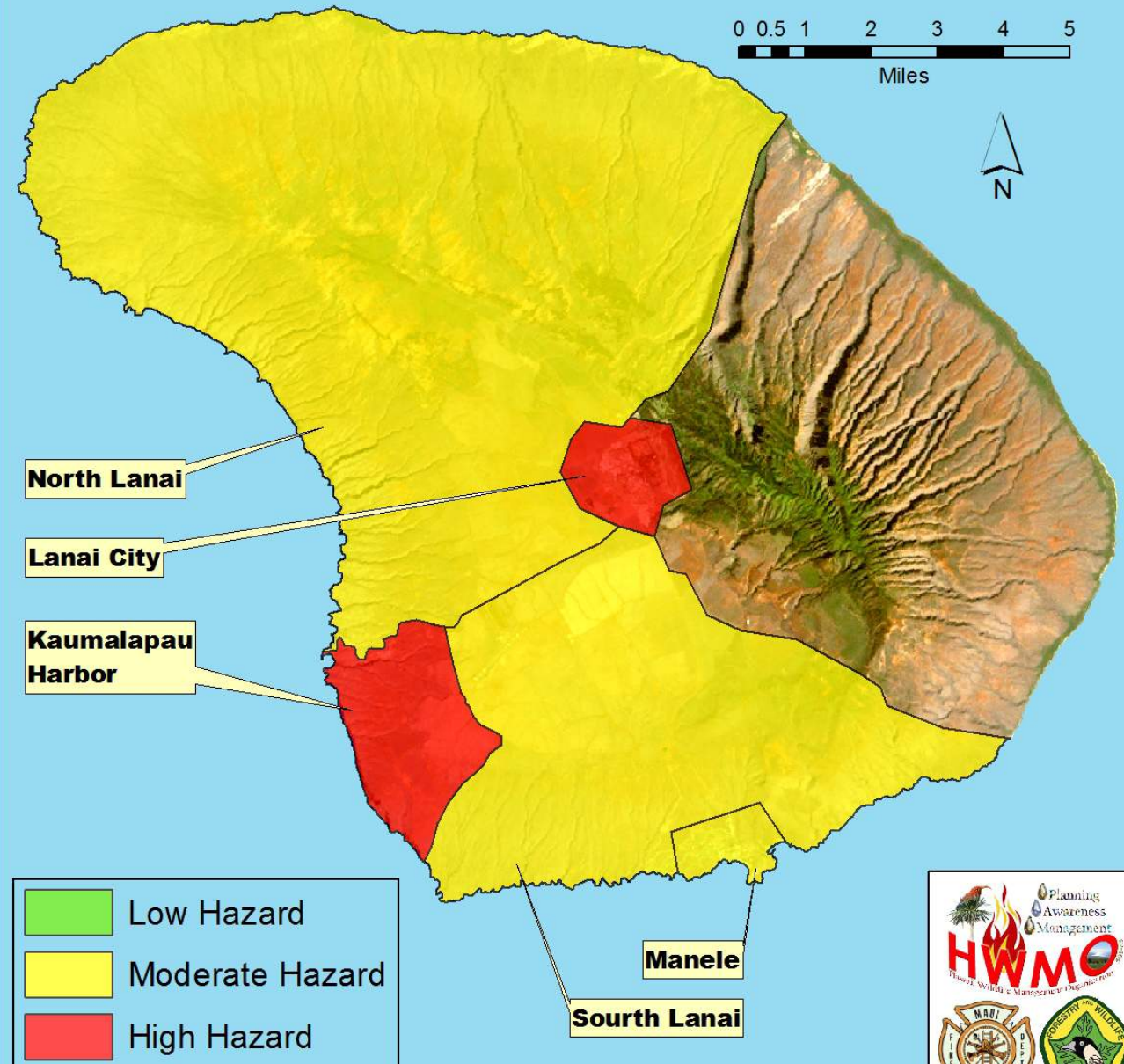
Planning Awareness Management
HWMO
Forest, Wildlife & Management Organization
MAUI COUNTY
DEPARTMENT OF FORESTRY & WILDLIFE
HAWAII

Lanai Hazard Assessment

Building Rating - Utilities Placement; Gas & Electric

UTILITIES PLACEMENT- GAS AND ELECTRIC

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--------------------------|------------------------------------|--------------------|
| All underground or none. | One underground, one above ground. | Both above ground. |

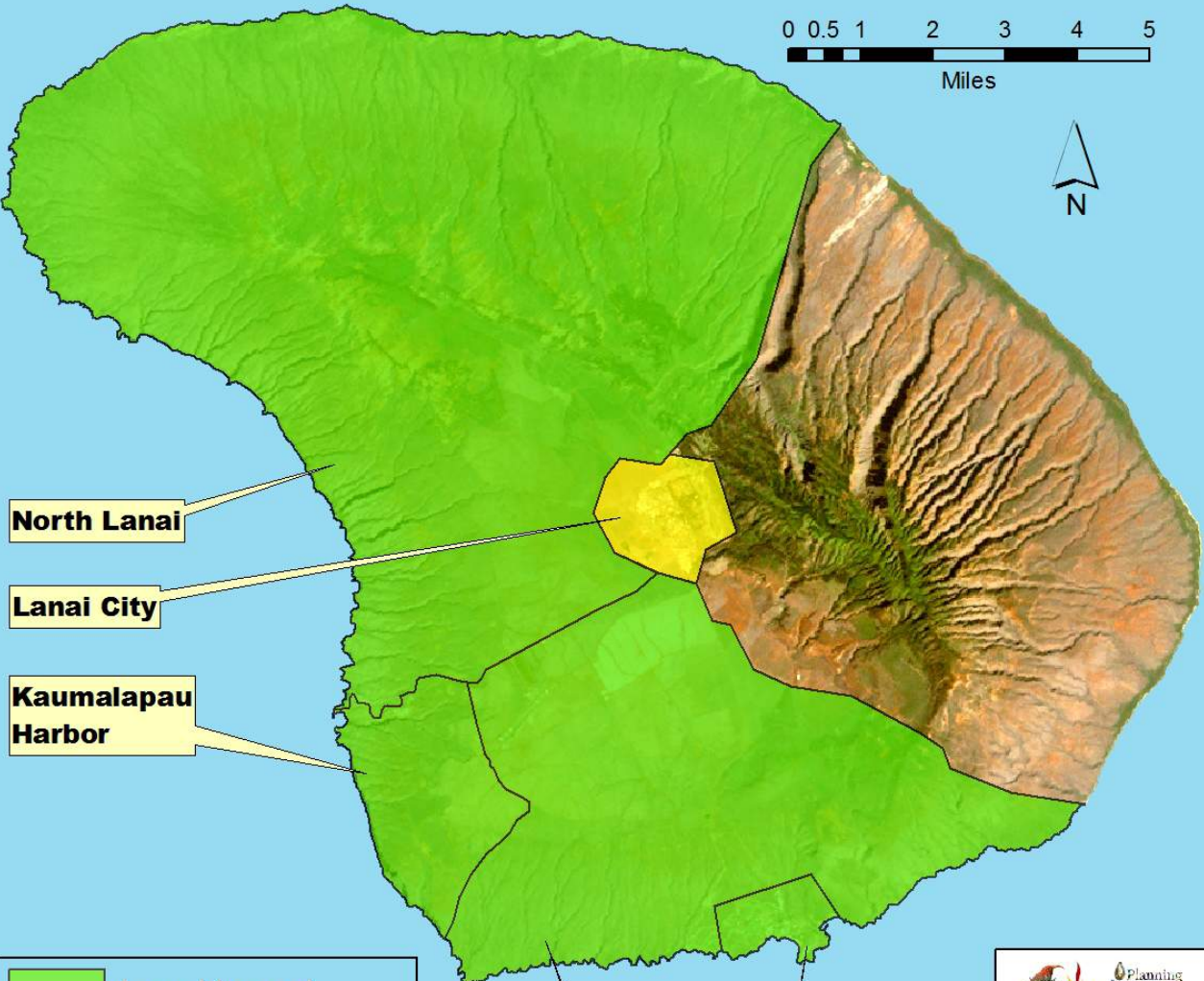


Lanai Hazard Assessment

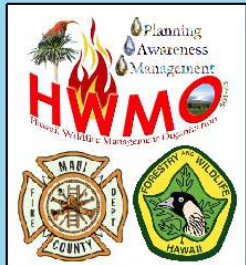
Building Rating - Underskirting Around Decks, Lanais, Post & Pier Structures

UNDERSKIRTING AROUND DECKS/ POST-AND-PIER STRUCTURES

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|---|--|
| Greater than 75% of homes have the equivalent of fine non-combustible mesh screening to protect underneath from flying embers and ignition. | 50-75% of homes have the equivalent of fine non-combustible mesh screening. | Less than 50% of homes have the equivalent of fine non-combustible mesh screening. |



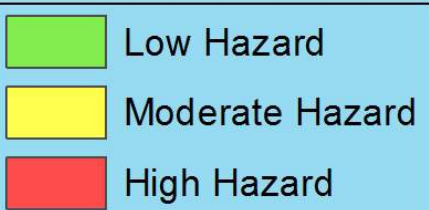
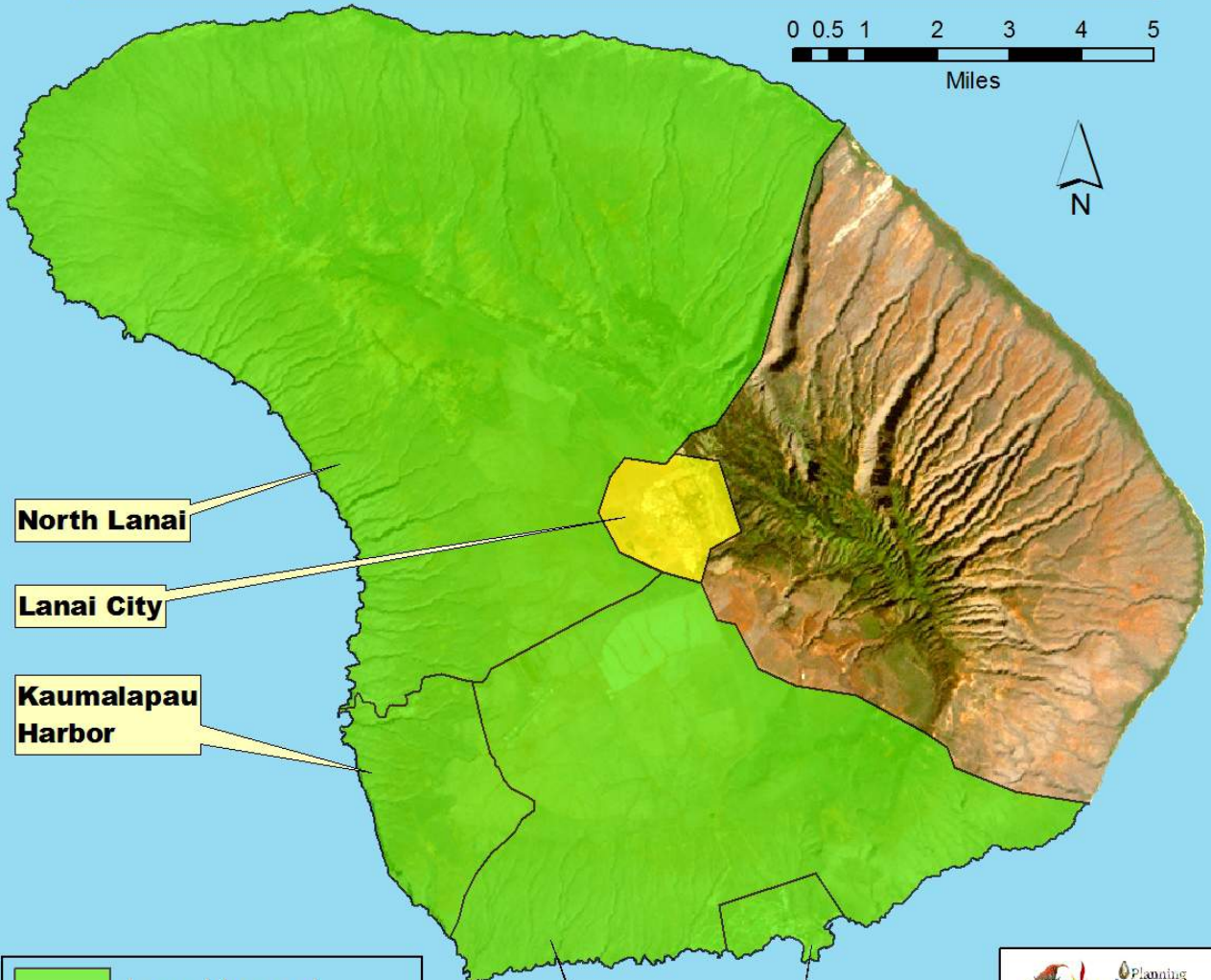
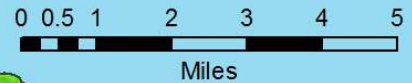
| | |
|--------|-----------------|
| Green | Low Hazard |
| Yellow | Moderate Hazard |
| Red | High Hazard |



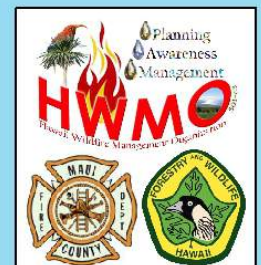
Lanai Hazard Assessment

Building Rating - Structural Ignitability

| STRUCTURAL IGNITABILITY | | |
|---|--|---|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Greater than 75% of houses are spaced with cleared boundaries. Flammables and combustible materials stored according to fire-safe principles. | 50-75% of homes store combustibles properly. | Less than 50% of homes store combustibles properly. Houses close to each other. |



Manele
South Lanai



Lanai Hazard Assessment

Building Rating - Siding/Soffits

SIDING AND SOFFITS

LOW HAZARD

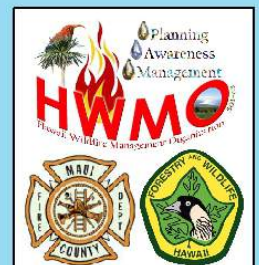
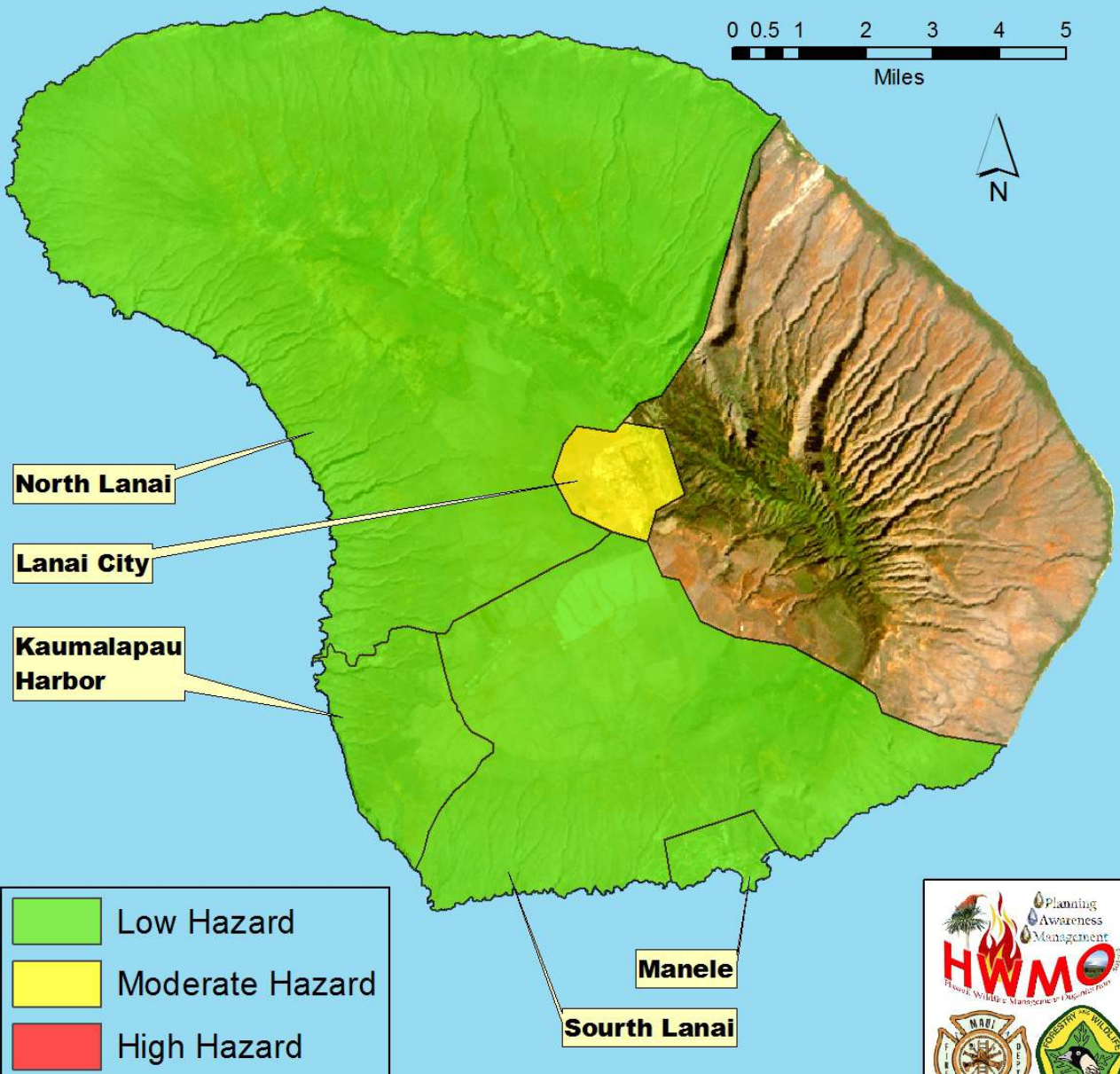
Greater than 75% of homes have fire resistant siding and soffits.

MODERATE HAZARD

50-75% of homes have fire resistant siding and soffits.

HIGH HAZARD

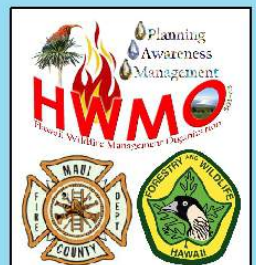
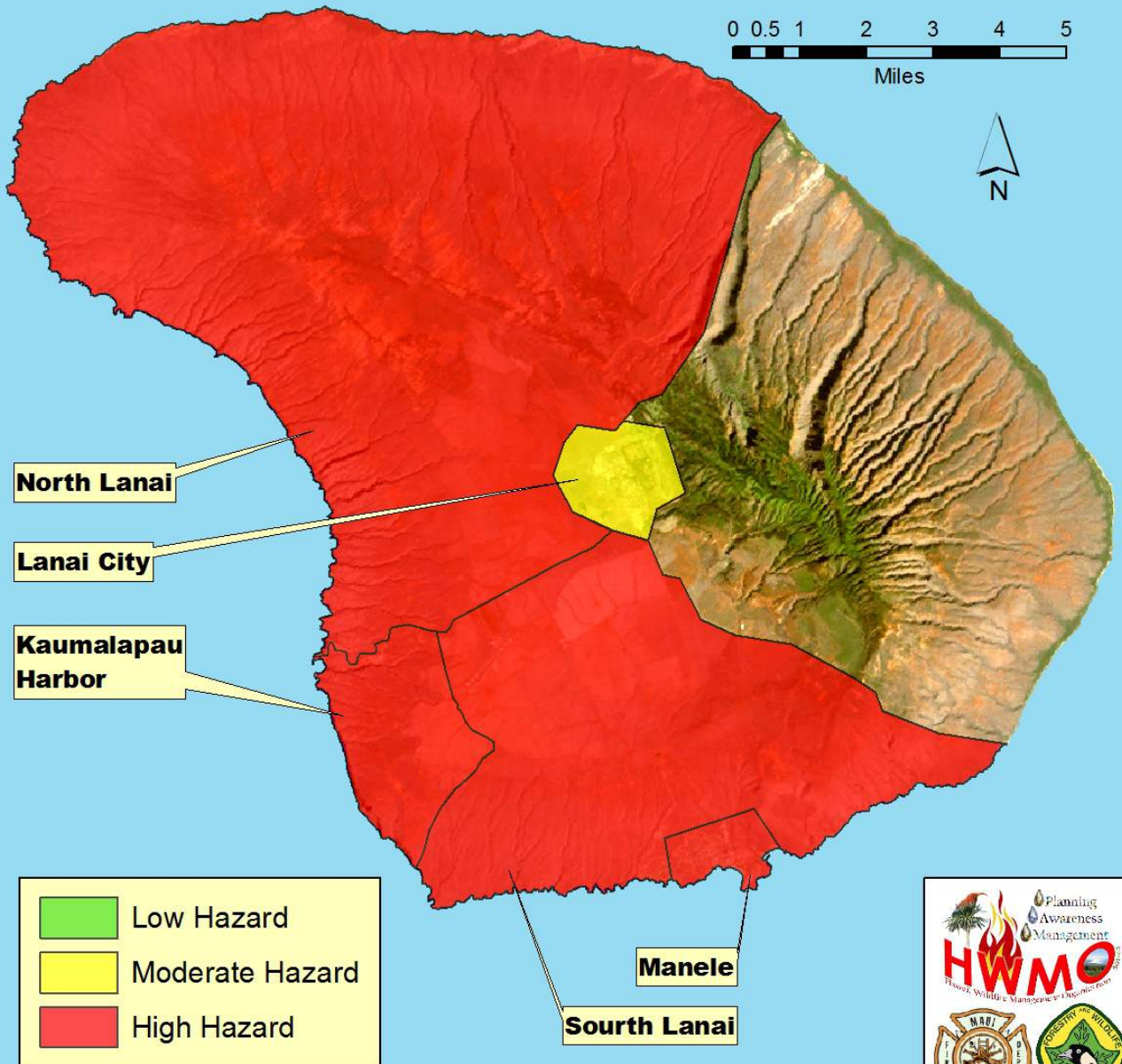
Less than 50% of homes have fire resistant siding and soffits.



Lanai Hazard Assessment

Fire Environment Rating - Slope

| SLOPE | | |
|----------------------------|--------------------------|---------------------|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Flat to slight slope (10%) | Moderate slopes (10-30%) | Steep slopes (>30%) |



Lanai Hazard Assessment

Fire Environment Rating - Seasonal or Periodic High Hazard Conditions

SEASONAL OR PERIODIC HIGH HAZARD CONDITIONS

LOW HAZARD

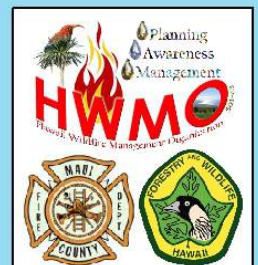
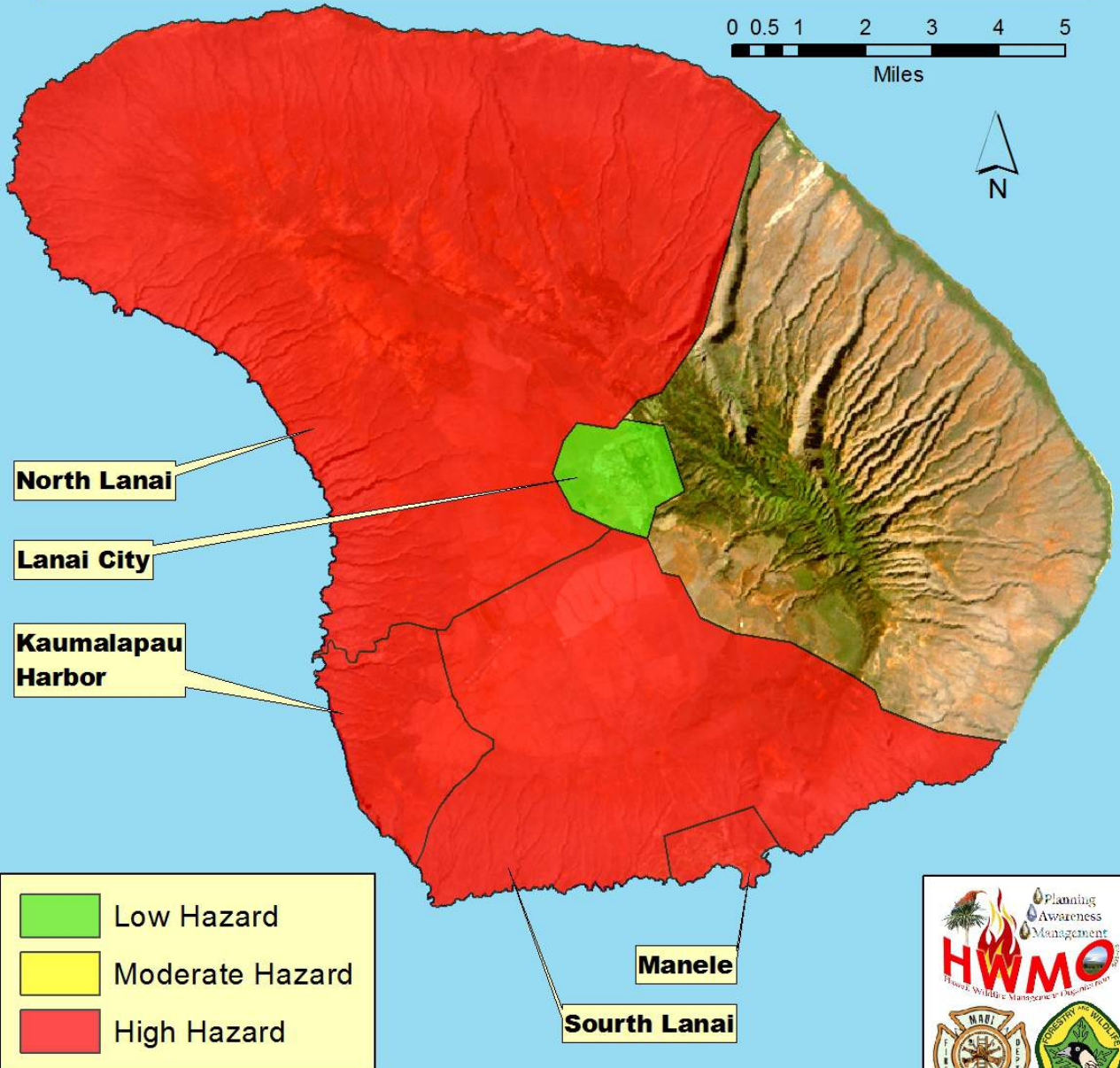
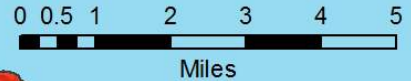
Area has no major seasonal increase of fire hazard.

MODERATE HAZARD

Area is occasionally (e.g., once per decade) exposed to fire prone conditions: drought, lightning storms, desiccated vegetation, and/or strong dry winds.

HIGH HAZARD

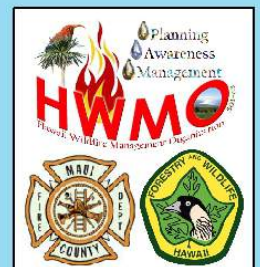
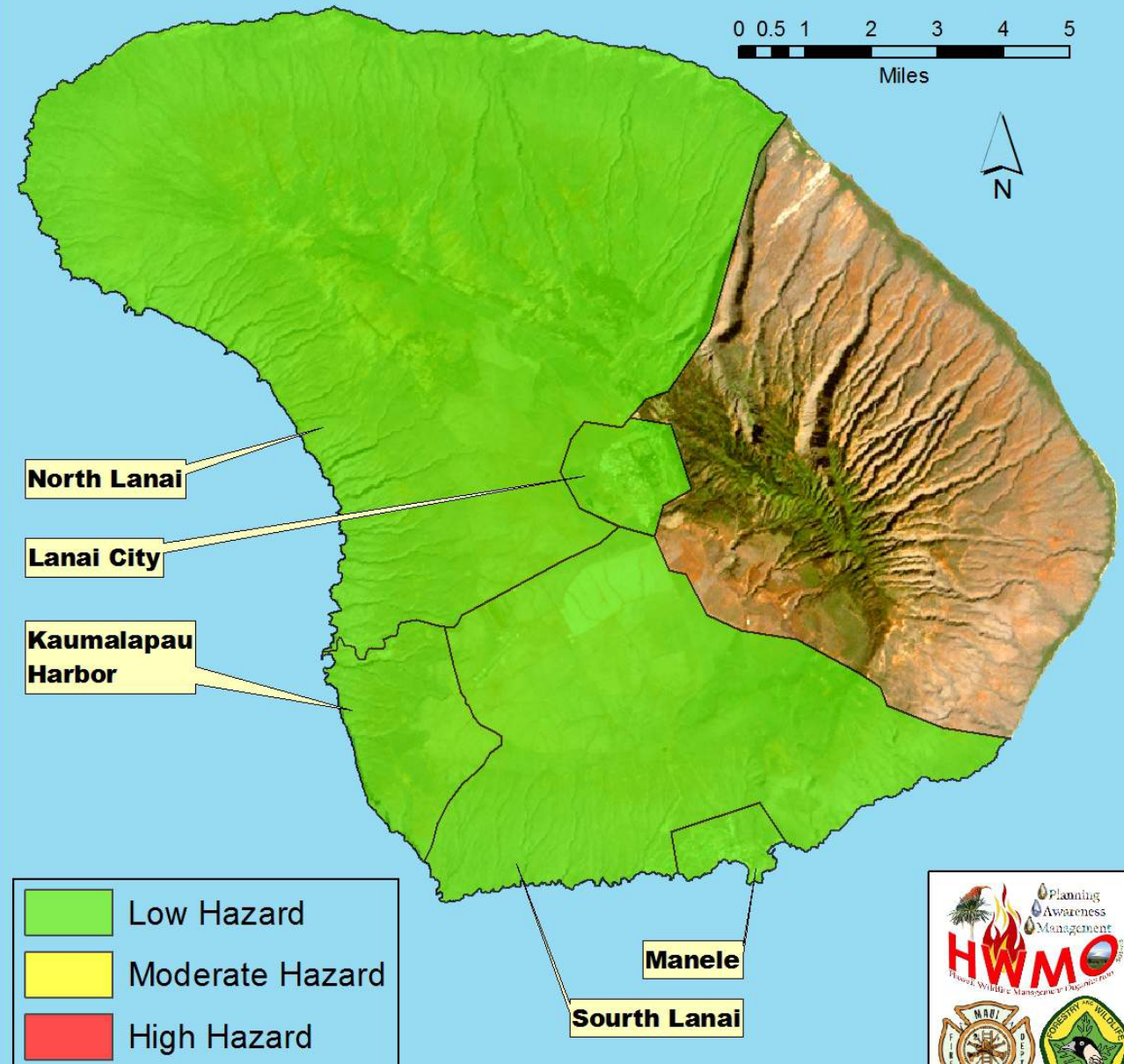
Area is seasonally exposed to unusually severe fire weather, drought conditions, lightning storms, desiccated vegetation, and/or strong dry winds.



Lanai Hazard Assessment

Building Rating - Roofing Assembly

| ROOFING ASSEMBLY | | |
|--|------------------------------|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Greater than 75% of homes have Class A roofs (metal, asphalt, or fiberglass roofing material). | 50-75% have Class A roofing. | Less than 50% of homes have Class A roofing. |



Lanai Hazard Assessment

Subdivision Rating - Road Maintenance

ROAD MAINTENANCE

LOW HAZARD

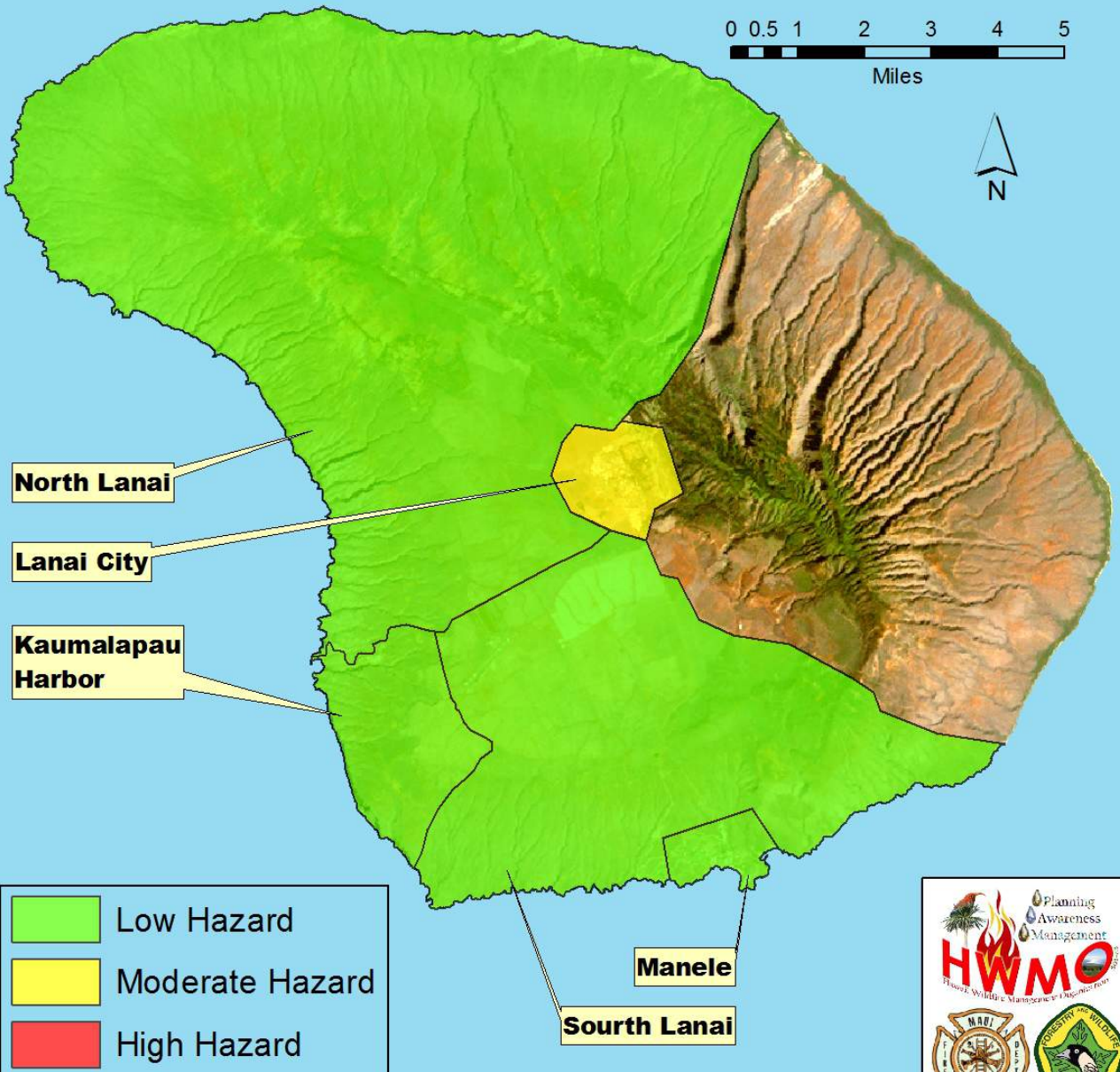
Wide loop roads that are maintained, paved or solid surface with shoulders.

MODERATE HAZARD

Roads maintained. Some narrow two lane roads with no shoulders.

HIGH HAZARD

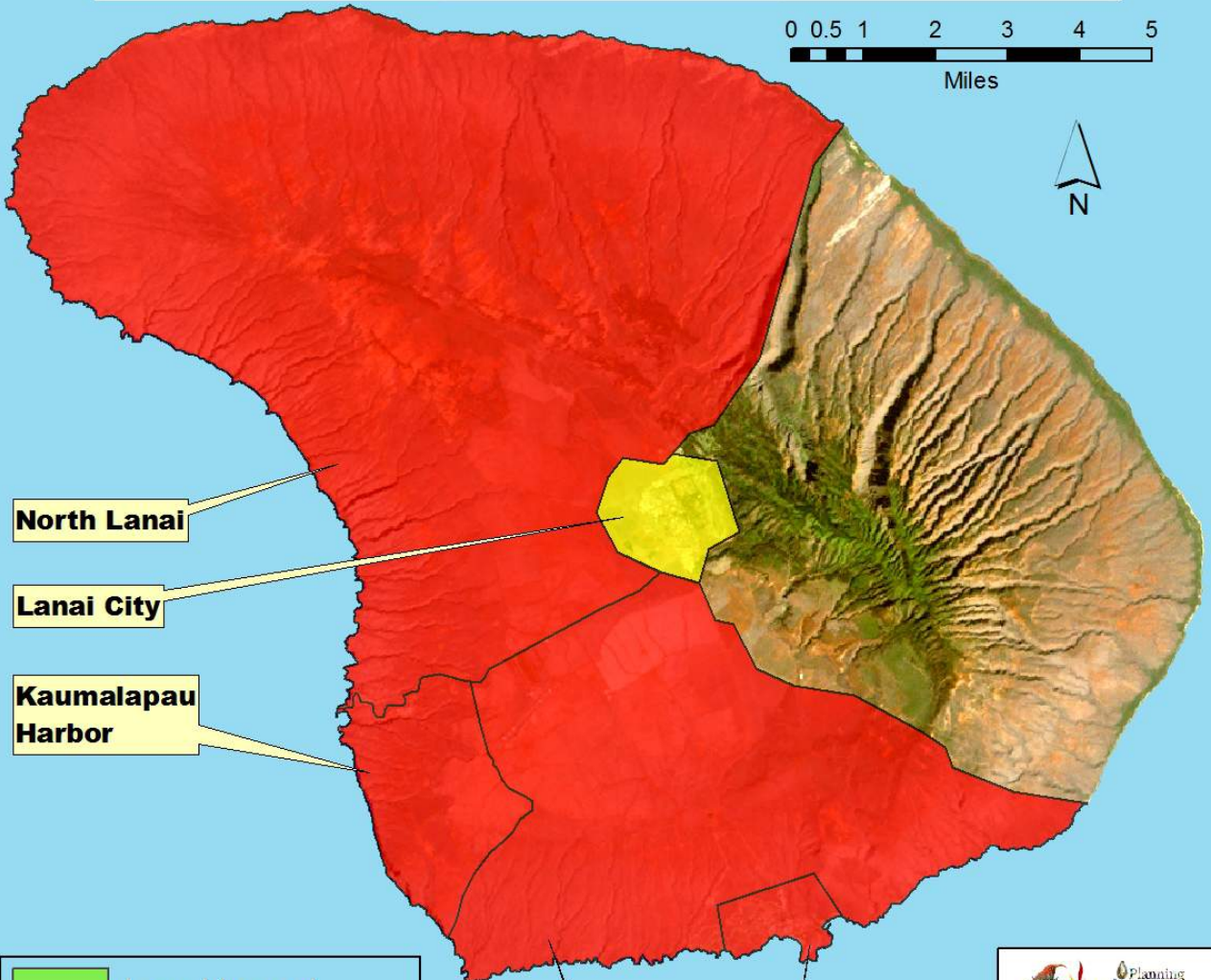
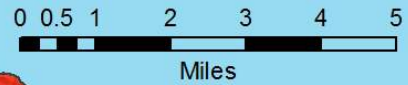
Narrow and or single lane, minimally maintained, no shoulders.



Lanai Hazard Assessment

Subdivision Rating - Proximity of Subdivision to Wildland Areas

| PROXIMITY TO WILDLAND AREAS | | |
|---|---|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Wildland areas share no borders with the subdivision. Little to no undeveloped and unmaintained vegetated areas within community. Little to no ladder fuels along community boundaries. | Wildland areas adjoin subdivision on 1-2 sides. | Wildland areas surround subdivision on at least 3 sides. |





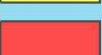
North Lanai

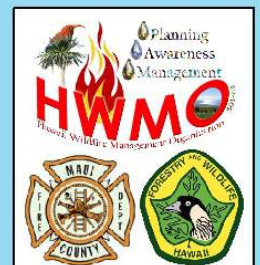
Lanai City

Kaunalapau Harbor

Manele

South Lanai

| | |
|--|-----------------|
|  | Low Hazard |
|  | Moderate Hazard |
|  | High Hazard |

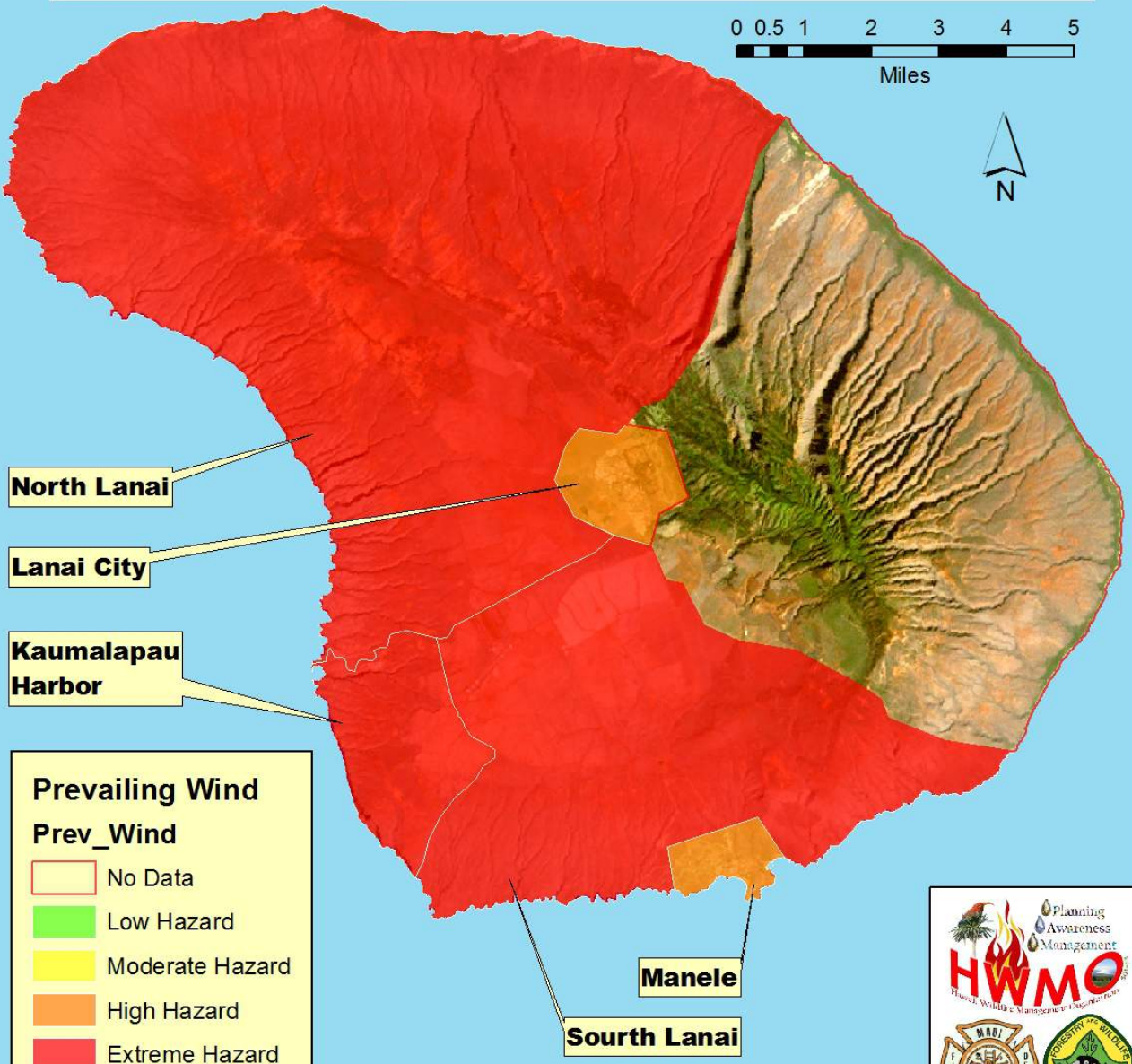
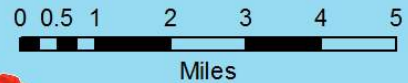


Lanai Hazard Assessment

Fire Environment Rating - Prevailing Wind Speeds & Direction

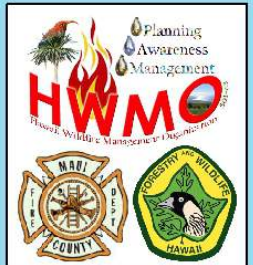
PREVAILING WIND SPEEDS AND DIRECTION

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|---|--|
| Wind rarely (less than 10% of time) exceeds 15 mph. Protection from predominant winds. | Wind rarely (less than 10% of time) exceeds 15 mph. | Wind frequently (50% or more of time) exceeds 15 mph or frequent exposure to predominant winds or transitional/converging wind directions. |



Prevailing Wind
Prev_Wind

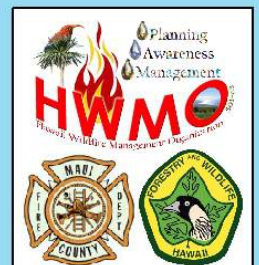
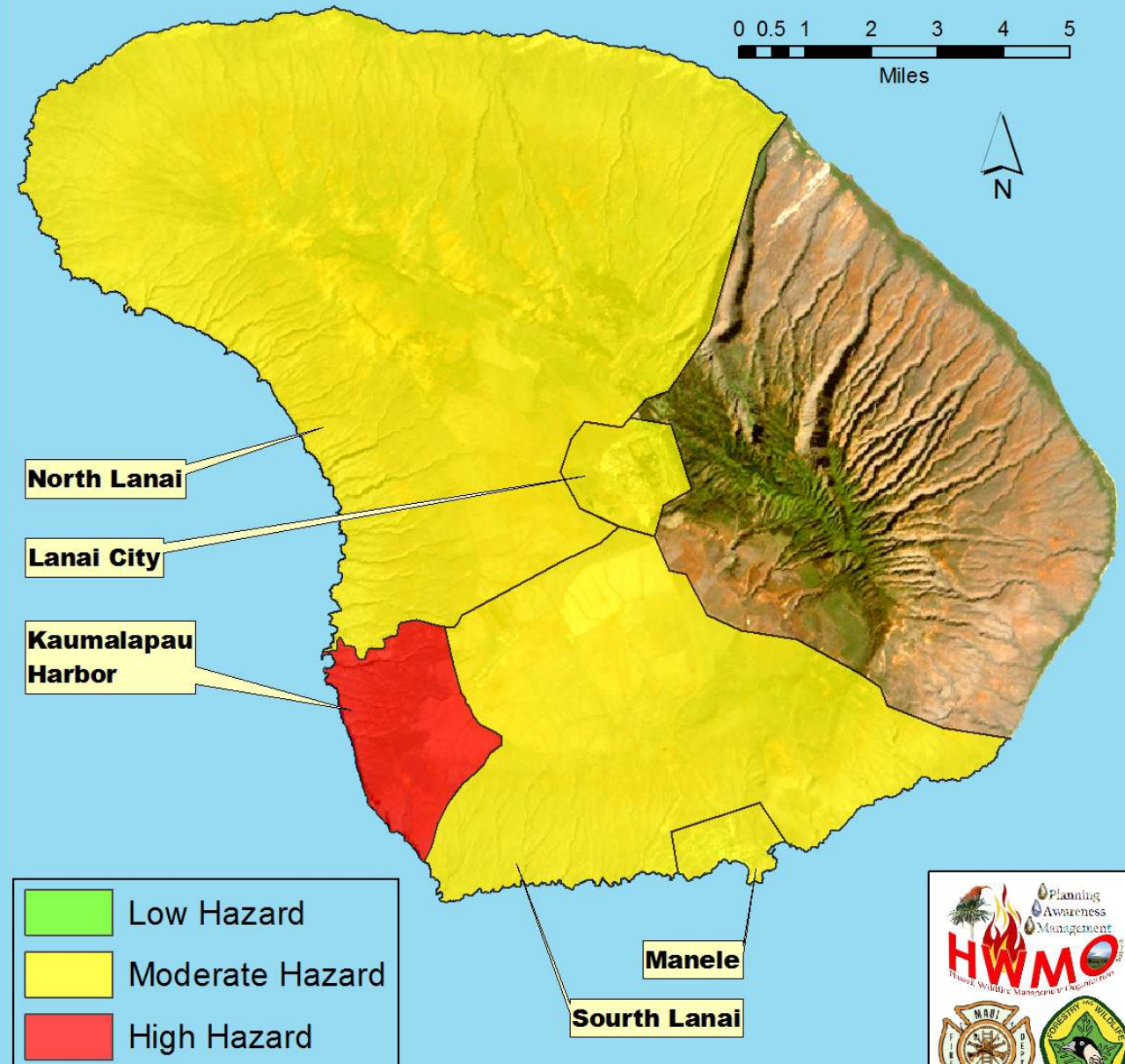
- No Data
- Low Hazard
- Moderate Hazard
- High Hazard
- Extreme Hazard



Lanai Hazard Assessment

Subdivision Rating - Ingress/Egress

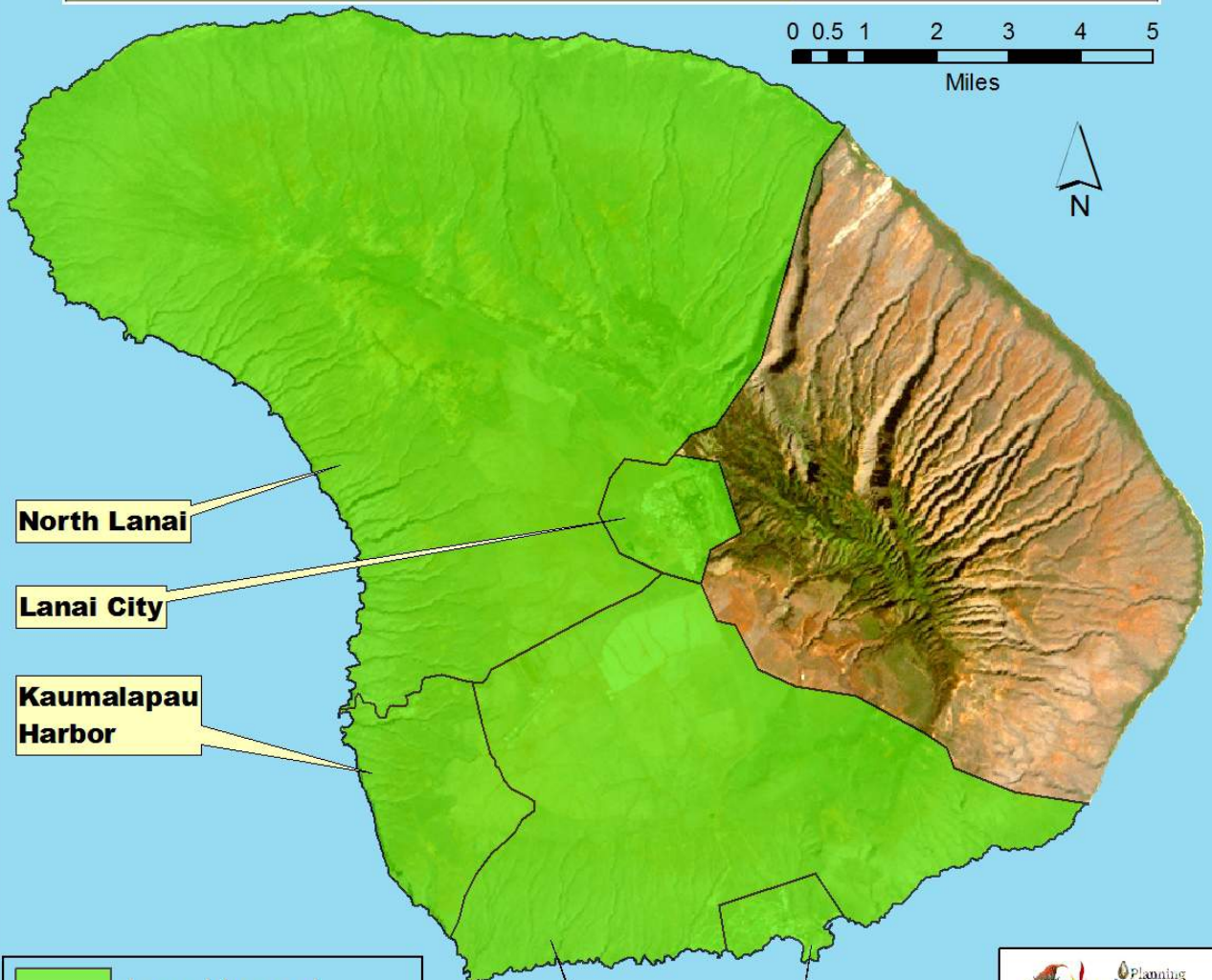
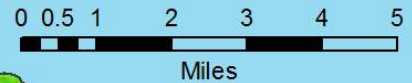
| INGRESS / EGRESS | | |
|--|---|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Multiple entrances and exits are well equipped for fire trucks with turnarounds. | Limited access routes. Two ways in and two ways out. Moderate grades. | Narrow, dead end roads or one way in, One way out. Steep grades. |



Lanai Hazard Assessment

Subdivision Rating - Home Setbacks

| HOME SETBACKS | | |
|---|--|---|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Majority (50%+) of homes are set back from property lines and slopes by at least 30 feet. | 10-50% of homes have defensible setbacks from property lines and sloped areas. | <10% of homes have defensible setbacks from property lines. Buildings located close to dangerous topographic features such as the tops of slopes. |



North Lanai

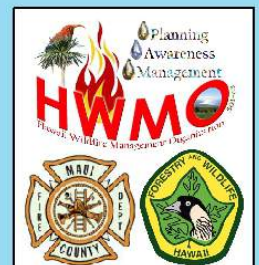
Lanai City

Kaumalapau Harbor

Manele

South Lanai

| | |
|--|-----------------|
| | Low Hazard |
| | Moderate Hazard |
| | High Hazard |



Lanai Hazard Assessment

Subdivision Rating - Home Setbacks

HOME SETBACKS

LOW HAZARD

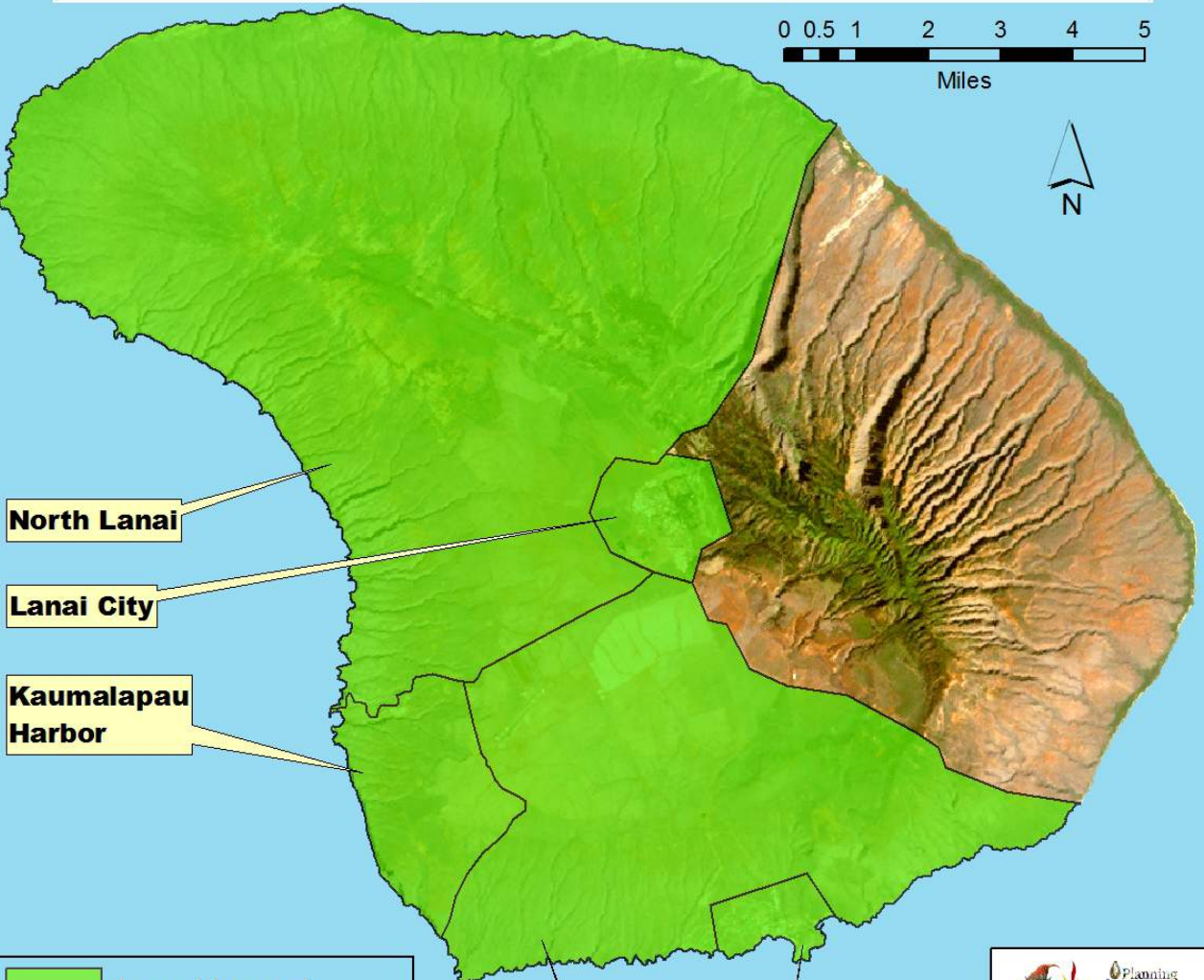
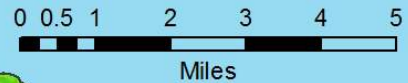
Majority (50%+) of homes are set back from property lines and slopes by at least 30 feet.

MODERATE HAZARD

10-50% of homes have defensible setbacks from property lines and sloped areas.

HIGH HAZARD

<10% of homes have defensible setbacks from property lines. Buildings located close to dangerous topographic features such as the tops of slopes.



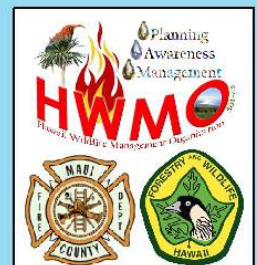
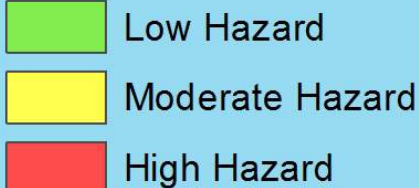
North Lanai

Lanai City

Kaunalapau Harbor

Manele

South Lanai



Lanai Hazard Assessment

Vegetation Rating - Fuel Loading

FUEL LOADING

LOW HAZARD

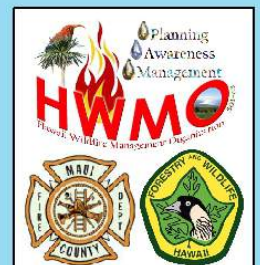
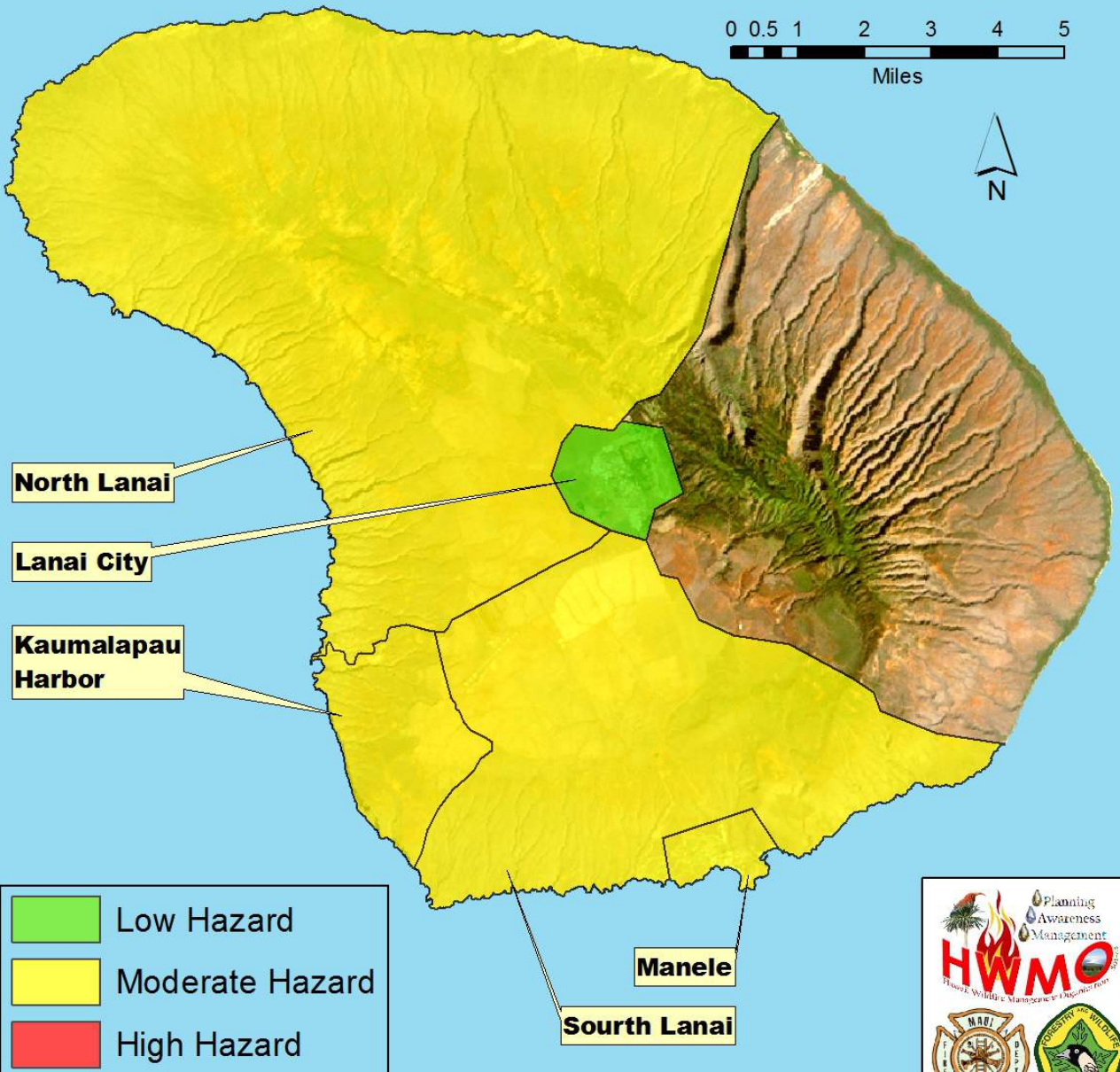
0-30% vegetated cover

MODERATE HAZARD

31-70% vegetated cover

HIGH HAZARD

71-100% vegetated cover

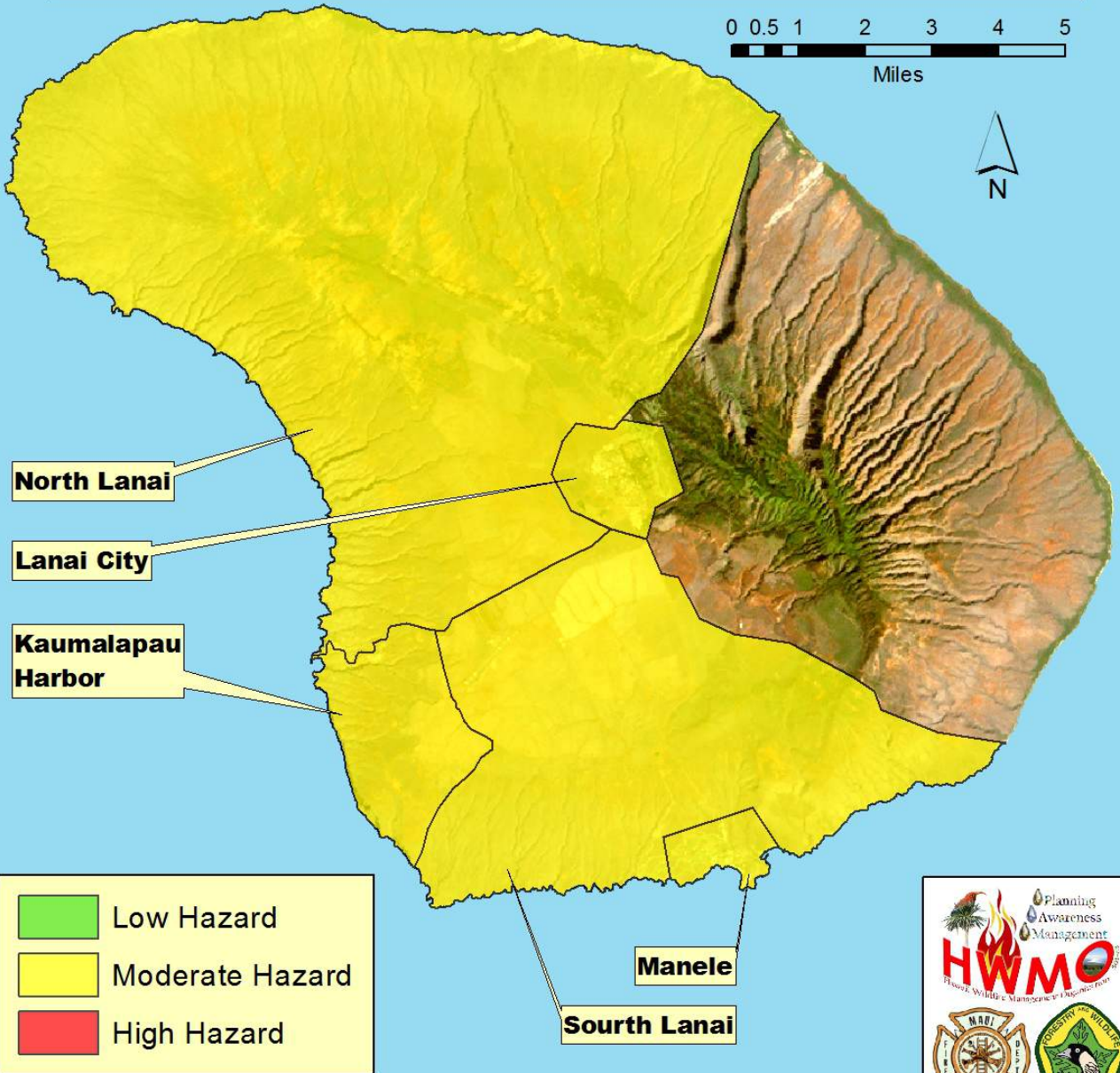


Lanai Hazard Assessment

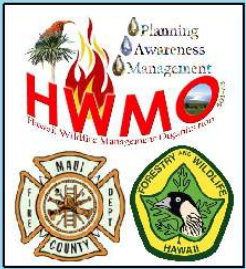
Fire Protection Rating - Fire Department Structural Training & Expertise

FIRE DEPARTMENT STRUCTURAL TRAINING AND EXPERTISE

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|---|--|
| Large fully paid fire department with personnel that meet NFPA or NWCG training requirements and have adequate equipment. | Mixed fire department. Some paid and some volunteer personnel. Limited experience, training, and equipment to fight fire. | Small, all volunteer fire department. Limited training, experience, and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards. |



| | |
|-----------------|-----------------|
| Low Hazard | Low Hazard |
| Moderate Hazard | Moderate Hazard |
| High Hazard | High Hazard |

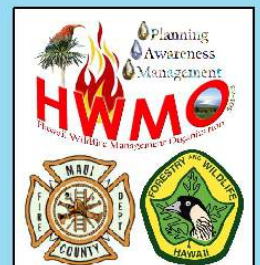
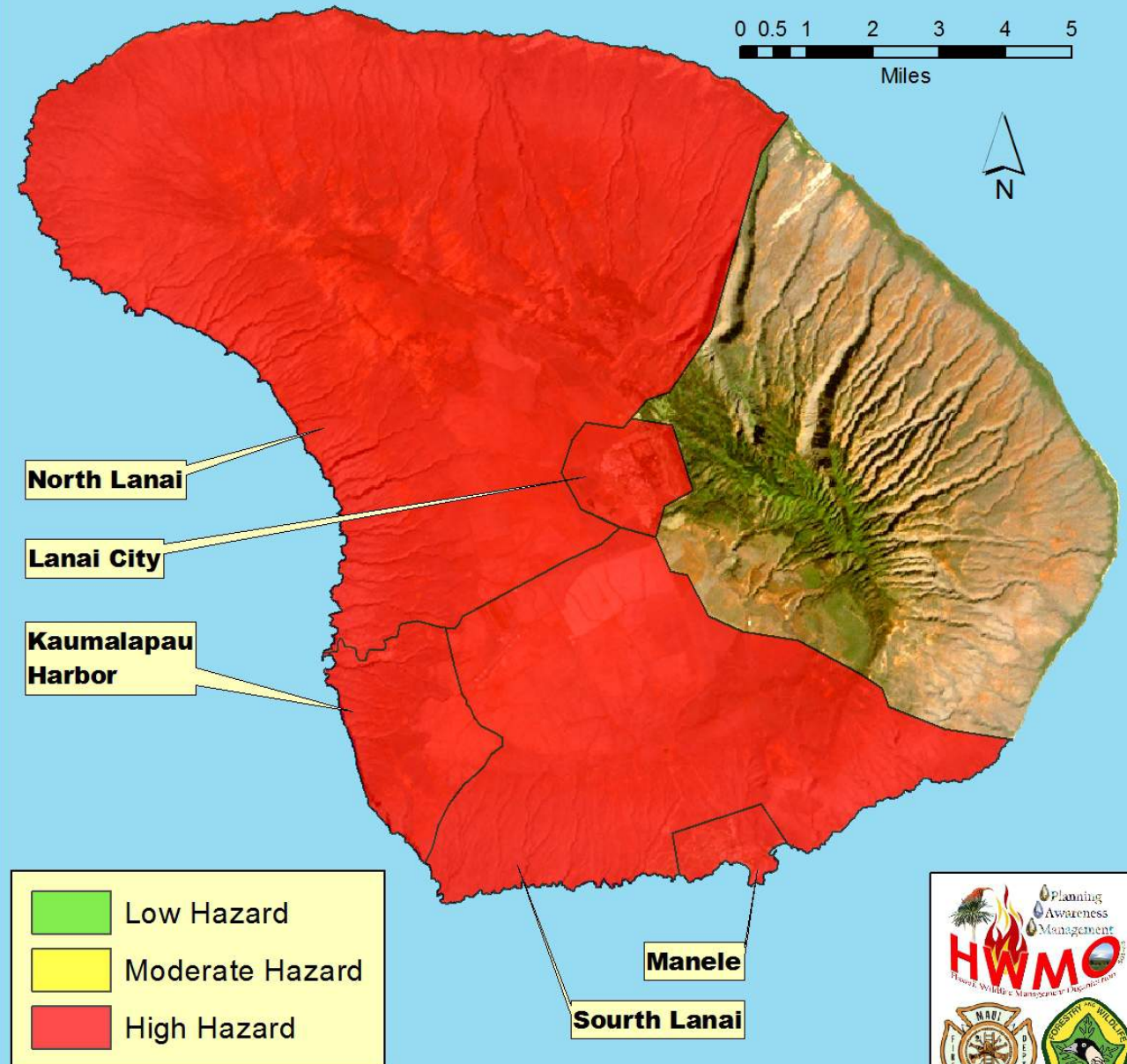


Lanai Hazard Assessment

Fire Protection Rating - Community Fire Safe Efforts & Programs Already In Place

COMMUNITY FIRE SAFE EFFORTS AND PROGRAMS IN PLACE

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|--|---|
| Organized and active groups provide educational materials and programs throughout the community. | Limited provision of or interest in educational efforts. Fire Department or local group does some limited prevention and public education. | No interest or participation in educational programs. No prevention education by local fire department. |

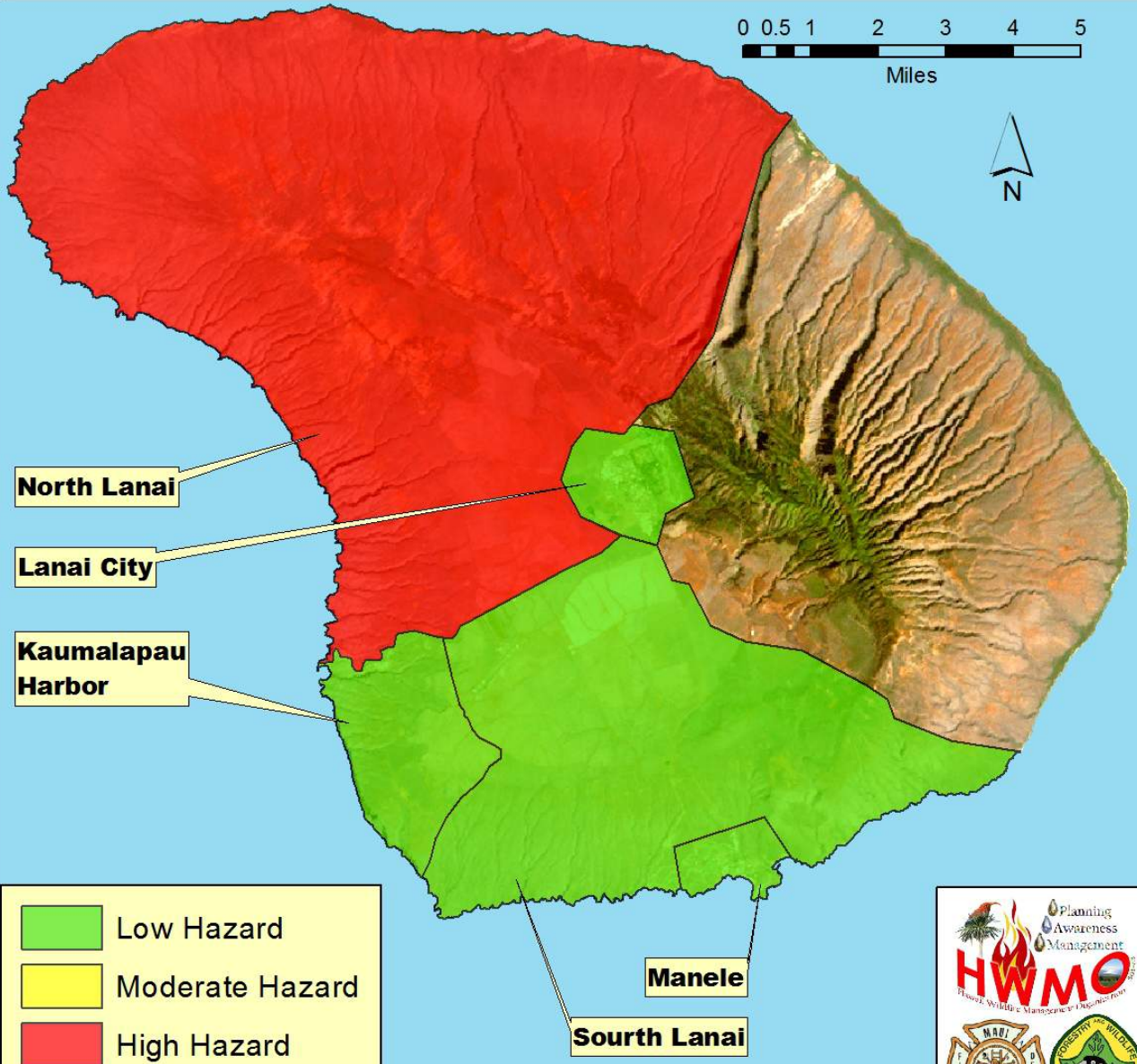
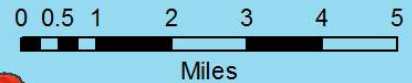


Lanai Hazard Assessment

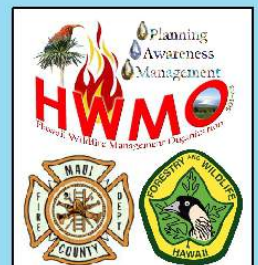
Fire Protection Rating - Water Source Availability

WATER SOURCE AVAILABILITY

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|---|--|
| Pressurized water source availability. 500 GPM less than 1000 ft spacing. | Non-pressurized water source availability (offsite or draft location) or dip site. Homes on catchment water have fire-hose hookups. | Water unavailable, or offsite water more than 20 minute roundtrip. |



| | |
|--|-----------------|
| | Low Hazard |
| | Moderate Hazard |
| | High Hazard |



Lanai Hazard Assessment

Subdivision Rating - Unmanaged, Unattended, Undeveloped Lands

UNTENDED LANDS

LOW HAZARD

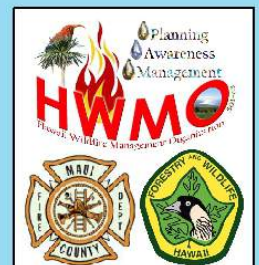
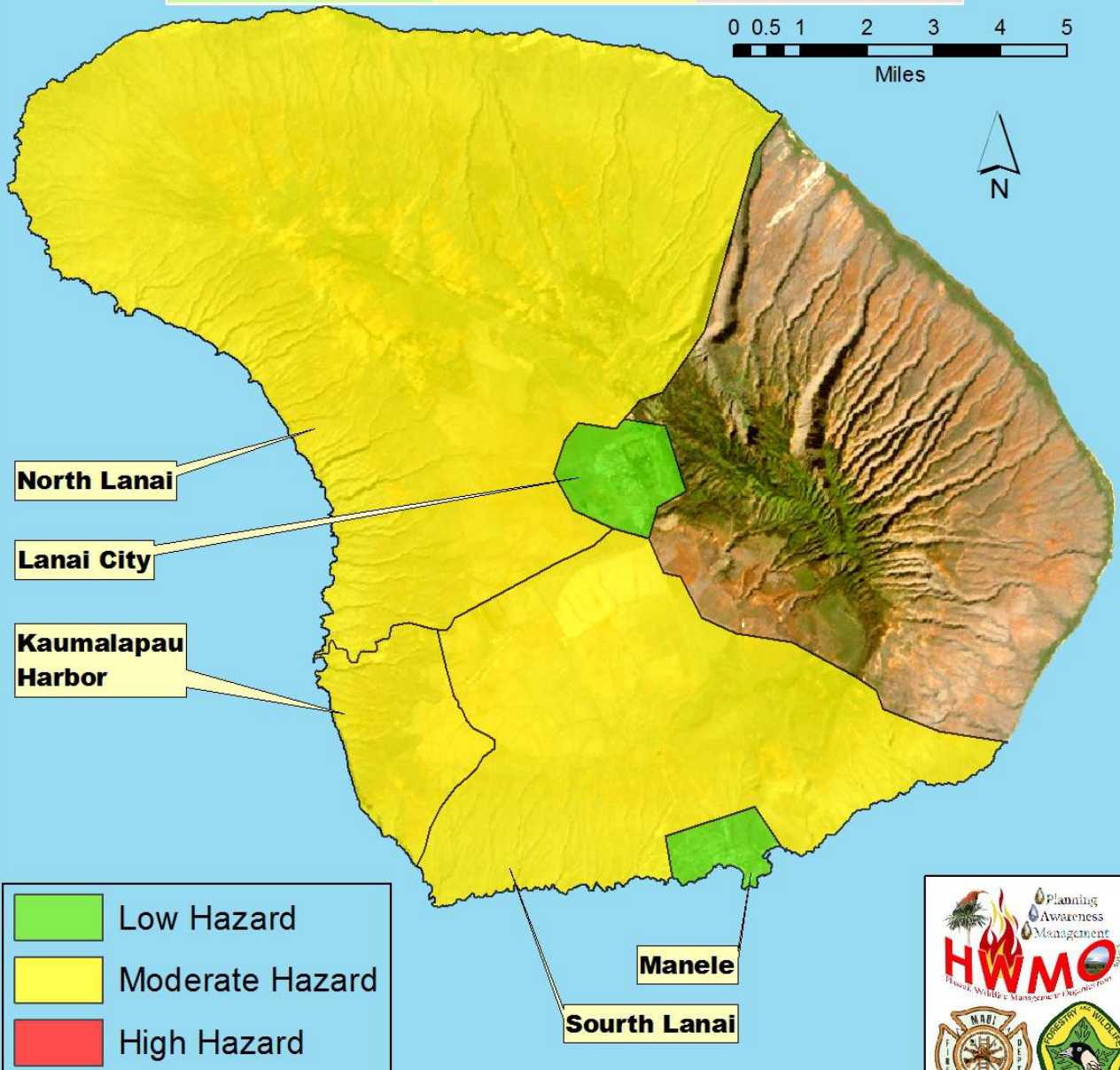
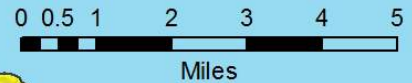
Few to no weedy vacant lots. Few to no undeveloped unmaintained vegetated areas or corridors between homes. Less than 10% of lots remain undeveloped and pose an additional wildfire hazard due to lack of maintenance and/or restricted access.

MODERATE HAZARD

Some isolated unmaintained lots or undeveloped vegetated areas within subdivision. 10-50% of lots have not been developed and pose an additional wildfire hazard due to lack of maintenance and/or restricted access. Hazard ranking is dependent on ignition risk, size of area, and fuel type.

HIGH HAZARD

Abundant unmanaged, vegetated corridors and vacant lots throughout community. Agricultural lands irregularly maintained leaving dry weedy species causing increased ignition risk. Numerous ladder fuels and high risk fuels. Greater than 75% of lots have not been developed or Separation of adjacent structures that can contribute to fire spread

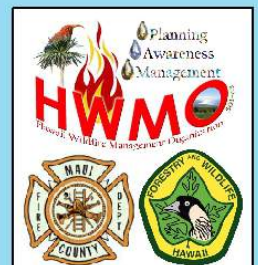
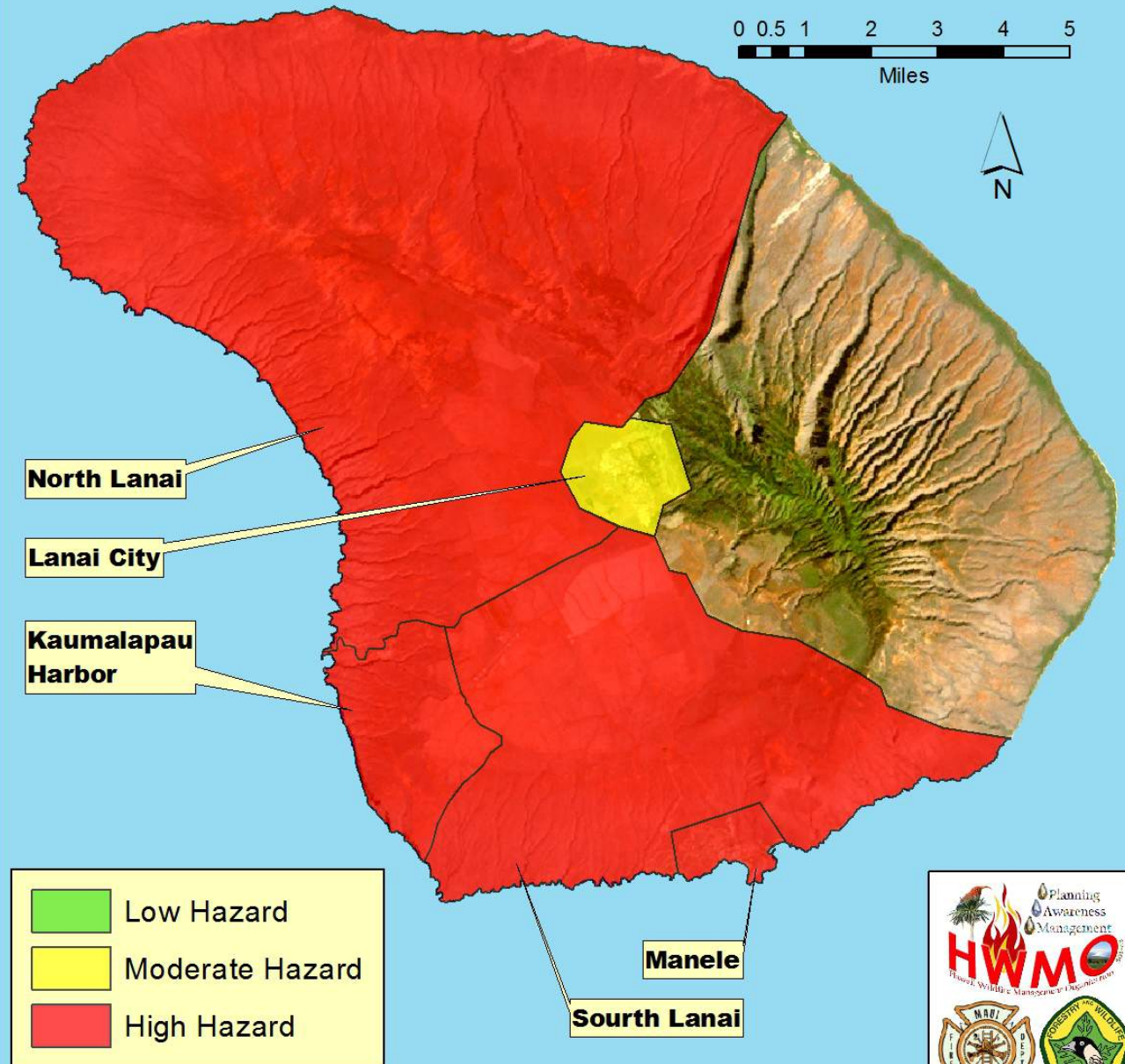


Lanai Hazard Assessment

Fire Environment Rating - Topographic Features That Adversely Effect Wildland Fire Behavior

HAZARDOUS TOPOGRAPHICAL FEATURES

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|------------|--|---|
| None. | Minor features, such as low or occasional hills. | Major feature such as box canyon, ravines, chutes, saddles, transition zones. |

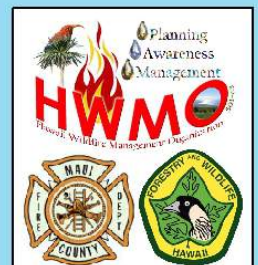
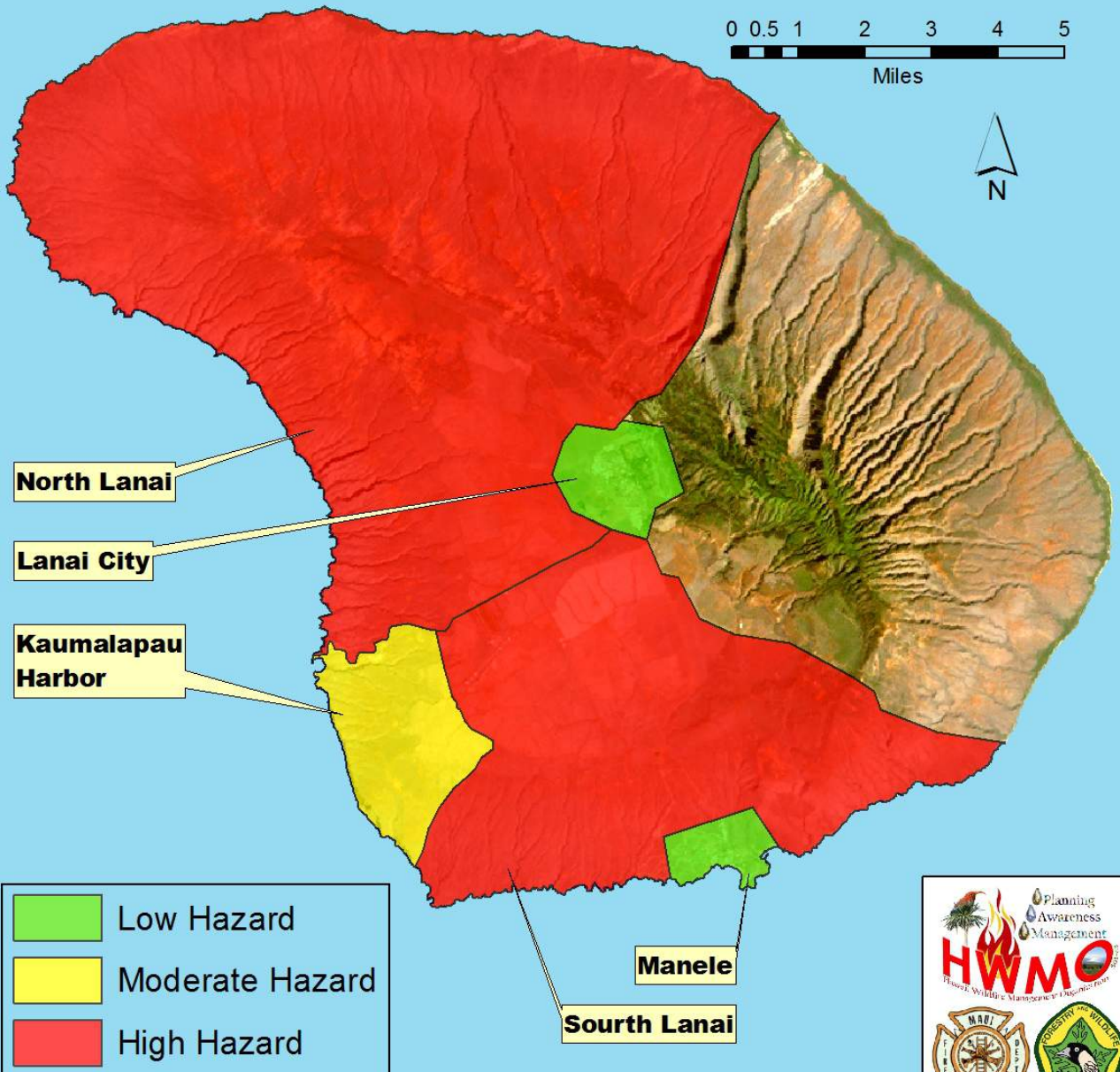
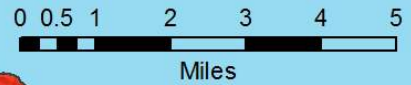


Lanai Hazard Assessment

Subdivision Rating - Street Signs

STREET SIGNS

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|---|--------------|
| Present. Most are at least 4' in size and are reflectorized. | Present and reflectorized with some exceptions. | Not present. |



Lanai Hazard Assessment

Subdivision Rating - Structure Density

STRUCTURE DENSITY

LOW HAZARD

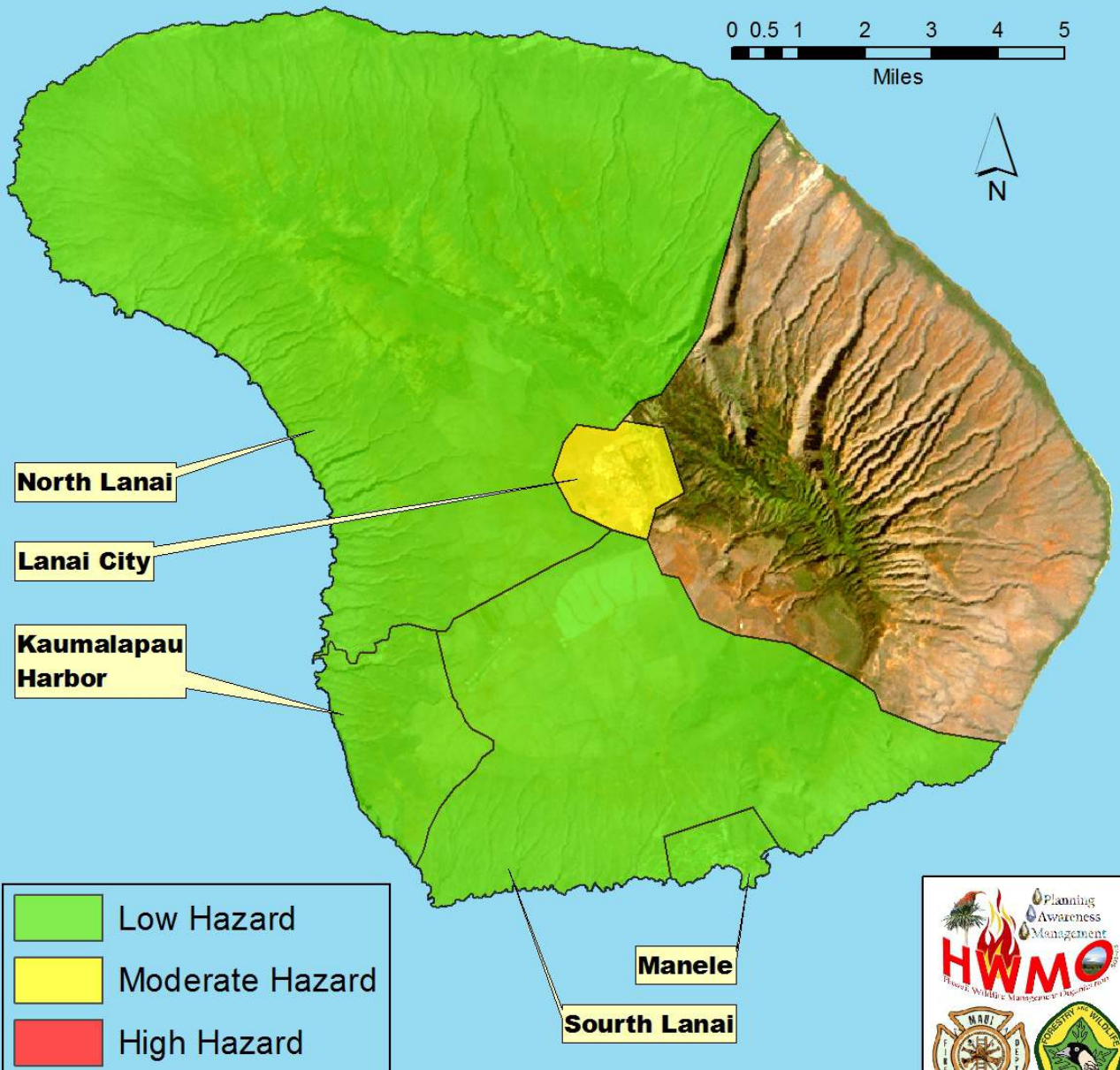
Low structure density and low ignition probability.

MODERATE HAZARD

Density and ignition probability are both moderate, or one is high but is balanced by the other being low.

HIGH HAZARD

Dense structures with high ignition probability.



Lanai Hazard Assessment

Fire Protection Rating - Response Time

RESPONSE TIME

LOW HAZARD

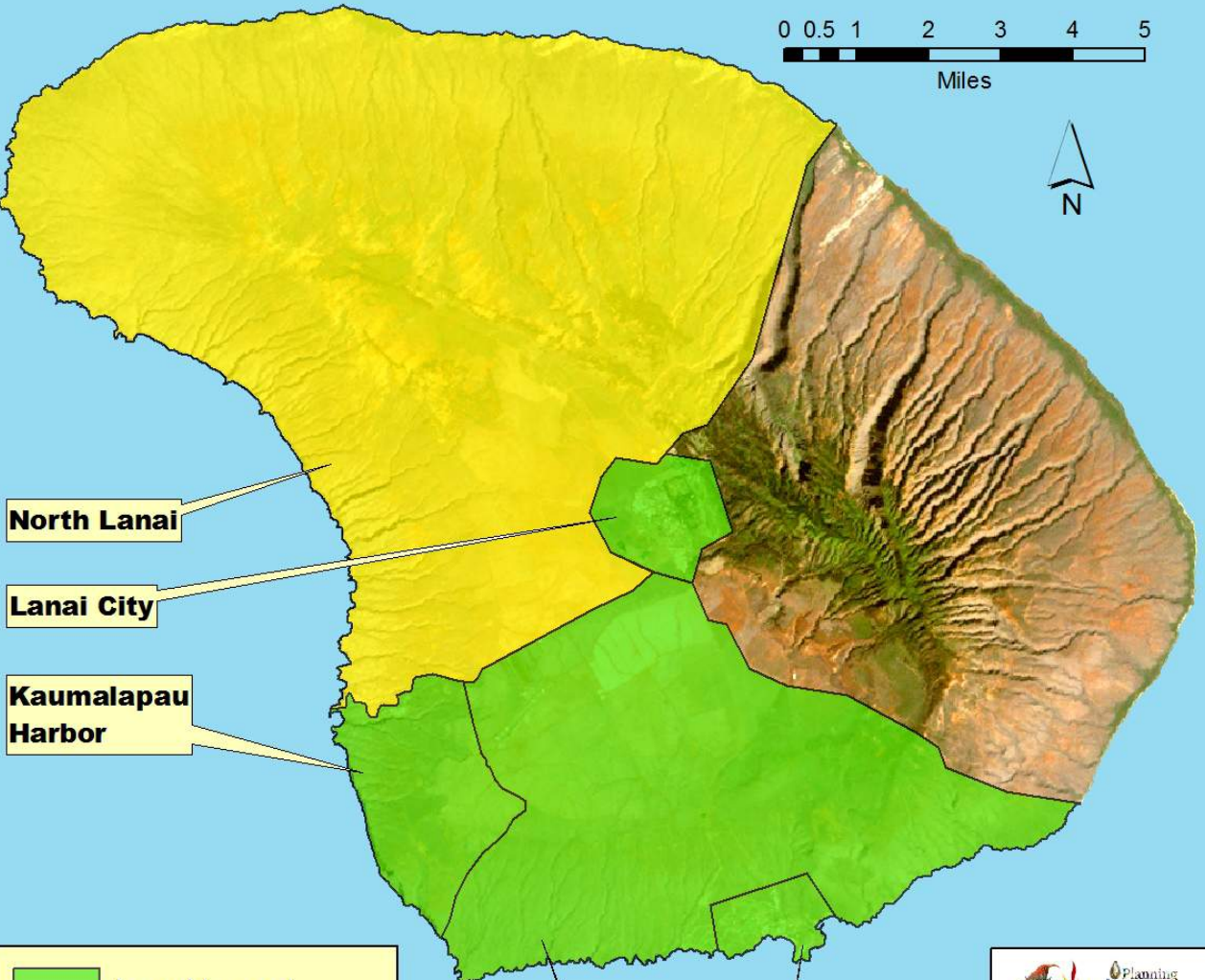
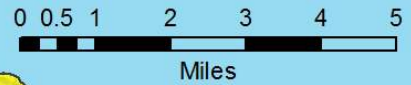
Within 15 minutes

MODERATE HAZARD

16-30 minutes

HIGH HAZARD

Greater than 30 minutes






North Lanai

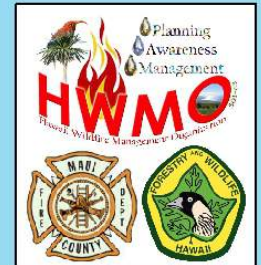
Lanai City

Kaunalapau Harbor

Manele

South Lanai

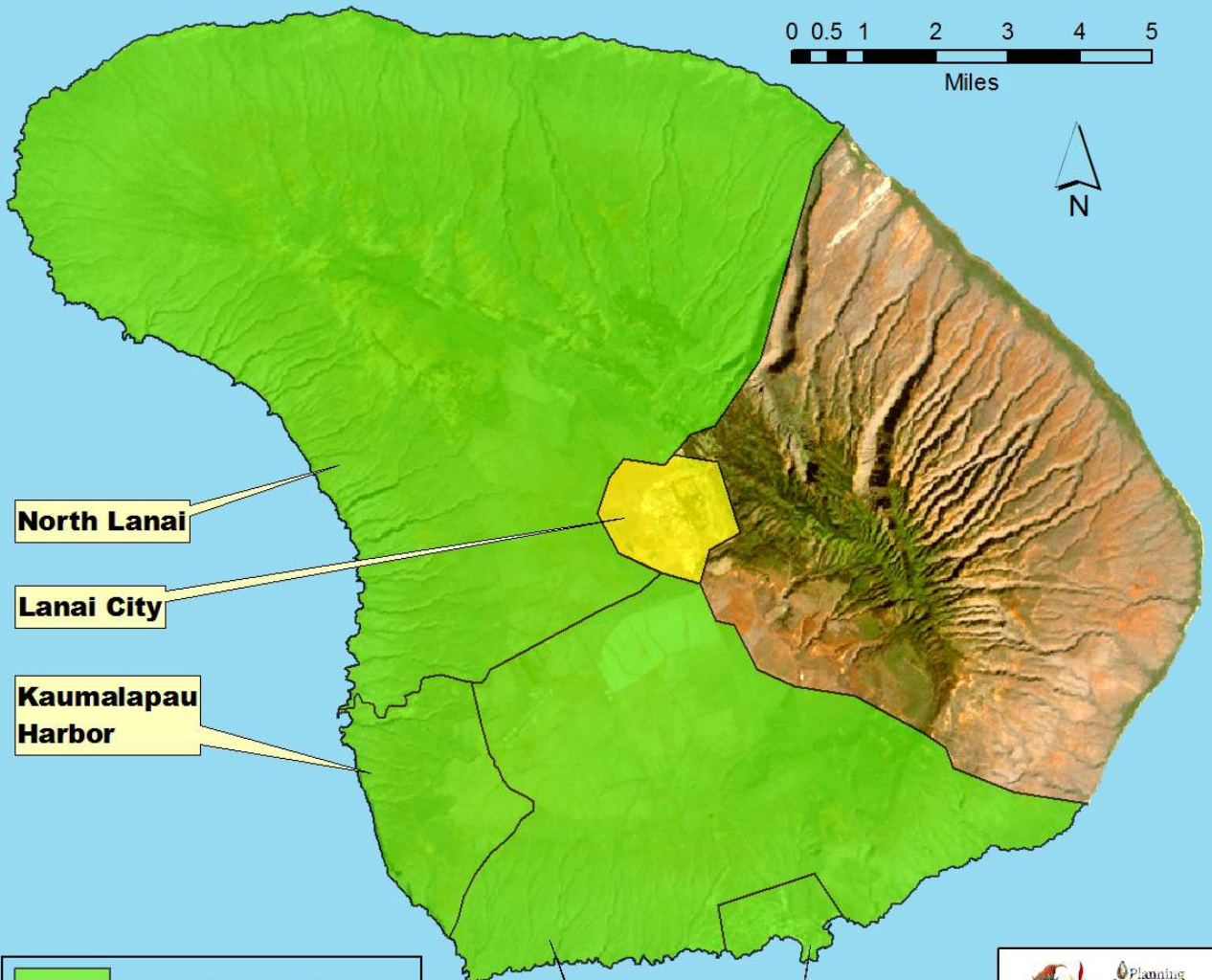
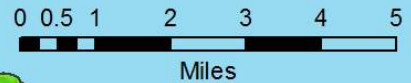
-  Low Hazard
-  Moderate Hazard
-  High Hazard



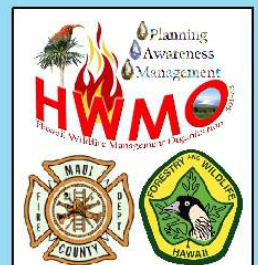
Lanai Hazard Assessment

Subdivision Rating - Road Width

| ROAD WIDTH | | |
|--|--|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| 24'+ wide. Wide roads with drivable shoulders and good visibility allow two-way traffic. Streets in the downtown area are the widest streets in town. Interior streets are smaller and are easily blocked by parked vehicles. | 20'-24' wide. Medium width roads with drivable shoulders and good visibility, support evacuation and emergency response time. | Less than 20 feet wide. Narrow roads coupled with poor visibility limit evacuation and emergency response. Traffic problems will occur. Entrapment is likely. |



| | |
|--|-----------------|
| | Low Hazard |
| | Moderate Hazard |
| | High Hazard |

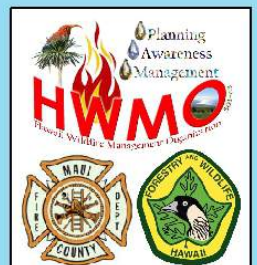
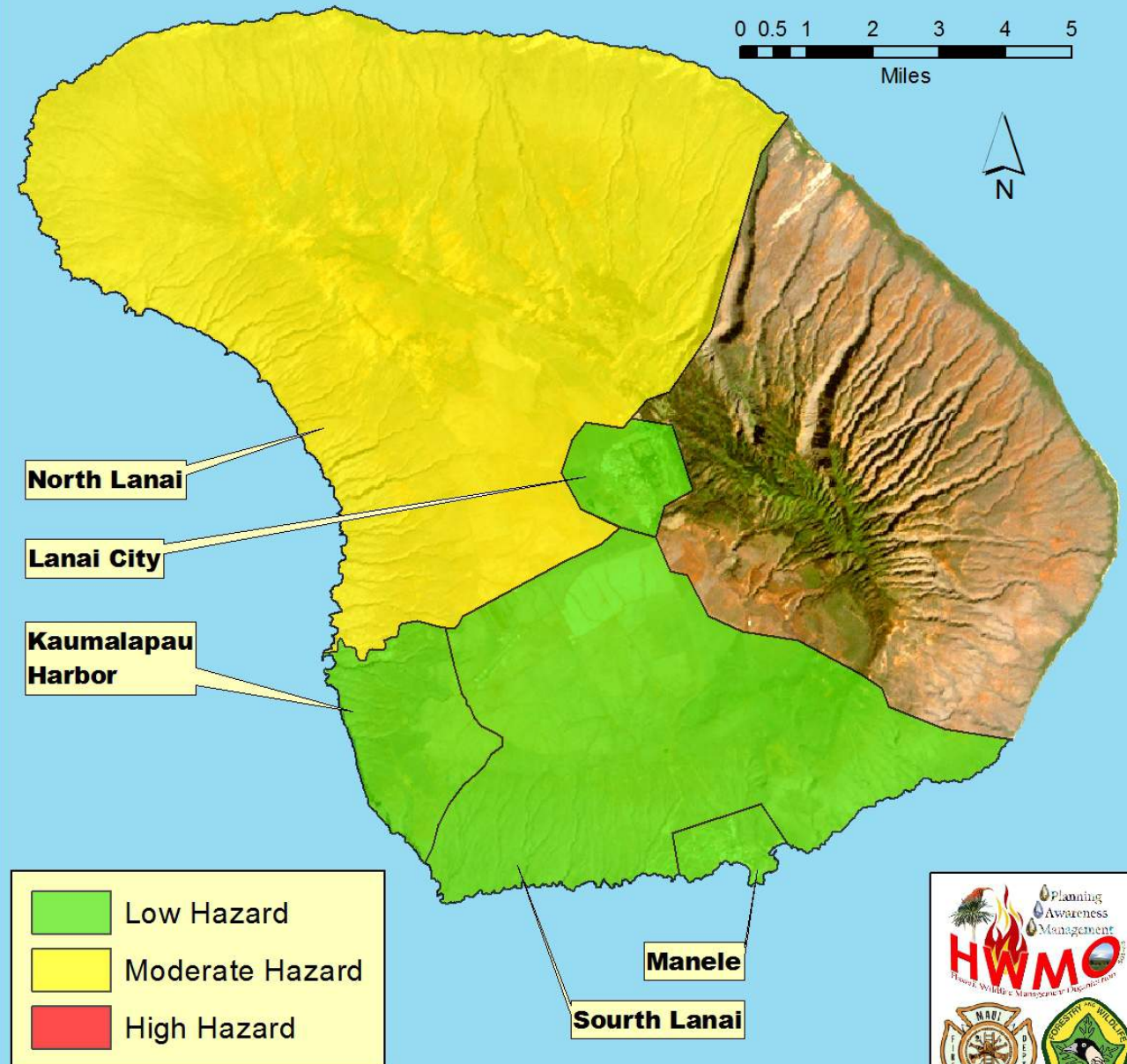


Lanai Hazard Assessment

Fire Protection Rating - Proximity to Fire Station

PROXIMITY TO FIRE STATION

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|-------------------|-----------------|--------------------|
| Less than 5 miles | 6-10 miles | More than 10 miles |

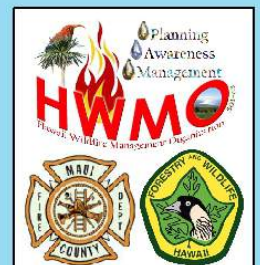
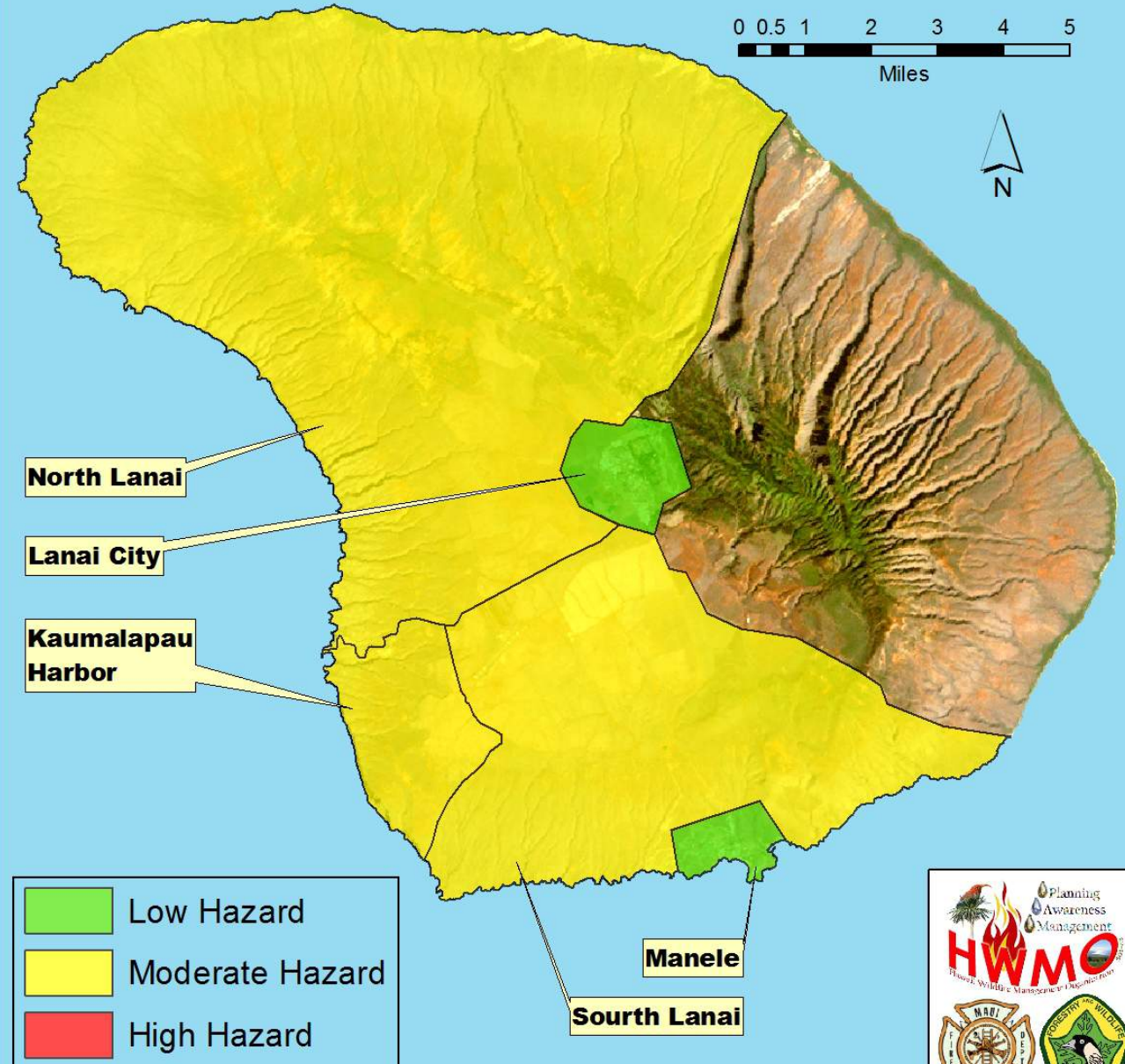


Lanai Hazard Assessment

Subdivision Rating - Private Landowner Firewise Landscaping & Defensible Space

PRIVATE LANDOWNER FIREWISE LANDSCAPING/ DEFENSIBLE SPACE

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|---|--|
| 70% of homes have improved survivable space around property, reduced ignition risk, hardened homes, and no ladder fuels. | 30-70% homes have improved survivable space around property and well-maintained landscapes. | <30% of homes have defensible space, hardened home features, or Firewise landscaping |

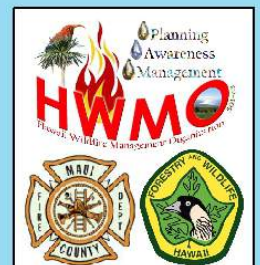
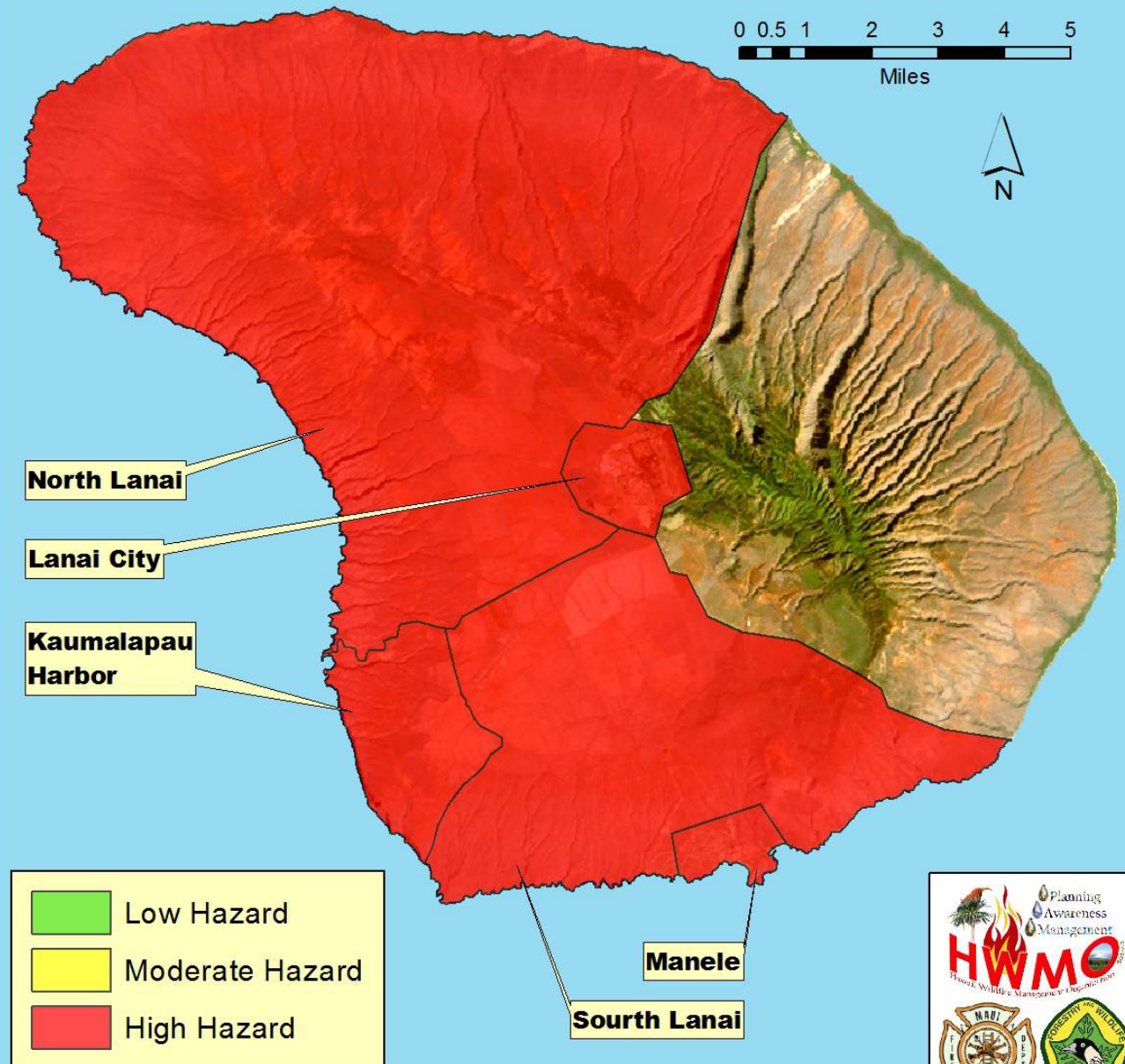


Lanai Hazard Assessment

Fire Protection Rating - Local Emergency Operations Group or Citizen Group

CITIZEN OR LOCAL EMERGENCY OPERATIONS GROUP

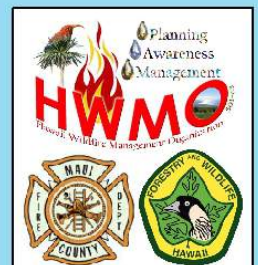
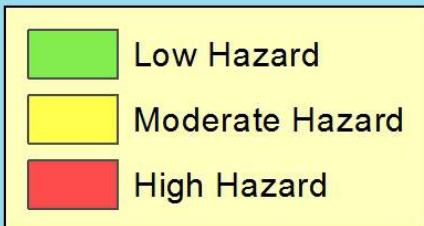
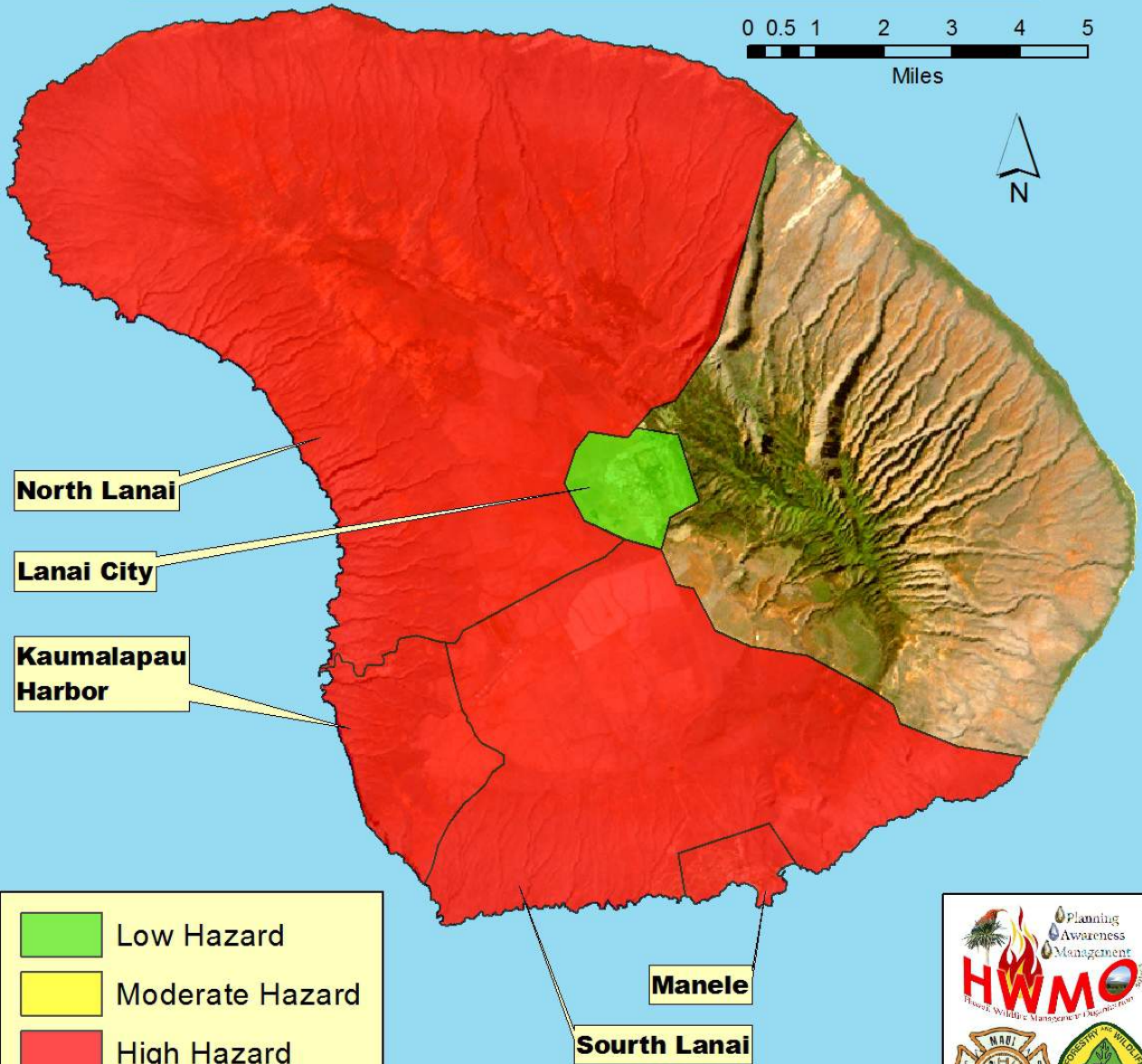
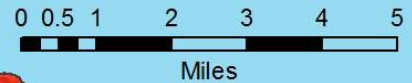
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|--|--|--|
| Active EOG or CERT. Evacuation plan in place. | Limited participation in EOG or similar. Have some form of evacuation process. | EOG or CERT team, etc. organized and active, prepared for evacuation processes |



Lanai Hazard Assessment

Fire Environment Rating - Ignition Risk

| IGNITION RISK | | |
|--|---|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Little to no natural (lightning or lava) ignition risk. No history of arson. Wildland areas absent or distant from public and/or vehicular access. | Some history of wildfire, but not particularly fire prone area due to prevailing lack of fire prone conditions, weather, and vegetation type. | Most historic wildfire events were anthropogenic with easy access to wildland areas via roads or proximity to development OR natural ignition sources such as lightning or lava are prevalent. Fire prone area High rate of ignitions or history of large scale fires and/or severe wildfire events. |



Lanai Hazard Assessment

Vegetation Rating - Fuel Structure & Arrangement

FUEL STRUCTURE AND ARRANGEMENT

LOW HAZARD

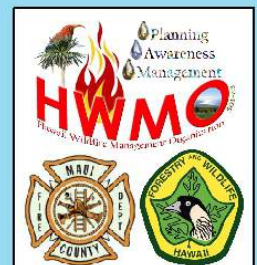
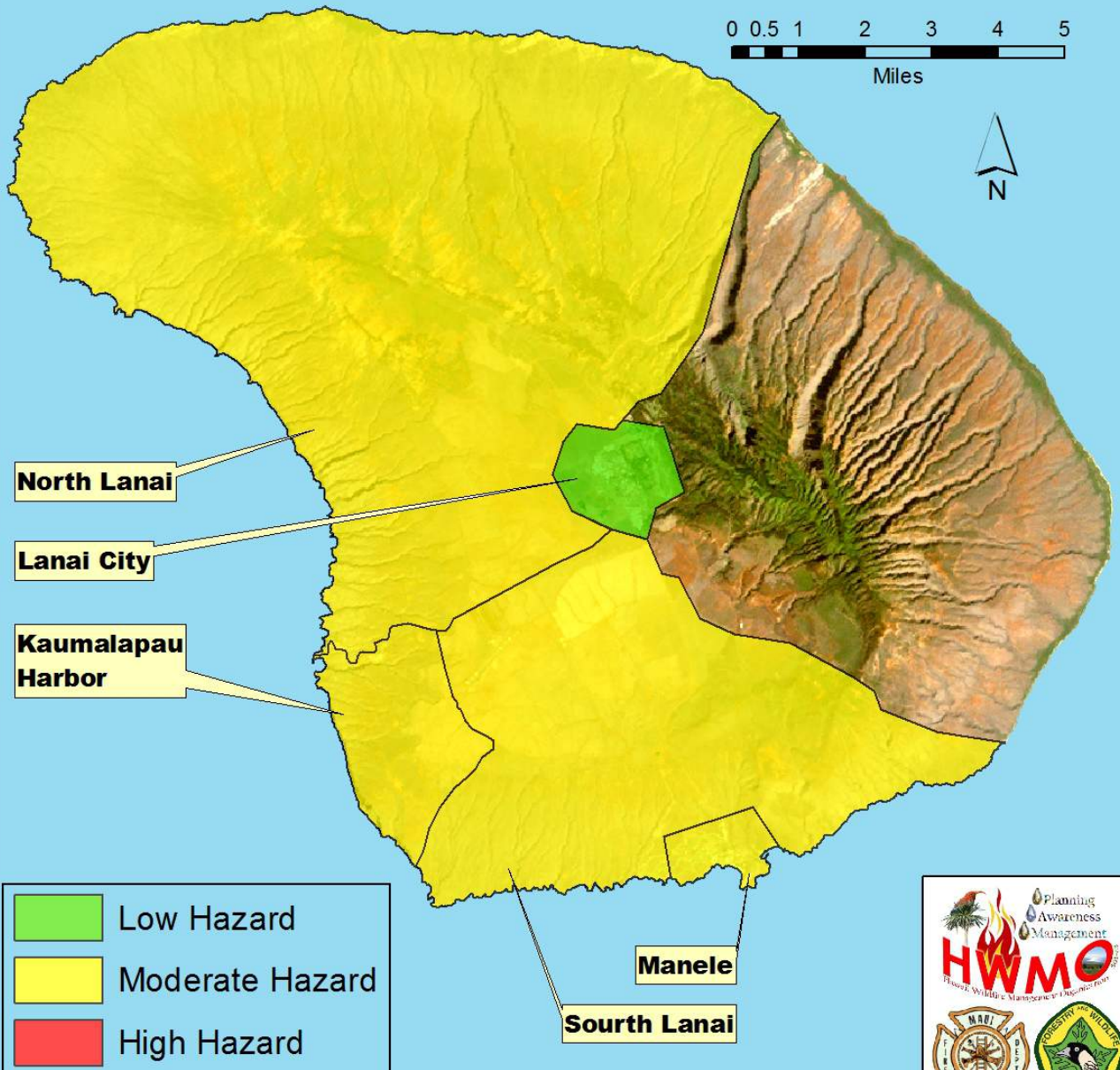
Non-contiguous or patchwork arrangement. Little to no ladder fuels.

MODERATE HAZARD

Some areas of contiguous vegetation. Few ladder fuels.

HIGH HAZARD

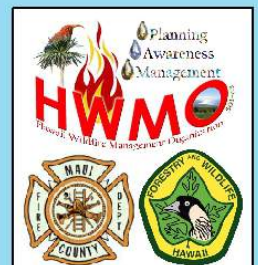
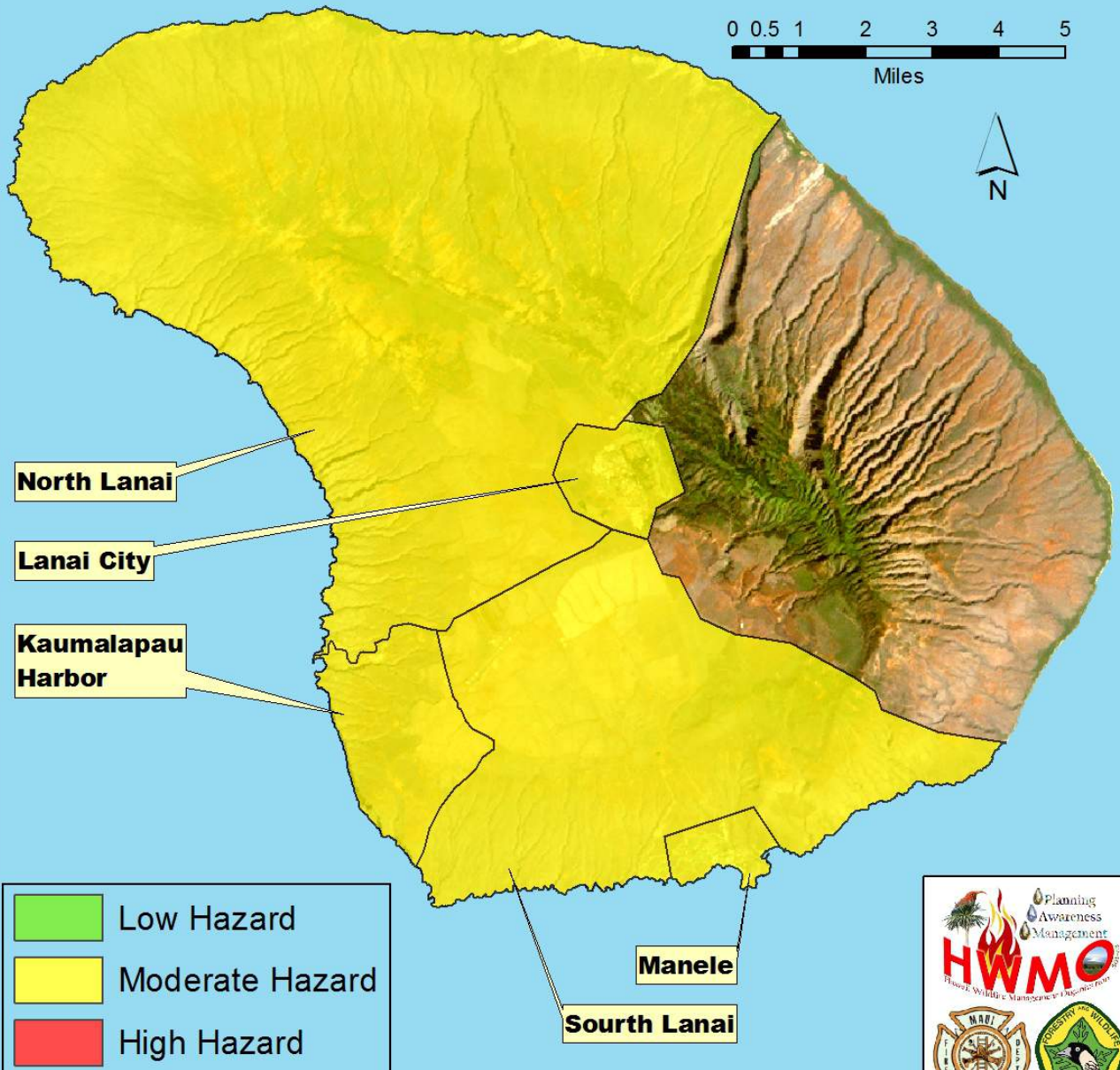
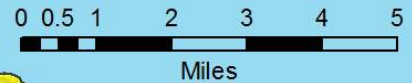
Uninterrupted vegetation, pervasive ladder fuels.



Lanai Hazard Assessment

Subdivision Rating - Fire Service Access

| FIRE SERVICE ACCESS | | |
|--|--|--|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| Adequate turnaround space is available for large fire equipment. | <300' with no turnaround. Short or dead-end streets will become crowded with homeowner's vehicles. | 300'+ with no turnaround. Long dead-end streets will become crowded with vehicles. Two-way visibility is an issue. |

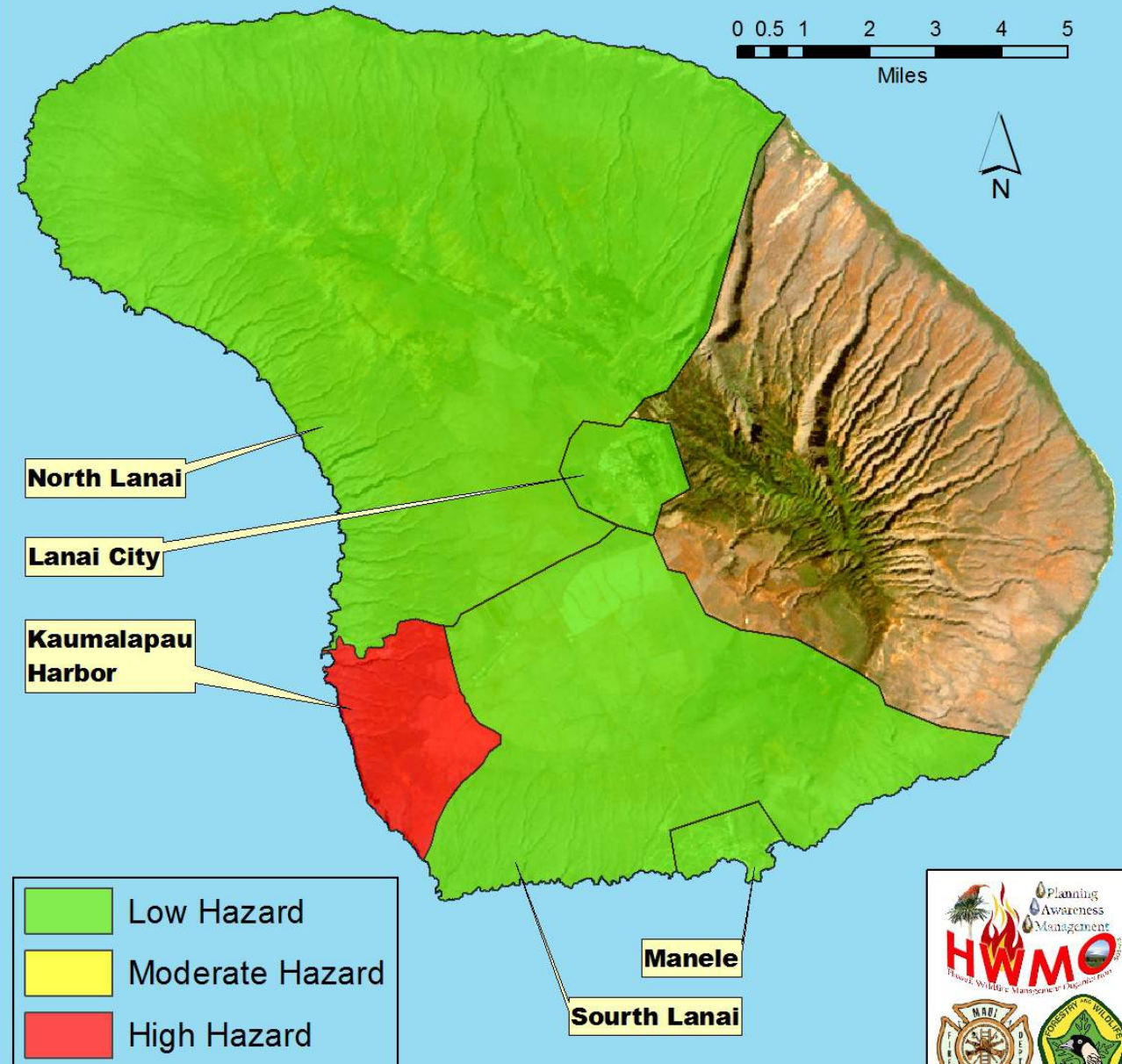




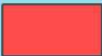
Lanai Hazard Assessment

Vegetation Rating -Defensible Space: Fuels Reduction Around Homes & Structures

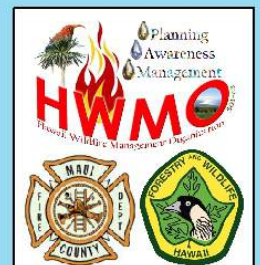
DEFENSIBLE SPACE- FUELS REDUCTION AROUND HOMES

| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
|---|---|---|
| Vegetation is treated 100 feet or more from structures. | 31-100 ft. of vegetation treatment from structures. | Less than 30 ft. of vegetation treatment from structures. |



| | |
|---|-----------------|
|  | Low Hazard |
|  | Moderate Hazard |
|  | High Hazard |

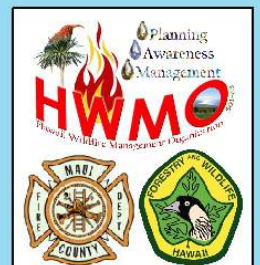
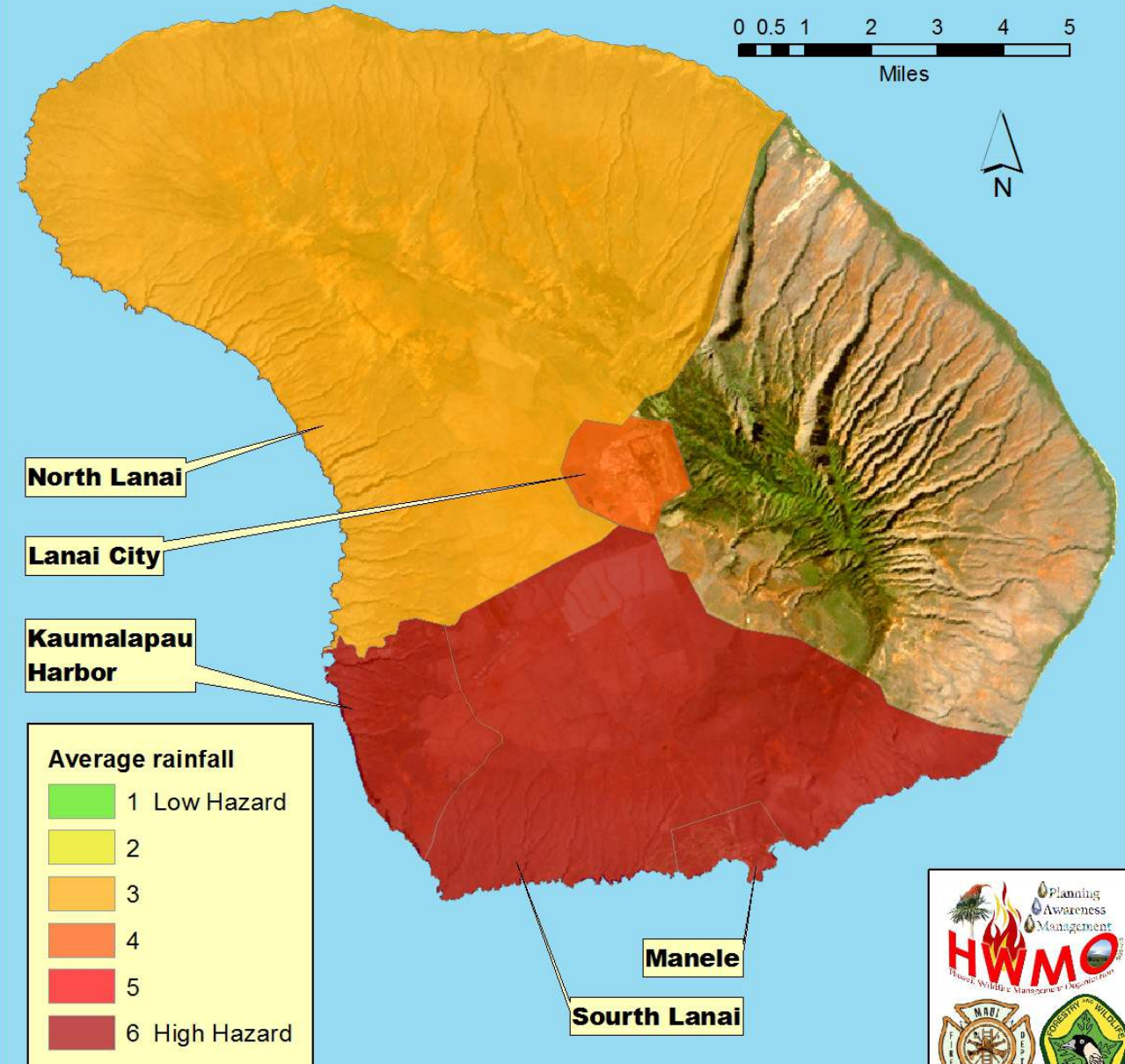
Created by Hawaii Wildfire Management Organization 2013



Lanai Hazard Assessment

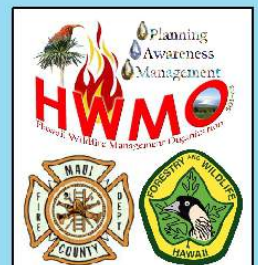
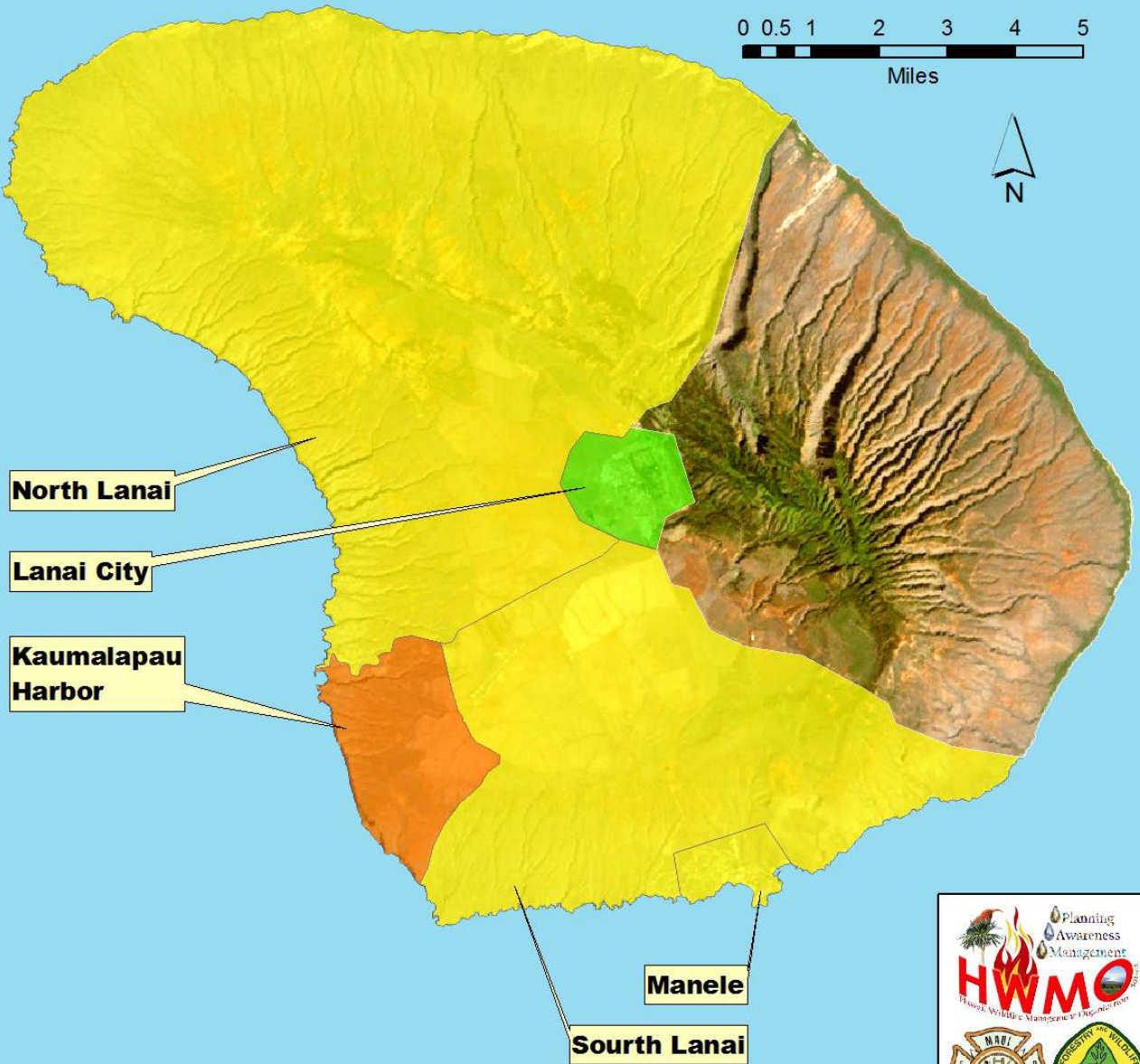
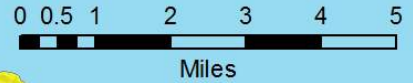
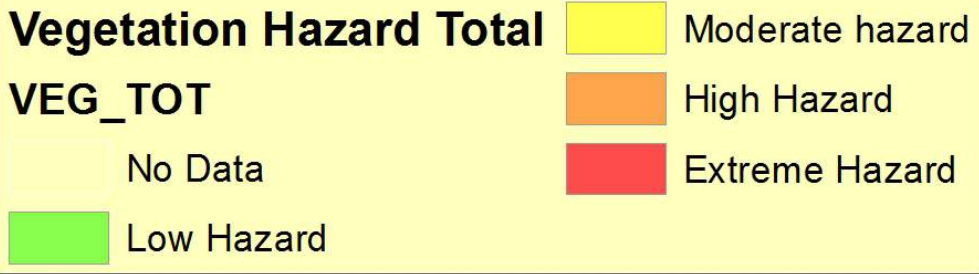
Fire Environment Rating - Average Rainfall

| AVERAGE RAINFALL | | |
|--------------------|------------------------|--------------------|
| LOW HAZARD | MODERATE HAZARD | HIGH HAZARD |
| High Precipitation | Moderate Precipitation | Low Precipitation |



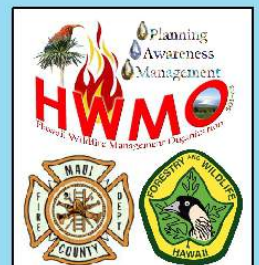
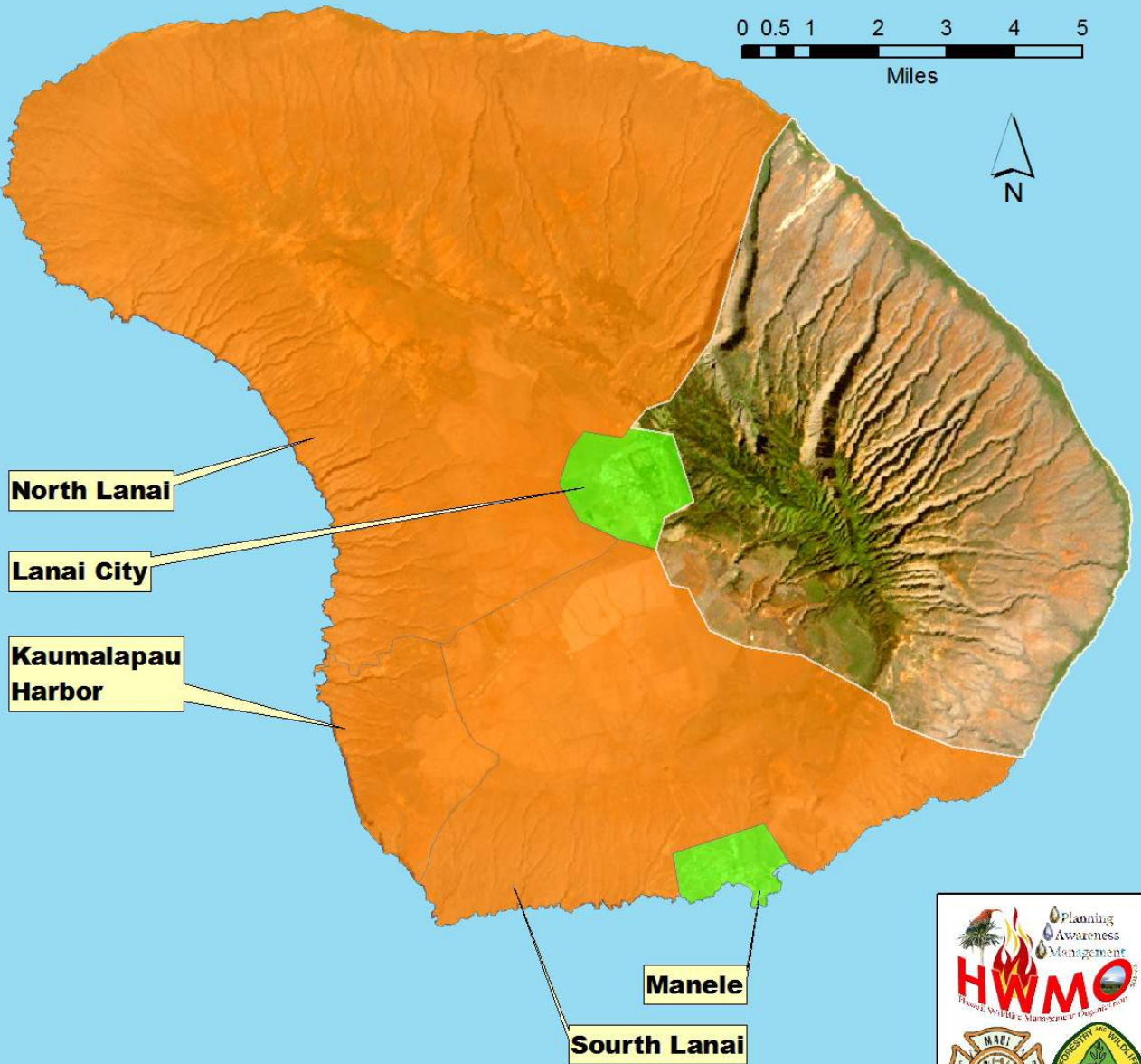
Lanai Hazard Assessment

Vegetation Rating Total



Lanai Hazard Assessment

Subdivision Rating Total



Lanai Hazard Assessment

Fire Environment Rating Total

Fire Environment Hazard Total

FIREHAZTOT

No Data

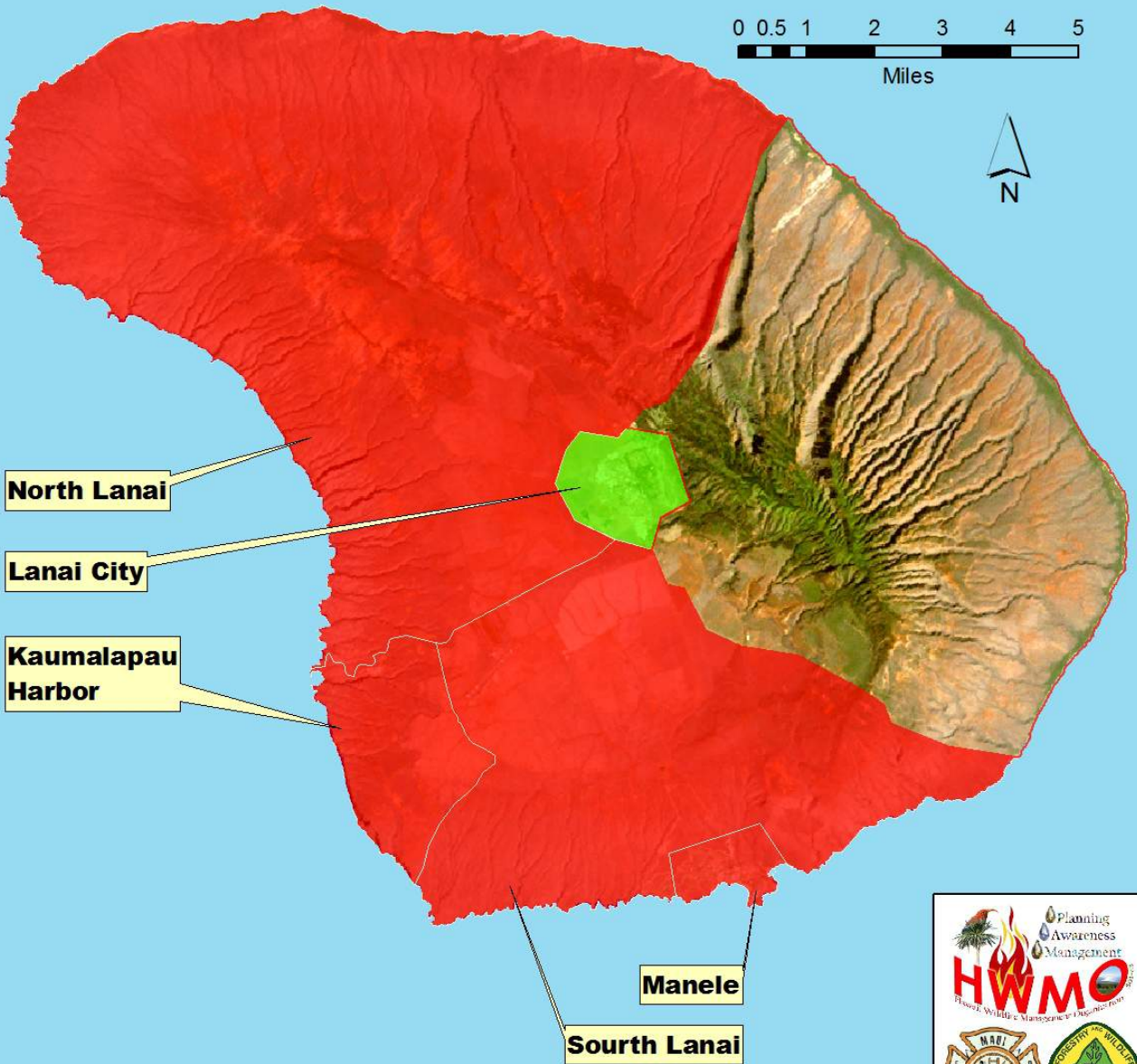
Low Hazard

Moderate hazard

High Hazard

Extreme Hazard

0 0.5 1 2 3 4 5
Miles



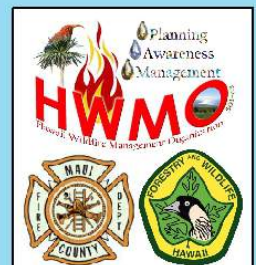
North Lanai

Lanai City

Kaumalapau Harbor

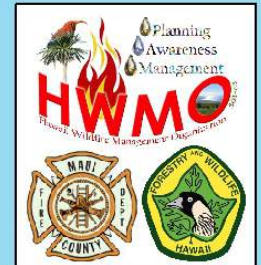
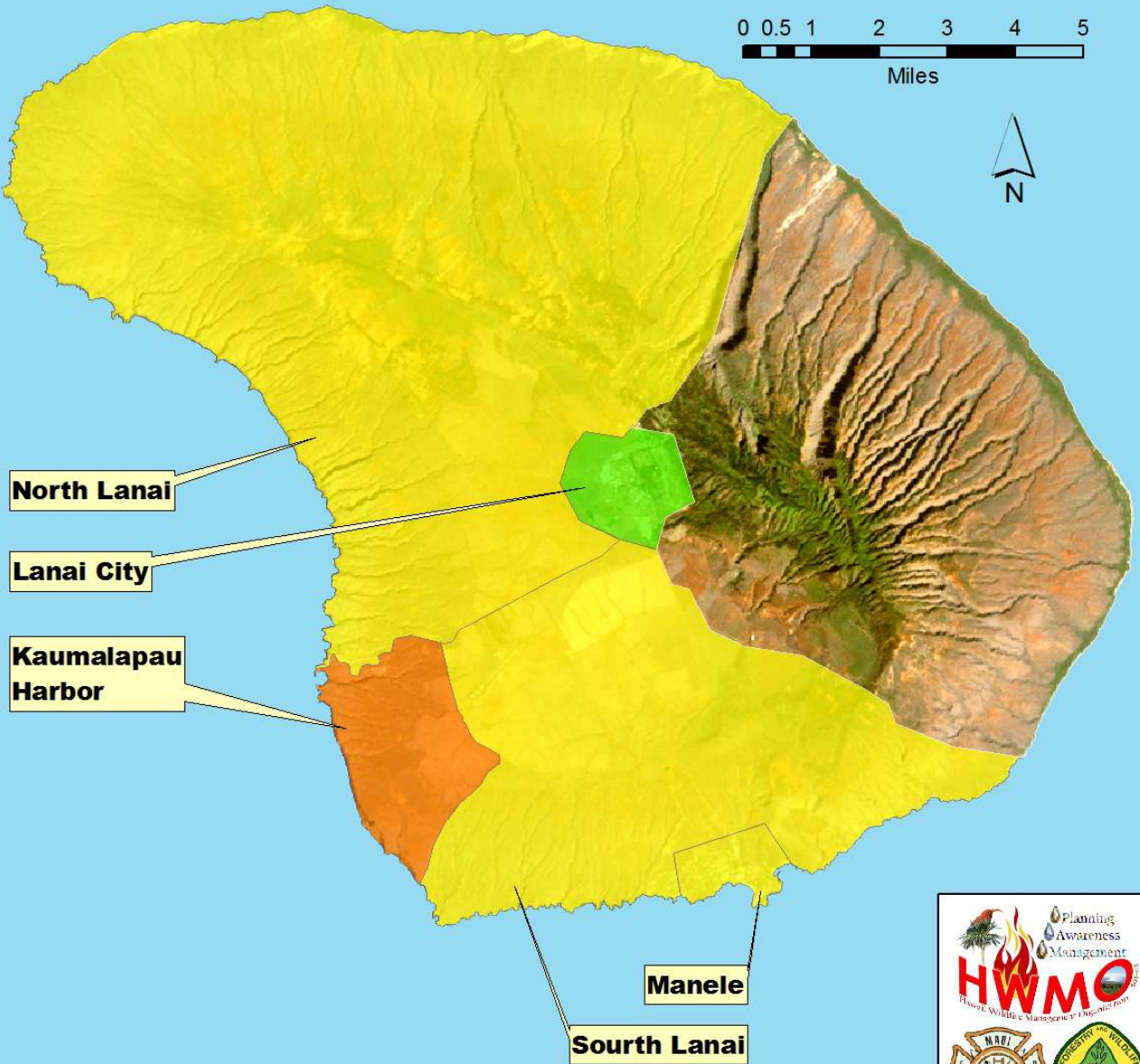
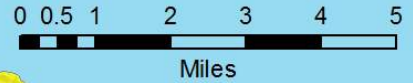
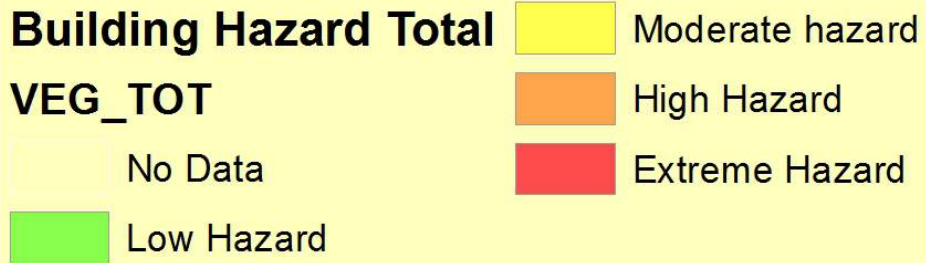
Manele

South Lanai



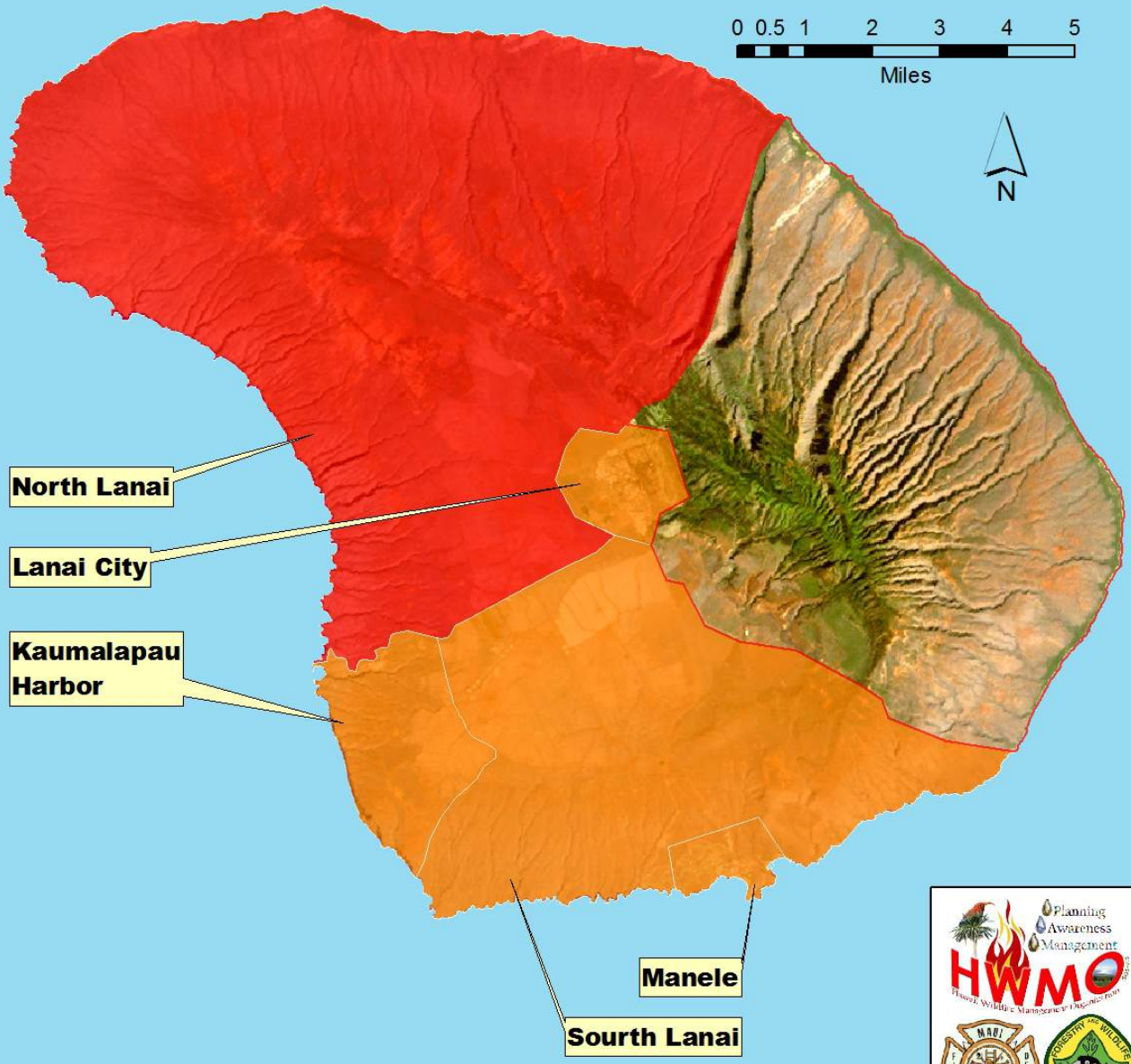
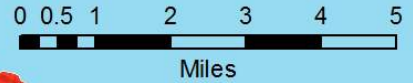
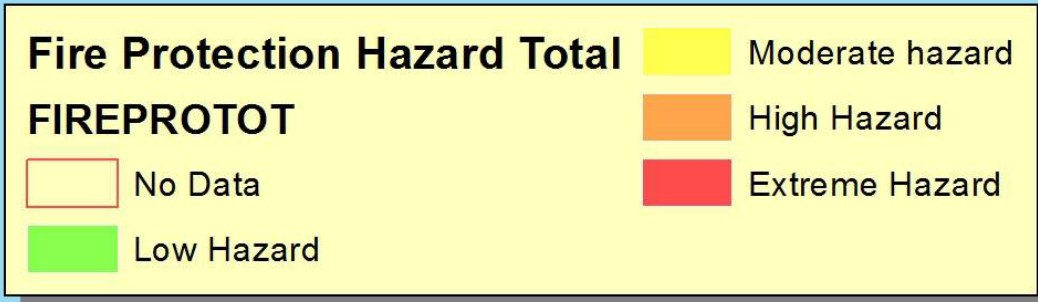
Lanai Hazard Assessment

Building Rating Total



Lanai Hazard Assessment

Fire Protection Rating Total



North Lanai

Lanai City

Kaunalapau Harbor

Manele

South Lanai

